

Recent References:
April 1, 2011 to June 30, 2011

National Nuclear Data Center, Brookhaven National Laboratory

Document generated: June 30, 2011

This document lists experimental references added to Nuclear Science References (NSR) during the period April 1, 2011 to June 30, 2011. The first section lists keynumbers and keywords sorted by mass and nuclide. The second section lists all references, ordered by keynumber.

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Keynumbers and Keywords

A=1

¹ n	2010LAZW	NUCLEAR REACTIONS ${}^2\text{H}({}^{18}\text{O}, \alpha){}^{15}\text{N}$, $E \approx 0-0.25$ MeV; measured reaction products; deduced $d\sigma$. ${}^{18}\text{O}(p, \alpha)$ deduced σ using Trojan Horse Method. Comparison with NACRE. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012019
	2010SEZW	NUCLEAR REACTIONS ${}^2\text{H}({}^{17}\text{O}, \alpha){}^{14}\text{N}$, $E=41$ MeV; measured reaction products; calculated $\sigma(\theta)$ using PWIA; deduced ${}^{17}\text{O}(p, \alpha)$ $\sigma(\theta)$ for energies 0-700 keV using Trojan Horse Method. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012021
	2011FR02	NUCLEAR REACTIONS ${}^9\text{Be}$, ${}^{12}\text{C}(\alpha, 3\alpha)$, $E=22-30$ MeV; measured $E\alpha$, $I\alpha$, ${}^{12}\text{C}-\alpha$ angular correlations; deduced Dalitz plot. ${}^{12}\text{C}$; deduced levels, J , π , width. Possible collective excitation of Hoyle state. JOUR PRVCA 83 034314
	2011KU07	NUCLEAR REACTIONS ${}^2\text{H}(p, 2p)$, (p, p) , $E=247$ MeV; measured outgoing proton spectra; deduced $\sigma(E, \theta)$. Comparison with 3N calculations, other experimental data. JOUR FBSYE 50 287
	2011WI06	NUCLEAR REACTIONS ${}^1\text{H}(\gamma, \text{K}^+)\Lambda(1520)$, $E=\text{threshold}-2.65$ GeV; measured reaction products, invariant mass distribution, decay time distribution. deduced σ , $d\sigma$, branching ratios, Σ^- , Σ^0 $T_{1/2}$. ELSA facility, SAPHIR detector. JOUR ZAANE 47 47
¹ H	2011AS07	NUCLEAR REACTIONS ${}^1\text{H}({}^{17}\text{Ne}, {}^{17}\text{Ne})$, ${}^1\text{H}({}^{17}\text{Ne}, \text{X}){}^{18}\text{Na}$, $E=4$ MeV / nucleon; measured reaction products, proton spectrum; deduced $\sigma(\theta)$, excited state width. JOUR IMPEE 20 971
	2011DU14	NUCLEAR REACTIONS Ag , $\text{Br}(p\text{-bar}, \text{X}){}^1\text{H} / {}^2\text{H} / {}^3\text{H} / {}^4\text{He}$, $E=7$ MeV; measured reaction products; deduced yields and energy spectra. Comparison with theoretical estimate for evaporation from the equilibrium state. JOUR JTPLA 93 253
	2011PI04	NUCLEAR REACTIONS ${}^6\text{Li}({}^3\text{He}, 2\alpha)$, $E=17.5$ MeV; measured $E\alpha$, $I\alpha$, angular distribution; deduced momentum distribution, Q value, quasifree (QF) contribution. ${}^6\text{Li}(d, \alpha)$, $E(\text{cm})=0-5$ MeV; ${}^7\text{Li}(p, \alpha)$, $E(\text{cm})=0-7$ MeV; ${}^7\text{Li}({}^3\text{He}, 2\alpha)$, E not given; analyzed excitation functions, σ , differential σ . Trojan horse method (THM) in the framework of the plane wave approximation. JOUR PRVCA 83 045801

A=2

² H	2010GAZV	NUCLEAR REACTIONS ${}^1\text{H}({}^{31}\text{S}, {}^{30}\text{S})$, ${}^1\text{H}({}^{37}\text{K}, {}^{36}\text{K})$, ${}^1\text{H}({}^{38}\text{Ca}, {}^{37}\text{Ca})$, E not given; measured $E\gamma$, $I\gamma(\theta)$, (recoil) γ -coin; deduced some levels, J , π ; ${}^{29}\text{P}(p, \gamma)$, $E=\text{low}$; calculated stellar reaction rates using spectroscopic information on ${}^{30}\text{S}$. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012009
	2010STZX	NUCLEAR REACTIONS ${}^2\text{H}(n, n)$, $E=100$ keV-5 MeV; measured E_n , $I_n(\theta)$, $E\gamma$, $I\gamma$; deduced $\sigma(\theta=150^\circ)$, $\sigma(\theta=120^\circ)$; calculated $\sigma(\theta)$ using different potentials. Compared with JENDL-3.3 and ENDF / B-VII.0. CONF Sochi(EXON-2009) Proc,P234,Stanoiu

KEYNUMBERS AND KEYWORDS

A=2 (continued)

- | | |
|-----------------|---|
| 2011DU14 | NUCLEAR REACTIONS Ag, Br(p-bar, X) ¹ H / ² H / ³ H / ⁴ He, E=7 MeV; measured reaction products; deduced yields and energy spectra. Comparison with theoretical estimate for evaporation from the equilibrium state. JOUR JTPLA 93 253 |
| 2011KU07 | NUCLEAR REACTIONS ² H(p, 2p), (p, p), E=247 MeV; measured outgoing proton spectra; deduced $\sigma(E, \theta)$. Comparison with 3N calculations, other experimental data. JOUR FBSYE 50 287 |
| 2011MI11 | NUCLEAR REACTIONS ⁷ Li, ⁹ Be(⁷ Li, X) ¹⁰ Be, E=8, 30, 52 MeV; ¹² C(⁶ He, ⁸ Be) ¹⁰ Be, E not given; ⁶ Li(⁶ He, α ⁶ He) ² H, E not given; ¹² C(¹² C, ¹⁶ O) ¹⁰ Be, E not given; ¹¹ B(³ He, α ⁶ He) ⁴ He, E not given; measured reaction products; deduced existence of cluster and molecular structures, J, π . Comparison with BFZ calculations. JOUR IMPEE 20 759 |
| 2011PI04 | NUCLEAR REACTIONS ⁶ Li(³ He, 2 α), E=17.5 MeV; measured E α , I α , angular distribution; deduced momentum distribution, Q value, quasifree (QF) contribution. ⁶ Li(d, α), E(cm)=0-5 MeV; ⁷ Li(p, α), E(cm)=0-7 MeV; ⁷ Li(³ He, 2 α), E not given; analyzed excitation functions, σ , differential σ . Trojan horse method (THM) in the framework of the plane wave approximation. JOUR PRVCA 83 045801 |
| 2011T002 | NUCLEAR REACTIONS ³ He(γ , p) ² H, E=7-16 MeV; measured reaction products, proton spectra, E γ , I γ ; deduced σ . Comparison with previous data and theoretical calculations. JOUR FBSYE 50 443 |
| ² He | 2011PA15 RADIOACTIVITY ⁶ Be(α) [from ⁶ Li(³ He, t) ⁶ Be, E=50 MeV]; measured proton spectrum, E α , I α ; deduced two-body decay from resonant state. JOUR IMPEE 20 1034 |
| 2011PE08 | NUCLEAR REACTIONS ³ He(γ , n), E=12.8, 13.5, 14.7 MeV; measured En, In, angular distributions, TOF technique, absolute cross sections. Comparisons with phase-space calculations, and the state-of-the-art three-body calculations. JOUR PRVCA 83 034003 |

A=3

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|-----------------|--|
| ³ H | 2011DU14 NUCLEAR REACTIONS Ag, Br(p-bar, X) ¹ H / ² H / ³ H / ⁴ He, E=7 MeV; measured reaction products; deduced yields and energy spectra. Comparison with theoretical estimate for evaporation from the equilibrium state. JOUR JTPLA 93 253 |
| 2011KI07 | NUCLEAR REACTIONS ² H, Al, Zr, Pd, Sr, Li(d, n), (d, p), E<250 KeV; measured reaction products; deduced σ , $\sigma(\theta)$, branching ratios. Comparison with theoretical calculations. JOUR IMPEE 20 576 |
| 2011T005 | NUCLEAR REACTIONS ⁴ He(⁸ Li, X) ¹² B / ³ H, E=30.6 MeV; measured reaction products; deduced σ . Inverse Kinematics Thick Target (TTIK) scattering method. JOUR IMPEE 20 1026 |
| 2011TU04 | NUCLEAR REACTIONS ² H(d, p), (d, n), E(cm)=0.02, 0.13, 0.98, 1.25 MeV; measured reaction products, proton spectra; deduced $\sigma(\theta)$. Trojan horse method. JOUR FBSYE 50 323 |
| ³ He | 2011KI07 NUCLEAR REACTIONS ² H, Al, Zr, Pd, Sr, Li(d, n), (d, p), E<250 KeV; measured reaction products; deduced σ , $\sigma(\theta)$, branching ratios. Comparison with theoretical calculations. JOUR IMPEE 20 576 |

KEYNUMBERS AND KEYWORDS

A=3 (continued)

2011TU04 NUCLEAR REACTIONS $^2\text{H}(\text{d}, \text{p})$, (d, n) , $E(\text{cm})=0.02, 0.13, 0.98, 1.25$ MeV; measured reaction products, proton spectra; deduced $\sigma(\theta)$. Trojan horse method. JOUR FBSYE 50 323

A=4

^4n 2010NIZT NUCLEAR REACTIONS $^2\text{H}(^8\text{He}, ^3\text{He})$, $(^8\text{He}, ^3\text{He})$, $E=42$ MeV / nucleon; measured $E(\text{particle})$, $I(\text{particle})$, $(\text{particle})(\text{particle})\text{-coin}$. ^7H deduced $\sigma(E)$, ^7He missing mass spectra. $^2\text{H}(^{12}\text{Be}, ^3\text{He})$, $E=71$ MeV / nucleon; measured $E(\text{particle})$, $I(\text{particle})$, $(\text{particle})(\text{particle})\text{-coin}$. ^{11}Li deduced $\sigma(E)$, ground-state σ . CONF Sochi(EXON-2009) Proc,P47,Nikolskii

^4H 2011RA16 RADIOACTIVITY ^{12}C , $^{11}\text{Be}(\alpha)$, ^6He , $^{11}\text{Li}(\beta^-)$, (d) ; measured decay products; deduced neutron halo. JOUR IMPEE 20 797

^4He 2011DU14 NUCLEAR REACTIONS Ag , $\text{Br}(\text{p-bar}, \text{X})^1\text{H} / ^2\text{H} / ^3\text{H} / ^4\text{He}$, $E=7$ MeV; measured reaction products; deduced yields and energy spectra. Comparison with theoretical estimate for evaporation from the equilibrium state. JOUR JTPLA 93 253

2011FR02 NUCLEAR REACTIONS ^9Be , $^{12}\text{C}(\alpha, 3\alpha)$, $E=22\text{-}30$ MeV; measured $E\alpha$, $I\alpha$, $^{12}\text{C}\text{-}\alpha$ angular correlations; deduced Dalitz plot. ^{12}C ; deduced levels, J , π , width. Possible collective excitation of Hoyle state. JOUR PRVCA 83 034314

2011MI11 NUCLEAR REACTIONS ^7Li , $^9\text{Be}(^7\text{Li}, \text{X})^{10}\text{Be}$, $E=8, 30, 52$ MeV; $^{12}\text{C}(^6\text{He}, ^8\text{Be})^{10}\text{Be}$, E not given; $^6\text{Li}(^6\text{He}, \alpha^6\text{He})^2\text{H}$, E not given; $^{12}\text{C}(^{12}\text{C}, ^{16}\text{O})^{10}\text{Be}$, E not given; $^{11}\text{B}(^3\text{He}, \alpha^6\text{He})^4\text{He}$, E not given; measured reaction products; deduced existence of cluster and molecular structures, J , π . Comparison with BFZ calculations. JOUR IMPEE 20 759

2011PI04 NUCLEAR REACTIONS $^6\text{Li}(^3\text{He}, 2\alpha)$, $E=17.5$ MeV; measured $E\alpha$, $I\alpha$, angular distribution; deduced momentum distribution, Q value, quasifree (QF) contribution. $^6\text{Li}(\text{d}, \alpha)$, $E(\text{cm})=0\text{-}5$ MeV; $^7\text{Li}(\text{p}, \alpha)$, $E(\text{cm})=0\text{-}7$ MeV; $^7\text{Li}(^3\text{He}, 2\alpha)$, E not given; analyzed excitation functions, σ , differential σ . Trojan horse method (THM) in the framework of the plane wave approximation. JOUR PRVCA 83 045801

2011YA02 NUCLEAR REACTIONS $^4\text{He}(^7\text{Li}, ^7\text{Li})$, $(^7\text{Li}, ^7\text{Li}')$, $(^7\text{Li}, \text{p})$, $E=13.7$ MeV; measured $E\alpha$, $I\alpha$, $E\text{p}$, $E\text{t}$, $E\gamma$, $I\gamma$, $\gamma\gamma\text{-coin}$, excitation functions, $\sigma(E, \theta)$, ^{11}B ; deduced levels, J , π , l -values, widths, resonance parameters, rotational band. R-matrix analysis of $\sigma(E)$ data. $^7\text{Li}(\alpha, \gamma)^{11}\text{B}$, $E=11.29, 12.63, 13.03$ MeV; calculated reaction rates and comparison with NACRE evaluation. Relevance to ^{11}B production in core-collapse supernovae. JOUR PRVCA 83 034306

^4Li 2011MI11 NUCLEAR REACTIONS ^7Li , $^9\text{Be}(^7\text{Li}, \text{X})^{10}\text{Be}$, $E=8, 30, 52$ MeV; $^{12}\text{C}(^6\text{He}, ^8\text{Be})^{10}\text{Be}$, E not given; $^6\text{Li}(^6\text{He}, \alpha^6\text{He})^2\text{H}$, E not given; $^{12}\text{C}(^{12}\text{C}, ^{16}\text{O})^{10}\text{Be}$, E not given; $^{11}\text{B}(^3\text{He}, \alpha^6\text{He})^4\text{He}$, E not given; measured reaction products; deduced existence of cluster and molecular structures, J , π . Comparison with BFZ calculations. JOUR IMPEE 20 759

KEYNUMBERS AND KEYWORDS

A=5

No references found

A=6

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|-----------------|----------|---|
| ${}^6\text{He}$ | 2011FL03 | RADIOACTIVITY ${}^6\text{He}(\beta^-)$; measured recoil nuclei, $E\beta$, $I\beta$, β -recoil coin.; deduced β - ν correlation coefficient. Transparent Paul trap. JOUR JPGPE 38 055101 |
| | 2011RA16 | RADIOACTIVITY ${}^{12}\text{C}$, ${}^{11}\text{Be}(\alpha)$, ${}^6\text{He}$, ${}^{11}\text{Li}(\beta^-)$, (d); measured decay products; deduced neutron halo. JOUR IMPEE 20 797 |
| ${}^6\text{Li}$ | 2011AM02 | NUCLEAR REACTIONS ${}^{6,7}\text{Li}$, ${}^{10,11}\text{B}(\text{p}, \text{p})$, $E=300\text{-}1050$ keV; measured proton spectrum; deduced $\sigma(\theta)$, optical model parameters. Comparison with code SPIVAL and DWBA calculations. JOUR IMPEE 20 980 |
| | 2011FL03 | RADIOACTIVITY ${}^6\text{He}(\beta^-)$; measured recoil nuclei, $E\beta$, $I\beta$, β -recoil coin.; deduced β - ν correlation coefficient. Transparent Paul trap. JOUR JPGPE 38 055101 |
| | 2011RA16 | RADIOACTIVITY ${}^{12}\text{C}$, ${}^{11}\text{Be}(\alpha)$, ${}^6\text{He}$, ${}^{11}\text{Li}(\beta^-)$, (d); measured decay products; deduced neutron halo. JOUR IMPEE 20 797 |
| ${}^6\text{Be}$ | 2011PA15 | RADIOACTIVITY ${}^6\text{Be}(\alpha)$ [from ${}^6\text{Li}({}^3\text{He}, \text{t}){}^6\text{Be}$, $E=50$ MeV]; measured proton spectrum, $E\alpha$, $I\alpha$; deduced two-body decay from resonant state. JOUR IMPEE 20 1034 |

A=7

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|-----------------|----------|--|
| ${}^7\text{H}$ | 2010NIZT | NUCLEAR REACTIONS ${}^2\text{H}({}^8\text{He}, {}^3\text{He})$, $({}^8\text{He}, {}^3\text{He})$, $E=42$ MeV / nucleon; measured $E(\text{particle})$, $I(\text{particle})$, $(\text{particle})(\text{particle})$ -coin. ${}^7\text{H}$ deduced $\sigma(E)$, ${}^7\text{He}$ missing mass spectra. ${}^2\text{H}({}^{12}\text{Be}, {}^3\text{He})$, $E=71$ MeV / nucleon; measured $E(\text{particle})$, $I(\text{particle})$, $(\text{particle})(\text{particle})$ -coin. ${}^{11}\text{Li}$ deduced $\sigma(E)$, ground-state σ . CONF Sochi(EXON-2009) Proc,P47,Nikolskii |
| ${}^7\text{He}$ | 2011RA16 | RADIOACTIVITY ${}^{12}\text{C}$, ${}^{11}\text{Be}(\alpha)$, ${}^6\text{He}$, ${}^{11}\text{Li}(\beta^-)$, (d); measured decay products; deduced neutron halo. JOUR IMPEE 20 797 |
| ${}^7\text{Li}$ | 2011AM02 | NUCLEAR REACTIONS ${}^{6,7}\text{Li}$, ${}^{10,11}\text{B}(\text{p}, \text{p})$, $E=300\text{-}1050$ keV; measured proton spectrum; deduced $\sigma(\theta)$, optical model parameters. Comparison with code SPIVAL and DWBA calculations. JOUR IMPEE 20 980 |
| | 2011LI18 | NUCLEAR REACTIONS ${}^1\text{H}({}^6\text{He}, \gamma)$, ${}^2\text{H}({}^6\text{He}, \text{n})$, $E(\text{cm})=9.1$ MeV; measured reaction products; deduced $\sigma(\theta)$, S-factors, temperature-dependent reaction rates. Comparison with DWBA analysis, REACLIB library. JOUR CPLEE 28 052102 |
| | 2011MU09 | NUCLEAR REACTIONS ${}^{236}\text{U}(\text{n}, \gamma)$, $E=1\text{-}2000$ eV; ${}^{236}\text{U}(\text{n}, \text{F})$, $E=1\text{-}1000$ eV; ${}^{10}\text{B}(\text{n}, \alpha)$, $E=1\text{-}2000$ eV; measured reaction products, $E\gamma$, $I\gamma$; deduced σ . JOUR AENGA 110 115 |
| | 2011VE06 | RADIOACTIVITY ${}^7\text{Li}(\text{IT})$ [from ${}^{10}\text{B}(\text{n}, \alpha)$, E not given]; measured $E\gamma$, $I\gamma$; deduced P-odd asymmetry in γ -ray emission. JOUR ZAANE 47 43 |

A=7 (*continued*)

- ⁷Be 2011MA36 NUCLEAR REACTIONS ⁷Li(p, n), E=1.95-2.3 MeV; measured reaction products, E_γ, I_γ; deduced thick target neutron yields. JOUR NIMAE 643 47
- 2011TI02 NUCLEAR REACTIONS ²⁷Al(p, X)²⁴Na / ²²Na / ⁷Be, E=40.8-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and uncertainties. Comparison with other experimental data. JOUR PANUE 74 507
- 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=7 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=8

⁸Li 2011V008 NUCLEAR MOMENTS ^{8,9}Li; measured β -NQR spectra; deduced
electric quadrupole moments. JOUR JPGPE 38 075102

KEYNUMBERS AND KEYWORDS

A=8 (continued)

- ⁸Be 2010GAZU NUCLEAR REACTIONS ¹⁶O(polarized γ , α), E=9.512, 9.611, 9.720 MeV; ¹²C(polarized γ , α), E=9.51, 9.61, 9.72, 10.00, 10.54, 10.84, 11.14 MeV; measured E(particle), I(particle, θ); deduced σ ; calculated σ considering 2⁺ state at 9.11 MeV. O-TPC (Optical Readout Time Projection Chamber) at HI γ S. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012016
- 2011MI11 NUCLEAR REACTIONS ⁷Li, ⁹Be(⁷Li, X)¹⁰Be, E=8, 30, 52 MeV; ¹²C(⁶He, ⁸Be)¹⁰Be, E not given; ⁶Li(⁶He, α ⁶He)²H, E not given; ¹²C(¹²C, ¹⁶O)¹⁰Be, E not given; ¹¹B(³He, α ⁶He)⁴He, E not given; measured reaction products; deduced existence of cluster and molecular structures, J, π . Comparison with BFZ calculations. JOUR IMPEE 20 759
- 2011RA16 RADIOACTIVITY ¹²C, ¹¹Be(α), ⁶He, ¹¹Li(β^-), (d); measured decay products; deduced neutron halo. JOUR IMPEE 20 797

A=9

- ⁹He 2011RA16 RADIOACTIVITY ¹²C, ¹¹Be(α), ⁶He, ¹¹Li(β^-), (d); measured decay products; deduced neutron halo. JOUR IMPEE 20 797
- ⁹Li 2011V008 NUCLEAR MOMENTS ^{8,9}Li; measured β -NQR spectra; deduced electric quadrupole moments. JOUR JPGPE 38 075102
- ⁹Be 2010LIZY NUCLEAR REACTIONS ¹²⁰Sn(⁶He, ⁶He), E=17.40, 18.05, 19.80, 20.5 MeV; measured E(particle), I(particle, θ); deduced $\sigma(\theta)$. ¹²C(⁸Li, ⁹Be), E=23.8 MeV; measured reaction products; deduced $\sigma(\theta)$; calculated $\sigma(\theta)$ using DWBA. ¹²⁰Sn(α , X), E \approx 20-30 MeV; ¹²⁰Sn(⁶He, X), E \approx 16-20 MeV; measured E(particle), I(particle, θ); deduced σ . ⁸Li(p, γ), E=low; measured σ . Compared with other data. CONF Sochi(EXON-2009) Proc,P461,Lichtenthaler
- 2011GR08 NUCLEAR REACTIONS Be(¹⁰Be, n)⁹Be, Be(¹⁰C, n)⁹C, C(¹⁰C, n)⁹C, E=80, 120 MeV / nucleon; measured reaction products. ¹⁰Be, ¹⁰C; deduced σ , three-body forces. Variational Monte Carlo, no core shell model ab initio calculations. JOUR PRLTA 106 162502
- 2011RU08 NUCLEAR REACTIONS ⁷Li(¹⁸O, ¹⁶N), E=114 MeV; ⁹Be(¹⁶O, ¹⁶O), E=15-32.2 MeV; ¹⁶O(⁹Be, ⁹Be), E=20-167.7 MeV; measured E(particle), I(particle, θ) for oxygen-induced reactions; calculated $\sigma(\theta)$ using coupled channels; deduced $\sigma(\theta)$, optical model parameters for input and output channels, spectroscopic amplitudes. Comparison with other optical model calculations and with data. JOUR NUPAB 860 8
- ⁹C 2011GR08 NUCLEAR REACTIONS Be(¹⁰Be, n)⁹Be, Be(¹⁰C, n)⁹C, C(¹⁰C, n)⁹C, E=80, 120 MeV / nucleon; measured reaction products. ¹⁰Be, ¹⁰C; deduced σ , three-body forces. Variational Monte Carlo, no core shell model ab initio calculations. JOUR PRLTA 106 162502

KEYNUMBERS AND KEYWORDS

A=10

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|------------------|----------|--|
| ^{10}Li | 2011GU10 | NUCLEAR REACTIONS $^{14}\text{C}(\pi^-, \text{pt})$, $(\pi^-, 2d)^{10}\text{Li}$, E at rest; measured reaction products; deduced missing mass spectrum, excited states energies. JOUR BRSPE 75 459 |
| ^{10}Be | 2011GR08 | NUCLEAR REACTIONS $\text{Be}(^{10}\text{Be}, n)^9\text{Be}$, $\text{Be}(^{10}\text{C}, n)^9\text{C}$, $\text{C}(^{10}\text{C}, n)^9\text{C}$, E=80, 120 MeV / nucleon; measured reaction products. ^{10}Be , ^{10}C ; deduced σ , three-body forces. Variational Monte Carlo, no core shell model ab initio calculations. JOUR PRLTA 106 162502 |
| | 2011MI11 | NUCLEAR REACTIONS ^7Li , $^9\text{Be}(^7\text{Li}, \text{X})^{10}\text{Be}$, E=8, 30, 52 MeV; $^{12}\text{C}(^6\text{He}, ^8\text{Be})^{10}\text{Be}$, E not given; $^6\text{Li}(^6\text{He}, \alpha^6\text{He})^2\text{H}$, E not given; $^{12}\text{C}(^{12}\text{C}, ^{16}\text{O})^{10}\text{Be}$, E not given; $^{11}\text{B}(^3\text{He}, \alpha^6\text{He})^4\text{He}$, E not given; measured reaction products; deduced existence of cluster and molecular structures, J, π . Comparison with BFZ calculations. JOUR IMPEE 20 759 |
| | 2011SC13 | NUCLEAR REACTIONS $\text{Bi}(p, \text{X})^{108}\text{Ag} / ^{10}\text{Be} / ^{26}\text{Al} / ^{129}\text{I} / ^{36}\text{Cl}$, E=100-2600 MeV; measured reaction products, $E\gamma$, $I\gamma$; deduced σ . Chemical separation, AMS measurements, comparison with spallation model INCL4 and experimental data. JOUR JPGPE 38 065103 |
| | 2011YA02 | NUCLEAR REACTIONS $^4\text{He}(^7\text{Li}, ^7\text{Li})$, $(^7\text{Li}, ^7\text{Li}')$, $(^7\text{Li}, p)$, E=13.7 MeV; measured $E\alpha$, $I\alpha$, E_p , E_t , $E\gamma$, $I\gamma$, $\gamma\gamma$ -coin, excitation functions, $\sigma(E, \theta)$, ^{11}B ; deduced levels, J, π , l-values, widths, resonance parameters, rotational band. R-matrix analysis of $\sigma(E)$ data. $^7\text{Li}(\alpha, \gamma)^{11}\text{B}$, E=11.29, 12.63, 13.03 MeV; calculated reaction rates and comparison with NACRE evaluation. Relevance to ^{11}B production in core-collapse supernovae. JOUR PRVCA 83 034306 |
| ^{10}B | 2011AM02 | NUCLEAR REACTIONS $^{6,7}\text{Li}$, $^{10,11}\text{B}(p, p)$, E=300-1050 keV; measured proton spectrum; deduced $\sigma(\theta)$, optical model parameters. Comparison with code SPIVAL and DWBA calculations. JOUR IMPEE 20 980 |
| ^{10}C | 2011GR08 | NUCLEAR REACTIONS $\text{Be}(^{10}\text{Be}, n)^9\text{Be}$, $\text{Be}(^{10}\text{C}, n)^9\text{C}$, $\text{C}(^{10}\text{C}, n)^9\text{C}$, E=80, 120 MeV / nucleon; measured reaction products. ^{10}Be , ^{10}C ; deduced σ , three-body forces. Variational Monte Carlo, no core shell model ab initio calculations. JOUR PRLTA 106 162502 |

A=11

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|------------------|----------|--|
| ^{11}Li | 2010NIZT | NUCLEAR REACTIONS $^2\text{H}(^8\text{He}, ^3\text{He})$, $(^8\text{He}, ^3\text{He})$, E=42 MeV / nucleon; measured $E(\text{particle})$, $I(\text{particle})$, $(\text{particle})(\text{particle})$ -coin. ^7H deduced $\sigma(E)$, ^7He missing mass spectra. $^2\text{H}(^{12}\text{Be}, ^3\text{He})$, E=71 MeV / nucleon; measured $E(\text{particle})$, $I(\text{particle})$, $(\text{particle})(\text{particle})$ -coin. ^{11}Li deduced $\sigma(E)$, ground-state σ . CONF Sochi(EXON-2009) Proc,P47,Nikolskii |
| | 2011RA16 | RADIOACTIVITY ^{12}C , $^{11}\text{Be}(\alpha)$, ^6He , $^{11}\text{Li}(\beta^-)$, (d); measured decay products; deduced neutron halo. JOUR IMPEE 20 797 |
| ^{11}Be | 2011RA16 | RADIOACTIVITY ^{12}C , $^{11}\text{Be}(\alpha)$, ^6He , $^{11}\text{Li}(\beta^-)$, (d); measured decay products; deduced neutron halo. JOUR IMPEE 20 797 |

A=11 (continued)

- ¹¹B 2010LIZY NUCLEAR REACTIONS ¹²⁰Sn(⁶He, ⁶He), E=17.40, 18.05, 19.80, 20.5 MeV; measured E(particle), I(particle, θ); deduced $\sigma(\theta)$. ¹²C(⁸Li, ⁹Be), E=23.8 MeV; measured reaction products; deduced $\sigma(\theta)$; calculated $\sigma(\theta)$ using DWBA. ¹²⁰Sn(α , X), E \approx 20-30 MeV; ¹²⁰Sn(⁶He, X), E \approx 16-20 MeV; measured E(particle), I(particle, θ); deduced σ . ⁸Li(p, γ), E=low; measured σ . Compared with other data. CONF Sochi(EXON-2009) Proc,P461,Lichtenthaler
- 2011AM02 NUCLEAR REACTIONS ^{6,7}Li, ^{10,11}B(p, p), E=300-1050 keV; measured proton spectrum; deduced $\sigma(\theta)$, optical model parameters. Comparison with code SPIVAL and DWBA calculations. JOUR IMPEE 20 980
- 2011YA02 NUCLEAR REACTIONS ⁴He(⁷Li, ⁷Li), (⁷Li, ⁷Li'), (⁷Li, p), E=13.7 MeV; measured E α , I α , E p , E t , E γ , I γ , $\gamma\gamma$ -coin, excitation functions, $\sigma(E, \theta)$, ¹¹B; deduced levels, J, π , l-values, widths, resonance parameters, rotational band. R-matrix analysis of $\sigma(E)$ data. ⁷Li(α , γ)¹¹B, E=11.29, 12.63, 13.03 MeV; calculated reaction rates and comparison with NACRE evaluation. Relevance to ¹¹B production in core-collapse supernovae. JOUR PRVCA 83 034306

A=12

- ¹²B 2011T005 NUCLEAR REACTIONS ⁴He(⁸Li, X)¹²B / ³H, E=30.6 MeV; measured reaction products; deduced σ . Inverse Kinematics Thick Target (TTIK) scattering method. JOUR IMPEE 20 1026
- ¹²C 2010DEZX NUCLEAR REACTIONS ¹²C(¹²C, ¹²C), E=240 MeV; ¹²C(¹³C, ¹³C), E=250 MeV; measured E(particle), I(particle); deduced $\sigma(\theta)$, optical model potential parameters; calculated $\sigma(\theta)$. CONF Sochi(EXON-2009) Proc,P82,Demyanova
- 2010GAZU NUCLEAR REACTIONS ¹⁶O(polarized γ , α), E=9.512, 9.611, 9.720 MeV; ¹²C(polarized γ , α), E=9.51, 9.61, 9.72, 10.00, 10.54, 10.84, 11.14 MeV; measured E(particle), I(particle, θ); deduced σ ; calculated σ considering 2⁺ state at 9.11 MeV. O-TPC (Optical Readout Time Projection Chamber) at HI γ S. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012016
- 2010MUZX NUCLEAR REACTIONS ¹⁵N(³He, d), (³He, ³He), E=25.74 MeV; measured E(d), I(d, θ), I(³He, θ); deduced $\sigma(\theta)$; calculated ANC (astrophysical normalization coefficient), $\sigma(\theta)$ for individual ¹⁶O states. ¹⁵N(p, γ), E=cyclotron; calculated astrophysical S-factor. ¹⁵N(p, α), E=0-1250 keV; calculated astrophysical S-factor using fitted R matrix; deduced proton asymptotic normalization coefficient. Comparison with data. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012017
- 2011C007 NUCLEAR REACTIONS ¹²C(¹²⁶Xe, ¹²⁶Xe'), E=399 MeV; measured E γ , I γ , $\gamma\gamma$ -coin, Coulomb excitation cross sections using Gammasphere array. ¹²⁶Xe; deduced levels, J, π , bands, B(E2), B(E3) and B(M1) transition strengths, half-lives. Comparison with sd-IBM-1 calculations. O(6)-symmetry breaking and O(5)-symmetry conservation in ^{124,126,128}Xe. JOUR PRVCA 83 044318

A=12 (continued)

- 2011FR02 NUCLEAR REACTIONS ${}^9\text{Be}$, ${}^{12}\text{C}(\alpha, 3\alpha)$, E=22-30 MeV; measured E_α , I_α , ${}^{12}\text{C}-\alpha$ angular correlations; deduced Dalitz plot. ${}^{12}\text{C}$; deduced levels, J, π , width. Possible collective excitation of Hoyle state. JOUR PRVCA 83 034314
- 2011HA23 NUCLEAR REACTIONS ${}^{12}\text{C}({}^{16}\text{O}, {}^{12}\text{C})$, E=20, 24, 28 MeV; ${}^{16}\text{O}({}^{12}\text{C}, {}^{16}\text{O})$, E=21 MeV; measured E(particle), I(particle, θ); deduced $\sigma(\theta)$, optical potential parameters; calculated $\sigma(\theta)$ using optical model DWUCK5 and SPI-GENOA code. JOUR NUPAB 859 29
- 2011L007 NUCLEAR REACTIONS ${}^{12}\text{C}({}^6\text{He}, {}^6\text{He}')$, [secondary ${}^6\text{He}$ beam from ${}^9\text{Be}({}^{13}\text{C}, \text{X})$, E=115 MeV / nucleon primary reaction], E=82.3 MeV / nucleon; measured charged-particle spectra, $\sigma(\theta)$ of scattered ${}^6\text{He}$, $\sigma / \sigma(\text{Rutherford})$. Comparisons with optical model (OM) and continuum discretized coupling channel (CDCC) model calculations. JOUR PRVCA 83 034612
- 2011OL01 NUCLEAR REACTIONS ${}^{12}\text{C}({}^9\text{Be}, {}^9\text{Be})$, (${}^9\text{Be}, \text{X}$), E=13.0, 14.5, 17.3, 19.0, 21.0 MeV; measured E(particle), I(particle, θ); deduced $\sigma(\theta)$, deformation parameters; calculated $\sigma(\theta)$, M(E λ) using FRESKO optical model code with Sao Paulo parameters and including also cluster transfer. JOUR NUPAB 856 46
- 2011RA16 RADIOACTIVITY ${}^{12}\text{C}$, ${}^{11}\text{Be}(\alpha)$, ${}^6\text{He}$, ${}^{11}\text{Li}(\beta^-)$, (d); measured decay products; deduced neutron halo. JOUR IMPEE 20 797
- 2011RU07 NUCLEAR REACTIONS ${}^{12,13,14}\text{C}({}^{18}\text{O}, \text{X})$, (${}^{18}\text{O}, {}^{18}\text{O}$), (${}^{18}\text{O}, {}^{18}\text{O}'$) E=105 MeV; ${}^{14}\text{C}({}^{16}\text{O}, {}^{16}\text{O})$, E=132, 281 MeV; measured reaction products; deduced σ , $\sigma(\theta)$, optical model parameters. Coupled-reaction-channels method. JOUR ZAANE 47 50
- 2011TA06 NUCLEAR REACTIONS ${}^{12}\text{C}({}^{96}\text{Ru}, {}^{96}\text{Ru}')$, (${}^{98}\text{Ru}, {}^{98}\text{Ru}'$), (${}^{100}\text{Ru}, {}^{100}\text{Ru}'$), (${}^{102}\text{Ru}, {}^{102}\text{Ru}'$), (${}^{104}\text{Ru}, {}^{104}\text{Ru}'$), (${}^{106}\text{Pd}, {}^{106}\text{Pd}'$), E=280 MeV; ${}^{12}\text{C}({}^{102}\text{Ru}, {}^{102}\text{Ru}')$, E=160, 227 MeV; ${}^{12}\text{C}({}^{106}\text{Pd}, {}^{106}\text{Pd}')$, E=230 MeV; ${}^{24}\text{Mg}({}^{102}\text{Ru}, {}^{102}\text{Ru}')$, E=227 MeV; ${}^{26}\text{Mg}({}^{96}\text{Ru}, {}^{96}\text{Ru}')$, (${}^{98}\text{Ru}, {}^{98}\text{Ru}'$), E=230 MeV; ${}^{26}\text{Mg}({}^{100}\text{Ru}, {}^{100}\text{Ru}')$, (${}^{102}\text{Ru}, {}^{102}\text{Ru}'$), (${}^{104}\text{Ru}, {}^{104}\text{Ru}'$), E=227 MeV; measured (particle) γ -coin spectra, (particle) $\gamma(\theta)$, precession angles; deduced transient field strengths, g factors. Coulomb excitation in inverse kinematics. JOUR PRVCA 83 044315

A=13

- ${}^{13}\text{C}$ 2011B017 NUCLEAR REACTIONS ${}^9\text{Be}({}^6\text{Li}, \text{d}){}^{13}\text{C}$, E=25.5 MeV; measured reaction products, deuteron spectra; deduced $\sigma(\theta)$, J, π . Comparison with DWBA calculations. JOUR IMPEE 20 1018
- 2011RU07 NUCLEAR REACTIONS ${}^{12,13,14}\text{C}({}^{18}\text{O}, \text{X})$, (${}^{18}\text{O}, {}^{18}\text{O}$), (${}^{18}\text{O}, {}^{18}\text{O}'$) E=105 MeV; ${}^{14}\text{C}({}^{16}\text{O}, {}^{16}\text{O})$, E=132, 281 MeV; measured reaction products; deduced σ , $\sigma(\theta)$, optical model parameters. Coupled-reaction-channels method. JOUR ZAANE 47 50

KEYNUMBERS AND KEYWORDS

A=14

¹⁴C 2011RU07 NUCLEAR REACTIONS ^{12,13,14}C(¹⁸O, X), (¹⁸O, ¹⁸O), (¹⁸O, ¹⁸O')
E=105 MeV; ¹⁴C(¹⁶O, ¹⁶O), E=132, 281 MeV; measured reaction
products; deduced σ , $\sigma(\theta)$, optical model parameters.
Coupled-reaction-channels method. JOUR ZAANE 47 50

A=15

¹⁵B 2010ISZZ NUCLEAR MOMENTS ^{15,17}B; measured quadrupole moments.
CONF Sochi(EXON-2009) Proc,P3,Ishihara

¹⁵C 2010CAZP NUCLEAR REACTIONS ¹³C(¹⁸O, ¹⁶O), E=84 MeV; measured
Z(particle), A(particle), I(particle, θ) using MAGNEX spectrometer;
deduced $\sigma(\theta)$ to specified resonances. CONF Sochi(EXON-2009)
Proc,P94,Cappuzzello

¹⁵N 2010MUZX NUCLEAR REACTIONS ¹⁵N(³He, d), (³He, ³He), E=25.74 MeV;
measured E(d), I(d, θ), I(³He, θ); deduced $\sigma(\theta)$; calculated ANC
(astrophysical normalization coefficient), $\sigma(\theta)$ for individual ¹⁶O states.
¹⁵N(p, γ), E=cyclotron; calculated astrophysical S-factor. ¹⁵N(p, α),
E=0-1250 keV; calculated astrophysical S-factor using fitted R matrix;
deduced proton asymptotic normalization coefficient. Comparison with
data. CONF Frascati(Nuclear Physics in Astrophysics IV 2009),
P012017

¹⁵O 2011BE11 NUCLEAR REACTIONS ¹⁸F(p, α), E(cm)=250, 330, 453, 673 keV;
measured E α , I α , α (heavy ion)-coin, cross sections, angular
distributions, and S factors at ISAC-TRIUMF facility. ¹⁹Ne; deduced
resonances, R-matrix analysis. Discussed implications for the reaction
rate in the context of nova explosions. JOUR PRVCA 83 042801

 2011MA25 NUCLEAR REACTIONS ¹⁴N(p, γ), E=359, 380, 399 keV; measured
E γ , I γ , σ . ¹⁵O; deduced levels, J, π , branching ratios for four major
resonances, corresponding astrophysical S factors. R-matrix analysis
for capture to ground state. Relevance to (CNO) cycle of hydrogen
burning. JOUR PRVCA 83 045804

A=16

¹⁶O 2010MUZX NUCLEAR REACTIONS ¹⁵N(³He, d), (³He, ³He), E=25.74 MeV;
measured E(d), I(d, θ), I(³He, θ); deduced $\sigma(\theta)$; calculated ANC
(astrophysical normalization coefficient), $\sigma(\theta)$ for individual ¹⁶O states.
¹⁵N(p, γ), E=cyclotron; calculated astrophysical S-factor. ¹⁵N(p, α),
E=0-1250 keV; calculated astrophysical S-factor using fitted R matrix;
deduced proton asymptotic normalization coefficient. Comparison with
data. CONF Frascati(Nuclear Physics in Astrophysics IV 2009),
P012017

 2011HA23 NUCLEAR REACTIONS ¹²C(¹⁶O, ¹²C), E=20, 24, 28 MeV; ¹⁶O(¹²C,
¹⁶O), E=21 MeV; measured E(particle), I(particle, θ); deduced $\sigma(\theta)$,
optical potential parameters; calculated $\sigma(\theta)$ using optical model
DWUCK5 and SPI-GENOA code. JOUR NUPAB 859 29

KEYNUMBERS AND KEYWORDS

A=16 (continued)

- 2011RU08 NUCLEAR REACTIONS ${}^7\text{Li}({}^{18}\text{O}, {}^{16}\text{N})$, $E=114$ MeV; ${}^9\text{Be}({}^{16}\text{O}, {}^{16}\text{O})$, $E=15-32.2$ MeV; ${}^{16}\text{O}({}^9\text{Be}, {}^9\text{Be})$, $E=20-167.7$ MeV; measured $E(\text{particle})$, $I(\text{particle}, \theta)$ for oxygen-induced reactions; calculated $\sigma(\theta)$ using coupled channels; deduced $\sigma(\theta)$, optical model parameters for input and output channels, spectroscopic amplitudes. Comparison with other optical model calculations and with data. JOUR NUPAB 860 8
- 2011SA16 NUCLEAR REACTIONS ${}^4\text{He}({}^{12}\text{C}, \gamma){}^{16}\text{O}$, $E=3-10$ MeV; measured reaction products, ${}^{16}\text{O}$ recoils; deduced σ , S-factors. JOUR FBSYE 50 315

A=17

- ${}^{17}\text{B}$ 2010ISZZ NUCLEAR MOMENTS ${}^{15,17}\text{B}$; measured quadrupole moments. CONF Sochi(EXON-2009) Proc,P3,Ishihara

A=18

- ${}^{18}\text{Na}$ 2011AS07 NUCLEAR REACTIONS ${}^1\text{H}({}^{17}\text{Ne}, {}^{17}\text{Ne})$, ${}^1\text{H}({}^{17}\text{Ne}, \text{X}){}^{18}\text{Na}$, $E=4$ MeV / nucleon; measured reaction products, proton spectrum; deduced $\sigma(\theta)$, excited state width. JOUR IMPEE 20 971
- 2011AS07 ATOMIC MASSES ${}^{18}\text{Na}$; measured TOF; deduced mass excess. Comparison with all available data. JOUR IMPEE 20 971

A=19

- ${}^{19}\text{O}$ 2010CAZO NUCLEAR REACTIONS ${}^{19}\text{F}({}^7\text{Li}, {}^7\text{Be})$, $E=52.2$ MeV; measured $Z(\text{particle})$, $E(\text{particle})$, $I(\text{particle}, \theta)$ using MAGNEX spectrometer; deduced $\sigma(\theta)$ to specified excited state, transferred momentum; calculated $\sigma(\theta)$ to specified excited state, transferred momentum. CONF Sochi(EXON-2009) Proc,P112,Cavallaro
- 2010V009 NUCLEAR REACTIONS ${}^{13}\text{C}({}^7\text{Li}, \text{p}){}^{19}\text{O}$, $E=44$ MeV; measured reaction products, proton spectra; deduced level scheme, J, π , rotational bands, cluster states. Comparison with OXBASH and Nilsson model calculations. JOUR ZAANE 46 345
- ${}^{19}\text{Ne}$ 2011BE11 NUCLEAR REACTIONS ${}^{18}\text{F}(\text{p}, \alpha)$, $E(\text{cm})=250, 330, 453, 673$ keV; measured $E\alpha$, $I\alpha$, $\alpha(\text{heavy ion})$ -coin, cross sections, angular distributions, and S factors at ISAC-TRIUMF facility. ${}^{19}\text{Ne}$; deduced resonances, R-matrix analysis. Discussed implications for the reaction rate in the context of nova explosions. JOUR PRVCA 83 042801

A=20

- ²⁰O 2011B014 NUCLEAR REACTIONS ¹⁴C(⁷Li, p), E=44 MeV; measured reaction products, proton spectrum; deduced level energies, J, π , high-spin states, $\sigma(\theta)$, widths of resonances, rotational bands. JOUR ZAANE 47 44
- ²⁰F 2011AB04 NUCLEAR REACTIONS ⁹Be(¹²C, p), E=0.2-3.2 GeV / nucleon; measured reaction products, proton spectrum; deduced invariant σ , distribution parameters. JOUR BRSPE 75 500

A=21

No references found

A=22

- ²²O 2011H005 NUCLEAR REACTIONS ⁹Be(²⁶F, nn), E=85 MeV / nucleon; measured neutron spectra using MoNA array, neutron resonance decay energy, neutron-neutron-fragment, neutron-fragment energies, TOF, ²²O-nn coin. ²⁴O; deduced level, two-neutron cascade from the resonance in ²⁴O to ²²O. ^{22,23}O; deduced levels. Comparison with shell-model calculations. JOUR PRVCA 83 031303
- ²²Na 2010SAZS RADIOACTIVITY ²³Al(β^+ p)[from ¹H(²⁴Mg, ²³Al), E=48 MeV / nucleon]; measured E γ , I γ , Ep, I π , E β , I β . ²³Mg, ²³Al deduced mass excess. Comparison with other data. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012010
- 2011SA15 RADIOACTIVITY ²³Al(β^+), (β^+ p); measured E(p), I(p), E γ , I γ , $\beta\gamma$ -, β p-coin. ²²Na, ²³Mg; deduced levels, J, π , widths, IAS of ²³Al, resonance strength at 7787 keV and its contribution to the reaction rates for ²²Na(p, γ) reaction at typical nova peak temperatures. JOUR PRVCA 83 045808
- 2011TA14 NUCLEAR REACTIONS V(d, X)⁵¹Cr / ⁴⁸V / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca, Ti(d, X)⁴⁸V, ²⁷Al(d, X)²²Na / ²⁴Na, E=21, 40 MeV; measured reaction products, E γ , I γ ; deduced σ , thick target yields. Comparison with ALICE-IPPE-D, EMPIRE-D and TALYS code calculations, other data. JOUR NIMBE 269 1792
- 2011TI02 NUCLEAR REACTIONS ²⁷Al(p, X)²⁴Na / ²²Na / ⁷Be, E=40.8-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with other experimental data. JOUR PANUE 74 507
- 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

A=22 (continued)

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=22 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=23

²³O 2011H005 NUCLEAR REACTIONS ⁹Be(²⁶F, nn), E=85 MeV / nucleon; measured neutron spectra using MoNA array, neutron resonance decay energy, neutron-neutron-fragment, neutron-fragment energies, TOF, ²²O-nn coin. ²⁴O; deduced level, two-neutron cascade from the resonance in ²⁴O to ²²O. ^{22,23}O; deduced levels. Comparison with shell-model calculations. JOUR PRVCA 83 031303

A=23 (continued)

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| ^{23}Mg | 2010SAZS | RADIOACTIVITY $^{23}\text{Al}(\beta^+\text{p})$ [from $^1\text{H}(^{24}\text{Mg}, ^{23}\text{Al})$, E=48 MeV / nucleon]; measured E_γ , I_γ , E_p , I_π , E_β , I_β . ^{23}Mg , ^{23}Al deduced mass excess. Comparison with other data. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012010 |
| | 2011SA12 | NUCLEAR REACTIONS $^{22}\text{Na}(\text{p}, \gamma)$, E=150-700 keV; measured E_γ , I_γ ; deduced absolute yields, excitation functions for resonances, resonance strengths and thermonuclear reaction rates. ^{23}Mg ; deduced levels, J, π , branching ratios, resonances. Estimated flux of ^{22}Na gamma rays from novae. JOUR PRVCA 83 034611 |
| | 2011SA15 | RADIOACTIVITY $^{23}\text{Al}(\beta^+)$, $(\beta^+\text{p})$; measured E(p), I(p), E_γ , I_γ , $\beta\gamma^-$, βp -coin. ^{22}Na , ^{23}Mg ; deduced levels, J, π , widths, IAS of ^{23}Al , resonance strength at 7787 keV and its contribution to the reaction rates for $^{22}\text{Na}(\text{p}, \gamma)$ reaction at typical nova peak temperatures. JOUR PRVCA 83 045808 |
| ^{23}Al | 2010SAZS | RADIOACTIVITY $^{23}\text{Al}(\beta^+\text{p})$ [from $^1\text{H}(^{24}\text{Mg}, ^{23}\text{Al})$, E=48 MeV / nucleon]; measured E_γ , I_γ , E_p , I_π , E_β , I_β . ^{23}Mg , ^{23}Al deduced mass excess. Comparison with other data. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012010 |
| | 2011SA15 | RADIOACTIVITY $^{23}\text{Al}(\beta^+)$, $(\beta^+\text{p})$; measured E(p), I(p), E_γ , I_γ , $\beta\gamma^-$, βp -coin. ^{22}Na , ^{23}Mg ; deduced levels, J, π , widths, IAS of ^{23}Al , resonance strength at 7787 keV and its contribution to the reaction rates for $^{22}\text{Na}(\text{p}, \gamma)$ reaction at typical nova peak temperatures. JOUR PRVCA 83 045808 |

A=24

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| ^{24}O | 2011H005 | NUCLEAR REACTIONS $^9\text{Be}(^{26}\text{F}, \text{nn})$, E=85 MeV / nucleon; measured neutron spectra using MoNA array, neutron resonance decay energy, neutron-neutron-fragment, neutron-fragment energies, TOF, ^{22}O -nn coin. ^{24}O ; deduced level, two-neutron cascade from the resonance in ^{24}O to ^{22}O . $^{22,23}\text{O}$; deduced levels. Comparison with shell-model calculations. JOUR PRVCA 83 031303 |
| ^{24}Na | 2011KH05 | NUCLEAR REACTIONS $\text{Ni}(\text{p}, \text{x})^{55}\text{Co} / ^{56}\text{Co} / ^{57}\text{Co} / ^{58}\text{Co} / ^{56}\text{Ni} / ^{57}\text{Ni}$, E<40 MeV; $^{27}\text{Al}(\text{p}, \text{X})^{24}\text{Na}$, E=41.8 MeV; $\text{Cu}(\text{p}, \text{x})^{65}\text{Zn}$, E=40.7 MeV; measured E_γ , I_γ ; deduced σ . Comparison with experimental data, TALYS and ALICE-IPPE calculations. JOUR NIMBE 269 1140 |
| | 2011LU11 | NUCLEAR REACTIONS ^{27}Al , $^{175,176}\text{Lu}(\text{n}, \alpha)$, $^{175}\text{Lu}(\text{n}, \text{p})$, $^{93}\text{Nb}(\text{n}, 2\text{n})$ E=13.5-14.8 MeV; measured E_γ , I_γ ; deduced σ . Activation technique, comparison with all available data. JOUR ANEND 38 1693 |
| | 2011PU04 | NUCLEAR REACTIONS $^{115,116,117}\text{Sn}(\text{n}, \text{p})$, $^{93}\text{Nb}(\text{n}, 2\text{n})$, $^{27}\text{Al}(\text{n}, \alpha)$, E=13.5-14.6 MeV; measured E_γ , I_γ ; deduced σ . Comparison with available experimental data. JOUR CPCHC 35 445 |

A=24 (continued)

- 2011RA08 NUCLEAR REACTIONS $^{69}\text{Ga}(n, 2n)^{68}\text{Ga}$, $^{69}\text{Ga}(n, p)^{69m}\text{Zn}$, $^{71}\text{Ga}(n, p)^{71m}\text{Zn}$, $^{75}\text{As}(n, 2n)^{74}\text{As}$, $^{75}\text{As}(n, p)^{75}\text{Ge}$, $E=7.5, 8.0, 8.5, 9.5, 10.2, 11.0, 11.5, 12.5, 13.25, 14.0, 14.5, 15.0$ MeV; measured $E\gamma$, $I\gamma$; deduced half-lives and σ . $^{27}\text{Al}(n, \alpha)^{24}\text{Na}$, $^{197}\text{Au}(n, 2n)^{196}\text{Au}$, $E=7.5-14.5$ MeV; measured σ and used as monitor reactions. Comparison of measured cross sections with previous data and statistical model calculations based on the Hauser-Feshbach formalism, using the TALYS and the COH3 codes. JOUR PRVCA 83 044621
- 2011TA14 NUCLEAR REACTIONS $\text{V}(d, X)^{51}\text{Cr} / ^{48}\text{V} / ^{46}\text{Sc} / ^{47}\text{Sc} / ^{48}\text{Sc} / ^{47}\text{Ca}$, $\text{Ti}(d, X)^{48}\text{V}$, $^{27}\text{Al}(d, X)^{22}\text{Na} / ^{24}\text{Na}$, $E=21, 40$ MeV; measured reaction products, $E\gamma$, $I\gamma$; deduced σ , thick target yields. Comparison with ALICE-IPPE-D, EMPIRE-D and TALYS code calculations, other data. JOUR NIMBE 269 1792
- 2011TI02 NUCLEAR REACTIONS $^{27}\text{Al}(p, X)^{24}\text{Na} / ^{22}\text{Na} / ^7\text{Be}$, $E=40.8-2605$ MeV; measured reaction products, $E\gamma$, $I\gamma$; deduced σ and uncertainties. Comparison with other experimental data. JOUR PANUE 74 507
- 2011TI03 NUCLEAR REACTIONS $\text{Cr}(p, X)^{52}\text{Mn} / ^{54}\text{Mn} / ^{48}\text{Cr} / ^{49}\text{Cr} / ^{51}\text{Cr} / ^{48}\text{V} / ^{43}\text{Sc} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{47}\text{Sc} / ^{48}\text{Sc} / ^{38}\text{K} / ^{42}\text{K} / ^{43}\text{K} / ^{44}\text{K} / ^{45}\text{K} / ^{41}\text{Ar} / ^{34}\text{Cl} / ^{38}\text{Cl} / ^{39}\text{Cl} / ^{38}\text{S} / ^{29}\text{Al} / ^{27}\text{Mg} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be}$, $^{56}\text{Fe}(p, X)^{55}\text{Co} / ^{56}\text{Co} / ^{57}\text{Co} / ^{52}\text{Fe} / ^{53}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{56}\text{Mn} / ^{48}\text{Cr} / ^{49}\text{Cr} / ^{51}\text{Cr} / ^{48}\text{V} / ^{43}\text{Sc} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{47}\text{Sc} / ^{48}\text{Sc} / ^{47}\text{Ca} / ^{38}\text{K} / ^{42}\text{K} / ^{43}\text{K} / ^{44}\text{K} / ^{41}\text{Ar} / ^{34}\text{Cl} / ^{38}\text{Cl} / ^{39}\text{Cl} / ^{38}\text{S} / ^{29}\text{Al} / ^{27}\text{Mg} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be}$, $E=42-2605$ MeV; measured reaction products, $E\gamma$, $I\gamma$; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- 2011TI04 NUCLEAR REACTIONS $\text{Ni}(p, X)^{60}\text{Cu} / ^{61}\text{Cu} / ^{56}\text{Ni} / ^{57}\text{Ni} / ^{56}\text{Co} / ^{57}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{62}\text{Co} / ^{55}\text{Co} / ^{52}\text{Fe} / ^{53}\text{Fe} / ^{59}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{56}\text{Mn} / ^{48}\text{Cr} / ^{49}\text{Cr} / ^{51}\text{Cr} / ^{43}\text{Sc} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{47}\text{Sc} / ^{48}\text{Sc} / ^{47}\text{Ca} / ^{38}\text{K} / ^{42}\text{K} / ^{43}\text{K} / ^{41}\text{Ar} / ^{34}\text{Cl} / ^{38}\text{Cl} / ^{39}\text{Cl} / ^{38}\text{S} / ^{29}\text{Al} / ^{27}\text{Mg} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be}$, $^{93}\text{Nb}(p, X)^{90}\text{Mo} / ^{91}\text{Mo} / ^{93}\text{Mo} / ^{88}\text{Nb} / ^{89}\text{Nb} / ^{90}\text{Nb} / ^{91}\text{Nb} / ^{92}\text{Nb} / ^{85}\text{Zr} / ^{86}\text{Zr} / ^{87}\text{Zr} / ^{88}\text{Zr} / ^{89}\text{Zr} / ^{84}\text{Y} / ^{85}\text{Y} / ^{86}\text{Y} / ^{87}\text{Y} / ^{88}\text{Y} / ^{90}\text{Y} / ^{80}\text{Sr} / ^{81}\text{Sr} / ^{82}\text{Sr} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{79}\text{Rb} / ^{81}\text{Rb} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} / ^{86}\text{Rb} / ^{76}\text{Kr} / ^{77}\text{Kr} / ^{79}\text{Kr} / ^{74}\text{Br} / ^{75}\text{Br} / ^{76}\text{Br} / ^{77}\text{Br} / ^{72}\text{Se} / ^{73}\text{Se} / ^{75}\text{Se} / ^{70}\text{As} / ^{71}\text{As} / ^{72}\text{As} / ^{74}\text{As} / ^{65}\text{Ga} / ^{66}\text{Ga} / ^{67}\text{Ga} / ^{69}\text{Ga} / ^{60}\text{Cu} / ^{61}\text{Cu} / ^{67}\text{Cu} / ^{57}\text{Ni} / ^{55}\text{Co} / ^{56}\text{Co} / ^{57}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{62}\text{Co} / ^{53}\text{Fe} / ^{59}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{56}\text{Mn} / ^{48}\text{Cr} / ^{49}\text{Cr} / ^{51}\text{Cr} / ^{48}\text{V} / ^{43}\text{Sc} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{47}\text{Sc} / ^{48}\text{Sc} / ^{47}\text{Ca} / ^{42}\text{K} / ^{43}\text{K} / ^{41}\text{Ar} / ^{38}\text{Cl} / ^{39}\text{Cl} / ^{27}\text{Mg} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be}$, $E=46-2605$ MeV; measured reaction products, $E\gamma$, $I\gamma$; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=24 (continued)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ²⁴Mg 2011GA25 NUCLEAR REACTIONS ²⁴Mg(α , $\alpha\gamma$), E=30.3 MeV; measured E γ , I γ ; deduced $\sigma(\theta)$, double differential cross sections, angular dependence of population of magnetic sublevels, shape of dynamic deformation. JOUR BRSP 75 552
- 2011LE19 NUCLEAR REACTIONS ¹²C(¹²C, γ)²⁴Mg, ¹²C(¹⁶O, γ)²⁸Si, E(cm) = 6-9 MeV; measured reaction products, E γ , I γ ; deduced J, π , σ . Dragon spectrometer. JOUR IMPEE 20 793

A=24 (continued)

2011TA06 NUCLEAR REACTIONS $^{12}\text{C}(^{96}\text{Ru}, ^{96}\text{Ru}')$, $(^{98}\text{Ru}, ^{98}\text{Ru}')$, $(^{100}\text{Ru}, ^{100}\text{Ru}')$, $(^{102}\text{Ru}, ^{102}\text{Ru}')$, $(^{104}\text{Ru}, ^{104}\text{Ru}')$, $(^{106}\text{Pd}, ^{106}\text{Pd}')$, E=280 MeV; $^{12}\text{C}(^{102}\text{Ru}, ^{102}\text{Ru}')$, E=160, 227 MeV; $^{12}\text{C}(^{106}\text{Pd}, ^{106}\text{Pd}')$, E=230 MeV; $^{24}\text{Mg}(^{102}\text{Ru}, ^{102}\text{Ru}')$, E=227 MeV; $^{26}\text{Mg}(^{96}\text{Ru}, ^{96}\text{Ru}')$, $(^{98}\text{Ru}, ^{98}\text{Ru}')$, E=230 MeV; $^{26}\text{Mg}(^{100}\text{Ru}, ^{100}\text{Ru}')$, $(^{102}\text{Ru}, ^{102}\text{Ru}')$, $(^{104}\text{Ru}, ^{104}\text{Ru}')$, E=227 MeV; measured (particle) γ -coin spectra, (particle) $\gamma(\theta)$, precession angles; deduced transient field strengths, g factors. Coulomb excitation in inverse kinematics. JOUR PRVCA 83 044315

A=25

No references found

A=26

^{26}Mg 2011TA06 NUCLEAR REACTIONS $^{12}\text{C}(^{96}\text{Ru}, ^{96}\text{Ru}')$, $(^{98}\text{Ru}, ^{98}\text{Ru}')$, $(^{100}\text{Ru}, ^{100}\text{Ru}')$, $(^{102}\text{Ru}, ^{102}\text{Ru}')$, $(^{104}\text{Ru}, ^{104}\text{Ru}')$, $(^{106}\text{Pd}, ^{106}\text{Pd}')$, E=280 MeV; $^{12}\text{C}(^{102}\text{Ru}, ^{102}\text{Ru}')$, E=160, 227 MeV; $^{12}\text{C}(^{106}\text{Pd}, ^{106}\text{Pd}')$, E=230 MeV; $^{24}\text{Mg}(^{102}\text{Ru}, ^{102}\text{Ru}')$, E=227 MeV; $^{26}\text{Mg}(^{96}\text{Ru}, ^{96}\text{Ru}')$, $(^{98}\text{Ru}, ^{98}\text{Ru}')$, E=230 MeV; $^{26}\text{Mg}(^{100}\text{Ru}, ^{100}\text{Ru}')$, $(^{102}\text{Ru}, ^{102}\text{Ru}')$, $(^{104}\text{Ru}, ^{104}\text{Ru}')$, E=227 MeV; measured (particle) γ -coin spectra, (particle) $\gamma(\theta)$, precession angles; deduced transient field strengths, g factors. Coulomb excitation in inverse kinematics. JOUR PRVCA 83 044315

^{26}Al 2011SC13 NUCLEAR REACTIONS $\text{Bi}(p, X)^{108}\text{Ag} / ^{10}\text{Be} / ^{26}\text{Al} / ^{129}\text{I} / ^{36}\text{Cl}$, E=100-2600 MeV; measured reaction products, $E\gamma$, $I\gamma$; deduced σ . Chemical separation, AMS measurements, comparison with spallation model INCL4 and experimental data. JOUR JPGPE 38 065103

A=27

^{27}Mg 2011TI03 NUCLEAR REACTIONS $\text{Cr}(p, X)^{52}\text{Mn} / ^{54}\text{Mn} / ^{48}\text{Cr} / ^{49}\text{Cr} / ^{51}\text{Cr} / ^{48}\text{V} / ^{43}\text{Sc} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{47}\text{Sc} / ^{48}\text{Sc} / ^{38}\text{K} / ^{42}\text{K} / ^{43}\text{K} / ^{44}\text{K} / ^{45}\text{K} / ^{41}\text{Ar} / ^{34}\text{Cl} / ^{38}\text{Cl} / ^{39}\text{Cl} / ^{38}\text{S} / ^{29}\text{Al} / ^{27}\text{Mg} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^{7}\text{Be}$, $^{56}\text{Fe}(p, X)^{55}\text{Co} / ^{56}\text{Co} / ^{57}\text{Co} / ^{52}\text{Fe} / ^{53}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{56}\text{Mn} / ^{48}\text{Cr} / ^{49}\text{Cr} / ^{51}\text{Cr} / ^{48}\text{V} / ^{43}\text{Sc} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{47}\text{Sc} / ^{48}\text{Sc} / ^{47}\text{Ca} / ^{38}\text{K} / ^{42}\text{K} / ^{43}\text{K} / ^{44}\text{K} / ^{41}\text{Ar} / ^{34}\text{Cl} / ^{38}\text{Cl} / ^{39}\text{Cl} / ^{38}\text{S} / ^{29}\text{Al} / ^{27}\text{Mg} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^{7}\text{Be}$, E=42-2605 MeV; measured reaction products, $E\gamma$, $I\gamma$; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

A=27 (continued)

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=28

²⁸Mg 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=28 (continued)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ²⁸Si 2011GA26 NUCLEAR REACTIONS ²⁸Si(α , $\alpha\gamma$), E=30.3 MeV; measured E γ , I γ ; deduced $\sigma(\theta)$, J, π , coupling factors. Comparison with Nilsson model and FRESCO code predictions. JOUR BRSP 75 561
- 2011LE19 NUCLEAR REACTIONS ¹²C(¹²C, γ)²⁴Mg, ¹²C(¹⁶O, γ)²⁸Si, E(cm) = 6-9 MeV; measured reaction products, E γ , I γ ; deduced J, π , σ . Dragon spectrometer. JOUR IMPEE 20 793
- 2011M012 NUCLEAR REACTIONS ³¹P, ³⁵Cl(p, α), (p, γ), E=low; measured E(particle), I(particle), E α , I α (t, θ); deduced resonance energies, strengths. JOUR ZAANE 47 66

KEYNUMBERS AND KEYWORDS

A=29

- ²⁹Al 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=30

- ³⁰P 2011S011 RADIOACTIVITY ³⁰S(EC) [from Ni₂P(p, X), E=35 MeV]; measured cyclotron frequency ratio, E β , I β , E γ , I γ ; deduced Q-value, T_{1/2} and uncertainties. JYFLTRAP Penning trap setup. JOUR ZAANE 47 40
- ³⁰S 2010GAZV NUCLEAR REACTIONS ¹H(³¹S, ³⁰S), ¹H(³⁷K, ³⁶K), ¹H(³⁸Ca, ³⁷Ca), E not given; measured E γ , I γ (θ), (recoil) γ -coin; deduced some levels, J, π ; ²⁹P(p, γ), E=low; calculated stellar reaction rates using spectroscopic information on ³⁰S. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012009
- 2011S011 RADIOACTIVITY ³⁰S(EC) [from Ni₂P(p, X), E=35 MeV]; measured cyclotron frequency ratio, E β , I β , E γ , I γ ; deduced Q-value, T_{1/2} and uncertainties. JYFLTRAP Penning trap setup. JOUR ZAANE 47 40

A=31

- ³¹Mg 2011SE05 NUCLEAR REACTIONS ¹⁰⁹Ag(³¹Mg, ³¹Mg'), E=3 MeV / nucleon; measured reaction products, E γ , I γ . ³¹Mg; deduced energy levels, J, π , B(E2), B(M1). Comparison with theoretical predictions. JOUR PYLBB 700 181

KEYNUMBERS AND KEYWORDS

A=31 (continued)

³¹S 2011PA14 NUCLEAR REACTIONS ³¹P(³He, t), E=25 MeV; measured E(t), I(t), $\sigma(\theta)$. ³¹S; deduced levels, J, π . ³⁰P(p, γ)³¹S; deduced astrophysical reaction rates. Finite-range DWBA analysis. Comparison with previous experimental reaction rates and Hauser-Feshbach statistical model estimates. JOUR PRVCA 83 045806

A=32

³²S 2011M012 NUCLEAR REACTIONS ³¹P, ³⁵Cl(p, α), (p, γ), E=low; measured E(particle), I(particle), E α , I α (t, θ); deduced resonance energies, strengths. JOUR ZAANE 47 66

2011N006 NUCLEAR REACTIONS ⁴He(²⁸Si, X), (³⁰Si, X), (³⁶Ar, X), E=150 MeV; measured E α , I α . ^{32,34}S, ⁴⁰Ca; deduced $\sigma(\theta)$, resonance energies. Thick Target Inverse Kinematics (TTIK) technique. JOUR IMPEE 20 1042

A=33

³³Na 2011GA15 NUCLEAR REACTIONS ⁹Be(³⁸Si, X)³³Na / ³⁵Mg / ³⁶Mg / ³⁸Si, E=83 MeV / nucleon, [secondary ³⁸Si beam from ⁹Be(⁴⁸Ca, X), E=140 MeV / nucleon primary reaction]; measured E γ , production σ , (³³Na) γ -, (³⁵Mg) γ -coin using SeGA array. ³³Na, ³⁵Mg; deduced levels, J, π , rotational band in ³³Na. Comparison with large-scale Monte-Carlo shell model (MCSM) calculations with SDPF-M interaction, and with large-scale shell-model calculations with SDPF-U interaction. Calculated composition of ³⁵Mg wave functions, quadrupole moments and B(E2) values. Systematics of S(n) for A=30-35 Mg nuclei. Relevance to Island of Inversion. JOUR PRVCA 83 044305

A=34

³⁴P 2011BEZZ NUCLEAR REACTIONS ¹⁸O(¹⁸O, np), E=25 MeV; measured E γ , I γ , $\gamma(\theta)$, $\gamma\gamma$ -, (proton) γ -coin, DSA using Gammasphere array and Microball. ³⁴P; deduced levels, J, π , branching ratios, half-lives, multipolarity, mixing ratio, B(M1), B(E1), B(E2) and B(M2) strengths. PC P C Bender,5/17/2011

³⁴S 2011N006 NUCLEAR REACTIONS ⁴He(²⁸Si, X), (³⁰Si, X), (³⁶Ar, X), E=150 MeV; measured E α , I α . ^{32,34}S, ⁴⁰Ca; deduced $\sigma(\theta)$, resonance energies. Thick Target Inverse Kinematics (TTIK) technique. JOUR IMPEE 20 1042

³⁴Cl 2011FR04 NUCLEAR REACTIONS ³³S(p, γ), E=200-710 keV; measured E γ , I γ for 432-, 492-, and 529-keV resonances. Deduced stellar reaction rates. Production of sulfur isotopes and ^{34m}Cl in novae. JOUR PRVCA 83 048801

A=34 (continued)

- 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=35

- ³⁵Mg 2011GA15 NUCLEAR REACTIONS ⁹Be(³⁸Si, X)³³Na / ³⁵Mg / ³⁶Mg / ³⁸Si, E=83 MeV / nucleon, [secondary ³⁸Si beam from ⁹Be(⁴⁸Ca, X), E=140 MeV / nucleon primary reaction]; measured E γ , production σ , (³³Na) γ -, (³⁵Mg) γ -coin using SeGA array. ³³Na, ³⁵Mg; deduced levels, J, π , rotational band in ³³Na. Comparison with large-scale Monte-Carlo shell model (MCSM) calculations with SDPF-M interaction, and with large-scale shell-model calculations with SDPF-U interaction. Calculated composition of ³⁵Mg wave functions, quadrupole moments and B(E2) values. Systematics of S(n) for A=30-35 Mg nuclei. Relevance to Island of Inversion. JOUR PRVCA 83 044305

A=36

- ³⁶Mg 2011GA15 NUCLEAR REACTIONS ⁹Be(³⁸Si, X)³³Na / ³⁵Mg / ³⁶Mg / ³⁸Si, E=83 MeV / nucleon, [secondary ³⁸Si beam from ⁹Be(⁴⁸Ca, X), E=140 MeV / nucleon primary reaction]; measured E γ , production σ , (³³Na) γ^- , (³⁵Mg) γ^- -coin using SeGA array. ³³Na, ³⁵Mg; deduced levels, J, π , rotational band in ³³Na. Comparison with large-scale Monte-Carlo shell model (MCSM) calculations with SDPF-M interaction, and with large-scale shell-model calculations with SDPF-U interaction. Calculated composition of ³⁵Mg wave functions, quadrupole moments and B(E2) values. Systematics of S(n) for A=30-35 Mg nuclei. Relevance to Island of Inversion. JOUR PRVCA 83 044305
- ³⁶Cl 2011SC13 NUCLEAR REACTIONS Bi(p, X)¹⁰⁸Ag / ¹⁰Be / ²⁶Al / ¹²⁹I / ³⁶Cl, E=100-2600 MeV; measured reaction products, E γ , I γ ; deduced σ . Chemical separation, AMS measurements, comparison with spallation model INCL4 and experimental data. JOUR JPGPE 38 065103
- ³⁶Ar 2011M012 NUCLEAR REACTIONS ³¹P, ³⁵Cl(p, α), (p, γ), E=low; measured E(particle), I(particle), E α , I α (t, θ); deduced resonance energies, strengths. JOUR ZAANE 47 66

A=37

No references found

A=38

- ³⁸Si 2011GA15 NUCLEAR REACTIONS ⁹Be(³⁸Si, X)³³Na / ³⁵Mg / ³⁶Mg / ³⁸Si, E=83 MeV / nucleon, [secondary ³⁸Si beam from ⁹Be(⁴⁸Ca, X), E=140 MeV / nucleon primary reaction]; measured E γ , production σ , (³³Na) γ^- , (³⁵Mg) γ^- -coin using SeGA array. ³³Na, ³⁵Mg; deduced levels, J, π , rotational band in ³³Na. Comparison with large-scale Monte-Carlo shell model (MCSM) calculations with SDPF-M interaction, and with large-scale shell-model calculations with SDPF-U interaction. Calculated composition of ³⁵Mg wave functions, quadrupole moments and B(E2) values. Systematics of S(n) for A=30-35 Mg nuclei. Relevance to Island of Inversion. JOUR PRVCA 83 044305
- ³⁸S 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

A=38 (continued)

- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537
- ³⁸Cl 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be / ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

KEYNUMBERS AND KEYWORDS

A=38 (continued)

- ³⁸K 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=39

- ³⁹Cl 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

A=39 (continued)

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=40

⁴⁰Mg 2010GRZW NUCLEAR REACTIONS Be(⁴⁸Ca, X)⁴³S / ⁴⁴S, E=60 MeV / nucleon; measured E β , I β , E γ , I γ ; deduced levels, J, π , B(E2). ⁴⁰Mg, ⁴²Si, ⁴⁴S, ⁴⁶Ar, ⁴⁸Ca calculated energy differences of full to closed configurations in the ground state; deduced spherical-deformed shape transition, shape coexistence. CONF Sochi(EXON-2009) Proc,P74,Grevy

⁴⁰Ca 2011N006 NUCLEAR REACTIONS ⁴He(²⁸Si, X), (³⁰Si, X), (³⁶Ar, X), E=150 MeV; measured E α , I α . ^{32,34}S, ⁴⁰Ca; deduced $\sigma(\theta)$, resonance energies. Thick Target Inverse Kinematics (TTIK) technique. JOUR IMPEE 20 1042

A=41

⁴¹Ar 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

A=41 (continued)

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=42

⁴²Si 2010GRZW NUCLEAR REACTIONS Be(⁴⁸Ca, X)⁴³S / ⁴⁴S, E=60 MeV / nucleon; measured E β , I β , E γ , I γ ; deduced levels, J, π , B(E2). ⁴⁰Mg, ⁴²Si, ⁴⁴S, ⁴⁶Ar, ⁴⁸Ca calculated energy differences of full to closed configurations in the ground state; deduced spherical-deformed shape transition, shape coexistence. CONF Sochi(EXON-2009) Proc,P74,Grevy

⁴²K 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

A=42 (continued)

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=43

⁴³S 2010GRZW NUCLEAR REACTIONS Be(⁴⁸Ca, X)⁴³S / ⁴⁴S, E=60 MeV / nucleon; measured E β , I β , E γ , I γ ; deduced levels, J, π , B(E2). ⁴⁰Mg, ⁴²Si, ⁴⁴S, ⁴⁶Ar, ⁴⁸Ca calculated energy differences of full to closed configurations in the ground state; deduced spherical-deformed shape transition, shape coexistence. CONF Sochi(EXON-2009) Proc,P74,Grevy

⁴³K 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

A=43 (continued)

- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537
- ⁴³Sc 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=44

- ⁴⁴S 2010GRZW NUCLEAR REACTIONS Be(⁴⁸Ca, X)⁴³S / ⁴⁴S, E=60 MeV / nucleon; measured E β , I β , E γ , I γ ; deduced levels, J, π , B(E2). ⁴⁰Mg, ⁴²Si, ⁴⁴S, ⁴⁶Ar, ⁴⁸Ca calculated energy differences of full to closed configurations in the ground state; deduced spherical-deformed shape transition, shape coexistence. CONF Sochi(EXON-2009) Proc,P74,Grevy
- ⁴⁴K 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- ⁴⁴Sc 2011KU10 NUCLEAR REACTIONS ⁴⁵Sc(d, p), (d, t), E=11.7 MeV; ⁴⁵Sc(⁶He, ⁵He'), (⁶He, α), E=10 MeV / nucleon; measured reaction products, E γ , *nullg*; deduced σ . Comparison with EMPIRE and TALYS calculations. JOUR BRSPPE 75 538
- 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=44 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=45

⁴⁵K 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

A=46

⁴⁶Ar 2010GRZW NUCLEAR REACTIONS Be(⁴⁸Ca, X)⁴³S / ⁴⁴S, E=60 MeV / nucleon; measured E β , I β , E γ , I γ ; deduced levels, J, π , B(E2). ⁴⁰Mg, ⁴²Si, ⁴⁴S, ⁴⁶Ar, ⁴⁸Ca calculated energy differences of full to closed configurations in the ground state; deduced spherical-deformed shape transition, shape coexistence. CONF Sochi(EXON-2009) Proc,P74,Grevy

⁴⁶Sc 2011KU10 NUCLEAR REACTIONS ⁴⁵Sc(d, p), (d, t), E=11.7 MeV; ⁴⁹Sc(⁶He, ⁵He'), (⁶He, α), E=10 MeV / nucleon; measured reaction products, E γ , *nullg*; deduced σ . Comparison with EMPIRE and TALYS calculations. JOUR BRSPE 75 538

 2011TA14 NUCLEAR REACTIONS V(d, X)⁵¹Cr / ⁴⁸V / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca, Ti(d, X)⁴⁸V, ²⁷Al(d, X)²²Na / ²⁴Na, E=21, 40 MeV; measured reaction products, E γ , I γ ; deduced σ , thick target yields. Comparison with ALICE-IPPE-D, EMPIRE-D and TALYS code calculations, other data. JOUR NIMBE 269 1792

 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

A=46 (continued)

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=46 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=47

⁴⁷Ca 2011TA14 NUCLEAR REACTIONS V(d, X)⁵¹Cr / ⁴⁸V / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca, Ti(d, X)⁴⁸V, ²⁷Al(d, X)²²Na / ²⁴Na, E=21, 40 MeV; measured reaction products, E γ , I γ ; deduced σ , thick target yields. Comparison with ALICE-IPPE-D, EMPIRE-D and TALYS code calculations, other data. JOUR NIMBE 269 1792

A=47 (continued)

- 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537
- ⁴⁷Sc 2011KU10 NUCLEAR REACTIONS ⁴⁵Sc(d, p), (d, t), E=11.7 MeV; ⁴⁵Sc(⁶He, ⁵He'), (⁶He, α), E=10 MeV / nucleon; measured reaction products, E γ , *nullg*; deduced σ . Comparison with EMPIRE and TALYS calculations. JOUR BRSPE 75 538
- 2011TA14 NUCLEAR REACTIONS V(d, X)⁵¹Cr / ⁴⁸V / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca, Ti(d, X)⁴⁸V, ²⁷Al(d, X)²²Na / ²⁴Na, E=21, 40 MeV; measured reaction products, E γ , I γ ; deduced σ , thick target yields. Comparison with ALICE-IPPE-D, EMPIRE-D and TALYS code calculations, other data. JOUR NIMBE 269 1792
- 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

A=47 (continued)

- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537
- ⁴⁷V 2011ZH05 NUCLEAR REACTIONS ^{47,48,49}Ti, ^{53,54}Cr(p, n), E=7-11 MeV; measured reaction products, neutron TOF; deduced $\sigma(E)$, model parameters, nuclear level density. Comparison with generalized model of superfluid nucleus calculations. JOUR PANUE 74 335

A=48

- ⁴⁸Ca 2010GRZW NUCLEAR REACTIONS Be(⁴⁸Ca, X)⁴³S / ⁴⁴S, E=60 MeV / nucleon; measured E β , I β , E γ , I γ ; deduced levels, J, π , B(E2). ⁴⁰Mg, ⁴²Si, ⁴⁴S, ⁴⁶Ar, ⁴⁸Ca calculated energy differences of full to closed configurations in the ground state; deduced spherical-deformed shape transition, shape coexistence. CONF Sochi(EXON-2009) Proc,P74,Grevy
- 2011LU07 NUCLEAR REACTIONS ⁴⁸Ca(α , α'), E=240 MeV; measured E α , I α , cross sections, $\sigma(\theta)$ for isoscalar giant resonances. ⁴⁸Ca; deduced B(E2), B(E3), E0, E1, E2 E3+E4 energy-weighted sum rules (EWSR), isoscalar strength distributions, giant resonances, centroid energies. Comparison with mean-field-based random-phase approximation. JOUR PRVCA 83 044327
- ⁴⁸Sc 2011TA14 NUCLEAR REACTIONS V(d, X)⁵¹Cr / ⁴⁸V / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca, Ti(d, X)⁴⁸V, ²⁷Al(d, X)²²Na / ²⁴Na, E=21, 40 MeV; measured reaction products, E γ , I γ ; deduced σ , thick target yields. Comparison with ALICE-IPPE-D, EMPIRE-D and TALYS code calculations, other data. JOUR NIMBE 269 1792
- 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

A=48 (continued)

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=48 (continued)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ⁴⁸V 2011TA14 NUCLEAR REACTIONS V(d, X)⁵¹Cr / ⁴⁸V / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca, Ti(d, X)⁴⁸V, ²⁷Al(d, X)²²Na / ²⁴Na, E=21, 40 MeV; measured reaction products, E γ , I γ ; deduced σ , thick target yields. Comparison with ALICE-IPPE-D, EMPIRE-D and TALYS code calculations, other data. JOUR NIMBE 269 1792

A=48 (continued)

- 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=48 (continued)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- 2011ZH05 NUCLEAR REACTIONS ^{47,48,49}Ti, ^{53,54}Cr(p, n), E=7-11 MeV; measured reaction products, neutron TOF; deduced $\sigma(E)$, model parameters, nuclear level density. Comparison with generalized model of superfluid nucleus calculations. JOUR PANUE 74 335

KEYNUMBERS AND KEYWORDS

A=48 (continued)

- ⁴⁸Cr 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=49

- ⁴⁹V 2011ZH05 NUCLEAR REACTIONS ^{47,48,49}Ti, ^{53,54}Cr(p, n), E=7-11 MeV; measured reaction products, neutron TOF; deduced σ (E), model parameters, nuclear level density. Comparison with generalized model of superfluid nucleus calculations. JOUR PANUE 74 335
- ⁴⁹Cr 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

A=49 (continued)

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=50

No references found

A=51

⁵¹Cr 2011TA14 NUCLEAR REACTIONS V(d, X)⁵¹Cr / ⁴⁸V / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca, Ti(d, X)⁴⁸V, ²⁷Al(d, X)²²Na / ²⁴Na, E=21, 40 MeV; measured reaction products, E γ , I γ ; deduced σ , thick target yields. Comparison with ALICE-IPPE-D, EMPIRE-D and TALYS code calculations, other data. JOUR NIMBE 269 1792

2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

A=51 (continued)

- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=52

- ⁵²V 2011AG07 NUCLEAR REACTIONS ⁵¹V, ⁵⁵Mn(n, γ), E=thermal; measured E γ , I γ ; deduced thermal and resonance integral σ . Comparison with experimental data and JENDL-3.2 evaluated nuclear library. JOUR ANEND 38 1616
- ⁵²Mn 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=52 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,

E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.

JOUR PANUE 74 551

⁵²Fe 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr
/ ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K
/ ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na
/ ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn /
⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc /
⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al
/ ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured
reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison
with intranuclear cascade code calculations. JOUR PANUE 74 523

A=52 (continued)

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=53

⁵³Mn 2011ZH05 NUCLEAR REACTIONS ^{47,48,49}Ti, ^{53,54}Cr(p, n), E=7-11 MeV; measured reaction products, neutron TOF; deduced $\sigma(E)$, model parameters, nuclear level density. Comparison with generalized model of superfluid nucleus calculations. JOUR PANUE 74 335

⁵³Fe 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=54

- ⁵⁴Mn 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=54 (continued)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- 2011ZH05 NUCLEAR REACTIONS ^{47,48,49}Ti, ^{53,54}Cr(p, n), E=7-11 MeV; measured reaction products, neutron TOF; deduced $\sigma(E)$, model parameters, nuclear level density. Comparison with generalized model of superfluid nucleus calculations. JOUR PANUE 74 335

A=55

- ⁵⁵Fe 2010WAZY NUCLEAR REACTIONS ⁵⁴Fe(n, γ), E=thermal, 520 keV; measured reaction products using AMS (Accelerator Mass Spectrometry); deduced σ . High-precision measurements. Full data analysis in progress. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012020
- ⁵⁵Co 2011KH05 NUCLEAR REACTIONS Ni(p, x)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁵⁶Ni / ⁵⁷Ni, E<40 MeV; ²⁷Al(p, X)²⁴Na, E=41.8 MeV; Cu(p, x)⁶⁵Zn, E=40.7 MeV; measured E γ , I γ ; deduced σ . Comparison with experimental data, TALYS and ALICE-IPPE calculations. JOUR NIMBE 269 1140
- 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=56

- ⁵⁶Mn 2011AG07 NUCLEAR REACTIONS ⁵¹V, ⁵⁵Mn(n, γ), E=thermal; measured E γ , I γ ; deduced thermal and resonance integral σ . Comparison with experimental data and JENDL-3.2 evaluated nuclear library. JOUR ANEND 38 1616
- 2011AG09 NUCLEAR REACTIONS ⁵⁵Mn, ¹²⁷I, ^{152,154}Sm, ²³⁸U(n, γ), E=thermal; measured E γ , I γ ; deduced thermal neutron σ and uncertainties. Activation technique. JOUR ANEND 38 1737

A=56 (continued)

- 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537
- ⁵⁶Co 2011KH05 NUCLEAR REACTIONS Ni(p, x)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁵⁶Ni / ⁵⁷Ni, E<40 MeV; ²⁷Al(p, X)²⁴Na, E=41.8 MeV; Cu(p, x)⁶⁵Zn, E=40.7 MeV; measured E γ , I γ ; deduced σ . Comparison with experimental data, TALYS and ALICE-IPPE calculations. JOUR NIMBE 269 1140
- 2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

A=56 (continued)

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=56 (continued)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ⁵⁶Ni 2011KH05 NUCLEAR REACTIONS Ni(p, x)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁵⁶Ni / ⁵⁷Ni, E<40 MeV; ²⁷Al(p, X)²⁴Na, E=41.8 MeV; Cu(p, x)⁶⁵Zn, E=40.7 MeV; measured E γ , I γ ; deduced σ . Comparison with experimental data, TALYS and ALICE-IPPE calculations. JOUR NIMBE 269 1140

A=56 (continued)

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=57

⁵⁷Co 2011KH05 NUCLEAR REACTIONS Ni(p, x)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁵⁶Ni / ⁵⁷Ni, E<40 MeV; ²⁷Al(p, X)²⁴Na, E=41.8 MeV; Cu(p, x)⁶⁵Zn, E=40.7 MeV; measured E γ , I γ ; deduced σ . Comparison with experimental data, TALYS and ALICE-IPPE calculations. JOUR NIMBE 269 1140

2011TI03 NUCLEAR REACTIONS Cr(p, X)⁵²Mn / ⁵⁴Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴⁵K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁵⁶Fe(p, X)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵²Fe / ⁵³Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴⁴K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=42-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 523

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=57 (continued)

- ⁵⁷Ni 2011KH05 NUCLEAR REACTIONS Ni(p, x)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁵⁶Ni / ⁵⁷Ni, E<40 MeV; ²⁷Al(p, X)²⁴Na, E=41.8 MeV; Cu(p, x)⁶⁵Zn, E=40.7 MeV; measured E γ , I γ ; deduced σ . Comparison with experimental data, TALYS and ALICE-IPPE calculations. JOUR NIMBE 269 1140
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=58

- ⁵⁸Co 2011KH05 NUCLEAR REACTIONS Ni(p, x)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁵⁶Ni / ⁵⁷Ni, E<40 MeV; ²⁷Al(p, X)²⁴Na, E=41.8 MeV; Cu(p, x)⁶⁵Zn, E=40.7 MeV; measured E γ , I γ ; deduced σ . Comparison with experimental data, TALYS and ALICE-IPPE calculations. JOUR NIMBE 269 1140
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=58 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=59

⁵⁹Fe 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=59 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=60

- ⁶⁰Fe 2010G0ZV NUCLEAR REACTIONS ²⁰⁸Pb(⁷⁴Kr, ⁷⁴Kr'), E=4.7 MeV / nucleon; ²⁰⁸Pb(⁷⁶Kr, ⁷⁶Kr'), E=4.4 MeV / nucleon; measured Coulomb excitation E γ , I γ (θ). ⁷⁴Kr deduced levels, J, π , spectroscopic quadrupole moment, B(E2); calculated levels, J, π , spectroscopic quadrupole moment, B(E2). ⁶⁴Ni(²³⁸U, X), E=6.5 MeV / nucleon; measured E γ , I γ (θ). ^{60,62,64}Fe deduced E(2⁺), T_{1/2}, B(E2). Comparison with published calculations and data on near-by isotopes. CONF Sochi(EXON-2009) Proc,P54,Gorgen
- ⁶⁰Co 2011DI05 NUCLEAR REACTIONS ^{64,68}Zn, ⁵⁹Co, ^{94,96}Zr, ¹³⁹La, ¹⁹⁷Au(n, γ), E=epithermal; measured E γ , I γ ; deduced k₀ and Q₀ factors, uncertainties. JOUR ARISE 69 960
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=60 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=60 (continued)

⁶⁰Cu 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=61

⁶¹Cu 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=62

⁶²Fe 2010G0ZV NUCLEAR REACTIONS ²⁰⁸Pb(⁷⁴Kr, ⁷⁴Kr'), E=4.7 MeV / nucleon; ²⁰⁸Pb(⁷⁶Kr, ⁷⁶Kr'), E=4.4 MeV / nucleon; measured Coulomb excitation E γ , I γ (θ). ⁷⁴Kr deduced levels, J, π , spectroscopic quadrupole moment, B(E2); calculated levels, J, π , spectroscopic quadrupole moment, B(E2). ⁶⁴Ni(²³⁸U, X), E=6.5 MeV / nucleon; measured E γ , I γ (θ). ^{60,62,64}Fe deduced E(2⁺), T_{1/2}, B(E2). Comparison with published calculations and data on near-by isotopes. CONF Sochi(EXON-2009) Proc,P54,Gorgen

A=62 (continued)

⁶²Co 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=63

No references found

A=64

⁶⁴Fe 2010G0ZV NUCLEAR REACTIONS ²⁰⁸Pb(⁷⁴Kr, ⁷⁴Kr'), E=4.7 MeV / nucleon; ²⁰⁸Pb(⁷⁶Kr, ⁷⁶Kr'), E=4.4 MeV / nucleon; measured Coulomb excitation E γ , I γ (θ). ⁷⁴Kr deduced levels, J, π , spectroscopic quadrupole moment, B(E2); calculated levels, J, π , spectroscopic quadrupole moment, B(E2). ⁶⁴Ni(²³⁸U, X), E=6.5 MeV / nucleon; measured E γ , I γ (θ). ^{60,62,64}Fe deduced E(2⁺), T_{1/2}, B(E2). Comparison with published calculations and data on near-by isotopes. CONF Sochi(EXON-2009) Proc,P54,Gorgen

A=65

⁶⁵Zn 2011DI05 NUCLEAR REACTIONS ^{64,68}Zn, ⁵⁹Co, ^{94,96}Zr, ¹³⁹La, ¹⁹⁷Au(n, γ), E=epithermal; measured E γ , I γ ; deduced k₀ and Q₀ factors, uncertainties. JOUR ARISE 69 960

2011KH05 NUCLEAR REACTIONS Ni(p, x)⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁵⁶Ni / ⁵⁷Ni, E<40 MeV; ²⁷Al(p, X)²⁴Na, E=41.8 MeV; Cu(p, x)⁶⁵Zn, E=40.7 MeV; measured E γ , I γ ; deduced σ . Comparison with experimental data, TALYS and ALICE-IPPE calculations. JOUR NIMBE 269 1140

A=65 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=65 (continued)

⁶⁵Ga 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 537

A=66

⁶⁶Ga 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 537

A=67

- ⁶⁷Cu 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537
- ⁶⁷Ga 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=68

- ⁶⁸Zn 2010IM01 NUCLEAR REACTIONS ¹H(⁶⁸Zn, p), E=5.5 MeV / nucleon; measured reaction products, proton spectrum. ⁶⁹Zn; deduced proton yields, $\sigma(\theta)$, isobaric analogue resonance angular momentum, proton and total widths. Comparison with R-matrix calculations. JOUR ZAANE 46 157
- ⁶⁸Ga 2011RA08 NUCLEAR REACTIONS ⁶⁹Ga(n, 2n)⁶⁸Ga, ⁶⁹Ga(n, p)^{69m}Zn, ⁷¹Ga(n, p)^{71m}Zn, ⁷⁵As(n, 2n)⁷⁴As, ⁷⁵As(n, p)⁷⁵Ge, E=7.5, 8.0, 8.5, 9.5, 10.2, 11.0, 11.5, 12.5, 13.25, 14.0, 14.5, 15.0 MeV; measured E γ , I γ ; deduced half-lives and σ . ²⁷Al(n, α)²⁴Na, ¹⁹⁷Au(n, 2n)¹⁹⁶Au, E=7.5-14.5 MeV; measured σ and used as monitor reactions. Comparison of measured cross sections with previous data and statistical model calculations based on the Hauser-Feshbach formalism, using the TALYS and the COH3 codes. JOUR PRVCA 83 044621

KEYNUMBERS AND KEYWORDS

A=68 (continued)

⁶⁸Se 2011R018 RADIOACTIVITY ⁶⁹Br(p) [from Be(⁷⁸Kr, X), E=140 MeV / nucleon]; measured reaction products, proton spectrum. ⁶⁹Br, ⁶⁸Se; deduced proton separation energy. Astrophysical implications, comparison with theoretical calculations. JOUR PRLTA 106 252503

A=69

⁶⁹Zn 2010IM01 NUCLEAR REACTIONS ¹H(⁶⁸Zn, p), E=5.5 MeV / nucleon; measured reaction products, proton spectrum. ⁶⁹Zn; deduced proton yields, $\sigma(\theta)$, isobaric analogue resonance angular momentum, proton and total widths. Comparison with R-matrix calculations. JOUR ZAANE 46 157

2011DI05 NUCLEAR REACTIONS ^{64,68}Zn, ⁵⁹Co, ^{94,96}Zr, ¹³⁹La, ¹⁹⁷Au(n, γ), E=epithermal; measured E γ , I γ ; deduced k₀ and Q₀ factors, uncertainties. JOUR ARISE 69 960

2011RA08 NUCLEAR REACTIONS ⁶⁹Ga(n, 2n)⁶⁸Ga, ⁶⁹Ga(n, p)^{69m}Zn, ⁷¹Ga(n, p)^{71m}Zn, ⁷⁵As(n, 2n)⁷⁴As, ⁷⁵As(n, p)⁷⁵Ge, E=7.5, 8.0, 8.5, 9.5, 10.2, 11.0, 11.5, 12.5, 13.25, 14.0, 14.5, 15.0 MeV; measured E γ , I γ ; deduced half-lives and σ . ²⁷Al(n, α)²⁴Na, ¹⁹⁷Au(n, 2n)¹⁹⁶Au, E=7.5-14.5 MeV; measured σ and used as monitor reactions. Comparison of measured cross sections with previous data and statistical model calculations based on the Hauser-Feshbach formalism, using the TALYS and the COH3 codes. JOUR PRVCA 83 044621

A=69 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=69 (continued)

- ⁶⁹Ga 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537
- ⁶⁹Ge 2011DZ01 NUCLEAR REACTIONS ⁷⁰Ge(n, p), ⁷⁴Ge(n, α), ^{70,72,76}Ge(n, 2n), E \approx 14 MeV; measured E γ , I γ using activation method; deduced σ , IT-decay σ ; calculated σ using TALYS. ⁷⁰Ge(n, p), E=4-15.5 MeV compared with data and calculations; ⁷²Ge(n, 2n) with JENDL-3.3. JOUR NUPAB 858 1
- ⁶⁹Br 2011R018 RADIOACTIVITY ⁶⁹Br(p) [from Be(⁷⁸Kr, X), E=140 MeV / nucleon]; measured reaction products, proton spectrum. ⁶⁹Br, ⁶⁸Se; deduced proton separation energy. Astrophysical implications, comparison with theoretical calculations. JOUR PRLTA 106 252503

A=70

- ⁷⁰Ga 2011DZ01 NUCLEAR REACTIONS ⁷⁰Ge(n, p), ⁷⁴Ge(n, α), ^{70,72,76}Ge(n, 2n), E \approx 14 MeV; measured E γ , I γ using activation method; deduced σ , IT-decay σ ; calculated σ using TALYS. ⁷⁰Ge(n, p), E=4-15.5 MeV compared with data and calculations; ⁷²Ge(n, 2n) with JENDL-3.3. JOUR NUPAB 858 1

A=70 (continued)

⁷⁰As 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=71

⁷¹Mn 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE -TOF-B ρ method. PC T Kubo, 7/14/2010

⁷¹Zn 2011DZ01 NUCLEAR REACTIONS ⁷⁰Ge(n, p), ⁷⁴Ge(n, α), ^{70,72,76}Ge(n, 2n), E \approx 14 MeV; measured E γ , I γ using activation method; deduced σ , IT-decay σ ; calculated σ using TALYS. ⁷⁰Ge(n, p), E=4-15.5 MeV compared with data and calculations; ⁷²Ge(n, 2n) with JENDL-3.3. JOUR NUPAB 858 1

 2011RA08 NUCLEAR REACTIONS ⁶⁹Ga(n, 2n)⁶⁸Ga, ⁶⁹Ga(n, p)^{69m}Zn, ⁷¹Ga(n, p)^{71m}Zn, ⁷⁵As(n, 2n)⁷⁴As, ⁷⁵As(n, p)⁷⁵Ge, E=7.5, 8.0, 8.5, 9.5, 10.2, 11.0, 11.5, 12.5, 13.25, 14.0, 14.5, 15.0 MeV; measured E γ , I γ ; deduced half-lives and σ . ²⁷Al(n, α)²⁴Na, ¹⁹⁷Au(n, 2n)¹⁹⁶Au, E=7.5-14.5 MeV; measured σ and used as monitor reactions. Comparison of measured cross sections with previous data and statistical model calculations based on the Hauser-Feshbach formalism, using the TALYS and the COH3 codes. JOUR PRVCA 83 044621

⁷¹Ge 2011DZ01 NUCLEAR REACTIONS ⁷⁰Ge(n, p), ⁷⁴Ge(n, α), ^{70,72,76}Ge(n, 2n), E \approx 14 MeV; measured E γ , I γ using activation method; deduced σ , IT-decay σ ; calculated σ using TALYS. ⁷⁰Ge(n, p), E=4-15.5 MeV compared with data and calculations; ⁷²Ge(n, 2n) with JENDL-3.3. JOUR NUPAB 858 1

A=71 (continued)

- ⁷¹As 2011KA10 NUCLEAR REACTIONS ⁵⁴Fe(²³Na, 2pα), E=80 MeV; measured E_γ, I_γ, γγ-coin, DCO ratios, Doppler-shift attenuation (DSA). ⁷¹As; deduced levels, J, π, half-lives, bands, multipolarities, B(E2), B(M1), transition quadrupole moments, moments of inertia plots, configurations, Routhians. Comparison with cranked Woods-Saxon and projected shell-model calculations. JOUR PRVCA 83 044316
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=72

- ⁷²As 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=72 (continued)

- ⁷²Se 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537
- ⁷²Kr 2011CL03 NUCLEAR REACTIONS ²⁰⁸Pb(⁷²Kr, ⁷²Kr'), (⁷⁴Kr, ⁷⁴Kr'), (⁷⁶Kr, ⁷⁶Kr'), (⁷⁸Kr, ⁷⁸Kr'), E=4.5 MeV / nucleon; ¹⁰⁹Ag, ¹²⁰Sn(⁹⁶Sr, ⁹⁶Sr'), E not given; measured reaction products, E γ , I γ . ^{72,74,76,78}Kr, ⁹⁶Sr; deduced static quadrupole moments, B(E2). Comparison with systematics and HFB calculations. JOUR IMPEE 20 415

A=73

- ⁷³Fe 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE -TOF-B ρ method. PC T Kubo, 7/14/2010
- ⁷³Se 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=74

- ⁷⁴Fe 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE-TOF-Bρ method. PC T Kubo,7/14/2010
- ⁷⁴Ge 2011FR08 RADIOACTIVITY ⁷⁴Se(2EC); measured Eγ, Iγ, γγ-coin; deduced T_{1/2} limit. JOUR NUPAB 860 1
- ⁷⁴As 2011RA08 NUCLEAR REACTIONS ⁶⁹Ga(n, 2n)⁶⁸Ga, ⁶⁹Ga(n, p)^{69m}Zn, ⁷¹Ga(n, p)^{71m}Zn, ⁷⁵As(n, 2n)⁷⁴As, ⁷⁵As(n, p)⁷⁵Ge, E=7.5, 8.0, 8.5, 9.5, 10.2, 11.0, 11.5, 12.5, 13.25, 14.0, 14.5, 15.0 MeV; measured Eγ, Iγ; deduced half-lives and σ. ²⁷Al(n, α)²⁴Na, ¹⁹⁷Au(n, 2n)¹⁹⁶Au, E=7.5-14.5 MeV; measured σ and used as monitor reactions. Comparison of measured cross sections with previous data and statistical model calculations based on the Hauser-Feshbach formalism, using the TALYS and the COH3 codes. JOUR PRVCA 83 044621
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, Eγ, Iγ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=74 (continued)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551
- ⁷⁴Se 2011FR08 RADIOACTIVITY ⁷⁴Se(2EC); measured E γ , I γ , $\gamma\gamma$ -coin; deduced
T_{1/2} limit. JOUR NUPAB 860 1

A=74 (continued)

- ⁷⁴Br 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537
- ⁷⁴Kr 2010GOZV NUCLEAR REACTIONS ²⁰⁸Pb(⁷⁴Kr, ⁷⁴Kr'), E=4.7 MeV / nucleon; ²⁰⁸Pb(⁷⁶Kr, ⁷⁶Kr'), E=4.4 MeV / nucleon; measured Coulomb excitation E γ , I γ (θ). ⁷⁴Kr deduced levels, J, π , spectroscopic quadrupole moment, B(E2); calculated levels, J, π , spectroscopic quadrupole moment, B(E2). ⁶⁴Ni(²³⁸U, X), E=6.5 MeV / nucleon; measured E γ , I γ (θ). ^{60,62,64}Fe deduced E(2⁺), T_{1/2}, B(E2). Comparison with published calculations and data on near-by isotopes. CONF Sochi(EXON-2009) Proc,P54,Gorgen
- 2011CL03 NUCLEAR REACTIONS ²⁰⁸Pb(⁷²Kr, ⁷²Kr'), (⁷⁴Kr, ⁷⁴Kr'), (⁷⁶Kr, ⁷⁶Kr'), (⁷⁸Kr, ⁷⁸Kr'), E=4.5 MeV / nucleon; ¹⁰⁹Ag, ¹²⁰Sn(⁹⁶Sr, ⁹⁶Sr'), E not given; measured reaction products, E γ , I γ . ^{72,74,76,78}Kr, ⁹⁶Sr; deduced static quadrupole moments, B(E2). Comparison with systematics and HFB calculations. JOUR IMPEE 20 415

A=75

- ⁷⁵Ge 2011DZ01 NUCLEAR REACTIONS ⁷⁰Ge(n, p), ⁷⁴Ge(n, α), ^{70,72,76}Ge(n, 2n), E \approx 14 MeV; measured E γ , I γ using activation method; deduced σ , IT-decay σ ; calculated σ using TALYS. ⁷⁰Ge(n, p), E=4-15.5 MeV compared with data and calculations; ⁷²Ge(n, 2n) with JENDL-3.3. JOUR NUPAB 858 1
- 2011RA08 NUCLEAR REACTIONS ⁶⁹Ga(n, 2n)⁶⁸Ga, ⁶⁹Ga(n, p)^{69m}Zn, ⁷¹Ga(n, p)^{71m}Zn, ⁷⁵As(n, 2n)⁷⁴As, ⁷⁵As(n, p)⁷⁵Ge, E=7.5, 8.0, 8.5, 9.5, 10.2, 11.0, 11.5, 12.5, 13.25, 14.0, 14.5, 15.0 MeV; measured E γ , I γ ; deduced half-lives and σ . ²⁷Al(n, α)²⁴Na, ¹⁹⁷Au(n, 2n)¹⁹⁶Au, E=7.5-14.5 MeV; measured σ and used as monitor reactions. Comparison of measured cross sections with previous data and statistical model calculations based on the Hauser-Feshbach formalism, using the TALYS and the COH3 codes. JOUR PRVCA 83 044621
- ⁷⁵Se 2011KI13 NUCLEAR REACTIONS ^{76,78}Se, ¹⁹⁷Au(γ , n), E<80 MeV; measured E γ , I γ , E_n, I_n; deduced σ . Comparison with experimental data, TALYS model code calculations. JOUR JNSTA 48 1017

A=75 (continued)

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=75 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=75 (continued)

- ⁷⁵Br 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537
- ⁷⁵Kr 2010AJZZ NUCLEAR REACTIONS ⁶⁴Zn(¹²C, n), E=85 MeV; ⁴⁵Sc(³¹P, n), E=112, 120 MeV; measured En, In(θ); deduced σ (En); calculated σ (En) using CASCADE with various nuclear level density parameters. CONF Sochi(EXON-2009) Proc,P14,Kumar

A=76

- ⁷⁶Co 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, Δ E-TOF-B ρ method. PC T Kubo,7/14/2010
- ⁷⁶Br 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

KEYNUMBERS AND KEYWORDS

A=76 (continued)

- ⁷⁶Kr 2011CL03 NUCLEAR REACTIONS ²⁰⁸Pb(⁷²Kr, ⁷²Kr'), (⁷⁴Kr, ⁷⁴Kr'), (⁷⁶Kr, ⁷⁶Kr'), (⁷⁸Kr, ⁷⁸Kr'), E=4.5 MeV / nucleon; ¹⁰⁹Ag, ¹²⁰Sn(⁹⁶Sr, ⁹⁶Sr'), E not given; measured reaction products, E γ , I γ . ^{72,74,76,78}Kr, ⁹⁶Sr; deduced static quadrupole moments, B(E2). Comparison with systematics and HFB calculations. JOUR IMPEE 20 415
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537
- ⁷⁶Rb 2011WA12 NUCLEAR REACTIONS ⁴⁰Ca(⁴⁰Ca, n3p)⁷⁶Rb, E=165 MeV; measured reaction products, E γ , I γ , γ - γ - γ -coin.; deduced rotational bands, energies, J, π , negative-parity bands, oblate and prolate shape coexistence. Cranked Nilsson-Strutinsky model calculations. JOUR PYLBB 701 306

A=77

- ⁷⁷Se 2011KI13 NUCLEAR REACTIONS ^{76,78}Se, ¹⁹⁷Au(γ , n), E<80 MeV; measured E γ , I γ , En, In; deduced σ . Comparison with experimental data, TALYS model code calculations. JOUR JNSTA 48 1017
- ⁷⁷Br 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=77 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

KEYNUMBERS AND KEYWORDS

A=77 (continued)

⁷⁷Kr 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=78

⁷⁸Se 2010GAZW RADIOACTIVITY ⁷⁸Kr(2EC); measured E γ , I γ , X-rays; deduced T_{1/2} limit. Low-background proportional counter, Baksan Neutrino Observatory. PREPRINT arXiv:1006.5133v1 [nucl-ex]

 2011GA23 RADIOACTIVITY ⁷⁸Kr(2EC); measured E γ , I γ , X-rays; deduced T_{1/2}. JOUR BRSPE 75 526

⁷⁸Kr 2010GAZW RADIOACTIVITY ⁷⁸Kr(2EC); measured E γ , I γ , X-rays; deduced T_{1/2} limit. Low-background proportional counter, Baksan Neutrino Observatory. PREPRINT arXiv:1006.5133v1 [nucl-ex]

 2011CL03 NUCLEAR REACTIONS ²⁰⁸Pb(⁷²Kr, ⁷²Kr'), (⁷⁴Kr, ⁷⁴Kr'), (⁷⁶Kr, ⁷⁶Kr'), (⁷⁸Kr, ⁷⁸Kr'), E=4.5 MeV / nucleon; ¹⁰⁹Ag, ¹²⁰Sn(⁹⁶Sr, ⁹⁶Sr'), E not given; measured reaction products, E γ , I γ . ^{72,74,76,78}Kr, ⁹⁶Sr; deduced static quadrupole moments, B(E2). Comparison with systematics and HFB calculations. JOUR IMPEE 20 415

 2011GA23 RADIOACTIVITY ⁷⁸Kr(2EC); measured E γ , I γ , X-rays; deduced T_{1/2}. JOUR BRSPE 75 526

A=79

⁷⁹Ni 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, Δ E-TOF-B ρ method. PC T Kubo,7/14/2010

KEYNUMBERS AND KEYWORDS

A=79 (continued)

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| ⁷⁹ Kr | 2011K016 | NUCLEAR REACTIONS ⁷⁰ Zn(¹³ C, 4n), E=65 MeV; measured reaction products, E γ , I γ ; deduced level scheme, J, π , bands, energy degeneracy. JOUR IMPEE 20 520 |
| | 2011TI04 | NUCLEAR REACTIONS Ni(p, X) ⁶⁰ Cu / ⁶¹ Cu / ⁵⁶ Ni / ⁵⁷ Ni / ⁵⁶ Co / ⁵⁷ Co / ⁵⁸ Co / ⁶⁰ Co / ⁶² Co / ⁵⁵ Co / ⁵² Fe / ⁵³ Fe / ⁵⁹ Fe / ⁵² Mn / ⁵⁴ Mn / ⁵⁶ Mn / ⁴⁸ Cr / ⁴⁹ Cr / ⁵¹ Cr / ⁴³ Sc / ⁴⁴ Sc / ⁴⁶ Sc / ⁴⁷ Sc / ⁴⁸ Sc / ⁴⁷ Ca / ³⁸ K / ⁴² K / ⁴³ K / ⁴¹ Ar / ³⁴ Cl / ³⁸ Cl / ³⁹ Cl / ³⁸ S / ²⁹ Al / ²⁷ Mg / ²⁸ Mg / ²² Na / ²⁴ Na / ⁷ Be, ⁹³ Nb(p, X) ⁹⁰ Mo / ⁹¹ Mo / ⁹³ Mo / ⁸⁸ Nb / ⁸⁹ Nb / ⁹⁰ Nb / ⁹¹ Nb / ⁹² Nb / ⁸⁵ Zr / ⁸⁶ Zr / ⁸⁷ Zr / ⁸⁸ Zr / ⁸⁹ Zr / ⁸⁴ Y / ⁸⁵ Y / ⁸⁶ Y / ⁸⁷ Y / ⁸⁸ Y / ⁹⁰ Y / ⁸⁰ Sr / ⁸¹ Sr / ⁸² Sr / ⁸³ Sr / ⁸⁵ Sr / ⁷⁹ Rb / ⁸¹ Rb / ⁸² Rb / ⁸³ Rb / ⁸⁴ Rb / ⁸⁶ Rb / ⁷⁶ Kr / ⁷⁷ Kr / ⁷⁹ Kr / ⁷⁴ Br / ⁷⁵ Br / ⁷⁶ Br / ⁷⁷ Br / ⁷² Se / ⁷³ Se / ⁷⁵ Se / ⁷⁰ As / ⁷¹ As / ⁷² As / ⁷⁴ As / ⁶⁵ Ga / ⁶⁶ Ga / ⁶⁷ Ga / ⁶⁹ Ga / ⁶⁰ Cu / ⁶¹ Cu / ⁶⁷ Cu / ⁵⁷ Ni / ⁵⁵ Co / ⁵⁶ Co / ⁵⁷ Co / ⁵⁸ Co / ⁶⁰ Co / ⁶² Co / ⁵³ Fe / ⁵⁹ Fe / ⁵² Mn / ⁵⁴ Mn / ⁵⁶ Mn / ⁴⁸ Cr / ⁴⁹ Cr / ⁵¹ Cr / ⁴⁸ V / ⁴³ Sc / ⁴⁴ Sc / ⁴⁶ Sc / ⁴⁷ Sc / ⁴⁸ Sc / ⁴⁷ Ca / ⁴² K / ⁴³ K / ⁴¹ Ar / ³⁸ Cl / ³⁹ Cl / ²⁷ Mg / ²⁸ Mg / ²² Na / ²⁴ Na / ⁷ Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537 |
| ⁷⁹ Rb | 2011TI04 | NUCLEAR REACTIONS Ni(p, X) ⁶⁰ Cu / ⁶¹ Cu / ⁵⁶ Ni / ⁵⁷ Ni / ⁵⁶ Co / ⁵⁷ Co / ⁵⁸ Co / ⁶⁰ Co / ⁶² Co / ⁵⁵ Co / ⁵² Fe / ⁵³ Fe / ⁵⁹ Fe / ⁵² Mn / ⁵⁴ Mn / ⁵⁶ Mn / ⁴⁸ Cr / ⁴⁹ Cr / ⁵¹ Cr / ⁴³ Sc / ⁴⁴ Sc / ⁴⁶ Sc / ⁴⁷ Sc / ⁴⁸ Sc / ⁴⁷ Ca / ³⁸ K / ⁴² K / ⁴³ K / ⁴¹ Ar / ³⁴ Cl / ³⁸ Cl / ³⁹ Cl / ³⁸ S / ²⁹ Al / ²⁷ Mg / ²⁸ Mg / ²² Na / ²⁴ Na / ⁷ Be, ⁹³ Nb(p, X) ⁹⁰ Mo / ⁹¹ Mo / ⁹³ Mo / ⁸⁸ Nb / ⁸⁹ Nb / ⁹⁰ Nb / ⁹¹ Nb / ⁹² Nb / ⁸⁵ Zr / ⁸⁶ Zr / ⁸⁷ Zr / ⁸⁸ Zr / ⁸⁹ Zr / ⁸⁴ Y / ⁸⁵ Y / ⁸⁶ Y / ⁸⁷ Y / ⁸⁸ Y / ⁹⁰ Y / ⁸⁰ Sr / ⁸¹ Sr / ⁸² Sr / ⁸³ Sr / ⁸⁵ Sr / ⁷⁹ Rb / ⁸¹ Rb / ⁸² Rb / ⁸³ Rb / ⁸⁴ Rb / ⁸⁶ Rb / ⁷⁶ Kr / ⁷⁷ Kr / ⁷⁹ Kr / ⁷⁴ Br / ⁷⁵ Br / ⁷⁶ Br / ⁷⁷ Br / ⁷² Se / ⁷³ Se / ⁷⁵ Se / ⁷⁰ As / ⁷¹ As / ⁷² As / ⁷⁴ As / ⁶⁵ Ga / ⁶⁶ Ga / ⁶⁷ Ga / ⁶⁹ Ga / ⁶⁰ Cu / ⁶¹ Cu / ⁶⁷ Cu / ⁵⁷ Ni / ⁵⁵ Co / ⁵⁶ Co / ⁵⁷ Co / ⁵⁸ Co / ⁶⁰ Co / ⁶² Co / ⁵³ Fe / ⁵⁹ Fe / ⁵² Mn / ⁵⁴ Mn / ⁵⁶ Mn / ⁴⁸ Cr / ⁴⁹ Cr / ⁵¹ Cr / ⁴⁸ V / ⁴³ Sc / ⁴⁴ Sc / ⁴⁶ Sc / ⁴⁷ Sc / ⁴⁸ Sc / ⁴⁷ Ca / ⁴² K / ⁴³ K / ⁴¹ Ar / ³⁸ Cl / ³⁹ Cl / ²⁷ Mg / ²⁸ Mg / ²² Na / ²⁴ Na / ⁷ Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537 |

A=80

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|------------------|----------|---|
| ⁸⁰ Br | 2011KR06 | RADIOACTIVITY ^{80,82} Br(IT), (β^-) [from NH ₄ Br(n, X), E=thermal]; measured E γ , I γ ; deduced γ -ray energies and intensities, β -decay feeding. Neutron activation and high-resolution spectroscopy techniques, comparison with evaluated data. JOUR ARISE 69 201 |
| ⁸⁰ Kr | 2011KR06 | RADIOACTIVITY ^{80,82} Br(IT), (β^-) [from NH ₄ Br(n, X), E=thermal]; measured E γ , I γ ; deduced γ -ray energies and intensities, β -decay feeding. Neutron activation and high-resolution spectroscopy techniques, comparison with evaluated data. JOUR ARISE 69 201 |

A=80 (continued)

- ⁸⁰Sr 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=81

- ⁸¹Cu 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE -TOF-B ρ method. PC T Kubo, 7/14/2010
- ⁸¹Rb 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

KEYNUMBERS AND KEYWORDS

A=81 (continued)

⁸¹Sr 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=82

⁸²Cu 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE -TOF-B ρ method. PC T Kubo, 7/14/2010

⁸²Br 2011KR06 RADIOACTIVITY ^{80,82}Br(IT), (β^-) [from NH₄Br(n, X), E=thermal]; measured E γ , I γ ; deduced γ -ray energies and intensities, β -decay feeding. Neutron activation and high-resolution spectroscopy techniques, comparison with evaluated data. JOUR ARISE 69 201

⁸²Kr 2011KR06 RADIOACTIVITY ^{80,82}Br(IT), (β^-) [from NH₄Br(n, X), E=thermal]; measured E γ , I γ ; deduced γ -ray energies and intensities, β -decay feeding. Neutron activation and high-resolution spectroscopy techniques, comparison with evaluated data. JOUR ARISE 69 201

A=82 (continued)

⁸²Rb 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=82 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=82 (continued)

- ⁸²Sr 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537
- 2011ZA03 NUCLEAR REACTIONS ⁸⁰Kr(α , 2n), ⁸²Kr(α , 4n), ⁸³Kr(α , 5n), E=60 MeV; measured E γ , I γ ; deduced yields, σ . JOUR AENGA 110 99

A=83

- ⁸³Rb 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=83 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=83 (continued)

⁸³Sr 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=83 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=84

- ⁸⁴Zn 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE-TOF-Bρ method. PC T Kubo, 7/14/2010
- ⁸⁴Rb 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, Eγ, Iγ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=84 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=84 (continued)

⁸⁴Y 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=85

⁸⁵Zn 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE -TOF-B ρ method. PC T Kubo, 7/14/2010

⁸⁵Sr 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=85 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=85 (continued)

- ⁸⁵Y 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537
- ⁸⁵Zr 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=86

- ⁸⁶Rb 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537
- ⁸⁶Y 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=86 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=86 (continued)

⁸⁶Zr 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=87

⁸⁷Ga 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE -TOF-B ρ method. PC T Kubo, 7/14/2010

⁸⁷Y 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=87 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=87 (continued)

⁸⁷Zr 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations.
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A=88

⁸⁸Y 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations.
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A=88 (continued)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ⁸⁸Zr 2010ERZX NUCLEAR REACTIONS ⁹²Mo(γ , p), (γ , n), (γ , α), E \approx 10.5-15.5 MeV; ¹⁰⁰Mo(γ , n), E=10-16.5 MeV; measured reaction products using bremsstrahlung facility ELBE; deduced yields, photon strength function; calculated yields using TALYS and NON-SMOKER codes. Comparison with other data. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012014

A=88 (continued)

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=88 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=88 (continued)

⁸⁸Nb 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations.
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A=89

⁸⁹Zr 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations.
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A=89 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=89 (continued)

⁸⁹Nb 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=90

⁹⁰Ge 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE -TOF-B ρ method. PC T Kubo, 7/14/2010

⁹⁰Y 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=90 (continued)

⁹⁰Nb 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=90 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=90 (continued)

⁹⁰Mo 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=91

⁹¹Nb 2010ERZX NUCLEAR REACTIONS ⁹²Mo(γ , p), (γ , n), (γ , α), E \approx 10.5-15.5 MeV; ¹⁰⁰Mo(γ , n), E=10-16.5 MeV; measured reaction products using bremsstrahlung facility ELBE; deduced yields, photon strength function; calculated yields using TALYS and NON-SMOKER codes. Comparison with other data. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012014

2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

⁹¹Mo 2010ERZX NUCLEAR REACTIONS ⁹²Mo(γ , p), (γ , n), (γ , α), E \approx 10.5-15.5 MeV; ¹⁰⁰Mo(γ , n), E=10-16.5 MeV; measured reaction products using bremsstrahlung facility ELBE; deduced yields, photon strength function; calculated yields using TALYS and NON-SMOKER codes. Comparison with other data. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012014

A=91 (continued)

- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=92

- ⁹²Nb 2011AH02 NUCLEAR REACTIONS ⁹³Nb(¹²C, X)¹⁰¹Ag / ¹⁰²Ag / ¹⁰³Ag / ⁹⁹Pd / ¹⁰⁰Pd / ¹⁰¹Pd / ¹⁰⁰Rh / ¹⁰¹Rh / ⁹⁷Ru / ⁹⁴Tc / ⁹⁵Tc / ⁹⁶Tc / ⁹³Mo / ⁹²Nb, E=47-75 MeV; measured evaporation residue products, E γ , I γ ; deduced significant enhancement of σ due to incomplete fusion. Comparison with PACE-2 calculations. JOUR IMPEE 20 645
- 2011LU11 NUCLEAR REACTIONS ²⁷Al, ^{175,176}Lu(n, α), ¹⁷⁵Lu(n, p), ⁹³Nb(n, 2n) E=13.5-14.8 MeV; measured E γ , I γ ; deduced σ . Activation technique, comparison with all available data. JOUR ANEND 38 1693
- 2011PU04 NUCLEAR REACTIONS ^{115,116,117}Sn(n, p), ⁹³Nb(n, 2n), ²⁷Al(n, α), E=13.5-14.6 MeV; measured E γ , I γ ; deduced σ . Comparison with available experimental data. JOUR CPCHC 35 445
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=93

- ⁹³Mo 2011AH02 NUCLEAR REACTIONS ⁹³Nb(¹²C, X)¹⁰¹Ag / ¹⁰²Ag / ¹⁰³Ag / ⁹⁹Pd / ¹⁰⁰Pd / ¹⁰¹Pd / ¹⁰⁰Rh / ¹⁰¹Rh / ⁹⁷Ru / ⁹⁴Tc / ⁹⁵Tc / ⁹⁶Tc / ⁹³Mo / ⁹²Nb, E=47-75 MeV; measured evaporation residue products, E γ , I γ ; deduced significant enhancement of σ due to incomplete fusion. Comparison with PACE-2 calculations. JOUR IMPEE 20 645
- 2011TI04 NUCLEAR REACTIONS Ni(p, X)⁶⁰Cu / ⁶¹Cu / ⁵⁶Ni / ⁵⁷Ni / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵⁵Co / ⁵²Fe / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ³⁸K / ⁴²K / ⁴³K / ⁴¹Ar / ³⁴Cl / ³⁸Cl / ³⁹Cl / ³⁸S / ²⁹Al / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, ⁹³Nb(p, X)⁹⁰Mo / ⁹¹Mo / ⁹³Mo / ⁸⁸Nb / ⁸⁹Nb / ⁹⁰Nb / ⁹¹Nb / ⁹²Nb / ⁸⁵Zr / ⁸⁶Zr / ⁸⁷Zr / ⁸⁸Zr / ⁸⁹Zr / ⁸⁴Y / ⁸⁵Y / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁹⁰Y / ⁸⁰Sr / ⁸¹Sr / ⁸²Sr / ⁸³Sr / ⁸⁵Sr / ⁷⁹Rb / ⁸¹Rb / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁸⁶Rb / ⁷⁶Kr / ⁷⁷Kr / ⁷⁹Kr / ⁷⁴Br / ⁷⁵Br / ⁷⁶Br / ⁷⁷Br / ⁷²Se / ⁷³Se / ⁷⁵Se / ⁷⁰As / ⁷¹As / ⁷²As / ⁷⁴As / ⁶⁵Ga / ⁶⁶Ga / ⁶⁷Ga / ⁶⁹Ga / ⁶⁰Cu / ⁶¹Cu / ⁶⁷Cu / ⁵⁷Ni / ⁵⁵Co / ⁵⁶Co / ⁵⁷Co / ⁵⁸Co / ⁶⁰Co / ⁶²Co / ⁵³Fe / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁵⁶Mn / ⁴⁸Cr / ⁴⁹Cr / ⁵¹Cr / ⁴⁸V / ⁴³Sc / ⁴⁴Sc / ⁴⁶Sc / ⁴⁷Sc / ⁴⁸Sc / ⁴⁷Ca / ⁴²K / ⁴³K / ⁴¹Ar / ³⁸Cl / ³⁹Cl / ²⁷Mg / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=46-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 537

A=93 (continued)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551
- ⁹³Tc 2010HAZW NUCLEAR REACTIONS ⁹²Mo(α , γ), E=tandem;⁹²Mo(p, γ),
E \approx 2500-3500 keV; measured in-beam E γ , I γ , $\gamma\gamma$ -coin using HORUS
array; deduced σ ; calculated σ using different optical model codes.
Comparison with other data. CONF Frascati(Nuclear Physics in
Astrophysics IV 2009), P012005

A=94

- ⁹⁴Tc 2011AH02 NUCLEAR REACTIONS ⁹³Nb(¹²C, X)¹⁰¹Ag / ¹⁰²Ag / ¹⁰³Ag / ⁹⁹Pd / ¹⁰⁰Pd / ¹⁰¹Pd / ¹⁰⁰Rh / ¹⁰¹Rh / ⁹⁷Ru / ⁹⁴Tc / ⁹⁵Tc / ⁹⁶Tc / ⁹³Mo / ⁹²Nb, E=47-75 MeV; measured evaporation residue products, E_γ, I_γ; deduced significant enhancement of σ due to incomplete fusion. Comparison with PACE-2 calculations. JOUR IMPEE 20 645
- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

KEYNUMBERS AND KEYWORDS

A=95

- ⁹⁵Se 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE-TOF-B ρ method. PC T Kubo, 7/14/2010
- ⁹⁵Zr 2011DI05 NUCLEAR REACTIONS ^{64,68}Zn, ⁵⁹Co, ^{94,96}Zr, ¹³⁹La, ¹⁹⁷Au(n, γ), E=epithermal; measured E γ , I γ ; deduced k₀ and Q₀ factors, uncertainties. JOUR ARISE 69 960
- ⁹⁵Tc 2011AH02 NUCLEAR REACTIONS ⁹³Nb(¹²C, X)¹⁰¹Ag / ¹⁰²Ag / ¹⁰³Ag / ⁹⁹Pd / ¹⁰⁰Pd / ¹⁰¹Pd / ¹⁰⁰Rh / ¹⁰¹Rh / ⁹⁷Ru / ⁹⁴Tc / ⁹⁵Tc / ⁹⁶Tc / ⁹³Mo / ⁹²Nb, E=47-75 MeV; measured evaporation residue products, E γ , I γ ; deduced significant enhancement of σ due to incomplete fusion. Comparison with PACE-2 calculations. JOUR IMPEE 20 645

A=96

- ⁹⁶Sr 2011CL03 NUCLEAR REACTIONS ²⁰⁸Pb(⁷²Kr, ⁷²Kr'), (⁷⁴Kr, ⁷⁴Kr'), (⁷⁶Kr, ⁷⁶Kr'), (⁷⁸Kr, ⁷⁸Kr'), E=4.5 MeV / nucleon; ¹⁰⁹Ag, ¹²⁰Sn(⁹⁶Sr, ⁹⁶Sr'), E not given; measured reaction products, E γ , I γ . ^{72,74,76,78}Kr, ⁹⁶Sr; deduced static quadrupole moments, B(E2). Comparison with systematics and HFB calculations. JOUR IMPEE 20 415
- ⁹⁶Mo 2011EL04 RADIOACTIVITY ⁹⁶Ru, ¹⁶²Er, ¹⁶⁸Yb(2EC); measured Q values from Penning-trap mass ratios using SHIPTRAP. Absence of resonant enhancement of the capture rates, thus excluded as suitable candidates for search of neutrinoless double-electron capture. JOUR PRVCA 83 038501
- 2011EL04 ATOMIC MASSES ⁹⁶Ru, ⁹⁶Mo, ¹⁶²Er, ¹⁶²Dy, ¹⁶⁸Yb, ¹⁶⁸Er; measured cyclotron frequency ratios using SHIPTRAP Penning-trap; deduced Q(2EC) values. JOUR PRVCA 83 038501
- ⁹⁶Tc 2011AH02 NUCLEAR REACTIONS ⁹³Nb(¹²C, X)¹⁰¹Ag / ¹⁰²Ag / ¹⁰³Ag / ⁹⁹Pd / ¹⁰⁰Pd / ¹⁰¹Pd / ¹⁰⁰Rh / ¹⁰¹Rh / ⁹⁷Ru / ⁹⁴Tc / ⁹⁵Tc / ⁹⁶Tc / ⁹³Mo / ⁹²Nb, E=47-75 MeV; measured evaporation residue products, E γ , I γ ; deduced significant enhancement of σ due to incomplete fusion. Comparison with PACE-2 calculations. JOUR IMPEE 20 645

A=96 (continued)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ⁹⁶Ru 2010HAZV NUCLEAR REACTIONS ⁹²Mo(α , γ), E=tandem;⁹²Mo(p, γ), E \approx 2500-3500 keV; measured in-beam E γ , I γ , $\gamma\gamma$ -coin using HORUS array; deduced σ ; calculated σ using different optical model codes. Comparison with other data. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012005
- 2011EL04 RADIOACTIVITY ⁹⁶Ru, ¹⁶²Er, ¹⁶⁸Yb(2EC); measured Q values from Penning-trap mass ratios using SHIPTRAP. Absence of resonant enhancement of the capture rates, thus excluded as suitable candidates for search of neutrinoless double-electron capture. JOUR PRVCA 83 038501

KEYNUMBERS AND KEYWORDS

A=96 (continued)

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| 2011EL04 | ATOMIC MASSES ^{96}Ru , ^{96}Mo , ^{162}Er , ^{162}Dy , ^{168}Yb , ^{168}Er ; measured cyclotron frequency ratios using SHIPTRAP Penning-trap; deduced Q(2EC) values. JOUR PRVCA 83 038501 |
| 2011TA06 | NUCLEAR MOMENTS $^{96,98,100,102,104}\text{Ru}$, ^{106}Pd ; measured g factors of first 2+ states by transient-field-perturbed angular correlation technique used with Coulomb excitation in inverse kinematics. Comparison with IBM-2 calculations. JOUR PRVCA 83 044315 |
| ^{96}Pd 2011L009 | RADIOACTIVITY $^{97}\text{Cd}(\beta^+)$, $(\beta^+\text{p})$ [from $^9\text{Be}(^{112}\text{Sn}, \text{X})$, E=120 MeV / nucleon]; measured proton spectra, E_γ , I_γ ; deduced evidence for a high spin isomer (25 / 2 ⁺), $T_{1/2}$, level energies, J, π . Comparison with nuclear shell model and astrophysical overproduction factors calculations. JOUR PYLBB 699 141 |

A=97

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| ^{97}Zr 2011DI05 | NUCLEAR REACTIONS $^{64,68}\text{Zn}$, ^{59}Co , $^{94,96}\text{Zr}$, ^{139}La , $^{197}\text{Au}(n, \gamma)$, E=epithermal; measured E_γ , I_γ ; deduced k_0 and Q_0 factors, uncertainties. JOUR ARISE 69 960 |
| 2011KA11 | NUCLEAR REACTIONS $^{96}\text{Zr}(n, \gamma)$, E=15-100 keV; measured TOF, E_n , I_n , E_γ , I_γ ; deduced σ . Comparison with experimental data, JENDL-4.0, JENDL-3.3, ENDF / B-VII.0 and ENDF / B-VI.8 evaluated neutron libraries. JOUR JNSTA 48 744 |
| ^{97}Ru 2011AH02 | NUCLEAR REACTIONS $^{93}\text{Nb}(^{12}\text{C}, \text{X})^{101}\text{Ag}$ / ^{102}Ag / ^{103}Ag / ^{99}Pd / ^{100}Pd / ^{101}Pd / ^{100}Rh / ^{101}Rh / ^{97}Ru / ^{94}Tc / ^{95}Tc / ^{96}Tc / ^{93}Mo / ^{92}Nb , E=47-75 MeV; measured evaporation residue products, E_γ , I_γ ; deduced significant enhancement of σ due to incomplete fusion. Comparison with PACE-2 calculations. JOUR IMPEE 20 645 |

A=97 (continued)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ⁹⁷Ag 2011L009 RADIOACTIVITY ⁹⁷Cd(β^+), (β^+ p) [from ⁹Be(¹¹²Sn, X), E=120 MeV / nucleon]; measured proton spectra, E γ , I γ ; deduced evidence for a high spin isomer (25 / 2⁺), T_{1/2}, level energies, J, π . Comparison with nuclear shell model and astrophysical overproduction factors calculations. JOUR PYLBB 699 141
- ⁹⁷Cd 2011L009 RADIOACTIVITY ⁹⁷Cd(β^+), (β^+ p) [from ⁹Be(¹¹²Sn, X), E=120 MeV / nucleon]; measured proton spectra, E γ , I γ ; deduced evidence for a high spin isomer (25 / 2⁺), T_{1/2}, level energies, J, π . Comparison with nuclear shell model and astrophysical overproduction factors calculations. JOUR PYLBB 699 141

KEYNUMBERS AND KEYWORDS

A=98

- ⁹⁸Br 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE -TOF-B ρ method. PC T Kubo,7/14/2010
- ⁹⁸Ru 2011TA06 NUCLEAR MOMENTS ^{96,98,100,102,104}Ru, ¹⁰⁶Pd; measured g factors of first 2+ states by transient-field-perturbed angular correlation technique used with Coulomb excitation in inverse kinematics. Comparison with IBM-2 calculations. JOUR PRVCA 83 044315

A=99

- ⁹⁹Mo 2010ERZX NUCLEAR REACTIONS ⁹²Mo(γ , p), (γ , n), (γ , α), E \approx 10.5-15.5 MeV; ¹⁰⁰Mo(γ , n), E=10-16.5 MeV; measured reaction products using bremsstrahlung facility ELBE; deduced yields, photon strength function; calculated yields using TALYS and NON-SMOKER codes. Comparison with other data. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012014

A=99 (continued)

- ⁹⁹Rh 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ⁹⁹Pd 2011AH02 NUCLEAR REACTIONS ⁹³Nb(¹²C, X)¹⁰¹Ag / ¹⁰²Ag / ¹⁰³Ag / ⁹⁹Pd / ¹⁰⁰Pd / ¹⁰¹Pd / ¹⁰⁰Rh / ¹⁰¹Rh / ⁹⁷Ru / ⁹⁴Tc / ⁹⁵Tc / ⁹⁶Tc / ⁹³Mo / ⁹²Nb, E=47-75 MeV; measured evaporation residue products, E γ , I γ ; deduced significant enhancement of σ due to incomplete fusion. Comparison with PACE-2 calculations. JOUR IMPEE 20 645

A=100

- ¹⁰⁰Ru 2011TA06 NUCLEAR MOMENTS ^{96,98,100,102,104}Ru, ¹⁰⁶Pd; measured g factors of first 2+ states by transient-field-perturbed angular correlation technique used with Coulomb excitation in inverse kinematics. Comparison with IBM-2 calculations. JOUR PRVCA 83 044315
- ¹⁰⁰Rh 2011AH02 NUCLEAR REACTIONS ⁹³Nb(¹²C, X)¹⁰¹Ag / ¹⁰²Ag / ¹⁰³Ag / ⁹⁹Pd / ¹⁰⁰Pd / ¹⁰¹Pd / ¹⁰⁰Rh / ¹⁰¹Rh / ⁹⁷Ru / ⁹⁴Tc / ⁹⁵Tc / ⁹⁶Tc / ⁹³Mo / ⁹²Nb, E=47-75 MeV; measured evaporation residue products, E_γ, I_γ; deduced significant enhancement of σ due to incomplete fusion. Comparison with PACE-2 calculations. JOUR IMPEE 20 645
- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=100 (continued)

- ¹⁰⁰Pd 2011AH02 NUCLEAR REACTIONS ⁹³Nb(¹²C, X)¹⁰¹Ag / ¹⁰²Ag / ¹⁰³Ag / ⁹⁹Pd / ¹⁰⁰Pd / ¹⁰¹Pd / ¹⁰⁰Rh / ¹⁰¹Rh / ⁹⁷Ru / ⁹⁴Tc / ⁹⁵Tc / ⁹⁶Tc / ⁹³Mo / ⁹²Nb, E=47-75 MeV; measured evaporation residue products, E γ , I γ ; deduced significant enhancement of σ due to incomplete fusion. Comparison with PACE-2 calculations. JOUR IMPEE 20 645
- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

KEYNUMBERS AND KEYWORDS

A=101

^{101}Kr	2010KUZV	NUCLEAR REACTIONS Be, Pb(^{238}U , F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010
^{101}Rh	2011AH02	NUCLEAR REACTIONS $^{93}\text{Nb}(^{12}\text{C}, \text{X})^{101}\text{Ag} / ^{102}\text{Ag} / ^{103}\text{Ag} / ^{99}\text{Pd} / ^{100}\text{Pd} / ^{101}\text{Pd} / ^{100}\text{Rh} / ^{101}\text{Rh} / ^{97}\text{Ru} / ^{94}\text{Tc} / ^{95}\text{Tc} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{92}\text{Nb}$, E=47-75 MeV; measured evaporation residue products, $\text{E}\gamma$, $\text{I}\gamma$; deduced significant enhancement of σ due to incomplete fusion. Comparison with PACE-2 calculations. JOUR IMPEE 20 645
^{101}Pd	2011AH02	NUCLEAR REACTIONS $^{93}\text{Nb}(^{12}\text{C}, \text{X})^{101}\text{Ag} / ^{102}\text{Ag} / ^{103}\text{Ag} / ^{99}\text{Pd} / ^{100}\text{Pd} / ^{101}\text{Pd} / ^{100}\text{Rh} / ^{101}\text{Rh} / ^{97}\text{Ru} / ^{94}\text{Tc} / ^{95}\text{Tc} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{92}\text{Nb}$, E=47-75 MeV; measured evaporation residue products, $\text{E}\gamma$, $\text{I}\gamma$; deduced significant enhancement of σ due to incomplete fusion. Comparison with PACE-2 calculations. JOUR IMPEE 20 645
^{101}Ag	2011AH02	NUCLEAR REACTIONS $^{93}\text{Nb}(^{12}\text{C}, \text{X})^{101}\text{Ag} / ^{102}\text{Ag} / ^{103}\text{Ag} / ^{99}\text{Pd} / ^{100}\text{Pd} / ^{101}\text{Pd} / ^{100}\text{Rh} / ^{101}\text{Rh} / ^{97}\text{Ru} / ^{94}\text{Tc} / ^{95}\text{Tc} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{92}\text{Nb}$, E=47-75 MeV; measured evaporation residue products, $\text{E}\gamma$, $\text{I}\gamma$; deduced significant enhancement of σ due to incomplete fusion. Comparison with PACE-2 calculations. JOUR IMPEE 20 645

A=102

^{102}Ru	2011TA06	NUCLEAR MOMENTS $^{96,98,100,102,104}\text{Ru}$, ^{106}Pd ; measured g factors of first 2+ states by transient-field-perturbed angular correlation technique used with Coulomb excitation in inverse kinematics. Comparison with IBM-2 calculations. JOUR PRVCA 83 044315
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A=102 (continued)

- ¹⁰²Rh 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ¹⁰²Ag 2011AH02 NUCLEAR REACTIONS ⁹³Nb(¹²C, X)¹⁰¹Ag / ¹⁰²Ag / ¹⁰³Ag / ⁹⁹Pd / ¹⁰⁰Pd / ¹⁰¹Pd / ¹⁰⁰Rh / ¹⁰¹Rh / ⁹⁷Ru / ⁹⁴Tc / ⁹⁵Tc / ⁹⁶Tc / ⁹³Mo / ⁹²Nb, E=47-75 MeV; measured evaporation residue products, E_γ, I_γ; deduced significant enhancement of σ due to incomplete fusion. Comparison with PACE-2 calculations. JOUR IMPEE 20 645

A=103

- ¹⁰³Rb 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE-TOF-Bρ method. PC T Kubo,7/14/2010
- ¹⁰³Ru 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

KEYNUMBERS AND KEYWORDS

A=103 (continued)

- | | | |
|-------------------|----------|--|
| ^{103}Ag | 2011AH02 | NUCLEAR REACTIONS $^{93}\text{Nb}(^{12}\text{C}, \text{X})^{101}\text{Ag} / ^{102}\text{Ag} / ^{103}\text{Ag} / ^{99}\text{Pd} / ^{100}\text{Pd} / ^{101}\text{Pd} / ^{100}\text{Rh} / ^{101}\text{Rh} / ^{97}\text{Ru} / ^{94}\text{Tc} / ^{95}\text{Tc} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{92}\text{Nb}$, E=47-75 MeV; measured evaporation residue products, E_γ , I_γ ; deduced significant enhancement of σ due to incomplete fusion. Comparison with PACE-2 calculations. JOUR IMPEE 20 645 |
| ^{103}Cd | 2011KIZZ | NUCLEAR REACTIONS $^{94,96,98}\text{Mo}(^{12}\text{C}, 3\text{n})$, E=50 MeV; measured E_γ , $\gamma\gamma$ -coin, $\gamma\gamma(t)$, half-lives of isomers using fast-timing techniques; deduced B(M1), B(E2). Discussed systematics of B(M1) strengths for odd-A Cd isotopes, B(E2) systematics for odd-A Cd and even-even Z=40-50 nuclei. No change in single-particle transition strength as a function of the neutron number. PREPRINT arXiv:1105.1688v1 [nucl-ex] |

A=104

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|-------------------|----------|--|
| ^{104}Y | 2011SU11 | RADIOACTIVITY $^{106,108}\text{Zr}$, $^{104,105,106}\text{Y}(\beta^-)$ [from $\text{Be}(^{238}\text{U}, \text{X})$, E=345 MeV / nucleon]; measured time correlations, E_γ , I_γ ; deduced first 2^+ and 4^+ states energies, J, π , ground state deformation in $^{106,108}\text{Zr}$, $T_{1/2}$ for a new isomer in ^{108}Zr and ^{106}Y . Comparison with 1 / E(2^+) systematics for Kr, Sr, Zr, Mo, Ru, Pd, Cd, Sn isotopes. JOUR PRLTA 106 202501 |
| ^{104}Zr | 2011SU11 | RADIOACTIVITY $^{106,108}\text{Zr}$, $^{104,105,106}\text{Y}(\beta^-)$ [from $\text{Be}(^{238}\text{U}, \text{X})$, E=345 MeV / nucleon]; measured time correlations, E_γ , I_γ ; deduced first 2^+ and 4^+ states energies, J, π , ground state deformation in $^{106,108}\text{Zr}$, $T_{1/2}$ for a new isomer in ^{108}Zr and ^{106}Y . Comparison with 1 / E(2^+) systematics for Kr, Sr, Zr, Mo, Ru, Pd, Cd, Sn isotopes. JOUR PRLTA 106 202501 |
| ^{104}Ru | 2011TA06 | NUCLEAR MOMENTS $^{96,98,100,102,104}\text{Ru}$, ^{106}Pd ; measured g factors of first 2^+ states by transient-field-perturbed angular correlation technique used with Coulomb excitation in inverse kinematics. Comparison with IBM-2 calculations. JOUR PRVCA 83 044315 |

A=105

- | | | |
|-------------------|----------|--|
| ^{105}Y | 2011SU11 | RADIOACTIVITY $^{106,108}\text{Zr}$, $^{104,105,106}\text{Y}(\beta^-)$ [from $\text{Be}(^{238}\text{U}, \text{X})$, E=345 MeV / nucleon]; measured time correlations, E_γ , I_γ ; deduced first 2^+ and 4^+ states energies, J, π , ground state deformation in $^{106,108}\text{Zr}$, $T_{1/2}$ for a new isomer in ^{108}Zr and ^{106}Y . Comparison with 1 / E(2^+) systematics for Kr, Sr, Zr, Mo, Ru, Pd, Cd, Sn isotopes. JOUR PRLTA 106 202501 |
| ^{105}Zr | 2011SU11 | RADIOACTIVITY $^{106,108}\text{Zr}$, $^{104,105,106}\text{Y}(\beta^-)$ [from $\text{Be}(^{238}\text{U}, \text{X})$, E=345 MeV / nucleon]; measured time correlations, E_γ , I_γ ; deduced first 2^+ and 4^+ states energies, J, π , ground state deformation in $^{106,108}\text{Zr}$, $T_{1/2}$ for a new isomer in ^{108}Zr and ^{106}Y . Comparison with 1 / E(2^+) systematics for Kr, Sr, Zr, Mo, Ru, Pd, Cd, Sn isotopes. JOUR PRLTA 106 202501 |

A=105 (continued)

- ¹⁰⁵Ag 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ¹⁰⁵Cd 2011KIZZ NUCLEAR REACTIONS ^{94,96,98}Mo(¹²C, 3n), E=50 MeV; measured E γ , $\gamma\gamma$ -coin, $\gamma\gamma(t)$, half-lives of isomers using fast-timing techniques; deduced B(M1), B(E2). Discussed systematics of B(M1) strengths for odd-A Cd isotopes, B(E2) systematics for odd-A Cd and even-even Z=40-50 nuclei. No change in single-particle transition strength as a function of the neutron number. PREPRINT arXiv:1105.1688v1 [nucl-ex]

A=106

^{106}Sr	2010KUZV	NUCLEAR REACTIONS Be, Pb(^{238}U , F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010
^{106}Y	2011SU11	RADIOACTIVITY $^{106,108}\text{Zr}$, $^{104,105,106}\text{Y}(\beta^-)$ [from Be(^{238}U , X), E=345 MeV / nucleon]; measured time correlations, $E\gamma$, $I\gamma$; deduced first 2^+ and 4^+ states energies, J, π , ground state deformation in $^{106,108}\text{Zr}$, $T_{1/2}$ for a new isomer in ^{108}Zr and ^{106}Y . Comparison with 1 / E(2^+) systematics for Kr, Sr, Zr, Mo, Ru, Pd, Cd, Sn isotopes. JOUR PRLTA 106 202501
^{106}Zr	2011SU11	RADIOACTIVITY $^{106,108}\text{Zr}$, $^{104,105,106}\text{Y}(\beta^-)$ [from Be(^{238}U , X), E=345 MeV / nucleon]; measured time correlations, $E\gamma$, $I\gamma$; deduced first 2^+ and 4^+ states energies, J, π , ground state deformation in $^{106,108}\text{Zr}$, $T_{1/2}$ for a new isomer in ^{108}Zr and ^{106}Y . Comparison with 1 / E(2^+) systematics for Kr, Sr, Zr, Mo, Ru, Pd, Cd, Sn isotopes. JOUR PRLTA 106 202501
^{106}Nb	2011SU11	RADIOACTIVITY $^{106,108}\text{Zr}$, $^{104,105,106}\text{Y}(\beta^-)$ [from Be(^{238}U , X), E=345 MeV / nucleon]; measured time correlations, $E\gamma$, $I\gamma$; deduced first 2^+ and 4^+ states energies, J, π , ground state deformation in $^{106,108}\text{Zr}$, $T_{1/2}$ for a new isomer in ^{108}Zr and ^{106}Y . Comparison with 1 / E(2^+) systematics for Kr, Sr, Zr, Mo, Ru, Pd, Cd, Sn isotopes. JOUR PRLTA 106 202501
^{106}Pd	2011TA06	NUCLEAR MOMENTS $^{96,98,100,102,104}\text{Ru}$, ^{106}Pd ; measured g factors of first 2^+ states by transient-field-perturbed angular correlation technique used with Coulomb excitation in inverse kinematics. Comparison with IBM-2 calculations. JOUR PRVCA 83 044315

A=106 (continued)

¹⁰⁶Ag 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

KEYNUMBERS AND KEYWORDS

A=107

- ¹⁰⁷Sr 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE -TOF-B ρ method. PC T Kubo,7/14/2010
- ¹⁰⁷Cd 2011KIZZ NUCLEAR REACTIONS ^{94,96,98}Mo(¹²C, 3n), E=50 MeV; measured E γ , $\gamma\gamma$ -coin, $\gamma\gamma(t)$, half-lives of isomers using fast-timing techniques; deduced B(M1), B(E2). Discussed systematics of B(M1) strengths for odd-A Cd isotopes, B(E2) systematics for odd-A Cd and even-even Z=40-50 nuclei. No change in single-particle transition strength as a function of the neutron number. PREPRINT arXiv:1105.1688v1 [nucl-ex]

A=108

- ¹⁰⁸Y 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE -TOF-B ρ method. PC T Kubo,7/14/2010
- ¹⁰⁸Zr 2011SU11 RADIOACTIVITY ^{106,108}Zr, ^{104,105,106}Y(β^-) [from Be(²³⁸U, X), E=345 MeV / nucleon]; measured time correlations, E γ , I γ ; deduced first 2⁺ and 4⁺ states energies, J, π , ground state deformation in ^{106,108}Zr, T_{1/2} for a new isomer in ¹⁰⁸Zr and ¹⁰⁶Y. Comparison with 1 / E(2⁺) systematics for Kr, Sr, Zr, Mo, Ru, Pd, Cd, Sn isotopes. JOUR PRLTA 106 202501
- ¹⁰⁸Nb 2011SU11 RADIOACTIVITY ^{106,108}Zr, ^{104,105,106}Y(β^-) [from Be(²³⁸U, X), E=345 MeV / nucleon]; measured time correlations, E γ , I γ ; deduced first 2⁺ and 4⁺ states energies, J, π , ground state deformation in ^{106,108}Zr, T_{1/2} for a new isomer in ¹⁰⁸Zr and ¹⁰⁶Y. Comparison with 1 / E(2⁺) systematics for Kr, Sr, Zr, Mo, Ru, Pd, Cd, Sn isotopes. JOUR PRLTA 106 202501
- ¹⁰⁸Ag 2011SC13 NUCLEAR REACTIONS Bi(p, X)¹⁰⁸Ag / ¹⁰Be / ²⁶Al / ¹²⁹I / ³⁶Cl, E=100-2600 MeV; measured reaction products, E γ , I γ ; deduced σ . Chemical separation, AMS measurements, comparison with spallation model INCL4 and experimental data. JOUR JPGPE 38 065103

A=108 (continued)

¹⁰⁸In 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=109

- ¹⁰⁹Y 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE -TOF-B ρ method. PC T Kubo,7/14/2010
- ¹⁰⁹Ag 2011CL03 NUCLEAR REACTIONS ²⁰⁸Pb(⁷²Kr, ⁷²Kr'), (⁷⁴Kr, ⁷⁴Kr'), (⁷⁶Kr, ⁷⁶Kr'), (⁷⁸Kr, ⁷⁸Kr'), E=4.5 MeV / nucleon; ¹⁰⁹Ag, ¹²⁰Sn(⁹⁶Sr, ⁹⁶Sr'), E not given; measured reaction products, E γ , I γ . ^{72,74,76,78}Kr, ⁹⁶Sr; deduced static quadrupole moments, B(E2). Comparison with systematics and HFB calculations. JOUR IMPEE 20 415
- 2011SE05 NUCLEAR REACTIONS ¹⁰⁹Ag(³¹Mg, ³¹Mg'), E=3 MeV / nucleon; measured reaction products, E γ , I γ . ³¹Mg; deduced energy levels, J, π , B(E2), B(M1). Comparison with theoretical predictions. JOUR PYLBB 700 181

A=109 (continued)

¹⁰⁹In 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=110

¹¹⁰Ag 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=110 (continued)

¹¹⁰In 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=111

- ^{111}Zr 2010KUZV NUCLEAR REACTIONS Be, Pb(^{238}U , F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010
- ^{111}Rh 2010LIZZ RADIOACTIVITY $^{252}\text{Cm}(\text{SF})$; measured $\text{E}\gamma$, $\text{I}\gamma(\theta)$, $\gamma\gamma$ -coin. $^{111,112,113}\text{Rh}$ deduced new γ transitions, fission yield ratios ^{113}Rh to ^{112}Rh . ^{134}I deduced high-spin states. ^{137}I , ^{139}Cs deduced new γ transitions, levels, J, π , ICC, high-spin states. ^{141}Cs deduced new γ transitions, levels, J, π , high-spin states, dipole moment. ^{141}Cs deduced new γ transitions, levels, J, π . ^{134}Te , ^{135}I , ^{137}Xe calculated g-factors. CONF Sochi(EXON-2009) Proc,P64,Liu
- ^{111}In 2011IS08 NUCLEAR REACTIONS $^{112,114,118,124}\text{Sn}(\gamma, \text{n})$, $^{112,116,117}\text{Sn}(\gamma, \text{p})$, E<19.5 MeV; measured reaction products, $\text{E}\gamma$, $\text{I}\gamma$; deduced yields, dipole giant resonance formation. JOUR BRSPE 75 558
- 2011MA34 NUCLEAR REACTIONS $^{116}\text{Cd}(\alpha, 3\text{n})$, $(\alpha, \text{X})^{113}\text{Sn} / ^{117}\text{Sn} / ^{111}\text{In} / ^{114}\text{In} / ^{116}\text{In} / ^{115}\text{Cd}$, E=35 MeV; measured $\text{E}\gamma$, $\text{I}\gamma$; deduced new method for production of $^{117\text{m}}\text{Sn}$. Chemical separation. JOUR ARISE 69 965

A=111 (*continued*)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551
- ¹¹¹Sn 2011IS08 NUCLEAR REACTIONS ^{112,114,118,124}Sn(γ , n), ^{112,116,117}Sn(γ , p),
E<19.5 MeV; measured reaction products, E γ , I γ ; deduced yields,
dipole giant resonance formation. JOUR BRSPE 75 558

A=112

- ¹¹²Zr 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE -TOF-B ρ method. PC T Kubo,7/14/2010
- ¹¹²Rh 2010LIZZ RADIOACTIVITY ²⁵²Cm(SF); measured E γ , I γ (θ), $\gamma\gamma$ -coin. ^{111,112,113}Rh deduced new γ transitions, fission yield ratios ¹¹³Rh to ¹¹²Rh. ¹³⁴I deduced high-spin states. ¹³⁷I, ¹³⁹Cs deduced new γ transitions, levels, J, π , ICC, high-spin states. ¹⁴¹Cs deduced new γ transitions, levels, J, π , high-spin states, dipole moment. ¹⁴¹Cs deduced new γ transitions, levels, J, π . ¹³⁴Te, ¹³⁵I, ¹³⁷Xe calculated g-factors. CONF Sochi(EXON-2009) Proc,P64,Liu
- ¹¹²Cd 2011BA14 RADIOACTIVITY ¹¹²Sn(β^+ EC), (2EC); measured E γ , I γ ; deduced limits of half-life for 0ν and 2ν modes of double β decay to the third excited 0+ state and other states in ¹¹²Cd. JOUR PRVCA 83 045503
- ¹¹²Sn 2011BA14 RADIOACTIVITY ¹¹²Sn(β^+ EC), (2EC); measured E γ , I γ ; deduced limits of half-life for 0ν and 2ν modes of double β decay to the third excited 0+ state and other states in ¹¹²Cd. JOUR PRVCA 83 045503

A=113

- ¹¹³Rh 2010LIZZ RADIOACTIVITY ²⁵²Cm(SF); measured E γ , I γ (θ), $\gamma\gamma$ -coin. ^{111,112,113}Rh deduced new γ transitions, fission yield ratios ¹¹³Rh to ¹¹²Rh. ¹³⁴I deduced high-spin states. ¹³⁷I, ¹³⁹Cs deduced new γ transitions, levels, J, π , ICC, high-spin states. ¹⁴¹Cs deduced new γ transitions, levels, J, π , high-spin states, dipole moment. ¹⁴¹Cs deduced new γ transitions, levels, J, π . ¹³⁴Te, ¹³⁵I, ¹³⁷Xe calculated g-factors. CONF Sochi(EXON-2009) Proc,P64,Liu
- ¹¹³Sn 2011IS08 NUCLEAR REACTIONS ^{112,114,118,124}Sn(γ , n), ^{112,116,117}Sn(γ , p), E<19.5 MeV; measured reaction products, E γ , I γ ; deduced yields, dipole giant resonance formation. JOUR BRSPE 75 558
- 2011MA34 NUCLEAR REACTIONS ¹¹⁶Cd(α , 3n), (α , X)¹¹³Sn / ¹¹⁷Sn / ¹¹¹In / ¹¹⁴In / ¹¹⁶In / ¹¹⁵Cd, E=35 MeV; measured E γ , I γ ; deduced new method for production of ^{117m}Sn. Chemical separation. JOUR ARISE 69 965

A=113 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=113 (continued)

¹¹³Sb 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

KEYNUMBERS AND KEYWORDS

A=114

^{114}Nb	2010KUZV	<p>NUCLEAR REACTIONS Be, Pb(^{238}U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn, $^{73,74}\text{Fe}$, ^{76}Co, ^{79}Ni, $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga, ^{90}Ge, ^{95}Se, ^{98}Br, ^{101}Kr, ^{103}Rb, $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd, ^{138}Sn, ^{140}Sb, ^{143}Te, ^{145}I, ^{148}Xe, ^{152}Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010</p>
^{114}In	2011MA34	<p>NUCLEAR REACTIONS $^{116}\text{Cd}(\alpha, 3\text{n})$, $(\alpha, \text{X})^{113}\text{Sn} / ^{117}\text{Sn} / ^{111}\text{In} / ^{114}\text{In} / ^{116}\text{In} / ^{115}\text{Cd}$, E=35 MeV; measured $\text{E}\gamma$, $\text{I}\gamma$; deduced new method for production of $^{117\text{m}}\text{Sn}$. Chemical separation. JOUR ARISE 69 965</p>

A=114 (continued)

¹¹⁴Te 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=115

^{115}Nb	2010KUZV	NUCLEAR REACTIONS Be, Pb(^{238}U , F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010
^{115}Mo	2010KUZV	NUCLEAR REACTIONS Be, Pb(^{238}U , F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010
^{115}Cd	2011MA34	NUCLEAR REACTIONS $^{116}\text{Cd}(\alpha, 3n)$, $(\alpha, X)^{113}\text{Sn} / ^{117}\text{Sn} / ^{111}\text{In} / ^{114}\text{In} / ^{116}\text{In} / ^{115}\text{Cd}$, E=35 MeV; measured $\text{E}\gamma$, $\text{I}\gamma$; deduced new method for production of ^{117m}Sn . Chemical separation. JOUR ARISE 69 965
	2011MA39	NUCLEAR REACTIONS $^{116}\text{Cd}(\gamma, n)$, E<20 MeV; measured reaction products, $\text{E}\gamma$, $\text{I}\gamma$; deduced isomeric yields ratios, σ . Comparison with TALYS-1.0 calculations. JOUR UKPJA 56 443
^{115}In	2011IS08	NUCLEAR REACTIONS $^{112,114,118,124}\text{Sn}(\gamma, n)$, $^{112,116,117}\text{Sn}(\gamma, p)$, E<19.5 MeV; measured reaction products, $\text{E}\gamma$, $\text{I}\gamma$; deduced yields, dipole giant resonance formation. JOUR BRSPE 75 558
	2011PU04	NUCLEAR REACTIONS $^{115,116,117}\text{Sn}(n, p)$, $^{93}\text{Nb}(n, 2n)$, $^{27}\text{Al}(n, \alpha)$, E=13.5-14.6 MeV; measured $\text{E}\gamma$, $\text{I}\gamma$; deduced σ . Comparison with available experimental data. JOUR CPCHC 35 445

A=115 (continued)

¹¹⁵Sb 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

KEYNUMBERS AND KEYWORDS

A=116

- ¹¹⁶Mo 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE-TOF-Bρ method. PC T Kubo,7/14/2010
- ¹¹⁶In 2011IS08 NUCLEAR REACTIONS ^{112,114,118,124}Sn(γ, n), ^{112,116,117}Sn(γ, p), E<19.5 MeV; measured reaction products, Eγ, Iγ; deduced yields, dipole giant resonance formation. JOUR BRSPE 75 558
- 2011MA34 NUCLEAR REACTIONS ¹¹⁶Cd(α, 3n), (α, X)¹¹³Sn / ¹¹⁷Sn / ¹¹¹In / ¹¹⁴In / ¹¹⁶In / ¹¹⁵Cd, E=35 MeV; measured Eγ, Iγ; deduced new method for production of ^{117m}Sn. Chemical separation. JOUR ARISE 69 965
- 2011PU04 NUCLEAR REACTIONS ^{115,116,117}Sn(n, p), ⁹³Nb(n, 2n), ²⁷Al(n, α), E=13.5-14.6 MeV; measured Eγ, Iγ; deduced σ. Comparison with available experimental data. JOUR CPCHC 35 445
- ¹¹⁶Sn 2011GU08 NUCLEAR REACTIONS ¹¹⁸Sn(p, t), E=24.6 MeV; ¹²⁴Sn(p, t), E=25 MeV; measured E(t), I(t), σ, σ(θ). ^{116,122}Sn; deduced levels, J, π, L-transfers. Finite range cluster DWBA analysis. Comparison with shell-model predictions. Evaluation of two-nucleon spectroscopic amplitudes in a truncated seniority space for a microscopic DWBA analysis. JOUR PRVCA 83 044614

A=117

- ¹¹⁷Mo 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE-TOF-Bρ method. PC T Kubo,7/14/2010
- ¹¹⁷In 2011PU04 NUCLEAR REACTIONS ^{115,116,117}Sn(n, p), ⁹³Nb(n, 2n), ²⁷Al(n, α), E=13.5-14.6 MeV; measured Eγ, Iγ; deduced σ. Comparison with available experimental data. JOUR CPCHC 35 445
- ¹¹⁷Sn 2011IS08 NUCLEAR REACTIONS ^{112,114,118,124}Sn(γ, n), ^{112,116,117}Sn(γ, p), E<19.5 MeV; measured reaction products, Eγ, Iγ; deduced yields, dipole giant resonance formation. JOUR BRSPE 75 558
- 2011MA34 NUCLEAR REACTIONS ¹¹⁶Cd(α, 3n), (α, X)¹¹³Sn / ¹¹⁷Sn / ¹¹¹In / ¹¹⁴In / ¹¹⁶In / ¹¹⁵Cd, E=35 MeV; measured Eγ, Iγ; deduced new method for production of ^{117m}Sn. Chemical separation. JOUR ARISE 69 965

A=117 (*continued*)

¹¹⁷Te 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=118

¹¹⁸Sn 2011M006 NUCLEAR REACTIONS ¹²⁰Sn, ²⁰⁵Pb(p, t), E=50, 60 MeV; measured E(t), I(t), TOF; deduced σ ; investigated existence of giant pairing vibration (GPV) in ¹²⁰Sn and ²⁰⁵Pb. No clear signal found for GPV. JOUR PRVCA 83 037302

A=118 (continued)

- ¹¹⁸Sb 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551
- ¹¹⁸Ba 2011AD10 NUCLEAR REACTIONS ⁴⁰Ca(⁷⁸Kr, X)¹¹⁸Ba, E=5.5 MeV / nucleon;
measured reaction products, E α , I α ; deduced σ . JOUR IMPEE 20 1054

A=119

- ^{119}Tc 2010KUZV NUCLEAR REACTIONS Be, Pb(^{238}U , F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010
- ^{119}Te 2011TI05 NUCLEAR REACTIONS W(p, X) ^{176}Re / ^{177}Re / ^{178}Re / ^{179}Re / ^{181}Re / ^{182}Re / ^{183}Re / ^{184}Re / ^{186}Re / ^{174}W / ^{176}W / ^{177}W / ^{178}W / ^{181}W / ^{172}Ta / ^{173}Ta / ^{174}Ta / ^{175}Ta / ^{176}Ta / ^{177}Ta / ^{178}Ta / ^{182}Ta / ^{183}Ta / ^{184}Ta / ^{168}Hf / ^{170}Hf / ^{171}Hf / ^{172}Hf / ^{173}Hf / ^{175}Hf / ^{179}Hf / ^{180}Hf / ^{181}Hf / ^{167}Lu / ^{169}Lu / ^{170}Lu / ^{171}Lu / ^{172}Lu / ^{173}Lu / ^{162}Yb / ^{166}Yb / ^{167}Yb / ^{169}Yb / ^{161}Tm / ^{162}Tm / ^{163}Tm / ^{165}Tm / ^{166}Tm / ^{167}Tm / ^{168}Tm / ^{156}Er / ^{157}Er / ^{159}Er / ^{160}Er / ^{161}Er / ^{156}Ho / ^{160}Ho / ^{152}Dy / ^{155}Dy / ^{157}Dy / ^{147}Tb / ^{148}Tb / ^{149}Tb / ^{150}Tb / ^{151}Tb / ^{152}Tb / ^{153}Tb / ^{155}Tb / ^{145}Gd / ^{146}Gd / ^{147}Gd / ^{149}Gd / ^{151}Gd / ^{153}Gd / ^{145}Eu / ^{146}Eu / ^{147}Eu / ^{148}Eu / ^{149}Eu / ^{140}Pm / ^{143}Pm / ^{144}Pm / ^{136}Nd / ^{139}Nd / ^{134}Pr / ^{136}Pr / ^{130}Ce / ^{132}Ce / ^{133}Ce / ^{134}Ce / ^{135}Ce / ^{139}Ce / ^{130}La / ^{132}La / ^{126}Ba / ^{128}Ba / ^{131}Ba / ^{133}Ba / ^{127}Cs / ^{129}Cs / ^{120}Xe / ^{122}Xe / ^{123}Xe / ^{125}Xe / ^{127}Xe / ^{120}I / ^{114}Te / ^{117}Te / ^{119}Te / ^{121}Te / ^{113}Sb / ^{115}Sb / ^{118}Sb / ^{120}Sb / ^{113}Sn / ^{108}In / ^{109}In / ^{110}In / ^{111}In / ^{105}Ag / ^{106}Ag / ^{110}Ag / ^{100}Pd / ^{99}Rh / ^{100}Rh / ^{102}Rh / ^{97}Ru / ^{103}Ru / ^{94}Tc / ^{96}Tc / ^{93}Mo / ^{90}Nb / ^{88}Zr / ^{89}Zr / ^{86}Y / ^{87}Y / ^{88}Y / ^{83}Sr / ^{85}Sr / ^{82}Rb / ^{83}Rb / ^{84}Rb / ^{77}Br / ^{75}Se / ^{74}As / ^{65}Zn / ^{69}Zn / ^{56}Co / ^{58}Co / ^{60}Co / ^{59}Fe / ^{52}Mn / ^{54}Mn / ^{48}V / ^{44}Sc / ^{46}Sc / ^{48}Sc / ^{28}Mg / ^{22}Na / ^{24}Na / ^7Be , Ta(p, X) ^{174}W / ^{176}W / ^{177}W / ^{178}W / ^{172}Ta / ^{173}Ta / ^{174}Ta / ^{175}Ta / ^{176}Ta / ^{177}Ta / ^{178}Ta / ^{180}Ta / ^{168}Hf / ^{170}Hf / ^{171}Hf / ^{172}Hf / ^{173}Hf / ^{175}Hf / ^{179}Hf / ^{180}Hf / ^{181}Hf / ^{167}Lu / ^{169}Lu / ^{170}Lu / ^{171}Lu / ^{172}Lu / ^{173}Lu / ^{162}Yb / ^{166}Yb / ^{167}Yb / ^{169}Yb / ^{161}Tm / ^{162}Tm / ^{163}Tm / ^{165}Tm / ^{166}Tm / ^{167}Tm / ^{168}Tm / ^{156}Er / ^{157}Er / ^{159}Er / ^{160}Er / ^{161}Er / ^{156}Ho / ^{160}Ho / ^{152}Dy / ^{155}Dy / ^{157}Dy / ^{148}Tb / ^{149}Tb / ^{150}Tb / ^{151}Tb / ^{152}Tb / ^{153}Tb / ^{155}Tb / ^{145}Gd / ^{146}Gd / ^{147}Gd / ^{149}Gd / ^{151}Gd / ^{153}Gd / ^{145}Eu / ^{146}Eu / ^{147}Eu / ^{148}Eu / ^{149}Eu / ^{140}Pm / ^{143}Pm / ^{144}Pm / ^{136}Nd / ^{139}Nd / ^{134}Pr / ^{136}Pr / ^{138}Pr / ^{130}Ce / ^{132}Ce / ^{133}Ce / ^{134}Ce / ^{135}Ce / ^{139}Ce / ^{130}La / ^{132}La / ^{128}Ba / ^{131}Ba / ^{133}Ba / ^{127}Cs / ^{129}Cs / ^{122}Xe / ^{123}Xe / ^{127}Xe / ^{114}Te / ^{117}Te / ^{119}Te / ^{121}Te / ^{113}Sb / ^{115}Sb / ^{118}Sb / ^{120}Sb / ^{108}In / ^{109}In / ^{110}In / ^{111}In / ^{105}Ag / ^{106}Ag / ^{110}Ag / ^{100}Pd / ^{99}Rh / ^{100}Rh / ^{102}Rh / ^{97}Ru / ^{103}Ru / ^{96}Tc / ^{93}Mo / ^{90}Nb / ^{88}Zr / ^{89}Zr / ^{86}Y / ^{87}Y / ^{88}Y / ^{83}Sr / ^{85}Sr / ^{82}Rb / ^{83}Rb / ^{84}Rb / ^{77}Br / ^{75}Se / ^{74}As / ^{65}Zn / ^{69}Zn / ^{56}Co / ^{58}Co / ^{60}Co / ^{59}Fe / ^{52}Mn / ^{54}Mn / ^{48}V / ^{44}Sc / ^{46}Sc / ^{48}Sc / ^{28}Mg / ^{22}Na / ^{24}Na / ^7Be , E=43-2605 MeV; measured reaction products, $E\gamma$, $I\gamma$; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=120

^{120}Tc	2010KUZV	NUCLEAR REACTIONS Be, Pb(^{238}U , F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010
^{120}Sn	2010LIZY	NUCLEAR REACTIONS $^{120}\text{Sn}(^6\text{He}, ^6\text{He})$, E=17.40, 18.05, 19.80, 20.5 MeV; measured E(particle), I(particle, θ); deduced $\sigma(\theta)$. $^{12}\text{C}(^8\text{Li}, ^9\text{Be})$, E=23.8 MeV; measured reaction products; deduced $\sigma(\theta)$; calculated $\sigma(\theta)$ using DWBA. $^{120}\text{Sn}(\alpha, \text{X})$, E \approx 20-30 MeV; $^{120}\text{Sn}(^6\text{He}, \text{X})$, E \approx 16-20 MeV; measured E(particle), I(particle, θ); deduced σ . $^8\text{Li}(p, \gamma)$, E=low; measured σ . Compared with other data. CONF Sochi(EXON-2009) Proc,P461,Lichtenthaler
	2011CL03	NUCLEAR REACTIONS $^{208}\text{Pb}(^{72}\text{Kr}, ^{72}\text{Kr}')$, $(^{74}\text{Kr}, ^{74}\text{Kr}')$, $(^{76}\text{Kr}, ^{76}\text{Kr}')$, $(^{78}\text{Kr}, ^{78}\text{Kr}')$, E=4.5 MeV / nucleon; ^{109}Ag , $^{120}\text{Sn}(^{96}\text{Sr}, ^{96}\text{Sr}')$, E not given; measured reaction products, E γ , I γ . $^{72,74,76,78}\text{Kr}$, ^{96}Sr ; deduced static quadrupole moments, B(E2). Comparison with systematics and HFB calculations. JOUR IMPEE 20 415

A=120 (continued)

- ¹²⁰Sb 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ¹²⁰I 2011AH03 NUCLEAR REACTIONS Te(p, X)¹²⁰I / ¹²¹I / ¹²³I / ¹²⁴I / ¹²⁵I / ¹²⁶I / ¹²⁸I / ¹³⁰I, E<14.5 MeV; measured E γ , I γ ; deduced σ . Comparison with experimental data, ALICE-IPPE model code calculations. JOUR RAACA 99 317

A=120 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=120 (continued)

^{120}Xe 2011TI05 NUCLEAR REACTIONS W(p, X) $^{176}\text{Re} / ^{177}\text{Re} / ^{178}\text{Re} / ^{179}\text{Re} /$
 $^{181}\text{Re} / ^{182}\text{Re} / ^{183}\text{Re} / ^{184}\text{Re} / ^{186}\text{Re} / ^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W} / ^{178}\text{W} /$
 $^{181}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{182}\text{Ta} /$
 $^{183}\text{Ta} / ^{184}\text{Ta} / ^{168}\text{Hf} / ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} /$
 $^{180}\text{Hf} / ^{181}\text{Hf} / ^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb}$
 $/ ^{166}\text{Yb} / ^{167}\text{Yb} / ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} /$
 $^{167}\text{Tm} / ^{168}\text{Tm} / ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho}$
 $/ ^{152}\text{Dy} / ^{155}\text{Dy} / ^{157}\text{Dy} / ^{147}\text{Tb} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} /$
 $^{152}\text{Tb} / ^{153}\text{Tb} / ^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} /$
 $^{153}\text{Gd} / ^{145}\text{Eu} / ^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} /$
 $^{144}\text{Pm} / ^{136}\text{Nd} / ^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce}$
 $/ ^{135}\text{Ce} / ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{126}\text{Ba} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} /$
 $^{127}\text{Cs} / ^{129}\text{Cs} / ^{120}\text{Xe} / ^{122}\text{Xe} / ^{123}\text{Xe} / ^{125}\text{Xe} / ^{127}\text{Xe} / ^{120}\text{I} / ^{114}\text{Te} /$
 $^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} / ^{118}\text{Sb} / ^{120}\text{Sb} / ^{113}\text{Sn} / ^{108}\text{In} /$
 $^{109}\text{In} / ^{110}\text{In} / ^{111}\text{In} / ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} / ^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} /$
 $^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{94}\text{Tc} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} / ^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y}$
 $/ ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} / ^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} /$
 $^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} /$
 $^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be}, \text{Ta}(p, X)^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W}$
 $/ ^{178}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{180}\text{Ta}$
 $/ ^{168}\text{Hf}, ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} / ^{180}\text{Hf} / ^{181}\text{Hf} /$
 $^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb} / ^{166}\text{Yb} / ^{167}\text{Yb}$
 $/ ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} / ^{167}\text{Tm} / ^{168}\text{Tm}$
 $/ ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho} / ^{152}\text{Dy} /$
 $^{155}\text{Dy} / ^{157}\text{Dy} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} / ^{152}\text{Tb} / ^{153}\text{Tb} /$
 $^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} / ^{153}\text{Gd} / ^{145}\text{Eu} /$
 $^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} / ^{144}\text{Pm} / ^{136}\text{Nd} /$
 $^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{138}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce} / ^{135}\text{Ce}$
 $/ ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} / ^{127}\text{Cs} / ^{129}\text{Cs} /$
 $^{122}\text{Xe} / ^{123}\text{Xe} / ^{127}\text{Xe} / ^{114}\text{Te} / ^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} /$
 $^{118}\text{Sb} / ^{120}\text{Sb} / ^{108}\text{In} / ^{109}\text{In}, ^{110}\text{In}, ^{111}\text{In}, ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} /$
 $^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} / ^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} /$
 $^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y} / ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} /$
 $^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} / ^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} /$
 $^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be},$
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

KEYNUMBERS AND KEYWORDS

A=121

- ¹²¹Ru 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE -TOF-B ρ method. PC T Kubo,7/14/2010
- ¹²¹Sn 2011T003 NUCLEAR REACTIONS ¹²²Sn(³He, ³He'), (³He, α), E=34 MeV; measured E γ , I γ , (particle) γ -coin, continuum γ spectra using Oslo method. ^{121,122}Sn; deduced γ -ray strength functions, level densities, pygmy resonances. Comparison with experimental data for ^{113,115,116,117,118,119,120}Sn, and model calculations. JOUR PRVCA 83 044320

A=121 (continued)

- ¹²¹Te 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ¹²¹I 2011AH03 NUCLEAR REACTIONS Te(p, X)¹²⁰I / ¹²¹I / ¹²³I / ¹²⁴I / ¹²⁵I / ¹²⁶I / ¹²⁸I / ¹³⁰I, E<14.5 MeV; measured E γ , I γ ; deduced σ . Comparison with experimental data, ALICE-IPPE model code calculations. JOUR RAACA 99 317

A=122

- ^{122}Ru 2010KUZV NUCLEAR REACTIONS Be, Pb(^{238}U , F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010
- ^{122}Sn 2011GU08 NUCLEAR REACTIONS $^{118}\text{Sn}(\text{p}, \text{t})$, E=24.6 MeV; $^{124}\text{Sn}(\text{p}, \text{t})$, E=25 MeV; measured E(t), I(t), σ , $\sigma(\theta)$. $^{116,122}\text{Sn}$; deduced levels, J, π , L-transfers. Finite range cluster DWBA analysis. Comparison with shell-model predictions. Evaluation of two-nucleon spectroscopic amplitudes in a truncated seniority space for a microscopic DWBA analysis. JOUR PRVCA 83 044614
- 2011T003 NUCLEAR REACTIONS $^{122}\text{Sn}(^3\text{He}, ^3\text{He}')$, ($^3\text{He}, \alpha$), E=34 MeV; measured E γ , I γ , (particle) γ -coin, continuum γ spectra using Oslo method. $^{121,122}\text{Sn}$; deduced γ -ray strength functions, level densities, pygmy resonances. Comparison with experimental data for $^{113,115,116,117,118,119,120}\text{Sn}$, and model calculations. JOUR PRVCA 83 044320

A=122 (continued)

^{122}Xe 2011TI05 NUCLEAR REACTIONS W(p, X) $^{176}\text{Re} / ^{177}\text{Re} / ^{178}\text{Re} / ^{179}\text{Re} /$
 $^{181}\text{Re} / ^{182}\text{Re} / ^{183}\text{Re} / ^{184}\text{Re} / ^{186}\text{Re} / ^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W} / ^{178}\text{W} /$
 $^{181}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{182}\text{Ta} /$
 $^{183}\text{Ta} / ^{184}\text{Ta} / ^{168}\text{Hf} / ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} /$
 $^{180}\text{Hf} / ^{181}\text{Hf} / ^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb}$
 $/ ^{166}\text{Yb} / ^{167}\text{Yb} / ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} /$
 $^{167}\text{Tm} / ^{168}\text{Tm} / ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho}$
 $/ ^{152}\text{Dy} / ^{155}\text{Dy} / ^{157}\text{Dy} / ^{147}\text{Tb} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} /$
 $^{152}\text{Tb} / ^{153}\text{Tb} / ^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} /$
 $^{153}\text{Gd} / ^{145}\text{Eu} / ^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} /$
 $^{144}\text{Pm} / ^{136}\text{Nd} / ^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce}$
 $/ ^{135}\text{Ce} / ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{126}\text{Ba} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} /$
 $^{127}\text{Cs} / ^{129}\text{Cs} / ^{120}\text{Xe} / ^{122}\text{Xe} / ^{123}\text{Xe} / ^{125}\text{Xe} / ^{127}\text{Xe} / ^{120}\text{I} / ^{114}\text{Te} /$
 $^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} / ^{118}\text{Sb} / ^{120}\text{Sb} / ^{113}\text{Sn} / ^{108}\text{In} /$
 $^{109}\text{In} / ^{110}\text{In} / ^{111}\text{In} / ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} / ^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} /$
 $^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{94}\text{Tc} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} / ^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y}$
 $/ ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} / ^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} /$
 $^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} /$
 $^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be}, \text{Ta}(p, X)^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W}$
 $/ ^{178}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{180}\text{Ta}$
 $/ ^{168}\text{Hf}, ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} / ^{180}\text{Hf} / ^{181}\text{Hf} /$
 $^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb} / ^{166}\text{Yb} / ^{167}\text{Yb}$
 $/ ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} / ^{167}\text{Tm} / ^{168}\text{Tm}$
 $/ ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho} / ^{152}\text{Dy} /$
 $^{155}\text{Dy} / ^{157}\text{Dy} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} / ^{152}\text{Tb} / ^{153}\text{Tb} /$
 $^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} / ^{153}\text{Gd} / ^{145}\text{Eu} /$
 $^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} / ^{144}\text{Pm} / ^{136}\text{Nd} /$
 $^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{138}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce} / ^{135}\text{Ce}$
 $/ ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} / ^{127}\text{Cs} / ^{129}\text{Cs} /$
 $^{122}\text{Xe} / ^{123}\text{Xe} / ^{127}\text{Xe} / ^{114}\text{Te} / ^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} /$
 $^{118}\text{Sb} / ^{120}\text{Sb} / ^{108}\text{In} / ^{109}\text{In}, ^{110}\text{In}, ^{111}\text{In}, ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} /$
 $^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} / ^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} /$
 $^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y} / ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} /$
 $^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} / ^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} /$
 $^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be},$
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=123

¹²³ Ru	2010KUZV	NUCLEAR REACTIONS Be, Pb(²³⁸ U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹ Mn, ^{73,74} Fe, ⁷⁶ Co, ⁷⁹ Ni, ^{81,82} Cu, ^{84,85} Zn, ⁸⁷ Ga, ⁹⁰ Ge, ⁹⁵ Se, ⁹⁸ Br, ¹⁰¹ Kr, ¹⁰³ Rb, ^{106,107} Sr, ^{108,109} Y, ^{111,112} Zr, ^{114,115} Nb, ^{115,116,117} Mo, ^{119,120} Tc, ^{121,122,123,124} Ru, ^{123,124,125,126} Rh, ^{127,128} Pd, ¹³³ Cd, ¹³⁸ Sn, ¹⁴⁰ Sb, ¹⁴³ Te, ¹⁴⁵ I, ¹⁴⁸ Xe, ¹⁵² Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, Δ E-TOF-B ρ method. PC T Kubo,7/14/2010
¹²³ Rh	2010KUZV	NUCLEAR REACTIONS Be, Pb(²³⁸ U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹ Mn, ^{73,74} Fe, ⁷⁶ Co, ⁷⁹ Ni, ^{81,82} Cu, ^{84,85} Zn, ⁸⁷ Ga, ⁹⁰ Ge, ⁹⁵ Se, ⁹⁸ Br, ¹⁰¹ Kr, ¹⁰³ Rb, ^{106,107} Sr, ^{108,109} Y, ^{111,112} Zr, ^{114,115} Nb, ^{115,116,117} Mo, ^{119,120} Tc, ^{121,122,123,124} Ru, ^{123,124,125,126} Rh, ^{127,128} Pd, ¹³³ Cd, ¹³⁸ Sn, ¹⁴⁰ Sb, ¹⁴³ Te, ¹⁴⁵ I, ¹⁴⁸ Xe, ¹⁵² Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, Δ E-TOF-B ρ method. PC T Kubo,7/14/2010
¹²³ Sn	2011IS08	NUCLEAR REACTIONS ^{112,114,118,124} Sn(γ , n), ^{112,116,117} Sn(γ , p), E<19.5 MeV; measured reaction products, E γ , I γ ; deduced yields, dipole giant resonance formation. JOUR BRSPE 75 558
¹²³ I	2011AH03	NUCLEAR REACTIONS Te(p, X) ¹²⁰ I / ¹²¹ I / ¹²³ I / ¹²⁴ I / ¹²⁵ I / ¹²⁶ I / ¹²⁸ I / ¹³⁰ I, E<14.5 MeV; measured E γ , I γ ; deduced σ . Comparison with experimental data, ALICE-IPPE model code calculations. JOUR RAACA 99 317

A=123 (continued)

^{123}Xe 2011TI05 NUCLEAR REACTIONS W(p, X) $^{176}\text{Re} / ^{177}\text{Re} / ^{178}\text{Re} / ^{179}\text{Re} /$
 $^{181}\text{Re} / ^{182}\text{Re} / ^{183}\text{Re} / ^{184}\text{Re} / ^{186}\text{Re} / ^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W} / ^{178}\text{W} /$
 $^{181}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{182}\text{Ta} /$
 $^{183}\text{Ta} / ^{184}\text{Ta} / ^{168}\text{Hf} / ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} /$
 $^{180}\text{Hf} / ^{181}\text{Hf} / ^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb}$
 $/ ^{166}\text{Yb} / ^{167}\text{Yb} / ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} /$
 $^{167}\text{Tm} / ^{168}\text{Tm} / ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho}$
 $/ ^{152}\text{Dy} / ^{155}\text{Dy} / ^{157}\text{Dy} / ^{147}\text{Tb} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} /$
 $^{152}\text{Tb} / ^{153}\text{Tb} / ^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} /$
 $^{153}\text{Gd} / ^{145}\text{Eu} / ^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} /$
 $^{144}\text{Pm} / ^{136}\text{Nd} / ^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce}$
 $/ ^{135}\text{Ce} / ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{126}\text{Ba} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} /$
 $^{127}\text{Cs} / ^{129}\text{Cs} / ^{120}\text{Xe} / ^{122}\text{Xe} / ^{123}\text{Xe} / ^{125}\text{Xe} / ^{127}\text{Xe} / ^{120}\text{I} / ^{114}\text{Te} /$
 $^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} / ^{118}\text{Sb} / ^{120}\text{Sb} / ^{113}\text{Sn} / ^{108}\text{In} /$
 $^{109}\text{In} / ^{110}\text{In} / ^{111}\text{In} / ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} / ^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} /$
 $^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{94}\text{Tc} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} / ^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y}$
 $/ ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} / ^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} /$
 $^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} /$
 $^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be}, \text{Ta}(p, X)^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W}$
 $/ ^{178}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{180}\text{Ta}$
 $/ ^{168}\text{Hf}, ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} / ^{180}\text{Hf} / ^{181}\text{Hf} /$
 $^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb} / ^{166}\text{Yb} / ^{167}\text{Yb}$
 $/ ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} / ^{167}\text{Tm} / ^{168}\text{Tm}$
 $/ ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho} / ^{152}\text{Dy} /$
 $^{155}\text{Dy} / ^{157}\text{Dy} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} / ^{152}\text{Tb} / ^{153}\text{Tb} /$
 $^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} / ^{153}\text{Gd} / ^{145}\text{Eu} /$
 $^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} / ^{144}\text{Pm} / ^{136}\text{Nd} /$
 $^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{138}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce} / ^{135}\text{Ce}$
 $/ ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} / ^{127}\text{Cs} / ^{129}\text{Cs} /$
 $^{122}\text{Xe} / ^{123}\text{Xe} / ^{127}\text{Xe} / ^{114}\text{Te} / ^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} /$
 $^{118}\text{Sb} / ^{120}\text{Sb} / ^{108}\text{In} / ^{109}\text{In}, ^{110}\text{In}, ^{111}\text{In}, ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} /$
 $^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} / ^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} /$
 $^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y} / ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} /$
 $^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} / ^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} /$
 $^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be},$
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

KEYNUMBERS AND KEYWORDS

A=124

^{124}Ru	2010KUZV	NUCLEAR REACTIONS Be, Pb(^{238}U , F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010
^{124}Rh	2010KUZV	NUCLEAR REACTIONS Be, Pb(^{238}U , F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010
^{124}In	2011BE16	RADIOACTIVITY $^{124}\text{In}(\beta^-)$; measured decay products, recoil ions; deduced recoil energy spectrum. Penning trap measurements. JOUR ZAANE 47 45
^{124}Sn	2011BE16	RADIOACTIVITY $^{124}\text{In}(\beta^-)$; measured decay products, recoil ions; deduced recoil energy spectrum. Penning trap measurements. JOUR ZAANE 47 45
^{124}I	2011AH03	NUCLEAR REACTIONS Te(p, X) ^{120}I / ^{121}I / ^{123}I / ^{124}I / ^{125}I / ^{126}I / ^{128}I / ^{130}I , E<14.5 MeV; measured $\text{E}\gamma$, $\text{I}\gamma$; deduced σ . Comparison with experimental data, ALICE-IPPE model code calculations. JOUR RAACA 99 317

A=125

^{125}Rh	2010KUZV	NUCLEAR REACTIONS Be, Pb(^{238}U , F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010
^{125}Sn	2011T004	NUCLEAR REACTIONS $^{124}\text{Sn}(\text{n}, \gamma)$, E=thermal; measured $\text{E}\gamma$, $\text{I}\gamma$, $\gamma\gamma$ -coin. ^{125}Sn ; deduced levels, J, π , S(n). $^{124}\text{Sn}(\text{polarized d, p})$, E=22 MeV; measured E(p), I(p), cross sections, $\sigma(\theta)$, analyzing powers. ^{125}Sn ; deduced levels, J, π , L-transfer, spectroscopic factors. DWBA and CCBA analyses. Comparison with quasiparticle-phonon model. Systematics of 11 / 2- isomer with those in odd-A Te isotopes of A=123-131. JOUR PRVCA 83 044326
^{125}I	2011AH03	NUCLEAR REACTIONS Te(p, X) ^{120}I / ^{121}I / ^{123}I / ^{124}I / ^{125}I / ^{126}I / ^{128}I / ^{130}I , E<14.5 MeV; measured $\text{E}\gamma$, $\text{I}\gamma$; deduced σ . Comparison with experimental data, ALICE-IPPE model code calculations. JOUR RAACA 99 317

A=125 (continued)

^{125}Xe 2011TI05 NUCLEAR REACTIONS W(p, X) $^{176}\text{Re} / ^{177}\text{Re} / ^{178}\text{Re} / ^{179}\text{Re} /$
 $^{181}\text{Re} / ^{182}\text{Re} / ^{183}\text{Re} / ^{184}\text{Re} / ^{186}\text{Re} / ^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W} / ^{178}\text{W} /$
 $^{181}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{182}\text{Ta} /$
 $^{183}\text{Ta} / ^{184}\text{Ta} / ^{168}\text{Hf} / ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} /$
 $^{180}\text{Hf} / ^{181}\text{Hf} / ^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb}$
 $/ ^{166}\text{Yb} / ^{167}\text{Yb} / ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} /$
 $^{167}\text{Tm} / ^{168}\text{Tm} / ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho}$
 $/ ^{152}\text{Dy} / ^{155}\text{Dy} / ^{157}\text{Dy} / ^{147}\text{Tb} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} /$
 $^{152}\text{Tb} / ^{153}\text{Tb} / ^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} /$
 $^{153}\text{Gd} / ^{145}\text{Eu} / ^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} /$
 $^{144}\text{Pm} / ^{136}\text{Nd} / ^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce}$
 $/ ^{135}\text{Ce} / ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{126}\text{Ba} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} /$
 $^{127}\text{Cs} / ^{129}\text{Cs} / ^{120}\text{Xe} / ^{122}\text{Xe} / ^{123}\text{Xe} / ^{125}\text{Xe} / ^{127}\text{Xe} / ^{120}\text{I} / ^{114}\text{Te} /$
 $^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} / ^{118}\text{Sb} / ^{120}\text{Sb} / ^{113}\text{Sn} / ^{108}\text{In} /$
 $^{109}\text{In} / ^{110}\text{In} / ^{111}\text{In} / ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} / ^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} /$
 $^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{94}\text{Tc} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} / ^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y}$
 $/ ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} / ^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} /$
 $^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} /$
 $^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be}, \text{Ta}(p, X)^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W}$
 $/ ^{178}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{180}\text{Ta}$
 $/ ^{168}\text{Hf}, ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} / ^{180}\text{Hf} / ^{181}\text{Hf} /$
 $^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb} / ^{166}\text{Yb} / ^{167}\text{Yb}$
 $/ ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} / ^{167}\text{Tm} / ^{168}\text{Tm}$
 $/ ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho} / ^{152}\text{Dy} /$
 $^{155}\text{Dy} / ^{157}\text{Dy} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} / ^{152}\text{Tb} / ^{153}\text{Tb} /$
 $^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} / ^{153}\text{Gd} / ^{145}\text{Eu} /$
 $^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} / ^{144}\text{Pm} / ^{136}\text{Nd} /$
 $^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{138}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce} / ^{135}\text{Ce}$
 $/ ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} / ^{127}\text{Cs} / ^{129}\text{Cs} /$
 $^{122}\text{Xe} / ^{123}\text{Xe} / ^{127}\text{Xe} / ^{114}\text{Te} / ^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} /$
 $^{118}\text{Sb} / ^{120}\text{Sb} / ^{108}\text{In} / ^{109}\text{In}, ^{110}\text{In}, ^{111}\text{In}, ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} /$
 $^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} / ^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} /$
 $^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y} / ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} /$
 $^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} / ^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} /$
 $^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be},$
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

KEYNUMBERS AND KEYWORDS

A=126

^{126}Rh	2010KUZV	NUCLEAR REACTIONS Be, Pb(^{238}U , F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010
^{126}I	2011AH03	NUCLEAR REACTIONS Te(p, X) ^{120}I / ^{121}I / ^{123}I / ^{124}I / ^{125}I / ^{126}I / ^{128}I / ^{130}I , E<14.5 MeV; measured E γ , I γ ; deduced σ . Comparison with experimental data, ALICE-IPPE model code calculations. JOUR RAACA 99 317
^{126}Xe	2011C007	NUCLEAR REACTIONS $^{12}\text{C}(^{126}\text{Xe}, ^{126}\text{Xe}')$, E=399 MeV; measured E γ , I γ , $\gamma\gamma$ -coin, Coulomb excitation cross sections using Gammasphere array. ^{126}Xe ; deduced levels, J, π , bands, B(E2), B(E3) and B(M1) transition strengths, half-lives. Comparison with sd-IBM-1 calculations. O(6)-symmetry breaking and O(5)-symmetry conservation in $^{124,126,128}\text{Xe}$. JOUR PRVCA 83 044318

A=126 (continued)

¹²⁶Ba 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=127

- ¹²⁷Pd 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE-TOF-Bρ method. PC T Kubo,7/14/2010
- ¹²⁷Xe 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=127 (continued)

¹²⁷Cs 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=128

^{128}Pd	2010KUZV	NUCLEAR REACTIONS Be, Pb(^{238}U , F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010
^{128}Sn	2011PI05	NUCLEAR REACTIONS $^9\text{Be}(^{136}\text{Xe}$, X), E=750 MeV / nucleon; measured $\text{E}\gamma$, $\text{I}\gamma$, $\gamma\gamma$ -coin, half-lives by $\gamma\gamma(t)$. $^{128,129,130}\text{Sn}$; deduced levels, J, π , B(E2), B(E3) strengths. Systematics of B(E2) strengths for transitions in A=124-130 Sn nuclei from 7-, 15-, 23 / 2+ and 27 / 2- isomers. Comparison with state-of-the-art shell model calculations. JOUR PRVCA 83 044328
^{128}I	2011AG09	NUCLEAR REACTIONS ^{55}Mn , ^{127}I , $^{152,154}\text{Sm}$, $^{238}\text{U}(n, \gamma)$, E=thermal; measured $\text{E}\gamma$, $\text{I}\gamma$; deduced thermal neutron σ and uncertainties. Activation technique. JOUR ANEND 38 1737
	2011AH03	NUCLEAR REACTIONS Te(p, X) ^{120}I / ^{121}I / ^{123}I / ^{124}I / ^{125}I / ^{126}I / ^{128}I / ^{130}I , E<14.5 MeV; measured $\text{E}\gamma$, $\text{I}\gamma$; deduced σ . Comparison with experimental data, ALICE-IPPE model code calculations. JOUR RAACA 99 317
^{128}Ba	2011KR08	NUCLEAR REACTIONS $^{116}\text{Sn}(^{16}\text{O}, \alpha)$, (^{16}O , X), E=130, 250 MeV; measured reaction products, $\text{E}\alpha$, $\text{I}\alpha$; deduced double differential spectra. Comparison with theoretical calculations, Griffin exciton model. JOUR IMPEE 20 1050

A=128 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=129

¹²⁹Sn 2011PI05 NUCLEAR REACTIONS ⁹Be(¹³⁶Xe, X), E=750 MeV / nucleon; measured E γ , I γ , $\gamma\gamma$ -coin, half-lives by $\gamma\gamma$ (t). ^{128,129,130}Sn; deduced levels, J, π , B(E2), B(E3) strengths. Systematics of B(E2) strengths for transitions in A=124-130 Sn nuclei from 7-, 15-, 23 / 2+ and 27 / 2- isomers. Comparison with state-of-the-art shell model calculations. JOUR PRVCA 83 044328

KEYNUMBERS AND KEYWORDS

A=129 (continued)

- ¹²⁹I 2011SC13 NUCLEAR REACTIONS Bi(p, X)¹⁰⁸Ag / ¹⁰Be / ²⁶Al / ¹²⁹I / ³⁶Cl, E=100-2600 MeV; measured reaction products, E_γ, I_γ; deduced σ. Chemical separation, AMS measurements, comparison with spallation model INCL4 and experimental data. JOUR JPGPE 38 065103
- ¹²⁹Cs 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=130

^{130}Sn	2011PI05	NUCLEAR REACTIONS $^9\text{Be}(^{136}\text{Xe}, \text{X})$, $E=750$ MeV / nucleon; measured $E\gamma$, $I\gamma$, $\gamma\gamma$ -coin, half-lives by $\gamma\gamma(t)$. $^{128,129,130}\text{Sn}$; deduced levels, J , π , $B(E2)$, $B(E3)$ strengths. Systematics of $B(E2)$ strengths for transitions in $A=124-130$ Sn nuclei from 7-, 15-, 23 / 2+ and 27 / 2- isomers. Comparison with state-of-the-art shell model calculations. JOUR PRVCA 83 044328
^{130}Te	2011AN08	RADIOACTIVITY $^{130}\text{Te}(2\beta^-)$; measured $E\beta$, $I\beta$, $E\gamma$, $I\gamma$; deduced limit on neutrinoless $T_{1/2}$, Majorana neutrino mass. Array of bolometric detectors, QRPA and shell model dependent neutrino mass calculations. JOUR APHYE 34 822
^{130}I	2011AH03	NUCLEAR REACTIONS $\text{Te}(p, \text{X})^{120}\text{I} / ^{121}\text{I} / ^{123}\text{I} / ^{124}\text{I} / ^{125}\text{I} / ^{126}\text{I} / ^{128}\text{I} / ^{130}\text{I}$, $E<14.5$ MeV; measured $E\gamma$, $I\gamma$; deduced σ . Comparison with experimental data, ALICE-IPPE model code calculations. JOUR RAACA 99 317
	2011LI22	NUCLEAR REACTIONS $^{129}\text{I}(n, \gamma)$, $^{197}\text{Au}(n, \gamma)$, $E=\text{thermal}$; measured reaction products, $E\gamma$, $I\gamma$; deduced resonance integral, k_0 , σ ratio Q_0 and E_r -values. JOUR JRNC 289 49
^{130}Xe	2011AN08	RADIOACTIVITY $^{130}\text{Te}(2\beta^-)$; measured $E\beta$, $I\beta$, $E\gamma$, $I\gamma$; deduced limit on neutrinoless $T_{1/2}$, Majorana neutrino mass. Array of bolometric detectors, QRPA and shell model dependent neutrino mass calculations. JOUR APHYE 34 822

A=130 (continued)

¹³⁰La 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=130 (*continued*)

- ¹³⁰Ce 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=131

- ¹³¹Ba 2010SU31 NUCLEAR REACTIONS ¹³²Ba(d, t), E=24 MeV; measured reaction products, triton spectrum; deduced $\sigma(\theta)$, level energies, J, π , spectroscopic strengths. Optical model and Interacting Boson-Fermion model calculations, comparison with ENSDF database evaluation. JOUR ZAANE 46 187

A=131 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=132

¹³²La 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=132 (continued)

¹³²Ce 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=133

- ¹³³Cd 2010KUZV NUCLEAR REACTIONS Be, Pb(²³⁸U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹Mn, ^{73,74}Fe, ⁷⁶Co, ⁷⁹Ni, ^{81,82}Cu, ^{84,85}Zn, ⁸⁷Ga, ⁹⁰Ge, ⁹⁵Se, ⁹⁸Br, ¹⁰¹Kr, ¹⁰³Rb, ^{106,107}Sr, ^{108,109}Y, ^{111,112}Zr, ^{114,115}Nb, ^{115,116,117}Mo, ^{119,120}Tc, ^{121,122,123,124}Ru, ^{123,124,125,126}Rh, ^{127,128}Pd, ¹³³Cd, ¹³⁸Sn, ¹⁴⁰Sb, ¹⁴³Te, ¹⁴⁵I, ¹⁴⁸Xe, ¹⁵²Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE-TOF-Bρ method. PC T Kubo,7/14/2010
- ¹³³Ba 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=133 (continued)

¹³³Ce 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=134

¹³⁴Te 2010LIZZ RADIOACTIVITY ²⁵²Cm(SF); measured E γ , I γ (θ), $\gamma\gamma$ -coin. ^{111,112,113}Rh deduced new γ transitions, fission yield ratios ¹¹³Rh to ¹¹²Rh. ¹³⁴I deduced high-spin states. ¹³⁷I, ¹³⁹Cs deduced new γ transitions, levels, J, π , ICC, high-spin states. ¹⁴¹Cs deduced new γ transitions, levels, J, π , high-spin states, dipole moment. ¹⁴¹Cs deduced new γ transitions, levels, J, π . ¹³⁴Te, ¹³⁵I, ¹³⁷Xe calculated g-factors. CONF Sochi(EXON-2009) Proc,P64,Liu

A=134 (continued)

- ¹³⁴I 2010LIZZ RADIOACTIVITY ²⁵²Cm(SF); measured E γ , I γ (θ), $\gamma\gamma$ -coin. ^{111,112,113}Rh deduced new γ transitions, fission yield ratios ¹¹³Rh to ¹¹²Rh. ¹³⁴I deduced high-spin states. ¹³⁷I, ¹³⁹Cs deduced new γ transitions, levels, J, π , ICC, high-spin states. ¹⁴¹Cs deduced new γ transitions, levels, J, π , high-spin states, dipole moment. ¹⁴¹Cs deduced new γ transitions, levels, J, π . ¹³⁴Te, ¹³⁵I, ¹³⁷Xe calculated g-factors. CONF Sochi(EXON-2009) Proc,P64,Liu
- ¹³⁴Ce 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=134 (continued)

- ¹³⁴Pr 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=135

- ¹³⁵I 2010LIZZ RADIOACTIVITY ²⁵²Cm(SF); measured E γ , I γ (θ), $\gamma\gamma$ -coin. ^{111,112,113}Rh deduced new γ transitions, fission yield ratios ¹¹³Rh to ¹¹²Rh. ¹³⁴I deduced high-spin states. ¹³⁷I, ¹³⁹Cs deduced new γ transitions, levels, J, π , ICC, high-spin states. ¹⁴¹Cs deduced new γ transitions, levels, J, π , high-spin states, dipole moment. ¹⁴¹Cs deduced new γ transitions, levels, J, π . ¹³⁴Te, ¹³⁵I, ¹³⁷Xe calculated g-factors. CONF Sochi(EXON-2009) Proc,P64,Liu

A=135 (continued)

¹³⁵Ce 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=136

¹³⁶Pr 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=136 (*continued*)

¹³⁶Nd 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=137

¹³⁷I 2010LIZZ RADIOACTIVITY ²⁵²Cm(SF); measured E γ , I γ (θ), $\gamma\gamma$ -coin.
^{111,112,113}Rh deduced new γ transitions, fission yield ratios ¹¹³Rh to
¹¹²Rh. ¹³⁴I deduced high-spin states. ¹³⁷I, ¹³⁹Cs deduced new γ
transitions, levels, J, π , ICC, high-spin states. ¹⁴¹Cs deduced new γ
transitions, levels, J, π , high-spin states, dipole moment. ¹⁴¹Cs
deduced new γ transitions, levels, J, π . ¹³⁴Te, ¹³⁵I, ¹³⁷Xe calculated
g-factors. CONF Sochi(EXON-2009) Proc,P64,Liu

KEYNUMBERS AND KEYWORDS

A=137 (continued)

- | | | |
|-------------------|----------|---|
| ^{137}Xe | 2010LIZZ | RADIOACTIVITY $^{252}\text{Cm}(\text{SF})$; measured $E\gamma$, $I\gamma(\theta)$, $\gamma\gamma$ -coin. $^{111,112,113}\text{Rh}$ deduced new γ transitions, fission yield ratios ^{113}Rh to ^{112}Rh . ^{134}I deduced high-spin states. ^{137}I , ^{139}Cs deduced new γ transitions, levels, J , π , ICC, high-spin states. ^{141}Cs deduced new γ transitions, levels, J , π , high-spin states, dipole moment. ^{141}Cs deduced new γ transitions, levels, J , π . ^{134}Te , ^{135}I , ^{137}Xe calculated g-factors. CONF Sochi(EXON-2009) Proc,P64,Liu |
| ^{137}Cs | 2011K022 | RADIOACTIVITY $^{137}\text{Cs}(\beta^-)$; measured X-rays, conversion electrons; deduced probability of coincidence summing. JOUR ARISE 69 1263 |
| ^{137}Ba | 2011K022 | RADIOACTIVITY $^{137}\text{Cs}(\beta^-)$; measured X-rays, conversion electrons; deduced probability of coincidence summing. JOUR ARISE 69 1263 |

A=138

- | | | |
|-------------------|----------|---|
| ^{138}Sn | 2010KUZV | NUCLEAR REACTIONS Be, Pb(^{238}U , F), $E=345$ MeV / nucleon; measured yields of fission fragments. $Z=20-56$, $A=52-152$; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE -TOF- $B\rho$ method. PC T Kubo,7/14/2010 |
| ^{138}Gd | 2011PR02 | NUCLEAR REACTIONS $^{106}\text{Cd}({}^{36}\text{Ar}, 2n2p)$, $E=180$ MeV; measured $E\gamma$, $I\gamma$, particle spectra, $\gamma\gamma$ -, (particle) γ -coin, (particle) $\gamma(t)$, $\gamma(\theta)$, half-lives, using JUROGAM II array and GREAT spectrometer and recoil isomer-tagging technique. ^{138}Gd ; deduced levels, J , π , multipolarity, mixing ratios, bands, high-K isomer, alignment plots, configurations, β_2 , β_4 , potential energy surfaces, g_K - g_R . Comparison with high-K band structures in ^{132}Ce , ^{134}Nd and ^{136}Sm . Calculated PES for high-K isomer in ^{138}Gd . JOUR PRVCA 83 034311 |

A=139

- | | | |
|-------------------|----------|---|
| ^{139}Cs | 2010LIZZ | RADIOACTIVITY $^{252}\text{Cm}(\text{SF})$; measured $E\gamma$, $I\gamma(\theta)$, $\gamma\gamma$ -coin. $^{111,112,113}\text{Rh}$ deduced new γ transitions, fission yield ratios ^{113}Rh to ^{112}Rh . ^{134}I deduced high-spin states. ^{137}I , ^{139}Cs deduced new γ transitions, levels, J , π , ICC, high-spin states. ^{141}Cs deduced new γ transitions, levels, J , π , high-spin states, dipole moment. ^{141}Cs deduced new γ transitions, levels, J , π . ^{134}Te , ^{135}I , ^{137}Xe calculated g-factors. CONF Sochi(EXON-2009) Proc,P64,Liu |
|-------------------|----------|---|

A=139 (continued)

¹³⁹Ce 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=139 (continued)

¹³⁹Nd 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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KEYNUMBERS AND KEYWORDS

A=140

¹⁴⁰ Sb	2010KUZV	NUCLEAR REACTIONS Be, Pb(²³⁸ U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹ Mn, ^{73,74} Fe, ⁷⁶ Co, ⁷⁹ Ni, ^{81,82} Cu, ^{84,85} Zn, ⁸⁷ Ga, ⁹⁰ Ge, ⁹⁵ Se, ⁹⁸ Br, ¹⁰¹ Kr, ¹⁰³ Rb, ^{106,107} Sr, ^{108,109} Y, ^{111,112} Zr, ^{114,115} Nb, ^{115,116,117} Mo, ^{119,120} Tc, ^{121,122,123,124} Ru, ^{123,124,125,126} Rh, ^{127,128} Pd, ¹³³ Cd, ¹³⁸ Sn, ¹⁴⁰ Sb, ¹⁴³ Te, ¹⁴⁵ I, ¹⁴⁸ Xe, ¹⁵² Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE-TOF-Bρ method. PC T Kubo,7/14/2010
¹⁴⁰ La	2011DI05	NUCLEAR REACTIONS ^{64,68} Zn, ⁵⁹ Co, ^{94,96} Zr, ¹³⁹ La, ¹⁹⁷ Au(n, γ), E=epithermal; measured Eγ, Iγ; deduced k ₀ and Q ₀ factors, uncertainties. JOUR ARISE 69 960

A=140 (continued)

¹⁴⁰Pm 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=141

¹⁴¹Cs 2010LIZZ RADIOACTIVITY ²⁵²Cm(SF); measured E γ , I γ (θ), $\gamma\gamma$ -coin. ^{111,112,113}Rh deduced new γ transitions, fission yield ratios ¹¹³Rh to ¹¹²Rh. ¹³⁴I deduced high-spin states. ¹³⁷I, ¹³⁹Cs deduced new γ transitions, levels, J, π , ICC, high-spin states. ¹⁴¹Cs deduced new γ transitions, levels, J, π , high-spin states, dipole moment. ¹⁴¹Cs deduced new γ transitions, levels, J, π . ¹³⁴Te, ¹³⁵I, ¹³⁷Xe calculated g-factors. CONF Sochi(EXON-2009) Proc,P64,Liu

A=142

No references found

A=143

^{143}Te	2010KUZV	<p>NUCLEAR REACTIONS Be, Pb(^{238}U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn, $^{73,74}\text{Fe}$, ^{76}Co, ^{79}Ni, $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga, ^{90}Ge, ^{95}Se, ^{98}Br, ^{101}Kr, ^{103}Rb, $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd, ^{138}Sn, ^{140}Sb, ^{143}Te, ^{145}I, ^{148}Xe, ^{152}Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010</p>
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A=143 (continued)

¹⁴³Pm 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=144

¹⁴⁴Pm 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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KEYNUMBERS AND KEYWORDS

A=145

^{145}I	2010KUZV	NUCLEAR REACTIONS Be, Pb(^{238}U , F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010
^{145}Sm	2011IN01	RADIOACTIVITY $^{145,146,147,148,149}\text{Eu}(\text{EC})$ [from Eu+p at E=500 MeV]; measured E(CE), I(CE), $\text{E}\gamma$, $\text{I}\gamma$; deduced intensity ratios, transition strengths, γ -multipolarity. JOUR ZAANE 47 64
^{145}Eu	2011IN01	RADIOACTIVITY $^{145,146,147,148,149}\text{Eu}(\text{EC})$ [from Eu+p at E=500 MeV]; measured E(CE), I(CE), $\text{E}\gamma$, $\text{I}\gamma$; deduced intensity ratios, transition strengths, γ -multipolarity. JOUR ZAANE 47 64

A=145 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=145 (continued)

- ¹⁴⁵Gd 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=146

- ¹⁴⁶Sm 2011IN01 RADIOACTIVITY ^{145,146,147,148,149}Eu(EC)[from Eu+p at E=500 MeV]; measured E(CE), I(CE), E γ , I γ ; deduced intensity ratios, transition strengths, γ -multipolarity. JOUR ZAANE 47 64
- ¹⁴⁶Eu 2011CA05 NUCLEAR REACTIONS ¹⁴⁴Sm(⁶Li, α), E=14-35 MeV; measured E α , I α ; deduced breakup, $\sigma(\theta)$, reaction mechanism features. Comparison with other data, PACE and SUPERKIN calculations. JOUR NUPAB 849 1

A=146 (continued)

- 2011IN01 RADIOACTIVITY ^{145,146,147,148,149}Eu(EC)[from Eu+p at E=500 MeV]; measured E(CE), I(CE), E_γ, I_γ; deduced intensity ratios, transition strengths, γ-multipolarity. JOUR ZAANE 47 64
- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

KEYNUMBERS AND KEYWORDS

A=146 (continued)

¹⁴⁶Gd 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=147

¹⁴⁷Sm 2011IN01 RADIOACTIVITY ^{145,146,147,148,149}Eu(EC)[from Eu+p at E=500 MeV]; measured E(CE), I(CE), E γ , I γ ; deduced intensity ratios, transition strengths, γ -multipolarity. JOUR ZAANE 47 64

¹⁴⁷Eu 2011IN01 RADIOACTIVITY ^{145,146,147,148,149}Eu(EC)[from Eu+p at E=500 MeV]; measured E(CE), I(CE), E γ , I γ ; deduced intensity ratios, transition strengths, γ -multipolarity. JOUR ZAANE 47 64

A=147 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=147 (continued)

¹⁴⁷Gd 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=147 (continued)

¹⁴⁷Tb 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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KEYNUMBERS AND KEYWORDS

A=148

^{148}Xe	2010KUZV	NUCLEAR REACTIONS Be, Pb(^{238}U , F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ^{71}Mn , $^{73,74}\text{Fe}$, ^{76}Co , ^{79}Ni , $^{81,82}\text{Cu}$, $^{84,85}\text{Zn}$, ^{87}Ga , ^{90}Ge , ^{95}Se , ^{98}Br , ^{101}Kr , ^{103}Rb , $^{106,107}\text{Sr}$, $^{108,109}\text{Y}$, $^{111,112}\text{Zr}$, $^{114,115}\text{Nb}$, $^{115,116,117}\text{Mo}$, $^{119,120}\text{Tc}$, $^{121,122,123,124}\text{Ru}$, $^{123,124,125,126}\text{Rh}$, $^{127,128}\text{Pd}$, ^{133}Cd , ^{138}Sn , ^{140}Sb , ^{143}Te , ^{145}I , ^{148}Xe , ^{152}Ba ; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, $\Delta\text{E-TOF-B}\rho$ method. PC T Kubo,7/14/2010
^{148}Sm	2011IN01	RADIOACTIVITY $^{145,146,147,148,149}\text{Eu}(\text{EC})$ [from Eu+p at E=500 MeV]; measured E(CE), I(CE), $\text{E}\gamma$, $\text{I}\gamma$; deduced intensity ratios, transition strengths, γ -multipolarity. JOUR ZAANE 47 64
^{148}Eu	2011IN01	RADIOACTIVITY $^{145,146,147,148,149}\text{Eu}(\text{EC})$ [from Eu+p at E=500 MeV]; measured E(CE), I(CE), $\text{E}\gamma$, $\text{I}\gamma$; deduced intensity ratios, transition strengths, γ -multipolarity. JOUR ZAANE 47 64

A=148 (continued)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ¹⁴⁸Gd 2011TI06 NUCLEAR REACTIONS W, ¹⁸¹Ta(p, X)¹⁴⁸Gd, E=0.4-2.6 GeV; measured reaction products, E α , I α ; deduced σ . Direct α -spectrometry without chemical separation, comparison with other experimental data and cascade code calculations. JOUR PANUE 74 573

KEYNUMBERS AND KEYWORDS

A=148 (continued)

¹⁴⁸Tb 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=149

¹⁴⁹Sm 2011IN01 RADIOACTIVITY ^{145,146,147,148,149}Eu(EC)[from Eu+p at E=500 MeV]; measured E(CE), I(CE), E γ , I γ ; deduced intensity ratios, transition strengths, γ -multipolarity. JOUR ZAANE 47 64

¹⁴⁹Eu 2011IN01 RADIOACTIVITY ^{145,146,147,148,149}Eu(EC)[from Eu+p at E=500 MeV]; measured E(CE), I(CE), E γ , I γ ; deduced intensity ratios, transition strengths, γ -multipolarity. JOUR ZAANE 47 64

A=149 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=149 (continued)

¹⁴⁹Gd 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=149 (continued)

¹⁴⁹Tb 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=150

¹⁵⁰Tb 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=151

¹⁵¹Gd 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=151 (continued)

¹⁵¹Tb 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

KEYNUMBERS AND KEYWORDS

A=152

¹⁵² Ba	2010KUZV	NUCLEAR REACTIONS Be, Pb(²³⁸ U, F), E=345 MeV / nucleon; measured yields of fission fragments. Z=20-56, A=52-152; measured yields. ⁷¹ Mn, ^{73,74} Fe, ⁷⁶ Co, ⁷⁹ Ni, ^{81,82} Cu, ^{84,85} Zn, ⁸⁷ Ga, ⁹⁰ Ge, ⁹⁵ Se, ⁹⁸ Br, ¹⁰¹ Kr, ¹⁰³ Rb, ^{106,107} Sr, ^{108,109} Y, ^{111,112} Zr, ^{114,115} Nb, ^{115,116,117} Mo, ^{119,120} Tc, ^{121,122,123,124} Ru, ^{123,124,125,126} Rh, ^{127,128} Pd, ¹³³ Cd, ¹³⁸ Sn, ¹⁴⁰ Sb, ¹⁴³ Te, ¹⁴⁵ I, ¹⁴⁸ Xe, ¹⁵² Ba; measured yields and cross sections, identified new isotopes using RI beam factory at RIKEN, ΔE -TOF-B ρ method. PC T Kubo,7/14/2010
¹⁵² Gd	2011BE18	RADIOACTIVITY ^{156,158} Dy(2EC), (β^+ EC), (α); ^{160,161,162} Dy(α); measured E γ , I γ ; deduced T _{1/2} limits for α -decay, 2 β -decay. Ultra-low background HPGe, Gran Sasso. JOUR NUPAB 859 126

A=152 (continued)

¹⁵²Tb 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

KEYNUMBERS AND KEYWORDS

A=152 (continued)

¹⁵²Dy 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=153

¹⁵³Sm 2011AG09 NUCLEAR REACTIONS ⁵⁵Mn, ¹²⁷I, ^{152,154}Sm, ²³⁸U(n, γ),
E=thermal; measured E γ , I γ ; deduced thermal neutron σ and
uncertainties. Activation technique. JOUR ANEND 38 1737

A=153 (continued)

¹⁵³Gd 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=153 (continued)

- ¹⁵³Tb 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=154

- ¹⁵⁴Gd 2011BE18 RADIOACTIVITY ^{156,158}Dy(2EC), (β^+ EC), (α); ^{160,161,162}Dy(α); measured E γ , I γ ; deduced T_{1/2} limits for α -decay, 2 β -decay. Ultra-low background HPGe, Gran Sasso. JOUR NUPAB 859 126
- ¹⁵⁴Tb 2010GYZY NUCLEAR REACTIONS ¹⁵¹Eu(α , n), (α , γ), E(cm)=11.2-17.1 MeV; measured E γ , I γ ; deduced σ ; calculated σ using NON-SMOKER with McFadden and Froehlich potentials. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012004

A=155

- ¹⁵⁵Sm 2011AG09 NUCLEAR REACTIONS ⁵⁵Mn, ¹²⁷I, ^{152,154}Sm, ²³⁸U(n, γ), E=thermal; measured E γ , I γ ; deduced thermal neutron σ and uncertainties. Activation technique. JOUR ANEND 38 1737
- ¹⁵⁵Tb 2010GYZY NUCLEAR REACTIONS ¹⁵¹Eu(α , n), (α , γ), E(cm)=11.2-17.1 MeV; measured E γ , I γ ; deduced σ ; calculated σ using NON-SMOKER with McFadden and Froehlich potentials. CONF Frascati(Nuclear Physics in Astrophysics IV 2009), P012004
- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=155 (continued)

¹⁵⁵Dy 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=156

¹⁵⁶Gd 2011BE18 RADIOACTIVITY ^{156,158}Dy(2EC), (β^+ EC), (α); ^{160,161,162}Dy(α); measured E γ , I γ ; deduced T_{1/2} limits for α -decay, 2 β -decay. Ultra-low background HPGe, Gran Sasso. JOUR NUPAB 859 126

¹⁵⁶Dy 2011BE18 RADIOACTIVITY ^{156,158}Dy(2EC), (β^+ EC), (α); ^{160,161,162}Dy(α); measured E γ , I γ ; deduced T_{1/2} limits for α -decay, 2 β -decay. Ultra-low background HPGe, Gran Sasso. JOUR NUPAB 859 126

A=156 (continued)

- ¹⁵⁶Ho 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ¹⁵⁶Er 2011RE06 NUCLEAR REACTIONS ¹¹⁴Cd(⁴⁸Ca, 6n), E=215 MeV; measured E γ , I γ , $\gamma\gamma$ -coin, angular distributions using Gammasphere spectrometer. ¹⁵⁶Er; deduced levels, J, π , rotational bands, multipolarity, alignments, staggering parameter, configurations. Comparison with predictions of γ -rigid and γ -soft rotor model. Systematics of γ -vibrational bands for Z=68 isotopes and N=88 isotones. JOUR PRVCA 83 044314

A=156 (*continued*)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=157

- ¹⁵⁷Gd 2011BE18 RADIOACTIVITY ^{156,158}Dy(2EC), (β^+ EC), (α); ^{160,161,162}Dy(α); measured E γ , I γ ; deduced T_{1/2} limits for α -decay, 2 β -decay. Ultra-low background HPGe, Gran Sasso. JOUR NUPAB 859 126

A=157 (continued)

¹⁵⁷Dy 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=157 (continued)

- ¹⁵⁷Er 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=158

- ¹⁵⁸Gd 2011BE18 RADIOACTIVITY ^{156,158}Dy(2EC), (β^+ EC), (α); ^{160,161,162}Dy(α); measured E γ , I γ ; deduced T_{1/2} limits for α -decay, 2 β -decay. Ultra-low background HPGe, Gran Sasso. JOUR NUPAB 859 126
- ¹⁵⁸Dy 2011BE18 RADIOACTIVITY ^{156,158}Dy(2EC), (β^+ EC), (α); ^{160,161,162}Dy(α); measured E γ , I γ ; deduced T_{1/2} limits for α -decay, 2 β -decay. Ultra-low background HPGe, Gran Sasso. JOUR NUPAB 859 126

A=159

- ¹⁵⁹Er 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=160

- ¹⁶⁰Tb 2011KR04 NUCLEAR REACTIONS ¹⁵⁹Tb(n, γ), E=thermal; measured E γ , I γ , two-step γ cascades; deduced M1 scissor vibrational mode role in the γ -cascade decay, photon strength functions, level densities. JOUR IMPEE 20 526
- ¹⁶⁰Dy 2011BE18 RADIOACTIVITY ^{156,158}Dy(2EC), (β^+ EC), (α); ^{160,161,162}Dy(α); measured E γ , I γ ; deduced T_{1/2} limits for α -decay, 2 β -decay. Ultra-low background HPGe, Gran Sasso. JOUR NUPAB 859 126

A=160 (continued)

- ¹⁶⁰Ho 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ¹⁶⁰Er 2011OL02 NUCLEAR REACTIONS ¹¹⁶Cd(⁴⁸Ca, 4n), E=215 MeV; measured E γ , I γ , $\gamma\gamma$ -coin, angular distributions using Gammasphere Spectrometer. ¹⁶⁰Er; deduced levels, J, π , rotational bands, triaxial strongly-deformed (TSD) bands, multipolarity, configurations, angular momentum alignments, B(M1) / B(E2) ratios, potential energy surfaces, dynamic moment of inertia plots, ultra-high spin regime. Comparison with cranked Nilsson-Strutinsky (CNS) calculations. JOUR PRVCA 83 044309

A=160 (continued)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=161

- ¹⁶¹Dy 2011BE18 RADIOACTIVITY ^{156,158}Dy(2EC), (β^+ EC), (α); ^{160,161,162}Dy(α); measured E γ , I γ ; deduced T_{1/2} limits for α -decay, 2 β -decay. Ultra-low background HPGe, Gran Sasso. JOUR NUPAB 859 126

A=161 (*continued*)

- ¹⁶¹Er 2011CH12 NUCLEAR REACTIONS ¹⁵⁰Nd(¹⁶O, 5n), E=86 MeV; measured E γ , I γ , *null* γ -coin, angular distribution ratios, branching ratios. ¹⁶¹Er; deduced levels, J, π , rotational bands, alignment plots, B(E1) / B(E2) ratios and octupole softness, signature splitting and signature inversion, configurations. Systematics of signature splitting and inversion for bands in ^{159,161,163}Er, ¹⁵⁹Dy and ¹⁶³Yb. Comparison with detailed triaxial particle-rotor model calculations. JOUR PRVCA 83 034318
- 2011CH26 NUCLEAR REACTIONS ¹⁵⁰Nd(¹⁶O, 5n)¹⁶¹Er, E=86 MeV; measured E γ , I γ , X-rays, γ - γ -coin.; deduced level scheme, J, π , decay constants, B(E1), high-spin bands. Comparison with nuclear systematics. JOUR CPCHC 35 545
- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=161 (continued)

¹⁶¹Tm 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=162

¹⁶²Eu 2010NAZY RADIOACTIVITY ^{162,164}Eu(β^-)[from proton-induced fission with U target at 32 MeV]; measured β -delayed E γ , I γ , X-rays, TAC γ -coin; deduced excited states T_{1/2}, B(E2). CONF Sochi(EXON-2009) Proc,P156,Nagae

KEYNUMBERS AND KEYWORDS

A=162 (continued)

^{162}Gd	2010NAZY	RADIOACTIVITY $^{162,164}\text{Eu}(\beta^-)$ [from proton-induced fission with U target at 32 MeV]; measured β -delayed $E\gamma$, $I\gamma$, X-rays, TAC γ -coin; deduced excited states $T_{1/2}$, B(E2). CONF Sochi(EXON-2009) Proc,P156,Nagae
^{162}Dy	2011BE18	RADIOACTIVITY $^{156,158}\text{Dy}(2\text{EC})$, $(\beta^+\text{EC})$, (α) ; $^{160,161,162}\text{Dy}(\alpha)$; measured $E\gamma$, $I\gamma$; deduced $T_{1/2}$ limits for α -decay, 2β -decay. Ultra-low background HPGe, Gran Sasso. JOUR NUPAB 859 126
	2011EL04	RADIOACTIVITY ^{96}Ru , ^{162}Er , $^{168}\text{Yb}(2\text{EC})$; measured Q values from Penning-trap mass ratios using SHIPTRAP. Absence of resonant enhancement of the capture rates, thus excluded as suitable candidates for search of neutrinoless double-electron capture. JOUR PRVCA 83 038501
	2011EL04	ATOMIC MASSES ^{96}Ru , ^{96}Mo , ^{162}Er , ^{162}Dy , ^{168}Yb , ^{168}Er ; measured cyclotron frequency ratios using SHIPTRAP Penning-trap; deduced Q(2EC) values. JOUR PRVCA 83 038501
	2011SW02	NUCLEAR REACTIONS $^{160}\text{Gd}(^9\text{Be}, 3n\alpha)$, E=57 MeV; measured $E\gamma$, $I\gamma$, $\gamma\gamma$ -coin, $\gamma\gamma(t)$, pulsed beam, isomer half-lives. ^{162}Dy ; deduced levels, J, π , isomer, bands, multipolarity, hindrance factors, alignment plots, configurations. Analyzed small deviations from $N_p N_n$ dependence. JOUR PRVCA 83 034322
^{162}Er	2011EL04	RADIOACTIVITY ^{96}Ru , ^{162}Er , $^{168}\text{Yb}(2\text{EC})$; measured Q values from Penning-trap mass ratios using SHIPTRAP. Absence of resonant enhancement of the capture rates, thus excluded as suitable candidates for search of neutrinoless double-electron capture. JOUR PRVCA 83 038501
	2011EL04	ATOMIC MASSES ^{96}Ru , ^{96}Mo , ^{162}Er , ^{162}Dy , ^{168}Yb , ^{168}Er ; measured cyclotron frequency ratios using SHIPTRAP Penning-trap; deduced Q(2EC) values. JOUR PRVCA 83 038501

A=162 (continued)

¹⁶²Tm 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=162 (continued)

¹⁶²Yb 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=163

¹⁶³Tm 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=164

¹⁶⁴Eu 2010NAZY RADIOACTIVITY ^{162,164}Eu(β^-)[from proton-induced fission with U target at 32 MeV]; measured β -delayed E γ , I γ , X-rays, TAC γ -coin; deduced excited states T_{1/2}, B(E2). CONF Sochi(EXON-2009) Proc,P156,Nagae

KEYNUMBERS AND KEYWORDS

A=164 (continued)

¹⁶⁴Gd 2010NAZY RADIOACTIVITY ^{162,164}Eu(β^-)[from proton-induced fission with U target at 32 MeV]; measured β -delayed E γ , I γ , X-rays, TAC γ -coin; deduced excited states T_{1/2}, B(E2). CONF Sochi(EXON-2009) Proc,P156,Nagae

A=165

¹⁶⁵Tm 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=166

^{166}Tm 2011TI05 NUCLEAR REACTIONS W(p, X) $^{176}\text{Re} / ^{177}\text{Re} / ^{178}\text{Re} / ^{179}\text{Re} /$
 $^{181}\text{Re} / ^{182}\text{Re} / ^{183}\text{Re} / ^{184}\text{Re} / ^{186}\text{Re} / ^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W} / ^{178}\text{W} /$
 $^{181}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{182}\text{Ta} /$
 $^{183}\text{Ta} / ^{184}\text{Ta} / ^{168}\text{Hf} / ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} /$
 $^{180}\text{Hf} / ^{181}\text{Hf} / ^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb}$
 $/ ^{166}\text{Yb} / ^{167}\text{Yb} / ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} /$
 $^{167}\text{Tm} / ^{168}\text{Tm} / ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho}$
 $/ ^{152}\text{Dy} / ^{155}\text{Dy} / ^{157}\text{Dy} / ^{147}\text{Tb} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} /$
 $^{152}\text{Tb} / ^{153}\text{Tb} / ^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} /$
 $^{153}\text{Gd} / ^{145}\text{Eu} / ^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} /$
 $^{144}\text{Pm} / ^{136}\text{Nd} / ^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce}$
 $/ ^{135}\text{Ce} / ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{126}\text{Ba} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} /$
 $^{127}\text{Cs} / ^{129}\text{Cs} / ^{120}\text{Xe} / ^{122}\text{Xe} / ^{123}\text{Xe} / ^{125}\text{Xe} / ^{127}\text{Xe} / ^{120}\text{I} / ^{114}\text{Te} /$
 $^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} / ^{118}\text{Sb} / ^{120}\text{Sb} / ^{113}\text{Sn} / ^{108}\text{In} /$
 $^{109}\text{In} / ^{110}\text{In} / ^{111}\text{In} / ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} / ^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} /$
 $^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{94}\text{Tc} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} / ^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y}$
 $/ ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} / ^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} /$
 $^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} /$
 $^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be}, \text{Ta}(p, X)^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W}$
 $/ ^{178}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{180}\text{Ta}$
 $/ ^{168}\text{Hf}, ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} / ^{180}\text{Hf} / ^{181}\text{Hf} /$
 $^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb} / ^{166}\text{Yb} / ^{167}\text{Yb}$
 $/ ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} / ^{167}\text{Tm} / ^{168}\text{Tm}$
 $/ ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho} / ^{152}\text{Dy} /$
 $^{155}\text{Dy} / ^{157}\text{Dy} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} / ^{152}\text{Tb} / ^{153}\text{Tb} /$
 $^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} / ^{153}\text{Gd} / ^{145}\text{Eu} /$
 $^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} / ^{144}\text{Pm} / ^{136}\text{Nd} /$
 $^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{138}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce} / ^{135}\text{Ce}$
 $/ ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} / ^{127}\text{Cs} / ^{129}\text{Cs} /$
 $^{122}\text{Xe} / ^{123}\text{Xe} / ^{127}\text{Xe} / ^{114}\text{Te} / ^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} /$
 $^{118}\text{Sb} / ^{120}\text{Sb} / ^{108}\text{In} / ^{109}\text{In}, ^{110}\text{In}, ^{111}\text{In}, ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} /$
 $^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} / ^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} /$
 $^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y} / ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} /$
 $^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} / ^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} /$
 $^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be},$
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=166 (continued)

¹⁶⁶Yb 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=167

¹⁶⁷Tm 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=167 (continued)

¹⁶⁷Yb 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=167 (continued)

¹⁶⁷Lu 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=168

¹⁶⁸Er 2011EL04 RADIOACTIVITY ⁹⁶Ru, ¹⁶²Er, ¹⁶⁸Yb(2EC); measured Q values from Penning-trap mass ratios using SHIPTRAP. Absence of resonant enhancement of the capture rates, thus excluded as suitable candidates for search of neutrinoless double-electron capture. JOUR PRVCA 83 038501

KEYNUMBERS AND KEYWORDS

A=168 (*continued*)

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|----------------------------|---|
| 2011EL04 | ATOMIC MASSES ^{96}Ru , ^{96}Mo , ^{162}Er , ^{162}Dy , ^{168}Yb , ^{168}Er ; measured cyclotron frequency ratios using SHIPTRAP Penning-trap; deduced Q(2EC) values. JOUR PRVCA 83 038501 |
| ^{168}Tm 2011TI05 | NUCLEAR REACTIONS W(p, X) ^{176}Re / ^{177}Re / ^{178}Re / ^{179}Re / ^{181}Re / ^{182}Re / ^{183}Re / ^{184}Re / ^{186}Re / ^{174}W / ^{176}W / ^{177}W / ^{178}W / ^{181}W / ^{172}Ta / ^{173}Ta / ^{174}Ta / ^{175}Ta / ^{176}Ta / ^{177}Ta / ^{178}Ta / ^{182}Ta / ^{183}Ta / ^{184}Ta / ^{168}Hf / ^{170}Hf / ^{171}Hf / ^{172}Hf / ^{173}Hf / ^{175}Hf / ^{179}Hf / ^{180}Hf / ^{181}Hf / ^{167}Lu / ^{169}Lu / ^{170}Lu / ^{171}Lu / ^{172}Lu / ^{173}Lu / ^{162}Yb / ^{166}Yb / ^{167}Yb / ^{169}Yb / ^{161}Tm / ^{162}Tm / ^{163}Tm / ^{165}Tm / ^{166}Tm / ^{167}Tm / ^{168}Tm / ^{156}Er / ^{157}Er / ^{159}Er / ^{160}Er / ^{161}Er / ^{156}Ho / ^{160}Ho / ^{152}Dy / ^{155}Dy / ^{157}Dy / ^{147}Tb / ^{148}Tb / ^{149}Tb / ^{150}Tb / ^{151}Tb / ^{152}Tb / ^{153}Tb / ^{155}Tb / ^{145}Gd / ^{146}Gd / ^{147}Gd / ^{149}Gd / ^{151}Gd / ^{153}Gd / ^{145}Eu / ^{146}Eu / ^{147}Eu / ^{148}Eu / ^{149}Eu / ^{140}Pm / ^{143}Pm / ^{144}Pm / ^{136}Nd / ^{139}Nd / ^{134}Pr / ^{136}Pr / ^{130}Ce / ^{132}Ce / ^{133}Ce / ^{134}Ce / ^{135}Ce / ^{139}Ce / ^{130}La / ^{132}La / ^{126}Ba / ^{128}Ba / ^{131}Ba / ^{133}Ba / ^{127}Cs / ^{129}Cs / ^{120}Xe / ^{122}Xe / ^{123}Xe / ^{125}Xe / ^{127}Xe / ^{120}I / ^{114}Te / ^{117}Te / ^{119}Te / ^{121}Te / ^{113}Sb / ^{115}Sb / ^{118}Sb / ^{120}Sb / ^{113}Sn / ^{108}In / ^{109}In / ^{110}In / ^{111}In / ^{105}Ag / ^{106}Ag / ^{110}Ag / ^{100}Pd / ^{99}Rh / ^{100}Rh / ^{102}Rh / ^{97}Ru / ^{103}Ru / ^{94}Tc / ^{96}Tc / ^{93}Mo / ^{90}Nb / ^{88}Zr / ^{89}Zr / ^{86}Y / ^{87}Y / ^{88}Y / ^{83}Sr / ^{85}Sr / ^{82}Rb / ^{83}Rb / ^{84}Rb / ^{77}Br / ^{75}Se / ^{74}As / ^{65}Zn / ^{69}Zn / ^{56}Co / ^{58}Co / ^{60}Co / ^{59}Fe / ^{52}Mn / ^{54}Mn / ^{48}V / ^{44}Sc / ^{46}Sc / ^{48}Sc / ^{28}Mg / ^{22}Na / ^{24}Na / ^7Be , Ta(p, X) ^{174}W / ^{176}W / ^{177}W / ^{178}W / ^{172}Ta / ^{173}Ta / ^{174}Ta / ^{175}Ta / ^{176}Ta / ^{177}Ta / ^{178}Ta / ^{180}Ta / ^{168}Hf / ^{170}Hf / ^{171}Hf / ^{172}Hf / ^{173}Hf / ^{175}Hf / ^{179}Hf / ^{180}Hf / ^{181}Hf / ^{167}Lu / ^{169}Lu / ^{170}Lu / ^{171}Lu / ^{172}Lu / ^{173}Lu / ^{162}Yb / ^{166}Yb / ^{167}Yb / ^{169}Yb / ^{161}Tm / ^{162}Tm / ^{163}Tm / ^{165}Tm / ^{166}Tm / ^{167}Tm / ^{168}Tm / ^{156}Er / ^{157}Er / ^{159}Er / ^{160}Er / ^{161}Er / ^{156}Ho / ^{160}Ho / ^{152}Dy / ^{155}Dy / ^{157}Dy / ^{148}Tb / ^{149}Tb / ^{150}Tb / ^{151}Tb / ^{152}Tb / ^{153}Tb / ^{155}Tb / ^{145}Gd / ^{146}Gd / ^{147}Gd / ^{149}Gd / ^{151}Gd / ^{153}Gd / ^{145}Eu / ^{146}Eu / ^{147}Eu / ^{148}Eu / ^{149}Eu / ^{140}Pm / ^{143}Pm / ^{144}Pm / ^{136}Nd / ^{139}Nd / ^{134}Pr / ^{136}Pr / ^{138}Pr / ^{130}Ce / ^{132}Ce / ^{133}Ce / ^{134}Ce / ^{135}Ce / ^{139}Ce / ^{130}La / ^{132}La / ^{128}Ba / ^{131}Ba / ^{133}Ba / ^{127}Cs / ^{129}Cs / ^{122}Xe / ^{123}Xe / ^{127}Xe / ^{114}Te / ^{117}Te / ^{119}Te / ^{121}Te / ^{113}Sb / ^{115}Sb / ^{118}Sb / ^{120}Sb / ^{108}In / ^{109}In / ^{110}In / ^{111}In / ^{105}Ag / ^{106}Ag / ^{110}Ag / ^{100}Pd / ^{99}Rh / ^{100}Rh / ^{102}Rh / ^{97}Ru / ^{103}Ru / ^{96}Tc / ^{93}Mo / ^{90}Nb / ^{88}Zr / ^{89}Zr / ^{86}Y / ^{87}Y / ^{88}Y / ^{83}Sr / ^{85}Sr / ^{82}Rb / ^{83}Rb / ^{84}Rb / ^{77}Br / ^{75}Se / ^{74}As / ^{65}Zn / ^{69}Zn / ^{56}Co / ^{58}Co / ^{60}Co / ^{59}Fe / ^{52}Mn / ^{54}Mn / ^{48}V / ^{44}Sc / ^{46}Sc / ^{48}Sc / ^{28}Mg / ^{22}Na / ^{24}Na / ^7Be ,
E=43-2605 MeV; measured reaction products, $E\gamma$, $I\gamma$; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551 |
| ^{168}Yb 2011EL04 | RADIOACTIVITY ^{96}Ru , ^{162}Er , ^{168}Yb (2EC); measured Q values from Penning-trap mass ratios using SHIPTRAP. Absence of resonant enhancement of the capture rates, thus excluded as suitable candidates for search of neutrinoless double-electron capture. JOUR PRVCA 83 038501 |
| 2011EL04 | ATOMIC MASSES ^{96}Ru , ^{96}Mo , ^{162}Er , ^{162}Dy , ^{168}Yb , ^{168}Er ; measured cyclotron frequency ratios using SHIPTRAP Penning-trap; deduced Q(2EC) values. JOUR PRVCA 83 038501 |

A=168 (continued)

¹⁶⁸Hf 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=169

^{169}Yb 2011TI05 NUCLEAR REACTIONS W(p, X) $^{176}\text{Re} / ^{177}\text{Re} / ^{178}\text{Re} / ^{179}\text{Re} /$
 $^{181}\text{Re} / ^{182}\text{Re} / ^{183}\text{Re} / ^{184}\text{Re} / ^{186}\text{Re} / ^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W} / ^{178}\text{W} /$
 $^{181}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{182}\text{Ta} /$
 $^{183}\text{Ta} / ^{184}\text{Ta} / ^{168}\text{Hf} / ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} /$
 $^{180}\text{Hf} / ^{181}\text{Hf} / ^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb}$
 $/ ^{166}\text{Yb} / ^{167}\text{Yb} / ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} /$
 $^{167}\text{Tm} / ^{168}\text{Tm} / ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho}$
 $/ ^{152}\text{Dy} / ^{155}\text{Dy} / ^{157}\text{Dy} / ^{147}\text{Tb} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} /$
 $^{152}\text{Tb} / ^{153}\text{Tb} / ^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} /$
 $^{153}\text{Gd} / ^{145}\text{Eu} / ^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} /$
 $^{144}\text{Pm} / ^{136}\text{Nd} / ^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce}$
 $/ ^{135}\text{Ce} / ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{126}\text{Ba} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} /$
 $^{127}\text{Cs} / ^{129}\text{Cs} / ^{120}\text{Xe} / ^{122}\text{Xe} / ^{123}\text{Xe} / ^{125}\text{Xe} / ^{127}\text{Xe} / ^{120}\text{I} / ^{114}\text{Te} /$
 $^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} / ^{118}\text{Sb} / ^{120}\text{Sb} / ^{113}\text{Sn} / ^{108}\text{In} /$
 $^{109}\text{In} / ^{110}\text{In} / ^{111}\text{In} / ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} / ^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} /$
 $^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{94}\text{Tc} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} / ^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y}$
 $/ ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} / ^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} /$
 $^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} /$
 $^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be}, \text{Ta}(p, X)^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W}$
 $/ ^{178}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{180}\text{Ta}$
 $/ ^{168}\text{Hf}, ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} / ^{180}\text{Hf} / ^{181}\text{Hf} /$
 $^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb} / ^{166}\text{Yb} / ^{167}\text{Yb}$
 $/ ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} / ^{167}\text{Tm} / ^{168}\text{Tm}$
 $/ ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho} / ^{152}\text{Dy} /$
 $^{155}\text{Dy} / ^{157}\text{Dy} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} / ^{152}\text{Tb} / ^{153}\text{Tb} /$
 $^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} / ^{153}\text{Gd} / ^{145}\text{Eu} /$
 $^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} / ^{144}\text{Pm} / ^{136}\text{Nd} /$
 $^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{138}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce} / ^{135}\text{Ce}$
 $/ ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} / ^{127}\text{Cs} / ^{129}\text{Cs} /$
 $^{122}\text{Xe} / ^{123}\text{Xe} / ^{127}\text{Xe} / ^{114}\text{Te} / ^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} /$
 $^{118}\text{Sb} / ^{120}\text{Sb} / ^{108}\text{In} / ^{109}\text{In}, ^{110}\text{In}, ^{111}\text{In}, ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} /$
 $^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} / ^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} /$
 $^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y} / ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} /$
 $^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} / ^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} /$
 $^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be},$
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=169 (continued)

¹⁶⁹Lu 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=170

¹⁷⁰Er 2011DI07 NUCLEAR REACTIONS ¹⁷⁰Er(³²S, ³²S'), E=117 MeV; measured reaction products, E γ , I γ ; deduced level energies, J, π , γ -ray intensities, γ -vibrational band, E2 matrix elements. Coulomb excitation code GOSIA. JOUR ZAANE 47 25

A=170 (continued)

¹⁷⁰Lu 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=170 (continued)

¹⁷⁰Hf 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=171

¹⁷¹Lu 2011KA19 NUCLEAR REACTIONS ¹⁷⁶Yb, Lu(α , xn), (α , X)¹⁷⁵Yb / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁷⁴Lu / ¹⁷⁷Lu / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁸Hf / ¹⁷⁹Hf / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta, E=35 MeV; measured E γ , I γ ; deduced yields, σ , isomer to ground state ratios. Comparison with Fermi-gas model within the formalism of Jackson-Sikkeland calculations. JOUR NIMAE 646 87

A=171 (continued)

- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ¹⁷¹Hf 2011KA19 NUCLEAR REACTIONS ¹⁷⁶Yb, Lu(α , xn), (α , X)¹⁷⁵Yb / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁷⁴Lu / ¹⁷⁷Lu / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁸Hf / ¹⁷⁹Hf / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta, E=35 MeV; measured E γ , I γ ; deduced yields, σ , isomer to ground state ratios. Comparison with Fermi-gas model within the formalism of Jackson-Sikkeland calculations. JOUR NIMAE 646 87

A=171 (*continued*)

- 2011MU02 NUCLEAR REACTIONS $^{128}\text{Te}(^{48}\text{Ca}, 4n)$, $(^{48}\text{Ca}, 5n)$, E=207 MeV; measured $E\gamma$, $I\gamma$, $\gamma\gamma$ -coin, DSAM using Gammasphere Spectrometer. $^{171,172}\text{Hf}$; deduced half-lives, transition quadrupole moments for enhanced deformation (ED) and triaxial strongly-deformed (TSD) bands, dynamic moment of inertia plots. Comparison of transition quadrupole moments of ED and TSD bands in ^{163}Lu , $^{168,171,172,173,174,175}\text{Hf}$. Cranking calculations using Ultimate Cranker code. JOUR PRVCA 83 044311
- 2011TI05 NUCLEAR REACTIONS W(p, X) $^{176}\text{Re} / ^{177}\text{Re} / ^{178}\text{Re} / ^{179}\text{Re} / ^{181}\text{Re} / ^{182}\text{Re} / ^{183}\text{Re} / ^{184}\text{Re} / ^{186}\text{Re} / ^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W} / ^{178}\text{W} / ^{181}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{182}\text{Ta} / ^{183}\text{Ta} / ^{184}\text{Ta} / ^{168}\text{Hf} / ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} / ^{180}\text{Hf} / ^{181}\text{Hf} / ^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb} / ^{166}\text{Yb} / ^{167}\text{Yb} / ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} / ^{167}\text{Tm} / ^{168}\text{Tm} / ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho} / ^{152}\text{Dy} / ^{155}\text{Dy} / ^{157}\text{Dy} / ^{147}\text{Tb} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} / ^{152}\text{Tb} / ^{153}\text{Tb} / ^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} / ^{153}\text{Gd} / ^{145}\text{Eu} / ^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} / ^{144}\text{Pm} / ^{136}\text{Nd} / ^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce} / ^{135}\text{Ce} / ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{126}\text{Ba} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} / ^{127}\text{Cs} / ^{129}\text{Cs} / ^{120}\text{Xe} / ^{122}\text{Xe} / ^{123}\text{Xe} / ^{125}\text{Xe} / ^{127}\text{Xe} / ^{120}\text{I} / ^{114}\text{Te} / ^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} / ^{118}\text{Sb} / ^{120}\text{Sb} / ^{113}\text{Sn} / ^{108}\text{In} / ^{109}\text{In} / ^{110}\text{In} / ^{111}\text{In} / ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} / ^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} / ^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{94}\text{Tc} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} / ^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y} / ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} / ^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} / ^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be}, Ta(p, X) $^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W} / ^{178}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{180}\text{Ta} / ^{168}\text{Hf} / ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} / ^{180}\text{Hf} / ^{181}\text{Hf} / ^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb} / ^{166}\text{Yb} / ^{167}\text{Yb} / ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} / ^{167}\text{Tm} / ^{168}\text{Tm} / ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho} / ^{152}\text{Dy} / ^{155}\text{Dy} / ^{157}\text{Dy} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} / ^{152}\text{Tb} / ^{153}\text{Tb} / ^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} / ^{153}\text{Gd} / ^{145}\text{Eu} / ^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} / ^{144}\text{Pm} / ^{136}\text{Nd} / ^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{138}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce} / ^{135}\text{Ce} / ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} / ^{127}\text{Cs} / ^{129}\text{Cs} / ^{122}\text{Xe} / ^{123}\text{Xe} / ^{127}\text{Xe} / ^{114}\text{Te} / ^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} / ^{118}\text{Sb} / ^{120}\text{Sb} / ^{108}\text{In} / ^{109}\text{In} / ^{110}\text{In} / ^{111}\text{In} / ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} / ^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} / ^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} / ^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y} / ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} / ^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} / ^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be}, E=43-2605 MeV; measured reaction products, $E\gamma$, $I\gamma$; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551$$

A=172

- ^{172}Tm 2011LU11 NUCLEAR REACTIONS ^{27}Al , $^{175,176}\text{Lu}(n, \alpha)$, $^{175}\text{Lu}(n, p)$, $^{93}\text{Nb}(n, 2n)$ E=13.5-14.8 MeV; measured $E\gamma$, $I\gamma$; deduced σ . Activation technique, comparison with all available data. JOUR ANEND 38 1693
- ^{172}Lu 2011KA19 NUCLEAR REACTIONS ^{176}Yb , $\text{Lu}(\alpha, xn)$, $(\alpha, X)^{175}\text{Yb}$ / ^{171}Lu / ^{172}Lu / ^{173}Lu / ^{174}Lu / ^{177}Lu / ^{171}Hf / ^{172}Hf / ^{173}Hf / ^{175}Hf / ^{178}Hf / ^{179}Hf / ^{175}Ta / ^{176}Ta / ^{177}Ta , E=35 MeV; measured $E\gamma$, $I\gamma$; deduced yields, σ , isomer to ground state ratios. Comparison with Fermi-gas model within the formalism of Jackson-Sikkeland calculations. JOUR NIMAE 646 87
- 2011TI05 NUCLEAR REACTIONS $\text{W}(p, X)^{176}\text{Re}$ / ^{177}Re / ^{178}Re / ^{179}Re / ^{181}Re / ^{182}Re / ^{183}Re / ^{184}Re / ^{186}Re / ^{174}W / ^{176}W / ^{177}W / ^{178}W / ^{181}W / ^{172}Ta / ^{173}Ta / ^{174}Ta / ^{175}Ta / ^{176}Ta / ^{177}Ta / ^{178}Ta / ^{182}Ta / ^{183}Ta / ^{184}Ta / ^{168}Hf / ^{170}Hf / ^{171}Hf / ^{172}Hf / ^{173}Hf / ^{175}Hf / ^{179}Hf / ^{180}Hf / ^{181}Hf / ^{167}Lu / ^{169}Lu / ^{170}Lu / ^{171}Lu / ^{172}Lu / ^{173}Lu / ^{162}Yb / ^{166}Yb / ^{167}Yb / ^{169}Yb / ^{161}Tm / ^{162}Tm / ^{163}Tm / ^{165}Tm / ^{166}Tm / ^{167}Tm / ^{168}Tm / ^{156}Er / ^{157}Er / ^{159}Er / ^{160}Er / ^{161}Er / ^{156}Ho / ^{160}Ho / ^{152}Dy / ^{155}Dy / ^{157}Dy / ^{147}Tb / ^{148}Tb / ^{149}Tb / ^{150}Tb / ^{151}Tb / ^{152}Tb / ^{153}Tb / ^{155}Tb / ^{145}Gd / ^{146}Gd / ^{147}Gd / ^{149}Gd / ^{151}Gd / ^{153}Gd / ^{145}Eu / ^{146}Eu / ^{147}Eu / ^{148}Eu / ^{149}Eu / ^{140}Pm / ^{143}Pm / ^{144}Pm / ^{136}Nd / ^{139}Nd / ^{134}Pr / ^{136}Pr / ^{130}Ce / ^{132}Ce / ^{133}Ce / ^{134}Ce / ^{135}Ce / ^{139}Ce / ^{130}La / ^{132}La / ^{126}Ba / ^{128}Ba / ^{131}Ba / ^{133}Ba / ^{127}Cs / ^{129}Cs / ^{120}Xe / ^{122}Xe / ^{123}Xe / ^{125}Xe / ^{127}Xe / ^{120}I / ^{114}Te / ^{117}Te / ^{119}Te / ^{121}Te / ^{113}Sb / ^{115}Sb / ^{118}Sb / ^{120}Sb / ^{113}Sn / ^{108}In / ^{109}In / ^{110}In / ^{111}In / ^{105}Ag / ^{106}Ag / ^{110}Ag / ^{100}Pd / ^{99}Rh / ^{100}Rh / ^{102}Rh / ^{97}Ru / ^{103}Ru / ^{94}Tc / ^{96}Tc / ^{93}Mo / ^{90}Nb / ^{88}Zr / ^{89}Zr / ^{86}Y / ^{87}Y / ^{88}Y / ^{83}Sr / ^{85}Sr / ^{82}Rb / ^{83}Rb / ^{84}Rb / ^{77}Br / ^{75}Se / ^{74}As / ^{65}Zn / ^{69}Zn / ^{56}Co / ^{58}Co / ^{60}Co / ^{59}Fe / ^{52}Mn / ^{54}Mn / ^{48}V / ^{44}Sc / ^{46}Sc / ^{48}Sc / ^{28}Mg / ^{22}Na / ^{24}Na / ^7Be , $\text{Ta}(p, X)^{174}\text{W}$ / ^{176}W / ^{177}W / ^{178}W / ^{172}Ta / ^{173}Ta / ^{174}Ta / ^{175}Ta / ^{176}Ta / ^{177}Ta / ^{178}Ta / ^{180}Ta / ^{168}Hf / ^{170}Hf / ^{171}Hf / ^{172}Hf / ^{173}Hf / ^{175}Hf / ^{179}Hf / ^{180}Hf / ^{181}Hf / ^{167}Lu / ^{169}Lu / ^{170}Lu / ^{171}Lu / ^{172}Lu / ^{173}Lu / ^{162}Yb / ^{166}Yb / ^{167}Yb / ^{169}Yb / ^{161}Tm / ^{162}Tm / ^{163}Tm / ^{165}Tm / ^{166}Tm / ^{167}Tm / ^{168}Tm / ^{156}Er / ^{157}Er / ^{159}Er / ^{160}Er / ^{161}Er / ^{156}Ho / ^{160}Ho / ^{152}Dy / ^{155}Dy / ^{157}Dy / ^{148}Tb / ^{149}Tb / ^{150}Tb / ^{151}Tb / ^{152}Tb / ^{153}Tb / ^{155}Tb / ^{145}Gd / ^{146}Gd / ^{147}Gd / ^{149}Gd / ^{151}Gd / ^{153}Gd / ^{145}Eu / ^{146}Eu / ^{147}Eu / ^{148}Eu / ^{149}Eu / ^{140}Pm / ^{143}Pm / ^{144}Pm / ^{136}Nd / ^{139}Nd / ^{134}Pr / ^{136}Pr / ^{138}Pr / ^{130}Ce / ^{132}Ce / ^{133}Ce / ^{134}Ce / ^{135}Ce / ^{139}Ce / ^{130}La / ^{132}La / ^{128}Ba / ^{131}Ba / ^{133}Ba / ^{127}Cs / ^{129}Cs / ^{122}Xe / ^{123}Xe / ^{127}Xe / ^{114}Te / ^{117}Te / ^{119}Te / ^{121}Te / ^{113}Sb / ^{115}Sb / ^{118}Sb / ^{120}Sb / ^{108}In / ^{109}In / ^{110}In / ^{111}In / ^{105}Ag / ^{106}Ag / ^{110}Ag / ^{100}Pd / ^{99}Rh / ^{100}Rh / ^{102}Rh / ^{97}Ru / ^{103}Ru / ^{96}Tc / ^{93}Mo / ^{90}Nb / ^{88}Zr / ^{89}Zr / ^{86}Y / ^{87}Y / ^{88}Y / ^{83}Sr / ^{85}Sr / ^{82}Rb / ^{83}Rb / ^{84}Rb / ^{77}Br / ^{75}Se / ^{74}As / ^{65}Zn / ^{69}Zn / ^{56}Co / ^{58}Co / ^{60}Co / ^{59}Fe / ^{52}Mn / ^{54}Mn / ^{48}V / ^{44}Sc / ^{46}Sc / ^{48}Sc / ^{28}Mg / ^{22}Na / ^{24}Na / ^7Be , E=43-2605 MeV; measured reaction products, $E\gamma$, $I\gamma$; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

KEYNUMBERS AND KEYWORDS

A=172 (continued)

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|-------------------|----------|---|
| ^{172}Hf | 2011KA19 | NUCLEAR REACTIONS ^{176}Yb , $\text{Lu}(\alpha, \text{xn})$, $(\alpha, \text{X})^{175}\text{Yb}$ / ^{171}Lu / ^{172}Lu / ^{173}Lu / ^{174}Lu / ^{177}Lu / ^{171}Hf / ^{172}Hf / ^{173}Hf / ^{175}Hf / ^{178}Hf / ^{179}Hf / ^{175}Ta / ^{176}Ta / ^{177}Ta , E=35 MeV; measured $E\gamma$, $I\gamma$; deduced yields, σ , isomer to ground state ratios. Comparison with Fermi-gas model within the formalism of Jackson-Sikkeland calculations. JOUR NIMAE 646 87 |
| | 2011MU02 | NUCLEAR REACTIONS $^{128}\text{Te}(^{48}\text{Ca}, 4\text{n})$, $(^{48}\text{Ca}, 5\text{n})$, E=207 MeV; measured $E\gamma$, $I\gamma$, $\gamma\gamma$ -coin, DSAM using Gammasphere Spectrometer. $^{171,172}\text{Hf}$; deduced half-lives, transition quadrupole moments for enhanced deformation (ED) and triaxial strongly-deformed (TSD) bands, dynamic moment of inertia plots. Comparison of transition quadrupole moments of ED and TSD bands in ^{163}Lu , $^{168,171,172,173,174,175}\text{Hf}$. Cranking calculations using Ultimate Cranker code. JOUR PRVCA 83 044311 |

A=172 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=172 (continued)

¹⁷²Ta 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=173

¹⁷³Tm 2011LU11 NUCLEAR REACTIONS ²⁷Al, ^{175,176}Lu(n, α), ¹⁷⁵Lu(n, p), ⁹³Nb(n, 2n) E=13.5-14.8 MeV; measured E γ , I γ ; deduced σ . Activation technique, comparison with all available data. JOUR ANEND 38 1693

A=173 (continued)

- ¹⁷³Lu 2011KA19 NUCLEAR REACTIONS ¹⁷⁶Yb, Lu(α , xn), (α , X)¹⁷⁵Yb / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁷⁴Lu / ¹⁷⁷Lu / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁸Hf / ¹⁷⁹Hf / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta, E=35 MeV; measured E γ , I γ ; deduced yields, σ , isomer to ground state ratios. Comparison with Fermi-gas model within the formalism of Jackson-Sikkeland calculations. JOUR NIMAE 646 87
- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=173 (continued)

- ¹⁷³Hf 2011KA19 NUCLEAR REACTIONS ¹⁷⁶Yb, Lu(α , xn), (α , X)¹⁷⁵Yb / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁷⁴Lu / ¹⁷⁷Lu / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁸Hf / ¹⁷⁹Hf / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta, E=35 MeV; measured E γ , I γ ; deduced yields, σ , isomer to ground state ratios. Comparison with Fermi-gas model within the formalism of Jackson-Sikkeland calculations. JOUR NIMAE 646 87
- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=173 (continued)

¹⁷³Ta 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=174

¹⁷⁴Lu 2011KA19 NUCLEAR REACTIONS ¹⁷⁶Yb, Lu(α , xn), (α , X)¹⁷⁵Yb / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁷⁴Lu / ¹⁷⁷Lu / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁸Hf / ¹⁷⁹Hf / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta, E=35 MeV; measured E γ , I γ ; deduced yields, σ , isomer to ground state ratios. Comparison with Fermi-gas model within the formalism of Jackson-Sikkeland calculations. JOUR NIMAE 646 87

A=174 (continued)

¹⁷⁴Ta 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=174 (continued)

¹⁷⁴W 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=175

¹⁷⁵Yb 2011KA19 NUCLEAR REACTIONS ¹⁷⁶Yb, Lu(α , xn), (α , X)¹⁷⁵Yb / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁷⁴Lu / ¹⁷⁷Lu / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁸Hf / ¹⁷⁹Hf / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta, E=35 MeV; measured E γ , I γ ; deduced yields, σ , isomer to ground state ratios. Comparison with Fermi-gas model within the formalism of Jackson-Sikkeland calculations. JOUR NIMAE 646 87

KEYNUMBERS AND KEYWORDS

A=175 (*continued*)

- 2011LU11 NUCLEAR REACTIONS ^{27}Al , $^{175,176}\text{Lu}(\text{n}, \alpha)$, $^{175}\text{Lu}(\text{n}, \text{p})$, $^{93}\text{Nb}(\text{n}, 2\text{n})$ E=13.5-14.8 MeV; measured E_γ , I_γ ; deduced σ . Activation technique, comparison with all available data. JOUR ANEND 38 1693
- ^{175}Hf 2011KA19 NUCLEAR REACTIONS ^{176}Yb , $\text{Lu}(\alpha, \text{xn})$, $(\alpha, \text{X})^{175}\text{Yb}$ / ^{171}Lu / ^{172}Lu / ^{173}Lu / ^{174}Lu / ^{177}Lu / ^{171}Hf / ^{172}Hf / ^{173}Hf / ^{175}Hf / ^{178}Hf / ^{179}Hf / ^{175}Ta / ^{176}Ta / ^{177}Ta , E=35 MeV; measured E_γ , I_γ ; deduced yields, σ , isomer to ground state ratios. Comparison with Fermi-gas model within the formalism of Jackson-Sikkeland calculations. JOUR NIMAE 646 87
- 2011TI05 NUCLEAR REACTIONS $\text{W}(\text{p}, \text{X})^{176}\text{Re}$ / ^{177}Re / ^{178}Re / ^{179}Re / ^{181}Re / ^{182}Re / ^{183}Re / ^{184}Re / ^{186}Re / ^{174}W / ^{176}W / ^{177}W / ^{178}W / ^{181}W / ^{172}Ta / ^{173}Ta / ^{174}Ta / ^{175}Ta / ^{176}Ta / ^{177}Ta / ^{178}Ta / ^{182}Ta / ^{183}Ta / ^{184}Ta / ^{168}Hf / ^{170}Hf / ^{171}Hf / ^{172}Hf / ^{173}Hf / ^{175}Hf / ^{179}Hf / ^{180}Hf / ^{181}Hf / ^{167}Lu / ^{169}Lu / ^{170}Lu / ^{171}Lu / ^{172}Lu / ^{173}Lu / ^{162}Yb / ^{166}Yb / ^{167}Yb / ^{169}Yb / ^{161}Tm / ^{162}Tm / ^{163}Tm / ^{165}Tm / ^{166}Tm / ^{167}Tm / ^{168}Tm / ^{156}Er / ^{157}Er / ^{159}Er / ^{160}Er / ^{161}Er / ^{156}Ho / ^{160}Ho / ^{152}Dy / ^{155}Dy / ^{157}Dy / ^{147}Tb / ^{148}Tb / ^{149}Tb / ^{150}Tb / ^{151}Tb / ^{152}Tb / ^{153}Tb / ^{155}Tb / ^{145}Gd / ^{146}Gd / ^{147}Gd / ^{149}Gd / ^{151}Gd / ^{153}Gd / ^{145}Eu / ^{146}Eu / ^{147}Eu / ^{148}Eu / ^{149}Eu / ^{140}Pm / ^{143}Pm / ^{144}Pm / ^{136}Nd / ^{139}Nd / ^{134}Pr / ^{136}Pr / ^{130}Ce / ^{132}Ce / ^{133}Ce / ^{134}Ce / ^{135}Ce / ^{139}Ce / ^{130}La / ^{132}La / ^{126}Ba / ^{128}Ba / ^{131}Ba / ^{133}Ba / ^{127}Cs / ^{129}Cs / ^{120}Xe / ^{122}Xe / ^{123}Xe / ^{125}Xe / ^{127}Xe / ^{120}I / ^{114}Te / ^{117}Te / ^{119}Te / ^{121}Te / ^{113}Sb / ^{115}Sb / ^{118}Sb / ^{120}Sb / ^{113}Sn / ^{108}In / ^{109}In / ^{110}In / ^{111}In / ^{105}Ag / ^{106}Ag / ^{110}Ag / ^{100}Pd / ^{99}Rh / ^{100}Rh / ^{102}Rh / ^{97}Ru / ^{103}Ru / ^{94}Tc / ^{96}Tc / ^{93}Mo / ^{90}Nb / ^{88}Zr / ^{89}Zr / ^{86}Y / ^{87}Y / ^{88}Y / ^{83}Sr / ^{85}Sr / ^{82}Rb / ^{83}Rb / ^{84}Rb / ^{77}Br / ^{75}Se / ^{74}As / ^{65}Zn / ^{69}Zn / ^{56}Co / ^{58}Co / ^{60}Co / ^{59}Fe / ^{52}Mn / ^{54}Mn / ^{48}V / ^{44}Sc / ^{46}Sc / ^{48}Sc / ^{28}Mg / ^{22}Na / ^{24}Na / ^7Be , $\text{Ta}(\text{p}, \text{X})^{174}\text{W}$ / ^{176}W / ^{177}W / ^{178}W / ^{172}Ta / ^{173}Ta / ^{174}Ta / ^{175}Ta / ^{176}Ta / ^{177}Ta / ^{178}Ta / ^{180}Ta / ^{168}Hf / ^{170}Hf / ^{171}Hf / ^{172}Hf / ^{173}Hf / ^{175}Hf / ^{179}Hf / ^{180}Hf / ^{181}Hf / ^{167}Lu / ^{169}Lu / ^{170}Lu / ^{171}Lu / ^{172}Lu / ^{173}Lu / ^{162}Yb / ^{166}Yb / ^{167}Yb / ^{169}Yb / ^{161}Tm / ^{162}Tm / ^{163}Tm / ^{165}Tm / ^{166}Tm / ^{167}Tm / ^{168}Tm / ^{156}Er / ^{157}Er / ^{159}Er / ^{160}Er / ^{161}Er / ^{156}Ho / ^{160}Ho / ^{152}Dy / ^{155}Dy / ^{157}Dy / ^{148}Tb / ^{149}Tb / ^{150}Tb / ^{151}Tb / ^{152}Tb / ^{153}Tb / ^{155}Tb / ^{145}Gd / ^{146}Gd / ^{147}Gd / ^{149}Gd / ^{151}Gd / ^{153}Gd / ^{145}Eu / ^{146}Eu / ^{147}Eu / ^{148}Eu / ^{149}Eu / ^{140}Pm / ^{143}Pm / ^{144}Pm / ^{136}Nd / ^{139}Nd / ^{134}Pr / ^{136}Pr / ^{138}Pr / ^{130}Ce / ^{132}Ce / ^{133}Ce / ^{134}Ce / ^{135}Ce / ^{139}Ce / ^{130}La / ^{132}La / ^{128}Ba / ^{131}Ba / ^{133}Ba / ^{127}Cs / ^{129}Cs / ^{122}Xe / ^{123}Xe / ^{127}Xe / ^{114}Te / ^{117}Te / ^{119}Te / ^{121}Te / ^{113}Sb / ^{115}Sb / ^{118}Sb / ^{120}Sb / ^{108}In / ^{109}In / ^{110}In / ^{111}In / ^{105}Ag / ^{106}Ag / ^{110}Ag / ^{100}Pd / ^{99}Rh / ^{100}Rh / ^{102}Rh / ^{97}Ru / ^{103}Ru / ^{96}Tc / ^{93}Mo / ^{90}Nb / ^{88}Zr / ^{89}Zr / ^{86}Y / ^{87}Y / ^{88}Y / ^{83}Sr / ^{85}Sr / ^{82}Rb / ^{83}Rb / ^{84}Rb / ^{77}Br / ^{75}Se / ^{74}As / ^{65}Zn / ^{69}Zn / ^{56}Co / ^{58}Co / ^{60}Co / ^{59}Fe / ^{52}Mn / ^{54}Mn / ^{48}V / ^{44}Sc / ^{46}Sc / ^{48}Sc / ^{28}Mg / ^{22}Na / ^{24}Na / ^7Be , E=43-2605 MeV; measured reaction products, E_γ , I_γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=175 (continued)

- ^{175}Ta 2011KA19 NUCLEAR REACTIONS ^{176}Yb , $\text{Lu}(\alpha, \text{xn})$, $(\alpha, \text{X})^{175}\text{Yb} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{174}\text{Lu} / ^{177}\text{Lu} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{178}\text{Hf} / ^{179}\text{Hf} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta}$, $E=35$ MeV; measured $E\gamma$, $I\gamma$; deduced yields, σ , isomer to ground state ratios. Comparison with Fermi-gas model within the formalism of Jackson-Sikkeland calculations. JOUR NIMAE 646 87
- 2011TI05 NUCLEAR REACTIONS $\text{W}(\text{p}, \text{X})^{176}\text{Re} / ^{177}\text{Re} / ^{178}\text{Re} / ^{179}\text{Re} / ^{181}\text{Re} / ^{182}\text{Re} / ^{183}\text{Re} / ^{184}\text{Re} / ^{186}\text{Re} / ^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W} / ^{178}\text{W} / ^{181}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{182}\text{Ta} / ^{183}\text{Ta} / ^{184}\text{Ta} / ^{168}\text{Hf} / ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} / ^{180}\text{Hf} / ^{181}\text{Hf} / ^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb} / ^{166}\text{Yb} / ^{167}\text{Yb} / ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} / ^{167}\text{Tm} / ^{168}\text{Tm} / ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho} / ^{152}\text{Dy} / ^{155}\text{Dy} / ^{157}\text{Dy} / ^{147}\text{Tb} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} / ^{152}\text{Tb} / ^{153}\text{Tb} / ^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} / ^{153}\text{Gd} / ^{145}\text{Eu} / ^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} / ^{144}\text{Pm} / ^{136}\text{Nd} / ^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce} / ^{135}\text{Ce} / ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{126}\text{Ba} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} / ^{127}\text{Cs} / ^{129}\text{Cs} / ^{120}\text{Xe} / ^{122}\text{Xe} / ^{123}\text{Xe} / ^{125}\text{Xe} / ^{127}\text{Xe} / ^{120}\text{I} / ^{114}\text{Te} / ^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} / ^{118}\text{Sb} / ^{120}\text{Sb} / ^{113}\text{Sn} / ^{108}\text{In} / ^{109}\text{In} / ^{110}\text{In} / ^{111}\text{In} / ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} / ^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} / ^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{94}\text{Tc} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} / ^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y} / ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} / ^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} / ^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7Be , $\text{Ta}(\text{p}, \text{X})^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W} / ^{178}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{180}\text{Ta} / ^{168}\text{Hf} / ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} / ^{180}\text{Hf} / ^{181}\text{Hf} / ^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb} / ^{166}\text{Yb} / ^{167}\text{Yb} / ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} / ^{167}\text{Tm} / ^{168}\text{Tm} / ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho} / ^{152}\text{Dy} / ^{155}\text{Dy} / ^{157}\text{Dy} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} / ^{152}\text{Tb} / ^{153}\text{Tb} / ^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} / ^{153}\text{Gd} / ^{145}\text{Eu} / ^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} / ^{144}\text{Pm} / ^{136}\text{Nd} / ^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{138}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce} / ^{135}\text{Ce} / ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} / ^{127}\text{Cs} / ^{129}\text{Cs} / ^{122}\text{Xe} / ^{123}\text{Xe} / ^{127}\text{Xe} / ^{114}\text{Te} / ^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} / ^{118}\text{Sb} / ^{120}\text{Sb} / ^{108}\text{In} / ^{109}\text{In} / ^{110}\text{In} / ^{111}\text{In} / ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} / ^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} / ^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} / ^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y} / ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} / ^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} / ^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7Be , $E=43$ -2605 MeV; measured reaction products, $E\gamma$, $I\gamma$; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551$$

A=176

- ¹⁷⁶Ta 2011KA19 NUCLEAR REACTIONS ¹⁷⁶Yb, Lu(α , xn), (α , X)¹⁷⁵Yb / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁷⁴Lu / ¹⁷⁷Lu / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁸Hf / ¹⁷⁹Hf / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta, E=35 MeV; measured E γ , I γ ; deduced yields, σ , isomer to ground state ratios. Comparison with Fermi-gas model within the formalism of Jackson-Sikkeland calculations. JOUR NIMAE 646 87
- 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=176 (continued)

¹⁷⁶W 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
JOUR PANUE 74 551

A=176 (continued)

¹⁷⁶Re 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=177

¹⁷⁷Lu 2011DE07 RADIOACTIVITY ¹⁷⁷Lu(β^-) [from ¹⁷⁶Lu(n, γ), E not given]; measured E γ , I γ , x-rays; deduced ICC, mixing ratios, log ft. Comparison with experimental and evaluated data. JOUR ARISE 69 869

KEYNUMBERS AND KEYWORDS

A=177 (continued)

	2011KA19	NUCLEAR REACTIONS ^{176}Yb , $\text{Lu}(\alpha, \text{xn})$, $(\alpha, \text{X})^{175}\text{Yb}$ / ^{171}Lu / ^{172}Lu / ^{173}Lu / ^{174}Lu / ^{177}Lu / ^{171}Hf / ^{172}Hf / ^{173}Hf / ^{175}Hf / ^{178}Hf / ^{179}Hf / ^{175}Ta / ^{176}Ta / ^{177}Ta , E=35 MeV; measured $E\gamma$, $I\gamma$; deduced yields, σ , isomer to ground state ratios. Comparison with Fermi-gas model within the formalism of Jackson-Sikkeland calculations. JOUR NIMAE 646 87
	2011P007	RADIOACTIVITY $^{177}\text{Lu}(\beta^-)$ [from $^{176}\text{Lu}(\text{n}, \gamma)$, E=thermal]; measured decay products; deduced $T_{1/2}$ and uncertainties. Comparison with evaluated data. JOUR ARISE 69 1267
^{177}Hf	2011DE07	RADIOACTIVITY $^{177}\text{Lu}(\beta^-)$ [from $^{176}\text{Lu}(\text{n}, \gamma)$, E not given]; measured $E\gamma$, $I\gamma$, x-rays; deduced ICC, mixing ratios, log ft. Comparison with experimental and evaluated data. JOUR ARISE 69 869
	2011P007	RADIOACTIVITY $^{177}\text{Lu}(\beta^-)$ [from $^{176}\text{Lu}(\text{n}, \gamma)$, E=thermal]; measured decay products; deduced $T_{1/2}$ and uncertainties. Comparison with evaluated data. JOUR ARISE 69 1267
^{177}Ta	2011KA19	NUCLEAR REACTIONS ^{176}Yb , $\text{Lu}(\alpha, \text{xn})$, $(\alpha, \text{X})^{175}\text{Yb}$ / ^{171}Lu / ^{172}Lu / ^{173}Lu / ^{174}Lu / ^{177}Lu / ^{171}Hf / ^{172}Hf / ^{173}Hf / ^{175}Hf / ^{178}Hf / ^{179}Hf / ^{175}Ta / ^{176}Ta / ^{177}Ta , E=35 MeV; measured $E\gamma$, $I\gamma$; deduced yields, σ , isomer to ground state ratios. Comparison with Fermi-gas model within the formalism of Jackson-Sikkeland calculations. JOUR NIMAE 646 87

A=177 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=177 (continued)

¹⁷⁷W 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=177 (continued)

¹⁷⁷Re 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=178

¹⁷⁸Hf 2011KA19 NUCLEAR REACTIONS ¹⁷⁶Yb, Lu(α , xn), (α , X)¹⁷⁵Yb / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁷⁴Lu / ¹⁷⁷Lu / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁸Hf / ¹⁷⁹Hf / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta, E=35 MeV; measured E γ , I γ ; deduced yields, σ , isomer to ground state ratios. Comparison with Fermi-gas model within the formalism of Jackson-Sikkeland calculations. JOUR NIMAE 646 87

A=178 (continued)

¹⁷⁸Ta 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=178 (continued)

¹⁷⁸W 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=178 (continued)

- ¹⁷⁸Re 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

A=179

- ¹⁷⁹Hf 2011KA19 NUCLEAR REACTIONS ¹⁷⁶Yb, Lu(α , xn), (α , X)¹⁷⁵Yb / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁷⁴Lu / ¹⁷⁷Lu / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁸Hf / ¹⁷⁹Hf / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta, E=35 MeV; measured E γ , I γ ; deduced yields, σ , isomer to ground state ratios. Comparison with Fermi-gas model within the formalism of Jackson-Sikkeland calculations. JOUR NIMAE 646 87

A=179 (continued)

2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=179 (continued)

¹⁷⁹Re 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=180

¹⁸⁰Hf 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=180 (continued)

¹⁸⁰Ta 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=181

¹⁸¹Hf 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=181 (continued)

¹⁸¹W 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=181 (continued)

¹⁸¹Re 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E_γ, I_γ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=182

^{182}Ta 2011TI05 NUCLEAR REACTIONS W(p, X) $^{176}\text{Re} / ^{177}\text{Re} / ^{178}\text{Re} / ^{179}\text{Re} /$
 $^{181}\text{Re} / ^{182}\text{Re} / ^{183}\text{Re} / ^{184}\text{Re} / ^{186}\text{Re} / ^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W} / ^{178}\text{W} /$
 $^{181}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{182}\text{Ta} /$
 $^{183}\text{Ta} / ^{184}\text{Ta} / ^{168}\text{Hf} / ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} /$
 $^{180}\text{Hf} / ^{181}\text{Hf} / ^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb}$
 $/ ^{166}\text{Yb} / ^{167}\text{Yb} / ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} /$
 $^{167}\text{Tm} / ^{168}\text{Tm} / ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho}$
 $/ ^{152}\text{Dy} / ^{155}\text{Dy} / ^{157}\text{Dy} / ^{147}\text{Tb} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} /$
 $^{152}\text{Tb} / ^{153}\text{Tb} / ^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} /$
 $^{153}\text{Gd} / ^{145}\text{Eu} / ^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} /$
 $^{144}\text{Pm} / ^{136}\text{Nd} / ^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce}$
 $/ ^{135}\text{Ce} / ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{126}\text{Ba} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} /$
 $^{127}\text{Cs} / ^{129}\text{Cs} / ^{120}\text{Xe} / ^{122}\text{Xe} / ^{123}\text{Xe} / ^{125}\text{Xe} / ^{127}\text{Xe} / ^{120}\text{I} / ^{114}\text{Te} /$
 $^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} / ^{118}\text{Sb} / ^{120}\text{Sb} / ^{113}\text{Sn} / ^{108}\text{In} /$
 $^{109}\text{In} / ^{110}\text{In} / ^{111}\text{In} / ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} / ^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} /$
 $^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{94}\text{Tc} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} / ^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y}$
 $/ ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} / ^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} /$
 $^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} /$
 $^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be}, \text{Ta}(p, X)^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W}$
 $/ ^{178}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{180}\text{Ta}$
 $/ ^{168}\text{Hf}, ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} / ^{180}\text{Hf} / ^{181}\text{Hf} /$
 $^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb} / ^{166}\text{Yb} / ^{167}\text{Yb}$
 $/ ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} / ^{167}\text{Tm} / ^{168}\text{Tm}$
 $/ ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho} / ^{152}\text{Dy} /$
 $^{155}\text{Dy} / ^{157}\text{Dy} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} / ^{152}\text{Tb} / ^{153}\text{Tb} /$
 $^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} / ^{153}\text{Gd} / ^{145}\text{Eu} /$
 $^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} / ^{144}\text{Pm} / ^{136}\text{Nd} /$
 $^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{138}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce} / ^{135}\text{Ce}$
 $/ ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} / ^{127}\text{Cs} / ^{129}\text{Cs} /$
 $^{122}\text{Xe} / ^{123}\text{Xe} / ^{127}\text{Xe} / ^{114}\text{Te} / ^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} /$
 $^{118}\text{Sb} / ^{120}\text{Sb} / ^{108}\text{In} / ^{109}\text{In}, ^{110}\text{In}, ^{111}\text{In}, ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} /$
 $^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} / ^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} /$
 $^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y} / ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} /$
 $^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} / ^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} /$
 $^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be},$
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=182 (continued)

¹⁸²Re 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=183

- ¹⁸³Ta 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ¹⁸³W 2011B009 NUCLEAR REACTIONS ¹⁸²W(n, γ), E=thermal; measured E γ , I γ , $\gamma\gamma$ -coin; ¹⁸²W(polarized d, p), E=18 MeV; measured E(particle), I(particle, $\theta=11^0$ - 50^0). ¹⁸³W deduced levels, J, π , rotational bands, γ -branching ratio, $\sigma(\theta)$, σ , spectroscopic factors, B(E2), fragmentation of single-particle states, analyzing power; calculated levels, J, π , transition strengths. DWBA, CCBA, QPNM calculations. JOUR NUPAB 856 1

A=183 (continued)

¹⁸³Re 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re /
¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W /
¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta /
¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf /
¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb
/ ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm /
¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho
/ ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb /
¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd /
¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm /
¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce
/ ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba /
¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te /
¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In /
¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh /
¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y
/ ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As /
⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc /
⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W
/ ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta
/ ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf /
¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb
/ ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm
/ ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy /
¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb /
¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu /
¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd /
¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce
/ ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs /
¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb /
¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag /
¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb /
⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb /
⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn /
⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be,
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=184

^{184}Ta 2011TI05 NUCLEAR REACTIONS W(p, X) $^{176}\text{Re} / ^{177}\text{Re} / ^{178}\text{Re} / ^{179}\text{Re} /$
 $^{181}\text{Re} / ^{182}\text{Re} / ^{183}\text{Re} / ^{184}\text{Re} / ^{186}\text{Re} / ^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W} / ^{178}\text{W} /$
 $^{181}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{182}\text{Ta} /$
 $^{183}\text{Ta} / ^{184}\text{Ta} / ^{168}\text{Hf} / ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} /$
 $^{180}\text{Hf} / ^{181}\text{Hf} / ^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb}$
 $/ ^{166}\text{Yb} / ^{167}\text{Yb} / ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} /$
 $^{167}\text{Tm} / ^{168}\text{Tm} / ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho}$
 $/ ^{152}\text{Dy} / ^{155}\text{Dy} / ^{157}\text{Dy} / ^{147}\text{Tb} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} /$
 $^{152}\text{Tb} / ^{153}\text{Tb} / ^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} /$
 $^{153}\text{Gd} / ^{145}\text{Eu} / ^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} /$
 $^{144}\text{Pm} / ^{136}\text{Nd} / ^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce}$
 $/ ^{135}\text{Ce} / ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{126}\text{Ba} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} /$
 $^{127}\text{Cs} / ^{129}\text{Cs} / ^{120}\text{Xe} / ^{122}\text{Xe} / ^{123}\text{Xe} / ^{125}\text{Xe} / ^{127}\text{Xe} / ^{120}\text{I} / ^{114}\text{Te} /$
 $^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} / ^{118}\text{Sb} / ^{120}\text{Sb} / ^{113}\text{Sn} / ^{108}\text{In} /$
 $^{109}\text{In} / ^{110}\text{In} / ^{111}\text{In} / ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} / ^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} /$
 $^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{94}\text{Tc} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} / ^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y}$
 $/ ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} / ^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} /$
 $^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} / ^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} /$
 $^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be}, \text{Ta}(p, X)^{174}\text{W} / ^{176}\text{W} / ^{177}\text{W}$
 $/ ^{178}\text{W} / ^{172}\text{Ta} / ^{173}\text{Ta} / ^{174}\text{Ta} / ^{175}\text{Ta} / ^{176}\text{Ta} / ^{177}\text{Ta} / ^{178}\text{Ta} / ^{180}\text{Ta}$
 $/ ^{168}\text{Hf}, ^{170}\text{Hf} / ^{171}\text{Hf} / ^{172}\text{Hf} / ^{173}\text{Hf} / ^{175}\text{Hf} / ^{179}\text{Hf} / ^{180}\text{Hf} / ^{181}\text{Hf} /$
 $^{167}\text{Lu} / ^{169}\text{Lu} / ^{170}\text{Lu} / ^{171}\text{Lu} / ^{172}\text{Lu} / ^{173}\text{Lu} / ^{162}\text{Yb} / ^{166}\text{Yb} / ^{167}\text{Yb}$
 $/ ^{169}\text{Yb} / ^{161}\text{Tm} / ^{162}\text{Tm} / ^{163}\text{Tm} / ^{165}\text{Tm} / ^{166}\text{Tm} / ^{167}\text{Tm} / ^{168}\text{Tm}$
 $/ ^{156}\text{Er} / ^{157}\text{Er} / ^{159}\text{Er} / ^{160}\text{Er} / ^{161}\text{Er} / ^{156}\text{Ho} / ^{160}\text{Ho} / ^{152}\text{Dy} /$
 $^{155}\text{Dy} / ^{157}\text{Dy} / ^{148}\text{Tb} / ^{149}\text{Tb} / ^{150}\text{Tb} / ^{151}\text{Tb} / ^{152}\text{Tb} / ^{153}\text{Tb} /$
 $^{155}\text{Tb} / ^{145}\text{Gd} / ^{146}\text{Gd} / ^{147}\text{Gd} / ^{149}\text{Gd} / ^{151}\text{Gd} / ^{153}\text{Gd} / ^{145}\text{Eu} /$
 $^{146}\text{Eu} / ^{147}\text{Eu} / ^{148}\text{Eu} / ^{149}\text{Eu} / ^{140}\text{Pm} / ^{143}\text{Pm} / ^{144}\text{Pm} / ^{136}\text{Nd} /$
 $^{139}\text{Nd} / ^{134}\text{Pr} / ^{136}\text{Pr} / ^{138}\text{Pr} / ^{130}\text{Ce} / ^{132}\text{Ce} / ^{133}\text{Ce} / ^{134}\text{Ce} / ^{135}\text{Ce}$
 $/ ^{139}\text{Ce} / ^{130}\text{La} / ^{132}\text{La} / ^{128}\text{Ba} / ^{131}\text{Ba} / ^{133}\text{Ba} / ^{127}\text{Cs} / ^{129}\text{Cs} /$
 $^{122}\text{Xe} / ^{123}\text{Xe} / ^{127}\text{Xe} / ^{114}\text{Te} / ^{117}\text{Te} / ^{119}\text{Te} / ^{121}\text{Te} / ^{113}\text{Sb} / ^{115}\text{Sb} /$
 $^{118}\text{Sb} / ^{120}\text{Sb} / ^{108}\text{In} / ^{109}\text{In}, ^{110}\text{In}, ^{111}\text{In}, ^{105}\text{Ag} / ^{106}\text{Ag} / ^{110}\text{Ag} /$
 $^{100}\text{Pd} / ^{99}\text{Rh} / ^{100}\text{Rh} / ^{102}\text{Rh} / ^{97}\text{Ru} / ^{103}\text{Ru} / ^{96}\text{Tc} / ^{93}\text{Mo} / ^{90}\text{Nb} /$
 $^{88}\text{Zr} / ^{89}\text{Zr} / ^{86}\text{Y} / ^{87}\text{Y} / ^{88}\text{Y} / ^{83}\text{Sr} / ^{85}\text{Sr} / ^{82}\text{Rb} / ^{83}\text{Rb} / ^{84}\text{Rb} /$
 $^{77}\text{Br} / ^{75}\text{Se} / ^{74}\text{As} / ^{65}\text{Zn} / ^{69}\text{Zn} / ^{56}\text{Co} / ^{58}\text{Co} / ^{60}\text{Co} / ^{59}\text{Fe} / ^{52}\text{Mn} /$
 $^{54}\text{Mn} / ^{48}\text{V} / ^{44}\text{Sc} / ^{46}\text{Sc} / ^{48}\text{Sc} / ^{28}\text{Mg} / ^{22}\text{Na} / ^{24}\text{Na} / ^7\text{Be},$
E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and
uncertainties. Comparison with intranuclear cascade code calculations.
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A=184 (continued)

- ¹⁸⁴Re 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf, ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551
- ¹⁸⁴Hg 2011SC07 NUCLEAR REACTIONS ¹⁴⁸Sm(⁴⁰Ar, 4n), E=180 MeV; ¹⁵⁰Sm(⁴⁰Ar, 4n), E=188 MeV; measured E γ using JUROGAM detector array, conversion electron spectra using SAGE spectrometer, and γ (e)-coin. ^{184,186}Hg; deduced levels, J, π , K- and L-conversion electron ratios, and conversion coefficients, multipolarity, E0 admixture, monopole strength. JOUR PRVCA 83 037303

A=185

¹⁸⁵Pt 2011LI19 NUCLEAR REACTIONS ¹⁷³Yb(¹⁶O, 4n)¹⁸⁵Pt, E=90 MeV; measured reaction products, E γ , I γ , γ - γ -coin.; deduced high-spin states energies, J, π , B(M1) / B(E2). Comparison with Nilsson model calculations. JOUR CPCHC 35 441

A=186

¹⁸⁶Re 2011TI05 NUCLEAR REACTIONS W(p, X)¹⁷⁶Re / ¹⁷⁷Re / ¹⁷⁸Re / ¹⁷⁹Re / ¹⁸¹Re / ¹⁸²Re / ¹⁸³Re / ¹⁸⁴Re / ¹⁸⁶Re / ¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁸¹W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸²Ta / ¹⁸³Ta / ¹⁸⁴Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁷Tb / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁶Ba / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²⁰Xe / ¹²²Xe / ¹²³Xe / ¹²⁵Xe / ¹²⁷Xe / ¹²⁰I / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹¹³Sn / ¹⁰⁸In / ¹⁰⁹In / ¹¹⁰In / ¹¹¹In / ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁴Tc / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, Ta(p, X)¹⁷⁴W / ¹⁷⁶W / ¹⁷⁷W / ¹⁷⁸W / ¹⁷²Ta / ¹⁷³Ta / ¹⁷⁴Ta / ¹⁷⁵Ta / ¹⁷⁶Ta / ¹⁷⁷Ta / ¹⁷⁸Ta / ¹⁸⁰Ta / ¹⁶⁸Hf / ¹⁷⁰Hf / ¹⁷¹Hf / ¹⁷²Hf / ¹⁷³Hf / ¹⁷⁵Hf / ¹⁷⁹Hf / ¹⁸⁰Hf / ¹⁸¹Hf / ¹⁶⁷Lu / ¹⁶⁹Lu / ¹⁷⁰Lu / ¹⁷¹Lu / ¹⁷²Lu / ¹⁷³Lu / ¹⁶²Yb / ¹⁶⁶Yb / ¹⁶⁷Yb / ¹⁶⁹Yb / ¹⁶¹Tm / ¹⁶²Tm / ¹⁶³Tm / ¹⁶⁵Tm / ¹⁶⁶Tm / ¹⁶⁷Tm / ¹⁶⁸Tm / ¹⁵⁶Er / ¹⁵⁷Er / ¹⁵⁹Er / ¹⁶⁰Er / ¹⁶¹Er / ¹⁵⁶Ho / ¹⁶⁰Ho / ¹⁵²Dy / ¹⁵⁵Dy / ¹⁵⁷Dy / ¹⁴⁸Tb / ¹⁴⁹Tb / ¹⁵⁰Tb / ¹⁵¹Tb / ¹⁵²Tb / ¹⁵³Tb / ¹⁵⁵Tb / ¹⁴⁵Gd / ¹⁴⁶Gd / ¹⁴⁷Gd / ¹⁴⁹Gd / ¹⁵¹Gd / ¹⁵³Gd / ¹⁴⁵Eu / ¹⁴⁶Eu / ¹⁴⁷Eu / ¹⁴⁸Eu / ¹⁴⁹Eu / ¹⁴⁰Pm / ¹⁴³Pm / ¹⁴⁴Pm / ¹³⁶Nd / ¹³⁹Nd / ¹³⁴Pr / ¹³⁶Pr / ¹³⁸Pr / ¹³⁰Ce / ¹³²Ce / ¹³³Ce / ¹³⁴Ce / ¹³⁵Ce / ¹³⁹Ce / ¹³⁰La / ¹³²La / ¹²⁸Ba / ¹³¹Ba / ¹³³Ba / ¹²⁷Cs / ¹²⁹Cs / ¹²²Xe / ¹²³Xe / ¹²⁷Xe / ¹¹⁴Te / ¹¹⁷Te / ¹¹⁹Te / ¹²¹Te / ¹¹³Sb / ¹¹⁵Sb / ¹¹⁸Sb / ¹²⁰Sb / ¹⁰⁸In / ¹⁰⁹In / ¹⁰⁹In, ¹¹⁰In, ¹¹¹In, ¹⁰⁵Ag / ¹⁰⁶Ag / ¹¹⁰Ag / ¹⁰⁰Pd / ⁹⁹Rh / ¹⁰⁰Rh / ¹⁰²Rh / ⁹⁷Ru / ¹⁰³Ru / ⁹⁶Tc / ⁹³Mo / ⁹⁰Nb / ⁸⁸Zr / ⁸⁹Zr / ⁸⁶Y / ⁸⁷Y / ⁸⁸Y / ⁸³Sr / ⁸⁵Sr / ⁸²Rb / ⁸³Rb / ⁸⁴Rb / ⁷⁷Br / ⁷⁵Se / ⁷⁴As / ⁶⁵Zn / ⁶⁹Zn / ⁵⁶Co / ⁵⁸Co / ⁶⁰Co / ⁵⁹Fe / ⁵²Mn / ⁵⁴Mn / ⁴⁸V / ⁴⁴Sc / ⁴⁶Sc / ⁴⁸Sc / ²⁸Mg / ²²Na / ²⁴Na / ⁷Be, E=43-2605 MeV; measured reaction products, E γ , I γ ; deduced σ and uncertainties. Comparison with intranuclear cascade code calculations. JOUR PANUE 74 551

KEYNUMBERS AND KEYWORDS

A=186 (continued)

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| ^{186}Os | 2011BE08 | RADIOACTIVITY $^{190}\text{Pt}(\alpha)$; measured E_γ , I_γ ; deduced α -decay branching ratio to the excited states in ^{186}Os , α -decay half-life. $^{192,194,195,196,198}\text{Pt}(\alpha)$; measured E_γ , I_γ , half-life limits for α decay to the excited states. Comparison of half-lives with the cluster model calculations. JOUR PRVCA 83 034603 |
| ^{186}Hg | 2011SC07 | NUCLEAR REACTIONS $^{148}\text{Sm}(^{40}\text{Ar}, 4n)$, $E=180$ MeV; $^{150}\text{Sm}(^{40}\text{Ar}, 4n)$, $E=188$ MeV; measured E_γ using JUROGAM detector array, conversion electron spectra using SAGE spectrometer, and $\gamma(\text{ce})$ -coin. $^{184,186}\text{Hg}$; deduced levels, J, π , K- and L-conversion electron ratios, and conversion coefficients, multipolarity, E0 admixture, monopole strength. JOUR PRVCA 83 037303 |

A=187

No references found

A=188

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|-------------------|----------|---|
| ^{188}Os | 2011BE08 | RADIOACTIVITY $^{190}\text{Pt}(\alpha)$; measured E_γ , I_γ ; deduced α -decay branching ratio to the excited states in ^{186}Os , α -decay half-life. $^{192,194,195,196,198}\text{Pt}(\alpha)$; measured E_γ , I_γ , half-life limits for α decay to the excited states. Comparison of half-lives with the cluster model calculations. JOUR PRVCA 83 034603 |
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A=189

No references found

A=190

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| ^{190}Os | 2011BE08 | RADIOACTIVITY $^{190}\text{Pt}(\alpha)$; measured E_γ , I_γ ; deduced α -decay branching ratio to the excited states in ^{186}Os , α -decay half-life. $^{192,194,195,196,198}\text{Pt}(\alpha)$; measured E_γ , I_γ , half-life limits for α decay to the excited states. Comparison of half-lives with the cluster model calculations. JOUR PRVCA 83 034603 |
| ^{190}Pt | 2011BE08 | RADIOACTIVITY $^{190}\text{Pt}(\alpha)$; measured E_γ , I_γ ; deduced α -decay branching ratio to the excited states in ^{186}Os , α -decay half-life. $^{192,194,195,196,198}\text{Pt}(\alpha)$; measured E_γ , I_γ , half-life limits for α decay to the excited states. Comparison of half-lives with the cluster model calculations. JOUR PRVCA 83 034603 |

A=191

¹⁹¹Os 2011BE08 RADIOACTIVITY ¹⁹⁰Pt(α); measured E_γ , I_γ ; deduced α -decay branching ratio to the excited states in ¹⁸⁶Os, α -decay half-life. ^{192,194,195,196,198}Pt(α); measured E_γ , I_γ , half-life limits for α decay to the excited states. Comparison of half-lives with the cluster model calculations. JOUR PRVCA 83 034603

A=192

¹⁹²Os 2011BE08 RADIOACTIVITY ¹⁹⁰Pt(α); measured E_γ , I_γ ; deduced α -decay branching ratio to the excited states in ¹⁸⁶Os, α -decay half-life. ^{192,194,195,196,198}Pt(α); measured E_γ , I_γ , half-life limits for α decay to the excited states. Comparison of half-lives with the cluster model calculations. JOUR PRVCA 83 034603

¹⁹²Pt 2011BE08 RADIOACTIVITY ¹⁹⁰Pt(α); measured E_γ , I_γ ; deduced α -decay branching ratio to the excited states in ¹⁸⁶Os, α -decay half-life. ^{192,194,195,196,198}Pt(α); measured E_γ , I_γ , half-life limits for α decay to the excited states. Comparison of half-lives with the cluster model calculations. JOUR PRVCA 83 034603

A=193

No references found

A=194

¹⁹⁴Os 2011BE08 RADIOACTIVITY ¹⁹⁰Pt(α); measured E_γ , I_γ ; deduced α -decay branching ratio to the excited states in ¹⁸⁶Os, α -decay half-life. ^{192,194,195,196,198}Pt(α); measured E_γ , I_γ , half-life limits for α decay to the excited states. Comparison of half-lives with the cluster model calculations. JOUR PRVCA 83 034603

¹⁹⁴Pt 2011BE08 RADIOACTIVITY ¹⁹⁰Pt(α); measured E_γ , I_γ ; deduced α -decay branching ratio to the excited states in ¹⁸⁶Os, α -decay half-life. ^{192,194,195,196,198}Pt(α); measured E_γ , I_γ , half-life limits for α decay to the excited states. Comparison of half-lives with the cluster model calculations. JOUR PRVCA 83 034603

¹⁹⁴Au 2010EL11 ATOMIC MASSES ¹⁹⁴Au, ¹⁹⁴Hg; measured cyclotron frequency ratio; deduced mass excesses, Q-value of the orbital electron capture. Implications for β -decay anti-neutrino mass measurements. JOUR PYLBB 693 426

¹⁹⁴Hg 2010EL11 ATOMIC MASSES ¹⁹⁴Au, ¹⁹⁴Hg; measured cyclotron frequency ratio; deduced mass excesses, Q-value of the orbital electron capture. Implications for β -decay anti-neutrino mass measurements. JOUR PYLBB 693 426

A=195

- ¹⁹⁵Pt 2011BE08 RADIOACTIVITY ¹⁹⁰Pt(α); measured E_γ , I_γ ; deduced α -decay branching ratio to the excited states in ¹⁸⁶Os, α -decay half-life. ^{192,194,195,196,198}Pt(α); measured E_γ , I_γ , half-life limits for α decay to the excited states. Comparison of half-lives with the cluster model calculations. JOUR PRVCA 83 034603
- ¹⁹⁵Hg 2011IS09 NUCLEAR REACTIONS ¹⁹⁶Hg(γ , n), ¹⁹⁸Hg(γ , np), (γ , n), ¹⁹⁹Hg(γ , p), ²⁰⁰Hg(γ , p), (γ , n), ²⁰¹Hg(γ , p), ²⁰²Hg(γ , p), ²⁰⁴Hg(γ , n), $E < 29.1$ MeV; measured E_γ , I_γ ; deduced photonuclear reaction yields, metastable states. JOUR BRSPE 75 566

A=196

- ¹⁹⁶Pt 2011BE08 RADIOACTIVITY ¹⁹⁰Pt(α); measured E_γ , I_γ ; deduced α -decay branching ratio to the excited states in ¹⁸⁶Os, α -decay half-life. ^{192,194,195,196,198}Pt(α); measured E_γ , I_γ , half-life limits for α decay to the excited states. Comparison of half-lives with the cluster model calculations. JOUR PRVCA 83 034603
- ¹⁹⁶Au 2011IS09 NUCLEAR REACTIONS ¹⁹⁶Hg(γ , n), ¹⁹⁸Hg(γ , np), (γ , n), ¹⁹⁹Hg(γ , p), ²⁰⁰Hg(γ , p), (γ , n), ²⁰¹Hg(γ , p), ²⁰²Hg(γ , p), ²⁰⁴Hg(γ , n), $E < 29.1$ MeV; measured E_γ , I_γ ; deduced photonuclear reaction yields, metastable states. JOUR BRSPE 75 566
- 2011KI13 NUCLEAR REACTIONS ^{76,78}Se, ¹⁹⁷Au(γ , n), $E < 80$ MeV; measured E_γ , I_γ , E_n , I_n ; deduced σ . Comparison with experimental data, TALYS model code calculations. JOUR JNSTA 48 1017
- 2011RA08 NUCLEAR REACTIONS ⁶⁹Ga(n, 2n)⁶⁸Ga, ⁶⁹Ga(n, p)^{69m}Zn, ⁷¹Ga(n, p)^{71m}Zn, ⁷⁵As(n, 2n)⁷⁴As, ⁷⁵As(n, p)⁷⁵Ge, $E = 7.5, 8.0, 8.5, 9.5, 10.2, 11.0, 11.5, 12.5, 13.25, 14.0, 14.5, 15.0$ MeV; measured E_γ , I_γ ; deduced half-lives and σ . ²⁷Al(n, α)²⁴Na, ¹⁹⁷Au(n, 2n)¹⁹⁶Au, $E = 7.5-14.5$ MeV; measured σ and used as monitor reactions. Comparison of measured cross sections with previous data and statistical model calculations based on the Hauser-Feshbach formalism, using the TALYS and the COH3 codes. JOUR PRVCA 83 044621

A=197

- ¹⁹⁷Hg 2011IS09 NUCLEAR REACTIONS ¹⁹⁶Hg(γ , n), ¹⁹⁸Hg(γ , np), (γ , n), ¹⁹⁹Hg(γ , p), ²⁰⁰Hg(γ , p), (γ , n), ²⁰¹Hg(γ , p), ²⁰²Hg(γ , p), ²⁰⁴Hg(γ , n), $E < 29.1$ MeV; measured E_γ , I_γ ; deduced photonuclear reaction yields, metastable states. JOUR BRSPE 75 566

KEYNUMBERS AND KEYWORDS

A=198

^{198}Pt	2011BE08	RADIOACTIVITY $^{190}\text{Pt}(\alpha)$; measured E_γ , I_γ ; deduced α -decay branching ratio to the excited states in ^{186}Os , α -decay half-life. $^{192,194,195,196,198}\text{Pt}(\alpha)$; measured E_γ , I_γ , half-life limits for α decay to the excited states. Comparison of half-lives with the cluster model calculations. JOUR PRVCA 83 034603
^{198}Au	2010F013	RADIOACTIVITY $^{198}\text{Au}(\beta^-)$ [from $^{197}\text{Au}(\text{n}, \gamma)$, E not given]; measured reaction products, E_γ , I_γ ; deduced $T_{1/2}$ and uncertainties, lack of temperature variations. JOUR ZAANE 46 161
	2010LI48	RADIOACTIVITY $^{198}\text{Au}(\beta^-)$ [from $^{197}\text{Au}(\text{n}, \gamma)$, E=thermal]; measured decay products, E_γ , I_γ ; deduced $T_{1/2}$, possible decay rate dependence on a radioactive source shape. JOUR NIMAE 622 93
	2011DI05	NUCLEAR REACTIONS $^{64,68}\text{Zn}$, ^{59}Co , $^{94,96}\text{Zr}$, ^{139}La , $^{197}\text{Au}(\text{n}, \gamma)$, E=epithermal; measured E_γ , I_γ ; deduced k_0 and Q_0 factors, uncertainties. JOUR ARISE 69 960
	2011IS09	NUCLEAR REACTIONS $^{196}\text{Hg}(\gamma, \text{n})$, $^{198}\text{Hg}(\gamma, \text{np})$, (γ, n) , $^{199}\text{Hg}(\gamma, \text{p})$, $^{200}\text{Hg}(\gamma, \text{p})$, (γ, n) , $^{201}\text{Hg}(\gamma, \text{p})$, $^{202}\text{Hg}(\gamma, \text{p})$, $^{204}\text{Hg}(\gamma, \text{n})$, E<29.1 MeV; measured E_γ , I_γ ; deduced photonuclear reaction yields, metastable states. JOUR BRSPE 75 566
	2011LE14	NUCLEAR REACTIONS $^{197}\text{Au}(\text{n}, \gamma)$, E=1 eV to 1 MeV; measured total absorption γ spectra using n-TOF facility; deduced capture yields, $\sigma(E)$, Maxwellian-averaged σ from 5-100 keV. Comparisons with previous data and Evaluated data in ENDF / B-VII.0. Full resolution data available in the EXFOR database. Structures in the cross section data interpreted as due to clusters of resonances. JOUR PRVCA 83 034608
	2011LI22	NUCLEAR REACTIONS $^{129}\text{I}(\text{n}, \gamma)$, $^{197}\text{Au}(\text{n}, \gamma)$, E=thermal; measured reaction products, E_γ , I_γ ; deduced resonance integral, k_0 , σ ratio Q_0 and E_r -values. JOUR JRNC 289 49
^{198}Hg	2010F013	RADIOACTIVITY $^{198}\text{Au}(\beta^-)$ [from $^{197}\text{Au}(\text{n}, \gamma)$, E not given]; measured reaction products, E_γ , I_γ ; deduced $T_{1/2}$ and uncertainties, lack of temperature variations. JOUR ZAANE 46 161
	2010LI48	RADIOACTIVITY $^{198}\text{Au}(\beta^-)$ [from $^{197}\text{Au}(\text{n}, \gamma)$, E=thermal]; measured decay products, E_γ , I_γ ; deduced $T_{1/2}$, possible decay rate dependence on a radioactive source shape. JOUR NIMAE 622 93

A=199

^{199}Au	2011IS09	NUCLEAR REACTIONS $^{196}\text{Hg}(\gamma, \text{n})$, $^{198}\text{Hg}(\gamma, \text{np})$, (γ, n) , $^{199}\text{Hg}(\gamma, \text{p})$, $^{200}\text{Hg}(\gamma, \text{p})$, (γ, n) , $^{201}\text{Hg}(\gamma, \text{p})$, $^{202}\text{Hg}(\gamma, \text{p})$, $^{204}\text{Hg}(\gamma, \text{n})$, E<29.1 MeV; measured E_γ , I_γ ; deduced photonuclear reaction yields, metastable states. JOUR BRSPE 75 566
^{199}Hg	2011IS09	NUCLEAR REACTIONS $^{196}\text{Hg}(\gamma, \text{n})$, $^{198}\text{Hg}(\gamma, \text{np})$, (γ, n) , $^{199}\text{Hg}(\gamma, \text{p})$, $^{200}\text{Hg}(\gamma, \text{p})$, (γ, n) , $^{201}\text{Hg}(\gamma, \text{p})$, $^{202}\text{Hg}(\gamma, \text{p})$, $^{204}\text{Hg}(\gamma, \text{n})$, E<29.1 MeV; measured E_γ , I_γ ; deduced photonuclear reaction yields, metastable states. JOUR BRSPE 75 566

KEYNUMBERS AND KEYWORDS

A=200

²⁰⁰Au 2011IS09 NUCLEAR REACTIONS ¹⁹⁶Hg(γ , n), ¹⁹⁸Hg(γ , np), (γ , n), ¹⁹⁹Hg(γ , p), ²⁰⁰Hg(γ , p), (γ , n), ²⁰¹Hg(γ , p), ²⁰²Hg(γ , p), ²⁰⁴Hg(γ , n), E<29.1 MeV; measured E γ , I γ ; deduced photonuclear reaction yields, metastable states. JOUR BRSPE 75 566

A=201

²⁰¹Au 2011IS09 NUCLEAR REACTIONS ¹⁹⁶Hg(γ , n), ¹⁹⁸Hg(γ , np), (γ , n), ¹⁹⁹Hg(γ , p), ²⁰⁰Hg(γ , p), (γ , n), ²⁰¹Hg(γ , p), ²⁰²Hg(γ , p), ²⁰⁴Hg(γ , n), E<29.1 MeV; measured E γ , I γ ; deduced photonuclear reaction yields, metastable states. JOUR BRSPE 75 566

A=202

No references found

A=203

²⁰³Hg 2011IS09 NUCLEAR REACTIONS ¹⁹⁶Hg(γ , n), ¹⁹⁸Hg(γ , np), (γ , n), ¹⁹⁹Hg(γ , p), ²⁰⁰Hg(γ , p), (γ , n), ²⁰¹Hg(γ , p), ²⁰²Hg(γ , p), ²⁰⁴Hg(γ , n), E<29.1 MeV; measured E γ , I γ ; deduced photonuclear reaction yields, metastable states. JOUR BRSPE 75 566

²⁰³Pb 2011M006 NUCLEAR REACTIONS ¹²⁰Sn, ²⁰⁵Pb(p, t), E=50, 60 MeV; measured E(t), I(t), TOF; deduced σ ; investigated existence of giant pairing vibration (GPV) in ¹²⁰Sn and ²⁰⁵Pb. No clear signal found for GPV. JOUR PRVCA 83 037302

A=204

No references found

A=205

No references found

A=206

No references found

A=207

No references found

A=208

²⁰⁸ Tl	2010BAZW	RADIOACTIVITY ²¹² Bi(α), (β^-)[from ²⁰⁹ Bi salt electrolysis]; measured $E\alpha$, $I\alpha(t)$. CONF Sochi(EXON-2009) Proc,P241,Baranov
²⁰⁸ Pb	2010AS03	RADIOACTIVITY ²¹² Po(α); measured decay products, $E\gamma$, $I\gamma$, alpha spectrum; deduced branching ratios, partial $T_{1/2}$ for yrast states. JOUR ZAANE 46 165
	2010GOZV	NUCLEAR REACTIONS ²⁰⁸ Pb(⁷⁴ Kr, ⁷⁴ Kr'), $E=4.7$ MeV / nucleon; ²⁰⁸ Pb(⁷⁶ Kr, ⁷⁶ Kr'), $E=4.4$ MeV / nucleon; measured Coulomb excitation $E\gamma$, $I\gamma(\theta)$. ⁷⁴ Kr deduced levels, J , π , spectroscopic quadrupole moment, $B(E2)$; calculated levels, J , π , spectroscopic quadrupole moment, $B(E2)$. ⁶⁴ Ni(²³⁸ U, X), $E=6.5$ MeV / nucleon; measured $E\gamma$, $I\gamma(\theta)$. ^{60,62,64} Fe deduced $E(2^+)$, $T_{1/2}$, $B(E2)$. Comparison with published calculations and data on near-by isotopes. CONF Sochi(EXON-2009) Proc,P54,Gorgen
	2011CL03	NUCLEAR REACTIONS ²⁰⁸ Pb(⁷² Kr, ⁷² Kr'), (⁷⁴ Kr, ⁷⁴ Kr'), (⁷⁶ Kr, ⁷⁶ Kr'), (⁷⁸ Kr, ⁷⁸ Kr'), $E=4.5$ MeV / nucleon; ¹⁰⁹ Ag, ¹²⁰ Sn(⁹⁶ Sr, ⁹⁶ Sr'), E not given; measured reaction products, $E\gamma$, $I\gamma$. ^{72,74,76,78} Kr, ⁹⁶ Sr; deduced static quadrupole moments, $B(E2)$. Comparison with systematics and HFB calculations. JOUR IMPEE 20 415
	2011HA15	NUCLEAR REACTIONS ²⁰⁸ Pb(¹⁷⁸ Hf, ¹⁷⁸ Hf'), $E=985$ MeV; measured $E\gamma$, $I\gamma$, particle- γ -coin.; deduced energy levels, J , π , isomer bands, rotational sequence feeding. JOUR IMPEE 20 474
	2011HE08	NUCLEAR REACTIONS ²⁰⁸ Pb(p, p'), $E<14$ MeV; measured reaction products, proton spectrum. ²⁰⁸ Pb, ²⁰⁹ Bi; deduced level energies, σ , J , π , isobaric analog resonances, proton decay. Comparison to the available data. JOUR ZAANE 47 22
²⁰⁸ Po	2011PE15	NUCLEAR REACTIONS ²⁰⁹ Bi(⁶ Li, X) ²⁰⁸ Po / ²¹⁰ Po, ²⁰⁶ Pb(⁶ He, 2n), ²⁰⁸ Pb(α , 2n), E not given; ¹⁹⁷ Au(α , X), (⁶ He, X), (⁸ He, X), $E(\text{cm})<30$ MeV; measured reaction products; deduced fusion σ . JOUR IMPEE 20 938

A=209

²⁰⁹ Bi	2011HE08	NUCLEAR REACTIONS ²⁰⁸ Pb(p, p'), $E<14$ MeV; measured reaction products, proton spectrum. ²⁰⁸ Pb, ²⁰⁹ Bi; deduced level energies, σ , J , π , isobaric analog resonances, proton decay. Comparison to the available data. JOUR ZAANE 47 22
	2011SA13	NUCLEAR REACTIONS ²⁰⁹ Bi(⁶ Li, ⁶ Li), (⁶ Li, ⁶ Li'), (⁶ Li, X), $E=38$ MeV; measured fragment spectra, $\sigma(\theta)$; deduced σ for elastic, inelastic, and transfer channels. Comparison with optical model (OM) and coupled-channel (CC) calculations. JOUR PRVCA 83 034616

A=210

²¹⁰ Po	2011PE15	NUCLEAR REACTIONS ²⁰⁹ Bi(⁶ Li, X) ²⁰⁸ Po / ²¹⁰ Po, ²⁰⁶ Pb(⁶ He, 2n), ²⁰⁸ Pb(α , 2n), E not given; ¹⁹⁷ Au(α , X), (⁶ He, X), (⁸ He, X), $E(\text{cm})<30$ MeV; measured reaction products; deduced fusion σ . JOUR IMPEE 20 938
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KEYNUMBERS AND KEYWORDS

A=211

No references found

A=212

- ²¹²Bi 2010BAZW RADIOACTIVITY ²¹²Bi(α), (β^-)[from ²⁰⁹Bi salt electrolysis]; measured $E\alpha$, $I\alpha(t)$. CONF Sochi(EXON-2009) Proc,P241,Baranov
- ²¹²Po 2010AS03 NUCLEAR REACTIONS ²⁰⁸Pb(¹⁸O, ¹⁴C), E=85 MeV; measured reaction products, $E\gamma$, $I\gamma$, γ - γ -coin. ²¹²Po; deduced level scheme, transition energies, γ -ray intensities, J, π , angular-distribution coefficients, internal conversion coefficients, yrast states, lifetimes, B(E1), B(E2), B(E3). EUROBALL project, DSAM method, comparison with low-lying cluster structure models. JOUR ZAANE 46 165
- 2010AS03 RADIOACTIVITY ²¹²Po(α); measured decay products, $E\gamma$, $I\gamma$, alpha spectrum; deduced branching ratios, partial $T_{1/2}$ for yrast states. JOUR ZAANE 46 165
- 2010BAZW RADIOACTIVITY ²¹²Bi(α), (β^-)[from ²⁰⁹Bi salt electrolysis]; measured $E\alpha$, $I\alpha(t)$. CONF Sochi(EXON-2009) Proc,P241,Baranov
- 2011AS06 NUCLEAR REACTIONS ²⁰⁸Pb(¹⁸O, ¹⁴C)²¹²Po, E=85 MeV; measured reaction products, $E\gamma$, $I\gamma$, γ - γ - γ -coin.; deduced energies, states, J, π , yrast states, B(E1), α -²⁰⁸Pb states. JOUR IMPEE 20 785

A=213

- ²¹³Po 2011AS05 NUCLEAR REACTIONS ²⁰⁸Pb(¹⁸O, X), E=85 MeV; measured $E\gamma$, $I\gamma$, $\gamma(\theta)$, $\gamma\gamma$ -coin, cross section using Euroball IV array. ²¹³Po; deduced levels, J, π , conversion coefficients, multipolarity, configurations, yrast states. Comparison with empirical shell model predictions, and with level systematics of ²¹¹Pb and ²¹¹Po. JOUR PRVCA 83 034302

A=214

- ²¹⁴Po 2011HA13 RADIOACTIVITY ²⁶¹Rf, ^{261m}Rf(α), (SF)[from ²⁴⁸Cm(¹⁸O, 5n), E=93.1, 95.1 MeV]; measured $E\alpha$, $I\alpha$, α - α correlations, SF-events, α and SF branching ratios, half-lives, σ of ²⁶¹Rf g.s. and ²⁶¹Rf isomer. ²⁵⁷No(α); measured $E\alpha$, half-life. ²¹⁴Po, ²⁵⁴Fm, ^{255,259}Rf; measured $E\alpha$. JOUR PRVCA 83 034602

A=215

No references found

A=216

No references found

A=217

No references found

A=218

No references found

A=219

No references found

A=220

No references found

A=221

No references found

A=222

No references found

A=223

No references found

A=224

No references found

A=225

No references found

A=226

No references found

A=227

No references found

A=228

No references found

A=229

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|-------------------|----------|--|
| ^{229}Th | 2009P015 | RADIOACTIVITY $^{233}\text{U}(\alpha)$; measured $E\alpha$, $I\alpha$, $E\gamma$, $I\gamma$; deduced $T_{1/2}$. Comparison with evaluated and experimental data. JOUR MTRGA 46 439 |
| | 2011CA17 | NUCLEAR MOMENTS ^{229}Th ; measured nuclear fluorescence; deduced magnetic dipole and electric quadrupole hyperfine coefficients, spectroscopic electric quadrupole moment. Laser-cooled Wigner crystals, linear Paul trap. JOUR PRLTA 106 223001 |

A=230

No references found

A=231

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| ^{231}Th | 2011NA19 | NUCLEAR REACTIONS $^{232}\text{Th}(n, \gamma)$, $E=3.7, 9.85$ MeV; $^{232}\text{Th}(n, 2n)$, $E=9.85$ MeV; measured reaction and fission products, $E\gamma$, $I\gamma$; deduced neutron spectrum, σ . Comparison with ENDF / B-VII, JENDL-4.0 and JEFF-3.1 evaluated neutron libraries and TALYS-1.2 code. JOUR ZAANE 47 51 |
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A=232

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|-------------------|----------|--|
| ^{232}Th | 2011AD02 | NUCLEAR REACTIONS $^{232}\text{Th}(\gamma, \gamma')$, $E=2-4$ MeV; measured $E\gamma$, $I\gamma$, $\gamma\gamma(\theta)$, integrated σ using HI γ S facility; deduced widths. ^{232}Th ; deduced levels, J , π , multipolarity, $B(M1)$, $B(E1)$, branching ratios. Comparison of scissors mode summed $B(M1)$ strengths with those in ^{232}Th , $^{235,236,238}\text{U}$, and with predictions of quasiparticle random-phase approximation (QRPA). JOUR PRVCA 83 034615 |
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KEYNUMBERS AND KEYWORDS

A=233

- ^{233}Th 2011NA19 NUCLEAR REACTIONS $^{232}\text{Th}(n, \gamma)$, $E=3.7, 9.85$ MeV; $^{232}\text{Th}(n, 2n)$, $E=9.85$ MeV; measured reaction and fission products, $E\gamma$, $I\gamma$; deduced neutron spectrum, σ . Comparison with ENDF / B-VII, JENDL-4.0 and JEFF-3.1 evaluated neutron libraries and TALYS-1.2 code. JOUR ZAANE 47 51
- ^{233}U 2009P015 RADIOACTIVITY $^{233}\text{U}(\alpha)$; measured $E\alpha$, $I\alpha$, $E\gamma$, $I\gamma$; deduced $T_{1/2}$. Comparison with evaluated and experimental data. JOUR MTRGA 46 439

A=234

No references found

A=235

- ^{235}U 2011KW01 NUCLEAR REACTIONS $^{235}\text{U}(\gamma, \gamma')$, $E=1.6-3.0$ MeV; measured $E\gamma$, $I\gamma$, $\gamma\gamma$ -coin, integrated cross sections, and widths using HI γ S facility. ^{235}U ; deduced levels, J , π , branching ratios. Comparison with quasiparticle random-phase approximation in deformed basis for dipole transitions. JOUR PRVCA 83 041601

A=236

No references found

A=237

- ^{237}U 2011K021 RADIOACTIVITY $^{241}\text{Pu}(\beta^-)$, (α) ; measured decay products, $E\beta$, $I\beta$, $E\gamma$, $I\gamma$; deduced β -spectrum, the shape-factor function and an end-point energy, Q-value. JOUR ARISE 69 1246
- 2011MU09 NUCLEAR REACTIONS $^{236}\text{U}(n, \gamma)$, $E=1-2000$ eV; $^{236}\text{U}(n, F)$, $E=1-1000$ eV; $^{10}\text{B}(n, \alpha)$, $E=1-2000$ eV; measured reaction products, $E\gamma$, $I\gamma$; deduced σ . JOUR AENGA 110 115
- ^{237}Np 2011GU11 RADIOACTIVITY $^{253,254}\text{Es}$, ^{255}Fm , $^{241,243}\text{Am}(\alpha)$, $^{250}\text{Bk}(\beta^-)$; measured $E\alpha$, $I\alpha$, $E\gamma$, γ ; deduced temperature dependence of angular anisotropy, energy of magnetic hyperfine splitting, relation between mechanism of α -decay and deformation. Comparison with theoretical calculations. JOUR BRSPE 75 520

A=238

- ^{238}U 2011QU01 NUCLEAR REACTIONS $^{238}\text{U}(\gamma, \gamma')$, $E<2.6$ MeV; measured $E\gamma$, $I\gamma$; deduced energy levels, resonance parameters. JOUR NIMBE 269 1130

A=239

- ²³⁹U 2011AG09 NUCLEAR REACTIONS ⁵⁵Mn, ¹²⁷I, ^{152,154}Sm, ²³⁸U(n, γ),
E=thermal; measured $E\gamma$, $I\gamma$; deduced thermal neutron σ and
uncertainties. Activation technique. JOUR ANEND 38 1737
- ²³⁹Np 2011GU11 RADIOACTIVITY ^{253,254}Es, ²⁵⁵Fm, ^{241,243}Am(α), ²⁵⁰Bk(β^-);
measured $E\alpha$, $I\alpha$, $E\gamma$, γ ; deduced temperature dependence of angular
anisotropy, energy of magnetic hyperfine splitting, relation between
mechanism of α -decay and deformation. Comparison with theoretical
calculations. JOUR BRSPE 75 520

A=240

No references found

A=241

- ²⁴¹Pu 2011K021 RADIOACTIVITY ²⁴¹Pu(β^-), (α); measured decay products, $E\beta$, $I\beta$,
 $E\gamma$, $I\gamma$; deduced β -spectrum, the shape-factor function and an
end-point energy, Q-value. JOUR ARISE 69 1246
- ²⁴¹Am 2011GU11 RADIOACTIVITY ^{253,254}Es, ²⁵⁵Fm, ^{241,243}Am(α), ²⁵⁰Bk(β^-);
measured $E\alpha$, $I\alpha$, $E\gamma$, γ ; deduced temperature dependence of angular
anisotropy, energy of magnetic hyperfine splitting, relation between
mechanism of α -decay and deformation. Comparison with theoretical
calculations. JOUR BRSPE 75 520
- 2011K021 RADIOACTIVITY ²⁴¹Pu(β^-), (α); measured decay products, $E\beta$, $I\beta$,
 $E\gamma$, $I\gamma$; deduced β -spectrum, the shape-factor function and an
end-point energy, Q-value. JOUR ARISE 69 1246

A=242

No references found

A=243

- ²⁴³Am 2011GU11 RADIOACTIVITY ^{253,254}Es, ²⁵⁵Fm, ^{241,243}Am(α), ²⁵⁰Bk(β^-);
measured $E\alpha$, $I\alpha$, $E\gamma$, γ ; deduced temperature dependence of angular
anisotropy, energy of magnetic hyperfine splitting, relation between
mechanism of α -decay and deformation. Comparison with theoretical
calculations. JOUR BRSPE 75 520

A=244

No references found

A=245

No references found

A=246

²⁴⁶Fm 2010SVZW RADIOACTIVITY ²⁴⁶Fm(SF)[from ²⁰⁸Pb(⁴⁰Ar, 2n), E= 187 MeV]; measured E α , I α (t), neutron multiplicity; deduced T_{1/2}; calculated neutron multiplicity. CONF Sochi(EXON-2009) Proc,P334,Svirikhin

A=247

No references found

A=248

No references found

A=249

²⁴⁹Bk 2011GU11 RADIOACTIVITY ^{253,254}Es, ²⁵⁵Fm, ^{241,243}Am(α), ²⁵⁰Bk(β^-); measured E α , I α , E γ , γ ; deduced temperature dependence of angular anisotropy, energy of magnetic hyperfine splitting, relation between mechanism of α -decay and deformation. Comparison with theoretical calculations. JOUR BRSPE 75 520

A=250

²⁵⁰Bk 2011GU11 RADIOACTIVITY ^{253,254}Es, ²⁵⁵Fm, ^{241,243}Am(α), ²⁵⁰Bk(β^-); measured E α , I α , E γ , γ ; deduced temperature dependence of angular anisotropy, energy of magnetic hyperfine splitting, relation between mechanism of α -decay and deformation. Comparison with theoretical calculations. JOUR BRSPE 75 520

²⁵⁰Cf 2011GU11 RADIOACTIVITY ^{253,254}Es, ²⁵⁵Fm, ^{241,243}Am(α), ²⁵⁰Bk(β^-); measured E α , I α , E γ , γ ; deduced temperature dependence of angular anisotropy, energy of magnetic hyperfine splitting, relation between mechanism of α -decay and deformation. Comparison with theoretical calculations. JOUR BRSPE 75 520

A=251

²⁵¹Cf 2011GU11 RADIOACTIVITY ^{253,254}Es, ²⁵⁵Fm, ^{241,243}Am(α), ²⁵⁰Bk(β^-); measured $E\alpha$, $I\alpha$, $E\gamma$, γ ; deduced temperature dependence of angular anisotropy, energy of magnetic hyperfine splitting, relation between mechanism of α -decay and deformation. Comparison with theoretical calculations. JOUR BRSPE 75 520

A=252

²⁵²Cm 2010LIZZ RADIOACTIVITY ²⁵²Cm(SF); measured $E\gamma$, $I\gamma(\theta)$, $\gamma\gamma$ -coin. ^{111,112,113}Rh deduced new γ transitions, fission yield ratios ¹¹³Rh to ¹¹²Rh. ¹³⁴I deduced high-spin states. ¹³⁷I, ¹³⁹Cs deduced new γ transitions, levels, J, π , ICC, high-spin states. ¹⁴¹Cs deduced new γ transitions, levels, J, π , high-spin states, dipole moment. ¹⁴¹Cs deduced new γ transitions, levels, J, π . ¹³⁴Te, ¹³⁵I, ¹³⁷Xe calculated g-factors. CONF Sochi(EXON-2009) Proc,P64,Liu

²⁵²Cf 2011ER03 RADIOACTIVITY ²⁵²Cf(SF); measured $E\gamma$, $I\gamma$; deduced probability of γ -ray emission upon spontaneous fission. JOUR BRSPE 75 544

²⁵²No 2010SUZY NUCLEAR REACTIONS ²⁰⁶Pb(⁴⁸Ca, X), E=218 MeV; measured $E(\text{ce})$, $I(\text{ce}, t)$, $E\alpha$, $E\gamma$, $I\gamma$, $\gamma(\text{ce})$ -coin, $\alpha(\text{ce})$ -coin, (ER)(ce)-coin. ²⁵²No deduced high-spin levels, J, π , rotational band, isomer decay, g factor. CONF Sochi(EXON-2009) Proc,P322,Sulignano

A=253

²⁵³Es 2011GU11 RADIOACTIVITY ^{253,254}Es, ²⁵⁵Fm, ^{241,243}Am(α), ²⁵⁰Bk(β^-); measured $E\alpha$, $I\alpha$, $E\gamma$, γ ; deduced temperature dependence of angular anisotropy, energy of magnetic hyperfine splitting, relation between mechanism of α -decay and deformation. Comparison with theoretical calculations. JOUR BRSPE 75 520

²⁵³Fm 2011AN13 RADIOACTIVITY ²⁵³Md, ²⁵³No(EC), (β^+)[from ²⁰⁷Pb(⁴⁸Ca, 2n), E=218.4 MeV]; measured $E\alpha$, $I\alpha$, $E\gamma$, $I\gamma(t)$, delayed $\alpha\gamma$ -coin, X-rays, Ex, Ix(t), X γ -coin, $\beta\gamma$ -coin, $\gamma\gamma$ -coin. ²⁵³No deduced isomer decay $T_{1/2}$, transition multipolarities, levels, rotational band, ICC. ²⁵³Fm deduced levels, J, π , ICC, isomeric transition. JOUR ZAANE 47 62

2011HA13 RADIOACTIVITY ²⁶¹Rf, ^{261m}Rf(α), (SF)[from ²⁴⁸Cm(¹⁸O, 5n), E=93.1, 95.1 MeV]; measured $E\alpha$, $I\alpha$, α - α correlations, SF-events, α and SF branching ratios, half-lives, σ of ²⁶¹Rf g.s. and ²⁶¹Rf isomer. ²⁵⁷No(α); measured $E\alpha$, half-life. ²¹⁴Po, ²⁵⁴Fm, ^{255,259}Rf; measured $E\alpha$. JOUR PRVCA 83 034602

²⁵³Md 2011AN13 RADIOACTIVITY ²⁵³Md, ²⁵³No(EC), (β^+)[from ²⁰⁷Pb(⁴⁸Ca, 2n), E=218.4 MeV]; measured $E\alpha$, $I\alpha$, $E\gamma$, $I\gamma(t)$, delayed $\alpha\gamma$ -coin, X-rays, Ex, Ix(t), X γ -coin, $\beta\gamma$ -coin, $\gamma\gamma$ -coin. ²⁵³No deduced isomer decay $T_{1/2}$, transition multipolarities, levels, rotational band, ICC. ²⁵³Fm deduced levels, J, π , ICC, isomeric transition. JOUR ZAANE 47 62

KEYNUMBERS AND KEYWORDS

A=253 (continued)

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| ^{253}No | 2010HAZX | NUCLEAR REACTIONS ^{207}Pb , $^{209}\text{Bi}(^{48}\text{Ca}, 2n)$, E not given; measured $E\gamma$, $I\gamma$, X-rays, E(ce), $I\leftarrow\text{ce}E\alpha$, $\alpha\gamma$ -coin, $\alpha\beta$ -coin. ^{253}No , ^{255}Lr deduced isomeric states, $T_{1/2}$. CONF Sochi(EXON-2009) Proc,P269,Hauschild |
| | 2011AN13 | RADIOACTIVITY ^{253}Md , $^{253}\text{No}(\text{EC})$, (β^+) [from $^{207}\text{Pb}(^{48}\text{Ca}, 2n)$, $E=218.4$ MeV]; measured $E\alpha$, $I\alpha$, $E\gamma$, $I\gamma(t)$, delayed $\alpha\gamma$ -coin, X-rays, Ex, $Ix(t)$, $X\gamma$ -coin, $\beta\gamma$ -coin, $\gamma\gamma$ -coin. ^{253}No deduced isomer decay $T_{1/2}$, transition multipolarities, levels, rotational band, ICC. ^{253}Fm deduced levels, J, π , ICC, isomeric transition. JOUR ZAANE 47 62 |

A=254

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| ^{254}Es | 2011GU11 | RADIOACTIVITY $^{253,254}\text{Es}$, ^{255}Fm , $^{241,243}\text{Am}(\alpha)$, $^{250}\text{Bk}(\beta^-)$; measured $E\alpha$, $I\alpha$, $E\gamma$, γ ; deduced temperature dependence of angular anisotropy, energy of magnetic hyperfine splitting, relation between mechanism of α -decay and deformation. Comparison with theoretical calculations. JOUR BRSPE 75 520 |
| ^{254}Fm | 2011HA13 | RADIOACTIVITY ^{261}Rf , $^{261m}\text{Rf}(\alpha)$, (SF)[from $^{248}\text{Cm}(^{18}\text{O}, 5n)$, $E=93.1, 95.1$ MeV]; measured $E\alpha$, $I\alpha$, α - α correlations, SF-events, α and SF branching ratios, half-lives, σ of ^{261}Rf g.s. and ^{261}Rf isomer. $^{257}\text{No}(\alpha)$; measured $E\alpha$, half-life. ^{214}Po , ^{254}Fm , $^{255,259}\text{Rf}$; measured $E\alpha$. JOUR PRVCA 83 034602 |

A=255

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| ^{255}Fm | 2011GU11 | RADIOACTIVITY $^{253,254}\text{Es}$, ^{255}Fm , $^{241,243}\text{Am}(\alpha)$, $^{250}\text{Bk}(\beta^-)$; measured $E\alpha$, $I\alpha$, $E\gamma$, γ ; deduced temperature dependence of angular anisotropy, energy of magnetic hyperfine splitting, relation between mechanism of α -decay and deformation. Comparison with theoretical calculations. JOUR BRSPE 75 520 |
| ^{255}Lr | 2010HAZX | NUCLEAR REACTIONS ^{207}Pb , $^{209}\text{Bi}(^{48}\text{Ca}, 2n)$, E not given; measured $E\gamma$, $I\gamma$, X-rays, E(ce), $I\leftarrow\text{ce}E\alpha$, $\alpha\gamma$ -coin, $\alpha\beta$ -coin. ^{253}No , ^{255}Lr deduced isomeric states, $T_{1/2}$. CONF Sochi(EXON-2009) Proc,P269,Hauschild |
| ^{255}Rf | 2011HA13 | RADIOACTIVITY ^{261}Rf , $^{261m}\text{Rf}(\alpha)$, (SF)[from $^{248}\text{Cm}(^{18}\text{O}, 5n)$, $E=93.1, 95.1$ MeV]; measured $E\alpha$, $I\alpha$, α - α correlations, SF-events, α and SF branching ratios, half-lives, σ of ^{261}Rf g.s. and ^{261}Rf isomer. $^{257}\text{No}(\alpha)$; measured $E\alpha$, half-life. ^{214}Po , ^{254}Fm , $^{255,259}\text{Rf}$; measured $E\alpha$. JOUR PRVCA 83 034602 |

A=256

No references found

A=257

- ^{257}No 2011HA13 RADIOACTIVITY ^{261}Rf , $^{261m}\text{Rf}(\alpha)$, (SF)[from $^{248}\text{Cm}(^{18}\text{O}, 5n)$, $E=93.1, 95.1$ MeV]; measured $E\alpha$, $I\alpha$, α - α correlations, SF-events, α and SF branching ratios, half-lives, σ of ^{261}Rf g.s. and ^{261}Rf isomer. $^{257}\text{No}(\alpha)$; measured $E\alpha$, half-life. ^{214}Po , ^{254}Fm , $^{255,259}\text{Rf}$; measured $E\alpha$. JOUR PRVCA 83 034602

A=258

No references found

A=259

- ^{259}Rf 2011HA13 RADIOACTIVITY ^{261}Rf , $^{261m}\text{Rf}(\alpha)$, (SF)[from $^{248}\text{Cm}(^{18}\text{O}, 5n)$, $E=93.1, 95.1$ MeV]; measured $E\alpha$, $I\alpha$, α - α correlations, SF-events, α and SF branching ratios, half-lives, σ of ^{261}Rf g.s. and ^{261}Rf isomer. $^{257}\text{No}(\alpha)$; measured $E\alpha$, half-life. ^{214}Po , ^{254}Fm , $^{255,259}\text{Rf}$; measured $E\alpha$. JOUR PRVCA 83 034602

A=260

No references found

A=261

- ^{261}Rf 2011HA13 RADIOACTIVITY ^{261}Rf , $^{261m}\text{Rf}(\alpha)$, (SF)[from $^{248}\text{Cm}(^{18}\text{O}, 5n)$, $E=93.1, 95.1$ MeV]; measured $E\alpha$, $I\alpha$, α - α correlations, SF-events, α and SF branching ratios, half-lives, σ of ^{261}Rf g.s. and ^{261}Rf isomer. $^{257}\text{No}(\alpha)$; measured $E\alpha$, half-life. ^{214}Po , ^{254}Fm , $^{255,259}\text{Rf}$; measured $E\alpha$. JOUR PRVCA 83 034602
- 2011HA13 NUCLEAR REACTIONS $^{248}\text{Cm}(^{18}\text{O}, 5n)^{261}\text{Rf}$, $E=93.1, 95.1$ MeV; measured σ , isomer σ ratio, half-lives. JOUR PRVCA 83 034602

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