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**55 reference(s) found :**

**Keynumber:** 2001HAZR

**Reference:** INDC(CPR)-053/L, p.44 (2001)

**Authors:** Y.Han, Q.Shen, B.Yu, J.Zhang

**Title:** Calculation and Recommendation of  $n + {}^{175,176}\text{Lu}$  Reaction

**Keyword abstract:** NUCLEAR REACTIONS  $\text{Lu}, {}^{175}, {}^{176}\text{Lu}(n,X), (n,\gamma), (n,p), (n,\alpha), (n,xn), E < 20$  MeV; calculated  $\sigma$ . Comparisons with data.

**Keynumber:** 1999SU03

**Reference:** Yad.Fiz. 62, No 1, 24 (1999); Phys.Atomic Nuclei 62, 19 (1999)

**Authors:** A.M.Sukhovi, V.A.Khitrov

**Title:** Experimental Estimate of the Density of Levels in a Heavy Nucleus That Are Excited in  $(n,\gamma)$  Reactions at Excitation Energies of 3 to 4 MeV

**Keyword abstract:** NUCLEAR REACTIONS  ${}^{113}\text{Cd}, {}^{123}\text{Te}, {}^{145}\text{Nd}, {}^{149}\text{Sm}, {}^{155}, {}^{157}\text{Gd}, {}^{162}, {}^{163}, {}^{164}\text{Dy}, {}^{167}\text{Er}, {}^{173}, {}^{174}\text{Yb}, {}^{177}, {}^{178}, {}^{180}\text{Hf}, {}^{187}, {}^{189}\text{Os}, {}^{195}\text{Pt}, {}^{199}\text{Hg}, {}^{127}\text{I}, {}^{159}\text{Tb}, {}^{165}\text{Ho}, {}^{169}\text{Tm}, {}^{175}\text{Lu}, {}^{181}\text{Ta}, {}^{191}\text{Ir}, {}^{197}\text{Au}, {}^{124}\text{Te}, {}^{182}, {}^{185}\text{W}(n,\gamma), E=\text{thermal}; analyzed  $I\gamma$ ; deduced non-exponential level densities.$

**Keynumber:** 1999HO33

**Reference:** Pure Appl.Chem. 71, 2309 (1999)

**Authors:** N.E.Holden

**Title:** Temperature Dependence of the Westcott g-Factor for Neutron Reactions in Activation Analysis (Technical Report)

**Keyword abstract:** NUCLEAR REACTIONS  ${}^{103}\text{Rh}, {}^{113}\text{Cd}, {}^{115}\text{In}, {}^{135}\text{Xe}, {}^{148}\text{Pm}, {}^{149}, {}^{151}\text{Sm}, {}^{151}, {}^{152}, {}^{153}, {}^{154}, {}^{155}\text{Eu}, {}^{155}, {}^{157}\text{Gd}, {}^{164}\text{Dy}, {}^{175}, {}^{176}\text{Lu}, {}^{177}\text{Hf}, {}^{182}\text{Ta}, {}^{185}, {}^{187}\text{Re}, {}^{197}\text{Au}, {}^{231}, {}^{233}\text{Pa}, {}^{235}, {}^{238}\text{U}$   $(n,\gamma), E=\text{low}$ ; calculated Westcott g-factors vs temperature.

**Keynumber:** [1999DO03](#)

**Reference:** Phys.Rev. C59, 492 (1999)

**Authors:** C.Doll, H.G.Borner, S.Jaag, F.Kappeler, W.Andrejtscheff

**Title:** Lifetime Measurement in  ${}^{176}\text{Lu}$  and Its Astrophysical Consequences

**Keyword abstract:** NUCLEAR REACTIONS  ${}^{175}\text{Lu}(n,\gamma), E=\text{reactor}$ ; measured Doppler-broadened  $E\gamma, I\gamma$ .  ${}^{176}\text{Lu}$  level deduced  $T_{1/2}$ . Gamma-ray induced Doppler broadening technique. Astrophysical implications discussed.

**Keynumber:** 1999BO14

**Reference:** Yad.Fiz. 62, No 5, 892 (1999); Phys.Atomic Nuclei 62, 832 (1999)

**Authors:** S.T.Boneva, E.V.Vasilieva, L.I.Simonova, V.A.Bondarenko, A.M.Sukhovi, V.A.Khitrov

**Title:**  $(n,\gamma)$  Reactions in Heavy Nuclei: Manifestations of nuclear structure at excitation energies up to the neutron binding energy

**Keyword abstract:** NUCLEAR REACTIONS  ${}^{113}\text{Cd}, {}^{123}, {}^{124}\text{Te}, {}^{127}\text{I}, {}^{134}, {}^{136}, {}^{137}, {}^{138}\text{Ba}, {}^{139}\text{La}, {}^{142}, {}^{143}, {}^{145}\text{Nd}, {}^{149}\text{Sm}, {}^{155}, {}^{157}\text{Gd}, {}^{159}\text{Tb}, {}^{162}, {}^{163}, {}^{164}\text{Dy}, {}^{165}\text{Ho}, {}^{167}\text{Er}, {}^{169}\text{Tm}, {}^{173}, {}^{174}, {}^{176}\text{Yb}, {}^{175}, {}^{176}\text{Lu}, {}^{177}, {}^{178}, {}^{179}, {}^{180}\text{Hf}, {}^{181}\text{Ta}, {}^{182}, {}^{186}\text{W}, {}^{187}, {}^{189}\text{Os}, {}^{191}\text{Ir}, {}^{195}\text{Pt}, {}^{197}\text{Au}, {}^{199}\text{Hg}(n,\gamma), E \text{ not given}; analyzed two-photon  $\gamma$  cascade data; deduced structure effects.$

**Keynumber:** 1998KH14

**Reference:** Fizika(Zagreb) B7, 243 (1998)

**Authors:** V.A.Khitrov, A.M.Sukhovoij, J.Honzatko, I.Tomandl, G.Georgiev

**Title:** Main Peculiarities of the Cascade  $\gamma$ -Decay Process of the  $^{176}\text{Lu}$  Compound Nucleus

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma)$ , E=thermal; measured  $E\gamma, I\gamma, \gamma\gamma$ -coin.  $^{176}\text{Lu}$  deduced transitions, two-step cascade intensities, vibrational excitations, level density features.

**Keynumber:** 1997SU29

**Reference:** Bull.Rus.Acad.Sci.Phys. 61, 1611 (1997)

**Authors:** A.M.Sukhovoij, V.A.Khitrov

**Title:** Cascade Gamma Decay of the Compound State of Heavy Nucleus as Seen Experimentally

**Keyword abstract:** NUCLEAR REACTIONS  $^{113}\text{Cd}$ ,  $^{127}\text{I}$ ,  $^{123}\text{Te}$ ,  $^{134}$ ,  $^{136}$ ,  $^{137}$ ,  $^{138}\text{Ba}$ ,  $^{142}$ ,  $^{143}$ ,  $^{145}\text{Nd}$ ,  $^{149}\text{Sm}$ ,  $^{155}$ ,  $^{157}\text{Gd}$ ,  $^{159}\text{Tb}$ ,  $^{165}\text{Ho}$ ,  $^{162}$ ,  $^{163}$ ,  $^{164}\text{Dy}$ ,  $^{167}\text{Er}$ ,  $^{169}\text{Tm}$ ,  $^{173}$ ,  $^{174}$ ,  $^{176}\text{Yb}$ ,  $^{175}$ ,  $^{176}\text{Lu}$ ,  $^{177}$ ,  $^{178}$ ,  $^{179}$ ,  $^{180}\text{Hf}$ ,  $^{195}\text{Pt}$ ,  $^{199}\text{Hg}$ ,  $^{181}\text{Ta}$ ,  $^{182}$ ,  $^{186}\text{W}$ ,  $^{191}\text{Ir}$ ,  $^{197}\text{Au}(n,\gamma)$ , E=thermal; analyzed  $\gamma$  spectra,  $\gamma\gamma$ -coin.  $^{114}\text{Cd}$ ,  $^{124}\text{Te}$ ,  $^{137}$ ,  $^{138}$ ,  $^{139}\text{Ba}$ ,  $^{146}\text{Nd}$ ,  $^{150}\text{Sm}$ ,  $^{156}$ ,  $^{158}\text{Gd}$ ,  $^{160}\text{Tb}$ ,  $^{164}\text{Dy}$ ,  $^{168}\text{Er}$ ,  $^{170}\text{Tm}$ ,  $^{174}\text{Yb}$ ,  $^{181}\text{Hf}$ ,  $^{196}\text{Pt}$ ,  $^{200}\text{Hg}$ ,  $^{182}\text{Ta}$ ,  $^{183}\text{W}$ ,  $^{192}\text{Ir}$ ,  $^{198}\text{Au}$  deduced two-quantum cascade intensities vs excitation energy, level density parameters, pairing features.

**Keynumber:** 1997KHZV

**Reference:** Proc.5th Intern.Seminar on Int.of Neutrons with Nuclei, Dubna, p.207 (1997)

**Authors:** V.A.Khitrov, A.M.Sukhovoij, J.Honzatko, I.Tomandl, G.Georgiev

**Title:** Cascade Gamma Decay of the  $^{176,177}\text{Lu}$  Compound Nuclei

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}$ ,  $^{176}\text{Lu}(n,\gamma)$ , E=thermal; measured  $E\gamma, I\gamma, \gamma\gamma$ -coin, two-step cascade intensities.  $^{176}$ ,  $^{177}\text{Lu}$  deduced level densities.

**Keynumber:** 1992PE13

**Reference:** Nucl.Instrum.Methods Phys.Res. A321, 259 (1992)

**Authors:** P.Petkov, W.Andrejscheff, S.Avramov

**Title:** Complex Time Distributions from Isomers in Cascade: A case in  $^{176}\text{Lu}$

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma)$ , E not given; measured  $\gamma$ -spectra time distribution.  $^{176}\text{Lu}$  deduced isomers  $T_{1/2}$ .

**Keynumber:** [1991ZH12](#)

**Reference:** Phys.Rev. C44, 506 (1991)

**Authors:** W.R.Zhao, F.Kappeler

**Title:** Stellar Production Cross Section of  $^{176m}\text{Lu}$

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma)$ , E=25 keV; measured isomer partial  $\sigma$ ; deduced astrophysical implications.  $^{176}\text{Lu}$  level deduced evidence for thermally induced deexcitation to ground state.

**Keynumber:** [1991KL02](#)

**Reference:** Phys.Rev. C44, 2801 (1991)

**Authors:** N.Klay, F.Kappeler, H.Beer, G.Schatz, H.Borner, F.Hoyler, S.J.Robinson, K.Schreckenbach, B.Krusche, U.Mayerhofer, G.Hlawatsch, H.Lindner, T.von Egidy, W.Andrejscheff, P.Petkov

**Title:** Nuclear Structure of  $^{176}\text{Lu}$  and Its Astrophysical Consequences. I. Level Scheme of  $^{176}\text{Lu}$

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma)$ ,  $(n,e^-)$ , E=thermal; measured  $E\gamma, I\gamma, I(ce), \gamma\gamma$ -coin.  $^{175}\text{Lu}(d,p)$ , Ed=20.118 MeV; measured proton spectra.  $^{176}\text{Lu}$  deduced

levels,  $J, \pi, T_{1/2}$ , isomer, neutron separation energy.

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**Keynumber:** 1989PE04

**Reference:** Nucl.Instrum.Methods Phys.Res. B40/41, 1205 (1989)

**Authors:** R.Pepelnik

**Title:** Sensitivities of High-Flux 14 MeV Neutron Activation Analysis

**Keyword abstract:** NUCLEAR REACTIONS  $^{11}\text{B}$ ,  $^{16}\text{O}$ ,  $^{19}\text{F}$ ,  $^{20}\text{Ne}$ ,  $^{23}\text{Na}$ ,  $^{24}\text{Mg}$ ,  $^{27}\text{Al}$ ,  $^{28}\text{Si}$ ,  $^{34}\text{S}$ ,  $^{44}\text{Ca}$ ,  $^{51}\text{V}$ ,  $^{60}\text{Ni}$ ,  $^{75}\text{As}$ ,  $^{109}\text{Ag}(n,p)$ ,  $^{31}\text{P}$ ,  $^{40}\text{Ar}$ ,  $^{55}\text{Mn}$ ,  $^{65}\text{Cu}$ ,  $^{93}\text{Nb}(n,\alpha)$ ,  $^{35}\text{Cl}$ ,  $^{45}\text{Sc}$ ,  $^{64}\text{Zn}$ ,  $^{71}\text{Ga}$ ,  $^{76}\text{Ge}$ ,  $^{80}\text{Se}$ ,  $^{79}\text{Br}$ ,  $^{86}\text{Kr}$ ,  $^{85}\text{Rb}$ ,  $^{90}\text{Zr}$ ,  $^{100}\text{Mo}$ ,  $^{96}\text{Ru}$ ,  $^{110}\text{Pd}$ ,  $^{124}\text{Sn}$ ,  $^{123}\text{Sb}$ ,  $^{130}\text{Te}$ ,  $^{136}\text{Xe}$ ,  $^{133}\text{Cs}$ ,  $^{138}\text{Ba}$ ,  $^{140}\text{Ce}$ ,  $^{141}\text{Pr}$ ,  $^{142}\text{Nd}$ ,  $^{144}\text{Sm}$ ,  $^{160}\text{Gd}$ ,  $^{159}\text{Tb}$ ,  $^{165}\text{Ho}$ ,  $^{164}\text{Er}$ ,  $^{169}\text{Tm}$ ,  $^{168}\text{Yb}$ ,  $^{181}\text{Ta}$ ,  $^{186}\text{W}$ ,  $^{198}\text{Pt}$ ,  $^{191}\text{Ir}$ ,  $^{197}\text{Au}$ ,  $^{203}\text{Tl}$ ,  $^{208}\text{Pb}(n,2n)$ , Ti, Cr, Fe, Sr, Cd, Eu, Hf,  $^{200}\text{Hg}(n,X)$ ,  $^{59}\text{Co}$ ,  $^{103}\text{Rh}$ ,  $^{115}\text{In}$ ,  $^{127}\text{I}$ ,  $^{164}\text{Dy}$ ,  $^{175}\text{Lu}$ ,  $^{187}\text{Re}$ ,  $^{226}\text{Ra}$  ( $n,\gamma$ ),  $^{232}\text{Th}$ ,  $^{238}\text{U}(n,F), E=14$  MeV; calculated analytical sensitivities. Activation analysis.

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**Keynumber:** 1989DU03

**Reference:** Nucl.Instrum.Methods Phys.Res. A278, 484 (1989)

**Authors:** P.Durner, T.von Egidy, F.J.Hartmann

**Title:** Neutron-Capture Gamma Rays below 40 keV

**Keyword abstract:** NUCLEAR REACTIONS  $^{27}\text{Al}$ ,  $^{39}\text{K}$ ,  $^{51}\text{V}$ ,  $^{127}\text{I}$ ,  $^{133}\text{Cs}$ ,  $^{159}\text{Tb}$ ,  $^{165}\text{Ho}$ ,  $^{169}\text{Tm}$ ,  $^{175}\text{Lu}$ ,  $^{181}\text{Ta}$ ,  $^{191}\text{Ir}$ ,  $^{197}\text{Au}$ ,  $^{232}\text{Th}(n,\gamma), E=\text{low}$ ; measured  $E_\gamma$ , absolute  $I_\gamma$ .  $^{28}\text{Al}$ ,  $^{40}\text{K}$ ,  $^{52}\text{V}$ ,  $^{128}\text{I}$ ,  $^{134}\text{Cs}$ ,  $^{160}\text{Tb}$ ,  $^{166}\text{Ho}$ ,  $^{170}\text{Tm}$ ,  $^{176}\text{Lu}$ ,  $^{182}\text{Ta}$ ,  $^{192}\text{Ir}$ ,  $^{198}\text{Au}$ ,  $^{233}\text{Th}$  deduced transitions. Si-Li detector.

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**Keynumber:** 1988GA05

**Reference:** J.Phys.(London) G14, Supplement S315 (1988)

**Authors:** M.A.Gardner, D.G.Gardner, R.W.Hoff

**Title:** The Impact of Calculated Photon-Induced Isomer Production in  $^{176}\text{Lu}$  on Its use as a Stellar Chronometer and/or Thermometer

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}$ ,  $^{176}\text{Lu}(n,\gamma), E \leq 2$  MeV; calculated capture  $\sigma(E)$ .  $^{175}\text{Lu}(\gamma,n)$ ,  $(\gamma,2n), E=\text{threshold}-18$  MeV; calculated photoneutron  $\sigma(E)$ .  $^{176}$ ,  $^{176m}\text{Lu}$  deduced production, decay features. Stellar chronometer implications.

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**Keynumber:** 1987BE53

**Reference:** Yad.Fiz. 46, 392 (1987)

**Authors:** F.Becvar, J.Honzatko, M.E.Montero-Cabrera, S.A.Telezhnikov, Huynh Thuong Hiep

**Title:** Study of Photon Strength Functions of  $^{174}\text{Yb}$  and  $^{176}$ ,  $^{177}\text{Lu}$  by Means of ( $n,\gamma$ ) Reaction in Isolated Resonances

**Keyword abstract:** NUCLEAR REACTIONS  $^{173}\text{Yb}$ ,  $^{175}$ ,  $^{176}\text{Lu}(n,\gamma), E=\text{reactor spectrum}$ ; measured  $E_\gamma, I_\gamma$ .  $^{174}\text{Yb}$ ,  $^{176}$ ,  $^{177}\text{Lu}$  deduced  $\gamma$ - strength functions, E1 transition characteristics. Tof.

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**Keynumber:** 1986IG01

**Reference:** Nucl.Phys. A457, 301 (1986)

**Authors:** M.Igashira, H.Kitazawa, M.Shimizu, H.Komano, N.Yamamuro

**Title:** Systematics of the Pygmy Resonance in keV Neutron Capture  $\gamma$ -Ray Spectra of Nuclei with  $N \approx 82-126$

**Keyword abstract:** NUCLEAR REACTIONS  $^{141}\text{Pr}$ ,  $^{159}\text{Tb}$ ,  $^{165}\text{Ho}$ ,  $^{175}\text{Lu}$ , Ta,  $^{197}\text{Au}(n,\gamma), E=10-800$  keV; measured  $\sigma(E, E_\gamma)$  versus  $\theta$ ; deduced  $\gamma$ -ray strength functions. Natural targets.

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**Keynumber:** 1986HO30

**Reference:** Radiat.Eff. 95, 119 (1986)

**Authors:** R.W.Hoff, D.G.Gardner, M.A.Gardner

**Title:** Reaction Cross-Section Calculations using New Experimental and Theoretical Level Structure Data for Deformed Nuclei

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma)$ ,  $^{237}\text{Np}(n,2n)$ , E not given; calculated isomer production  $\sigma$  ratio. Modeling level structure technique.

**Keyword abstract:** NUCLEAR STRUCTURE  $^{238}\text{Np}$ ,  $^{244}\text{Am}$ ,  $^{250}\text{Bk}$ ,  $^{160}\text{Tb}$ ,  $^{166}\text{Ho}$ ,  $^{170}\text{Tm}$ ,  $^{176}\text{Lu}$ ,  $^{182}\text{Ta}$ ; calculated levels, bandhead energies, rotational parameters, Gallagher-Moszkowski splittings. Modeling level structure technique.

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**Keynumber:** 1985HO08

**Reference:** Nucl.Phys. A437, 285 (1985)

**Authors:** R.W.Hoff, R.F.Casten, M.Bergoffen, D.D.Warner

**Title:** Test of a Phenomenological Model of Odd-Odd Deformed Nuclei: An Arc study of  $^{176}\text{Lu}$

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma)$ , E=2,24 keV; measured  $E_\gamma, I_\gamma$ .  $^{176}\text{Lu}$  deduced resonances, J,  $\pi$ , configuration, rotational bands. Average resonance capture technique. Phenomenological model.

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**Keynumber:** 1984GAZZ

**Reference:** Bull.Am.Phys.Soc. 29, No.4, 637, AJ11 (1984)

**Authors:** D.G.Gardner, M.A.Gardner, R.W.Hoff

**Title:** The Necessity of Discrete-Level Modeling in Isomer Ratio Calculations for Neutron-Induced Reactions on Deformed Nuclei

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}$ ,  $^{241}$ ,  $^{243}\text{Am}(n,\gamma)$ ,  $^{175}\text{Lu}$ ,  $^{237}\text{Np}(n,2n)$ , E not given; calculated isomer to ground state production  $\sigma$ . Single-particle, rotational excitation based model level set.

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**Keynumber:** 1984BEZB

**Reference:** Proc.Conf.Neutron Physics, Kiev, Vol.3, p.12 (1984)

**Authors:** F.Bechvarzh, Huynh Thuong Hiep, M.-E.Montero-Cabrera, S.Pospisil, S.A.Telezhnikov

**Title:**

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma)$ , E <50 eV; measured  $\gamma$ -spectra; deduced no reduced  $\Gamma_n$ , partial  $\Gamma_\gamma$  correlation.  $^{176}\text{Lu}$  deduced possible levels. ToF.

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**Keynumber:** 1984BE34

**Reference:** Phys.Rev. C30, 464 (1984)

**Authors:** H.Beer, G.Walter, R.L.Macklin, P.J.Patchett

**Title:** Neutron Capture Cross Sections and Solar Abundances of  $^{160}$ ,  $^{161}\text{Dy}$ ,  $^{170}$ ,  $^{171}\text{Yb}$ ,  $^{175}$ ,  $^{176}\text{Lu}$ , and  $^{176}$ ,  $^{177}\text{Hf}$  for the s-Process Analysis of the Radionuclide  $^{176}\text{Lu}$

**Keyword abstract:** NUCLEAR REACTIONS  $^{160}$ ,  $^{161}\text{Dy}$ ,  $^{170}$ ,  $^{171}\text{Yb}$ ,  $^{175}$ ,  $^{176}\text{Lu}$ ,  $^{176}$ ,  $^{177}\text{Hf}(n,\gamma)$ , E  $\approx$  3-500 keV; measured  $\sigma(E), \gamma$  yields; deduced Maxwellian  $\langle \sigma \rangle$  solar abundances, s-process temperature constraints.  $^{176}$ ,  $^{177}\text{Lu}$ ,  $^{177}$ ,  $^{178}\text{Hf}$ ,  $^{161}$ ,  $^{162}\text{Dy}$ ,  $^{171}$ ,  $^{172}\text{Yb}$  deduced resonances, parameters,  $(g\Gamma_n\Gamma_\gamma/\Gamma)$ , s-wave strength functions.

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**Keynumber:** 1981AL17

**Reference:** J.Phys.(London) G7, 1271 (1981)

**Authors:** B.J.Allen, G.C.Lowenthal, J.R.de Laeter

**Title:** s-Process Branch at  $^{176}\text{Lu}$

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma), E < 105 \text{ keV}$ ; measured  $\sigma$  relative to Au.  $^{176}$ ,  $^{176\text{m}}\text{Lu}$  deduced  $\gamma$ -branching ratio.  $^{176}\text{Lu}$  deduced ground state chronometric role nonvalidity in s-process. Activation,  $\beta$ - $\gamma$  coincidence techniques.

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**Keynumber:** 1980BEZC

**Reference:** NEANDC(E)-212U, Vol V, p.5 (1980)

**Authors:** H.Beer, F.Kappeler, K.Wisshak

**Title:** The Neutron Capture Cross Sections of Yb,  $^{170}\text{Yb}$ , Lu,  $^{175}\text{Lu}$  and  $^{184}\text{W}$

**Keyword abstract:** NUCLEAR REACTIONS  $^{170}\text{Yb}$ ,  $^{175}\text{Lu}$ ,  $^{184}\text{W}$ , Yb, Lu(n, $\gamma$ ), E=5-200 keV; measured  $\sigma(E)$ .

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**Keynumber:** 1980BE05

**Reference:** Phys.Rev. C21, 534 (1980); Erratum Phys.Rev. C21, 2139 (1980)

**Authors:** H.Beer, F.Kappeler

**Title:** Neutron Capture Cross Sections on  $^{138}\text{Ba}$ ,  $^{140}$ ,  $^{142}\text{Ce}$ ,  $^{175}$ ,  $^{176}\text{Lu}$ , and  $^{181}\text{Ta}$  at 30 KeV: Prerequisite for Investigation of the  $^{176}\text{Lu}$  Cosmic Clock

**Keyword abstract:** NUCLEAR REACTIONS  $^{138}\text{Ba}$ ,  $^{140}$ ,  $^{142}\text{Ce}$ ,  $^{175}$ ,  $^{176}\text{Lu}$ ,  $^{181}\text{Ta}(n,\gamma), E=30 \text{ keV}$ ; measured  $\sigma$ ; deduced solar S process age, Hf/Lu abundance.

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**Keynumber:** 1979BEZF

**Reference:** Bull.Am.Phys.Soc. 24, No.7, 871, CC9 (1979)

**Authors:** H.Beer, F.Kappeler, K.Wisshak

**Title:** The Neutron Capture Cross Sections of Natural Yb,  $^{170}\text{Yb}$ ,  $^{175}\text{Lu}$  and  $^{184}\text{W}$  in the Energy Range from 5 to 200 keV for the  $^{176}\text{Lu}$ -Chronometer

**Keyword abstract:** NUCLEAR REACTIONS Yb,  $^{170}\text{Yb}$ ,  $^{175}\text{Lu}$ ,  $^{184}\text{W}(n,\gamma), E=5-200 \text{ keV}$ ; measured  $\sigma$ .

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**Keynumber:** 1979BEZE

**Reference:** Bull.Am.Phys.Soc. 24, No.7, 871, CC11 (1979)

**Authors:** H.Beer, F.Kappeler

**Title:** The Measurement of Maxwellian Averaged Capture Cross Sections for  $^{138}\text{Ba}$ ,  $^{140}\text{Ce}$ ,  $^{175}\text{Lu}$  and  $^{176}\text{Lu}$  with a Special Activation Technique

**Keyword abstract:** NUCLEAR REACTIONS  $^{138}\text{Ba}$ ,  $^{140}$ ,  $^{142}\text{Ce}$ ,  $^{175}$ ,  $^{176}\text{Lu}(n,\gamma), E$  not given; measured Maxwellian averaged  $\sigma$ .

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**Keynumber:** 1979AG02

**Reference:** J.Phys.Soc.Jpn. 46, 1 (1979)

**Authors:** H.M.Agrawal, M.L.Sehgal

**Title:** Statistical Theory Calculations of Neutron-Capture Cross-Sections at 24 keV

**Keyword abstract:** NUCLEAR REACTIONS  $^{45}\text{Sc}$ ,  $^{55}\text{Mn}$ ,  $^{63}$ ,  $^{65}\text{Cu}$ ,  $^{69}$ ,  $^{71}\text{Ga}$ ,  $^{75}\text{As}$ ,  $^{79}$ ,  $^{81}\text{Br}$ ,  $^{80}\text{Se}$ ,  $^{85}$ ,  $^{87}\text{Rb}$ ,  $^{89}\text{Y}$ ,  $^{93}\text{Nb}$ ,  $^{96}\text{Zr}$ ,  $^{98}$ ,  $^{100}\text{Mo}$ ,  $^{107}$ ,  $^{109}\text{Ag}$ ,  $^{108}\text{Pd}$ ,  $^{114}\text{Cd}$ ,  $^{115}\text{In}$ ,  $^{127}\text{I}$ ,  $^{133}\text{Cs}$ ,  $^{138}\text{Ba}$ ,  $^{139}\text{La}$ ,  $^{140}$ ,  $^{142}\text{Ce}$ ,  $^{141}\text{Pr}$ ,  $^{152}$ ,  $^{154}\text{Sm}$ ,  $^{158}$ ,  $^{160}\text{Gd}$ ,  $^{164}\text{Dy}$ ,  $^{165}\text{Ho}$ ,  $^{170}\text{Er}$ ,  $^{175}\text{Lu}$ ,  $^{180}\text{Hf}$ ,  $^{181}\text{Ta}$ ,  $^{184}$ ,  $^{186}\text{W}$ ,  $^{185}$ ,  $^{187}\text{Re}$ ,  $^{197}\text{Au}$ ,  $^{202}\text{Hg}$ ,  $^{208}\text{Pb}$ ,  $^{209}\text{Bi}$ ,  $^{232}\text{Th}(n,\gamma), E=24 \text{ keV}$ ; calculated  $\sigma$ ; deduced ratio of average  $\Gamma\gamma$  to average level spacing. Margolis formula of statistical theory, low energy resonance parameters.

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**Keynumber:** 1978AL12

**Reference:** Czech.J.Phys.B28, 17 (1978)

**Authors:** L.Aldea, F.Becvar, H.T.Hiep, S.Pospisil, S.A.Telezhnikov

**Title:** Statistical Properties of Secondary  $\gamma$ -Transitions in the  $^{175}, ^{176}\text{Lu}(n,\gamma)^{176}, ^{177}\text{Lu}$  Reactions

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}, ^{176}\text{Lu}(n,\gamma)$ , E=reactor spectrum; measured  $\sigma(E, E\gamma)$ .  $^{176}, ^{177}\text{Lu}$  deduced resonances, levels, J,  $\pi$ .

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**Keynumber:** 1977ALZS

**Coden:** REPT JINR-P3-10012, L Aldea

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}, ^{176}\text{Lu}(n,\gamma)$ , E=reactor; measured  $E\gamma, I\gamma$ .  $^{176}, ^{177}\text{Lu}$  resonances deduced  $\Gamma_n$ .

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**Keynumber:** 1976WI06

**Reference:** Nucl.Sci.Eng. 60, 53 (1976)

**Authors:** J.F.Widder

**Title:** Neutron-Capture Cross Sections of the Europium and Lutetium Isotopes from 0.01 to 10 eV

**Keyword abstract:** NUCLEAR REACTIONS  $^{151}, ^{153}\text{Eu}, ^{175}, ^{176}\text{Lu}(n,\gamma)$ , E=0.01-10 eV; measured  $\sigma(E, E\gamma)$ .

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**Keynumber:** 1975WIZU

**Coden:** REPT ERDA/NDC-2, p28, Wilson

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}, ^{176}\text{Lu}(n,\gamma)$ ; measured  $\sigma(E, E\gamma)$ .  $^{176}, ^{177}\text{Lu}$  deduced levels, J,  $\pi$ , M1, E1 strength functions.

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**Keynumber:** 1975WIYY

**Coden:** REPT ANL-75-75, P140

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}, ^{176}\text{Lu}(n,\gamma)$ , E=thermal; measured  $\sigma(E\gamma)$ .  $^{176}, ^{177}\text{Lu}$  deduced resonances, J,  $\pi$ .

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**Keynumber:** 1975NA02

**Reference:** Nucl.Phys. A237, 45 (1975)

**Authors:** A.I.Namenson, A.Stolovy, G.L.Smith

**Title:** Spins of Low-Energy Neutron Resonances in  $^{175}\text{Lu}$ ,  $^{189}\text{Os}$  and  $^{187}\text{Os}$

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}, ^{187}, ^{189}\text{Os}(n,\gamma)$ , E=2.6-300 eV; measured  $E\gamma, I\gamma$ .  $^{176}\text{Lu}, ^{190}\text{Os}$  resonances deduced J, gn-width, spin cut-off factors.  $^{188}\text{Os}$  resonances deduced J. Enriched targets.

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**Keynumber:** 1975LI07

**Reference:** Phys.Rev. C11, 1231 (1975)

**Authors:** H.I.Liou, J.Rainwater, G.Hacken, U.N.Singh

**Title:** Neutron Resonance Spectroscopy:  $^{175}\text{Lu}$

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,n), (n,\gamma)$ , E=1 eV-3 keV; measured total  $\sigma(E), \sigma(E, E\gamma)$ .  $^{176}\text{Lu}$  deduced resonances, level-width.

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**Keynumber:** 1975GE11

**Reference:** Nucl.Phys. A251, 305 (1975)

**Authors:** D.Geinoz, J.Kern, R.Piepenbring

**Title:** Study of the  $^{176}\text{Lu}(n,\gamma)^{177}\text{Lu}$  Reaction Using a Gamma Band-Filter Spectrometer

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}, ^{176}\text{Lu}(n,\gamma)$ , E=thermal; measured  $E\gamma, I\gamma$ .  $^{176}\text{Lu}$  deduced transitions.  $^{177}\text{Lu}$  deduced levels, J,  $\pi$ , K. Coriolis calculation.

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**Keynumber:** 1974NAZV

**Coden:** JOUR BAPSA 19 574 JF11

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma)$ ; measured  $\sigma(E\gamma)$ .  $^{176}\text{Lu}$  deduced resonances, J,  $\pi$ .

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**Keynumber:** 1974NAZM

**Coden:** REPT USNDC-11 P176

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma)$ ; measured  $E\gamma, I\gamma$ .  $^{176}\text{Lu}$  levels deduced J,  $\pi$ .

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**Keynumber:** 1974NAZK

**Coden:** CONF Petten(Neutron Capture Gamma Ray Spectroscopy),P87

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma), E < 274 \text{ eV}$ ; measured  $\sigma(E, E\gamma)$ .  $^{176}\text{Lu}$  deduced resonances, J.

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**Keynumber:** 1974GEZR

**Reference:** Use Reference 75Ge11

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}, ^{176}\text{Lu}(n,\gamma), E=\text{thermal}$ ; measured  $E\gamma, I\gamma$ .  $^{176}, ^{177}\text{Lu}$  deduced transitions.  $^{177}\text{Lu}$  deduced levels, J,  $\pi$ .

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**Keynumber:** 1974AN12

**Reference:** Nucl.Phys. A226, 142 (1974)

**Authors:** W.Andrejscheff, P.Manfrass, W.Seidel

**Title:** Transition Probabilities in the Doubly Odd Nuclei  $^{176}\text{Lu}$  and  $^{182}\text{Ta}$

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma), E=\text{thermal}$ ; measured  $\gamma\gamma(t)$ .  $^{176}\text{Lu}$  deduced levels,  $T_{1/2}$ .  $^{181}\text{Ta}(n,\gamma), E=\text{thermal}$ ; measured  $E\gamma, \gamma\gamma(t)$ .  $^{182}\text{Ta}$  deduced levels,  $T_{1/2}, J, \pi$ . Enriched Lu, natural Ta targets. Ge(Li), NaI(Tl) detectors.

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**Keynumber:** 1973SEYU

**Coden:** REPT ZFK-262,p2-22

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma)$ ; measured  $\sigma(E\gamma), \gamma(t)$ .  $^{176}\text{Lu}$  deduced levels,  $T_{1/2}$ .

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**Keynumber:** 1973PRZI

**Reference:** Spectra of Electromagnetic Transitions and Level Schemes Following Thermal Neutron Capture by Nuclides with A 143-193, P.Prokofev, J.Berzins, G.Rezvaya, Eds., Publishing House 'Zinatne', Riga (1973)

**Authors:** P.Prokofev, M.Balodis, M.Beitins, Y.Berzin, V.Bondarenko, N.Kramer, A.Krumina, G.Rezvaya, L.Simonova

**Title:**

**Keyword abstract:** NUCLEAR REACTIONS  $^{143}, ^{145}\text{Nd}$ ,  $^{149}\text{Sm}$ ,  $^{167}\text{Er}$ ,  $^{174}\text{Yb}$ ,  $^{175}, ^{176}\text{Lu}$ ,  $^{177}, ^{178}\text{Hf}$ ,  $^{181}\text{Ta}$ ,  $^{186}\text{W}(n,\gamma)$ ,  $E=\text{thermal}$ ; measured  $E\gamma, I\gamma, I(\text{ce})$ . Deduced ICC.  $^{151}\text{Eu}$ ,  $^{155}\text{Gd}(n,\gamma)$ ,  $E=\text{thermal}$ ; measured  $E\gamma, I(\text{ce})$ . Deduced ICC.  $^{157}\text{Gd}$ ,  $^{162}, ^{164}\text{Dy}$ ,  $^{165}\text{Ho}$ ,  $^{168}\text{Yb}$ ,  $^{169}\text{Tm}(n,\gamma)$ ,  $E=\text{thermal}$ ; measured I(ce). Deduced ICC.  $^{191}, ^{193}\text{Ir}(n,\gamma), E=\text{thermal}$ ; measured  $E\gamma, I\gamma$ .  $^{144}\text{Nd}$ ,  $^{150}\text{Sm}$ ,  $^{156}, ^{158}\text{Gd}$ ,  $^{163}, ^{165}\text{Dy}$ ,  $^{166}\text{Ho}$ ,  $^{168}\text{Er}$ ,  $^{169}, ^{175}, ^{177}\text{Yb}$ ,  $^{170}\text{Tm}$ ,  $^{176}\text{Lu}$ ,  $^{178}\text{Hf}$ ,  $^{182}\text{Ta}$  deduced levels, J,  $\pi$ ,  $\gamma$ -multipolarities.  $^{146}\text{Nd}$ ,  $^{185}\text{W}$ ,  $^{194}\text{Ir}$  deduced levels, J,  $\pi$ .  $^{152}\text{Eu}$  deduced transitions,  $\gamma$ -multipolarities.  $^{187}\text{W}$ ,  $^{192}\text{Ir}$  deduced transitions.

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**Keynumber:** 1973LAYT

**Reference:** INDC(HUN)-11/L, p.26 (1973)

**Authors:** L.Lakosi, A.Veres

**Title:** Activation Experiments of Photo-Neutrons by using  $^{24}\text{Na}$ -Be Source

**Keyword abstract:** NUCLEAR REACTIONS  $^{55}\text{Mn}$ ,  $^{114}$ ,  $^{116}\text{Cd}$ ,  $^{115}\text{In}$ ,  $^{127}\text{I}$ ,  $^{152}$ ,  $^{154}\text{Sm}$ ,  $^{166}$ ,  $^{170}\text{Er}$ ,  $^{175}\text{Lu}$ ,  $^{191}$ ,  $^{193}\text{Ir}(n,\gamma)$ ,  $^{107}$ ,  $^{109}\text{Ag}$ ,  $^{111}\text{Cd}$ ,  $^{115}\text{In}$ ,  $^{167}\text{Er}$ ,  $^{176}\text{Lu}(n,n'\gamma)$ ; measured  $\sigma$ .

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**Keynumber:** 1973ANZE

**Coden:** CONF Munich(Nucl Phys),Vol1 P296

**Keyword abstract:** NUCLEAR REACTIONS  $^{162}$ ,  $^{164}\text{Dy}(d,2n\gamma)$ ,  $(p,n\gamma)$ ,  $^{175}\text{Lu}$ ,  $^{181}\text{Ta}$ ,  $^{178}\text{Hf}(n,\gamma)$ ,  $^{155}\text{Gd}$ ,  $^{177}\text{Hf}(\alpha,2n\gamma)$ ; measured  $\gamma(t)$ .  $^{162}$ ,  $^{164}\text{Ho}$ ,  $^{157}\text{Dy}$ ,  $^{176}\text{Lu}$ ,  $^{179}\text{Hf}$ ,  $^{179}\text{W}$ ,  $^{182}\text{Ta}$  levels deduced  $T_{1/2}$ .

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**Keynumber:** 1972RA26

**Reference:** Nucl.Sci.Eng. 48, 219 (1972)

**Authors:** F.Rahn, H.S.Camarda, G.Hacken, W.W.Havens,Jr., H.I.Liou, J.Rainwater, M.Slagowitz, S.Wynchank

**Title:** Values of the Neutron Resonance Capture Integral for Some Rare Earth Isotopes

**Keyword abstract:** NUCLEAR REACTIONS  $^{152}$ ,  $^{154}\text{Sm}$ ,  $^{153}\text{Eu}$ ,  $^{154}$ ,  $^{158}$ ,  $^{160}\text{Gd}$ ,  $^{166}$ ,  $^{167}$ ,  $^{168}$ ,  $^{170}\text{Er}$ ,  $^{168}$ ,  $^{170}$ ,  $^{171}$ ,  $^{172}$ ,  $^{174}$ ,  $^{176}\text{Yb}$ ,  $^{175}\text{Lu}$ ,  $^{182}$ ,  $^{183}$ ,  $^{184}$ ,  $^{186}\text{W}(n,\gamma)$ ; calculated resonance integrals.

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**Keynumber:** 1972FU06

**Reference:** Nuovo Cim. 8A, 748 (1972)

**Authors:** A.Fubini, D.Prospieri, F.Terrasi, I.Vata

**Title:**  $^{175}\text{Lu}(n,\gamma)$  Reaction and Level Structure of  $^{176}\text{Lu}$

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma)$ ,E=thermal; measured  $E\gamma$ , $I\gamma$ ; deduced Q.  $^{176}\text{Lu}$  deduced levels, $\gamma$ -branching. Ge(Li) detector.

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**Keynumber:** 1972BA80

**Reference:** Nucl.Phys. A194, 305 (1972)

**Authors:** M.K.Balodis, J.J.Tamberg, K.J.Alksnis, P.T.Prokofjev, W.G.Vonach, H.K.Vonach, H.R.Koch, U.Gruber, B.P.K.Maier, O.W.B.Schult

**Title:** The Level Scheme of  $^{176}\text{Lu}$  Investigated by  $(n,\gamma)$  and  $(n,e)$  Reactions

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma)$ ,E=thermal; measured  $E\gamma$ , $I\gamma$ , $I(\text{ce})$ .  $^{176}\text{Lu}$  deduced levels, $J,\pi,K,ICC,\gamma$ -multipolarities. Enriched targets.

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**Keynumber:** 1971ORZZ

**Reference:** Proc.Conf.Neutron Cross Sections and Technology, Knoxville, Tenn., 3rd, R.L.Macklin, Ed., Vol.1, p.127 (1971); CONF-710301 (1971)

**Authors:** F.V.Orestano, F.Pistella

**Title:** Cross Section Evaluations by Integral Measurements

**Keyword abstract:** NUCLEAR REACTIONS  $^{151}\text{Eu}$ ,  $^{175}\text{Lu}(n,\gamma)$ ,E <0.63 eV; measured activation  $\sigma$ ,resonance integral.  $^{152}\text{Eu}$  deduced resonance parameters.

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**Keynumber:** 1971HAXR

**Coden:** REPT NCSAC-42,P61,G Hacken,5/19/72

**Keyword abstract:** NUCLEAR REACTIONS  $^{152}$ ,  $^{154}\text{Sm}$ ,  $^{151}$ ,  $^{153}\text{Eu}$ ,  $^{154}$ ,  $^{158}$ ,  $^{160}\text{Gd}$ ,  $^{166}$ ,  $^{167}$ ,  $^{168}$ ,



$^{170}\text{Er}$ ,  $^{168}$ ,  $^{170}$ ,  $^{171}$ ,  $^{172}$ ,  $^{174}$ ,  $^{176}\text{Yb}$ ,  $^{175}\text{Lu}$ ,  $^{182}$ ,  $^{183}$ ,  $^{184}$ ,  $^{186}\text{W}(n,\gamma)$ , measured capture resonance integrals.

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**Keynumber:** 1971AUZV

**Coden:** REPT EANDC(E) 140 U,P87,12/30/71

**Keyword abstract:** NUCLEAR REACTIONS  $^{64}\text{Ni}$ ,  $^{175}\text{Lu}(n,\gamma)$ , E=thermal; measured  $E_\gamma$ ,  $I_\gamma$ .  $^{65}\text{Ni}$  deduced levels,  $\gamma$ -branching.  $^{176}\text{Lu}$  deduced transitions.

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**Keynumber:** 1970WA20

**Reference:** Phys.Rev. C2, 675 (1970)

**Authors:** O.A.Wasson, R.E.Chrien

**Title:** Resonant Neutron Capture in  $^{175}\text{Lu}$

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma)$ , E=2-50 eV; measured  $E_\gamma$ ,  $I_\gamma$ .  $^{176}\text{Lu}$  deduced resonances, J,  $\pi$ , level-width.  $^{176}\text{Lu}$  deduced levels, J.

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**Keynumber:** 1970HAZB

**Coden:** CONF Madurai(Nucl,Solid State Phys),Vol2,P36

**Keyword abstract:** NUCLEAR REACTIONS  $^{103}\text{Rh}$ ,  $^{127}\text{I}$ ,  $^{175}\text{Lu}(n,\gamma)$ , E=14.8 MeV; measured  $\sigma$ .

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**Keynumber:** 1969MI21

**Reference:** Phys.Rev. 187, 1516 (1969)

**Authors:** M.M.Minor, R.K.Sheline, E.B.Shera, E.T.Jurney

**Title:** Energy Levels of  $^{176}\text{Lu}$

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}\text{Lu}(n,\gamma)$ , E=thermal; measured  $E_\gamma$ ,  $I_\gamma$ ,  $\gamma\gamma$ -coin; deduced Q.  $^{176}\text{Lu}(d,d')$ , E=12 MeV; measured  $\sigma(\text{Ed}')$ .  $^{176}\text{Lu}$  deduced levels, J,  $\pi$ , branching ratios,  $\gamma$ -multipolarity.

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**Keynumber:** 1968KO16

**Reference:** Yadern.Fiz. 7, 493(1968); Soviet J.Nucl.Phys. 7, 310(1968)

**Authors:** V.A.Konks, Y.P.Popov, Y.I.Fenin

**Title:** Radiative Capture of Neutrons by Nuclei with A = 140-200

**Keyword abstract:** NUCLEAR REACTIONS Eu,  $^{153}\text{Eu}$ ,  $^{165}\text{Ho}$ ,  $^{175}\text{Lu}(n,\gamma)$ , E <50 keV; measured  $\sigma$ .

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**Keynumber:** 1960SC19

**Reference:** Nucl.Sci.Eng. 7, 477 (1960)

**Authors:** L.C.Schmid, W.P.Stinson

**Title:** Calibration of Lutetium for Measurements of Effective Neutron Temperatures

**Keyword abstract:** RADIOACTIVITY  $^{176\text{m}}$ ,  $^{177}\text{Lu}$ ; measured  $T_{1/2}$ .

**Keyword abstract:** NUCLEAR REACTIONS  $^{175}$ ,  $^{176}\text{Lu}(n,\gamma)$ , E=reactor spectrum; measured cadmium ratio.