

84Za01 *Transitions to Stretched States in the Deformed Limit*

L. Zamick, Phys. Rev. C29, 667 (1984).

Nuclear Structure: ^{28}Si ; calculated B(M6). Deformed model.

84Za02 *Direct Reaction Theories and Classical Trajectory Approximations*

V. I. Zagrebaev, Izv. Akad. Nauk SSSR, Ser. Fiz. 48, 136 (1984)

Nuclear Reactions: $^{40}\text{Ca}(\text{d},\text{p})$, $E=11$ MeV; $^{208}\text{Pb}(\text{d},\text{p})$, $E=15.8$ MeV; calculated $\sigma(\theta)$; deduced parameters. T-matrix approach, direct reaction, classical trajectory approximation.

84Za03 *Inelastic Electron Scattering to Negative Parity States of ^{24}Mg*

H. Zarek, S. Yen, B. O. Pich, T. E. Drake, C. F. Williamson, S. Kowalski, C. P. Sargent, Phys. Rev. C29, 1664 (1984).

Nuclear Reactions: $^{24}\text{Mg}(e,e')$, $E=90\text{-}280\text{ MeV}$; measured $\sigma(E(e'))$, $\sigma(\theta)$. ^{24}Mg levels deduced electromagnetic form factors, $B(\lambda)$. Open-shell RPA calculations.

84Za04 *Analysis of the Actinide Fission Data ($E(\alpha) \leq 100$ MeV) taking into Account the Exit-Channel Parameters and the Emission Fission*

N. I. Zaika, Yu. V. Kibkalo, V. P. Tokarev, V. A. Shityuk, Yad. Fiz. 39, 548 (1984).

Nuclear Reactions: ICPND ^{232}Th , ^{235}U , $^{236}\text{U}(\alpha, F)$, E 20-100 MeV; measured fission $\sigma(E)$, $\sigma(\theta)$; deduced fission parameter energy dependence. Optical model, parabolic barrier approximation.

84Za05 *Space Parity Nonconservation Effects in Radiative Neutron Capture*

D. F. Zaretsky, V. K. Sirotkin, Yad. Fiz. 39, 585 (1984).

Nuclear Reactions: Br, ^{111}Cd , ^{117}Sn , $^{139}\text{La}(n,\gamma)$, E resonance; calculated capture γ CP, $\gamma(\theta)$ asymmetry coefficient; deduced space parity nonconservation role.

84Za06 *Off-Shell Effects in Nucleon-Deuteron Polarization Observables*

H. Zankel, W. Plessas, Z. Phys. A317, 45 (1984).

Nuclear Reactions: ^1H (polarized d,d), $E=10$ MeV; calculated spin correlation parameter. Vector polarized beam. ^2H (polarized p,p), $E=10$ MeV; calculated spin transfer coefficients, polarized outgoing proton; deduced intermediate range repulsion, off-shell effect roles. Separable representation, S-wave Paris potential.

84Za07 *One- and Two-Neutron Pick-Up Reactions Induced by Protons Interacting with ^9Be*

N. I. Zaika, A. V. Mokhnach, A. T. Rudchik, V. S. Semenov, V. A. Shityuk, P. L. Shmarin, Yad. Fiz. 39, 1081 (1984).

Nuclear Reactions: $^9\text{Be}(p,d)$, (p,t) , $E=50, 72$ MeV; measured $\sigma(\theta)$; deduced reaction mechanism. $^8, ^7\text{Be}$ levels deduced S. Distorted wave analysis, heavy ion pick-up contributions.

84Za08 *g Factor and the Half-Life of the 250 keV State in ^{77}Se*

C. B. Zamboni, R. N. Saxena, J. Phys. (London) G10, 1571 (1984).

Radioactivity: $^{77}\text{Br}(\text{EC})$, (β^+) [from $^{75}\text{As}(\alpha, 2n)$]; measured $\gamma\gamma(t)$, $\gamma\gamma(\theta, t, H)$. ^{77}Se level deduced $T_{1/2}$, μ . NaI(Tl) detectors, natural target.

84Za09 *Observation of the Second 4^+ State in ^{28}Si by Means of Proton Inelastic Scattering and Analysis of the $K(\pi) = 0^+_{\text{1}}$ and 3^+_{1} Bands*

J. J. A. Zalmstra, J. F. A. Van Hienen, J. Blok, Phys. Lett. 146B, 397 (1984).

Nuclear Reactions: $^{28}\text{Si}(\text{p},\text{p}')$, $E=26.3$ MeV; measured $\sigma(\theta)$; deduced optical model parameters. ^{28}Si deduced level J, π , band structure, $B(\lambda)$.

84Za10 *Space Parity Violation Effects in Diffraction of Neutrons*

D. F. Zaretsky, V. K. Sirotkin, Yad. Fiz. 40, 1256 (1984).

Nuclear Reactions: Br, ^{117}Sn , ^{111}Cd , ^{139}La (polarized n,n), E=thermal; calculated space parity violation effects. Laue dynamical diffraction.

84ZaZT

Conference proceedings: Kiev(Neutron Physics) Proc, Vol1,P309,Zaika

Nuclear Reactions: $^{235}, ^{236}\text{U}(\alpha, \text{F})$, $E=20\text{-}100\text{ MeV}$; measured fission fragment anisotropy vs E .

^{84}Zr

Conference proceedings: Kiev(Neutron Physics) Proc, Vol3,P386,Zaretsky

Nuclear Reactions: ^{81}Br , ^{111}Cd , ^{117}Sn , ^{139}La (polarized n, γ), (polarized n,X), $E < 10$ eV; analyzed parity violation mechanism.

84ZaZV

Conference proceedings: Kiev(Neutron Physics) Proc, Vol3,P442,Zaichenko

Nuclear Reactions: ^{81}Br , ^{117}Sn (polarized n,X), $E \approx 1$ eV; analyzed opposite parity continuum states mixing; deduced parity violation enhancement effects.

84ZaZW

Conference proceedings: Kiev(Neutron Physics) Proc, Vol1,P260,Zavarzin

Nuclear Reactions: $^{27}\text{Al}(^{16}\text{O},2\alpha)$, $E=50, 60 \text{ MeV}$; $^{40}\text{Ca}, ^{58}\text{Ni}(^{16}\text{O},2\alpha)$, $E=70 \text{ MeV}$; calculated $\alpha\alpha(\theta)$.

84ZaZX

Conference proceedings: Kiev(Neutron Physics) Proc, Vol2,P379,Zaidel

Nuclear Reactions: $^{238}\text{U}(n,X)$, $E=6.67, 20.9, 36.7$ eV; $^{239}\text{Pu}(n, X)$, $E=1.06$ eV; measured transmission for different chemical compounds; deduced σ differences. Gas model.

84ZaZY

Conference proceedings: Kiev(Neutron Physics) Proc, Vol2,P374,Zaidel

Nuclear Reactions: $^{234}\text{U}(\text{n},\text{X})$, $E=5.19$ eV; $^{235}\text{U}(\text{n},\text{X})$, $E=1.144, 2.033, 3.15, 3.613, 4.845, 8.766, 11.669, 12.396$ eV; measured chemical shifts. $^{235}, ^{236}\text{U}$ deduced change in rms radii. Tof.

84ZaZZ

Conference proceedings: Alma-Ata, P361,Zaika

Nuclear Reactions: $^{236}\text{U}(\alpha, X)$, $E=20\text{-}140$ MeV; calculated reaction σ ; deduced empirical formula parameters.

84Ze01 *Residual Quasiparticle Interaction due to Blocking*

J. Y. Zeng, T. S. Cheng, L. Cheng, C. S. Wu, Nucl. Phys. A414, 253 (1984).

Nuclear Structure: $^{162}, ^{163}, ^{164}\text{Yb}$, $^{166}, ^{167}, ^{168}\text{Er}$; calculated Nilsson level occupation probabilities; deduced blocking effect dependent residual interaction. Particle number conserving method.

84Ze02 *The K-Shell Ionisation of $_{64}\text{Gd}$, $_{74}\text{W}$ and $_{90}\text{Th}$ Induced by Heavy, Charged Particles*

Z. Zelazny, P. Hornshoj, J. Phys. (London) B17, 1867 (1984).

Nuclear Reactions: $\text{Gd}(\alpha, \alpha'\gamma)$, $E=3.29-14.97$ MeV; $\text{Gd}(^{16}\text{O}, ^{16}\text{O}'\gamma)$, $E=11.87-29.53$ MeV; $\text{W}(\alpha, \alpha'\gamma)$, $E=3.44-12.99$ MeV; $\text{W}(^{12}\text{C}, ^{12}\text{C}'\gamma)$, $E=8.73-33.82$ MeV; $\text{W}(^{16}\text{O}, ^{16}\text{O}'\gamma)$, $E=11.88-38.68$ MeV; $\text{W}(^{19}\text{F}, ^{19}\text{F}'\gamma)$, $E=14.1-40.9$ MeV; $\text{Th}(\alpha, \alpha'\gamma)$, $E=4.39-15.14$ MeV; $\text{Th}(^{16}\text{O}, ^{16}\text{O}')$, $E=13.43-33.52$ MeV; measured E_γ , I_γ ; deduced K-shell ionization σ . Semi-classical approximation, Coulomb excitation, electron binding, Coulomb deflection, relativistic corrections.

84Ze03 *High-Spin States in ^{99}Tc*

K. O. Zell, H. Harter, D. Hippe, H. W. Schuh, P. von Brentano, Z. Phys. A316, 351 (1984).

Nuclear Reactions: $^{96}\text{Zr}(^6\text{Li}, 3n)$, $E=24\text{-}31\text{ MeV}$; measured E_γ , I_γ , $\sigma(E_\gamma, E)$, $\gamma\gamma$ -coin, $\gamma(\theta)$. ^{99}Tc deduced levels, J , π , γ -branching. Enriched target, Ge(Li) detectors. Interacting boson model calculations.

84Ze04 *Boson Description of Low-Lying Collective States of Spherical Nuclei*

V. G. Zelevinsky, *Izv. Akad. Nauk SSSR, Ser. Fiz.* 48, 79 (1984); *Bull. Acad. Sci. USSR, Phys. Ser.* 48, No. 1, 77 (1984).

Nuclear Structure: ^{106}Pd ; calculated levels. Boson description, spherical nuclei, collective states.

$^{84}\text{ZeZY}$

Report: KVI 1983 Ann, P53,Zemel

Nuclear Structure: Ba, Ce, Nd, Sm; calculated dependence of E2 transition rates for many isotopes, $B(E2)$. IBA calculation.

$^{84}\text{ZeZZ}$

Report: KVIS 1983 Ann, P17,Zemel

Radioactivity: $^{82}\text{Rb}(\text{EC})$; measured $I(\text{ce})$. ^{82}Kr deduced E0 transition, $B(\text{E0})/B(\text{E2})$. Mini-orange spectrometer.

84ZgZZ

Journal: BAPSA 29 1049, DC6,Zganjar

Radioactivity: $^{189}, ^{191}\text{Pb}(\text{EC}), (\beta^+), (\alpha)$; measured γ -, ce-spectra. $^{187}, ^{189}, ^{191}\text{Tl}$ deduced levels, configuration. Other data input.

84Zh01 *The Average Number of Prompt Neutrons and the Distributions of Prompt Neutron Emission Number for Spontaneous Fission of Plutonium-240, Curium-242, and Curium-244*

Zhang Huanqiao, Liu Zuhua, Ding Shengyue, Liu Shaoming, Nucl. Sci. Eng. 86, 315 (1984).

Radioactivity: ^{240}Pu , ^{242}Cm , ^{244}Cm (SF); measured prompt neutron average number, energy distributions.

84Zh02 Analysis of Neutron Spectra in 22-MeV Proton Interactions with Nuclei

B. V. Zhuravlev, O. V. Grusha, S. P. Ivanova, V. I. Trykova, Yu. N. Shubin, Yad. Fiz. 39, 264 (1984).

Nuclear Reactions: ICPND $^{27}\text{Al}(\text{p},\text{n})$, ^{56}Fe , ^{60}Ni , ^{52}Cr , ^{90}Zr , $^{115}\text{In}(\text{p},\text{n})$, $(\text{p},2\text{n})$, (p,np) , $(\text{p},\text{n}\gamma)$, $^{58}\text{Ni}(\text{p},\text{n})$, (p,np) , $(\text{p},\text{n}\gamma)$, $^{91}\text{Zr}(\text{p},\text{n})$, $(\text{p},2\text{n})$, $(\text{p},\text{n}\gamma)$, ^{181}Ta , $^{94}\text{Zr}(\text{p},\text{n})$, $(\text{p}, 2\text{n})$, $(\text{p},\text{n}\gamma)$, $(\text{p},2\text{n}\gamma)$, $^{115}\text{In}(\text{p},3\text{n})$, $(\text{p}, 2\text{n}\gamma)$, $E=22$ MeV; measured equilibrium emission $\sigma(\text{En})$; deduced absorption, direct, reaction σ . ^{27}Si , ^{27}Al , ^{24}Mg , 52 , ^{51}Mn , 52 , ^{51}Cr , 56 , ^{55}Co , 55 , ^{56}Fe , 58 , 57 , ^{59}Ni , 60 , ^{59}Cu , 89 , 90 , 91 , 92 , 93 , ^{94}Nb , 113 , 114 , ^{115}Sn , 179 , 180 , ^{181}W deduced level density parameters. Statistical theory.

84Zh03 *Intermediate Structure in the Photofission Cross Section of ^{232}Th*

H. X. Zhang, T. R. Yeh, H. Lancman, Phys. Rev. Lett. 53, 34 (1984).

Nuclear Reactions: $^{232}\text{Th}(\gamma, F)$, $E=5.865\text{-}6.183\text{ MeV}$; measured fission $\sigma(E)$. ^{232}Th deduced intermediate structure resonances, width, fission characteristics, barrier parameters.

84Zh04 *Further Experimental Evidence for Fast Fission*

Z. Zheng, B. Borderie, D. Gardes, H. Gauvin, F. Hanappe, J. Peter, M. F. Rivet, B. Tamain, A. Zaric, Nucl. Phys. A422, 447 (1984).

Nuclear Reactions: ^{238}U , $^{209}\text{Bi}(^{40}\text{Ar},\text{X})$, $(^{40}\text{Ar}, \text{F})$, E 175-350 MeV; $^{197}\text{Au}(^{40}\text{Ar},\text{X})$, $(^{40}\text{Ar},\text{F})$, E=150-350 MeV; measured (fragment)(fragment)-coin, fission type fragment mass energy distributions; deduced fusion $\sigma(\text{E})$, fast fission evidence.

84Zh05 *Analysis of the (μ^-n) Reaction on ^{40}Ca in the Framework of the Generalized Model for Decay of Giant Multipole Resonances*

F. A. Zhivopistsev, A. M. Slivnoi, *Izv. Akad. Nauk SSSR, Ser. Fiz.* 48, 821 (1984)

Nuclear Reactions: $^{40}\text{Ca}(\mu, n)$, E at rest; calculated $\sigma(E_n)$; deduced giant multipole resonances contribution. Generalized model.

84Zh06 *Group Theoretical Study of s-d-g Interacting Boson Model and ^{168}Er Spectrum*

X. -Q. Zhou, H. -C. Wu, Nucl. Phys. A421, 159c (1984).

Nuclear Structure: ^{168}Er ; calculated levels, $B(\lambda)$ ratios, E2 matrix elements. Group theory, s-d-g interacting boson model.

84Zh07 *Bands of Three-Particle States in the Spectrum of ^{20}Ne Nucleus*

M. V. Zhukov, Yad. Fiz. 40, 892 (1984).

Nuclear Structure: ^{20}Ne ; analyzed data, level scheme; deduced three-particle state bands. Cluster model.

84Zh08 *The Decay of ^{188}Re*

L. Zhou, S. Wen, J. Zhao, B. Yu, B. Han, Ch. Yang, J. Radioanal. Nucl. Chem. 87, 247 (1984).

Radioactivity: $^{188}\text{Re}(\beta^-)$ [from $^{187}\text{Re}(n,\gamma)$, E=thermal]; measured E_γ , I_γ , $\gamma\gamma$ -coin; deduced log ft. ^{188}Os deduced levels, γ -branching, I_β .

84Zh09 *Microscopic Description of Pre-Equilibrium Processes on the Basis of the Unified Theory of Nuclear Reactions*

F. A. Zhivopistsev, V. G. Sukharevsky, Fiz. Elem. Chastits At. Yadra 15, 1208 (1984); Sov. J. Part. Nucl 15, 539 (1984).

Nuclear Structure: ^{60}Ni ; calculated quasibound state densities.

Nuclear Reactions: $^{181}\text{Ta}(p,n)$, $E=18$ MeV; $^{120}\text{Sn}(p,n)$, $E=45$ MeV; $^{62}\text{Ni}(^3\text{He},n)$, $E=40.9$ MeV; $^{61}\text{Ni}(\alpha, n)$, $E=52.6$ MeV; calculated $\sigma(\theta, E, n)$. ^{27}Al , ^{59}Co , ^{90}Zr , $^{112}\text{Sn}(^3\text{He},d)$, $(^3\text{He},p)$, $E=50.5$ MeV; calculated nuclear quasitemperature. Preequilibrium process, unified theory, microscopic description.

84ZhZX

Conference proceedings: Kiev(Neutron Physics) Proc, Vol3,P286,Zhuravlev

Nuclear Reactions: $^{181}\text{Ta}(\alpha, xn)$, $E=26, 45$ MeV; measured angle integrated σ . $^{180}, ^{181}, ^{182}, ^{183}, ^{184}, ^{185}\text{Re}$ deduced level density parameters. ToF. Statistical theory.

84ZhZY

Conference proceedings: Kiev(Neutron Physics) Proc, Vol3,P277,Zhuravlev

Nuclear Reactions: ^{27}Al , ^{52}Cr , ^{56}Fe , $^{58,60}\text{Ni}$, $^{90,91,94}\text{Zr}$, ^{115}In , ^{181}Ta (p, xnyp), E=22 MeV; analyzed $\sigma(\text{En},\theta)$. ^{25}Mg , ^{27}Al , ^{27}Si , $^{51,52}\text{Cr}$, $^{51,52}\text{Mn}$, $^{55,56}\text{Fe}$, $^{55,56}\text{Co}$, $^{57,58,59,60}\text{Ni}$, $^{58,59}\text{Cu}$, ^{89}Zr , $^{89,90,91,92,93,94}\text{Nb}$, $^{113,114,115}\text{Sn}$, $^{179,180,181}\text{W}$ deduced level density parameters. Statistical theory.

84ZhZZ

Journal: BAPSA 29 758, KH16,Zhang

Nuclear Reactions: $^{232}\text{Th}(\gamma, F)$, $E=6.14$ MeV; measured fission σ . ^{232}Th deduced strong intermediate resonances. Double-, tripple-humped barrier theory.

84Zi01 *On the Calculation of Field Isotope Shifts for Optical Spectral Lines*

D. Zimmermann, Z. Phys. A315, 123 (1984).

Nuclear Moments: +202}, ^{204}Hg ; calculated optical transition field isotope shift. Correction factor due to s-electron charge density.

84Zi02 *Microscopic Approach to the Interacting Boson Model (II). Extension to Neutron-Proton Systems and Applications*

M. R. Zirnbauer, Nucl. Phys. A419, 241 (1984).

Nuclear Structure: 148 , 150 , 152 Sm; calculated levels. Microscopic interacting boson model.

84Zi03 *Deuteron Photodisintegration at 0° and 180°*

A. Zieger, Can. J. Phys. 62, 1084 (1984).

Nuclear Reactions: $^2\text{H}(\gamma, p)$, $E=10$ MeV bremsstrahlung; measured $\sigma(\theta_p=0^\circ)$.

84Zi04 *Theory for the Unification of the Nuclear Collective and Single Particle Models*

W. Zickendraht, Phys. Rev. C30, 2067 (1984).

Nuclear Structure: ^{17}F , ^{17}O , ^{21}Ne , ^{21}Na , ^{11}B , ^{11}C ; calculated μ , quadrupole moment; deduced multipole moment sum rule. Collective, single particle model unifications.

84ZiZY *Bestimmung des Stellaren Neutroneneinfangsquerschnitts $^{49}\text{Ca}(n,\gamma)^{50}\text{Ca}$ über die 'Inverse' Reaktion $^{50}\text{K}(\beta^-)^{50}\text{Ca}(n)^{49}\text{Ca}$*

W. Ziegert, H. Gabelmann, B. Leist, B. Steinmüller, M. Wiescher, K. -L. Kratz, F. -K. Thielemann, W. Hillebrandt, Univ. Mainz, 1983 Ann. Rept., p. 87 (1984).

Radioactivity: $^{50}\text{K}(\beta^-n)$; measured β^- -delayed neutron spectrum; deduced astrophysical neutron capture rate for inverse reaction $^{49}\text{Ca}(n,\gamma)$, stellar temperatures.

84ZiZZ

Journal: PHCAA 40 73, PP35,Ziegler

Nuclear Reactions: $^{12}\text{C}(\text{polarized p}, \pi^+)$, $E=350$ MeV; measured $\sigma(\theta)$, analyzing power vs θ .

84Zo01 *Study of the Excited States of the Nucleus ^{76}Se Populated by the $(\alpha, 2n\gamma)$ Reaction*

A. E. Sobov, V. G. Kiptilyi, I. Kh. Lemberg, B. I. Rzhanov, I. N. Chugunov, *Izv. Akad. Nauk SSSR, Ser. Fiz.* 48, 1878 (1984)

Nuclear Reactions: $^{74}\text{Ge}(\alpha, 2n)$, $E=18, 21, 24, 25.5$ MeV; measured E_γ , I_γ , $\gamma(\theta)$. ^{76}Se deduced levels, γ -branching, γ -multipolarity, $B(E2)$, $T_{1/2}$, J , π .

84Zo02 *Fermi Motion in Hypernuclear Production*

J. Zofka, M. Sotona, V. N. Fetisov, Nucl. Phys. A431, 603 (1984).

Nuclear Reactions: $^{12}\text{C}(\text{K}^-, \pi^-)$, E at rest; calculated σ ; deduced Fermi motion induced many-body transition matrix renormalization.

84ZoZX

Conference proceedings: Kiev(Neutron Physics) Proc, Vol3,P343,Zo In Ok

Nuclear Reactions: Ti, Fe, Ni, Zn, Ge, Se, Zr, Mo, Ru, Pd, Cd, 116 , 118 , 120 , 122 , 124 Sn, Te(n, n), $E \leq 450$ keV; analyzed σ ; deduced s-, p-wave neutron strength functions, p-scattering radii.

$^{84}\text{ZoZY}$

Conference proceedings: Alma-Ata, P85,Zobov

Nuclear Reactions: $^{82}\text{Se}(\alpha, 2n\gamma)$, E=22, 27 MeV; measured E_γ , $\gamma\gamma$ -coin. ^{84}Kr deduced levels.

84ZoZZ

Conference proceedings: Alma-Ata, P73,Zobov

Nuclear Reactions: $^{74}\text{Ge}(\alpha, 2n\gamma)$, $E=26\text{ MeV}$; measured $\gamma\gamma$ -coin. ^{76}Se deduced levels, J, π .

84Zu01 *Polarizational Effects in $p + A \rightarrow + \dots$ Reactions at the Energies of 316-1000 MeV*

R. Ya. Zulkarneev, R. Kh. Kutuev, Yad. Fiz. 39, 785 (1984).

Nuclear Reactions: ^9Be , C, ^{27}Al , Pb(p,pX), E=640 MeV; measured proton polarization vs θ , inclusive reaction. Direct knock-out mechanism.

84Zu02 *E2 and E4 Deformations in $^{233}, ^{234}, ^{235}, ^{238}\text{U}$*

J. D. Zumbro, E. B. Shera, Y. Tanaka, C. E. Bemis, Jr., R. A. Naumann, M. V. Hoehn, W. Reuter, R. M. Steffen, Phys. Rev. Lett. 53, 1888 (1984).

Nuclear Moments: $+233\}$, $^{234}, ^{235}, ^{238}\text{U}$; measured muonic X-rays. $^{234}, ^{238}\text{U}$ deduced intrinsic quadrupole, hexadecapole moments, charge distribution parameters, rms radii. $^{233}, ^{235}\text{U}$ deduced intrinsic quadrupole, hexadecapole moments, charge distribution parameters, B(E2).

Atomic Physics: esic-Atoms $^{233}, ^{234}, ^{235}, ^{238}\text{U}$; measured muonic X-rays.

84ZuZZ

Journal: BAPSA 29 720, GH14,Zumbro

Nuclear Moments: +233}, ²³⁴, ²³⁵, ²³⁸U; measured muonic X-ray hfs; deduced intrinsic quadrupole, hexadecapole moments, monopole, quadrupole, hexadecapole charge parameters.

Atomic Physics: esic-Atoms ²³³, ²³⁴, ²³⁵, ²³⁸U; measured muonic X-ray hfs; deduced monopole, quadrupole, hexadecapole charge parameters.

84Zv01 *Description of Superfluid Atomic Nuclei in Quasiparticle Lagrange Approach*

M. V. Zverev, E. E. Sapershtein, Yad. Fiz. 39, 1390 (1984).

Nuclear Structure: $^{116}, ^{118}, ^{120}, ^{122}, ^{124}, ^{126}, ^{128}, ^{132}\text{Sn}$; calculated levels, binding energy, charge radius. $^{100}, ^{102}, ^{104}, ^{106}, ^{108}, ^{110}, ^{112}, ^{114}\text{Sn}$; calculated binding energy, charge radius. $^{116}, ^{124}\text{Sn}$; calculated transition charge density distribution. Quasiparticle Lagrange approach.

84Zv02 *Experimental Approach to the Chemical Identification of Element 107 as Eka-Rhenium. II. Search for Spontaneously Fissile Isotopes of Element 107 in the Products of the Reaction $^{249}\text{Bk} + ^{22}\text{Ne}$ by the Method of Chromathermography*

I. Zvara, V. P. Domanov, Z. Khyubener, M. R. Shalaevsky, S. N. Timokhin, B. L. Zhuikov, B. Aikhler, G. V. Buklanov, Radiokhimiya 26, 76 (1984); Sov. Radiochem. 26, 72 (1984).

Nuclear Reactions: $^{249}\text{Bk}(^{22}\text{Ne},\text{F})$, E not given; measured fission fragment production; deduced Z=107 element production upper limit. Chromathermography technique.

84Zw01 *Transport Theory Applied to Kaon Production in High-Energy Nucleus-Nucleus Collisions*

W. Zwermann, B. Schurmann, K. Dietrich, E. Martschew, Phys. Lett. 134B, 397 (1984).

Nuclear Reactions: Na, F(Ne,pX), (Ne,K⁺X), E=2.1 GeV/nucleon; calculated inclusive $\sigma(\theta p)$, kaon production $\sigma(\theta)$ vs momentum.

84Zw02 *Proton Production in Nucleus-Nucleus Collisions at 400 MeV/Nucleon: A possible explanation for the anisotropy in the inclusive spectra*

W. Zwermann, Z. Phys. A319, 81 (1984).

Nuclear Reactions: Na, F(Ne,pX), E=400 MeV/nucleon; calculated inclusive proton spectrum. Multiple collision approach.

84Zy01 *Hafnium and Lutetium Isotopes Produced in Heavy-Ion Collisions of 7.6 MeV/u ^{40}Ar , 8.5 MeV/u ^{84}Kr and 8.5 MeV/u ^{136}Xe on Tungsten Targets*

I. Zychor, K. Rykaczewski, W. Kurcewicz, H. Ahrens, H. Folger, N. Kaffrell, N. Trautmann, Nucl. Phys. A414, 301 (1984).

Nuclear Reactions: $\text{W}(^{40}\text{Ar},\text{X})$, $E=7.6$ MeV/nucleon; $\text{W}(^{84}\text{Kr},\text{X})$, $E=8.5$ MeV/nucleon; $\text{W}, ^{186}\text{W}(^{136}\text{Xe},\text{X})$, $E=8.5$ MeV/nucleon; measured production σ for Hf, Lu isotopes. Chemical separation, γ -ray spectroscopy techniques.

84Zy02 *A Shell-Model Study of $A = 48$ -52 Nuclei and Magnetic Strength Distributions in ^{50}Ti*

L. Zybert, P. W. M. Glaudemans, R. B. M. Mooy, D. Zwarts, Z. Phys. A318, 363 (1984).

Nuclear Structure: $^{48}, ^{49}, ^{50}\text{Ti}, ^{51}, ^{52}\text{V}$; calculated levels, $B(\lambda)$. Shell model.