References for Fission Isomers

62Po09 *Spontaneous Fission with an Anomalously Short Period. I.*

S. M. Polikanov, V. A. Druin, V. A. Karnaukhov, V. L. Mikheev, A. A. Pleve, N. K. Skobelev, G. M. Ter-Akopyan, V. A. Fomichev, Zhur. Eksptl. i Teoret. Fiz. 42, 1464 (1962); Soviet Phys. JETP 15, 1016 (1962).

Nuclear Structure: Fission ^{242}Am; measured not abstracted; deduced nuclear properties.

62Pe26 *Spontaneous Fission with an Anomalously Short Period. II*

V. P. Perelygin, S. P. Almazova, B. A. Gvozdev, Y. T. Chuburkov, Zhur. Eksptl. i Teoret. Fiz. 42, 1472 (1962); Soviet Phys. JETP 15, 1022 (1962).

63Fl08 *Formation of a Spontaneously Fissioning Isomer in Reactions Involving* α *Particles and Deuterons*

G. N. Flerov, S. M. Polikanov, K. A. Gavrilov, V. L. Mikheev, V. P. Perelygin, A. A. Pleve, Zh. Eksperim. i Teor. Fiz. 45, 1396 (1963); Soviet Phys. JETP 18, 964 (1964).

63Pe27 *Half-Life of a Spontaneously Fissioning Isomer*

V. G. Perelygin, S. P. Tretyakova, Zh. Eksperim. i Teor. Fiz. 45, 863 (1963); Soviet Phys. JETP 18, 592 (1964).

Nuclear Structure: Fission ^{238}U; measured not abstracted; deduced nuclear properties.

65Fl04 *The Excitation Function and the Isomeric Yield Ratio for the 14 msec Fissioning Isomer from Deuteron Irradiation of Plutonium*

G. N. Flerov, A. A. Pleve, S. M. Polikanov, E. Ivanov, N. Martalogu, D. Poenaru, N. Vilcov, Rev. Roumaine Phys. 10, 217 (1965).

Nuclear Structure: ^{242}Am; measured not abstracted; deduced nuclear properties.

65Le22 *Decay of the Am^{242m} 14-msec Isomer*

R. B. Leachman, B. H. Erkkila, Bull. Am. Phys. Soc. 10, No. 9, 1204, P12 (1965)

Nuclear Structure: ^{242}Am; measured not abstracted; deduced nuclear properties.

65Li05 *The Formation of a Spontaneously Fissioning Isomer in the Capture of Neutrons by Am*

A. F. Linev, B. N. Markov, A. A. Pleve, S. M. Polikanov, Nucl. Phys. 63, 173 (1965).

Radioactivity: ^{242}Am; measured $T_{1/2}$, SF. ^{243}Am(n, 2n), E=14 MeV; measured σ.

66Br23 *A Study of Nuclear Isomers Which Decay by Spontaneous Fission*

D. S. Brenner, L. Westgaard, S. Bjornholm, Nucl. Phys. 89, 267 (1966).

Radioactivity: ^{242}Am isomer [from ^{242}Pu(d,2n)]; measured $T_{1/2}$(SF), E(fragment)-spectrum. Enriched target. ^{242}Pu(d,2n), (d,F), E = 12 MeV; measured σ(F)(delayed)/σ(F)(prompt). Enriched target. ^{232}Th, ^{235}U, ^{239}Pu, ^{241}Am, ^{243}Am(d, xn)(d,F), E = 12 MeV; ^{243}Am(p,xn)(p,F), E = 13 MeV; measured upper limits σ(F)(delayed)/σ(F)(prompt). Enriched targets.

66Ma48 *Structure of Spontaneously Fissionable Isomers*

L. A. Malov, S. M. Polikanov, V. G. Solovev, Yadern. Fiz. 4, 528 (1966); Soviet J. Nucl. Phys. 4, 376 (1967).

67Bj03 *Excitation Energy of the Spontaneously Fissioning Isomeric State in ^{240}Am*

S. Bjornholm, J. Borggreen, L. Westgaard, V. A. Karnaukhov, Nucl. Phys. A95, 513 (1967).

Nuclear Reactions: ^{240}Pu(d,2n), E = 12.1 MeV; ^{240}Pu(p,n), E = 10. 3-11.3 MeV; measured σ (delayed fission). ^{241}Pu(p,2n), E = 9.6-13.6 MeV; measured σ (delayed fission); deduced threshold. Enriched target. ^{240m}Am measured $T_{1/2}$ for spontaneous fission.

67Bo23 *A New Spontaneously Fissioning Isomer: ^{238}Am*

J. Borggreen, Y. P. Gangrsky, G. Sletten, S. Bjornholm, Phys. Letters 25B, 402 (1967).

Nuclear Structure: ^{238}Am; measured not abstracted; deduced nuclear properties.

67Fl03 *Excitation Energy of Spontaneously Fissioning Isomer 242m-Am*

G. N. Flerov, A. A. Pleve, S. M. Polikanov, S. P. Tretyakova, N. Martalogu, D. Poenaru, M. Sezon, I. Vilcov, N. Vilcov, Nucl. Phys. A97, 444 (1967).

Nuclear Reactions: ^{243}Am(n,2nF), E = 8-14.4 MeV; measured σ(E), n, F-delay. ^{242}Am deduced level, $T_{1/2}$. Enriched target.

67Fl08 *A Study of the Spontaneously-Fissioning Isomer of ^{242}Am Through the ^{241}Am(n,γ) Reaction*

G. N. Flerov, A. A. Pleve, S. M. Polikanov, S. P. Tretyakova, I. Boca, M. Sezon, I. Vilcov, N. Vilcov, Nucl. Phys. A102, 443 (1967).

Nuclear Reactions: Fission ^{241}Am(n,γ); E=0-6.5 MeV; measured σ(E).

Radioactivity: Fission ^{244m}Am [from ^{243}Am(n,γ)]; measured $T_{1/2}$ (SF).

67Ga04 *Investigation of the Reaction U^{238}+B^{11}, Which Leads to the Spontaneously-Fissioning Isomer Am^{242}*

Y. P. Gangrskii, B. N. Markov, S. M. Polikanov, G. Jungclaussen, Yadern. Fiz. 5, 22 (1967); Soviet J. Nucl. Phys. 5, 16 (1967).

Nuclear Structure: ^{242}Am; measured not abstracted; deduced nuclear properties.

67Vi01 *On the Spin Value of the 14-msec Spontaneously Fissioning Isomer of Am^{242}*

N. Vilcov, Rev. Roumaine Phys. 12, 487 (1967).

Nuclear Structure: ^{242}Am; measured not abstracted; deduced nuclear properties.

68Bj04 *Investigation of (d,p) and (d,t) Reactions Leading to Spontaneously Fissile Isomeric States*

S. Bjornholm, I. Borggreen, Y. P. Gangrskii, G. Sletten, Yadern. Fiz. 8, 459 (1968); Soviet J. Nucl. Phys. 8, 267 (1969).

Nuclear Reactions: ^{241}, ^{243}Am(d,p), (d,t), E=9-13 MeV; measured σ(E); deduced isomeric ratio.

68Ca23 *Autocorrelation Effects in the Neutron Induced Fission Cross Section of ^{235}U*

M. G. Cao, E. Migneco, J. P. Theobald, Phys. Lett. 27B, 409 (1968).

Nuclear Reactions: Fission ^{235}U(n,F), E=0.006-3 keV; measured σ(E). ^{236}U deduced resonance, autocorrelation, intermediate state, shape isomer. Reanalysis of data.

68Er01 *Energy of ^{242}Am and ^{242m}Am Fission Fragments*

B. H. Erkkila, R. B. Leachman, Nucl. Phys. A108, 689 (1968).

Radioactivity: Fission ^{242m}Am(SF) [from ^{242}Pu(d,2n)]; measured $T_{1/2}$, E(fragment). ^{252}Cf measured E(fragment).

Nuclear Reactions: Fission ^{240}Pu(d,F), E=7.6-14 MeV; measured σ(E; E(fragment)) ^{230}Th, ^{233}U, ^{242}Pu(d, F), E=14 MeV; measured σ(E(fragment)).

68Mi14 *Resonance Grouping Structure in Neutron Induced Subthreshold Fission of ^{240}Pu*

E. Migneco, J. P. Theobald, Nucl. Phys. A112, 603 (1968).

Nuclear Reactions: ^{240}Pu(n,F), E=0.2 to 8 keV; measured σ(nf)(E). ^{241}Pu resonances deduced F-width.

68WoZZ *Short-Lived Spontaneous Fission Isomers*

K. L. Wolf, R. Vandenbosch, Bull. Am. Phys. Soc. 13, No. 11, 1407, CF4(1968)

Nuclear Reactions: $^{238}U(\alpha,2n)$, E=21-42 MeV; measured isomer ratio, $\sigma(E\alpha)$. ^{240}Pu deduced $T_{1/2}$, spontaneous fission.

69Bj02 *Intermediate States in Fission*

S. Bjornholm, V. M. Strutinsky, Nucl. Phys. A136, 1 (1969).

69Bo25 *Population of the Spontaneously Fissioning Isomer ^{244}mf-Am Through the (n,γ) Reaction*

I. Boca, N. Martalogu, M. Sezon, I. Vilcov, N. Vilcov, G. N. Flerov, A. A. Pleve, S. M. Polikanov, S. P. Tretyakova, Nucl. Phys. A134, 541 (1969).

Nuclear Reactions: $^{243}Am(n,\gamma)$, (n,F), E = 0.3-4 MeV; measured $\sigma(E)$. ^{244}Am deduced $T_{1/2}$, spontaneous fission. Enriched target.

69El06 *Discussion on Papers SM 122/110 and SM 122/29*

A. J. Elwyn, A. T. G. Ferguson, 2nd Symp. Phys. Chem. of Fission, Vienna, Intern. At. Energy Agency, Vienna, p. 457 (1969).

69Ja01 *Fission Components in ^{242}Pu Resonances*

G. D. James, Nucl. Phys. A123, 24 (1969).

Nuclear Reactions: $^{242}Pu(n,F)$, E=16 eV-35 keV; measured $\sigma(E)$. ^{243}Pu deduced resonances, resonance parameters. Enriched target.

69JoZU

A. B. Jorgensen, S. M. Polikanov, G. Sletten, Priv. Comm., quoted by 70PO01, unpublished (1969)

69Ka27 *Photofission of Even-Even Nuclei and Structure of the Fission Barrier*

S. P. Kapitza, N. S. Rabotnov, G. N. Smirenkin, A. S. Soldatov, L. N. Usachev, Y. M. Tsipenyuk, ZhETF Pisma v Redaktsiyu 9, 128 (1969); JETP Letters 9, 73 (1969).

Nuclear Reactions: ^{232}Th, ^{238}U, ^{240}, ^{242}, $^{238}Pu(\gamma, F)$, E < 5-8 MeV; measured σ(E;E(fragment),θ(fragment)). ^{232}Th, ^{238}U, ^{238}, ^{240}, ^{242}Pu deduced fission barrier structure.

69Kr12 *The Moment of Inertia of the Fission Isomer*

J. Krumlinde, Phys. Letters 30B, 221 (1969).

Nuclear Structure: Fission ^{238}U, ^{242}Pu, ^{246}Cm, ^{250}Cf(SF); calculated moments of inertia. Cranking model.

69La14 *Spontaneously Fissioning Isomers in U, Np, Pu and Am Isotopes*

N. L. Lark, G. Sletten, J. Pedersen, S. Bjornholm, Nucl. Phys. A139, 481 (1969).

Radioactivity: Fission ^{236m}U, ^{239m}Np, ^{236m}Pu, ^{237m}Pu, ^{240m}Pu, ^{241m}Pu, ^{242m}Pu, ^{243m}Pu, ^{239m}Am, ^{241m}Am(SF); measured $T_{1/2}$.

Nuclear Reactions: ^{235}U, ^{239}, ^{241}, ^{242}Pu(d,p), ^{240}Pu(d,X), E=11-13 MeV; measured σ delayed fission. ^{237}Np(p,2n), E=9-14 MeV; ^{240}Pu(p, 2n), E=10-13 MeV; ^{242}Pu(p,2n), E=8.8-13 MeV; measured σ delayed fission; deduced thresholds. ^{238}U, ^{237}Np(d,X), ^{239}Pu, ^{241}Pu(d, 2n), E=13 MeV; measured σ delayed fission. ^{237}Np(p, 2n), E=13 MeV; measured σ ground state. Enriched targets.

69Na20 *On the Detection of Spontaneously Fissioning Isomer States*

L. Nagy, T. Nagy, I. Vinnay, KFKI Kozlemen. 17, 165 (1969).

69Me11 *Fission Isomerism Induced by Helium Ions*

V. Metag, R. Repnow, P. Von Brentano, J. D. Fox, Z. Physik 226, 1 (1969).

Nuclear Reactions: ^{233}, ^{235}, ^{236}, ^{238}U, ^{237}Np, ^{239}Pu(α,2n), E=26.1 MeV; measured α. ^{235}, ^{237}, ^{238}, ^{240}Pu, ^{239}Am, ^{241}Cm deduced $T_{1/2}$ (SF-isomer). ^{239}Pu(^{3}He, 2np), E=30 MeV; measured σ. ^{239}Am deduced $T_{1/2}$(SF-isomer). ^{236}U(α,n), E=26 MeV; measured σ. ^{239}Pu deduced $T_{1/2}$(SF-isomer). ^{237}Np(^{3}He,p)(^{3}He,np), (^{3}He, 2np), E=26, 30 MeV; measured σ. ^{237}, ^{238}, ^{239}Pu deduced $T_{1/2}$ (SF-isomer).

69MeZX *Chraged-Particle Studies of Isomeric Fission*

V. Metag, R. Repnow, P. von Brentano, J. D. Fox, Proc. Symp. Phys. Chem. Fission, 2nd, Vienna, Intern. At. En. Agency, p. 449 (1969).

69Ni13 *On the Nuclear Structure and Stability of Heavy and Superheavy Elements*

S. G. Nilsson, C. F. Tsang, A. Sobiczewski, Z. Szymanski, S. Wycech, C. Gustafson, I. -L. Lamm, P. Moller, B. Nilsson, Nucl. Phys. A131, 1 (1969).

69SlZZ *Discussion on Papers SM-122/110 and SM-122/29*

G. Sletten, S. M. Polikanov, Symp. Phys. Chem. Of Fission, 2nd, Vienna, Intern. At. Energy Agency, Vienna, p. 461 (1969).

Radioactivity: Fission ^{237m}Am, ^{239m}Am, ^{240m}Am, ^{241m}Cm, ^{243m}Cm, ^{244m}Am; measured $T_{1/2}$.

69VaZX *Spontaneous Fission Isomers with Very Short Half-Lives*

R. Vandenbosch, K. L. Wolf, Proc. Symp. Phys. Chem. Fission, 2nd, Vienna, Intern. At. En. Agency, Vienna, p. 439 (1969).

Radioactivity: Fission ^{236}, ^{237}, ^{238}, ^{239}, ^{240}Pu(SF); measured $T_{1/2}$.

Nuclear Reactions: ^{236}, ^{238}U(α,3n), ^{238}U(α,2n), E=21-42 MeV; measured σ(E); deduced isomer ratios.

69Vo18 *Analysis of Neutron Fission of the Odd-Even Nuclei Pa^{231}, Np^{237}, and Am^{241}*

P. E. Vorotnikov, Yadern. Fiz. 9, 538 (1969); Soviet J. Nucl. Phys. 9, 308 (1969).

Nuclear Reactions: ^{231}Pa, ^{237}Np, ^{241}Am(n,γ), (n, F), E=0-1 MeV; calculated σ(E). ^{232}Pa, ^{238}Np, ^{242}Am calculated level-width, fission barrier penetrability.

70AlZT *On Vibrational Type Resonances in Fission*

J. Almberger, S. Jagare, Ann. Rept., Research Inst. Phys., Stockholm, p. 217 (1970).

Nuclear Structure: Fission ^{239}, ^{242}Pu, ^{242}Am; calculated fission branching ratios. Vibrational-type resonances.

70Be44 *Search for a Long-Lived Spontaneous Fission Isomer of ^{241}Pu*

C. E. Bemis, Jr., R. J. Silva, J. E. Bigelow, A. M. Friedman, Inorg. Nucl. Chem. Lett. 6, 747 (1970); ORNL-4581, p. 36 (1970).

Nuclear Reactions: ^{240}Pu(n,γ), E=thermal, > 1 MeV; ^{242}Pu(n, 2n), E > 6.2 MeV; ^{238}U(α,n), E=40 MeV; measured σ. ^{241}Pu deduced no 0.3-yr SF-isomer.

70Bj02 *Search for New Islands of Fission Isomerism*

S. Bjornholm, J. Borggreen, E. K. Hyde, Nucl. Phys. A156, 561 (1970).

Nuclear Reactions: ^{197}Au(HI,X), E=5-10 MeV/nucleon for HI=^{11}B, ^{12}C, ^{14}N, ^{16}O; measured σ(E) for SF-isomers. ^{200}, ^{201}, ^{202}, ^{203}, ^{204}Po, ^{201}, ^{202}, ^{203}, ^{204}, ^{205}At, ^{202}, ^{203}, ^{204}, ^{205}, ^{206}, ^{207}Rn, ^{202}, ^{203}, ^{204}, ^{205}, ^{206}, ^{207}, ^{208}, ^{209}, ^{210}Fr deduced no SF-isomer (σ < 0.1 μb) with 2ns < $T_{1/2}$<2000s.

70Br32 *Fission of Odd-A Uranium and Plutonium Isotopes Excited by (d,p), (t,d), and (t,p) Reactions*

H. C. Britt, J. D. Cramer, Phys. Rev. C2, 1758 (1970).

Nuclear Reactions: ^{234}, ^{236}, ^{238}U, ^{242}Pu(d,pF), ^{233}, ^{235}U, ^{239}Pu(t,pF), ^{236}U, ^{240}, ^{242}Pu(t,dF), E=18 MeV; measured (p)(fragment)(θ), (d)(fragment)(θ). ^{235}, ^{237}, ^{239}U, ^{241}, ^{243}Pu deduced fission probabilities.

70Bu02 *Systematics of Plutonium Fission Isomers*

S. C. Burnett, H. C. Britt, B. H. Erkkila, W. E. Stein, Phys. Lett. 31B, 523 (1970).

Radioactivity: Fission ^{233m}Pu, ^{237m}Pu, ^{238m}Pu, ^{239m}Pu, ^{240m}Pu(SF); measured $T_{1/2}$.

Nuclear Reactions: ^{233}, ^{235}, ^{236}, ^{238}U(α,2n), E=20-28 MeV; ^{234}U(α,xn), ^{236}U(α, n), ^{238}U(α,n), (α,3n), E=20-29 MeV; measured isomeric σ ratios(E); deduced thresholds for SF-isomer production.

70Da05 *Production of Spontaneously Fissioning Isomers ^{242}Am and ^{244}Am by Slow Neutron Capture*

B. Dalhsuren, G. N. Flerov, Y. P. Gangrsky, Y. A. Lazarev, B. N. Markov, Nguyen Cong Khanh, Nucl. Phys. A148, 492 (1970).

Nuclear Reactions: ^{241}, ^{243}Am(n,γ), (n,F), E=0.2-20 eV; measured delayed, prompt fission σ ratios, (n)(fission fragment)-delay. ^{242}, ^{244}Am [SF-isomers] deduced $T_{1/2}$.

70El03 *Short-Lived Fission Isomers from Neutron Studies*

A. J. Elwyn, A. T. G. Ferguson, Nucl. Phys. A148, 337 (1970).

Nuclear Reactions: ^{233}, ^{234}, ^{235}, ^{238}U, ^{239}Pu(n, γ), E=0.55, 2.2 MeV; measured σ for SF-isomer production; deduced isomeric σ ratios. ^{234}, ^{235}, ^{236}, ^{239}U, ^{240}Pu deduced SF-isomers, $T_{1/2}$.

70Ga04 *Study of (γ,n) Reactions Leading to Formation of Spontaneously Fissile Isomers of Am*

Y. P. Gangrskii, B. N. Markov, Y. M. Tsipenyuk, Yad. Fiz. 11, 54 (1970); Sov. J. Nucl. Phys. 11, 30 (1970).

Nuclear Reactions: ^{241}, ^{243}Am(γ,n), E < 9.5-13.5 MeV; measured σ(E) for producing SF-isomers. ^{240}, ^{242}Am deduced energy of SF isomeric state.

70Ga10 *Investigation of the Properties of the Spontaneously Fissioning Isomer ^{241}Pu in the Reaction (γ, n)*

Y. P. Gangrsky, B. N. Markov, Y. M. Tsipenyuk, Phys. Lett. 32B, 182 (1970).

Nuclear Reactions: ^{242}Pu(γ,nF), E < 8-13 MeV; measured σ(E), (γ)(fragment)-delay. ^{241}Pu deduced SF-isomer $T_{1/2}$.

70Ga34 *Production of Spontaneously Fissioning Isomers of Uranium, Plutonium, and Americium in the Neutron Reactions*

Y. P. Gangrsky, T. Nagy, I. Vinnay, I. Kovacs, JINR-P3-5528 (1970).

Nuclear Reactions: ^{232}Th, ^{235}, ^{238}U, ^{239}Pu, ^{243}Am(n, 2n), ^{238}U, ^{242}Pu, ^{243}Am(n,n'), E not given; measured SF-isomer production σ.

70Ja16 *Exitation Energies of Fissioning Shape Isomers*

S. Jagare, Phys. Lett. 32B, 571 (1970).

Nuclear Reactions: ^{239}, ^{240}, ^{241}, ^{242}Pu(p,2n), E=10.9-13.5 MeV; calculated σ for SF-isomer production. ^{238}, ^{239}, ^{240}, ^{241}, ^{242}Am calculated SF-isomer excitation energies.

70KrZT

Report: IN-1407 P151

Radioactivity: ^{241}Pu; measured activity; deduced no SF-isomer.

70Ot02 *Fragment Angular Distributions from Neutron-Induced Fission of ^{242}Pu*

K. Otozai, J. W. Meadows, A. N. Behkami, J. R. Huizenga, Nucl. Phys. A144, 502 (1970).

Nuclear Reactions: Fission ^{242}Pu(n,F), En=500, 620, 730, 990, 1230 keV; measured σ(En,θ(fragment)). ^{243}Pu deduced information on transition states.

70PaZU

Report: CEA-N-1339, D Paya, 7/12/71

Nuclear Reactions: Fission ^{237}Np(n,F), E not given; measured(fragment)(fragment)-coin, (fragment)(fragment)-delay. ^{238}Np deduced no SF-isomer.

70Po01 *Spontaneously Fissioning Isomers in U, Pu, Am and Cm Isotopes*

S. M. Polikanov, G. Sletten, Nucl. Phys. A151, 656 (1970).

Nuclear Reactions: ^{233}U(d,p), ^{238}U(d,pn), ^{237}Np(d,2n), ^{238}, ^{244}Pu(p,2n), ^{238}, ^{240}Pu(d, p), ^{239}, ^{241}Pu(d,pn), ^{241}, ^{243}Am(p, 2n), ^{241}, ^{243}Am(d,2n), ^{243}Am(d,pn); E=9-14.2 MeV; measured σ(E) delayed fission. ^{238}Pu(p, 2n), E=12.1-14.0 MeV; measured σ(E); deduced threshold. Enriched targets.

Radioactivity: Fission ^{237m}, ^{239m}, ^{240m}, ^{241m}, ^{243m}Pu(SF), ^{243m}, ^{237m}Am(SF), ^{240m}, ^{241m}, ^{242m}, ^{243m}Cm(SF), ^{234m}U(SF); measured $T_{1/2}$. ^{237m}, ^{242m}, ^{243m}Pu(SF); analyzed data, reevaluated $T_{1/2}$. ^{239}Np deduced misassignment of (SF) isomer. ^{238m}U(SF) deduced $T_{1/2}$.

70Re05 *Evidence for a Direct Reaction Mechanism in the Production of Fission Isomers*

R. Repnow, V. Metag, J. D. Fox, P. von Brentano, Nucl. Phys. A147, 183 (1970).

Nuclear Reactions: ^{235}U(d,p), E=13-20 MeV; measured σ delayed fission. Enriched target. ^{236}U(d,pn), E=11-20 MeV; measured σ delayed fission. Enriched target. ^{238}U(d,pn), E=11-20 MeV; measured σ delayed fission. Natural target. ^{233}U(d,X), ^{236}U(p, X), E = 14, 20 MeV; E upper limits σ delayed fission. Enriched targets. ^{238}U(p,X), E=14-20 MeV; measured upper limits σ delayed fission. Natural target.

Radioactivity: Fission ^{236}, ^{238}U deduced $T_{1/2}$ (SF-isomer). ^{234}, ^{237}U deduced no SF-isomer.

70So06 *Intermediate Structure Effects in the Fission of Some Actinide Nuclei*

D. K. Sood, N. Sarma, Nucl. Phys. A151, 532 (1970).

Nuclear Reactions: Fission ^{233}, ^{235}U, ^{239}, ^{240}, ^{241}Pu, ^{242}Am(n,F), E < 1 MeV; measured nothing; analyzed σ(E) data; deduced spacing of second minimum levels.

70Vi05 *Izomeri Spontan Fisionabili Ai Nucleelor Transuraniene*

N. Vilcov, Stud. Cercet. Fiz. 22, 795 (1970).

Radioactivity: Fission ^{236}U, ^{238}Np, ^{236}, ^{240}, ^{241}, ^{242}, ^{243}Pu, ^{239}, ^{241}Am(SF); measured $T_{1/2}$.

70Wo06 *Spontaneous Fission Isomerism in Uranium Isotopes*

K. L. Wolf, R. Vandenbosch, P. A. Russo, M. K. Mehta, C. R. Rudy, Phys. Rev. C1, 2096 (1970).

Radioactivity: Fission ^{236m}U, ^{238m}U(SF); measured $T_{1/2}$.

Nuclear Reactions: ^{236}, ^{238}U(d,X), (d,pn), E=13-22 MeV; measured σ(E;Ep). ^{236}, ^{238}U deduced isomer ratios.

71Au06 *Neutron-Induced Fission Cross Sections of ^{242}Pu and ^{244}Pu*

G. F. Auchampaugh, J. A. Farrell, D. W. Bergen, Nucl. Phys. A171, 31 (1971).

Nuclear Reactions: Fission ^{242}, ^{244}Pu(n,F), E=20 eV-10 MeV; measured σ(E). ^{243}, ^{244}Pu deduced level spacings, resonance parameters, second barrier widths.

71Ba30 *Fission of U, Np, Pu and Am Isotopes Excited in the (d,p) Reaction*

B. B. Back, J. P. Bondorf, G. A. Otroschenko, J. Pedersen, B. Rasmussen, Nucl. Phys. A165, 449 (1971).

Nuclear Reactions: Fission ^{233}, ^{235}U, ^{237}Np, ^{238}, ^{239}, ^{241}Pu, ^{241}, ^{243}Am(d,pF), E=13.0 MeV; measured σ(Ep,E(fragment)). ^{234}, ^{236}U, ^{238}Np, ^{239}, ^{240}, ^{242}Pu, ^{242}, ^{244}Am deduced fission probability, fission barrier heights, transparencies.

71Be12 *Neutron-Induced Fission Cross Section of ^{242}Pu*

D. W. Bergen, R. R. Fullwood, Nucl. Phys. A163, 577 (1971).

Nuclear Reactions: Fission ^{242}Pu(n,F), E=50 eV-5 keV, 0.1-3 MeV; measured σ(E). ^{243}Pu deduced resonances, F-width, fission barrier.

71Be62 *Production of the Spontaneously Fissioning U^{236} Isomer in Thermal Neutron Radiative Capture*

A. G. Belov, Y. P. Gangrskii, B. Dalkhsuren, A. M. Kucher, Yad. Fiz. 14, 685 (1971); Sov. J. Nucl. Phys. 14, 385 (1972).

Nuclear Reactions: Fission ^{235}U(n,γF), E=thermal; measured σ, (fragment)(ce)-delay. ^{236m}U deduced $T_{1/2}$.

71Bo61 *Study of the ^{236}mf-U Isomeric Fission Through the ^{235}U(n,γ) Reaction in the Energy Range 0.25 - 4 MeV*

I. Boca, M. Sezon, I. Vilcov, N. Vilcov, Rev. Roum. Phys. 16, 473 (1971).

Radioactivity: ^{236m}U(SF); measured $T_{1/2}$.

Nuclear Reactions: Fission ^{235}U(n,γF), E=0.25-4 MeV; measured σ(E) for ^{236m}U(SF) production.

71Br38 *Population of Fission Isomers in ^{236}U by the (d,p) Reaction*

H. C. Britt, B. H. Erkkila, Phys. Rev. C4, 1441 (1971).

Nuclear Reactions: Fission ^{235}U(d,pf), (d,p), E=12 MeV; measured σ ratios, σ(Ep), (d)(fragment)-delay. ^{236m}U deduced $T_{1/2}$.

Radioactivity: Fission ^{236m}U; measured $T_{1/2}$.

71Br39 *Systematics of Spontaneously Fissioning Isomers*

H. C. Britt, S. C. Burnett, B. H. Erkkila, J. E. Lynn, W. E. Stein, Phys. Rev. C4, 1444 (1971).

Radioactivity: Fission ^{235m}, ^{237m}, ^{238m}, ^{239m}, ^{240m}, ^{241m}Pu(SF), ^{241m}, ^{242m}, ^{243m}, ^{244m}, ^{245m}Cm(SF), ^{236m}U(SF), ^{239m}, ^{240m}, ^{242m}, ^{243m}, ^{244m}Am(SF); measured $T_{1/2}$, $T_{1/2}$ lower limits.

71Ga19 *Excitation of the Spontaneously Fissioning Isomeric States of ^{239}Pu and ^{243}Am at Inelastic γ-Quantum Scattering*

Y. P. Gangrsky, B. N. Markov, I. F. Kharisov, Y. M. Tsipenyuk, JINR-P15-5959 (1971).

Nuclear Reactions: ^{239}Pu, ^{243}Am(γ,γ'), E=7-11 MeV; measured σ(E;Eγ'), (γ)(fragment)-delay. ^{239}Pu, ^{243}Am deduced SF-isomer excitation. ^{239m}Pu deduced $T_{1/2}$.

71Ga35 *Spontaneously Fissioning Isomers of Uranium, Plutonium, and Americium from Neutron Reactions*

Y. P. Gangrskii, T. Nad, I. Vinnai, I. Kovach, At. Energ. 31, 156 (1971); Sov. At. Energy 31, 874 (1972).

Nuclear Reactions: ^{232}Th, ^{235}, ^{238}U, ^{239}Pu, ^{243}Am(n, 2n), E=14.7 MeV; ^{238}U, ^{242}Pu, ^{243}Am(n, n'), E=2-7 MeV; measured σ(SF isomers). ^{231}Th, ^{234}, ^{237}U, ^{238}Pu deduced no SF-isomer yield. ^{238}U, ^{242}U, ^{242}, ^{243}Am deduced SF isomer yield.

71Ga39 *Excitation of Spontaneously Fissioning Isomer States ^{239}Pu and ^{243}Am in Inelastic Scattering of γ Quanta*

Y. P. Gangrskii, B. N. Markov, I. F. Kharisov, Y. M. Tsipenyuk, Pisma Zh. Eksp. Teor. Fiz. 14, 370 (1971); JETP Lett. (USSR) 14, 249 (1971).

Nuclear Reactions: Fission ^{239}Pu, ^{243}Am(γ,γ'F), E < 11 MeV; measured (γ)(fragment)-delay. ^{239m}Pu deduced $T_{1/2}$. ^{239}Pu, ^{243}Am deduced isomer yields.

71MaZE

Thesis: , Univ Kansas,D E Maharry,DABBB 32B 5981,5/5/72

Nuclear Reactions: ^{92}Mo(d,pγ), measured σ(Ep,Eγ). ^{93}Mo deduced levels.

Nuclear Structure: A=230-256; ^{236}U; calculated fission barriers, shape isomer excitation energies, equilibrium deformations, total energy surfaces.

71Me03 *Correlation between Fission Isomer Half-Lives and Liquid-Drop Model Parameters*

V. Metag, R. Repnow, P. von Brentano, Nucl. Phys. A165, 289 (1971).

71Mo11 *Analysis of the Fission and Capture Cross Sections of the Curium Isotopes*

M. S. Moore, G. A. Keyworth, Phys. Rev. C3, 1656 (1971).

Nuclear Reactions: ^{244}, ^{245}, ^{246}, ^{247}, ^{248}Cm(n, F), ^{244}, ^{246}Cm(n,γ), E=20 eV-3 MeV; measured σ(E). ^{245}, ^{246}, ^{247}, ^{248}, ^{249}Cm deduced resonances, level-width.

71Na26 *Investigations of the Radiative Capture of Fast Neutrons Producing the Spontaneously Decaying Isomers ^{242}Am and ^{244}Am*

T. Nagy, A. G. Belov, Y. P. Gangrsky, B. N. Markov, I. V. Sizov, I. F. Harisov, Acta Phys. 30, 293 (1971).

Nuclear Reactions: ^{241}, ^{243}Am(n,γ), E < 16 MeV; measured σ ratios for ^{242}, ^{244}Am SF-isomer production.

71Pa33 *Fission Threshold Energies in the Actinide Region*

H. C. Pauli, T. Ledergerber, Nucl. Phys. A175, 545 (1971).

Nuclear Structure: Fission ^{232}, ^{234}Th, ^{234}, ^{236}, ^{238}, ^{240}U, ^{236}, ^{238}, ^{240}, ^{242}, ^{244}Pu; calculated liquid-drop barriers, first, second saddle point energies.

71Re11 *Fission Isomers in Cm and Bk Isotopes*

R. Repnow, V. Metag, P. von Brentano, Z. Phys. 243, 418 (1971).

Radioactivity: Fission ^{245m}Bk, ^{242m}Cm, ^{241m}Cm, ^{243m}Am, ^{243m}Cm, ^{237m}Pu; measured $T_{1/2}$. ^{243}Am(α,2nγ), E=26 MeV; ^{243}Am(p, 2nγ), (p,3nγ), E=14, 20 MeV; ^{243}Am(d,pn), (d,2nγ), E=13-20 MeV; ^{237}Np(d,2nγ), E=12-18 MeV; measured delays, σ(E).

71Ru03 *Spin Isomers of the Shape Isomer ^{237m}Pu*

P. A. Russo, R. Vandenbosch, M. Mehta, J. R. Tesmer, K. L. Wolf, Phys. Rev. C3, 1595 (1971).

Radioactivity: Fission ^{237m}Pu(SF); measured $T_{1/2}$; deduced shape isomerism.

71Ta17 *Search for Bremsstrahlung-Induced Fission Isomers of ^{238}U and ^{239}Pu*

B. Tamain, B. Pfeiffer, H. Wollnik, E. Konecny, Nucl. Phys. A173, 465 (1971).

Radioactivity: Fission ^{238}U, ^{239}Pu(SF); measured $T_{1/2}$.

Nuclear Reactions: Fission ^{238}U, ^{239}Pu(γ,F), E < 53 MeV; measured (γ)(fragment)-delay. ^{238}U, ^{239}Pu deduced fission isomers, $T_{1/2}$.

71Te07 *Spontaneously Fissioning Isomers in ^{237}Pu*

J. K. Temperley, J. A. Morrissey, S. L. Bacharach, Nucl. Phys. A175, 433 (1971).

Radioactivity: Fission ^{237m}Pu(SF) [from ^{237}Np(d,2n)]; measured $T_{1/2}$, E(fragment). ^{237}Np(d,2n), E=8.5-14.5 MeV; measured delayed, prompt fission σ ratios, (d)(fission-fragment)-delay;E=13.0 MeV, measured E(fragment).

72Bo48 *Search for Spontaneously Fissioning Isomers Produced with 600 MeV Protons*

A. H. Boos, R. Brandt, D. Molzahn, D. M. Montgomery, J. Inorg. Nucl. Chem. 34, 3309 (1972).

Nuclear Reactions: U, Th, Bi, Pb(p,X), E=600 MeV; measured fission activities; deduced σ for SF-isomer production.

72Br04 *Investigation of γ-Ray Emission Preceding Isomeric Fission of ^{236}U*

J. C. Browne, C. D. Bowman, Phys. Rev. Lett. 28, 617 (1972).

Nuclear Reactions: Fission ^{235}U(n,γF), E=1-100 eV; measured (γ)(fragment)-delay; deduced limit on pre-fission γ-emission. ^{236}U deduced relative double barrier penetrabilities.

72Br35 *Excitation Functions for the Production of Fission Isomers in Various Am Isotopes*

H. C. Britt, B. H. Erkkila, B. B. Back, Phys. Rev. C6, 1090 (1972).

Radioactivity: Fission ^{239m}Am, ^{245m}Am; measured $T_{1/2}$.

Nuclear Reactions: ^{239}, ^{240}, ^{242}, ^{244}Pu(p,2n), (t,2n), (t,3n), E=10-16 MeV; measured σ for SF-isomer production.

72Ga04 *Measurement of the Excitation Energy of the Spontaneously Fissioning Isomer Pu^{239}(γ,n)*

Y. P. Gangrskii, V. N. Maykov, I. F. Kharisov, Y. M. Tsipenyuk, Yad. Fiz. 16, 271 (1972); Sov. J. Nucl. Phys. 16, 151 (1973).

Nuclear Reactions: ^{240}Pu(γ,n), E < 15 MeV; measured σ(E) for ^{239m}Pu(SF) production. ^{239m}Pu(SF) deduced excitation energy.

72Ga42 *Production of Spontaneously Fissioning Isomers with Nanosecond Lifetimes in α-Particle Reactions*

Y. P. Gangrskii, Nguen Kong Khan, D. D. Pulatov, At. Energ. 33, 829 (1972); Sov. At. Energy 33, 948 (1973).

Nuclear Reactions: ^{233}, ^{235}, ^{238}U, ^{239}, ^{242}Pu, ^{241}, ^{243}Am(α,xn), E=20-36 MeV; measured σ(E) for SF-isomers. ^{235}, ^{237}, ^{240}Pu, ^{241}, ^{243}Cm, ^{242}, ^{243}, ^{244}, ^{245}Bk deduced SF-isomers, $T_{1/2}$.

72Ho11 *Total Spontaneous and Isomer Fission Half-Lives of ^{234}U, ^{236}U and ^{240}Pu*

M. A. Hooshyar, F. B. Malik, Phys. Lett. 38B, 495 (1972).

Nuclear Structure: Fission ^{234}, ^{236}U, ^{240}Pu(SF); calculated total $T_{1/2}$, $T_{1/2}$(SF), average fragment kinetic energies. Coupled-channel decay theory.

72Ho48 *A Coupled Channel Approach to the Isomer Fission State*

M. A. Hooshyar, F. B. Malik, Helv. Phys. Acta 45, 567 (1972).

72HoXQ *Suche nach γ-Ubergangen im Spaltungs-Isomer ^{236}U*

F. Horsch, E. Konecny, K. E. G. Lobner, H. J. Specht, Univ., Tech. Univ. Munchen, Jahresbericht 1972, p. 104 (1973).

Nuclear Reactions: ^{235}U(n,Fγ); measured Eγ, Iγ. ^{236}U deduced isomer.

72Ka59 *Search for γ-Branch in the ^{236m}U Fission Isomer Decay*

E. Kashy, J. Hattula, J. Borggreen, V. Maarbjerg, Comment. Phys. -Math. 42, 266 (1972).

Radioactivity: ^{236m}U; measured upper limit for γ-ray decay.

72Ko10 *Search for Conversion Electrons Populating the ^{236}U Fission Isomer*

E. Konecny, H. J. Specht, J. Weber, H. Weigmann, R. L. Ferguson, P. Osterman, M. Waldschmidt, G. Siegert, Nucl. Phys. A187, 426 (1972).

Nuclear Reactions: Fission ^{235}U(n,γF), E=thermal; measured (fragment)(ce)-coin, -delay; deduced upper limit for isomeric/prompt fission ratio.

72Ku26 *Search for Fission Isomers in the Radium Region*

I. M. Kuks, V. I. Matvienko, Y. A. Nemilov, Y. A. Selitskii, V. B. Funshtein, Yad. Fiz. 16, 438 (1972); Sov. J. Nucl. Phys. 16, 244 (1973).

Nuclear Reactions: ^{226}Ra(d,X), E=6.6, 11.3 MeV; ^{226}Ra(n,X), E=0.7-10, 14.5 MeV; measured σ(F). ^{224}, ^{225}, ^{226}, ^{227}Ra, ^{225}, ^{226}, ^{227}Ac deduced no SF-isomer.

72La05 *Fission Barriers and the Inclusion of Axial Asymmetry*

S. E. Larson, I. Ragnarsson, S. G. Nilsson, Phys. Lett. 38B, 269 (1972).

Nuclear Structure: Fission ^{186}, ^{188}, ^{190}, ^{192}W, ^{196}Pt, ^{196}Hg, ^{196}, ^{204}Pb, ^{242}Pu, ^{246}Cm, ^{252}Fm, ^{258}104, superheavy; calculated potential energy surfaces vs deformation parameters, fission barriers. Modified oscillator model, axial symmetry.

72Ma11 *A Single-Particle Model Calculation of Total Energy Surfaces in Heavy Nuclei*

D. E. Maharry, J. P. Davidson, Nucl. Phys. A183, 371 (1972).

Nuclear Structure: Fission ^{236}U, ^{230}, ^{232}Th, ^{234}, ^{236}, ^{238}U, ^{246}, ^{248}, ^{250}, ^{252}Cf, ^{238}, ^{240}, ^{242}, ^{244}Am, ^{236}, ^{238}, ^{240}, ^{242}, ^{244}Pu, ^{240}, ^{242}, ^{244}, ^{246}, ^{248}, ^{250}Cm; calculated total energy surfaces, fission barriers. Single-particle model.

72Mo27 *Odd-Multipole Shape Distortions and the Fission Barriers of Elements in the Region 84 < Z < 120*

P. Moller, Nucl. Phys. A192, 529 (1972).

Nuclear Structure: Fission Z=84-120;^{210}Po, ^{236}U, ^{256}Fm, ^{252}Fm; calculated potential energy surfaces, fission barriers.

72NaYU

Thesis: T Nagy, Dubna

Nuclear Reactions: ^{241}, ^{243}Am(n,γ), E=0.8-16 MeV; ^{235}U, ^{239}Pu(n,γ), E=th; ^{238}U, ^{239}, ^{242}Pu, ^{243}Am(n,n'), E=3-7 MeV, 14.7 MeV; ^{240}, ^{242}Pu, ^{243}Am(n,2n), E=14.7 MeV; measured σ(E) for SF isomers. ^{232}Th, ^{233}, ^{235}, ^{238}U, ^{237}Np, ^{239}Pu(n, 2n), E=14.7 MeV; measured no SF isomer.

72Pe01 *An Investigation of the Population of the Shape Isomer ^{236m}U Through the (d,p) Reaction*

J. Pedersen, B. Rasmussen, Nucl. Phys. A178, 449 (1972).

Nuclear Reactions: ^{235}U(d,pF), E=11 MeV; measured (p)(fragment)-delay. ^{236m}U deduced $T_{1/2}$, fission barrier parameters.

72PiZR *Fission Isomer in Uranium-236*

J. V. Pilcher, F. D. Brooks, W. R. McMurray, INDC(SEC)-28/L, p. 249 (1972).

Radioactivity: Fission ^{236m}U(SF); measured $T_{1/2}$.

72Sp06 *Identification of a Rotational Band in the ^{240}Pu Fission Isomer*

H. J. Specht, J. Weber, E. Konecny, D. Heunemann, Phys. Lett. 41B, 43 (1972).

Radioactivity: Fission ^{240}Pu(SF) [from ^{238}U(α,2nγ); E=25 MeV]; measured I(ce), (α)(fragment)-delay, E(ce). ^{240m}Pu deduced levels, rotational band structure.

72Va08 *Spontaneous-Fission-Isomer Excitation Energies from Threshold Measurements*

R. Vandenbosch, Phys. Rev. C5, 1428 (1972).

72Va44 *Searches for the Spontaneously Fissioning Isomer Pu^{240}m in the Thermal-Neutron Capture Reaction*

G. V. Valskii, O. M. Mrachkovskii, G. A. Petrov, Y. S. Pleva, Yad. Fiz. 16, 667 (1972); Sov. J. Nucl. Phys. 16, 374 (1973).

Nuclear Reactions: Fission ^{239}Pu(n,F); E=thermal; measured σ production for ^{240m}Pu.

72Vi10 *^{233m}Pu(f) Double Fission Isomer Study Through the ^{237}Np(d,2n) Reaction in the E = 9-12 MeV Energy Range*

N. Vilcov, G. Griffith, I. Vilcov, R. B. Leachman, Rev. Roum. Phys. 17, 1031 (1972).

Nuclear Reactions: ^{237}Np(d,2n), E=9.1-12.1 MeV; measured σ(E) ratio for two isomers. ^{237}Pu deduced levels, $T_{1/2}$.

72Vy07 *Excitation Energies of the Spontaneously Fissile Isomers of Pu^{240}, Cm^{241}, and Bk^{243} in Reactions with α-Particles*

I. Vylkov, N. Vylkov, Y. P. Gangrskii, M. Marinescu, A. A. Pleve, D. Poenaru, I. F. Kharisov, Yad. Fiz. 16, 454 (1972); Sov. J. Nucl. Phys. 16, 253 (1973).

Nuclear Reactions: ^{238}U, ^{239}Pu, ^{241}Am(α,2n), E=20-26 MeV; measured σ for SF-isomer production. ^{240}Pu, ^{241}Cm, ^{243}Bk deduced SF isomer excitation energies.

72We09 *Evaluation of Fission Barrier Parameters from Near-Barrier Fission and Isomeric Half-Life Data*

H. Weigmann, J. P. Theobald, Nucl. Phys. A187, 305 (1972).

Nuclear Structure: Fission ^{234}, ^{235}, ^{236}, ^{237}, ^{238}, ^{239}U, ^{237}, ^{238}, ^{239}, ^{240}Np, ^{235}, ^{236}, ^{237}, ^{238}, ^{239}, ^{240}, ^{241}, ^{242}, ^{243}, ^{244}, ^{245}Pu, ^{237}, ^{238}, ^{239}, ^{240}, ^{241}, ^{242}, ^{243}, ^{244}Am, ^{241}, ^{242}, ^{243}, ^{244}, ^{245}Cm, ^{246}, ^{247}Cm, ^{244}, ^{245}, ^{246}Bk; calculated fission barriers, $T_{1/2}$.

72Wo07 *Fissioning Isomers of Americium, Curium and Berkelium Isotopes*

K. L. Wolf, J. P. Unik, Phys. Lett. 38B, 405 (1972).

Radioactivity: Fission ^{240m}Am, ^{243m}Am, ^{245m}Am, ^{246m}Am, ^{244m}Am, ^{239m}Pu, ^{242m}Bk, ^{244m}Bk, ^{243m}Cm, ^{245m}Cm; measured $T_{1/2}$.

Nuclear Reactions: ^{242}, ^{244}Pu, ^{241}, ^{243}Am(α, xF), E=25-46 MeV; measured σ(E) for SF-isomer production.

73Al08 *A New Two-Center Shell Model for Nuclear Fission*

K. Albrecht, Nucl. Phys. A207, 225 (1973).

Nuclear Structure: ^{226}Ra, ^{232}Th, ^{236}, ^{238}U, ^{240}, ^{242}Pu, ^{244}Cm, ^{248}, ^{252}Cf, ^{252}Fm; calculated deformation energies, isomer energies.

73Ba19 *Fission and Decay of Excited Nuclei*

V. S. Barashenkov, A. S. Iljinov, V. D. Toneev, F. G. Gereghi, Nucl. Phys. A206, 131 (1973).

Nuclear Structure: ^{149}Eu, ^{157}Ho, ^{175}Ta, ^{186}Os, ^{187}Os, ^{188}Os, ^{185}Ir, ^{189}Ir, ^{191}Ir, ^{194}Hg, ^{198}Hg, ^{210}Po, ^{211}Po, ^{212}Po, ^{213}At, ^{227}Ra, ^{233}U, ^{234}U, ^{235}U, ^{236}U, ^{237}U, ^{238}U, ^{239}U, ^{237}Np, ^{238}Np, ^{241}Am, ^{242}Am, ^{244}Am, ^{240}Cm, ^{242}Cm, ^{246}Cm, ^{250}Cm, ^{246}Cf, ^{248}Cf, ^{250}Cf, ^{252}Cf, ^{251}No, ^{252}No, ^{253}No, ^{254}No, ^{255}No, ^{256}No, ^{257}No, ^{259}No; calculated fission barrier, level-width(n)/level-width(F).

73Be04 *Production of Spontaneously Fissioning Isomers in Th, U, Np, Pu and Am Isotopes in Reactions Induced by 14.7 MeV Neutrons*

A. G. Belov, Y. P. Gangrsky, B. Dalkhsuren, A. M. Kucher, T. Nagy, D. M. Nadkarni, Indian J. Phys. 47, 232 (1973).

Nuclear Reactions: ^{232}Th, ^{235}, ^{238}U, ^{237}Np, ^{240}, ^{242}Pu, ^{241}, ^{243}Am(n,2n), ^{239}Pu, ^{241}, ^{243}Am(n,n'), E=14.7 MeV; measured production σ for SF isomers, nF(t). ^{239m}, ^{241m}Pu, ^{240m}, ^{241m}, ^{242m}, ^{243m}Am deduced $T_{1/2}$.

73Be05 *Search for α Emission in the Decay of Spontaneously Fissionable Isomers*

A. G. Belov, Y. P. Gangrskii, B. Dalkhsuren, A. M. Kucher, Nguen Kong Khan, Yad. Fiz. 17, 942 (1973); Sov. J. Nucl. Phys. 17, 493 (1974).

Radioactivity: Fission ^{240m}, ^{242m}Am, ^{241m}Pu(SF); measured Eα, Iα. Deduced no α-emission.

73Be10 *Search for γ-Rays Emitted in the Formation of a Fission Isomer*

D. Benson, Jr., C. M. Lederer, E. Cheifetz, Nucl. Phys. A201, 445 (1973).

Nuclear Reactions: ^{238}U(α,γF); measured αf(t), γf(t), Eγ. ^{240m}Pu(SF); deduced limits on pre-fission γ-ray photons.

73Br04 *Fission Barriers Deduced from the Analysis of Fission Isomer Results*

H. C. Britt, M. Bolsterli, J. R. Nix, J. L. Norton, Phys. Rev. C7, 801 (1973).

73Br38 *Properties of Fission Isomers*

H. C. Britt, At. Data Nucl. Data Tables 12, 407 (1973).

73BrWU

Report: USNDC-7 P106

Nuclear Reactions: ^{243}Pu(n,F); measured σ(Eγ). ^{243}Pu deduced fission isomer.

73Fl03 *Excitation Functions for Spallation Products and Fission Isomers in ^{237}Np(^{4}He,xn)$^{241-}$x-Am Reactions*

A. Fleury, F. H. Ruddy, M. N. Namboodiri, J. M. Alexander, Phys. Rev. C7, 1231 (1973).

Nuclear Reactions: ^{237}Np(α,2n), (α,3n), (α,4n), E=19-45 MeV; measured σ(E), σ, isomer σ ratio. ^{239m}Am deduced $T_{1/2}$.

73HeYN *Search for Conversion Electrons from the Decay of Excited States in the Secondary Minimum of ^{236}U*

R. Heffner, J. Pedersen, P. A. Russo, H. Swanson, RLO-1388-221, p. 123 (1973).

Radioactivity: ^{236}U; measured I(ce).

73Kh06 *Angular Distribution of Fragments of Spontaneously Fissioning Isomers*

Fam Zui Khien, Yad. Fiz. 17, 489 (1973); Sov. J. Nucl. Phys. 17, 251 (1974).

Nuclear Reactions: ^{235}U(α,3n); calculated ^{236}Pu fission isomer angular distribution.

73Li01 *A Subnanosecond and a Nanosecond Fission Isomer in ^{238}Pu*

P. Limkilde, G. Sletten, Nucl. Phys. A199, 504 (1973).

Radioactivity: Fission ^{238m}Pu, ^{240m}Pu; measured $T_{1/2}$.

Nuclear Reactions: ^{236}U(α,2n), E=21.0-27.0 MeV; measured σ(1)(E), , σ(2)(E) delayed fission;deduced thresholds; ^{236}U(α,F), E=20.0-28.0 MeV; measured σ(E) prompt fission; ^{238}U(α,2n), E approx 25 MeV; measured σ delayed fission.

73Me23 *Neutron-Fission Competition Near Threshold; The Influence of Shells and Pairing on the Decay of the ^{241}Cm Compound Nucleus*

V. Metag, S. M. Lee, E. Liukkonen, G. Sletten, S. Bjornholm, A. S. Jensen, Nucl. Phys. A213, 397 (1973).

Nuclear Reactions: ^{238}Pu(α,n), E=19.9-23 MeV; ^{238}Pu(α, 2n), E=19.9-27 MeV; ^{241}Am(p,2n), E=8.2-16 MeV; measured σ(^{241}Cm), σ(^{240}Cm), σ(fission). ^{241}, ^{242}Cm deduced n-width, F-width.

73Na03 *Excitation Functions for the Fission Isomers ^{240m}Pu and ^{239m}Pu from ^{238}U(^{4}He,xn) Reactions*

M. N. Namboodiri, F. H. Ruddy, J. M. Alexander, Phys. Rev. C7, 1222 (1973).

Nuclear Reactions: ^{238}U(α,2n), (α,3n), E < 28 MeV; measured σ(E), σ. ^{240m}Pu deduced $T_{1/2}$.

73Na35 *Neutronokkal Letrehozott, Izomer Allapotbol Spontan Hasado Magok Keletkezesere Vezeto Reakciok Vizsgalata*

T. Nagy, Magy. Fiz. Foly. 21, 555 (1973).

Radioactivity: Fission ^{238}U, ^{239}, ^{241}, ^{242}Pu, ^{242}, ^{243}, ^{244}Am, ^{236}Np(SF); measured $T_{1/2}$. ^{238}Pu, ^{232}, ^{234}, ^{237}U, ^{231}Th measured $T_{1/2}$ limits.

Nuclear Reactions: ^{241}, ^{243}Am(n,γ), E=0.8-16mev; ^{233}, ^{235}, ^{238}U, ^{239}Pu(n,γ), E=thermal; ^{238}U, ^{239}, ^{242}Pu, ^{243}Am(n, n'), E=3-7, 14.7 MeV; ^{237}Np, ^{233}, ^{235}, ^{238}U, ^{232}Th, ^{239}, ^{240}, ^{242}Pu, ^{243}Am(n,2n), E=14.7 MeV; measured σ(E) for production of SF isomers.

73OtZX

Report: RCN-203 P169

Nuclear Reactions: ^{235}U(n,F), E=1 MeV; measured fission isomer yield.

73Po05 *Spontaneously Fissioning Isomer $U^{236}m$ Excited by Capture of Thermal Neutrons*

L. A. Popeko, G. A. Petrov, E. F. Kochubei, T. K. Zvezdkina, Yad. Fiz. 17, 234 (1973); Sov. J. Nucl. Phys. 17, 120 (1974).

Nuclear Reactions: ^{235}U(n,F), E=thermal; measured (fragment)(ce, γ,X)-delay. ^{236m}U deduced yield.

73Po08 *Neutron Resonance Parameters of ^{242}Pu*

F. Poortmans, G. Rohr, J. P. Theobald, H. Weigmann, G. J. Vanpraet, Nucl. Phys. A207, 342 (1973).

Nuclear Reactions: ^{242}Pu(n,n), ^{242}Pu(n,γ), E=20-1300 eV; measured σ. ^{243}Pu resonances deduced resonance parameters n-width, γ-width. Enriched target.

73PoZA *Fission Isomers, Eleven Years of Experimental Work*

D. N. Poenaru, IFA-CRD-54-1973 (1973).

Compilation: Fission ^{234m}, ^{235m}, ^{236m}, ^{238m}U(SF), ^{237m}Np(SF), ^{235m}, ^{236m}, ^{237m}, ^{238m}, ^{239m}, ^{240m}, ^{241m}, ^{242m}, ^{243m}Pu(SF), ^{237m}, ^{238m}, ^{239m}, ^{240m}, ^{241m}, ^{242m}, ^{243m}, ^{244m}, ^{245m}, ^{246m}Am, ^{240m}, ^{241m}, ^{242m}, ^{243m}, ^{245m}Cm, ^{242m}, ^{243m}, ^{244m}, ^{245m}Bk; compiled experimental $T_{1/2}$.

73Sp04 *Statistical Theory of Isomer Ratios for Shape (Fission) Isomers in (n,γ) Reactions*

D. Sperber, Nuovo Cim. 13A, 373 (1973).

Nuclear Reactions: ^{233}, ^{235}U, ^{239}Pu, ^{241}Am(n, γ); calculated isomer ratios.

73Va16 *Relative Excitations of the ^{237}Pu Shape Isomers*

R. Vandenbosch, P. A. Russo, G. Sletten, M. Mehta, Phys. Rev. C8, 1080 (1973).

Radioactivity: Fission ^{237m}Pu(SF), ^{237}Pu; measured delayed yields. ^{237}Pu deduced levels, J, π, $T_{1/2}$.

73Va30 *Probability of Formation of Spontaneously Fissioning Isomer States Following Thermal Neutron Capture by U^{235} and Pu^{239}*

G. V. Valskii, O. M. Mrachkovskii, G. A. Petrov, Y. S. Pleva, Yad. Fiz. 18, 492 (1973); Sov. J. Nucl. Phys. 18, 253 (1974).

Nuclear Reactions: ^{235}U, ^{239}Pu(n,γ); measured σ(isomer).

73Wo03 *The Fissioning Isomer ^{237m}Np*

K. L. Wolf, J. P. Unik, Phys. Lett. 43B, 25 (1973).

Radioactivity: Fission ^{237m}Np(SF); measured $T_{1/2}$, excitation energy.

73Ze05 *Search for a Spontaneously Fissioning Isomer Nucleus U^{236}m in the Reaction U^{235}(n,γ)*

Zen Chang Bom, A. Lajtai, A. A. Omelyanenko, T. T. Panteleev, S. M. Polikanov, Y. V. Ryabov, Tang San Khak, Yad. Fiz. 18, 34 (1973); Sov. J. Nucl. Phys. 18, 18 (1974).

Nuclear Reactions: ^{235}U(n,γ), E approx 60 keV; measured σ for SF isomer. ^{236}U deduced no SF isomer.

74Ba73 *Fission of Odd-A and Doubly Odd Actinide Nuclei Induced by Direct Reactions*

B. B. Back, H. C. Britt, O. Hansen, B. Leroux, J. D. Garrett, Phys. Rev. C10, 1948 (1974).

Nuclear Reactions: ^{230}, ^{232}Th(^{3}He,αF), ^{230}, ^{232}Th, ^{233}, ^{234}, ^{235}, ^{236}, ^{238}U, ^{239}, ^{240}, ^{242}Pu, ^{248}Cm(^{3}He, dF), E=24 MeV; ^{230}Th, ^{231}Pa, ^{237}Np, ^{248}Cm(d,pF), E=15 MeV; ^{243}Am, ^{239}Pu(t, pF), E=15 MeV; ^{248}Cm(t,αF), E=16 MeV; measured fission probabilities. ^{229}, ^{231}Th, ^{231}, ^{232}, ^{233}Pa, ^{234}, ^{235}, ^{236}, ^{237}, ^{238}, ^{239}Np, ^{241}Pu, ^{240}, ^{241}, ^{243}, ^{245}, ^{247}Am, ^{249}Cm, ^{249}Bk deduced barrier heights.

74Ba28 *Fission of Doubly Even Actinide Nuclei Induced by Direct Reactions*

B. B. Back, O. Hansen, H. C. Britt, J. D. Garrett, Phys. Rev. C9, 1924 (1974).

Nuclear Reactions: ^{230}, ^{232}Th, ^{234}, ^{236}, ^{238}U, ^{238}, ^{240}, ^{242}Pu, ^{248}Cm(t,pF), E=15 MeV; ^{231}Pa(t,αF), E=16 MeV; ^{231}Pa, ^{237}Np, ^{243}Am(^{3}He,dF), E=24 MeV; ^{233}U(d,pF), E=13 MeV; ^{248}Cm(p,p'F), E=22.5 MeV; measured E(fragment), I(fragment). ^{230}, ^{232}, ^{234}Th, ^{232}, ^{234}, ^{236}, ^{238}, ^{240}U, ^{238}, ^{240}, ^{242}, ^{244}Pu, ^{244}, ^{248}, ^{250}Cm deduced fission probability.

74Ba82 *Comparison of Fragment Kinetic Energies from Two ^{237}Pu Fission Isomers*

S. L. Bacharach, P. S. Hoeper, J. A. Morrissey, J. K. Temperley, Phys. Rev. C10, 2636 (1974).

Radioactivity: Fission ^{237m}Pu(SF); measured $T_{1/2}$.

74Be52 *Attempted Coulomb Excitation of the Spontaneous-Fission Isomeric State In ^{239}Pu*

C. E. Bemis, Jr., F. Plasil, R. L. Ferguson, E. E. Gross, A. Zucker, Phys. Rev. C10, 1590 (1974).

Nuclear Reactions: ^{239}Pu(^{20}Ne,^{20}Ne'), E=100, 117 MeV; measured fission fragments. ^{239m}Pu deduced upper limit on yield.

74BeYO

Report: ORNL-4937 P26

Nuclear Reactions: ^{239}Pu(^{20}Ne,^{20}Ne'), E=100, 117 MeV; measured σ(fragment mass,θ). ^{239}Pu deduced fission isomer.

74Bo02 *Search for a γ-Branch from Shape Isomers in ^{236}U and ^{238}Np*

J. Borggreen, J. Hattula, E. Kashy, V. Maarbjerg, Nucl. Phys. A218, 621 (1974).

Nuclear Reactions: ^{235}U(d,p), E=11 MeV; ^{238}U(p,n), E=8 MeV; measured σ(delayed γ), $T_{1/2}$=130 ns, 2 μs < $T_{1/2}$ < 20 ms. ^{236m}U, ^{238m}Np deduced limits on σ for delayed γ from shape isomer.

74Br05 *Investigation of the γ Decay of Subthreshold-Fission Resonances of ^{242}Pu to a Fission Isomeric State*

J. C. Browne, C. D. Bowman, Phys. Rev. C9, 1177 (1974).

Nuclear Reactions: ^{242}Pu(n,Fγ), E=400-3000 eV; measured σ(E), γ(t). ^{243}Pu resonance deduced γ-branching.

74BrYE

Conference proceedings: Rochester(Phys, Chem of Fission),Vol2 P493

Nuclear Reactions: ^{242}Pu(n,F), E=subthreshold; measured Eγ. ^{243}Pu deduced no fission isomer.

74Ga41 *Investigation of Photonuclear Reactions Leading to Spontaneously Fissioning Isomers*

Y. P. Gangrsky, B. N. Markov, Y. M. Tsypenyuk, Fortschr. Phys. 22, 199 (1974).

Nuclear Reactions: ^{239}Pu, ^{243}Am(γ,γ'), ^{240}, ^{242}Pu, ^{241}, ^{243}Am(γ,n), E=7-16 MeV; measured σ(E) for the production of spontaneously fissioning isomers; deduced barrier parameters.

74GaZD *Delayed Fission Fragment Angular Distributions in Some Alpha-Particle-Induced Reactions*

D. Galeriu, M. Marinescu, D. Poenaru, I. Vilcov, N. Vilcov, Y. P. Gangrsky, P. Z. Hien, N. C. Khan, Proc. Symp. Phys. Chem. Fission, 3rd, Rochester, N. Y. (1973), Int. At. En. Agency, Vienna, Vol. 1, p. 297 (1974).

Nuclear Reactions: ^{235}, ^{238}U, ^{239}Pu, ^{241}Am(α, 2n), ^{235}U, ^{242}Pu(α,3n), E=26-33 MeV; measured σ(fragment mass,θ), fragment(t). ^{236m}, ^{237m}, ^{240m}Pu, ^{241m}, ^{243m}Cm deduced anisotropies.

74HeZE *Experimental Study of the Deformation of the Fission Isomer in ^{236}U*

R. H. Heffner, Thesis, Univ. Washington (1973); Diss. Abstr. Int. B35, 435 (1974).

Radioactivity: Fission ^{236m}U(SF); measured γce(t); deduced $T_{1/2}$, β.

74LoZN *Gamma-Ray Transitions Preceding Isomeric Fission in ^{236}U*

K. E. G. Lobner, D. Harrach, E. Konecny, N. Nenoff, H. J. Specht, J. Weber, Contrib. Int. Symp. Neutron Capture Gamma Ray Spectroscopy and Related Topics, 2nd, Petten, p. 409 (1974)

Nuclear Reactions: ^{235}U(n,F); measured (fragment)γ(t). ^{236}U deduced transitions.

74Me10 *Detection of Fission Isomers with Half-Lives in the Picosecond Range by the Recoil-Distance Technique*

V. Metag, E. Liukkonen, G. Sletten, O. Glomset, S. Bjornholm, Nucl. Instrum. Methods 114, 445 (1974).

Nuclear Reactions: ^{237}Np(p,F), ^{242}Pu(d,pnF); measured recoil distance. ^{242}Pu level deduced $T_{1/2}$.

74MeYP *Half-Life Systematics of Fission Isomers in Even-Even Pu Isotopes*

V. Metag, E. Liukkonen, O. Glomset, A. Bergman, Proc. Symp. Phys. Chem. Fission, 3rd, Rochester, N. Y. (1973), Int. At. En. Agency, Vienna, Vol. 1, p. 317 (1974).

Nuclear Reactions: ^{238}, ^{240}, ^{242}, ^{244}Pu(d,pn), ^{237}Np(p,2n), ^{234}U(α,2n); measured delayed fission. ^{236}, ^{238}, ^{242}, ^{244}Pu deduced fission isomers, $T_{1/2}$.

74MoYC *Calculation of Fission Barriers*

P. Moller, J. R. Nix, Proc. Symp. Phys. Chem. Fission, 3rd, Rochester, N. Y. (1973), Int. At. En. Agency, Vienna, Vol. 1, p. 103 (1974).

Nuclear Structure: ^{244}, ^{248}, ^{252}, ^{256}, ^{260}No, ^{240}, ^{244}, ^{248}, ^{252}, ^{256}Cf, ^{236}, ^{240}, ^{244}, ^{248}, ^{252}Pu, ^{232}, ^{236}, ^{240}, ^{244}, ^{248}Th; calculated fission barriers. A=242; calculated single particle energies.

74SpZS *Fragment Anisotropy in Isomeric Fission*

H. J. Specht, E. Konecny, J. Weber, C. Kozhuharov, Proc. Symp. Phys. and Chem. Fission, Rochester, N. Y., 3rd, (1973), IAEA, Vienna, Vol. I, p. 285 (1974).

Nuclear Reactions: ^{235}, ^{236}U, ^{239}Pu(α,2n), E=25 MeV; measured σ(fragment mass,θ), fragment(t). ^{237m}, ^{238m}Pu, ^{241m}Cm deduced anisotropies, J.

74WoZW *Measurements on the Fissioning Isomer ^{238m}U with the (n,n') and (d,pn) Reactions*

K. L. Wolf, J. W. Meadows, Bull. Am. Phys. Soc. 19, No. 4, 595, KH1 (1974)

Nuclear Reactions: Fission ^{238}U(n,n'F), (d,pnF); measured σ(E;E(fragment), t). ^{238m}U deduced $T_{1/2}$.

75Ch09 *Investigation of Delayed Fission in ^{236}U*

J. Christiansen, G. Hempel, H. Ingwersen, W. Klinger, G. Schatz, W. Witthuhn, Nucl. Phys. A239, 253 (1975).

Nuclear Reactions: ^{235}U(d,pF), E=11 MeV; measured prompt, delayed fission. ^{236m}U(SF) deduced $T_{1/2}$, isomeric to prompt fission ratio. ^{232}Th(d,F), E=11 MeV; measured prompt fission.

75Gr16 *Feasibility of Experimental Verification of the Shape-Isomerism Hypothesis in Heavy Nuclei*

D. P. Grechukhin, Yad. Fiz. 21, 956 (1975); Sov. J. Nucl. Phys. 21, 491 (1976).

Nuclear Structure: ^{242}, ^{242m}Am; calculated isomeric shift.

75Ha09 *An Investigation of the Properties of Single-Particle-States in the Second Minimum of ^{237}Pu*

I. Hamamoto, W. Ogle, Nucl. Phys. A240, 54 (1975).

Nuclear Reactions: ^{235}U(α,2n), E=22-25 MeV; analyzed data. ^{237}Pu levels deduced g, J, π, K.

75Kh06 *Determination of the Spins of Spontaneously-Fissioning Isomers*

P. Z. Hien, Yad. Fiz. 22, 938 (1975); Sov. J. Nucl. Phys. 22, 489 (1976).

Radioactivity: Fission ^{241}Cm(SF), ^{235}, ^{237}, ^{238}Pu (SF); calculated spins of SF isomers.

75LoZT *Gamma-Ray Transitions Preceding Isomeric Fission in ^{236}U*

K. E. G. Lobner, D. Harrach, E. Konecny, N. Nenoff, H. J. Specht, J. Weber, Proc. Int. Symp. Neutron Capture Gamma Ray Spectroscopy and Related Topics, 2nd, Petten, The Netherlands (1974), K. Abrahams, F. Stecher-Rasmussen, P. Van Assche, Eds., Reactor Centrum Nederland, p. 665 (1975).

Nuclear Reactions: ^{235}U(n,γ), E=thermal; measured fragment γ(t). ^{236}U deduced levels.

75Me28 *Systematics of Fission Isomer Halflives*

V. Metag, Nukleonika 20, 789 (1975).

Nuclear Structure: ^{236}, ^{238}, ^{242}, ^{244}Pu, ^{242}, ^{244}Cm; analyzed, reviewed fission isomer $T_{1/2}$. Systematics.

75Ru03 *Gamma Decay of the ^{238}U Shape Isomer*

P. A. Russo, J. Pedersen, R. Vandenbosch, Nucl. Phys. A240, 13 (1975).

Nuclear Reactions: ^{238}U(d,npγ), E=13, 18 MeV; ^{238}U(p,p'γ), E=13 MeV; measured σ(Eγ,t). ^{238}U deduced levels, J, π, $T_{1/2}$, barrier parameters.

75Va21 *Formation of the Spontaneously Fissile Isomer ^{242m}Am in Thermal-Neutron Capture*

G. V. Valsky, V. L. Varentsov, G. A. Petrov, Y. S. Pleva, B. M. Aleksandrov, A. S. Krivokhatsky, Yad. Fiz. 22, 701 (1975); Sov. J. Nucl. Phys. 22, 363 (1976).

Nuclear Reactions: ^{241}Am(n,γ), E=thermal; measured σ for production of ^{242}Am(SF) isomer. ^{242m}Am deduced $T_{1/2}$.

76An11 *The Shape Isomer in ^{236}U Populated by Thermal Neutron Capture*

V. Andersen, C. J. Christensen, J. Borggreen, Nucl. Phys. A269, 338 (1976).

Nuclear Reactions: ^{235}U(n,γ), E=th; measured ce X-coin, fragment delay; obtained isomeric/prompt fission ratio. ^{236m}U shape isomer deduced γ/F branching ratio.

76Be55 *Search for Conversion Electrons Emitted during the Decay of Spontaneously Fissile Isomers*

A. G. Belov, Y. P. Gangrskii, B. Dalkhsuren, M. B. Miller, Izv. Akad. Nauk SSSR, Ser. Fiz. 40, 1109 (1976); Bull. Acad. Sci. USSR, Phys. Ser. 40, No. 6, 10 (1976).

Nuclear Reactions: ^{238}U, ^{239}, ^{242}Pu, ^{241}, ^{243}Am(n, X), E=14.7 MeV; ^{238}U, ^{239}, ^{242}Pu, ^{241}, ^{243}Am(γ,X), E=9, 15 MeV; measured E(ce), I(ce). ^{238}U deduced γ-decay for SF isomer.

76BeZM *Search for the Conversion Electrons Emitted in the Decay of Spontaneously Fissioning Isomers*

A. G. Belov, Y. P. Gangrsky, B. Dalkhsuren, M. B. Miller, JINR-P6-9397 (1976).

Radioactivity: Fission ^{238}U, ^{239}, ^{241}Pu, ^{240}, ^{241}, ^{242}, ^{243}Am(SF); measured ce spectra.

76Br38 *Search for Fissile Isomers in the (n,2n) Reaction*

J. S. Browne, R. E. Houve, At. Energ. 40, 491(1976); Sov. At. Energy 40, 587 (1976).

Nuclear Reactions: ^{238}U, ^{242}, ^{244}Pu(n,2n), E=14 MeV; measured σ for production of SF isomers. ^{237}U, ^{241}, ^{243}Pu deduced no SF isomers.

76Ga11 *Γn/Γf for Actinide Nuclei Using (^{3}He,df) and (^{3}He,tf) Reactions*

A. Gavron, H. C. Britt, E. Konecny, J. Weber, J. B. Wilhelmy, Phys. Rev. C13, 2374 (1976).

Nuclear Structure: ^{230}, ^{231}, ^{232}, ^{233}Pa, ^{231}, ^{232}U, ^{233}, ^{234}, ^{235}, ^{236}, ^{237}, ^{238}, ^{239}Np, ^{237}, ^{238}Pu, ^{239}, ^{240}, ^{241}, ^{242}, ^{243}Am, ^{241}, ^{242}, ^{243}, ^{244}Cm; measured fission probability in ^{3}He induced reactions; deduced barrier heights, average Γn/Γf.

Nuclear Reactions: ^{230}, ^{232}Th, ^{231}Pa, ^{234}, ^{236}, ^{238}U, ^{237}Np, ^{239}, ^{241}Pu, ^{241}, ^{243}Am(^{3}He,df), (^{3}He,tf); ^{232}U, ^{242}Pu(^{3}He,df); E=25 MeV; measured fission spectra; deduced barrier heights, average neutron-, fission-widths. ^{230}, ^{231}, ^{232}, ^{233}Pa, ^{231}, ^{232}U, ^{233}, ^{234}, ^{235}, ^{236}, ^{237}, ^{238}, ^{239}Np, ^{237}, ^{238}Pu, ^{239}, ^{240}, ^{241}, ^{242}, ^{243}Am, ^{241}, ^{242}, ^{243}, ^{244}Cm deduced fission probability.

76Ga29 *Study of the γ-Ray Spectra Emitted in Formation of the Spontaneously Fissile Isomer ^{236}U in the (n,γ) Reaction*

Y. P. Gangrskii, A. Lajtai, B. N. Markov, Yad. Fiz. 24, 880 (1976); Sov. J. Nucl. Phys. 24, 460 (1976).

Nuclear Reactions: ^{235}U(n,γ), E=th; measured γ-spectrum from ^{236m}U(SF), fragment γ-coin.

76Sl01 *Picosecond Fission Isomers in Even-Even Cm Isotopes*

G. Sletten, V. Metag, E. Liukkonen, Phys. Lett. 60B, 153 (1976).

Radioactivity: Fission ^{240}, ^{242}Cm(SF); measured $T_{1/2}$. ^{244}Cm(SF); measured $T_{1/2}$ upper limit.

76We03 *Mass and Kinetic Energy Measurements of Fragments from the Isomeric and Excited State Fission of ^{242}Am*

J. Weber, B. R. Erdal, A. Gavron, J. B. Wilhelmy, Phys. Rev. C13, 189 (1976).

Radioactivity: Fission ^{242m}Am(SF); measured $T_{1/2}$, σ(E(fragment mass)).

Nuclear Reactions: ^{241}Am(d,pF), E=15 MeV; measured σ(E(fragment mass)).

77ArZZ *Excitation and Spontaneous Fission of ^{238m}U Isomer by Neutrons with 14 MeV Energy*

R. Arlt, G. Muziol, D. Hoffman, Proc. Conf. Neutron Physics, Kiev, Part 3, p. 247 (1977).

Nuclear Reactions: ^{238}U(n,n'), E=14 MeV; measured isomer excitation, σ(ratio).

Radioactivity: Fission ^{238m}U(SF); measured σ(fragment) vs t.

77BoZO *On the Spontaneous Fission of ^{238}U Isomer*

A. P. Bordulya, S. N. Ezhov, Proc. Conf. Neutron Physics, Kiev, Part 3, p. 244 (1977).

Radioactivity: ^{238}Pa [from ^{238}U(n,p), E=14.7 MeV]; measured β-delayed γ-decay. ^{238}U deduced isomer fission probability.

77Bo09 *The Rotational Band of the ^{236}U Shape Isomer*

J. Borggreen, J. Pedersen, G. Sletten, R. Heffner, E. Swanson, Nucl. Phys. A279, 189 (1977).

Nuclear Reactions: ^{235}U(d,p), E=12 MeV; measured ce-delayed fission coin, pce-coin. ^{236m}U deduced rotational constant.

77Di09 *Near Threshold Neutron-Fission Cross Section*

M. Di Toro, G. Russo, Nucl. Phys. A284, 177 (1977).

Nuclear Structure: ^{235}U, ^{238}Np, ^{243}Pu; calculated fission parameters. ^{238}Np; calculated, predicted isomer.

77Ga09 $\Gamma n/\Gamma f$ *in Heavy Actinides*

A. Gavron, H. C. Britt, P. D. Goldstone, R. Schoenmackers, J. Weber, J. B. Wilhelmy, Phys. Rev. C15, 2238 (1977).

Nuclear Reactions: ^{244}Pu, ^{245}, ^{246}, ^{248}Cm, ^{249}, ^{250}Cf(^{3}He,d), (^{3}He,t), E=8, 11 MeV; measured fission probability of compound systems ^{244}, ^{245}Am, ^{245}, ^{246}, ^{247}, ^{248}, ^{249}Bk, ^{249}, ^{250}, ^{251}Es.

77Go03 *Cross Section for Fission of ^{244}Pu by Fast Neutrons*

B. M. Gokhberg, S. M. Dubrovina, V. A. Shigin, Yad. Fiz. 25, 21 (1977); Sov. J. Nucl. Phys. 25, 11 (1977).

Nuclear Reactions: ^{244}Pu(n,F), E=fast; measured σ(E); deduced fission threshold. ^{245}Pu deduced fission barrier height.

77GoZH *Transmissionresonanzen und Winkelverteilungen der prompten Spaltung in der ^{239}Pu(d,pf) Reaktion*

U. Goerlach, D. Habs, M. Just, V. Metag, E. Mosler, B. Neumann, P. Paul, J. Schukraft, P. Singer, H. J. Specht, G. Ulfert, C. O. Wene, Max-Planck Institut fur Keinphysik (Heidelberg), Jahresbericht 1976, p. 49 (1977).

Nuclear Reactions: ^{239}Pu(d,p), E=11 MeV; measured fission yields; deduced transmission resonance. ^{238}U(α,3n); measured $\gamma(\theta$,H,t). ^{239m}Pu deduced g.

77GoYZ *Messung der Energie- und Massenverteilung bei der Spaltung des ^{239m}Pu mit Hilfe des Magnetischen Ruckstossionenseparator*

U. Goerlach, D. Habs, M. Just, V. Metag, E. Mosler, J. Pedersen, J. Schukraft, P. Singer, H. J. Specht, G. Ulfert, C. O. Wene, Max-Planck Institut fur Keinphysik (Heidelberg), Jahresbericht 1977, p. 51 (1977).

Radioactivity: Fission ^{239}Pu(SF) [from^{238}U(α,3n)]; measured fragment mass, kinetic energy distribution. Compared with neutron induced fission.

77Ha01 *Quadrupole Moment of the 8-μs Fission Isomer in ^{239}Pu*

D. Habs, V. Metag, H. J. Specht, G. Ulfert, Phys. Rev. Lett. 38, 387 (1977).

Nuclear Reactions: ^{238}U(α,3n), E=33 MeV; measured charge distribution, activity by charge-plunger technique. ^{239}Pu fission isomer deduced quadrupole moment.

77KeZI *Investigation of (n,γF) Reaction*

J. Kecskemeti, Gy. Kluge, A. Lajtai, INDC(SEC)-61/LN, p. 44 (1977).

Nuclear Reactions: ^{235}U(n,F), E=th; measured $\gamma\gamma$(t). ^{236m}U(SF) deduced transitions.

77Me08 *The Quadrupole Moment of the 40 ps Fission Isomer in ^{236}Pu*

V. Metag, G. Sletten, Nucl. Phys. A282, 77 (1977).

Nuclear Reactions: ^{234}U(α,2n), E=25 MeV; measured delayed fission fragment(θ). ^{236}Pu shape isomer deduced $T_{1/2}$, Q_0.

77Mi09 *Fission Isomer of ^{237m}Np*

E. Migneco, G. Russo, R. De Leo, A. Pantaleo, Phys. Rev. C16, 1919 (1977).

Nuclear Reactions: ^{238}U(n,2n), E=9.75, 11.6, 12.5 MeV; measured delayed/prompt fission ratios. ^{237m}Np deduced partial $T_{1/2}$ for γ, fission, branching ratio.

77Ta05 *^{239}Pu Fission Isomer in the Reaction with 3-5 MeV Neutrons*

E. Takekoshi, Y. Tsukihashi, J. Phys. Soc. Jap. 42, 1773 (1977).

Nuclear Reactions: ^{239}Pu(n,n'), (n,F), E=3-5 MeV; measured σ for isomer production/σ prompt fission; deduced σ for isomer production/σ ground state.

77VaYN *Spontaneously Fissioning Isomers*

R. Vandenbosch, Ann. Rev. Nucl. Sci. 27, 1 (1977).

Nuclear Structure: ^{236}, ^{238}U, ^{237}Np, ^{235}, ^{237}, ^{239}, ^{241}, ^{243}Pu, ^{237}, ^{238}, ^{239}, ^{240}, ^{241}, ^{242}, ^{243}, ^{244}, ^{245}Am, ^{240}, ^{241}, ^{242}, ^{243}, ^{245}Cm, ^{252}, ^{254}, ^{255}, ^{256}Bk; compiled, reviewed isomer SF-decay $T_{1/2}$ data.

77VoZU *Production of Fission Isomers in the Reaction ^{238}U(n, n')*

P. E. Vorotnikov, V. A. Vukolov, E. A. Koltypin, Yu. D. Molchanov, G. A. Otroschenko, Proc. Conf. Neutron Physics, Kiev, Part 3, p. 239 (1977).

Nuclear Reactions: ^{238}U(n,n'), E=2.5-4.7 MeV; measured fission isomer yield, $T_{1/2}$, reaction threshold.

78Ba47 *Search for a γ-Decay of the ^{236}U Shape Isomer*

H. Bartsch, W. Gunther, K. Huber, U. Kneissl, H. Krieger, H. J. Maier, Nucl. Phys. A306, 29 (1978).

Radioactivity: ^{236m}U shape isomer [from ^{238}U(γ,2n), E=45 MeV bremsstrahlung]; measured Eγ, Iγ; deduced Γγ/Γf.

78De07 *Fission-Evaporation Competition in Pu Isotopes of Mass 235-239*

H. Delagrange, A. Fleury, J. M. Alexander, Phys. Rev. C17, 1706 (1978).

Nuclear Reactions: ^{233}, ^{234}, ^{235}U(α,xn), X=1-4, E ≤ 46 MeV; measured fusion σ(E).

78Fl05 *Statistical-Model Analysis of Fission Isomer Production for ^{237}, ^{238}Pu And ^{239}Am*

A. Fleury, H. Delagrange, J. M. Alexander, Phys. Rev. C17, 1721 (1978).

Nuclear Reactions: ^{235}, ^{233}U, ^{237}Np(α,2n), E=22-28 MeV; calculated σ(E), isomer production σ(E). Statistical model analysis.

78Go10 *Resonances in the Isomeric and Prompt Fission Probabilities of ^{240}Pu*

U. Goerlach, D. Habs, M. Just, V. Metag, P. Paul, H. J. Specht, H. J. Maier, Z. Phys. A287, 171 (1978).

Nuclear Reactions: ^{239}Pu(d,p), E=11 MeV; measured proton-fragment time distributions, prompt, delayed fission σ; deduced fission probability.

78Gu02 *Population of the ^{236}U Shape Isomer in a Photonuclear Reaction*

W. Gunther, K. Huber, U. Kneissl, H. Krieger, Nucl. Phys. A297, 254 (1978).

Nuclear Reactions: ^{238}U(γ,2n), E=45 MeV bremsstrahlung; measured isomer/prompt yields; deduced σ for isomer production. ^{236m}U shape isomer deduced $T_{1/2}$, $\Gamma\gamma/\Gamma f$. Natural target.

78Po01 *Properties of Fission Isomers*

K. Pomorski, A. Sobiczewski, Acta Phys. Pol. B9, 61 (1978).

Nuclear Structure: ^{226}Ra, ^{230}, ^{232}Th, ^{234}, ^{236}, ^{238}U, ^{236}, ^{238}, ^{240}, ^{242}, ^{244}Pu, ^{240}, ^{242}, ^{244}, ^{246}, ^{248}, ^{250}Cm; calculated fission isomer properties: moment of inertia, pairing energy gap, g. Nilsson potential.

78SoZP *Production of ^{235m}U Fission Isomer and ^{234}Pu in the Reactions* α + *^{233}U and ^{3}He + ^{234}U*

L. P. Somerville, M. J. Nurmia, A. Ghiorso, G. T. Seaborg, LBL-8151, p. 39 (1978).

Nuclear Reactions: ^{234}U(^{3}He,2n), E=21.5-31.4 MeV; ^{238}U(α, 2n), E=36.1 MeV; measured production σ(E). ^{235m}Pu level deduced $T_{1/2}$. Mica spontaneous fission detector.

78Ul01 *Lifetime Measurements of Nuclear Levels with the Charge Plunger Technique*

G. Ulfert, D. Habs, V. Metag, H. J. Specht, Nucl. Instrum. Methods 148, 369 (1978).

Nuclear Reactions: ^{239}Pu(α,3n), E=27, 33 MeV; measured recoil distance. ^{240}Cm levels deduced $T_{1/2}$, Q.

79Ba02 *Spectroscopy in the Second Minimum of the Potential Energy Surface of ^{239}Pu*

H. Backe, L. Richter, D. Habs, V. Metag, J. Pedersen, P. Singer, H. J. Specht, Phys. Rev. Lett. 42, 490 (1979).

Radioactivity: ^{239m}Pu [from ^{238}U(α,3n), E=33 MeV]; measured E(ce), I(ce). ^{239}Pu deduced levels in second minimum, J, π, δ, rotational parameters. Nilsson assignments.

79Be33 *Deep Subthreshold Photofission Yields Analysis*

G. Bellia, A. Del Zoppo, E. Migneco, R. C. Barna, D. De Pasquale, Phys. Rev. C20, 1059 (1979).

Nuclear Reactions: ^{232}Th, ^{235}, ^{236}, ^{238}U(γ, F), E=3.6, 4.1, 4.6, 5.1 MeV (bremsstrahlung); measured σ. ^{232}Th deduced three-humped fission barrier. ^{232}Th, ^{235}, ^{236}, ^{238}U deduced energies, fission branching ratios for shape isomers. Double-humped fission barrier model.

79Be46 *Optical Isomer Shift for the Spontaneous-Fission Isomer ^{240}Am-m*

C. E. Bemis, Jr., J. R. Beene, J. P. Young, S. D. Kramer, Phys. Rev. Lett. 43, 1854 (1979); Erratum Phys. Rev. Lett. 44, 500 (1980).

Radioactivity: ^{240m}Am; measured $T_{1/2}$, optical isomer shift. ^{240m}Am, ^{240}Am deduced difference in rms radii.

Atomic Physics: +240}Am(SF); measured optical isomer shift. ^{240m}, ^{240}Am deduced difference in rms radii.

79Gr04 *Excitation of a Spontaneously Fissile Isomer in Positron Annihilation In the K Shell of an Atom*

D. P. Grechukhin, A. A. Soldatov, Yad. Fiz. 29, 296 (1979); Sov. J. Nucl. Phys. 29, 146 (1979).

Radioactivity: Fission ^{236}, ^{238}U; calculated $T_{1/2}$ (SF).

79Gu03 *Photonuclear Yields of the ^{237}Pu Fission Isomers*

W. Gunther, K. Huber, U. Kneissl, H. Krieger, H. J. Maier, Phys. Rev. C19, 433 (1979).

Nuclear Reactions: ^{239}Pu(γ,2n), E=45 MeV bremsstrahlung; measured $T_{1/2}$, isomeric yield ratio. ^{237m}Pu levels deduced isomeric ratio, spin. Nilsson assignments.

79Ul01 *Quadrupole Moment of the 200-ns Fission Isomer in ^{237}U*

G. Ulfert, V. Metag, D. Habs, H. J. Specht, Phys. Rev. Lett. 42, 1596 (1979).

Nuclear Reactions: ^{238}U(d,pn), E=20 MeV; measured yield of fission-isomeric recoil. ^{238m}U level deduced quadrupole moment.

79Va25 *On Gamma-Rays in the Population of the Spontaneously Fissioning Isomer in the Reaction $^{241}Am(n,\gamma)^{242m}Am$*

G. V. Valskii, V. L. Varentsov, G. A. Petrov, Y. S. Pleva, Y. A. Otchik, Pisma Zh. Eksp. Teor. Fiz. 29, 92 (1979); JETP Lett. 29, 84 (1979).

Nuclear Reactions: ^{241}Am(n,γ), E=thermal; measured γ(t). ^{242}Am deduced transition, E(SF) isomer.

80Bj02 *The Double-Humped Fission Barrier*

S. Bjornholm, J. E. Lynn, Rev. Mod. Phys. 52, 725 (1980).

Nuclear Structure: A=231-245; analyzed resonance structure, fission data; deduced fission features. Double-humped fission barrier concept.

80Bu13 *Experimental Upper Limit for a γ Branch from the ^{236}U Shape Isomer*

P. A. Butler, R. Daniel, A. D. Irving, T. P. Morrison, P. J. Nolan, V. Metag, J. Phys. (London) G6, 1165 (1980).

Nuclear Reactions: ^{235}U(d,p), E=11 MeV; measured σ(Eγ), γp(t). ^{236}U level deduced limit on $\Gamma\gamma/\Gamma$F.

80BuZL *Experimential Upper Limit for a γ-Branch from the ^{236}U Shape Isomer*

P. A. Butler, R. Daniels, A. D. Irving, T. P. Morrison, P. J. Nolan, V. Metag, R. Wadsworth, Univ. Liverpool, 1979-1980 Ann. Rept., p. 52 (1980)

Nuclear Reactions: ^{235}U(d,p), E=11 MeV; measured Eγ, Iγ, γp(t). ^{236}U deduced shape isomer $\Gamma\gamma/\ \Gamma$f upper limit.

80Gu20 *Systematics of Photonuclear Yields and Cross Sections for Plutonium and Uranium Fission Isomers*

W. Gunther, K. Huber, U. Kneissl, H. Krieger, H. Ries, H. Stroher, W. Wilke, H. J. Maier, Nucl. Phys. A350, 1 (1980).

Nuclear Reactions: Fission ^{240}Pu, ^{235}U(γ,xn), ^{239}Pu(γ, 2n), ^{242}Pu(γ,n), E=45 MeV bremsstrahlung; measured $T_{1/2}$, isomeric to prompt yield ratios. ^{236}U, ^{237}, ^{239}, ^{241}Pu levels deduced σ(fission). Natural, enriched targets.

80Ku14 *A Simple Description of Dependence of Fission Barriers and of the Ratio Γ(n)/Γ(f) on the Nucleonic Composition for Transuranium Nuclei*

V. M. Kupriyanov, K. K. Istekov, B. I. Fursov, G. N. Smirenkin, Yad. Fiz. 32, 355 (1980); Sov. J. Nucl. Phys. 32, 184 (1980).

Nuclear Structure: ^{225}, ^{226}, ^{227}, ^{228}Ra, ^{226}, ^{227}, ^{228}Ac, ^{227}, ^{228}, ^{229}, ^{230}, ^{231}, ^{232}, ^{233}, ^{234}Th, ^{230}, ^{231}, ^{232}, ^{233}Pa, ^{231}, ^{232}, ^{233}, ^{234}, ^{235}, ^{236}, ^{237}, ^{238}, ^{239}, ^{240}U, ^{233}, ^{234}, ^{235}, ^{236}, ^{237}, ^{238}, ^{239}Np, ^{237}, ^{238}, ^{239}, ^{240}, ^{241}, ^{242}, ^{243}, ^{244}, ^{245}Pu, ^{239}, ^{240}, ^{241}, ^{242}, ^{243}, ^{244}, ^{245}, ^{246}, ^{247}Am, ^{241}, ^{242}, ^{243}, ^{244}, ^{245}, ^{246}, ^{247}, ^{248}, ^{249}, ^{250}Cm, ^{245}, ^{246}, ^{247}, ^{248}, ^{249}, ^{250}Bk, ^{250}, ^{253}Cf, ^{249}, ^{250}, ^{251}Es; calculated < Γn/Γf >, fission barrier height dependences on neutron number. Phenomenological model.

80Li15 *Spectroscopic Properties of ^{237}, ^{239}Pu Fission Isomers from Self-Consistent Calculations*

J. Libert, M. Meyer, P. Quentin, Phys. Lett. B95, 175 (1980).

Nuclear Structure: ^{237}, ^{239}Pu; calculated levels, B(λ), fission isomer spectroscopic properties. Rotor plus quasi-particle model, self-consistent single particle states.

80Me15 *Spectroscopic Properties of Fission Isomers*

V. Metag, D. Habs, H. J. Specht, Phys. Rep. 65, 1 (1980).

Nuclear Structure: A=230-250; compiled, reviewed fission isomers data; deduced superdeformed related features.

80Pa16 *Superprolate shape of the Spontaneous-Fission Isomer ^{240}Am*

L. Pauling, Phys. Rev. C22, 1585 (1980).

Nuclear Structure: ^{240}Am; calculated deformation parameter. Cluster, polyspheron theory.

80Ti03 *Isomeric-to-Prompt Fission Ratios for the Uranium Fission Isomers ^{236m}U and ^{238m}U*

R. Tischler, A. Kleinrahm, R. Kroth, C. Gunther, Phys. Rev. C22, 324 (1980).

Nuclear Reactions: ^{235}U(d,pF), ^{236}, ^{238}U(d,npF), E=17-25 MeV; measured delayed E(fission fragment). ^{236}, ^{238}U deduced isomeric to prompt fission ratio.

81Be48 *Study of the Fission Isomer ^{240m}Am(S.F.) using Laser-Induced Nuclear Polarization*

J. R. Beene, C. E. Bemis, Jr., J. P. Young, S. D. Kramer, Hyperfine Interactions 9, 143 (1981).

Radioactivity: Fission ^{240m}Am(SF) [from ^{238}U(^{7}Li, 5n), E=49 MeV]; measured optical isomer shift; deduced quadrupole moment. Laser induced nuclear polarization, optical pumping.

81Ga25 *A Rotating Wheel System for the Detection of Spontaneously Fissioning Nuclides from Heavy Ion Reactions*

H. Gaggeler, W. Bruchle, J. V. Kratz, M. Schadel, K. Summerer, W. Weber, G. Wirth, G. Herrmann, Nucl. Instrum. Methods 188, 367 (1981).

Radioactivity: Fission ^{252}Cf(SF), ^{244}Fm(SF) [from ^{207}Pb(^{40}Ar, 3n), E=199 MeV]; ^{242m}Am(SF) [from ^{238}U(^{238}U, X), E=7.6 MeV/nucleon]; measured $T_{1/2}$. Rotating wheel technique, catcher foil, fission tract detectors.

Nuclear Reactions: ^{238}U(^{238}U,X), E=7.6 MeV/nucleon; ^{207}Pb(^{40}Ar, 3n), E=199 MeV; measured production σ(E) for ^{244}Fm, ^{242}Am. Rotating wheel technique, catcher foil, fission track detectors.

81Gu04 *Yield Ratio for the Two ^{241}Pu Fission Isomers in the ^{242}Pu(γ,n) Reaction*

W. Gunther, K. Huber, U. Kneissl, H. Krieger, H. Ries, H. Stroher, W. Wilke, Nucl. Phys. A359, 397 (1981).

Nuclear Reactions: ^{242}Pu(γ,n), E=40-48 MeV bremsstrahlung; measured $T_{1/2}$, isomeric to prompt yield ratio. ^{241}Pu levels deduced isomeric ratio, J. Enriched target.

81Me19 *New Results on the Spectroscopy and Dynamics of Fission*

V. Metag, Nucl. Phys. A354, 271c (1981).

Nuclear Structure: ^{236}, ^{238}U, ^{236}, ^{239}Pu, ^{240}Am; compiled, reviewed fission isomer, ground state quadrupole moment, deformation data. Other nuclei included in review.

81Re06 *Analysis of Fissionability Data at High Excitation Energies I. The Level Density Problem*

W. Reisdorf, Z. Phys. A300, 227 (1981).

Nuclear Structure: ^{208}Pb, ^{216}, ^{212}Th, ^{212}Rn; calculated level density constant; ^{230}, ^{231}, ^{232}, ^{233}Pa, ^{231}, ^{232}U, ^{233}, ^{234}, ^{235}, ^{236}, ^{237}, ^{238}, ^{239}Np, ^{237}, ^{238}Pu, ^{239}, ^{240}, ^{241}, ^{242}, ^{243}Am, ^{241}, ^{242}, ^{243}, ^{244}Cm; analyzed fission probabilites; deduced barrier parameters, shell correction effects. Balian-Bloch single particle level density, shell, pairing effect Ansatz.

Nuclear Reactions: Fission ^{232}Th, ^{237}Np, ^{236}U, ^{240}Pu(^{3}He, dF), E=25 MeV; calculated fission probability vs excitation energy. Balian-Bloch single particle level density, shell, pairing effect Ansatz.

81VaZQ *Experiments on the Transfermium Element Production in Nuclear Reactions Induced by Mg Ions*

V. M. Vasko, G. G. Gulbekyan, S. P. Tretyakova, E. A. Cherepanov, JINR-P7-81-863 (1981).

Radioactivity: ^{242}Am(SF) [from ^{243}Am(^{26}Mg,X), E=110-140 MeV]; measured $T_{1/2}$.

Nuclear Reactions: ^{232}Th, ^{238}U, ^{243}Am(^{24}Mg,F), E=130 MeV; ^{232}Th, ^{238}U, ^{243}Am(^{26}Mg, F), E=110-140 MeV; measured fission production σ for ^{252}102, ^{265}107, ^{260}104, $T_{1/2}$(SF).

82Fo08 *Parameters of Fission Barriers for Compound Nuclei ^{245}Cm, ^{247}Cm and ^{249}Cm*

E. F. Fomushkin, G. F. Novoselov, Yu. I. Vinogradov, V. V. Gavrilov, Yad. Fiz. 36, 582 (1982).

Nuclear Reactions: ^{248}Cm(n,F), E=0.3-5.5 MeV; measured fission σ(E). ^{245}, ^{247}, ^{249}Cm deduced fission barrier parameters. Underground nuclear explosion impulse neutron source.

82Go02 *Lowest β-Vibrational Phonon in the Second Minima of ^{236}, ^{238}U*

U. Goerlach, D. Habs, V. Metag, B. Schwartz, H. J. Specht, H. Backe, Phys. Rev. Lett. 48, 1160 (1982).

Nuclear Reactions: Fission ^{236}, ^{238}U(d,np), E=20 MeV; measured I(ce), ce(fragment)(t). ^{236}, ^{238}U deduced shape isomer decay characteristics, K/L ratio, transition multipolarity, vibrational band characteristics.

82Ma34 *Symmetry Considerations on the Fission Isomer Spectra*

G. Maino, A. Ventura, Lett. Nuovo Cim. 34, 533 (1982).

Nuclear Structure: ^{236}, ^{238}U; calculated levels, B(E2), band structure. Interacting boson model, SU_3 limit.

82Ra04 *Measurement of the g Factor of the ^{237}Pu Short-Lived Fission Isomer*

M. H. Rafailovich, E. Dafni, G. Schatz, S. Y. Zhu, K. Dybdal, S. Vajda, C. Alonso-Arias, G. D. Sprouse, Phys. Rev. Lett. 48, 982 (1982); Erattum Phys. Rev. Lett. 49, 244 (1982).

Nuclear Reactions: ^{235}U(α,2n), E=25.2 MeV; measured γ(θ, H,T). ^{237}Pu deduced fission isomer g, Nilsson configuration.

83Dm04 *Yield of Fissionable Isomers from Reactions ^{234}U(n, n'), ^{236}U(n,n'), and ^{238}U(n,n')*

S. V. Dmitriev, G. A. Otroshchenko, S. M. Solovyev, Yad. Fiz. 38, 1394 (1983).

Nuclear Reactions: ^{234}, ^{236}, ^{238}U(n,n'), E=2.6-4.7 MeV; measured fission isomer production σ(E).

83Dr14 *The Decay of Uranium Shape Isomers Investigated by Photonuclear Reactions*

J. Drexler, R. Heil, K. Huber, U. Kneissl, G. Mank, R. Ratzek, H. Ries, H. Stroher, T. Weber, W. Wilke, Nucl. Phys. A411, 17 (1983).

Nuclear Reactions: ^{238}U(γ,γ'), E=12 MeV bremsstrahlung; measured isomer $T_{1/2}$, isomeric to prompt yield ratio; deduced isomeric fission cross section. ^{238}U deduced isomer decay branching ratio. Natural target.

83Ka11 *Observation of an E0 Isomeric Transition from the ^{238}U Shape Isomer*

J. Kantele, W. Stoffl, L. E. Ussery, D. J. Decman, E. A. Henry, R. W. Hoff, L. G. Mann, G. L. Struble, Phys. Rev. Lett. 51, 91 (1983).

Radioactivity: ^{238m}U [from ^{238}U(d,pn), E=18 MeV]; measured I(ce); deduced shape isomer E0 transition, J, π, $T_{1/2}$ assignment consistency. Reevaluation of Iγ data, superconducting, solenoid type electron spectrometer.

83Po14 *Identification of ^{246}Pu, ^{247}Pu, ^{246m}Am, and ^{247}Am and Determination of Their Half-Lives*

Yu. S. Popov, P. A. Privalova, G. A. Timofeev, V. B. Mishenev, A. V. Mamelin, B. I. Levakov, V. M. Prokopev, Radiokhimiya 25, 482 (1983); Sov. Radiochemistry 25, 458 (1983).

Radioactivity: ^{246}, ^{247}Pu, ^{246m}, ^{247}Am(β^-) [from Pu neutron irradiation]; measured Eγ, Iγ, E(X-ray), I(X-ray); deduced $T_{1/2}$, ^{246}Pu burnout σ. Isotope identification by α-, β-, γ-spectroscopy techniques.

83Ra36 *g-Factor Measurements of Fission Isomers*

M. H. Rafailovich, E. Dafni, G. Schatz, S. Y. Zhu, K. Dybdal, S. Vajda, C. Alonso-Arias, S. Rolston, G. D. Sprouse, Hyperfine Interactions 15/16, 43 (1983).

Radioactivity: ^{239m}Am, ^{237}Pu(SF) [from ^{235}U, ^{237}Np(α, 2n), E=25 MeV]; measured fission fragment anisotropy, isomer $T_{1/2}$, g.

Nuclear Reactions: ^{235}U, ^{237}Np(α,2n), E=25 MeV; measured $\gamma(\theta$,H,t). ^{239}Am, ^{237}Pu deduced fission isomer g, $T_{1/2}$.

83WeZT *Search for Alpha Particle Emission from the 14-ms ^{242m}Am Shape Isomer*

J. Weber, H. C. Britt, C. Fontenla, M. M. Fowler, Z. Fraenkel, A. Gavron, K. Rudolph, J. Van der Plicht, J. B. Wilhelmy, LA-9797-PR, p. 151 (1983); Isotope and Nucl. Chem. Div. Ann. Rept., 1981-1982, H. A. Lindberg Ed., Los Alamos Nat. Lab., p. 151 (1983).

Radioactivity: ^{242m}Am(α)(SF) [from ^{242}Pu(t,3n), E=17 MeV]; measured Eα, Iα; deduced deexcitation shape dependence, $T_{1/2}$, long range α-particle to SF branching ratio.

83WeZU *Messungen zum α-Zerfall des Formisomers ^{242m}Am*

J. Weber, K. Rudolph, C. Ley, K. E. G. Lobner, S. J. Skorka, J. B. Wilhelmy, H. C. Britt, A. Gavron, Z. Fraenkel, Univ., Tech. Univ. Munich, Jahresbencht 1982, p. 16 (1983).

Radioactivity: ^{242}Am(α) [from ^{242}Pu(t,3n), (d,2n)]; measured Eα, Iα.

84Bo33 *Alpha Decay of Fission Isomers*

N. M. Borstnik, ATOMKI Kozlem. 26, 100 (1984).

Nuclear Structure: ^{242m}Am; calculated α-decay characteristics. Vibrational degrees, α-particle motion dynamical coupling.

84Du03 *Theoretical Analysis of the Single-Particle States in the Secondary Minima of Fissioning Nuclei*

J. Dudek, W. Nazarewicz, A. Faessler, Nucl. Phys. A412, 61 (1984).

Nuclear Structure: ^{239m}, ^{237m}Pu, ^{239m}Am, ^{231}, ^{233}Th; calculated g, single particle resonances, deformations near fission second minima. Deformed Woods-Saxon potential.

84Ka10 *Reinvestigation of the Gamma Branch from the ^{238}U Shape Isomer*

J. Kantele, W. Stoffl, L. E. Ussery, D. J. Decman, E. A. Henry, R. J. Estep, R. W. Hoff, L. G. Mann, Phys. Rev. C29, 1693 (1984).

Nuclear Reactions: ICPND ^{238}U(d,np), E=18.1 MeV; measured Eγ, Iγ; deduced (isomeric/ground state) σ. ^{238}U deduced shape isomer SF, conversion decay characteristics, levels.

Radioactivity: ^{238m}U(SF), (IT) [from ^{238}U(d,np), E=18.1 MeV]; measured Eγ, Iγ; deduced isomer decay process relative probabilities.

84Ku05 *Systematics of Neutron Cross Sections and Other Characteristics of Fission Probabilities of Transuranium Nuclei*

V. M. Kupriyanov, G. N. Smirenkin, B. I. Fursov, Yad. Fiz. 39, 281 (1984).

Nuclear Structure: ^{228}, ^{229}, ^{230}, ^{231}, ^{232}, ^{233}, ^{234}, ^{235}, ^{236}, ^{237}, ^{238}, ^{239}, ^{240}, ^{241}, ^{242}U, ^{230}, ^{231}, ^{232}, ^{233}, ^{234}, ^{235}, ^{236}, ^{237}, ^{238}, ^{239}, ^{240}, ^{241}, ^{242}Np, ^{234}, ^{235}, ^{236}, ^{237}, ^{238}, ^{239}, ^{240}, ^{241}, ^{242}, ^{243}, ^{244}, ^{245}, ^{246}Pu, ^{236}, ^{237}, ^{238}, ^{239}, ^{240}, ^{241}, ^{242}, ^{243}, ^{244}, ^{245}, ^{246}, ^{247}Am, ^{238}, ^{239}, ^{240}, ^{241}, ^{242}, ^{243}, ^{244}, ^{245}, ^{246}, ^{247}, ^{248}, ^{249}, ^{250}Cm, ^{242}, ^{243}, ^{244}, ^{245}, ^{246}, ^{247}, ^{248}, ^{249}, ^{250}, ^{251}, ^{252}, ^{253}Bk, ^{245}, ^{246}, ^{247}, ^{248}, ^{249}, ^{250}, ^{251}, ^{252}, ^{253}, ^{254}, ^{255}, ^{256}Cf, ^{244}, ^{245}, ^{246}, ^{247}, ^{248}, ^{249}, ^{250}, ^{251}, ^{252}, ^{253}, ^{254}, ^{255}Es, ^{250}, ^{251}, ^{252}, ^{253}, ^{254}, ^{255}, ^{256}, ^{257}Fm; calculated fast neutron induced fission σ; analyzed fission data systematics; deduced fission barrier heights, (Γ(n)/Γ(F)). Statistical approach, two-hump fission barrier model.

84Ma44 α *Decay of Fission Isomers*

N. Mankoc-Borstnik, J. Phys. (London) G10, 1371 (1984).

Radioactivity: ^{242}Am(EC), (β^-), (α), ^{242m}Am(SF), (α); calculated α-decay constant. First-order perturbation theory.

84Ni04 *On Connection between* α *Decay and Ternary Fission of Heavy Nuclei*

A. M. Nikitin, Yad. Fiz. 39, 380 (1984).

Nuclear Structure: ^{252}Cf, ^{233}, ^{234}, ^{235}, ^{236}U, ^{243}, ^{242m}Am; analyzed ternary fission light fragment emission, α-decay characteristics systematics; deduced initial nucleus quasistationary α-particle state role.

84Oh09 *Systematic Analysis of Fission Cross Sections of Actinides by Means of Double-Humped Barrier Model*

T. Ohsawa, Y. Shigemitsu, M. Ohta, K. Kudo, J. Nucl. Sci. Technol. (Tokyo) 21, 887 (1984).

Nuclear Reactions: ^{231}Pa, ^{232}, ^{234}, ^{235}, ^{236}, ^{238}U, ^{237}Np, ^{238}, ^{239}, ^{240}, ^{241}, ^{242}, ^{244}Pu, ^{241}, ^{242}, ^{243}Am, ^{243}, ^{244}, ^{245}, ^{246}, ^{247}, ^{248}Cm, ^{249}Bk, ^{252}Cf(n, F), E 0.5-6 MeV; calculated σ(E); deduced optical model parameters. ^{232}Pa, ^{233}, ^{235}, ^{236}, ^{237}, ^{239}U, ^{238}Np, ^{239}, ^{240}, ^{241}, ^{242}, ^{243}, ^{245}Pu, ^{242}, ^{243}, ^{244}Am, ^{244}, ^{245}, ^{246}, ^{247}, ^{248}, ^{249}Cm, ^{250}Bk, ^{253}Cf deduced fission barriers. Double-humped barrier model.

84Vo18 *Energy Dependence of Yield of Fission Isomers in the Reactions $^{241}Am(n,\gamma)$ and $^{243}Am(n,\gamma)$*

P. E. Vorotnikov, G. A. Otroshchenko, Yad. Fiz. 40, 1135 (1984).

Nuclear Reactions: ^{241}, ^{243}Am(n,γ), E=0.2-1.3 MeV; measured fission isomer, prompt fission product yield ratios.

85Ba20 *On Measurement of the Angular Momenta of Fission Isomer*

A. L. Barabanov, D. P. Grechukhin, Yad. Fiz. 41, 582 (1985).

Nuclear Reactions: ^{238}U(^{7}Li,5n), E=46.1 MeV; analyzed data. ^{240m}Am deduced fission isomer J estimate. Residual orientation in laser radiation field.

85Be58 *Laser Optical Pumping in Nuclear Physics: Fission isomers, oriented targets, and hyperfine pumping in single-electron atoms*

C. E. Bemis, Jr., Hyperfine Interactions 24, 139 (1985).

Radioactivity: ^{240m}Am(SF); measured optical isomer shift. Oriented targets, anisotropic fission decay from resonant laser optical pumping.

85Dr01 *The ' Isomeric Shelf ' in the Deep Subbarrier Photofission of ^{238}U*

J. Drexler, R. D. Heil, K. Huber, U. Kneissl, G. Mank, R. Ratzek, H. Ries, T. Weber, W. Wilke, B. Fischer, H. Hollick, Nucl. Phys. A437, 253 (1985).

Nuclear Reactions: ^{238}U(γ,F), E=3.9-4.3 MeV bremsstrahlung; measured $T_{1/2}$, isomeric to prompt yield ratio. Depleted targets.

85Ig01 *Analysis of Cross Sections of U and Pu Isotope Fission Induced by Neutrons in the Range of the First ' Plateau '*

A. V. Ignatyuk, A. B. Klepatsky, V. M. Maslov, E. Sh. Sukhovitsky, Yad. Fiz. 42, 569 (1985).

Nuclear Reactions: ^{239}, ^{240}, ^{241}, ^{242}, ^{244}, ^{245}Pu, ^{234}, ^{235}, ^{236}, ^{237}, ^{238}, ^{239}, ^{240}U(n,F), E=1-5.5 MeV; analyzed fission σ(E). ^{240}, ^{241}, ^{242}, ^{243}, ^{245}, ^{246}Pu, ^{235}, ^{236}, ^{237}, ^{238}, ^{239}, ^{240}, ^{241}U deduced fission barriers, transitional states statistical characteristics.

85Jo04 *^{241}Am and ^{243}Am Charge Distributions from Muonic X-Ray Spectroscopy and the Quadrupole Moment of the ^{240}Am Fission Isomer*

M. W. Johnson, E. B. Shera, M. V. Hoehn, R. A. Naumann, J. D. Zumbro, C. E. Bemis, Jr., Phys. Lett. 161B, 75 (1985).

Nuclear Reactions: ^{241}, ^{243}Am(μ^-,X), E at rest; measured muonic E X-ray, I X-ray. ^{241}, ^{243}Am deduced intrinsic quadrupole moment, Barrett radii. ^{240}Am deduced fission isomer quadrupole moment. Optical isotope shift data input.

Atomic Physics: esic-Atoms ^{241}, ^{243}Am(μ,X), E at rest; measured muonic X-rays.

85Ku18 *Excitation of Fission Isomer ^{242m}Am, ^{242}Am(f) by Electrons in the Energy Region 17.5-78 MeV*

V. L. Kuznetsov, L. E. Lazareva, V. G. Nedorezov, N. V. Nikitina, A. S. Sudov, Yad. Fiz. 42, 29 (1985).

Nuclear Reactions: ^{243}Am(e,n), (γ,n), E=17.5-78 MeV; measured residual fission isomer production σ(E); ^{243}Am(e, F), (γ,F), E=17.5-78 MeV; measured fission σ(E); deduced fission isomer production mechanism. Virtual photon theory.

85Ra28 *A g-Factor Measurement of the ^{239}Am Fission Isomer*

M. H. Rafailovich, S. Vajda, E. Dafni, G. Schatz, S. Rolston, S. Y. Zhu, G. D. Sprouse, Phys. Lett. 163B, 327 (1985).

Nuclear Reactions: ^{237}Np(α,2n), E=tandem; measured $\gamma(\theta$, H,t). ^{239}Am deduced fission isomer g.

85Vo17 *Anisotropy of Fission of ^{242m}Am by Fast Neutrons*

P. E. Vorotnikov, B. M. Gokhberg, V. A. Shigin, E. F. Fomushkin, G. F. Novoselov, Yad. Fiz. 42, 1038 (1985); Sov. J. Nucl. Phys. 42, 656 (1985).

Radioactivity: ^{242m}Am(SF); measured fission fragment decay $\sigma(\theta n=0^0)/\sigma(\theta n=90^0)$, anisotropy.

86Bl10 *Intermediate Structure in the Fission Cross Sections of the Even Curium Isotopes*

R. C. Block, D. R. Harris, H. T. Maguire, Jr., C. R. S. Stopa, R. E. Slovacek, J. W. T. Dabbs, R. J. Dougan, R. W. Hoff, R. W. Lougheed, Radiat. Eff. 92, 305 (1986).

Nuclear Reactions: ^{244}, ^{246}, ^{248}Cm(n,F), E $\leq$ 100 keV; analyzed fission σ(E); deduced structure. ^{245}, ^{247}, ^{249}Cm deduced barrier parameter differences.

86De04 *Excitation Function and Half-Life for the Fission Isomer ^{240m}Pu from the ^{238}U(α,2n)^{240m}Pu Reaction*

S. de Barros, S. D. de Magalhaes, H. Wolf, J. Barreto, J. Eichler, N. Lisbona, I. O. de Souza, D. M. Vianna, Z. Phys. A323, 101 (1986).

Radioactivity: ^{240m}Pu(SF) [from ^{238}U(α,2n), E=20.1-27.3 MeV]; measured $T_{1/2}$.

Nuclear Reactions: ICPND ^{238}U(α,2n), E=20.1-27.3 MeV; measured residual fission isomer production σ(E). ^{240m}Pu deduced delayed fission σ, isomeric σ ratio.

87Ah07 *Search for the Shape-Isomeric Gamma Decay in Muonic Uranium*

S. Ahmad, G. A. Beer, B. H. Olaniyi, A. Olin, S. N. Kaplan, A. Mireshghi, J. A. Macdonald, O. Hausser, Can. J. Phys. 65, 753 (1987).

Nuclear Reactions: ^{236}, ^{238}, ^{235}U(μ^-,γ), E at rest; measured Eγ, Iγ, E X-ray, I X-ray, γ(t); deduced no shape isomer excitation evidence. ^{235}, ^{236}, ^{238}U deduced μ-capture $T_{1/2}$.

Atomic Physics: esic-Atoms ^{236}, ^{238}, ^{235}U(μ^-, γ), E at rest; measured Eγ, Iγ, E X-ray, I X-ray, γ(t).

87Gu03 *A New Macroscopic-Microscopic Description of the Double-Humped Fission Barriers*

S. K. Gupta, L. Satpathy, Z. Phys. A326, 221 (1987).

Nuclear Structure: ^{228}Ra, ^{228}Ac, ^{228}Th, ^{229}Pa, ^{234}U, ^{238}Np, ^{239}Pu, ^{241}Am, ^{243}Cm, ^{248}Bk, ^{250}Cf, ^{254}Es, ^{255}Fm, ^{256}Md, ^{257}No, ^{259}Lr, ^{261}104; calculated binding energies; Z=90-98; calculated doubled-humped fission barriers, shell energies. New mass relation.

87ScZP *On the γ-Decay of the Shape Isomer in ^{236}U*

J. Schirmer, D. Habs, D. Schwalm, H. J. Maier, GSI-87-1, p. 32 (1987).

Nuclear Reactions: ^{235}U(d,p), E=11 MeV; measured γ-spectra, γ(t). ^{236}U deduced shape isomer decay characteristics.

88Ma43 *α-Decay Probability of Spontaneously Fissioning Isomer and Deformation Hindrance Factor*

V. E. Makarenko, V. G. Nosov, Yad. Fiz. 48, 73 (1988).

Radioactivity: ^{238m}U(α); calculated α-decay probability; deduced deformation hindrance factor.

88Ma52 *Triple Fission of the Spontaneously Fissioning Isomer ^{238}U*

V. E. Makarenko, Yu. D. Molchanov, G. A. Otroshchenko, G. B. Yankov, Pisma Zh. Eksp. Teor. Fiz. 47, 489 (1988); JETP Lett. (USSR) 47, 573 (1988).

Radioactivity: ^{238m}U(α), (SF) [from ^{238}U(n,n'), E=4.5 MeV]; measured decay $T_{1/2}$, triple fission branching ratio.

Nuclear Reactions: ^{238}U(n,n'), E=4.5 MeV; measured isomer production yield.

89Eg01 *Actinide Nuclei Fission Cross-Section Irregularities*

S. A. Egorov, V. A. Rubchenya, S. V. Khlebnikov, Nucl. Phys. A494, 75 (1989).

Nuclear Reactions: ^{227}Ac(n,F), E 2-16 MeV; ^{226}Ra(n,F), E 3-16 MeV; ^{244}Cm(n,F), E 1-3 MeV; ^{242}, ^{246}, ^{248}Cm(n,F), E 0.5-5 MeV; calculated fission σ(E). ^{243}, ^{245}, ^{247}, ^{249}Cm, ^{226}, ^{228}, ^{227}Ra, ^{228}, ^{227}Ac deduced fission barrier parameters.

89Ha40 *Spectroscopy of the Second Minimum*

D. Habs, Nucl. Phys. A502, 105c (1989).

Nuclear Structure: A 150; analyzed high spin level systematics; deduced comparison with fission second minimum in actnide region.

89HoZP *Second Minimum Spectroscopy Using Heavy Ion Transfer Reactions*

T. H. Hoare, P. A. Butler, G. D. Jones, R. J. Poynter, C. A. White, Daresbury Lab., 1988-1989 Ann. Rept., Appendix, p. 92 (1989).

Nuclear Reactions: ^{238}U(^{58}Ni,^{60}Ni), E=325 MeV; measured γγ-coin, γγ(t); deduced residue fission isomer σ.

89Ma54 *Ternary Fission of Neutron Induced Uranium Fissioning Isomers*

V. E. Makarenko, Yu. D. Molchanov, G. A. Otroshchenko, G. B. Yankov, Nucl. Phys. A502, 363c (1989).

Radioactivity: ^{236m}, ^{238m}U(SF) [from ^{238}, ^{236}U(n, n'), E=4.5 MeV]; measured $T_{1/2}$, fission fragment; deduced relative fission probabilities.

89Ma57 *Ternary Fission of Uranium Fissioning Isomers Excited by Neutrons*

V. E. Makarenko, Yu. D. Molchanov, G. A. Otroshchenko, G. B. Yankov, Yad. Fiz. 50, 928 (1989).

Radioactivity: ^{236m}, ^{238m}U(SF) [from ^{236}, ^{238}U(n, n'), E=4.5 MeV]; measured fission fragment spectra; deduced $T_{1/2}$, decay probability, fission mechanism.

89Ma64 *Spontaneous Fission Isomers α-Decay Hindrance Factor*

V. E. Makarenko, V. G. Nosov, Izv. Akad. Nauk SSSR, Ser. Fiz. 53, 933 (1989); Bull. Acad. Sci. USSR, Phys. Ser. 53, No. 5, 105 (1989).

Radioactivity: ^{238m}U(SF); calculated α-decay hindrance factor.

89Sc30 γ *Decay of the Superdeformed Shape Isomer in ^{236}U*

J. Schirmer, J. Gerl, D. Habs, D. Schwalm, Phys. Rev. Lett. 63, 2196 (1989).

Nuclear Reactions: ^{235}U(d,p), E=11 MeV; measured γ time spectra, missing energy vs delayed sum energy. ^{236}U deduced isomer, decay, superdeformation features, γ-decay to fission branching ratio.

89SoZZ *Production of the Fission Isomer ^{235m}Pu and ^{234}Pu in the Reactions α + ^{233}U and ^{3}He + ^{234}U*

L. P. Somerville, M. J. Nurmia, A. Ghiorso, J. M. Nitschke, G. T. Seaborg, Bull. Am. Phys. Soc. 34, No. 1, 69, EG7 (1989)

Nuclear Reactions: ICPND ^{234}U(^{3}He,2n), (^{3}He,3n), E not given; measured σ(E). ^{233}U(α,3n), E=36 MeV; measured E(α), I(α); deduced reaction σ, ^{235}, ^{234}Pu production.

90Bh02 *Test of the Adequacy of Using Smoothly Joined Parabolic Segments to Parametrize the Multihumped Fission Barriers in Actinides*

B. S. Bhandari, Phys. Rev. C42, 1443 (1990).

Nuclear Structure: ^{236}, ^{238}U, ^{237}Np, ^{235}, ^{237}, ^{238}, ^{239}, ^{240}, ^{241}, ^{242}, ^{243}, ^{244}, ^{245}Pu, ^{239}, ^{240}, ^{241}, ^{242}, ^{243}, ^{244}, ^{245}Am, ^{241}, ^{242}, ^{243}, ^{244}, ^{245}Cm; calculated fission $T_{1/2}$; deduced fission barrier parametrization.

90HoZU *Second Minimum Spectroscopy Using Heavy Ion Reactions*

T. H. Hoare, P. A. Butler, N. Clarkson, G. D. Jones, C. A. White, R. J. Poynter, R. A. Cunningham, Daresbury Labs., 1989-1990 Ann. Rept., Appendix, p. 84 (1990).

Nuclear Reactions: ICPND ^{238}U(^{58}Ni,^{60}Ni), E=325 MeV; ^{238}U(^{62}Ni,^{64}Ni), E=332 MeV; measured fission isomer production σ upper limit.

90Ku17 *Energy of Alpha Particles in Triple Fission of the Fissile Isomer Uranium-238*

I. A. Kukushkin, V. E. Makarenko, Yu. D. Molchanov, G. A. Otroshchenko, G. B. Yankov, Pisma Zh. Eksp. Teor. Fiz. 51, 611 (1990); JETP Lett. (USSR) 51, 693 (1990).

Radioactivity: ^{238m}U [from ^{238}U(n,n'), E=4.5 MeV]; measured fission fragment, α-spectra; deduced $T_{1/2}$, triple fission α-distribution features, branching ratio relative to SF-decay.

90Ma59 *Method of Half-Life Determination*

V. E. Makarenko, G. A. Otroshchenko, Yad. Fiz. 51, 1201 (1990); Sov. J. Nucl. Phys. 51, 765 (1990).

Radioactivity: ^{236m}, ^{238m}U; calculated $T_{1/2}$. Time spectrum processing method proposed.

91Ku23 *Energies of Long-Range Particles in Ternary Fission of the ^{238}U Spontaneously Fissioning Isomer*

I. A. Kukushkin, V. E. Makarenko, Yu. D. Molchanov, G. A. Otroshchenko, G. B. Yankov, Yad. Fiz. 54, 8 (1991); Sov. J. Nucl. Phys. 54, 4 (1991).

Nuclear Reactions: ^{238}U(n,n'), E=4.5 MeV; measured (fragment)(fragment)-coin following SF-decay, ternary fission. ^{238m}U deduced $T_{1/2}$, fission branching ratio.

92Ba67 *First Observation of a Resonance Ionization Signal on ^{242m}Am Fission Isomers*

H. Backe, Th. Blonnigen, M. Dahlinger, U. Doppler, P. Graffe, D. Habs, M. Hies, Ch. Illgner, H. Kunz, W. Lauth, H. Schope, P. Schwamb, W. Theobald, R. Zahn, Hyperfine Interactions 74, 47 (1992).

Radioactivity: ^{242m}Am(SF) [from ^{242}Pu(d,2n), E=12 MeV]; measured resonance ionization followed by isomer fission decay. Buffer gas cell, two-step resonance ionization, excimer dye laser combination.

92Bh03 *Systematics of the Deduced Fission Barriers for the Doubly Even Transactinium Nuclei*

B. S. Bhandari, Y. B. Bendardaf, Phys. Rev. C45, 2803 (1992).

Nuclear Structure: ^{236}, ^{238}, ^{240}, ^{242}, ^{244}Pu, ^{240}, ^{242}, ^{244}, ^{246}, ^{248}, ^{250}Cm; calculated isomer energies, $T_{1/2}$, SF-decay $T_{1/2}$, outer barrier heights. ^{230}, ^{232}Th, ^{230}, ^{232}, ^{234}, ^{236}, ^{238}U, ^{246}, ^{248}, ^{250}, ^{252}, ^{254}, ^{256}Cf, ^{242}, ^{244}, ^{246}, ^{248}, ^{250}, ^{252}, ^{254}, ^{256}, ^{258}Fm, ^{250}, ^{252}, ^{254}, ^{256}, ^{258}, ^{260}, ^{262}No, ^{250}104, ^{252}104, ^{254}104, ^{256}104, ^{258}104, ^{260}104; calculated SF-decay $T_{1/2}$, outer barrier height. Double humped fission barrier model. Other nuclei, other aspects discussed.

92BlZZ *Search for Low Spin Superdeformed States by Transfer Reaction*

J. Blons, D. Goutte, A. Lepretre, R. Lucas, V. Meot, D. Paya, X. H. Phan, G. Barreau, T. Doan, G. Pedemey, Contrib. Int. Conf. Nuclear Structure at High Angular Momentum, Ottawa, p. 57 (1992); AECL-10613 (1992)

Nuclear Reactions: ^{236}U(^{18}O,^{16}O), E=9 MeV/nucleon; ^{192}Pt (^{16}O,^{14}C), E not given; measured γ sum spectra, γ(particle)-coin. ^{194}Hg deduced superdeformed band population.

92Ch08 *Limits on the Lifetime of the Shape Isomer of ^{238}U*

C. R. Chinn, J. -F. Berger, D. Gogny, M. S. Weiss, Phys. Rev. C45, 1700 (1992).

Radioactivity: ^{238}U; calculated fission isomer partial $T_{1/2}$. Constrained Hartree-Fock-Bogoliubov.

92DeZZ *Population of the 0.5ns Fission Isomer and Excited States in ^{238}Pu by Heavy-Ion Induced 1n-Transfer*

M. Devlin, D. Cline, K. G. Helmer, R. Ibbotson, C. Y. Wu, A. Cresswell, P. A. Butler, G. D. Jones, M. A. Stoyer, J. O. Rasmussen, Bull. Am. Phys. Soc. 37, No. 2, 870, A8 1 (1992)

Nuclear Reactions: ^{239}Pu(^{117}Sn,^{118}Sn), E=630 MeV; measured Eγ, Iγ, γ-multiplicity, particle spectra, (fragment)(fragment)-coin. ^{239}Pu deduced levels, J, π. ^{238}Pu deduced levels, J, π, fission isomer population.

92Er01 *Quasi-Stationary State Population Probability of the Actinide Nuclei Second Well*

D. O. Eremenko, S. Yu. Platonov, O. A. Yuminov, Bull. Rus. Acad. Sci. Phys. 56, 70 (1992).

Nuclear Structure: ^{239}, ^{238}, ^{236}, ^{235}Np, ^{240}, ^{238}, ^{237}Pu, ^{238}, ^{232}Pa; calculated quasistationary states population probability under induced fission, second potential. Fluctuation dissipation dynamics.

92Ma34 α *and* γ *Spectroscopy of Spontaneous-Fission Isomers*

V. E. Makarenko, Yad. Fiz. 55, 1759 (1992); Sov. J. Nucl. Phys. 55, 973 (1992).

Nuclear Structure: ^{238}U, ^{239}, ^{241}Pu, ^{240}, ^{241}, ^{242}, ^{243}Am; compiled, reviewed fission isomer decay by α-, γ- emission.

92So10 *Intrinsic Structures and Associated Rotational Bands in Deformed Even-Even Nuclei of the Actinide Region*

P. C. Sood, D. M. Headly, R. K. Sheline, At. Data Nucl. Data Tables 51, 273 (1992).

Nuclear Structure: Z $\geq$ 88; N $\geq$ 134; ^{230}, ^{232}, ^{234}, ^{236}, ^{238}U, ^{220}, ^{222}, ^{224}, ^{226}, ^{228}, ^{230}, ^{232}, ^{234}Th, ^{218}, ^{220}, ^{222}, ^{224}, ^{226}, ^{228}, ^{230}Ra; analyzed levels; deduced band structure, fission isomers superdeformation, hyperdeformation evidence.

92St05 *Fission and Gamma-Ray Decay of the ^{238}U Shape Isomer*

M. Steinmayer, K. E. G. Lobner, L. Corradi, U. Lenz, U. Quade, P. R. Pascholati, K. Rudolph, W. Schomburg, Z. Phys. A341, 145 (1992).

Radioactivity: ^{238m}U [from ^{238}U(d,np), E=18 MeV]; measured γ(ce)-coin; deduced delayed fission $T_{1/2}$. ^{238}U deduced transitions.

93Ar03 *Fission of Heavy Hypernuclei Formed in Antiproton Annihilation*

T. A. Armstrong, J. P. Bocquet, G. Ericsson, T. Johansson, T. Krogulski, R. A. Lewis, F. Malek, M. Maurel, E. Monnand, J. Mougey, H. Nifenecker, J. Passaneau, P. Perrin, S. M. Polikanov, M. Rey-Campagnolle, C. Ristori, G. A. Smith, G. Tibell, Phys. Rev. C47, 1957 (1993).

Nuclear Reactions: ^{238}U(p-bar,X), E at 105 MeV/c; measured hypernuclei yield, fission (fragment)(fragment)-coin; deduced fission hypernuclei $T_{1/2}$.

93Ku16 *Yield of the Fissioning Isomer in the Reaction ^{241}Am(n, n')*

I. A. Kukushkin, V. E. Makarenko, Yu. D. Molchanov, G. A. Otroshchenko, Yad. Fiz. 56, No 9, 13 (1993); Phys. Atomic Nuclei 56, 1157 (1993).

Nuclear Reactions: ^{241}Am(n,n'), (n,γ), E=4.5 MeV; measured fission isomer yields; deduced reaction dependence.

Radioactivity: ^{242m}, ^{241m}Am(SF) [from ^{241}Am(n,n'), (n,γ), E=4.5 MeV]; measured fission fragment spectra. ^{241}Am deduced isomeric state fission probability, $T_{1/2}$.

93Ro07 *The Study of Prompt and Delayed Muon Induced Fission III. The Ratios of Prompt to Delayed Fission Yields*

Ch. Rosel, H. Hanscheid, J. Hartfiel, R. von Mutius, J. F. M. d'Achard van Enschut, P. David, H. Janszen, T. Johansson, J. Konijn, T. Krogulski, C. T. A. M. de Laat, H. Paganetti, C. Petitjean, S. M. Polikanov, H. W. Reist, F. Risse, L. A. Schaller, L. Schellenberg, W. Schrieder, A. K. Sinha, A. Taal, J. P. Theobald, G. Tibell, N. Trautmann, Z. Phys. A345, 89 (1993).

Nuclear Reactions: ^{233}, ^{234}, ^{235}, ^{236}, ^{238}U, ^{237}Np, ^{242}, ^{244}Pu(μ^-,F), E not given; measured prompt to delayed fission yields ratios, absolute probabilities; deduced fission probabilities per muon capture.

94Kr06 *GCM Calculation of the E2 Decay Lifetimes of Shape Isomers*

S. J. Krieger, P. Bonche, H. Flocard, P. H. Heenen, M. S. Weiss, Nucl. Phys. A572, 384 (1994).

Nuclear Structure: ^{230}, ^{232}Th, ^{238}U; calculated deformation energy vs mass quadrupole moment, first barrier, second minimum, absolute miminum quadrupole moment, charge quadrupole transition matrix element between superdeformed, ground bands, isomer E2 decay $T_{1/2}$. Hartree-Fock BCS calculations.

94Ob02 *Intermediate Structure and the Shape Isomer in ^{233}Th*

S. Oberstedt, J. P. Theobald, H. Weigmann, J. A. Wartena, C. Burkholz, Nucl. Phys. A578, 31 (1994).

Nuclear Reactions: ^{232}Th(n,γ), E=0.05-4.2 keV; measured $\gamma\gamma$(t). ^{233}Th deduced shape isomer $T_{1/2}$ range, decay features, resonances admixture, coupling width.

94ReAA

Gamma Spectroscopy of Superdeformed ^{236}U. Reiter et al., Annual Report GSI 94-1 (March 1994), p 74.

94PaAA

Gamma Spectroscopy in the Second Minimum of ^{240}Pu. Pansegrau et. al., Annual Report GSI 94-1 (March 1994), p 76.