

85Ba01 *Fission-Fragment Energy Correlation Measurements for $^{252}\text{Cf(sf)}$ and Structures in Far-Out Asymmetric Fission*

G. Barreau, A. Sicre, F. Caitucoli, M. Asghar, T. P. Doan, B. Leroux, G. Martinez, T. Benfoughal, Nucl. Phys. A432, 411 (1985).

Radioactivity: $^{252}\text{Cf(SF)}$; measured fission fragment energies; deduced fragment mass yield, kinetic energy, variances. Static macro-microscopic potential calculations.

85Ba02 *Narrow Widths of (Λ) Single Particle States in Hypernuclei*

H. Bando, T. Motoba, Y. Yamamoto, Phys. Rev. C31, 265 (1985).

Nuclear Reactions: $^{40}\text{Ca}(\text{K}^-, \pi^-)$, E at rest; analyzed data; deduced hypernuclear state widths.

85Ba03 *Analysis of Optical Isotope Shifts in Cadmium*

J. Bauche, H. Huhnermann, D. N. Stacey, V. Stacey, M. Wilson, Z. Phys. A320, 157 (1985).

Nuclear Moments: +106}, 108 , 110 , 112 , 114 , 116 , 111 , 113 Cd; analyzed optical isotope shifts; deduced nuclear charge distribution changes.

85Ba04 *Correlation between Mean Square Radii and Zero-Point Motions of the Surface in the Ca Isotopes*

F. Barranco, R. A. Broglia, Phys. Lett. 151B, 90 (1985).

Nuclear Structure: $^{40}, ^{42}, ^{44}, ^{46}, ^{48}\text{Ca}$; calculated levels, deformation parameters, zero-point fluctuations, charge, mean mass rms radii; deduced zero-point fluctuation, rms radii correlation. Quasiparticle basis, RPA, Skyrme force.

85Ba05 *Fission Barriers of Excited Nuclei*

J. Bartel, P. Quentin, Phys. Lett. 152B, 29 (1985).

Nuclear Structure: ^{240}Pu ; calculated fission barrier vs temperature. Hartree-Fock approximation, finite temperature, Skyrme interaction.

85Ba06 *Quasivibrational Bands at High Spins in ^{158}Yb*

C. Baktash, Y. Schutz, I. Y. Lee, F. K. McGowan, N. R. Johnson, M. L. Halbert, D. C. Hensley, M. P. Fewell, L. Courtney, A. J. Larabee, L. L. Riedinger, A. W. Sunyar, E. der Mateosian, O. C. Kistner, D. G. Sarantites, Phys. Rev. Lett. 54, 978 (1985).

Nuclear Reactions: $^{98}\text{Mo}(^{64}\text{Ni}, 4n)$, $E=285\text{ MeV}$; $^{144}\text{Sm}(^{18}\text{O}, 4n)$, $E=100\text{ MeV}$; $^{142}\text{Nd}(^{20}\text{Ne}, 4n)$, $E=115\text{ MeV}$; measured $\gamma\gamma$ -coin, $\gamma\gamma(\theta)$, $\gamma(\theta)$. ^{158}Yb deduced levels, J , π , γ -branching, moment of inertia, band structure.

85Ba07 *Configuration-Dependent Pairing and Deformation in ^{163}Er*

J. C. Bacelar, M. Diebel, O. Andersen, J. D. Garrett, G. B. Hagemann, B. Herskind, J. Kownacki, C. X. Yang, L. Carlen, J. Lyttkens, H. Ryde, W. Walus, P. O. Tjom, Phys. Lett. 152B, 157 (1985).

Nuclear Reactions: $^{150}\text{Nd}(^{18}\text{O},5\text{n})$, $E=83\text{ MeV}$; measured $\gamma(\theta)$, $\gamma\gamma$ -coin. ^{163}Er deduced levels, J , π , γ -branching, rotational band crossing frequencies, configuration dependent pairing, deformation. Cranking HFB calculation.

85Ba08 *The Influence of Hyperfine Structure on the Determination of Ionisation Potential of Tl I*

M. A. Baig, J. P. Connerade, J. Phys. (London) B18, 1101 (1985).

Atomic Physics: I; measured hfs; deduced ionization potential.

85Ba09 *Combined Analysis of Antiprotonic Atoms and Antiproton Elastic Scattering Data*

C. J. Batty, E. Friedman, J. Lichtenstadt, Nucl. Phys. A436, 621 (1985).

Atomic Physics: ^{12}C , ^{16}O , S, ^{89}Y ; analyzed antiprotonic atom data; deduced transition shifts, widths.

Nuclear Reactions: $^{12}\text{C}(\bar{p}, \bar{p})$, $E=47$ MeV; analyzed $\sigma(\theta)$; deduced antiprotonic atom potential parameters. Antiprotonic atom data input.

85Ba10 *The Role of Particle-Particle Dipole Modes of Collective Motions in Heavy nuclei*

K. B. Baktybaev, A. B. Kabulov, J. Phys. (London) G11, L63 (1985).

Nuclear Structure: ^{218}Ra ; calculated levels, $B(E1)/B(E2)$. Interacting boson model, P boson inclusion.

85Ba11 *Alpha-Cluster States in ^{16}O Based on a $^{12}\text{C}(0_2^+)$ Core*

R. A. Baldock, R. A. Stratton, J. Phys. (London) G11, 515 (1985).

Nuclear Structure: ^{16}O ; calculated rotational bands. Alpha cluster model, excited core state contribution.

85Ba12 *The Nuclear Forward Amplitude and the Interpretation of Resonant Heavy-Ion Elastic Scattering*

J. Barrette, N. Alamanos, Phys. Lett. 153B, 208 (1985).

Nuclear Reactions: $^{28}\text{Si}(^{16}\text{O}, ^{16}\text{O})$, $E(\text{cm})=35$ MeV; calculated $\sigma(\theta)$; deduced forward amplitude role.

85Ba13 *Charge Polarization in Heavy-Ion Collisions*

A. K. Banerjee, B. C. Samanta, S. K. Samaddar, Phys. Lett. 153B, 213 (1985).

Nuclear Reactions: $^{58}\text{Ni}(^{58}\text{Ni}, X)$, $^{120}\text{Sn}(^{120}\text{Sn}, X)$, $^{238}\text{U}(^{238}\text{U}, X)$, E not given; calculated charge polarization potential vs separation distance. Droplet model, adiabatic approximation.

85Ba14 *The $^{48}\text{Ca}(d(\text{pol}), ^3\text{He})^{47}\text{K}$ Reaction at 80 MeV*

S. M. Banks, B. M. Spicer, G. G. Shute, V. C. Officer, G. J. Wagner, W. E. Dollhopf, Li Qingli, C. W. Glover, D. W. Devins, D. L. Friesel, Nucl. Phys. A437, 381 (1985).

Nuclear Reactions: $^{48}\text{Ca}(\text{polarized } d, ^3\text{He})$, $(\text{polarized } d, d)$ $E=79.2$ MeV; measured $\sigma(E(^3\text{He}))$, $\sigma(\theta)$, vector analyzing powers; deduced optical model parameters. ^{47}K levels deduced J , π , configurations.

85Ba15 *The Excited Dipole Resonance: A finite-temperature sum rule approach*

M. Barranco, A. Polls, S. Marcos, J. Navarro, J. Treiner, Phys. Lett. 154B, 96 (1985).

Nuclear Structure: ^{40}Ca , ^{78}Kr , ^{127}Cs , ^{144}Gd , ^{208}Pb ; calculated GDR energy, width evolution vs excitation energy. Finite temperature sum rule approach.

85Ba16 *Doppler Shift Attenuation Measurements on ^{57}Fe and ^{57}Co*

P. Banerjee, B. Sethi, J. M. Chatterjee, P. Bhattacharya, A. K. Sengupta, Nuovo Cim. 85A, 54 (1985).

Nuclear Reactions: $^{55}\text{Mn}(\alpha, np)$, $(\alpha, 2n)$, $E=25, 28.6$ MeV; measured E_γ , I_γ , DSA. ^{57}Fe , ^{57}Co deduced levels, $T_{1/2}$, γ -branching.

85Ba17 *Muonic Atoms with Vacant Electron Shells*

R. Bacher, D. Gotta, L. M. Simons, J. Missimer, N. C. Mukhopadhyay, Phys. Rev. Lett. 54, 2087 (1985).

Atomic Physics: esic-Atoms Ne, Ar; calculated muonic Auger, radiative, Auger and Coster-Kronig transition rates.

85Ba18 *Radioactive Decay of ^{232}U by ^{24}Ne Emission*

S. W. Barwick, P. B. Price, J. D. Stevenson, Phys. Rev. C31, 1984 (1985).

Radioactivity: $^{232}\text{U}(\alpha)$, (^{24}Ne); measured $T_{1/2}(^{24}\text{Ne})$; deduced branching ratio relative to α decay. Plastic track recording film.

85Ba19 *Influence of Collective Degrees of Freedom on the Nucleon Density Distribution in the Nuclear Ground State according to the Adiabatic Time-Dependent Hartree-Fock Theory*

B. I. Barts, V. I. Kuprikov, Ukr. Fiz. Zh. 30, 11 (1985).

Nuclear Structure: ^{16}O , 40 , ^{48}Ca , ^{90}Zr , 48 , ^{50}Ti ; calculated nucleon density distribution collective zero-point fluctuations dependence. Adiabatic TDHF formalism.

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

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

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

85Ba21 *Hyperfine Spectrum of ^{207}Bi by Absorption Spectroscopy: Isotope shift systematics in heavy elements*

M. Barboza-Flores, O. Redi, H. H. Stroke, Z. Phys. A321, 85 (1985).

Radioactivity: $^{207}\text{Bi}(\beta^+)$, (EC) [from $^{208}\text{Pb}(p, 2n)$, $E=30$ MeV]; measured optical hfs; deduced magnetic dipole, electric quadrupole hfs interaction constant. 207 , ^{209}Bi deduced relative isotope shift. Absorption spectroscopy.

85Ba22 *Possible Shape-Change Observed at High Spin in ^{123}Cs*

V. Barci, H. El-Samman, A. Gizon, J. Gizon, T. Bengtsson, Y. Gono, Z. Phys. A321, 353 (1985).

Nuclear Reactions: $^{115}\text{In}(^{12}\text{C}, 4n\gamma)$, $E=80$ MeV; measured $\gamma\gamma$ -coin; deduced energy-energy correlation spectra. ^{123}Cs deduced collective moment of inertia, nuclear shape. Enriched target, NaI(Tl) and Ge detectors.

85Ba23 *Complete Fusion and Quasifission in Reactions between Heavy Ions*

B. B. Back, Phys. Rev. C31, 2104 (1985).

Nuclear Reactions: $^{208}\text{Pb}(^{19}\text{F},\text{X})$, $(^{19}\text{F},\text{F})$, ^{232}Th , $^{238}\text{U}(^{16}\text{O},\text{X})$, $(^{16}\text{O},\text{F})$, $E=100\text{-}200\text{ MeV}$; $^{208}\text{Pb}(^{24}\text{Mg},\text{X})$, $(^{28}\text{Si},\text{X})$, $(^{32}\text{S},\text{X})$, $(^{24}\text{Mg},\text{F})$, $(^{28}\text{Si},\text{F})$, $(^{32}\text{S},\text{F})$, $E=200\text{-}300\text{ MeV}$; $^{197}\text{Au}(^{32}\text{S},\text{X})$, $(^{32}\text{S},\text{F})$, $E=185\text{-}225\text{ MeV}$; $^{208}\text{Pb}(^{32}\text{S},\text{X})$, $(^{32}\text{S},\text{F})$, $E=198\text{-}250\text{ MeV}$; calculated fusion, fission $\sigma(E)$; deduced fission saddle point role.

85Ba24 *Charge Symmetry Violation in the Structure of the ^3H - ^3He System*

S. Barshay, L. M. Sehgal, Phys. Rev. C31, 2133 (1985).

Nuclear Structure: ^3H , ^3He ; calculated charge form factors, point nucleon density. Geometrical model, short-range three-nucleon correlation.

Nuclear Reactions: ^3H , $^3\text{He}(\pi^+, \pi^+)$, (π^-, π^-) , $E=180$ MeV; calculated $\sigma(\pi^+)/\sigma(\pi^-)$; deduced charge symmetry violation. Geometrical model, short-range three-nucleon correlation.

85Ba25 *M1 Transition Strength in the $SU(3)$ Limit of the Generalized IBM-2*

B. R. Barrett, P. Halse, Phys. Lett. 155B, 133 (1985).

Nuclear Structure: ^{156}Gd ; analyzed B(M1) interpretation. Interacting boson model, generalized $SU(3)$ limit, arbitrarily large boson number.

85Ba26 *An Analysis of the Correlated Densities in a System of Four Structureless α -Particles*

C. -G. Bao, T. K. Lim, W. -Q. Chao, Nucl. Phys. A439, 456 (1985).

Nuclear Structure: ^{16}O ; calculated level one-body densities, form factor, shape density. Four structureless α -particles.

85Ba27 *Density Distribution Differences of Protons in $^{16}, ^{18}\text{O}$ from Ratios of π^+ Elastic Scattering Cross Sections*

B. M. Barnett, W. Gyles, R. R. Johnson, R. Tacik, K. L. Erdman, H. W. Roser, D. R. Gill, E. W. Blackmore, S. Martin, C. A. Wiedner, R. J. Sobie, T. E. Drake, J. Alster, Phys. Lett. 156B, 172 (1985).

Nuclear Reactions: $^{16}, ^{18}\text{O}(\pi^+, \pi^+)$, $E=48.3, 62.8$ MeV; measured $\sigma(\theta)$, ratios. $^{18}, ^{16}\text{O}$ deduced proton density distribution differences.

85Ba28 *Neutron Emission from the Compound Nucleus ^{26}Al*

M. Baldo, G. Lanzano, A. Pagano, A. Palmeri, S. Aiello, G. Piccitto, Y. Cassagnou, R. A. Dayras, J. Fouan, L. Rodriguez, Phys. Lett. 156B, 181 (1985).

Nuclear Reactions: $^{12}\text{C}(^{14}\text{N}, n\alpha)$, $(^{14}\text{N}, np\alpha)$, $(^{14}\text{N}, n2p)$, $(^{14}\text{N}, np)$, $E=48$ MeV; measured $n\gamma$ -coin, $\sigma(E_n, \theta_n)$; deduced statistical model validity channel dependence.

85Ba29 *Angular Distributions in Heavy-Ion-Induced Fission*

B. B. Back, R. R. Betts, J. E. Gindler, B. D. Wilkins, S. Saini, M. B. Tsang, C. K. Gelbke, W. G. Lynch, M. A. McMahan, P. A. Baisden, Phys. Rev. C32, 195 (1985); Erratum Phys. Rev. C33, 385 (1986).

Nuclear Reactions: ICPND ^{208}Pb , ^{232}Th , ^{238}U , ^{248}Cm (^{16}O , F), E=85-148 MeV; ^{208}Pb (^{19}F ,F), E=110-190 MeV; ^{208}Pb (^{24}Mg ,F), E=140-210 MeV; ^{208}Pb (^{28}Si , F), E=160-260 MeV; ^{197}Au (^{32}S ,F), E=185-255 MeV; ^{208}Pb (^{32}S ,F), E=180-266 MeV; measured total fission $\sigma(E)$, $\sigma(\theta)$ vs E. Standard fission theory analysis.

85Ba30 *Proton-Nucleon Spin-Rotation and -Depolarization Parameters at 800 MeV*

M. L. Barlett, G. W. Hoffmann, J. A. McGill, B. Hoistad, L. Ray, R. W. Fergerson, E. C. Milner, J. A. Marshall, J. F. Amann, B. E. Bonner, J. B. McClelland, Phys. Rev. C32, 239 (1985).

Nuclear Reactions: ^1H , $^1\text{n}(\text{polarized p,p})$, $E=800\text{ MeV}$; measured spin polarization, depolarization parameters vs θ . Liquid deuterium target.

85Ba31 *Collective M1 States in the Classical Limit of the Neutron-Proton Interacting Boson Model*

A. B. Balantekin, B. R. Barrett, Phys. Rev. C32, 288 (1985).

Nuclear Structure: 152 , 154 , 156 Gd; calculated n-p antisymmetric M1 state vs Majorana term parameter. Interacting boson model.

85Ba32 *NMR Study of Electric Quadrupole Interactions in GdCo₂*

A. C. Barata, A. P. Guimaraes, Physica 130B, 484 (1985).

Nuclear Moments: +59}Co; measured NMR; deduced electric quadrupole interactions in GdCo₂.

85Ba33 *Microscopic DWIA Analysis of the (p,n) Reactions*

J. Bang, S. A. Fayans, F. A. Gareev, S. N. Ershov, N. I. Pyatov, Nucl. Phys. A440, 445 (1985); Erratum Nucl. Phys. A457, 742 (1986).

Nuclear Reactions: $^{90}\text{Zr}(p,n)$, $E=120, 200$ MeV; $^{208}\text{Pb}(p,n)$, $E=120, 160, 200$ MeV; $^{48}\text{Ca}(p,n)$, $E=160$ MeV; calculated $\sigma(\theta)$. Microscopic DWIA analysis.

85Ba34 *A Straightforward Model-Independent Determination of the Complete Scattering Matrix for Reactions Involving Zero-Spin Particles*

Z. Basrak, F. Auger, Nucl. Phys. A441, 150 (1985).

Nuclear Reactions: $^{12}\text{C}(^{12}\text{C},\alpha)$, $E(\text{cm})=4.28\text{-}4.68$ MeV; analyzed $\sigma(\theta)$. Model independent S-matrix determination.

85Ba35 *The U(3) Principle Causes Nuclear Molecular Resonances*

R. Bader, P. Kramer, Nucl. Phys. A441, 174 (1985).

Nuclear Reactions: $^{16}\text{O}(^{16}\text{O},\text{X})$, E not given; calculated molecular resonance fragmentation; deduced U(3) representation role.

85Ba36 *Resonant-Absorption Measurements of Attosecond Lifetimes*

E. L. Bakkum, P. G. Bouwknegt, C. Van Der Leun, Nucl. Phys. A441, 209 (1985).

Nuclear Reactions: $^{23}\text{Na}(\gamma, \gamma)$, $E=7.89, 4.43$ MeV; measured $\sigma(E\gamma)$. ^{23}Na deduced $T_{1/2}$.

85Ba37 *Transient NMR/ON of $^{56}\text{Co}(\text{Fe})$*

P. J. Back, D. H. Chaplin, H. R. Foster, G. A. Stewart, G. V. H. Wilson, *Hyperfine Interactions* 22, 193 (1985).

Radioactivity: $^{56}\text{Co}(\beta^+)$, (EC); measured NMR, oriented nuclei in Fe; deduced electric field gradient, spin echo. Adiabatic fast passage technique.

85Ba38 *Nonrelativistic Distorted Wave Born Approximation Predictions for 500 MeV ($p(pol),p(pol)$) Spin-Rotation Observables*

M. L. Barlett, G. W. Hoffmann, L. Ray, Phys. Lett. 158B, 289 (1985).

Nuclear Reactions: ^{40}Ca , ^{208}Pb (polarized p,p'), $E=500$ MeV; calculated spin rotation parameter vs θ ; deduced phenomenological effective interaction role. Nonrelativistic DWBA.

85Ba39 *Resonances in the ^4H System*

A. M. Badalyan, T. I. Belova, N. B. Konyukhova, V. D. Efros, Yad. Fiz. 41, 1460 (1985).

Nuclear Structure: ^4H ; calculated resonances. Central nucleon-nucleon potentials, microscopic model.

85Ba40 *On Extended Model of Interacting Bosons*

K. B. Baktybaev, A. B. Kabulov, Yad. Fiz. 41, 1470 (1985).

Nuclear Structure: ^{238}U ; calculated levels, band structure. Interacting boson model.

85Ba41 *Nucleon Charge Radius from QCD Sum Rules*

I. I. Balitsky, A. V. Kolesnichenko, A. V. Yung, Phys. Lett. 157B, 309 (1985).

Nuclear Structure: ^1H , ^1n ; calculated charge radii. Quantum chromodynamic sum rules.

85Ba42 *Forward Glory and the Determination of the Nuclear Forward Amplitude from Heavy-Ion Elastic Scattering*

J. Barrette, N. Alamanos, Nucl. Phys. A441, 733 (1985).

Nuclear Reactions: $^{58}\text{Ni}(^{18}\text{O}, ^{18}\text{O})$, $E(\text{cm})=48.4$, 35 MeV; $^{12}\text{C}(^{12}\text{C}, ^{12}\text{C})$, $E(\text{cm})=20$ MeV; calculated $\sigma(\theta)$, nuclear amplitude, deflection function vs θ , sum of difference $\sigma(\theta)$.

85Ba43 *Unambiguous Phase-Shift Analysis of the $^{12}\text{C}(^{12}\text{C}, \alpha)^{20}\text{Ne}$ Reaction at Coulomb-Barrier Energies*

Z. Basrak, W. Tiereth, N. Bischof, H. Frohlich, B. Nees, E. Nieschler, H. Voit, Phys. Rev. C32, 910 (1985).

Nuclear Reactions: $^{12}\text{C}(^{12}\text{C}, \alpha)$, $E=11.38\text{-}12.23$ MeV; measured $\sigma(\theta)$. ^{24}Mg deduced quasimolecular resonances, Γ , J , π . Differentially pumped C_3H_8 gas target. Phase shift analysis.

85Ba44 *Inner Bremsstrahlung Accompanying β Decay of ^{147}Pm*

B. R. S. Babu, A. Basavaraju, P. Venkataramaiah, K. Gopala, H. Sanjeeviah, Phys. Rev. C32, 1010 (1985).

Radioactivity: $^{147}\text{Pm}(\beta^-)$; measured inner bremsstrahlung spectra following nonunique first-forbidden β -decay.

85Ba45 *Microscopic Description of Nucleus-Nucleus Bremsstrahlung*

D. Baye, P. Descouvemont, Nucl. Phys. A443, 302 (1985).

Nuclear Reactions: ${}^4\text{He}(\alpha, \alpha)$, $E=1-11$ MeV; calculated phase shifts. ${}^4\text{He}(\alpha, \gamma)$, $E=5-10.5$ MeV; calculated bremsstrahlung $\sigma(\theta_1, \theta_2)$, radiative capture $\sigma(E)$. Generator coordinate formalism.

85Ba46 *Preparation of ^{237}Pu from ^{237}Np Irradiated with Deuterons*

S. Baba, K. Hata, M. Izumo, R. Motoki, T. Sekine, Int. J. Appl. Radiat. Isotop. 36, 564 (1985).

Nuclear Reactions: ICPND $^{237}\text{Np}(\text{d},\text{n})$, $(\text{d},2\text{n})$, $(\text{d},3\text{n})$, $E=9\text{-}25\text{ MeV}$; measured residuals production $\sigma(E)$, thick target yields.
 $^{237}\text{Np}(\text{d},2\text{n})$, (d,p) , $(\text{d},2\text{np})$, $E=9\text{-}25\text{ MeV}$; measured residuals production $\sigma(E)$. Activation technique.

85Ba47 *Single-Neutron States at High Spins in Ytterbium Nuclei; evidence for the quenching of static neutron pair correlations*

J. C. Bacelar, M. Diebel, C. Ellegaard, J. D. Garrett, G. B. Hagemann, B. Herskind, A. Holm, C. -X. Yang, J. -Y. Zhang, P. O. Tjom, J. C. Lisle, Nucl. Phys. A442, 509 (1985).

Nuclear Reactions: $^{124}\text{Sn}(^{48}\text{Ca},3\text{n})$, $(^{48}\text{Ca},4\text{n})$, $(^{48}\text{Ca},5\text{n})$, $E=201\text{ MeV}$; measured $E(\gamma)$, $\gamma\gamma$ -coin, $\gamma(\theta)$. $^{154}\text{Sm}(^{18}\text{O},4\text{n})$, $E=78\text{ MeV}$; measured $\gamma(\theta)$; deduced static neutron-pair correlations. 167 , ^{168}Yb deduced levels, J , π , rotational bands. Cranking-model, and gauge-space analysis.

85Ba48 *Study of 170 , 171 , ^{173}Ta Isotope at High Spins*

J. C. Bacelar, R. Chapman, J. R. Leslie, J. C. Lisle, J. N. Mo, E. Paul, A. Simcock, J. C. Willmott, J. D. Garrett, G. B. Hagemann, B. Herskind, A. Holm, P. M. Walker, Nucl. Phys. A442, 547 (1985).

Nuclear Reactions: $^{159}\text{Tb}(^{16}\text{O}, 4n)$, $E=72\text{-}84\text{ MeV}$; $^{159}\text{Tb}(^{18}\text{O}, 4n)$, $E=84\text{ MeV}$; $^{124}\text{Sn}(^{51}\text{V}, xn)$, $E=230\text{ MeV}$; measured $\gamma\gamma$ -coin, $\gamma(\theta)$. 170 , 171 , ^{173}Ta deduced levels, J , π , $T_{1/2}$, $B(M1)$, rotational band moments of inertia. Cranked shell model analysis. Enriched targets.

85Ba49 *Radiative Lifetimes and g(J) Factors of Low-lying Even-parity Levels in the Yb I Spectrum*

M. Baumann, M. Braun, A. Gaiser, H. Lienen, J. Phys. (London) B18, L601 (1985).

Atomic Physics: b; measured relative $T_{1/2}$, g(J) factors. Time resolved fluorescence spectroscopy.

85Ba50 *Determination of the Spreading Width for the Collective Transition Strength at Finite Temperature*

J. C. Bacelar, G. B. Hagemann, B. Herskind, B. Lauritzen, A. Holm, J. C. Lisle, P. O. Tjom, Phys. Rev. Lett. 55, 1858 (1985).

Nuclear Reactions: $^{124}\text{Sn}(^{48}\text{Ca}, xn)$, $E=200$ MeV; measured $\gamma\gamma$ -coin. ^{168}Yb deduced quasicontinuum E2 transitions, associated parameters. Rotational pattern damping with increasing temperature.

85Ba51 *Nuclei Containing an Antinucleon*

A. J. Baltz, C. B. Dover, M. E. Sainio, A. Gal, G. Toker, Phys. Rev. C32, 1272 (1985).

Nuclear Reactions: ^3He , ^4He , $^{16}\text{O}(\bar{p}, p)$, $E=80\text{-}400\text{ MeV}$; calculated $\sigma(\theta)$; deduced anti-nucleon nuclei formation σ .

85Ba52 *Temperature Dependence of Collective States in Hot Nuclei*

J. Bar-Touv, Phys. Rev. C32, 1369 (1985).

Nuclear Structure: ^{40}Ca ; calculated single nucleon states, rms radius. TDHF.

Nuclear Reactions: $^{40}\text{Ca}(\gamma, X)$, $E=10\text{-}30$ MeV; calculated isovector dipole photoabsorption $\sigma(E)$, temperature dependence. TDHF.

85Ba53 *E4 Systematics and the Interacting-Boson Model*

F. T. Baker, Phys. Rev. C32, 1430 (1985).

Nuclear Structure: A=155-190; calculated E2, E4 transition reduced matrix elements; analyzed systematics; deduced g-boson inclusion necessity. Interacting boson model.

85Ba54 *Nucleon Charge Radius from the QCD Sum Rules*

Ya. Ya. Balitsky, A. V. Kolesnichenko, A. V. Yung, Yad. Fiz. 42, 467 (1985).

Nuclear Structure: ^1H , ^1n ; calculated charge radius. QCD sum rule, small momentum transfer process.

85Ba55 *RPA Sum Rules for Giant Resonances at Finite Temperature*

M. Barranco, A. Polls, J. Martorell, Nucl. Phys. A444, 445 (1985).

Nuclear Structure: ^{40}Ca , ^{90}Zr , ^{120}Sn , ^{208}Pb ; calculated giant multipole resonances. Finite temperature, RPA.

85Ba56 *Neutron Yield in High-Energy Deuteron-Nuclear Reactions*

V. S. Barashenkov, L. G. Levchuk, Zh. Zh. Musulmanbekov, A. N. Sosnin, S. Yu. Shmakov, At. Energ. 58, 145 (1985); Sov. At. Energy 58, 174 (1985).

Nuclear Reactions: $^{235}, ^{238}\text{U}(\text{p}, \text{xn}), (\text{d}, \text{xn})$, $E=1, 2 \text{ GeV}$; calculated neutron yields following fission, capture. Monte Carlo techniques, hadron, deuteron interactions with nuclei.

85Ba57 *Absence of Delayed Fission in the β^- -Decay of 2.3 min ^{238}Pa*

A. Baas-May, J. V. Kratz, N. Trautmann, Z. Phys. A322, 457 (1985).

Radioactivity: $^{238}\text{Pa}(\beta^-)$ [from $^{238}\text{U}(\text{n,p})$, $E=14.7$ MeV]; measured β -delayed fission probability upper limit. Fission track detectors.

85Ba58 *Inner Bremsstrahlung accompanying β Decay of ^{86}Rb*

B. R. S. Babu, P. Venkataramaiah, K. Gopala, H. Sanjeeviah, J. Phys. (London) G11, 1213 (1985).

Radioactivity: $^{86}\text{Rb}(\beta^-)$, (EC); measured inner bremsstrahlung following β -decay. Liquid source, magnetic deflection technique, NaI(Tl) crystal detector.

85Ba59 *Evidence for a Direct Three-Nucleon Pion-Absorption Process*

G. Backenstoss, M. Izycki, P. Salvisberg, M. Steinacher, P. Weber, H. J. Weyer, S. Cierjacks, S. Ljungfelt, H. Ullrich, M. Furic, T. Petkovic, Phys. Rev. Lett. 55, 2782 (1985).

Nuclear Reactions: $^3\text{He}(\pi^+, 2p)$, (π^-, pn) , E at 220 MeV/c; measured $\sigma(\theta_p)$; deduced direct three-nucleon pion absorption mechanism.

85Ba60 *Characterization of Gross-Structure Resonances in Angular-Momentum-Mismatched Channels in Heavy-Ion Collisions*

D. P. Balamuth, T. Chapuran, C. M. Laymon, W. K. Wells, D. P. Bybell, Phys. Rev. Lett. 55, 2842 (1985).

Nuclear Reactions: $^{16}\text{O}(^{16}\text{O}, ^{16}\text{O}')$, $E(\text{cm})=17\text{-}41$ MeV; measured $\sigma(\theta)$, mutual, single excitations. ^{32}S deduced resonances, L, J.

85Ba61 *Charge Division Mechanism in Low Energy Binary Fission and the Passage of Prompt Fragments towards the β -Stable Products in Terms of the Double Core Model*

P. Basu, P. Bhattacharya, M. L. Chatterjee, Pramana 25, 165 (1985).

Nuclear Structure: ^{236}U , ^{252}Cf , ^{254}Fm ; calculated fission fragment most probable Z, mass values, yields, average neutron number, β -emission per fragment. Double core binary fission model.

85Ba62 *Quantum Corrections to the Collective Hamiltonian of the Adiabatical Time-Dependent Hartree-Fock Theory*

B. I. Barts, V. I. Kuprikov, Yad. Fiz. 42, 608 (1985).

Nuclear Structure: ^{16}O , ^{40}Ca , ^{60}Ni , ^{90}Zr , ^{208}Pb ; calculated ground state characteristics, rms radii; deduced collective degrees of freedom role. Adiabatical TDHF, quantum corrections, collective Hamiltonian.

85Ba63 *Description of Light-Ion Collisions in the Time-Dependent Cluster Model*

W. Bauhoff, E. Caurier, B. Grammaticos, M. Ploszajczak, Phys. Rev. C32, 1915 (1985).

Nuclear Reactions: ICPND $^{12}\text{C}(^{12}\text{C},\text{X})$, E(cm) 9-45 MeV; calculated fusion $\sigma(\text{E})$.

85Ba64 *g Bosons and the Third 4^+ State in ^{192}Os*

F. T. Baker, A. Sethi, V. Penumetcha, G. T. Emery, W. P. Jones, M. A. Grimm, M. L. Whiten, Phys. Rev. C32, 2212 (1985).

Nuclear Reactions: $^{192}\text{Os}(\text{polarized p,p'})$, $E=135\text{ MeV}$; measured $\sigma(Ep')$, $\sigma(\theta)$. ^{192}Os deduced 4^+ states, reduced matrix elements, intruder characteristics.

85Ba65 *Dibaryon Resonances and Description of Polarization Phenomena in the Deuteron Photodisintegration at Photon Energy up to 400 MeV*

V. P. Barannik, Yu. V. Kulish, Ukr. Fiz. Zh. 30, 1146 (1985).

Nuclear Reactions: $^2\text{H}(\gamma, p)$, (polarized γ, p), $E=100\text{-}400$ MeV; analyzed $\sigma(\theta)$, proton polarization $P(\theta)$, γ -asymmetry, polarized deuteron asymmetry vs θ ; deduced dibaryon role.

85Ba66 *Energy Distribution and Yield of Neutrons from the (p,n) Reaction in Thick LiF Targets*

F. M. Baumann, B. Bruggemann, H. Freiesleben, Th. Grodotzki, H. Chr. Hilber, Nucl. Instrum. Methods 238, 443 (1985).

Nuclear Reactions: Li, F(p,n), $E \leq 7$ MeV; measured thick target yields, $\sigma(E_n)$. Natural LiF target.

85Ba67 *X-e⁻ Coincidence Mossbauer Scattering Experiment*

J. J. Bara, B. F. Bogacz, Nucl. Instrum. Methods 238, 469 (1985).

Nuclear Reactions: $^{57}\text{Fe}(\gamma, \gamma)$, E=14.4 keV; measured (X-ray)(ce)-coin; deduced Mossbauer effect enhancement.

85Ba68 *States of ^5He and ^5Li*

F. C. Barker, C. L. Woods, Aust. J. Phys. 38, 563 (1985).

Nuclear Structure: ^5He , ^5Li ; calculated levels, spectroscopic factors, Γ . Shell model.

85Ba69 *Possible Existence in Transition Nuclei of Long-Lived High-Lying States with a Nonzero Spin: Dynamic nonaxial isomers*

B. I. Barts, E. V. Inopin, N. A. Shlyakhov, Pisma Zh. Eksp. Teor. Fiz. 41, 537 (1985); JETP Lett. (USSR) 41, 657 (1985).

Nuclear Structure: ^{194}Pt ; calculated dynamical nonaxial isomers, E2 transition reduced probabilities; deduced vibration, rotation adiabaticity role in critical angular momentum.

85Ba70 *Three-Body Forces and a New Approach to Calculating the Difference in Binding Energy between ^3H and ^3He*

S. Barshay, Prog. Theor. Phys. (Kyoto) 74, 1077 (1985).

Nuclear Structure: ^3H , ^3He ; calculated binding energy differences. Three-body correlations.

85Ba71 *Features of Inner Brehmsstrahlung from β Decays of Nuclei in Single Crystals*

I. S. Batkin, I. V. Kopytin, Yad. Fiz. 42, 1354 (1985).

Nuclear Structure: C, ^9Be , ^{27}Al , Si, Fe, Cu, Ge, W, Pb; calculated inner bremsstrahlung following β -decay. Nuclei in single crystals.

85Ba72 *Deuteron-Proton Scattering in the Small Energy Range*

I. Ya. Barit, L. S. Dulkova, E. V. Kuznetsova, N. M. Sobolevsky, Ukr. Fiz. Zh. 30, 1630 (1985).

Nuclear Reactions: $^1\text{H}(\text{d},\text{d})$, $E=0.9\text{-}6$ MeV; analyzed $\sigma(\theta)$, phase shift data. Three-nucleon Faddeev calculations, Coulomb interaction, effective range theory phase shift analysis.

85Ba73 *Decay of Long-Lived ^{129}I*

G. Barci-Funel, M. C. Kouassi, G. Ardisson, Nucl. Instrum. Methods 241, 252 (1985).

Radioactivity: $^{129}\text{I}(\beta^-)$; measured E_γ , I_γ , E X-ray, I (X-ray); deduced absolute intensities. ^{129}Xe transition deduced ICC.

85Ba74 *Inelastic Scattering of ^{32}S on ^{28}Si*

A. Baeza, B. Bilwes, R. Bilwes, J. Diaz, J. L. Ferrero, J. Raynal, Nucl. Phys. A437, 93 (1985).

Nuclear Reactions: $^{28}\text{Si}(^{32}\text{S}, ^{32}\text{S}), (^{32}\text{S}, ^{32}\text{S}')$, $E=77, 90, 97.09$ MeV; measured $\sigma(\theta)$; deduced reaction mechanism, total σ . ^{28}Si levels deduced excitation σ .

85Ba75 *Calculation of the $^{13}\text{N}(p,\gamma)^{14}\text{O}$ Cross Section at Low Energies*

F. C. Barker, Aust. J. Phys. 38, 657 (1985).

Nuclear Structure: ^{14}O ; calculated levels, Γ , Γ_{γ_0} . Shell model.

Nuclear Reactions: $^{13}\text{N}(p,\gamma)$, E 0-0.8 MeV; calculated astrophysical factor $S(E)$. R-matrix approach, ^{14}C , ^{14}N , ^{14}O data fit.

85Ba76 *Inelastic Interaction of Antiprotons with ^4He Nuclei between 200 and 600 MeV/c*

F. Balestra, S. Bossolasco, M. P. Busa, L. Ferrero, D. Panzieri, G. Piragino, F. Tosello, C. Guaraldo, A. Maggiora, Yu. A. Batusov, I. V. Falomkin, G. B. Pontecorvo, M. G. Sapozhnikov, G. Bendiscioli, V. Filippini, G. Fumagalli, C. Marciano, A. Rotondi, A. Zenoni, E. Lodi Rizzini, M. Vascon, G. Zanella, Phys. Lett. 165B, 265 (1985).

Nuclear Reactions: $^4\text{He}(\bar{p}, X)$, $E=19.6, 48.7$ MeV; measured reaction σ ; deduced pion multiplicity, ^3He production σ .

85Ba77 *Influence of α -Nucleus ALAS Potential on the $^{40}\text{Ca}(\alpha, p)^{43}\text{Sc}$ Reaction*

Bao Xiumin, Li Shuming, Wang Yuanda, Yuan Rongfang, Huang Bingyin, Sun Zuxun, Chin. J. Nucl. Phys. 7, 226 (1985).

Nuclear Reactions: $^{40}\text{Ca}(\alpha, p)$, $E=25.8$ MeV; measured $\sigma(\theta)$; deduced α -nucleus potential character. DWBA analysis.

85Ba78 *Calculating Hyperfine Splittings for Highly Ionized Atoms*

I. M. Band, M. A. Listengarten, M. G. Trzhaskovskaya, *Izv. Akad. Nauk SSSR, Ser. Fiz.* 49, 2202 (1985); *Bull. Acad. Sci. USSR, Phys. Ser.* 49, No. 11, 112 (1985).

Nuclear Moments: +6}, ${}^7\text{Li}$, ${}^9\text{Be}$, ${}^{10}\text{B}$, ${}^{11}\text{B}$, ${}^{13}\text{C}$, ${}^{14}\text{N}$, ${}^{15}\text{N}$, ${}^{17}\text{O}$, ${}^{19}\text{F}$, ${}^{21}\text{Ne}$, ${}^{23}\text{Ne}$, ${}^{25}\text{Mg}$, ${}^{27}\text{Al}$, ${}^{29}\text{Si}$, ${}^{31}\text{P}$, ${}^{33}\text{S}$, ${}^{35}\text{S}$, ${}^{37}\text{Cl}$, ${}^{39}\text{K}$, ${}^{41}\text{K}$, ${}^{43}\text{Ca}$, ${}^{45}\text{Sc}$, ${}^{47}\text{Ti}$, ${}^{49}\text{Ti}$, ${}^{51}\text{V}$, ${}^{53}\text{Cr}$, ${}^{55}\text{Mn}$, ${}^{57}\text{Fe}$, ${}^{59}\text{Co}$, ${}^{61}\text{Ni}$; calculated hyperfine splitting constants. Sobelman's method.

85BaYY

Conference proceedings: Leningrad, P536,Barts

Nuclear Structure: ^{238}U ; calculated ground state band. Vibration-rotation model.

85BaYZ

Conference proceedings: Leningrad, P307, Barit

Nuclear Reactions: $^4\text{He}(\text{polarized } d, d)$, $E=1.057, 1.067, 1.084, 1.100, 1.115, 1.131, 1.147$ MeV; measured analyzing powers vs E . Phase-shift analysis.

85BaZA *Measurement of the Excitation Cross Section of the Isomer ^{180}Ta ($T_{1/2} \geq 10^{13}$ Year) in the (p,n) Reaction*

V. G. Baty, E. A. Skakun, Yu. N. Rakivnenko, O. A. Rastrepin, Program and Theses, Proc. 35th Ann. Conf. Nucl. Spectrosc. Struct. At. Nuclei, Leningrad, p. 290 (1985).

Nuclear Reactions: $^{180}\text{Hf}(p,n)$, $E=6.18\text{-}8.18$ MeV; measured $^{180\text{m}}\text{Ta}$ production $\sigma(E)$.

85BaZB

Conference proceedings: Leningrad, P288,Baty

Nuclear Reactions: $^{90}, ^{92}, ^{96}\text{Zr}(p,n)$, $E=4-9$ MeV; measured $\sigma(E)$, residual ^{90m}Nb , ^{92m}Nb yields vs E . Activation technique, Ge(Li) detector.

85BaZC

Conference proceedings: Leningrad, P285,Baty

Nuclear Reactions: $^{92}\text{Mo}(p,\gamma)^{93}\text{Tc}/^{93\text{m}}\text{Tc}$, $E=6.3\text{-}8.1$ MeV; measured ^{93}Tc isomeric to ground state production σ ratio vs E . Statistical theory. Activation technique.

⁸⁵BaZD

Conference proceedings: Leningrad, P62, Baskova

Nuclear Reactions: ⁷⁰Ge, ¹⁵⁹Tb, ¹⁸⁰W(α ,n), E=12-31 MeV; measured residuals isomeric to ground state production σ ratio vs E.

85BaZE

Conference proceedings: Leningrad, P299, Balabanov

Nuclear Reactions: ^{65}Zn , $^{145}\text{Sm}(\text{n}, \alpha)$, $E < 1 \text{ keV}$; measured $\sigma(E)$. ^{66}Zn , ^{146}Sm resonances deduced $\Gamma\alpha$ upper limit. Tof.

85BaZF

Conference proceedings: Leningrad, P131, Balodis

Nuclear Reactions: $^{176}\text{Lu}(n,n'\gamma)$, E=fast; $^{175}\text{Lu}(n,\gamma)$, E=thermal; measured E_γ , I_γ . ^{176}Lu deduced levels, J, π .

85BaZG

Conference proceedings: Leningrad, P79,Baskova

Nuclear Reactions: $^{113}\text{Cd}(n,n'\gamma)$, E=fast; measured E_γ , I_γ , linear polarization. ^{113}Cd deduced levels, J, π , δ .

⁸⁵BaZH

Conference proceedings: Leningrad, P77, Baskova

Nuclear Reactions: $^{111}\text{Cd}(n, n'\gamma)$, $E=\text{fast}$; measured E_γ , $\gamma(\theta)$, linear polarization. ^{111}Cd deduced levels, J , π , δ .

⁸⁵BaZl

Conference proceedings: Leningrad, P509, Bazhenov

Radioactivity: ¹⁰³Pd(EC); measured absolute I_γ, I(K X-ray); deduced K-capture probability.

85BaZJ *Preparation of ^{237}Pu from ^{237}Np Irradiated with Deuterons*

S. Baba, K. Hata, T. Sekine, M. Izumo, R. Motoki, JAERI Ann. Rept., 1984, p. 147 (1985).

Nuclear Reactions: $^{237}\text{Np}(\text{d},2\text{n})$, $E=10\text{-}25\text{ MeV}$; measured $\sigma(E)$.

85BaZK *Decay of the Compound Nuclei Produced in the Reactions of ^{197}Au Induced by ^{16}O and ^{12}C*

S. Baba, K. Hata, T. Sekine, Y. Nagame, S. Ichikawa, N. Shinohara, H. Baba, T. Saito, A. Yokoyama, N. Takahashi, M. Shoji, I. Fujiwara, JAERI Ann. Rept., 1984, p. 132 (1985).

Nuclear Reactions: $^{197}\text{Au}(^{16}\text{O},4\text{n})$, $(^{16}\text{O},5\text{n})$, $(^{16}\text{O},6\text{n})$, $(^{16}\text{O},\text{F})$, $E=80\text{-}150\text{ MeV}$; $^{197}\text{Au}(^{12}\text{C},3\text{n})$, $(^{12}\text{C},4\text{n})$, $(^{12}\text{C},5\text{n})$, $(^{12}\text{C},6\text{n})$, $(^{12}\text{C},\text{F})$, $E=60\text{-}125\text{ MeV}$; measured fission, reaction $\sigma(E)$; deduced fission barrier, reaction mechanism.

85BaZL *Mass and Kinetic Energy Distribution of the Fusion Fission by Heavy Ions*

H. Baba, T. Saito, N. Takahashi, A. Shinohara, A. Yokoyama, I. Fujiwara, M. Furukawa, Y. Hamajima, Osaka Univ. Lab. Nucl. Studies Ann. Rept., 1984, p. 122 (1985).

Nuclear Reactions: $^{209}\text{Bi}(^{14}\text{N},\text{F})$, $E=140$ MeV; measured fission fragment mass distribution, fragment kinetic energy.

85BaZM *Decay of the Compound Nuclei Produced in the Reactions of ^{197}Au Induced by ^{16}O and ^{12}C*

H. Baba, S. Baba, K. Hata, S. Ichikawa, Y. Nagame, T. Saito, T. Sekine, N. Shinohara, M. Shoji, T. Suzuki, N. Takahashi, A. Yokoyama, Osaka Univ. Lab. Nucl. Studies Ann. Rept., 1984, p. 113 (1985).

Nuclear Reactions: $^{197}\text{Au}(^{16}\text{O},4n)$, $(^{16}\text{O},5n)$, $(^{16}\text{O},6n)$, $(^{16}\text{O},7n)$, $(^{16}\text{O},F)$, $E=80\text{-}150\text{ MeV}$; $^{197}\text{Au}(^{12}\text{C},3n)$, $(^{12}\text{C},4n)$, $(^{12}\text{C},5n)$, $(^{12}\text{C},6n)$, $(^{12}\text{C},F)$, $E=60\text{-}125\text{ MeV}$; measured reaction, fission $\sigma(E)$. ^{213}Fr , ^{209}At deduced fission barriers. ALICE code.

85BaZN

Report: KVI 1985 Ann, P47, Balster

Nuclear Reactions: $^{159}\text{Tb}(^{14}\text{N}, \text{X})$, $E=11\text{-}22$ MeV/nucleon; measured (particle)(X-ray)-coin; deduced missing charge channel role.

85BaZO

Report: KVI 1984 Ann, P42,Bakkum

Nuclear Reactions: ^{12}C , ^{27}Al , ^{51}V , $^{52}\text{Cr}(^{20}\text{Ne}, \text{X})$, $E=11, 15 \text{ MeV/nucleon}$; measured fragment mass vs energy. Tof, $\Delta E-E$ method.

85BaZP

Report: RCNP Osaka, 1984 Ann,P122,Baba

Nuclear Reactions: $^{209}\text{Bi}(^{14}\text{N},\text{F})$, $E=140\text{ MeV}$; measured fission fragment yield, kinetic energy vs mass. Fission following fusion.

85BaZQ

Journal: DABBB 46, 1217, Barlow

Nuclear Reactions: $^1\text{H}(\text{polarized } p, \pi)$, $E=500\text{-}800\text{ MeV}$; measured $\sigma(\theta)$, spin correlation parameter vs θ .

85BaZR

Journal: BAPSA 30 1273, DB10, Barwick

Radioactivity: ^{221}Fr , ^{221}Ra , ^{226}Ra , $^{225}\text{Ac}(\alpha)$, (^{14}C); measured ^{14}C -decay characteristics; deduced odd-even effect implications. ^{233}U , ^{240}Pu , ^{241}Am , $^{249}\text{Cf}(\alpha)$, (^{14}C); measured ($^{14}\text{C}/\alpha$) branching ratio.

85BaZS

Journal: BAPSA 30 1266, CC12,Bacelar

Radioactivity: $^{159}\text{Er}(\beta^+)$, (EC); $^{160}\text{Er}(\text{EC})$; $^{165}\text{Yb}(\text{EC})$, (β^+) ; $^{166}\text{Yb}(\text{EC})$; measured DSA; deduced $T_{1/2}$.

85BaZT $L = 0$ Transitions in $^{106-116}\text{Cd}(p, t)$ Reactions

R. W. Bauer, J. A. Becker, I. D. Proctor, D. J. Decman, R. G. Lanier, J. A. Cizewski, Bull. Am. Phys. Soc. 30, No. 8, 1258, BC12 (1985)

Nuclear Reactions: $^{106, 108, 110, 112, 114, 116}\text{Cd}(p, t)$, $E=26$ MeV; measured $\sigma(\theta)$. $^{104, 106, 108, 110, 112, 114}\text{Cd}$ levels deduced $L=0$ transition enhancement factors.

$^{85}\text{BaZU}$

Journal: BAPSA 30 760, FE2,Ballon

Nuclear Moments: $+152\text{Gd}$; measured g; deduced μ , proton shell closure role.

85BaZV

Journal: BAPSA 30 796, IG7, Bauer

Nuclear Reactions: $^{86}, ^{87}\text{Sr}(n, \gamma)$, $E=0.00001\text{-}1\text{ MeV}$; analyzed capture $\sigma(E)$.

85BaZW

Journal: BAPSA 30 785, GH12, Barlett

Nuclear Reactions: ^{40}Ca , ^{208}Pb (polarized p,p'), E=500 MeV; analyzed $\sigma(\theta)$. ^{40}Ca , ^{208}Pb levels deduced neutron transition densities.

85BaZX

Journal: BAPSA 30 729, CG2,Balantekin

Nuclear Structure: ^{156}Gd ; calculated collective M1 state energy. Interacting boson model, classical limit.

85BaZY

Journal: BAPSA 30 708, AH9,Back

Nuclear Reactions: ^{16}O , ^{26}Mg , ^{27}Al , ^{32}S , ^{35}Cl , 40 , ^{48}Ca , ^{65}Zn (^{235}U ,X), $E=5.4\text{-}7.5$ MeV/nucleon; measured $\sigma(\text{fragment } \theta)$, mass, total kinetic energy distributions; deduced fusion, quasifusion $\sigma(E)$.

85BaZZ

Journal: BAPSA 30 702, AE13,Back

Nuclear Reactions: $^{12}, ^{14}\text{C}$ (polarized p,p), $E=19\text{-}35\text{ MeV}$; measured $\sigma(\theta)$, analyzing power vs θ . Microscopic model analysis.

85Be01 *Measurements of Atomic Level Widths in Thulium: Effect on the measurement of neutrino mass from tritium beta decay spectra*

C. L. Bennett, A. B. McDonald, P. T. Springer, T. E. Chupp, M. L. Tate, Phys. Rev. C31, 197 (1985).

Radioactivity: $^{169}\text{Yb}(\text{EC})$; measured E X-ray, I X-ray; deduced ^{169}Tm atomic level widths. $^3\text{H}(\beta^-)$; analyzed β -spectra; deduced neutrino mass limits.

85Be02 *Statistical Emission of ^2He from Highly Excited Nuclear Systems*

M. A. Bernstein, W. A. Friedman, W. G. Lynch, C. B. Chitwood, D. J. Fields, C. K. Gelbke, M. B. Tsang, T. C. Awes, R. L. Ferguson, F. E. Obenshain, F. Plasil, R. L. Robinson, G. R. Young, Phys. Rev. Lett. 54, 402 (1985).

Nuclear Reactions: ^{12}C , $^{27}\text{Al}(^{16}\text{O}, 2\text{pX})$, $E=400$ MeV; measured $\sigma(\theta_{p_1}, \theta_{p_2})$. ^{28}Si , ^{43}Sc deduced particle unstable nuclei decay channel importance.

85Be03 *The Static Electromagnetic Moments of $^{193}\text{Os}(\text{GS})$*

I. Berkes, B. Hlimi, G. Marest, J. Sau, E. H. Sayouty, K. Heyde, J. Phys. (London) G11, 287 (1985).

Nuclear Reactions: $^{193}\text{Ir}(\gamma, \gamma)$, $E=73$ keV; measured Mossbauer spectra. Oriented ^{193}Os source decay.

Radioactivity: $^{193}\text{Os}(\beta^-)$; measured $\gamma(\theta)$, oriented nuclei; deduced μ , quadrupole moment. ^{193}Ir levels deduced $\delta(E2/M1)$. Iron alloy, Ge(Li) detector, ^3He - ^4He dilution refrigerator, Mossbauer data input.

85Be04 *g Factor of 4^+_1 States in the $N = 82$ Isotones ^{136}Xe and ^{138}Ba*

Z. Berant, A. Wolf, J. C. Hill, F. K. Wohn, R. L. Gill, H. Mach, M. Rafailovich, H. Kruse, B. H. Wildenthal, G. Peaslee, A. Aprahamian, J. Goulden, C. Chung, Phys. Rev. C31, 570 (1985).

Radioactivity: ^{136}I , $^{138}\text{Cs}(\beta^-)$; measured $\gamma\gamma(\theta, H, t)$. ^{136}Xe , ^{138}Ba levels deduced g.

85Be05 Systematics of $B(E3)$ Values in the Trans-Lead Region

I. Bergstrom, B. Fant, Phys. Scr. 31, 26 (1985).

Nuclear Structure: $^{205}_{81}\text{At}$, $^{208}_{82}\text{Pb}$, $^{209}_{83}\text{Bi}$, $^{210}_{84}\text{Po}$, $^{211}_{85}\text{At}$, $^{212}_{86}\text{Rn}$, $^{213}_{87}\text{Fr}$, $^{214}_{88}\text{Ra}$, $^{215}_{89}\text{Ac}$; analyzed $B(E3)$ data; deduced E3 transition classification criteria.

85Be06 *High Spin States in ^{97}Rh*

M. Behar, A. M. J. Ferrero, A. Filevich, A. O. Macchiavelli, Z. Phys. A320, 467 (1985).

Nuclear Reactions: ICPND $^{96}\text{Ru}(\alpha, p)$, (α, n) , $(\alpha, 2n)$, (α, np) , $E=30\text{-}55\text{ MeV}$; measured $\sigma(E)$. $^{96}\text{Ru}(\alpha, 2np)$, $E=30\text{-}55\text{ MeV}$; measured $E\gamma$, $I\gamma$, $\sigma(E)$, $\gamma\gamma$ -coin, $\gamma(\theta)$. ^{97}Rh deduced levels, J , π . Enriched target, Ge(Li) detectors.

85Be07 *Effect of Chemical Environment in Probability of Radioactive Decay of ^{103}Pd*

V. S. Belyavenko, G. P. Boroznets, I. N. Vishnevsky, V. A. Zheltonozhsky, Yad. Fiz. 41, 12 (1985).

Radioactivity: $^{103}\text{Pd}(\text{EC})$; measured decay probability chemical environment dependence. Solid $^{103}\text{PdCl}_2$ and in solution.

85Be08 *Recurrent Equations of the Fixed-Scatterers Approximation (FSA)*

V. B. Belyaev, S. A. Rakityansky, Yad. Fiz. 41, 67 (1985).

Nuclear Reactions: $^2\text{H}(\pi,\pi)$, E not given; calculated scattering amplitude. Recurrence relations, fixed scatterer approximation.

85Be09 *Decay of Thermally Emitted n-p States: A means to measure their lifetime*

M. A. Bernstein, W. A. Friedman, Phys. Rev. C31, 843 (1985).

Nuclear Reactions: ^{27}Al , $^{56}\text{Fe}(^{14}\text{N}, np)$, $E=17$ MeV/nucleon; measured $\sigma(E_n)$, $\sigma(E_p)$, $\sigma(E_n, \theta_n, E_p, \theta_p)$; deduced singlet deuteron $T_{1/2}$ in compound system Coulomb field.

85Be10 *Rotational Bands and Particle-Hole Excitations at Very High Spin*

T. Bengtsson, I. Ragnarsson, Nucl. Phys. A436, 14 (1985).

Nuclear Structure: ^{187}Au , ^{158}Yb ; calculated deformation energy surfaces. ^{118}Te ; calculated yrast state energies, transition energies vs J. ^{106}Pd ; calculated yrast band, shape trajectories. 168 , 160 , ^{165}Yb , ^{168}Hf , ^{171}Ta , ^{130}Ce ; calculated transition energy vs J, yrast levels, rotational band characteristics; deduced shape changes, shape coexistence, band crossings, band termination. Cranked Nilsson-Strutinsky framework.

85Be11 *Validity of the Predictions of the Variable Moment of Inertia Model with Dynamical Asymmetry*

V. M. Belenky, E. I. Volmyansky, E. P. Grigorev, T. R. Dadamukhamedov, *Izv. Akad. Nauk SSSR, Ser. Fiz.* 49, 72 (1985); *Bull. Acad. Sci. USSR, Phys. Ser.* 49, No. 1, 75 (1985).

Nuclear Structure: ^{234}U , ^{126}Te , ^{162}Dy ; calculated ground state band levels. 118 , ^{120}Te , ^{144}Nd ; calculated irregular level energies.

85Be12 *Study of the Decay Schemes of ^{89}Mo and ^{92}Tc Nuclei*

V. S. Belyavenko, G. P. Borozenets, I. N. Vishnevsky, V. A. Zheltonozhsky, *Izv. Akad. Nauk SSSR, Ser. Fiz.* 49, 103 (1985); *Bull. Acad. Sci. USSR, Phys. Ser.* 49, No. 1, 108 (1985).

Radioactivity: ^{89}Mo ; $^{92}\text{Tc}(\beta^+)$, (EC) [from 92 , 94 , $^{96}\text{Mo}(p,xn)$, $E=70$ MeV]; measured E_γ , I_γ , $\gamma\gamma$ -coin; deduced $\log ft$. ^{92}Mo deduced transition, level energies. ^{89}Nb deduced levels, γ -branching, possible J , π , configuration.

85Be13 *Spectroscopic Factors and Nuclear Vertex Constants from the (p,d) Reaction on the Nuclei $^{10}, ^{11}\text{B}$*

R. B. Begzhanov, E. A. Romanovsky, Yu. I. Denisov, A. M. Mukhamedzhanov, I. R. Gulamov, T. Iskhakov, G. K. Ni, R. Yarmukhamedov, G. S. Valiev, V. A. Stepanenko, *Izv. Akad. Nauk SSSR, Ser. Fiz.* 49, 111 (1985); *Bull. Acad. Sci. USSR, Phys. Ser.* 49, No. 1, 117 (1985).

Nuclear Reactions: $^{10}, ^{11}\text{B}(p,d)$, $E=18.6$ MeV; measured $\sigma(\theta)$; deduced nuclear vertex constants. $^9, ^{10}\text{B}$ levels deduced spectroscopic factors. Distorted wave analysis.

85Be14 *Estimates of $e\bar{e}$ Production from Nuclear Muon Capture*

D. Beder, Can. J. Phys. 63, 154 (1985).

Nuclear Reactions: $\text{Ti}(\mu^-, \nu)$, E at rest; calculated electron energy spectra for $e(e\text{-bar})$ production.

85Be15 *Signature-Dependent Properties in ^{152}Eu*

R. Bengtsson, H. Frisk, Nucl. Phys. A437, 263 (1985).

Nuclear Structure: ^{152}Eu ; calculated levels, yrast state deformations; deduced signature dependent deformation. Self-consistent treatment.

85Be16 *Photofission Cross-Section for ^{238}U by (120-280) MeV Quasi-Monochromatic Photons*

V. Bellini, V. Emma, S. Lo Nigro, C. Milone, G. S. Pappalardo, E. De Sanctis, P. Di Giacomo, C. Guaraldo, V. Lucherini, E. Polli, A. R. Reolon, Nuovo Cim. 85A, 75 (1985).

Nuclear Reactions: $^{238}\text{U}(\gamma, \text{F})$, $E < 280$ MeV; measured fission yields. Quasimonochromatic photon beam.

85Be17 *Note on Stellar ^{26}Al Production via the $^{25}\text{Mg}(p, \gamma)$ Process*

F. J. Bergmeister, K. P. Lieb, K. Pampus, M. Uhrmacher, Z. Phys. A320, 693 (1985).

Nuclear Reactions: ICPND $^{25}\text{Mg}(p, \gamma)$, E 389.2-390 keV; measured γ yield vs E; deduced consequences to ^{26}Al stellar production. ^{26}Al deduced resonances, Γ .

85Be18 *Probing the Microstructure of the Giant Dipole Resonance in ^{208}Pb*

Z. Berant, S. Kahane, R. Moreh, O. Shahal, Phys. Rev. C31, 1553 (1985).

Nuclear Reactions: $^{208}\text{Pb}(\gamma, \gamma)$, $E=8.999, 10.055, 11.388$ MeV; measured E_γ , I_γ , $\sigma(\theta)$ vs E_γ . ^{208}Pb deduced GDR, Γ . Monochromatic photon beam.

85Be19 *Spin-Orbit Part of the Scattering Matrix in the Intermediate Energy Region*

Yu. A. Bereznoi, A. S. Molev, A. P. Soznik, G. A. Khomenko, Ukr. Fiz. Zh. 30, 13 (1985).

Nuclear Reactions: ^{12}C , ^{90}Zr , ^{124}Sn , $^{208}\text{Pb}(p, p)$, $E=1$ GeV; calculated amplitudes; deduced S-matrix spin-orbit component.

85Be20 *The g-Factor of the $(7/2)^+$ 1264.4 keV Level in ^{97}Zr*

Z. Berant, R. L. Gill, M. H. Rafailovich, R. E. Chrien, J. C. Hill, F. K. Wohn, R. F. Petry, C. Chung, G. Peaslee, M. Mohsen, Phys. Lett. 156B, 159 (1985).

Radioactivity: $^{97}\text{Y}(\beta^-)$ [from $^{235}\text{U}(n,F)$]; measured $\gamma\gamma(\theta,H,t)$. ^{97}Zr level deduced $T_{1/2}$, g.

85Be21 *The Ground State Magnetic Moment of the Rare Earth in Cubic Intermetallic Compounds*

E. Belorizky, Y. Berthier, Physica 130B, 474 (1985).

Nuclear Moments: d, Tb, Dy, Ho, Er; measured NMR; deduced 4f-shell ground state μ . Cubic intermetallic compounds powdered samples.

85Be22 *On the Electromagnetic Properties of Core-Excited High-Spin States in ^{210}Po and ^{211}At*

I. Bergstrom, J. Blomqvist, P. Carle, B. Fant, A. Kallberg, L. O. Norlin, K. -G. Rensfelt, U. Rosengard, Phys. Scr. 31, 333 (1985).

Nuclear Reactions: ^{208}Pb , $^{209}\text{Bi}(\alpha, 2n)$, $E=35\text{ MeV}$; measured $I(\text{ce})$, $\gamma(t)$, $\gamma(\theta, H, t)$. ^{210}Po , ^{211}At deduced levels, $T_{1/2}$, g , $B(\lambda)$.

85Be23 *Quadrupole Moments of Neutron Isomers in Sm Isotopes*

A. Berger, H. -E. Mahnke, H. Grawe, W. Semmler, R. Sielemann, Z. Phys. A321, 403 (1985).

Nuclear Reactions: $^{127}\text{I}(^{19}\text{F}, 4n)$, $E=85\text{ MeV}$; $^{124}\text{Te}(^{20}\text{Ne}, 4n)$, $E=96\text{ MeV}$; measured $I\gamma(\theta)$, oriented nuclei; deduced quadrupole interaction of Sm in Gd. 140 , ^{142}Sm deduced isomer quadrupole moments, deformation characteristics.

85Be24 *Measurement of the ^{147}Gd Mass Excess by the $(^{12}\text{C}, ^9\text{Be})$ Reaction*

M. Bernas, M. Langevin, G. Parrot, F. Pougheon, E. Quiniou, P. Roussel, Ph. Dessagne, W. -D. Schmidt-Ott, Z. Phys. A321, 435 (1985).

Nuclear Reactions: $^{144}\text{Sm}(^{12}\text{C}, ^9\text{Be})$, $(^{12}\text{C}, ^{10}\text{Be})$, $E=72$ MeV; measured $\sigma(E(^9\text{Be}))$, $\sigma(E(^{10}\text{Be}))$. ^{147}Gd deduced mass excess. Double-focusing magnetic spectrometer.

85Be25 *Muon Nuclear Capture in Hydrogen and Triplet State Lifetime of $(\mu p)(1s)$ Muonic Atoms*

A. Bertin, M. Capponi, I. Massa, M. Piccinini, G. Vannini, M. Poli, A. Vitale, Nuovo Cim. 86A, 123 (1985).

Atomic Physics: esic-Atoms $^1\text{H}(\mu^-, \nu)$, E at rest; calculated muonic atom triplet state $T_{1/2}$.

85Be26 *Laser Nonenhancement of ^3H -Beta Decay*

D. S. Beder, I. M. Blevis, Can. J. Phys. 63, 642 (1985).

Radioactivity: $^3\text{H}(\beta^-)$; calculated total β -decay rate in laser field; deduced no change.

85Be27 *The Magnetic Moment of the $^{193}\text{Os}(3/2^-)$ Ground State*

I. Berkes, B. Hlimi, G. Marest, J. Sau, E. H. Sayouty, *Hyperfine Interactions* 22, 591 (1985); Erratum *Hyperfine Interactions* 23, 387 (1985).

Nuclear Reactions: $^{193}\text{Ir}(\gamma, \gamma)$, $E=0.073$ keV; measured Mossbauer spectra following oriented $^{193}\text{Os}(\beta^-)$ -decay. ^{193}Os level deduced μ . High, low temperatures, polarized Os(0.07)Fe(0.93) source.

85Be28 *Coulomb Effects and Polarization Phenomena in Elastic Nuclear Scattering of Medium Energy Protons*

Yu. A. Bereznoi, A. S. Molev, Ukr. Fiz. Zh. 30, 814 (1985).

Nuclear Reactions: ^{90}Zr , $^{208}\text{Pb}(\text{p},\text{p})$, (polarized p,p), $E=40, 185$ MeV; calculated $\sigma(\theta)$, analyzing power vs θ , spin rotation function. Coulomb field, proton magnetic moment coupling.

85Be29 *Spin Rotation Functions of 500 MeV Protons Scattered by ^{40}Ca Nuclei*

Yu. A. Bereznoi, A. S. Molev, V. V. Pilipenko, A. P. Soznik, Yad. Fiz. 41, 1420 (1985).

Nuclear Reactions: $^{40}\text{Ca}(\text{polarized p,p}), (\text{polarized p,p}')$, $E=500$ MeV; analyzed polarization characteristics, spin-rotation function data, $\sigma(\theta)$; deduced nucleon-nucleon amplitude spin-orbit term role. Multiple diffraction scattering theory.

85Be30 *Study of Nuclei by Means of (p,2p) and (p,np) Reactions with 1-GeV Protons*

S. L. Belostotsky, S. S. Volkov, A. A. Vorobyev, Yu. V. Dotsenko, L. G. Kudin, N. P. Kuropatkin, O. V. Miklukho, V. N. Nikulin, O. E. Prokofyev, *Yad. Fiz.* 41, 1425 (1985).

Nuclear Reactions: ^6Li , ^7Li , ^9Be , ^{10}B , ^{11}B , ^{12}C , ^{16}O (p,2p), (p,np), $E=1$ GeV; measured angle-integrated $\sigma(Ep_1)$, $\sigma(E_n)$; deduced proton, neutron space distribution role. ^6Li , ^7Li , ^9Be , ^{12}C , ^{16}O deduced s-, p-shell nucleon knockout separation energies, branching ratios. Missing mass correlation spectrometer.

85Be31 *The (K^-, π^+) Strangeness Exchange Reaction on ^{16}O*

R. Bertini, P. Birien, K. Braune, W. Bruckner, G. Bruge, H. Catz, A. Chaumeaux, J. Ciborowski, H. Dobbeling, J. M. Durand, R. W. Frey, D. Garreta, S. Janouin, T. J. Ketel, K. Kilian, H. Kneis, S. Majewski, B. Mayer, J. C. Peng, B. Povh, R. D. Ransome, R. Szwed, T. -A. Shibata, A. Thiessen, M. Treichel, M. Uhrmacher, Th. Walcher, and the Heidelberg-Saclay Collaboration, Phys. Lett. 158B, 19 (1985).

Nuclear Reactions: ^{12}C , $^{16}\text{O}(K^-, \pi^+)$, E at 450 MeV/c; measured $\sigma(E(\pi))$; deduced Σ hypernuclear states.

85Be32 ^{198, 199, 200, 201, 202, 204}Hg(n,γ) *Cross Sections and the Termination of s-Process Nucleosynthesis*

H. Beer, R. L. Macklin, Phys. Rev. C32, 738 (1985).

Nuclear Reactions: ^{198, 199, 200, 201, 202, 204}Hg(n,γ), E=2.6-500 keV; measured capture $\sigma(E)$, γ yields; deduced astrophysical s-process termination, n-process nucleosynthesis age, Maxwellian averaged σ . ^{199, 200, 201, 202, 203, 205}Hg deduced resonances, $\Gamma\gamma$, $(g\Gamma_n)$, $(g\Gamma_n\Gamma\gamma)/\Gamma$, strength functions.

85Be33 *Observation of High Energy Gamma Rays in Intermediate Energy Nucleus-Nucleus Collisions*

K. B. Beard, W. Benenson, C. Bloch, E. Kashy, J. Stevenson, D. J. Morrissey, J. van der Plicht, B. Sherrill, J. S. Winfield, Phys. Rev. C32, 1111 (1985).

Nuclear Reactions: $\text{Cu}(^{14}\text{N}, \gamma)$, $E=40$ MeV/nucleon; measured $\sigma(E_\gamma, \theta)$; deduced temperature parameter, e^+ , e^- , pair production limits.

85Be34 *Changes in Mean-Square Nuclear Charge Radii in Er from Optical Isotope Shifts by Laser-Atomic Beam Spectroscopy*

A. Bernard, H. Bruggemeyer, V. Pfeufer, Z. Phys. A322, 1 (1985).

Nuclear Moments: +164}, ¹⁶⁶, ¹⁶⁸, ¹⁷⁰, ¹⁷², ¹⁶²Er; measured isotope shifts. ¹⁶⁷Er deduced magnetic dipole, electric quadrupole constants. ¹⁶², ¹⁶⁴, ¹⁶⁶, ¹⁶⁷, ¹⁶⁸, ¹⁷⁰Er deduced rms charge radii relative changes.

85Be35 *Nuclear Core Densities, Isotope Shifts, and the Parametrization of the Droplet Model*

D. Berdichevsky, F. Tondeur, Z. Phys. A322, 141 (1985).

Nuclear Structure: ^{58}Ni , ^{90}Zr ; calculated charge distribution, rms charge radius. ^{208}Pb ; calculated rms charge radius, charge, matter distributions. $A=40-80, 100-220$; calculated bulk charge densities. ^{124}Sn ; calculated charge distribution. ^{138}Ba , ^{116}Sn ; calculated rms charge radii. $Z=28, 50, 82, 126$; calculated isotope shifts; deduced core density parameters. Droplet model.

85Be36 *Rainbow Scattering in Quasi-Elastic Nuclear Reactions*

Yu. A. Berezhtnoy, V. V. Pilipenko, J. Phys. (London) G11, 1161 (1985).

Nuclear Reactions: ^{40}Ca , $^{58}\text{Ni}(^3\text{He}, ^3\text{He})$, $E=109.2$ MeV; $^{58}\text{Ni}(^3\text{He}, ^3\text{He})$, $E=118.5$ MeV; ^{24}Mg , $^{32}\text{S}(\alpha, \alpha)$, $E=166$ MeV; $^{40}\text{Ca}(\alpha, \alpha)$, $E=141.7$ MeV; $^{58}\text{Ni}(\alpha, \alpha')$, $E=139$ MeV; $^{58}\text{Ni}(^3\text{He}, t)$, $E=118$ MeV; calculated $\sigma(\theta)$; deduced rainbow scattering role. Nuclear scattering phase real part model independent determination.

85Be37 *Role of the Valence Neutron in the $^{12}\text{C} + ^{17}\text{O}$ and $^{13}\text{C} + ^{16}\text{O}$ Collisions*

C. Beck, R. M. Freeman, F. Haas, B. Heusch, J. J. Kolata, Nucl. Phys. A443, 157 (1985).

Nuclear Reactions: ICPND $^{12}\text{C}(^{17}\text{O},\text{X})$, $^{13}\text{C}(^{16}\text{O}, \text{X})$, $E=20\text{-}70$ MeV; measured γ -ray yields of reaction products; deduced resonant behavior, Landau-Zener effect. Hauser-Feshbach analysis.

85Be38 *The Nucleon Axial Vector Form Factor in an Improved Constituent Quark Model*

M. Beyer, S. K. Singh, Phys. Lett. 160B, 26 (1985).

Nuclear Structure: ${}^1\text{H}$; calculated charge form factor. Improved constituent quark model.

85Be39 *Proton-³He Elastic Scattering: A phase-shift analysis by a separable potential model*

L. Beltramin, R. Del Frate, G. Pisent, Nucl. Phys. A442, 266 (1985).

Nuclear Reactions: ³He(p,p), (polarized p,p), $E \leq 10$ MeV; analyzed $\sigma(\theta)$, target, projectile polarization, polarization transfer coefficients, phase shifts vs E; deduced weak S-D tensor mixing, strong 1P_1 - 3P_1 mixing. Separable potential model, phase shift analysis.

85Be40 *Comparison of Cross Sections for C + O Reactions in the Second Regime of Complete Fusion*

C. Beck, F. Haas, R. M. Freeman, B. Heusch, J. P. Coffin, G. Guillaume, F. Rami, P. Wagner, Nucl. Phys. A442, 320 (1985).

Nuclear Reactions: ICPND $^{12}\text{C}(^{18}\text{O},\text{X})$, E=32-140 MeV; $^{13}\text{C}(^{17}\text{O}, \text{X})$, E=54-140 MeV; $^{12}\text{C}(^{16}\text{O},\text{X})$, E=62-150 MeV; $^{16}\text{O}(^{12}\text{C},\text{X})$, E=46.5-112.5 MeV; measured $\sigma(\text{fragment } \theta, \text{E})$ for fragment Z=3-14, fusion $\sigma(\text{E})$; deduced critical, grazing angular momenta. ^{28}Si deduced possible superdeformation. Statistical, complete fusion model predictions.

85Be41 *Predictions of Elastic Alpha Particle Scattering from the Theoretical Nuclear Densities*

A. M. Bernstein, B. H. Cottman, P. Dick, C. N. Papanicolas, Phys. Rev. C32, 1208 (1985).

Nuclear Reactions: $^{40}\text{Ca}(\alpha, \alpha)$, E=42, 79, 104, 142 MeV; $^{44, 42}\text{Ca}(\alpha, \alpha)$, E=42, 104 MeV; $^{48}\text{Ca}(\alpha, \alpha)$, E=42, 79, 104 MeV; calculated $\sigma(\theta)$. Double-folding model, Hartree-Fock densities.

85Be42 *Relativistic Deuteron Wave Function and the Impulse Approximation*

I. I. Belyantsev, R. L. Kostin, S. V. Trubnikov, Izv. Akad. Nauk SSSR, Ser. Fiz. 49, 849 (1985); Bull. Acad. Sci. USSR, Phys. Ser. 49, No. 5, 16 (1985).

Nuclear Reactions: $^1\text{n}(\text{p},\text{p})$, E not given; calculated $^3\text{S}_1$ phase. Impulse approximation, relativistic wave function.

85Be43 *Relativistic Corrections to the Deuteron Magnetic Moment*

I. I. Belyantsev, V. A. Romanov, S. V. Trubnikov, *Izv. Akad. Nauk SSSR, Ser. Fiz.* 49, 852 (1985); *Bull. Acad. Sci. USSR, Phys. Ser.* 49, No. 5, 19 (1985).

Nuclear Structure: ^2H ; calculated relativistic correction to μ .

85Be44 *Rotational Bands in ^{160}Gd*

Ya. Ya. Berzin, T. V. Guseva, Yu. Ya. Tamberg, Izv. Akad. Nauk SSSR, Ser. Fiz. 49, 884 (1985); Bull. Acad. Sci. USSR, Phys. Ser. 49, No. 5, 44 (1985).

Nuclear Reactions: $^{160}\text{Gd}(n,n'\gamma)$, $E=70\text{-}2900\text{ keV}$; measured E_γ , I_γ . ^{160}Gd deduced levels, γ -branching, J , π , K , $B(E2)/B(E1)$.

85Be45 *Study of Neutrons Emitted in Coincidence with γ -Quanta in Reactions with 14-MeV Neutrons.*

E. Betak, I. Breznik, S. Hlavac, P. Oblozhinsky, Izv. Akad. Nauk SSSR, Ser. Fiz. 49, 1023 (1985); Bull. Acad. Sci. USSR, Phys. Ser. 49, No. 5, 176 (1985).

Nuclear Reactions: ^{52}Cr , ^{56}Fe , $^{58}\text{Ni}(\text{n}, \text{xnyp})$, $E=14.6$ MeV; measured neutron spectra. ^{56}Fe , ^{58}Ni , ^{58}Co deduced Γ_γ/Γ . Exciton model.

85Be46 *Very Backward π^0 and (Eta^0) Production by Proton Projectiles on a Deuterium Target at Intermediate Energies*

P. Berthet, R. Frascaria, J. P. Didelez, Ch. F. Perdrisat, G. Pignault, J. Banaigs, J. Berger, L. Goldzahl, F. Plouin, F. Fabbri, P. Picozza, L. Satta, M. Boivin, J. Yonnet, Nucl. Phys. A443, 589 (1985).

Nuclear Reactions: $^2\text{H}(p,\pi^0)$, $E=0.92\text{-}2.6$ GeV; measured absolute $\sigma(\theta)$; deduced baryonic intermediate state excitation.

85Be47 *Influence of Coulomb Polarization on pd Low Energy Parameters*

G. H. Berthold, H. Zankel, Phys. Lett. 162B, 208 (1985).

Nuclear Reactions: $^2\text{H}(p,p)$, $E=0.2, 2 \text{ MeV}$; calculated phase shifts, scattering lengths; deduced low energy parameters, Coulomb polarization role.

85Be48 *Measurement of Some Average Cross Sections for Activation in the Spontaneous Fission Neutron Field of ^{252}Cf*

H. Benabdallah, G. Paic, J. Csikai, Fizika(Zagreb) 17, 191 (1985).

Nuclear Reactions: $^{115}\text{In}(n,n')$, (n,γ) , ^{113}In , $^{111}\text{Cd}(n,n')$, $^{197}\text{Au}(n,\gamma)$, $^{110}\text{Cd}(n,\gamma)$, ^{58}Ni , ^{27}Al , $^{64}\text{Zn}(n,p)$, ^{68}Zn , 138 , ^{134}Ba , $^{86}\text{Sr}(n,\gamma)$, ^{135}Ba , $^{87}\text{Sr}(n,n')$, E=fission spectrum; measured average σ . Small ^{252}Cf source.

85Be49 *A Strong Energy Dependence of the Analyzing Power in the $pp \rightarrow d\pi^+$ Reaction and the Question of an Isovector Dibaryon Resonance*

R. Bertini, J. Arvieux, M. Boivin, J. M. Durand, F. Soga, E. Descroix, J. Y. Grossiord, A. Guichard, J. R. Pizzi, Th. Hennino, L. Antonuk, Phys. Lett. 162B, 77 (1985).

Nuclear Reactions: $^1\text{H}(\text{polarized } p, \pi^+)$, $E=1.2\text{-}2.3$ GeV; measured $\sigma(\theta)$, analyzing power vs θ . One-pion exchange model.

85Be50 *The Masses of ^{51}Ca and ^{47}Ar*

W. Benenson, K. Beard, C. Bloch, B. Sherrill, B. A. Brown, A. D. Panagiotou, J. van der Plicht, J. S. Winfield, C. E. Thorn, Phys. Lett. 162B, 87 (1985).

Nuclear Reactions: $^{48}\text{Ca}(^{14}\text{C}, ^{15}\text{O})$, $(^{14}\text{C}, ^{11}\text{C})$, $E=100\text{ MeV}$; measured $\sigma(E(^{15}\text{O}))$, $\sigma(E(^{11}\text{C}))$. ^{47}Ar , ^{51}Ca deduced masses.

85Be51 *Crossings between Unpaired Rotational Bands at $I \approx 30$ in the $N \approx 90$ Region*

T. Bengtsson, I. Ragnarsson, Phys. Lett. 163B, 31 (1985).

Nuclear Structure: $^{157, 158, 159, 160}\text{Er}$, ^{156}Dy , ^{157}Ho , ^{160}Yb ; calculated levels; deduced band crossing pairing correlations non-dependence. Nilsson-Strutinsky calculations.

85Be52 *Direct and Compound Gamma Decay of the Giant Quadrupole Resonance of ^{208}Pb*

J. R. Beene, G. F. Bertsch, P. F. Bortignon, R. A. Broglia, Phys. Lett. 164B, 19 (1985).

Nuclear Structure: ^{208}Pb ; analyzed GQR γ -decay characteristics.

85Be53 *Crystal Spectrometer for Measurements of Pionic X-Rays*

W. Beer, K. Bos, G. De Chambrier, K. L. Giovanetti, P. F. A. Goudsmit, B. V. Grigoryev, B. Jeckelmann, L. Knecht, L. N. Kondurova, J. Langhans, H. J. Leisi, P. M. Levchenko, V. I. Marushenko, A. F. Mezentsev, H. Obermeier, A. A. Petrunin, U. Rohrer, A. G. Sergeev, S. G. Skornjakov, A. I. Smirnov, E. Steiner, G. Strassner, V. M. Suvorov, A. Vacchi, Nucl. Instrum. Methods 238, 365 (1985).

Nuclear Reactions: 24 , 25 , 26 Mg, Si, 30 Si, O, C(π ,X), E at rest; measured pionic X-rays. Bent crystal spectrometer, high precision laser interferometer system.

Atomic Physics: esic-Atoms Mg, Si, C, O; measured pionic X-rays; deduced wave length ratios. Bent crystal spectrometer, high precision laser interferometer system.

85Be54 *An Electrostatic Beam Separator for Evaporation Residue Detection*

S. Beghini, C. Signorini, S. Lundardi, M. Morando, G. Fortuna, A. M. Stefanini, W. Meczynski, R. Pengo, Nucl. Instrum. Methods 239, 585 (1985).

Nuclear Reactions: $^{28}\text{Si}(^{58}\text{Ni}, \text{X})$, $E=194$ MeV; $^{64}\text{Ni}(^{28}\text{Si}, \text{X})$, $E=84$ MeV; measured fragment mass spectra. Electrostatic beam separator.

85Be55 *On Photoabsorption Cross Sections of Pb, Bi, and Ta Isotopes in the Energy Region $E\gamma \leq 12$ MeV*

S. N. Belyaev, A. B. Kozin, A. A. Nechkin, V. A. Semenov, S. F. Semenko, Yad. Fiz. 42, 1050 (1985).

Nuclear Reactions: $^{206}, ^{207}, ^{208}\text{Pb}$, ^{209}Bi , $^{181}\text{Ta}(\gamma, n)$, $E \leq 12$ MeV bremsstrahlung; measured photoabsorption $\sigma(E)$. $^{206}, ^{207}, ^{208}\text{Pb}$, ^{209}Bi deduced intermediate structure evidence.

85Be56 *Scattering Lengths for $\pi^\pm$ ^3H , $\pi^\pm$ ^3He Scatterings and Mass Differences of Pions, Nucleons and the Nuclei*

V. B. Belyaev, V. V. Pupyshev, S. A. Rakityansky, Yad. Fiz. 42, 1104 (1985).

Nuclear Reactions: ^3H , $^3\text{He}(\pi^-, \pi^-)$, (π^+, π^+) , $E=\text{low}$; calculated scattering lengths. Four-particle equations, pion, nucleon, nuclear isomultiplet mass splittings.

85Be57 *Pionic Contributions to the Charge Asymmetry in Two- and Three-Nucleon Systems*

W. Bentz, H. Baier, Nuovo Cim. 90A, 1 (1985).

Nuclear Structure: ^3H , ^3He ; calculated pion exchange binding energy difference contributions.

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

85Be59 *Nuclear Radii from High Energy Neutron Nucleus Total Cross Sections*

C. Besliu, V. Popa, L. Popa, V. Topor-Pop, Rev. Roum. Phys. 30, 659 (1985).

Nuclear Reactions: ^{27}Al , ^{12}C , ^9Be , ^{238}U , ^{207}Pb , $\text{Cu}(n,n)$, $E \geq 1 \text{ GeV}/c$; calculated $\sigma(E)$. ^9Be , ^{27}Al , ^{12}C , Cu , ^{207}Pb , ^{238}U deduced radii. High energy optical model, refractive index.

85Be60 *Quasielastic Cluster Knock-Out Reactions and the Microscopic Cluster Model*

R. Beck, F. Dickmann, R. G. Lovas, Nucl. Phys. A446, 703 (1985).

Nuclear Reactions: ${}^6\text{Li}(\text{p}, \text{pd})$, $(\alpha, 2\alpha)$, E not given; calculated spectroscopic amplitude vs α -d relative momentum; deduced S_α . Quasielastic cluster knockout reactions.

Nuclear Structure: ${}^6\text{Li}$; calculated fragmentation amplitude, S_α . Microscopic cluster model, $(\alpha + \text{d})$, $({}^5\text{He} + \text{p})$ clusters.

85Be61 *Influence of Three-Body Forces on the $T=1$ Spectrum in ^4He*

J. J. Bevelacqua, Fizika(Zagreb) 17, 459 (1985).

Nuclear Structure: ^4He ; calculated $T=1$ levels. Shell model, two-, three-body forces.

85Be62 *The Inelastic Scattering of K^+ Mesons at 130 MeV from Light Nuclei with Emission of a Proton*

Ya. A. Berdnikov, V. I. Nikitchenko, V. I. Ostroumov, G. N. Smirnov, Yu. V. Trebukhovskiy, A. P. Shishlo, *Yad. Fiz.* 42, 564 (1985); *Sov. J. Nucl. Phys.* 42, 357 (1985).

Nuclear Reactions: C, N, O(K^+ , K^+ p), E=130 MeV; measured proton spectra, recoil nuclei momentum distribution.

85Be63 *Polarization of Cumulative Protons Produced in the Reaction $p + A \rightarrow p' + X$ at 1 GeV*

S. L. Belostotsky, E. N. Volnin, A. A. Vorobev, Yu. V. Dotsenko, L. G. Kudin, N. P. Kuropatkin, A. A. Lobodenko, O. V. Miklukho, V. N. Nikulin, O. E. Prokofev, Z. Fodor, Z. Sheresh, Ja. Ero, Yad. Fiz. 42, 1427 (1985); Sov. J. Nucl. Phys. 42, 904 (1985).

Nuclear Structure: ^2H , ^4He , Be, C, ^{27}Al , Cu, Pb(p,pX), E=1 GeV; measured outgoing proton polarization.

85Be64 *Study of Excited States of Some Odd Europium Isotopes*

R. B. Begzhanov, O. Sh. Kobilov, M. Sulaimanov, N. A. Ilkhamdzhanov, Dok. Akad. Nauk Uzb. SSR, No. 12, 21 (1985).

Radioactivity: $^{147}, ^{149}, ^{151}\text{Gd}(\text{EC}), ^{155}\text{Sm}(\beta^-)$; measured $\gamma\gamma(\theta)$; deduced A_2, A_4 . $^{147}, ^{149}, ^{151}, ^{155}\text{Eu}$ levels deduced J, γ -multipolarity, δ . Ge(Li), NaI(Tl) detectors.

85Be65 *The Investigation of ^{176}Lu in the $(n,n'\gamma)$ Reaction*

M. R. Beitins, I. L. Kuvaga, P. T. Prokofev, Lat. PSR Zinat. Akad. Vestis, Fiz. Teh. Ser. No. 2, 16 (1985).

Nuclear Reactions: $^{176}\text{Lu}(n,n'\gamma)$, E=fast; measured E_γ , I_γ . ^{176}Lu deduced levels, J, π , configurations. Natural, enriched targets, Ge(Li) detector.

85Be66 *The Investigation of ^{175}Lu in the $(n,n'\gamma)$ Reaction*

M. R. Beitins, I. L. Kuvaga, P. T. Prokofev, Lat. PSR Zinat. Akad. Vestis, Fiz. Teh. Ser. No. 2, 11 (1985).

Nuclear Reactions: $^{175}\text{Lu}(n,n'\gamma)$, E=fast; measured E_γ , I_γ . ^{175}Lu deduced levels, J, π , configurations. Ge(Li) detector.

85BeZH *High-Spin Structure of Odd-Odd ^{116}Sb and ^{118}Sb*

W. H. Bentley, R. A. Warner, Wm. C. McHarris, W. H. Kelly, MSUCL-541 (1985).

Nuclear Reactions: $^{115}\text{In}(\alpha, 3n\gamma)$, $E=37\text{-}45\text{ MeV}$; $^{114}\text{Cd}(^7\text{Li}, 3n\gamma)$, $E=22\text{-}30\text{ MeV}$; $^{120}\text{Sn}(p, 3n\gamma)$, $E=30\text{ MeV}$; measured $E(\gamma)$, $I(\gamma)$, $\gamma\gamma$ -coin, $\sigma(\theta)$, $\sigma(E)$, $\gamma\gamma(t)$. 116 , ^{118}Sb deduced levels, J , π , $T_{1/2}$. Enriched, natural targets, Ge and Ge(Li) detectors. Shell, collective models.

$^{85}\text{BeZl}$

Conference proceedings: Leningrad, P49, Begzhanov

Nuclear Reactions: ^{14}N , ^{27}Al , ^{40}Ca , Zn, Hg(γ, γ'), E=resonance; measured $E\gamma$. ^{14}N , ^{27}Al , ^{40}Ca deduced levels, J. Natural targets.

85BeZJ

Conference proceedings: Leningrad, P401, Belyantsev

Nuclear Structure: ^2H ; calculated magnetic moment relativistic correction.

⁸⁵BeZK

Conference proceedings: Leninrad, P352, Belyaev

Nuclear Reactions: ²⁰⁷Pb(γ,n), E=6.87, 7.06, 7.37, 7.87, 8.93, 9.84, 11.61 MeV; measured integrated σ(E).

85BeZL

Conference proceedings: Leningrad, P351, Belyaev

Nuclear Reactions: $^{206}, ^{208}\text{Pb}(\gamma, n)E=7.6\text{-}11.8\text{ MeV}$; analyzed integrated $\sigma(E)$.

⁸⁵BeZM

Conference proceedings: Leningrad, P87, Begzhanov

Radioactivity: $^{145}\text{Eu}(\beta^+)$, (EC) [from $^{144}\text{Sm}(\text{d}, \text{n})$]; measured (K X-ray) γ -coin; deduced Q(EC). ^{145}Sm levels deduced K-capture probability. Enriched target, Si(Li), NaI(Tl) detectors.

85BeZN

Conference proceedings: Leningrad, P82,Begzhanov

Radioactivity: $^{121}\text{Te}(\text{EC})$ [from $^{121}\text{Sb}(\text{p},\text{n})$]; measured (K X-ray) γ -coin. $^{129}\text{Cs}(\text{EC})$ [from $^{127}\text{I}(\alpha, 2\text{n})$, $E=27\text{ MeV}$]; measured (K X-ray) γ -coin; deduced $Q(\text{EC})$. ^{121}Sb , ^{129}Xe levels deduced K-capture probability.

85BeZO

Conference proceedings: Leningrad, P102,Berzin

Nuclear Reactions: $^{154}\text{Sm}(n,n'\gamma)$, E=fast; measured E_γ , I_γ . ^{154}Sm deduced levels, J, π . Enriched target.

85BeZP

Conference proceedings: Leningrad, P96,Berzin

Nuclear Reactions: $^{152}\text{Sm}(n,n'\gamma)$, E=fast; measured E_γ , I_γ . ^{152}Sm deduced levels, J, π . Enriched target.

85BeZQ

Conference proceedings: Leningrad, P190,Belenky

Nuclear Structure: ^{130}Ce ; calculated quasirotational bands. Variable moment of inertia model.

85BeZR

Conference proceedings: Leningrad, P74, Belenky

Nuclear Structure: ^{102}Pd ; calculated quasiband. Coriolis interactions.

85BeZS

Report: JUL-Spez-305, P38,Berg

Nuclear Reactions: $^{11}\text{B}(^3\text{He}, ^7\text{Li})$, $E=78\text{ MeV}$; analyzed $\sigma(\theta)$; deduced reaction mechanism. Coupled reaction channel analysis.

85BeZT

Report: JUL-Spez-305, P27,Berg

Nuclear Reactions: $^{12}\text{C}(\text{d}, ^6\text{Li})$, $E=78\text{ MeV}$; measured absolute $\sigma(\theta)$. ^8Be deduced narrow, high-lying levels.

85BeZU

Report: JUL-Spez-305, P1,Berg

Nuclear Reactions: $^{28}\text{Si}(p,p')$, $E=25\text{ MeV}$; $^{28}\text{Si}(d,d')$, $E=45\text{ MeV}$; measured $\sigma(\theta)$, $\sigma(Ep')$, $\sigma(Ed')$. ^{28}Si levels deduced excitation dependence on reaction.

85BeZV *Giant Resonance Structure in ^{208}Pb Measured Using the (p,p') Reaction at 334 MeV*

F. E. Bertrand, E. E. Gross, D. J. Horen, R. O. Sayer, T. P. Sjoreen, D. K. McDaniels, J. Lisantti, J. R. Tinsley, L. W. Swenson, J. B. McClelland, T. A. Carey, K. Jones, S. J. Seestrom-Morris, Priv. Comm. (1985).

Nuclear Reactions: $^{208}\text{Pb}(\text{polarized } p, p')$, $E=334 \text{ MeV}$; measured $\sigma(\theta)$, analyzing power vs θ . ^{208}Pb deduced giant resonances, EWSR, $B(\lambda)$.

85BeZW

Journal: BAPSA 30 1274, DC7,Beck

Nuclear Reactions: $^{130}\text{Te}(^{40}\text{Ar},4n)$, $(^{40}\text{Ar},5n)$, $E=180\text{ MeV}$; measured $\gamma\gamma$ -coin. 166 , ^{165}Yb deduced levels, J, π , yrast sequences, alignments, Routhians, moments of inertia.

⁸⁵BeZX

Journal: BAPSA 30 1264, CC4,Beausang

Nuclear Reactions: $^{114}\text{Cd}(^{27}\text{Al},4n)$, $E=110\text{-}142\text{ MeV}$; measured $\sigma(E\gamma,E)$, $\gamma\gamma\text{-coin}$, $\gamma(\theta)$, $I(\text{ce})$. ^{137}Pm deduced levels, J , π , yrast band decoupling.

85BeZY

Journal: BAPSA 30 1256, BB12, Behr

Nuclear Reactions: ^{61}Ni , ^{95}Mo , ^{124}Sn , 148 , ^{154}Sm (^3He , γX), (α , γX), $E=27$ MeV; measured inclusive E_γ , I_γ , γ yields, $\gamma(\theta)$; deduced nonstatistical yield dominance.

85BeZZ

Journal: DABBB 45, 620, Benhamou

Nuclear Reactions: $^{93}\text{Nb}(\text{p},\text{n})$, $E=14.1$ MeV; $^{93}\text{Nb}(\text{n},\text{n}')$, $E=14.5, 25.7$ MeV; ^{56}Fe , $^{209}\text{Bi}(\text{n},\text{n}')$, $E=25.7$ MeV; calculated $\sigma(\theta)$.
Second-order coupled-reaction-channels theory, shell model spectral densities.

85Bh01 *The Quark Degrees of Freedom in the Deuteron*

R. K. Bhaduri, Y. Nogami, Phys. Lett. 152B, 35 (1985).

Nuclear Structure: ^2H ; analyzed μ ; deduced quark degrees of freedom role.

85Bh02 *On Fragmentation Characteristics of Relativistic ^{14}N Projectiles*

R. Bhanja, M. Shyam, S. K. Tuli, Nucl. Phys. A438, 740 (1985).

Nuclear Reactions: H, N, C, O, Ag, Br($^{14}\text{N},\text{X}$), $E=2.1$ GeV/nucleon; measured multiply-charged projectile fragments, angular, momentum distribution of He fragments. Relativistic Maxwell-Boltzmann distribution.

85Bh03 *Band Structure in the $N = 88$ Isotones ^{149}Pm , ^{151}Eu , and ^{153}Tb*

S. Bhattacharya, S. Sen, R. K. Guchhait, Phys. Rev. C32, 1026 (1985).

Nuclear Structure: ^{149}Pm , ^{151}Eu , ^{153}Tb ; calculated levels, spectroscopic factors, μ , quadrupole moment. Rotor-particle coupling.

85Bh04 *Nucleon-Nucleon Interaction in the Quark Compound Bag Model*

V. S. Bhasin, V. K. Gupta, Phys. Rev. C32, 1187 (1985).

Nuclear Reactions: $^1n(p,p)$, E 10-420 MeV; calculated 1S_0 phase shift vs E . Quark compound bag model.

Nuclear Structure: 2H ; calculated electromagnetic form factor. Quark compound bag model.

85Bh05 *EMC Effect: Another outlook*

S. Bhattacharya, Lett. Nuovo Cim. 44, 119 (1985).

Nuclear Structure: Fe, ^2H ; calculated structure function vs Bjorken scaling variable.

85Bh06 *Electric Quadrupole Interaction of ^{181}Ta in Pd and Zn*

A. K. Bhati, N. Aggarwal, S. C. Bedi, H. S. Hans, *Hyperfine Interactions* 23, 125 (1985).

Radioactivity: $^{181}\text{Hf}(\beta^-)$; measured $\gamma\gamma(\theta, H, t)$; deduced strong ^{181}Ta electric field gradient in Pd, Zn.

85Bh07 *On the Geometrical Shape of the Single Particle Spin-Orbit Potential*

R. Bhattacharya, Z. Phys. A322, 665 (1985).

Nuclear Structure: ^{208}Pb ; calculated nucleon binding energies, charge distribution; deduced potential parameters. Bary centric approach.

85Bh08 *Nuclear Structure Effects through Penetration Parameter in the Deformed Region ($A = 150-190$)*

S. Bhuloka Reddy, B. Mallikarjuna Rao, D. K. S. Reddy, D. D. Reddy, Indian J. Phys. 59A, 528 (1985).

Nuclear Structure: ^{153}Gd , ^{161}Dy , ^{165}Ho , ^{173}Yb , ^{175}Lu , ^{183}W , ^{187}Re ; calculated M1 transition penetration parameters.

85Bh09 *Spin Effects in $pp \rightarrow \pi^+ d$ Reaction at Intermediate Energies*

T. S. Bhatia, J. Phys. (Paris), Colloq. C-2, 375 (1985).

Nuclear Reactions: $^1\text{H}(p, \pi^+ n)$, $(p, \pi^0 p)$, (p, π^+) , $E \leq 1$ GeV; compiled $\sigma(E)$, vector polarization, analyzing powers.

85BhZZ

Journal: BAPSA 30 1257, BC3,Bhat

Nuclear Reactions: $^{38}, ^{36}\text{Ar}(d,\alpha)$, (polarized d,α), E not given; analyzed $\sigma(\theta)$, tensor analyzing power data. ^4He deduced D-state. Exact finite-range DWBA.

85Bi01 Low-Energy Pion-Nucleus Interaction in Relativistic Mean-Field Nuclear Theory

B. L. Birbrair, V. N. Fomenko, A. B. Gridnev, Yu. A. Kalashnikov, J. Phys. (London) G11, 471 (1985).

Nuclear Structure: ^{12}C , ^{16}O , ^{18}O , ^{19}F , ^{20}Ne , ^{23}Na , ^{28}Si , ^{31}P , ^{32}S , ^{40}Ar , ^{39}K , ^{40}Ca , ^{42}Ca , ^{44}Ca , ^{48}Ca , ^{48}Ti , ^{51}V , ^{52}Cr , ^{55}Mn , ^{56}Fe , ^{59}Co , ^{58}Ni , ^{64}Cu , ^{65}Zn , ^{73}Ge , ^{75}As , ^{89}Y , ^{93}Nb , ^{96}Mo , ^{112}Cd , ^{115}In , ^{116}Sn , ^{124}Sn , ^{138}Ba , ^{139}La , ^{148}Nd , ^{169}Ho , ^{181}Ta , ^{197}Au , ^{206}Pb , ^{207}Pb , ^{209}Bi , ^{232}Th , ^{238}U ; analyzed pionic level shifts, widths.

Nuclear Reactions: ^{40}Ca , ^{16}O , $^{12}\text{C}(\pi^+, \pi^+)$, $E=20, 30$ MeV; $^{208}\text{Pb}(\pi^+, \pi^+)$, $E=30$ MeV; calculated $\sigma(\theta)$. $^{12}\text{C}(\gamma, \pi^0)$, $E=180-220$ MeV; calculated $\sigma(E)$. $^{12}\text{C}(\gamma, \pi^0)$, $E=180, 220$ MeV; calculated $\sigma(\theta)$. Pionic data analysis input.

Atomic Physics: esic-Atoms ^{12}C , ^{16}O , ^{18}O , ^{19}F , ^{20}Ne , ^{23}Na , ^{28}Si , ^{31}P , ^{32}S , ^{40}Ar , ^{39}K , ^{40}Ca , ^{42}Ca , ^{44}Ca , ^{48}Ca , ^{48}Ti , ^{51}V , ^{52}Cr , ^{55}Mn , ^{56}Fe , ^{59}Co , ^{58}Ni , ^{64}Cu , ^{65}Zn , ^{73}Ge , ^{75}As , ^{89}Y , ^{93}Nb , ^{96}Mo , ^{112}Cd , ^{115}In , ^{116}Sn , ^{124}Sn , ^{138}Ba , ^{139}La , ^{148}Nd , ^{169}Ho , ^{181}Ta , ^{195}Pt , ^{197}Au , ^{206}Pb , ^{207}Pb , ^{209}Bi , ^{232}Th , ^{238}U ; analyzed pionic atom level shifts, widths.

85Bi02 *Interacting Boson-Fermion Model of Collective States. III. The $SO(6) \times U(2)$ Limit*

R. Bijker, F. Iachello, Ann. Phys. (New York) 161, 360 (1985).

Nuclear Structure: ^{195}Pt ; calculated levels, $B(E2)$, one-nucleon transfer S. Interacting boson-fermion model, $SO(6) \times U(2)$ limit.

85Bi03 *Search for the Circular Polarization of the 1081-keV Gamma Ray in ^{18}F*

M. Bini, T. F. Fazzini, G. Poggi, N. Taccetti, Phys. Rev. Lett. 55, 795 (1985).

Nuclear Reactions: $^{16}\text{O}(^3\text{He},\text{p})$, $E=3.4$ MeV; measured E_γ , I_γ , γ CP, asymmetry; deduced pion-nucleon weak coupling constant absolute value upper limit.

85Bi04 *Inclusive (p, γ) Reactions at 210 and 180 MeV*

L. Bimbot, V. Bellini, M. Bolore, X. Charlot, C. Guet, J. M. Hisleur, J. C. Jourdain, J. Julien, P. Kristiansson, G. Lanzano, B. Million, A. Oskarsson, A. Palmeri, G. S. Pappalardo, J. Poitou, F. Reide, N. Willis, Nucl. Phys. A440, 636 (1985).

Nuclear Reactions: ^{13}C , ^{89}Y , $\text{Pb}(p,\pi^+)$, (p,π^-) , $E=201, 180$ MeV; measured $\sigma(\theta, E(\pi))$; deduced σ , $\sigma(\theta)$, angle integrated σ .

85Bi05 *Excitation Energy of the Collective M1 Mode in the Classical Limit of the Neutron-Proton Interacting Boson Model*

R. Bijker, Phys. Rev. C32, 1442 (1985).

Nuclear Structure: ^{165}Gd ; calculated collective M1 mode excitation energy. Interacting boson model, collective limit.

85Bi06 *Absolute Cross Section for the Photodisintegration of Deuterium*

Y. Birenbaum, S. Kahane, R. Moreh, Phys. Rev. C32, 1825 (1985).

Nuclear Reactions: $^2\text{H}(\gamma, X)$, $E=5.97, 7.25, 7.6, 7.64, 8.8, 9, 11.39$ MeV; measured photodisintegration σ . Absorption method.

85Bi07 *Current Problems in Nucleon-Nucleon Spin Physics at Intermediate Energy*

J. Birchall, J. Phys. (Paris), Colloq. C-2, 447 (1985).

Nuclear Reactions: $^1\text{H}(p,p)$, E at 0.2-2.8 GeV/c; $^2\text{H}(\pi,\pi)$, $E=117\text{-}325$ MeV; analyzed polarization parameters, analyzing powers data.

85BiZV

Conference proceedings: Leningrad, P335,Bigan

Nuclear Reactions: ^{183}W , $^{191}\text{Ir}(\gamma,\gamma)$, E=3-16 MeV bremsstrahlung; measured $^{183\text{m}}\text{W}$, $^{191\text{m}}\text{Ir}$ production $\sigma(E)$.

85BiZW

Conference proceedings: Leningrad, P333,Bigan

Nuclear Reactions: ^{77}Se , $^{79}\text{Br}(\gamma,\gamma')$, $E=4\text{-}16\text{ MeV}$ bremsstrahlung; measured $^{77\text{m}}\text{Se}$, $^{79\text{m}}\text{Br}$ production $\sigma(E)$. Scintillation spectrometer.

85BiZX

Journal: BAPSA 30 1275, DC8, Billowes

Nuclear Reactions: $^{110}\text{Pd}(^{61}\text{Ni}, 3\text{n})$, $E=255\text{ MeV}$; measured $\gamma\gamma$ -coin, $\gamma(\theta)$, γ -multiplicity. ^{168}W levels deduced g.

85BiZY

Journal: BAPSA 30 1274, DC6,Bingham

Nuclear Reactions: $^{118}\text{Sn}(^{48}\text{Ti},\text{X})$, $E=230\text{ MeV}$; measured γ -spectra. ^{162}Hf deduced levels, J, π , yrast sequence.

85BiZZ

Journal: BAPSA 30 701, AE8,Bigelow

Radioactivity: ${}^8\text{Li}(\beta^-)$ [from ${}^7\text{Li}(\text{polarized d, p})$, $E=1.8$ MeV]; measured β -asymmetry energy dependence.

85Bj01 *Study of the Giant Gamow-Teller Resonance in Nuclear β -Decay: The case of ^{32}Ar*

T. Bjornstad, M. J. G. Borge, P. Dessagne, R. -D. Von Dincklage, G. T. Ewan, P. G. Hansen, A. Huck, B. Jonson, G. Klotz, A. Knipper, P. O. Larsson, G. Nyman, H. L. Ravn, C. Richard-Serre, K. Riisager, D. Schardt, G. Walter, and the ISOLDE Collaboration, Nucl. Phys. A443, 283 (1985).

Radioactivity: $^{32}\text{Ar}(\beta^+\text{p})$ [from $^{40}\text{Ca}(\text{p},3\text{p}6\text{n})$ reaction]; measured β -delayed $E(\text{p})$, $I(\text{p})$, $E(\gamma)$, $I(\gamma)$, $\text{p}\gamma$ -coin; deduced axial vector strength renormalization, β -strength function. ^{32}Ar deduced $T_{1/2}$. ^{32}Cl deduced levels, proton branching ratio, Gamow-Teller strength function. CaO target, Ge, surface barrier Si, CsI detectors. On-line mass separation.

85BI01 *Precompound Limits of Linear Momentum Transfer in Heavy Ion Reactions*

M. Blann, Phys. Rev. C31, 295 (1985).

Nuclear Reactions: $^{60}\text{Ni}(^{16}\text{O},\text{X})$, $E=8.8\text{-}100\text{ MeV/nucleon}$; calculated projectile to residue linear momentum transfer. Boltzmann master equation.

85BI02 *Two-Step Processes in the Population of the 2^+_{2} State via the $^{197}\text{Au}(d, ^3\text{He})^{196}\text{Pt}$ Reaction*

N. Blasi, M. N. Harakeh, W. A. Sterrenburg, S. Y. van der Werf, Phys. Rev. C31, 653 (1985).

Nuclear Reactions: $^{197}\text{Au}(d, ^3\text{He})$, $E=50$ MeV; measured $\sigma(E)$, $\sigma(\theta)$; deduced reaction mechanism. ^{196}Pt levels deduced spectroscopic factors. DWBA, CCBA analyses.

85BI03 *Anomalous M3 Moment in ^{39}K as a Test of Nuclear Structure*

P. Blunden, B. Castel, Phys. Rev. C31, 674 (1985).

Nuclear Structure: ^{43}K ; calculated quadrupole, M3 moments. Meson exchange, core polarization, isobar excitation.

85BI04 *Shell Model Description of the $N = 50$ Isotones between ^{88}Sr and ^{100}Sn*

J. Blomqvist, L. Rydstrom, Phys. Scr. 31, 31 (1985).

Nuclear Structure: ^{89}Y , ^{90}Zr , ^{91}Nb , ^{92}Mo , ^{93}Tc , ^{95}Rh , ^{96}Pd , ^{97}Ag ; calculated levels, binding energy, mass excess. ^{98}Cd , ^{99}In , ^{100}Sn ; calculated binding energy, mass excess.

85BI05 *Isotope Shift of the 2^3S_1 - 2^3P Transition in Helium*

D. Bloch, G. Trenec, M. Leduc, J. Phys. (London) B18, 1093 (1985).

Nuclear Moments: +3}, ^4He ; measured isotope shifts. Doppler free laser spectrometry.

85BI06 *Determination of Nuclear Vertex Functions of $^3\text{He} \rightarrow pd$ Disintegration and the Vertex Constant $^3\text{He} dp$ from $^3\text{He} p \rightarrow ppd$ Reaction Data at 2.5 and 5 GeV/c ^3He Momenta*

A. V. Blinov, I. V. Chuvilo, V. V. Drobot, V. A. Ergakov, V. E. Grechko, Yu. V. Korolev, Ya. M. Selektor, V. V. Soloviev, V. N. Shulyachenko, V. F. Turov, I. A. Vanyushin, S. M. Zombkovsky, J. Phys. (London) G11, 623 (1985).

Nuclear Reactions: $^3\text{He}(p,2p)$, E at 2.5, 5 GeV/c; measured Treiman-Yang angle distribution; deduced nuclear vertex functions, constants.

85BI07 *Precompound Decay Calculations for Reactions Induced by 10-100 MeV/Nucleon Heavy Ions*

M. Blann, Phys. Rev. C31, 1245 (1985).

Nuclear Reactions: $^{165}\text{Ho}(^{20}\text{Ne}, nX)$, $(^{20}\text{Ne}, nF)$, $E=220, 292, 402$ MeV; calculated precompound neutron spectra, $n(\text{evaporation residue})$ -, fission fragment(n)-coin. $^{86}\text{Kr}(^{27}\text{Al}, X)$, $E=10\text{-}100$ MeV/nucleon; calculated precompound decay quantities. $^{60}\text{Ni}(^{16}\text{O}, X)$, $E=0.141\text{-}2.027$ GeV; calculated compound nuclear decay prior to equilibration. $^{90}\text{Zr}(p, n)$, $E=25, 45$ MeV; calculated $\sigma(\theta n, En)$. Boltzmann master equation model.

85BI08 *Relationship between Partial Wave Amplitudes and Polarization Observables in $pp \rightarrow d\pi^+$ and $\pi d \rightarrow \pi d$*

B. Blankleider, I. R. Afnan, Phys. Rev. C31, 1380 (1985).

Nuclear Reactions: $^1\text{H}(\text{polarized } p, \pi^+)$, $E=567, 383, 800 \text{ MeV}$; calculated $\sigma(\theta)$, polarization transfer, correlation observables vs θ ; deduced relation to partial wave amplitudes. Orthogonal function expansion.

85BI09 *Subthreshold Pion Production: A intranuclear N-N collision interpretation*

M. Blann, Phys. Rev. Lett. 54, 2215 (1985).

Nuclear Reactions: ^{27}Al , ^{58}Ni , $^{184}\text{W}(^{14}\text{N}, \pi^0)$, $E=35$ MeV/nucleon; $^{12}\text{C}(^{12}\text{C}, \pi^0)$, $E=60, 74, 84$ MeV/nucleon; calculated pion production σ .

85BI10 *A Re-Evaluation of Isotope Shift Constants*

S. A. Blundell, P. E. G. Baird, C. W. P. Palmer, D. N. Stacey, G. K. Woodgate, D. Zimmermann, Z. Phys. A321, 31 (1985).

Atomic Physics: $\approx 10^{-95}$; calculated field isotope shift constants. Dirac equation, valence s-electron.

85B111 *Gamow-Teller Electron Capture Strength Distributions in Stars: Unblocked Iron and Nickel Isotopes*

S. D. Bloom, G. M. Fuller, Nucl. Phys. A440, 511 (1985).

Radioactivity: $^{56}, ^{54}, ^{60}, ^{64}\text{Fe}$, $^{56}\text{Ni}(\text{EC})$; calculated Gamow-Teller strength distributions.

85BI12 *Single-Particle Effects in Precompound Reactions: Influence of the $f_{7/2}$ shell closure*

M. Blann, S. M. Grimes, L. F. Hansen, T. T. Komoto, B. A. Pohl, W. Scobel, M. Trabandt, C. Wong, Phys. Rev. C32, 411 (1985).

Nuclear Reactions: $^{50, 52, 53}\text{Cr}$, ^{58}Fe , ^{59}Co , ^{60}Ni , $^{63}\text{Cu}(p,n)$, $E=25$ MeV; measured angle integrated neutron spectra; deduced precompound emission shell dependence.

85Bl13 ^{124}Sn Target Residues in the Interaction of Heavy Ions at Intermediate Energies

J. Blachot, J. Crancon, B. de Goncourt, A. Gizon, A. Lleres, Z. Phys. A321, 645 (1985).

Nuclear Reactions: $^{124}\text{Sn}(^{14}\text{N},\text{X})$, $(^{20}\text{Ne},\text{X})$, $(^{40}\text{Ar}, \text{X})$, $E=10\text{-}70$ MeV/nucleon; measured fragment mass yield for $A=75\text{-}121$; deduced residue $\sigma(\text{fragment } E, \text{mass})$ for $\text{X} = ^{111}\text{In}$, ^{125}Xe .

85B114 *Nuclear Data Sheets for A = 101*

J. Blachot, Nucl. Data Sheets 45, 701 (1985).

Compilation: ^{101}Sr , ^{101}Y , ^{101}Zr , ^{101}Nb , ^{101}Mo , ^{101}Tc , ^{101}Ru , ^{101}Rh , ^{101}Pd , ^{101}Ag , ^{101}Cd ; compiled, evaluated structure data.

85B115 *Quenching of Magnetic Transitions as an Angular Momentum Effect*

P. Blunden, B. Castel, H. Toki, Nucl. Phys. A440, 647 (1985).

Nuclear Structure: A=4-80; analyzed multipole quenching; deduced isobar-hole, nucleon-hole polarizations role multipole dependence.

85BI16 *In-Beam γ -Ray Spectroscopy on ^{56}Ni*

J. Blomqvist, S. A. Hjorth, A. Johnson, A. Kerek, W. Klamra, A. Nilsson, J. Nyberg, S. E. Arnell, S. Mattsson, H. Roth, O. Skeppstedt, Z. Phys. A322, 169 (1985).

Nuclear Reactions: $^{54}\text{Fe}(\alpha, 2n)$, $E=35$ MeV; measured $\gamma\gamma$ -coin. ^{56}Ni deduced levels, J, π , configurations, yrast band. Shell model.

Nuclear Structure: ^{56}Ni ; calculated levels. Shell model.

85B117 *Subthreshold Pion Production*

M. Blann, Phys. Rev. C32, 1231 (1985).

Nuclear Reactions: ^{27}Al , ^{58}Ni , $^{184}\text{W}(^{14}\text{N}, \pi^0)$, $E=\text{MeV/nucleon}$; ^{12}C , ^{58}Ni , $^{238}\text{U}(^{12}\text{C}, \pi^0)$, $E=60, 74, 84 \text{ MeV/nucleon}$; ^{40}Ca , ^{119}Sn , $^{238}\text{U}(^{40}\text{Ar}, \pi^0)$, $E=44 \text{ MeV/nucleon}$; calculated $\sigma(E(\pi))$. Boltzmann master equation, heavy ion reaction equilibration.

85B118 *Symmetric Splitting of very Light Systems in the Coalescence and Reseparation Model*

J. Blocki, K. Grotowski, R. Planeta, W. J. Swiatecki, Nucl. Phys. A445, 367 (1985).

Nuclear Reactions: $^{40}\text{Ca}(^{12}\text{C},\text{X})$, $E=132, 162, 186$ MeV; $^{40}\text{Ca}(^9\text{Be}, \text{X})$, $(^6\text{Li},\text{X})$, E not given; calculated trajectories; deduced fusion-fission mechanism. ^{56}Fe , ^{49}Cr , ^{46}V deduced compound states, fission saddle points. Coalescence, reseparation models.

85BI19 *Contribution of Decay Products of Transfer Reactions to Heavy-Ion Inelastic and Transfer Spectra*

Y. Blumenfeld, J. C. Roynette, Ph. Chomaz, N. Frascaria, J. P. Garron, J. C. Jacmart, Nucl. Phys. A445, 151 (1985).

Nuclear Reactions: $^{208}\text{Pb}(^{36}\text{Ar},\text{X})$, $(^{16}\text{O},\text{X})$, $(^{20}\text{Ne}, \text{X})$, $(^{40}\text{Ar},\text{X})$, $^{40}\text{Ca}(^{40}\text{Ca},\text{X})$, $^{40}\text{Ca}(^{40}\text{Ar}, \text{X})$, $E=10\text{-}45$ MeV/nucleon; calculated exclusive ejectile spectra, $\sigma(\theta, \text{fragment } E)$; deduced reaction mechanism. Transfer evaporation process, analytic formulae, Monte Carlo calculations.

85BI20 *The Magnetic Form Factors of ^{15}N , ^{17}O and ^{39}K*

P. G. Blunden, B. Castel, Nucl. Phys. A445, 742 (1985).

Nuclear Structure: ^{15}N , ^{17}O , ^{39}K ; calculated μ , magnetic form factors.

85BI21 *Transverse-Inelastic Form Factor of the First Excited State in ^{39}K*

P. G. Blunden, Phys. Lett. 164B, 258 (1985).

Nuclear Structure: ^{39}K ; calculated M1, E2 transition densities. Second-order core polarization, meson exchange current corrections.

Nuclear Reactions: $^{39}\text{K}(\text{e},\text{e}')$, E not given; calculated transverse form factor. Second-order core polarization, meson exchange currents.

85BI22 *Elastic Scattering of 0.8 GeV Protons from the Non-Zero-Spin Nuclei ^{13}C and ^{14}N*

G. S. Blanpied, B. G. Ritchie, M. L. Barlett, G. W. Hoffmann, J. A. McGill, M. A. Franey, M. Gazzaly, Phys. Rev. C32, 2152 (1985).

Nuclear Reactions: $^{12}, ^{13}\text{C}, ^{14}\text{N}(p,p)$, (polarized p, p), $E=0.8$ GeV; measured $\sigma(\theta)$, analyzing power vs θ ; deduced optical potential parameters.

85BI23 *Study of the Mechanism of the ${}^3\text{H} + p \rightarrow p + p + d$ Reaction at ${}^3\text{He}$ Momentum of 5 GeV/c*

A. V. Blinov, I. A. Vanyushin, V. E. Grechko, V. V. Drobot, V. A. Ergakov, S. M. Zombkovsky, Yu. V. Korolev, Ya. M. Selektor, V. V. Solovev, Yu. V. Trebukhovskiy, V. F. Turov, I. V. Chuvilo, V. N. Shulyachenko, *Yad. Fiz.* 41, 1440 (1985); *Sov. J. Nucl. Phys.* 41, 913 (1985).

Nuclear Reactions: ${}^3\text{H}(p,2p)$, E at 5 GeV/c; measured pp-coin; deduced σ , reaction mechanism.

85BI24 *Analysis of the Threshold Reaction Excitation Functions in the Generalized Superconducting Model*

A. I. Blokhin, A. V. Ignatyuk, A. B. Pashchenko, Yu. V. Sokolov, Yu. N. Shubin, *Izv. Akad. Nauk SSSR, Ser. Fiz.* 49, 962 (1985); *Bull. Acad. Sci. USSR, Phys. Ser.* 49, No. 5, 120 (1985).

Nuclear Reactions: $^{56}\text{Fe}(n,n')$, $E=14.6$ MeV; calculated $\sigma(E_n)$. $^{54}, ^{56}\text{Fe}$, $^{59}\text{Co}(n,p)$, $E=4-20$ MeV; $^{54}, ^{56}\text{Fe}$, $^{59}\text{Co}(n,\alpha)$, $E=6-21$ MeV; $^{54}, ^{56}\text{Fe}$, $^{59}\text{Co}(n,2n)$, $E=11-22$ MeV; calculated $\sigma(E)$. Fermi gas, generalized superconducting models.

Nuclear Structure: $^{56}, ^{59}\text{Fe}$, $^{55}, ^{56}\text{Mn}$, $^{58}, ^{60}\text{Co}$; calculated level densities. Fermi gas model.

85BIZU

Report: JUL-Spez-305, P78,Blaich

Nuclear Reactions: $^{209}\text{Bi}(\alpha,2n)$, $(\alpha,4n)$, $(\alpha,6n)$, $(\alpha,8n)$, $(\alpha,10n)$, $E=130-160$ MeV; measured residual production $\sigma(E)$. $^{207}\text{Pb}(\alpha,\pi^-)$, $E=151$ MeV; deduced pionic fusion σ upper limit. Activation, α -spectroscopy techniques.

85BIZV

Journal: DABBB 46, 1217, Blilie

Nuclear Reactions: ${}^4\text{He}(\pi^+, \pi^+)$, (π^+, π^+) , (π^-, π^-) , $E=90\text{-}180\text{ MeV}$; measured $\sigma(\theta)$. ${}^4\text{He}$ deduced 1^- level isospin mixing. Phase shift, continuum shell model analyses.

85BIZW

Journal: DABBB 46, 1600, Blatchley

Nuclear Reactions: $^{238}\text{U}(\text{e},\text{e}')$, $E=100\text{-}690\text{ MeV}$; measured not abstracted; deduced longitudinal, transverse response functions. Fermi gas model.

85BIZX

Journal: BAPSA 30 1281, EC4,Bleszynski

Nuclear Reactions: $^4\text{He}(p,p)$, E=intermediate; calculated multiple scattering effects; deduced relativistic effect energy region.

85BIZY

Journal: BAPSA 30 1163, GX22b,Bland

Nuclear Reactions: $^{18}\text{O}(\text{p},\text{t})$, $(\text{p}, ^3\text{He})$, $E=34.6$ MeV; measured $\sigma(\theta)$. ^{16}O , ^{16}N deduced levels, J, π , T, anti-analog states.

85BIZZ

Journal: BAPSA 30 1163, GX22a,Bland

Nuclear Reactions: $^{16}\text{O}(\pi,\pi')$, $E=164$ MeV; measured $\sigma(\theta)$.

85Bo01 *Spectroscopy of Even Sn Nuclei and Generalized-Seniority Breaking*

G. Bonsignori, M. Savoia, K. Allaart, A. Van Egmond, G. Te Velde, Nucl. Phys. A432, 389 (1985).

Nuclear Structure: $^{110}, ^{112}, ^{114}, ^{116}, ^{118}, ^{120}, ^{122}, ^{124}\text{Sn}$; calculated single particle energies, occupation probabilities, ground state wave functions, $B(E2)$ ratios, $B(\lambda)$. Generalized seniority breaking model.

85Bo02 *Dynamical Basis Generation Methods with an Application to the Four-Nucleon Problem*

G. Bozzolo, J. P. Vary, A. Plastino, Phys. Rev. C31, 207 (1985).

Nuclear Structure: ^4He ; calculated binding energy. Dynamical basis generation.

85Bo03 *Meson-Exchange Approach to the Tensor Analyzing Power in Elastic pd Backward Scattering*

A. Boudard, M. Dillig, Phys. Rev. C31, 302 (1985).

Nuclear Reactions: $^1\text{H}(\text{polarized } d,d)$, E 0.2-1.1 GeV; calculated $\sigma(\theta)$, analyzing power vs θ . Microscopic model, meson exchange, isobar resonance contribution.

85Bo04 *Measurement of the Differential Cross Sections for the $\pi^+d \rightarrow pp$ Reaction at Pion Energies of 280, 300, 330, 357, 390, 420 and 450 MeV*

M. Ya. Borkowski, V. G. Gaditsky, G. E. Gavrilov, V. A. Gordeev, Yu. S. Grigorev, V. P. Koptev, S. P. Kruglov, L. G. Kudin, A. Yu. Majorov, Yu. A. Malov, G. V. Scherbakov, I. I. Strakovsky, L. N. Uvarov, J. Phys. (London) G11, 69 (1985).

Nuclear Reactions: $^2\text{H}(\pi^+, p)$, $E=280\text{-}450$ MeV; measured $\sigma(\theta)$; deduced $L=3, 4$ partial wave contributions.

85Bo05 *Variational Treatment of the Center-of-Mass Motion*

M. Bouten, M. C. Bouten, T. Cornelissens, J. Phys. (London) G11, 231 (1985).

Nuclear Structure: ${}^6\text{Li}$; calculated center-of-mass motion in ground state, parameter dependence. Variational procedure, other model comparisons.

85Bo06 *Parity-Violating Effects for Unpolarized Electron Scattering*

F. J. Botella, Nucl. Phys. A433, 559 (1985).

Nuclear Reactions: $^{12}\text{C}(\text{e},\text{e}'\gamma)$, E not given; calculated γ CP, parity violating observables.

85Bo07 *Study of the Behaviour of Nucleonic Degrees of Freedom in Peripheral Heavy-Ion Collisions*

D. Boose, J. Richert, Nucl. Phys. A433, 511 (1985).

Nuclear Reactions: $^{74}\text{Ge}(^{32}\text{S},\text{X})$, $E=170$ MeV; calculated neutron, proton potential transfer matrix elements. Peripheral heavy ion collisions.

85Bo08 *Neutrino Masses and Right-Handed Current in the Neutrinoless Double Beta Decay* $^{76}\text{Ge} \rightarrow ^{76}\text{Se} + 2e^-$

D. Bogdan, A. Faessler, A. Petrovici, S. Holan, Phys. Lett. 150B, 29 (1985).

Radioactivity: $^{76}\text{Ge}(2\beta)$; calculated decay matrix elements; deduced neutrino mass upper limit.

85Bo09 *Inelastic Scattering of ^{20}Ne and ^{12}C on ^{58}Ni and the Three-Body Continuum*

H. G. Bohlen, H. Ossenbrink, H. Lettau, W. von Oertzen, Z. Phys. A320, 237 (1985).

Nuclear Reactions: $^{58}\text{Ni}(^{12}\text{C}, ^{12}\text{C})$, $(^{12}\text{C}, ^{12}\text{C}')$, $E=300$ MeV; $^{58}\text{Ni}(^{20}\text{Ne}, ^{20}\text{Ne})$, $(^{20}\text{Ne}, ^{20}\text{Ne}')$, $E=291, 392$ MeV; measured $\sigma(\theta)$. $^{58}\text{Ni}(^{20}\text{Ne}, ^{21}\text{Ne})$, $(^{20}\text{Ne}, ^{21}\text{Na})$, $E=392$ MeV; measured $\sigma(E(^{21}\text{Ne}))$, $\sigma(E(^{21}\text{Na}))$, $\sigma(\theta, E(^{21}\text{Ne}))$, $(^{20}\text{Ne})n$ -coin; deduced optical model parameters. ^{58}Ni levels deduced deformation parameters. ^{21}Ne deduced unbound states.

85Bo10 *The 1983 Atomic Mass Evaluation. (III). Systematics of Separation and Decay Energies*

K. Bos, G. Audi, A. H. Wapstra, Nucl. Phys. A432, 140 (1985).

Compilation: A=158-184; compiled, evaluated deuteron pairing energy. Z=54-74; compiled, evaluated two-proton separation energies.

85Bo11 *Study of the α -Particle and Deuteron Production Mechanisms in the Reaction ${}^6\text{Li} + {}^{59}\text{Co}$ at 41 MeV*

O. V. Bochkarev, A. A. Korshennikov, E. A. Kuzmin, I. G. Mukha, L. V. Chulkov, G. B. Yankov, *Yad. Fiz.* 41, 31 (1985).

Nuclear Reactions: ICPND ${}^{59}\text{Co}({}^6\text{Li}, d\alpha)$, $E=41$ MeV; measured $\sigma(\text{Ed})$, $\sigma(\text{E}\alpha)$, $\sigma(\theta\alpha)$, $\sigma(\theta\alpha, \theta d)$, $\sigma(\theta d, \text{Ed})$, $\sigma(\text{E}\alpha, \theta\alpha, \theta d)$; deduced particle production mechanism, reaction σ .

85Bo12 *Charge Exchange in the Final State of Direct (γ, n) Reactions*

S. Boffi, F. Capuzzi, C. Giusti, F. D. Pacati, Nucl. Phys. A436, 438 (1985).

Nuclear Reactions: $^{12}\text{C}(\gamma, n)$, $E=60, 80$ MeV; $^{40}\text{Ca}(\gamma, n)$, $E=80$ MeV; calculated $\sigma(\theta)$; deduced charge exchange mechanism role.

85Bo13 *Structure Functions in Nucleon Emission by Polarized Electrons*

S. Boffi, C. Giusti, F. D. Pacati, Nucl. Phys. A435, 697 (1985).

Nuclear Reactions: $^{16}\text{O}(\text{polarized } e, e'p)$, $E=500 \text{ MeV}$; calculated $\sigma(\theta(e'), \theta p)$; deduced fifth structure function existence possibility. Quasifree nucleon knockout.

85Bo14 *Excitation of Hexadecapole Transitions in ^{196}Pt via Electron Scattering and Their Interpretation in the Interacting Boson Approximation*

W. T. A. Borghols, N. Blasi, R. Bijker, M. N. Harakeh, C. W. De Jager, J. B. van der Laan, H. de Vries, S. Y. van der Werf, Phys. Lett. 152B, 330 (1985).

Nuclear Reactions: $^{196}\text{Pt}(e,e')$, E not given; measured form factors. ^{196}Pt levels deduced transition densities, neutron, proton structure functions. Interacting boson approximations.

85Bo15 *Statistical Properties and Stability of Hot Nuclei*

P. Bonche, S. Levit, D. Vautherin, Nucl. Phys. A436, 265 (1985).

Nuclear Structure: ^{208}Pb ; calculated neutron, proton density radial dependence, entropy vs temperature, proton, neutron chemical potentials vs temperature. ^{190}Pb , ^{56}Fe ; calculated entropy, proton, neutron chemical potentials vs temperature. ^{237}Bk ; calculated proton, neutron chemical potentials vs temperature.

85Bo16 *A New Determination of the π^-H and π^-D 2P-1S Strong Interaction Shifts using Crystal Diffraction*

E. Bovet, L. Antonuk, J. -P. Egger, G. Fiorucci, K. Gabathuler, J. Gimlett, Phys. Lett. 153B, 231 (1985).

Atomic Physics: $^2, ^1H$; measured pionic X-ray transition energy; deduced strong interaction shifts.

Nuclear Reactions: $^2, ^1H(\pi^-, X)$, E at rest; measured E X-ray, I X-ray; deduced pion-nucleus scattering lengths.

85Bo17 *Coulomb Effects and Charge Symmetry breaking for the $A = 4$ Hypernuclei*

A. R. Bodmer, Q. N. Usmani, Phys. Rev. C31, 1400 (1985).

Nuclear Structure: ^3He , ^3H ; calculated binding energy, charge radii; deduced Coulomb effects, charge symmetry breaking for $A=4$ hypernuclei. Variational procedure.

85Bo18 *Thermal Properties of ^{16}O and ^{40}Ca with a Realistic Effective Hamiltonian*

G. Bozzolo, J. P. Vary, Phys. Rev. C31, 1909 (1985).

Nuclear Structure: ^{16}O , ^{40}Ca ; calculated rms radii, single particle level energies, radial density distribution vs temperature. Spherical finite temperature Hartree-Fock approximation.

85Bo19 *Hyperfine Structure of the $2p^2P_{1/2}$ State in ${}^9\text{Be}^+$*

J. J. Bollinger, J. S. Wells, D. J. Wineland, W. M. Itano, Phys. Rev. A31, 2711 (1985).

Atomic Physics: $+9\text{Be}$; measured magnetic dipole hyperfine interaction constant. Be ions stored in Penning trap.

85Bo20 *Simple Model for Backbending*

D. Bonatsos, Phys. Rev. C31, 2256 (1985).

Nuclear Structure: ^{154}Gd , $^{162, 156, 164}\text{Er}$, ^{156}Dy , ^{104}Pd , ^{126}Ba , ^{244}Pu , ^{186}Os ; analyzed yrast level systematics; deduced aligned angular momentum increase, VMI, rotational superband parameters, interband interaction strengths.

85Bo21 *On the Effective Pairing-Interaction Strength in Nuclei*

K. Boning, A. Sobiczewski, K. Pomorski, Acta Phys. Pol. B16, 393 (1985).

Nuclear Structure: A=150-250; calculated pairing interaction strength; deduced dependence on n, p number. Uniform level distribution model, harmonic oscillator basis.

85Bo22 Heavy-Ion Dynamics from the Point of View of Classical Mean-Field Theory

A. Bonasera, Nucl. Phys. A439, 353 (1985).

Nuclear Reactions: ICPND $^{40}\text{Ca}(^{40}\text{Ca}, X)$, E(cm) 60-140 MeV; $^{208}\text{Pb}(^{64}\text{Ni}, X)$, E(cm) 275-400 MeV; $^{208}\text{Pb}(^{58}\text{Fe}, X)$, $(^{52}\text{Cr}, X)$, E(cm) 250-375 MeV; $^{208}\text{Pb}(^{50}\text{Ti}, X)$, $(^{48}\text{Ca}, X)$, E(cm) 175-350 MeV; $^{208}\text{Pb}(^{26}\text{Mg}, X)$, E(cm) 110-200 MeV; $^{208}\text{Pb}(^{24}\text{Mg}, X)$, E(cm) 125-200 MeV; $^{208}\text{Pb}(^{32}\text{S}, X)$, E(cm) 150-225 MeV; $^{165}\text{Ho}(^{56}\text{Fe}, X)$, E(cm) 200-380 MeV; $^{121}\text{Sb}(^{40}\text{Ar}, X)$, E(cm) 100-250 MeV; $^{110}\text{Pd}(^{40}\text{Ar}, X)$, E(cm) 150-300 MeV; $^{109}\text{Ag}(^{40}\text{Ar}, X)$, E(cm) 100-300 MeV; calculated fusion $\sigma(E)$. $^{209}\text{Bi}(^{54}\text{Cr}, X)$, $^{248}\text{Cm}(^{48}\text{Ca}, X)$, E(cm) 200-350 MeV; calculated fusion, reaction $\sigma(E)$. Classical mean field theory.

85Bo23 *A Macroscopic Approach to Heavy Ion Collisions and Fission*

A. Bonasera, S. P. Angius, Phys. Lett. 156B, 22 (1985).

Nuclear Structure: ^{27}Al , ^{48}Ca , ^{45}Sc , ^{48}Ti , ^{58}Fe , ^{64}Ni , ^{89}Y ; calculated fission σ vs fissility parameter. ^{236}U ; calculated saddle point to scission time, total kinetic energy. Classical TDHF based model.

Nuclear Reactions: $^{238}\text{U}(^{48}\text{Ca}, \text{X})$, $E=5.4, 6$ MeV/nucleon; $^{238}\text{U}(^{89}\text{Y}, \text{X})$, $E=6$ MeV/nucleon; calculated $\sigma(\text{fragment})$ vs mass. $^{208}\text{Pb}(^{32}\text{S}, \text{F})$, $E(\text{cm})=150\text{-}250$ MeV; calculated fission $\sigma(E)$. Classical TDHF based model.

85Bo24 *Measurement of the Backward-to-90° Neutron-Proton Elastic Cross Section Ratio between 40 and 75 MeV*

A. Bol, C. Dupont, P. Leleux, P. Lipnik, P. Macq, A. Ninane, Phys. Rev. C32, 308 (1985).

Nuclear Reactions: $^1\text{H}(\text{n},\text{p})$, $E=45\text{-}65\text{ MeV}$; measured $\sigma(\theta)$.

85Bo25 *A Critical Interaction Time for Fast Fission*

A. Bonasera, Lett. Nuovo Cim. 43, 14 (1985).

Nuclear Reactions: $^{238}\text{U}(^{89}\text{Y}, \text{X})$, $E=6$ MeV/nucleon; $^{238}\text{U}(^{48}\text{Ca}, \text{X})$, $E=5.4$ MeV/nucleon; calculated interaction time vs impact parameter. $^{208}\text{Pb}(^{32}\text{S}, \text{X})$, $E(\text{cm})=150\text{-}250$ MeV; $^{165}\text{Ho}(^{40}\text{Ar}, \text{F})$, $E(\text{cm})=130\text{-}330$ MeV; calculated fusion $\sigma(E)$.

85Bo26 *Reexamination of Fission Fragment Angular Distributions and the Fission Process: Analysis of data*

P. D. Bond, Phys. Rev. C32, 483 (1985).

Nuclear Reactions: $^{206}, ^{208}\text{Pb}$, ^{209}Bi , ^{226}Ra , $^{230}, ^{232}\text{Th}$, $^{234}, ^{238}\text{U}$, ^{242}Pu , ^{244}Cm , $^{249}\text{Cf}(\alpha, \text{F})$, $E=42.8 \text{ MeV}$; $^{238}\text{U}(^{40}\text{Ar}, \text{F})$, $E=340 \text{ MeV}$; $^{232}\text{Th}(^{16}\text{O}, \text{F})$, $E=140 \text{ MeV}$; $^{208}\text{Pb}(^{28}\text{Si}, \text{F})$, $E=180 \text{ MeV}$; $^{209}\text{Bi}(^{20}\text{Ne}, \text{F})$, $E=220 \text{ MeV}$; calculated fission fragment $\sigma(\theta)$; deduced incomplete fusion role.

85Bo27 *Measurement of the Neutron-Proton Total Cross Section in the 25-75-MeV Range*

A. Bol, P. Devescovi, P. Leleux, P. Lipnik, P. Macq, J. P. Meulders, Phys. Rev. C32, 623 (1985).

Nuclear Reactions: $^1\text{H}(n,n)$, $E=27.1\text{-}72.7$ MeV; measured $\sigma(E)$; deduced comparison with phase-shift analysis.

85Bo28 *Prompt Neutron Emission Probabilities following Spontaneous and Thermal Neutron Fission*

J. W. Boldeman, M. G. Hines, Nucl. Sci. Eng. 91, 114 (1985).

Radioactivity: ^{240}Pu , ^{242}Pu (SF); analyzed fission data; deduced prompt neutron emission probabilities.

Nuclear Reactions: ^{233}U , ^{235}U , ^{239}Pu , ^{241}Pu (n,F), E=thermal; analyzed fission data; deduced prompt neutron emission probabilities.

85Bo29 *Laser Spectroscopy and β -Decay Asymmetry from On-Line Implanted Nuclei*

J. Bonn, *Hyperfine Interactions* 22, 57 (1985).

Radioactivity: $^{91}\text{Rb}(\beta^-)$; measured $I\beta(\theta)$ asymmetry. Laser spectroscopy, on-line implanted nuclei.

85Bo30 *Nucleon Transfer to Nuclear Matter and the Absorptive Heavy-Ion Scattering Potential*

A. Bonaccorso, G. Piccolo, D. M. Brink, Nucl. Phys. A441, 555 (1985).

Nuclear Reactions: $^{40}\text{Ca}(^{16}\text{O},\text{X})$, E=55.6, 103.6, 214.1 MeV; $^{58}\text{Ni}(^{16}\text{O},\text{X})$, E=45, 60, 81 MeV; $^{208}\text{Pb}(^{16}\text{O}, \text{X})$, E=129.5, 192, 312.6 MeV; $^{28}\text{Si}(^{16}\text{O}, \text{X})$, E=36, 55, 81 MeV; $^{88}\text{Sr}(^{16}\text{O},\text{X})$, E=56, 59 MeV; $^{40}\text{Ca}(^{40}\text{Ca},\text{X})$, E=143.6, 186, 240 MeV; calculated nucleon transfer probability per unit time. First-order perturbation transfer mechanism treatment.

85Bo31 *Study of the Mixed-Symmetry $J(\pi) = 2^+$ States in ^{156}Gd with Inelastic Electron Scattering*

D. Bohle, A. Richter, K. Heyde, P. Van Isacker, J. Moreau, A. Sevrin, Phys. Rev. Lett. 55, 1661 (1985).

Nuclear Reactions: $^{156}\text{Gd}(e,e')$, $E=36, 42, 45$ MeV; measured $\sigma(E(e'))$; deduced effective neutron, boson charges. ^{156}Gd deduced levels, J, π , $B(E2)$ strength distribution. Interacting boson model.

85Bo32 *Excited States in Neutron Deficient Even-Even Thorium Isotopes ($218 \leq A \leq 222$)*

W. Bonin, H. Backe, M. Dahlinger, S. Glienke, D. Habs, E. Hanelt, E. Kankeleit, B. Schwartz, Z. Phys. A322, 59 (1985).

Nuclear Reactions: $^{209}\text{Bi}(^{14}\text{N}, 5n)$, $E=91$ MeV; $^{208}\text{Pb}(^{16}\text{O}, 4n)$, $E=94$ MeV; $^{208}\text{Pb}(^{18}\text{O}, 4n)$, $E=95$ MeV; measured $I(\text{ce})$, $\alpha\gamma$ -coin, $\gamma(\theta)$. 220 , 222 , ^{218}Th deduced levels, J , π , γ -branching, γ -multipolarity, $T_{1/2}$, $B(\lambda)$.

85Bo33 *Confirmation of the Giant Hyperfine Anomaly of the System $^{184}\text{W}(2^+)$ - $^{183}\text{W}(g)$ by New Spin-Echo Experiments with $^{183}\text{W}(\text{Fe})$ and Remarks on Possible Explanations*

E. Bodenstein, E. Hagn, T. Dumelow, P. C. Riedi, Z. Phys. A322, 75 (1985).

Nuclear Moments: ^{183}W ; measured NMR, hyperfine interaction frequency, line width; deduced hyperfine field in Fe. 184 , ^{183}W levels deduced giant hyperfine anomaly of the two systems. Spin-echo technique.

85Bo34 *The Neutrino Mass from the Tritium Beta Spectrum in Valine*

S. Boris, A. Golutvin, L. Laptin, V. Lubimov, V. Nagovizin, E. Novikov, V. Nozik, V. Soloshenko, I. Tikhomirov, E. Tretjakov, Phys. Lett. 159B, 217 (1985).

Radioactivity: ${}^3\text{H}(\beta^-)$; measured β -spectrum in Valine molecule, end-point energy; deduced neutrino mass upper limit. ${}^3\text{H}$, ${}^3\text{He}$ deduced atomic mass difference.

85Bo35 *An Investigation into the use of Zeros in Some Scattering Processes*

J. E. Bowcock, N. M. C. Dacunha, N. M. Queen, J. Phys. (London) G11, 1145 (1985).

Nuclear Reactions: $^4\text{He}(\alpha,\alpha)$, $E=12.3\text{-}29.5$; analyzed phase shift data; deduced parameter zero position dependent resonance location, spin assignment uncertainties.

85Bo36 *Self-Consistent Study of Triaxial Deformations: Application to the isotopes of Kr, Sr, Zr and Mo*

P. Bonche, H. Flocard, P. H. Heenen, S. J. Krieger, M. S. Weiss, Nucl. Phys. A443, 39 (1985).

Nuclear Structure: $^{80}, ^{102}\text{Zr}$; calculated quasiparticle energies, deformation energy curves, proton, neutron rms radii, deformation, quadrupole moments, binding energies. $^{86}, ^{88}, ^{90}, ^{92}, ^{94}, ^{96}, ^{98}, ^{100}, ^{102}, ^{104}\text{Zr}$, $^{90}, ^{92}, ^{96}, ^{98}, ^{104}\text{Mo}$, $^{88}, ^{90}, ^{94}, ^{102}, ^{100}\text{Sr}$, $^{98}, ^{100}\text{Kr}$; calculated deformation energy surfaces. ^{90}Kr ; calculated deformation energy surfaces, binding energy. $^{84}, ^{82}, ^{80}, ^{78}, ^{76}\text{Zr}$, $^{80}, ^{78}, ^{76}, ^{74}\text{Sr}$, $^{76}, ^{74}\text{Kr}$; calculated deformation energy surfaces.

85Bo37 *Nuclear Structure Effects in the Feeding of Yrast States of Gd, Dy and Er Nuclei*

J. Borggreen, G. Sletten, S. Bjornholm, J. Pedersen, R. V. F. Janssens, I. Ahmad, P. Chowdhury, T. L. Khoo, Y. H. Chung, P. J. Daly, Nucl. Phys. A443, 120 (1985).

Nuclear Reactions: $^{120, 122, 124}\text{Sn}(^{30}\text{Si}, xn)$, $E=145, 153$ MeV; $^{130}\text{Te}(^{30}\text{Si}, xn)$, $E=137$ MeV; $^{118, 120, 122, 124}\text{Sn}(^{34}\text{S}, xn)$, $E=155-165$ MeV; $^{122, 124, 126, 128, 130}\text{Te}(^{34}\text{S}, xn)$, $E=155, 170$ MeV; measured γ . $^{146, 147, 148, 149}\text{Gd}$, $^{148, 150, 151, 152, 154, 155, 156}\text{Dy}$, $^{152, 153, 154, 155, 156, 157, 158, 159, 160}\text{Er}$ deduced yrast population. Ge detector, NaI array.

85Bo38 *Perturbed γ - γ Directional Correlation Measurements of ^{111m}Cd in a Study of Binding of Cd to Plant Cell Walls*

P. Bode, M. de Bruin, H. Th. Wolterbeek, Int. J. Appl. Radiat. Isotop. 36, 685 (1985).

Radioactivity: $^{111m}\text{Cd(IT)}$ [from $^{110}\text{Cd(n,}\gamma\text{)}$, E=thermal]; measured $\gamma\gamma(\theta, H)$, oriented nuclei. Trace element behavior.

85Bo39 *Refractive Scattering and the Nuclear Rainbow in the Interaction of $^{12}, ^{13}\text{C}$ with ^{12}C at 20 MeV/N*

H. G. Bohlen, X. S. Chen, J. G. Cramer, P. Frobrich, B. Gebauer, H. Lettau, A. Miczaika, W. von Oertzen, R. Ulrich, T. Wilpert, Z. Phys. A322, 241 (1985).

Nuclear Reactions: $^{12}\text{C}(^{13}\text{C}, ^{13}\text{C})$, $(^{12}\text{C}, ^{12}\text{C})$, $(^{12}\text{C}, ^{12}\text{C}')$, $(^{13}\text{C}, ^{13}\text{C}')$, $E=240$ MeV; $^{12}\text{C}(^{13}\text{C}, ^{12}\text{C})$, $E=260$ MeV; $^{12}\text{C}(^{12}\text{C}, ^{13}\text{C})$, $E=240$ MeV; measured $\sigma(\theta)$; deduced refractive scattering, nuclear rainbow effects, cutoff (L). S-matrix approach.

85Bo40 *Determinationn of the Deuteron S-State Asymptotic Normalization by Continuation of p-d Elastic Cross Section to the Transfer Pole*

I. Borbely, W. Gruebler, V. Konig, P. A. Schmelzbach, A. M. Mukhamedzhanov, Phys. Lett. 160B, 17 (1985).

Nuclear Reactions: $^2\text{H}(p,p)$, $E=2-46.3$ MeV; analyzed $\sigma(\theta)$. ^2H deduced S-state asymptotic normalization. Continuation into transfer pole region, correct three-particle state Coulomb effect handling.

85Bo41 *Inelastic Scattering of π^+ and π^- Mesons from ^3He and ^4He at Energies of 350, 400, and 475 MeV*

J. Boswell, G. S. Das, P. C. Gugelot, J. Kallne, J. McCarthy, L. Orphanos, R. C. Minehart, C. Smith, R. R. Whitney, P. A. M. Gram, Phys. Rev. C32, 1289 (1985).

Nuclear Reactions: $^3, ^4\text{He}(\pi^+, \pi^+)$, (π^-, π^-) , $E=350\text{-}475$ MeV; measured $\sigma(\theta)$ vs pion momentum; deduced quasifree scattering.

85Bo42 *Nonrotational States in ^{165}Er*

N. A. Bonch-Osmolovskaya, V. A. Morozov, V. O. Nesterenko, *Izv. Akad. Nauk SSSR, Ser. Fiz.* 49, 843 (1985); *Bull. Acad. Sci. USSR, Phys. Ser.* 49, No. 5, 10 (1985).

Nuclear Structure: ^{165}Er ; calculated levels, B(E2).

85Bo43 *Coupled Octupole and Quadrupole Vibrations of Nuclei around Radium*

K. Boning, A. Sobiczewski, B. Nerlo-Pomorska, K. Pomorski, Phys. Lett. 161B, 231 (1985).

Nuclear Structure: ^{226}Th ; calculated levels, potential energy vs quadrupole, octupole deformations, $B(\lambda)$; deduced octupole instability.

85Bo44 *Electromagnetic Form Factors of ^3He and ^3H and Tensor Algebra with Computers*

R. Bornais, B. Goulard, Can. J. Phys. 63, 1032 (1985).

Nuclear Structure: ^3H , ^3He ; calculated electromagnetic form factors. Tensor algebra.

85Bo45 ($V + A$) Components from the Measured Observables in Muon Capture

F. J. Botella, J. Bernabeu, Phys. Rev. D32, 1755 (1985).

Nuclear Reactions: $^{12}\text{C}(\mu^-, \nu)$, E at rest; analyzed recoil average, linear polarization data; deduced leptonic currents, induced pseudoscalar hadronic coupling.

85Bo46 *Role of Deformation in the Intrusion of the $h_{9/2}$ Levels below the $Z = 82$ Proton Shell*

J. A. Bounds, C. R. Bingham, P. Juncar, H. K. Carter, G. A. Leander, R. L. Mlekodaj, E. H. Spejewski, W. M. Fairbank, Jr., Phys. Rev. Lett. 55, 2269 (1985).

Radioactivity: $^{189}, ^{191}, ^{193}\text{TI}(\beta^+)$, (EC); $^{193\text{m}}\text{TI}(\text{IT})$; measured hfs, isotope shift; deduced isomer intrinsic, spectroscopic quadrupole moments, deformation β_2 .

85Bo47 *Alpha-Nucleus Elastic Scattering at Intermediate Energies*

B. Bonin, N. Alamanos, B. Berthier, G. Bruge, H. Faraggi, J. C. Lugol, W. Mittig, L. Papineau, A. I. Yavin, J. Arvieux, L. Farvacque, M. Buenerd, W. Bauhoff, Nucl. Phys. A445, 381 (1985).

Nuclear Reactions: ^{58}Ni , ^{116}Sn , $^{208}\text{Pb}(\alpha, \alpha')$, $E=288, 340, 480, 699$ MeV; measured $\sigma(\theta)$. Optical, folding models.

85Bo48 *Low-Lying States of ^{94}Nb*

M. Bogdanovic, H. Seyfarth, O. W. B. Schult, H. R. Borner, S. Kerr, F. Hoyler, K. Schreckenbach, G. Colvin, Fizika(Zagreb) 17, 219 (1985).

Nuclear Reactions: $^{93}\text{Nb}(n,\gamma)$, E=thermal; measured E_γ , I_γ , $I(\text{ce})$. ^{94}Nb deduced levels, γ -branching, ICC, δ , multiplet structure, configuration.

85Bo49 *Beta-Decay Half-Lives of New Neutron-Rich Chromium-to-Nickel Isotopes and Their Consequences for the Astrophysical R-Process*

U. Bosch, W. -D. Schmidt-Ott, P. Tidemand-Petersson, E. Runte, W. Hillebrandt, M. Lechle, F. -K. Thielemann, R. Kirchner, O. Klepper, E. Roeckl, K. Rykaczewski, D. Schardt, N. Kaffrell, M. Bernas, Ph. Dessagne, W. Kurcewicz, Phys. Lett. 164B, 22 (1985).

Radioactivity: 58 , ^{59}Cr , ^{63}Mn , 66 , ^{67}Co , $^{69}\text{Ni}(\beta^-n)$ [from $W(^{76}\text{Ge},X)$, $E=11.4$ MeV/nucleon]; measured E_γ , E_β , $\beta\gamma$ -coin; deduced $T_{1/2}$, r-process implications. Other data considered.

85Bo50 *Coulomb Excitation of Rotational States in the ^{162}Dy Nucleus in the Framework of the Unified Semiclassical Approximation*

Yu. L. Bolotin, V. Yu. Gonchar, N. A. Chekanov, *Yad. Fiz.* 42, 601 (1985).

Nuclear Reactions: $^{162}\text{Dy}(^{40}\text{Ar}, ^{40}\text{Ar}')$, $E=148.6$ MeV; analyzed Coulomb excitation data; deduced Coulomb, nuclear interaction interference role. ^{162}Dy deduced rotational level Coulomb excitation probability. Unified semi-classical approximation.

85Bo51 *Excitation of Unnatural Parity States in (p,p') Reactions*

I. N. Borzov, F. A. Gareev, S. N. Ershov, S. V. Tolokonnikov, S. A. Fayans, Yad. Fiz. 42, 625 (1985).

Nuclear Reactions: ^{48}Ca , ^{90}Zr , $^{208}\text{Pb}(p,p')$, $E=160, 201\text{ MeV}$; calculated $\sigma(\theta)$. DWIA, microscopic transition densities.

85Bo52 *Emission of Preformed α Particles through a Collective Process in $^{150}\text{Sm}(p,\alpha)$*

R. Bonetti, L. Colli Milazzo, Phys. Rev. C32, 1869 (1985).

Nuclear Reactions: $^{150}\text{Sm}(p,\alpha)$, $E=23.1, 28.65$ MeV; measured $\sigma(\theta)$. $^{115}\text{In}(p,\alpha)$, $E=17.4$ MeV; $^{152}\text{Sm}(p,\alpha)$, $E=20$ MeV; measured $\sigma(E\alpha)$; deduced reaction mechanism. DWBA analysis.

85Bo53 *The Neutrino Mass Determination from the β Spectrum of Tritium in Valine (ITEP-84)*

S. D. Boris, A. I. Golutvin, L. P. Laptin, V. A. Lyubimov, V. V. Nagovitsyn, E. G. Novikov, V. Z. Nozik, V. A. Soloshchenko, I. N. Tikhomirov, E. F. Tretyakov, N. F. Myasoedov, Pisma Zh. Eksp. Teor. Fiz. 42, 107 (1985); JETP Lett. (USSR) 42, 130 (1985).

Radioactivity: $^3\text{H}(\beta^-)$; measured $E\beta$, $I\beta$; deduced β -endpoint energy, neutrino mass lower limit. ^3He , ^3H deduced mass difference.

85Bo54 *On the Partial Cross Sections for Radiative Nucleon Capture with Excitation of Giant Resonances*

V. I. Bondarenko, M. G. Urin, Izv. Akad. Nauk SSSR, Ser. Fiz. 49, 2222 (1985); Bull. Acad. Sci. USSR, Phys. Ser. 49, No. 11, 131 (1985).

Nuclear Reactions: $^{90}\text{Zr}(\gamma, n)$, $E=13\text{-}21$ MeV; $^{140}\text{Ce}(\gamma, n)$, $E=11\text{-}19$ MeV; measured E1 photoneutron production $\sigma(E)$. ^{89}Y , $^{140}\text{Ce}(n, \gamma)$, E 5-14 MeV; calculated partial $\sigma(E)$.

85Bo55 ${}^6\text{He}$ Nucleus

O. V. Bochkarev, A. A. Korshennikov, E. A. Kuzmin, I. G. Mukha, A. A. Ogloblin, L. V. Chulkov, G. B. Yankov, Pisma Zh. Eksp. Teor. Fiz. 42, 303 (1985); JETP Lett. (USSR) 42, 374 (1985).

Nuclear Reactions: ${}^7\text{Li}(\text{d}, {}^3\text{He})$, $E=30.5$ MeV; measured $\sigma(\theta({}^3\text{He}), \theta_\alpha, \phi_\alpha)$. ${}^6\text{He}$ level deduced decay by dineutron emission.

85Bo56 ^2He Emission from an Excited State of ^6Be

O. V. Bochkarev, A. A. Korshennikov, E. A. Kuzmin, I. G. Mukha, A. A. Ogloblin, L. V. Chulkov, G. B. Yankov, Pisma Zh. Eksp. Teor. Fiz. 42, 305 (1985); JETP Lett. (USSR) 42, 377 (1985).

Nuclear Reactions: $^6\text{Li}(^3\text{He}, t)$, $E=38.7$ MeV; measured $\sigma(E\alpha, \theta\alpha, \theta t)$. ^6Be level deduced decay characteristics, ^2He emission rate.

85Bo57 *Intermediate Mechanisms in the Fission-Like Fragmentation of Medium Mass Nuclear Systems*

P. Boccaccio, Nucl. Phys. A447, 149c (1985).

Nuclear Reactions: ^{59}Co , $^{63}\text{Cu}(^{32}\text{S},\text{X})$, $E=140, 154, 168$ MeV; $^{74}\text{Ge}(^{28}\text{Si},\text{X})$, $E=137, 150.8$ MeV; measured $\sigma(\text{fragment } \theta, A)$; deduced intermediate mechanism in fission like fragmentation.

85Bo58 *Corrections to β^+ -Continua Measured with Solid State Spectrometers*

V. R. Bom, P. C. Coops, Nucl. Instrum. Methods 228, 387 (1985).

Radioactivity: $^{68}\text{Ge}(\beta^+)$; measured continuum β -spectrum; deduced Q. Solid state spectrometers.

85Bo59 *Elastic and Inelastic d-p Scattering with Polarized Particles*

A. Boudard, J. Phys. (Paris), Colloq. C-2, 365 (1985).

Nuclear Reactions: $^1\text{H}(\text{polarized } d, d)$, $(\text{polarized } d, \pi^+)$, $(\text{polarized } d, \pi^0)$, $(\text{polarized } d, \gamma)$, E at 0.2-1.2 GeV/c; compiled $\sigma(\theta)$, analyzing powers, form factors, $\sigma(E\pi, \theta\pi)$, spin rotation parameters data.

85BoZL

Conference proceedings: Leningrad, P506, Bondarkov

Radioactivity: $^{111}\text{In}(\text{EC})$ [from $^{109}\text{Ag}(\alpha, 2n)$, $E=28\text{ MeV}$]; measured $\gamma\gamma(\theta, H, t)$; deduced ^{111}In hyperfine fields in Gd, Ag compounds.

85BoZM

Conference proceedings: Leningrad, P505, Bondarkov

Radioactivity: $^{181}\text{Hf}(\beta^-)$; measured $\gamma(\theta, H, t)$; deduced ^{181}Ta hyperfine magnetic field in $\text{Zr}(\text{Fe}(1-x)\text{Co}(x))_2$.

⁸⁵BoZN

Conference proceedings: Leningrad, P504, Bondarkov

Radioactivity: $^{181}\text{Hf}(\beta^-)$; measured $\gamma\gamma(\theta, H, t)$; deduced electric quadrupole interaction, hyperfine magnetic field in YFe_3 .

⁸⁵BoZO

Conference proceedings: Leningrad, P71, Boroznets

Radioactivity: ^{93m}Mo(IT); measured I_γ . ⁹³Mo transitions deduced ICC, δ . Ge(Li) detector.

85BoZP *New Levels in ^{163}Dy*

V. A. Bondarenko, I. L. Kuvaga, P. T. Prokofev, Program and Theses, Proc. 35th Ann. Conf. Nucl. Spectrosc. Struct. At. Nuclei, Leningard, p. 118 (1985).

Nuclear Reactions: $^{163}\text{Dy}(n,n'\gamma)$, E=fast; measured E_γ , I_γ . ^{163}Dy deduced levels, J, K, π . Enriched target, Ge(Li) detector.

85BoZQ

Conference proceedings: Leningrad, P95, Bondarenko

Nuclear Reactions: $^{149}\text{Sm}(\text{d}, 2\text{n}\gamma)$, $^{152}\text{Sm}(\text{p}, 4\text{n}\gamma)$, E not given; measured not given. ^{149}Eu deduced levels, J, π .

85BoZR

Conference proceedings: Leningrad, P120, Bonch-Osmolovskaya

Nuclear Structure: ^{165}Er ; calculated levels, $B(E2)$, wave functions. Quasiparticle-phonon model.

85BoZS

Report: KVI 1984 Ann, P50,Boer

Nuclear Reactions: $^{142}, ^{146}\text{Nd}(^{16}\text{O},\text{F})$, $E \leq 23$ MeV/ nucleon; measured fission $\sigma(E)$. Gas (ΔE)-Si(E) telescope.

85BoZT

Report: KVI 1984 Ann, P41, Bond

Nuclear Reactions: Cu, Mo(^{13}C , ^{12}B), E not given; analyzed data; deduced reaction mechanism. DWBA analysis.

85BoZU

Report: KVI 1984 Ann, P26, Borghols

Nuclear Reactions: $^{196}\text{Pt}(\text{e},\text{e}), (\text{e},\text{e}')$, $E=\text{linac}$; measured $\sigma(E(\text{e}))$. ^{196}Pt deduced form factors, transition densities. QDD spectrograph. Fourier-Bessel analysis.

85BoZV

M. Bogdanovic, Priv. Comm. (April 1985).

85BoZW

Report: JUL-Spez-305, P102, Bogdanovic

Nuclear Reactions: $^{133}\text{Cs}(n,\gamma)$, $E=\text{thermal}$, 5.9, 22.6 eV; measured γ -spectra, $\gamma\gamma$ -coin. $^{133}\text{Cs}(d,p)$, E not given; measured not abstracted. ^{134}Cs deduced levels, J , π , γ -branching, average spectroscopic factors, neutron binding energy configuration.

85BoZX

Report: JUL-Spez-305, P84, Bogdanovic

Nuclear Reactions: $^{93}\text{Nb}(n,\gamma)$, E not given; measured E_γ , I_γ , $I(\text{ce})$. ^{94}Nb deduced levels, neutron binding energy, J, π , configurations, γ -branching, γ -multipolarity.

⁸⁵BoZY

Journal: BAPSA 30 777, GE8,Bounds

Radioactivity: ^{189m}, ^{191m}, ^{193m}Tl; measured hfs; deduced μ , isotope, isomer shifts, spectroscopic quadrupole moment. Collinear laser fast atom beam spectroscopy. Shell model analysis.

85BoZZ

Journal: BAPSA 30 794, IF10,Bowman

Nuclear Reactions: ^{40}Ca , ^{60}Ni , $^{120}\text{Sn}(\pi^+, \pi^0)$, (π^-, π^0) , $E=230$ MeV; measured σ , $\sigma(\theta)$. ^{40}Sc , ^{60}Cu , ^{120}Sb deduced levels, widths.

85Br01 *K-Shell Binding Energies of B and C*

R. Bruch, W. L. Luken, J. C. Culberson, K. T. Chung, Phys. Rev. A31, 503 (1985).

Atomic Physics: , C; calculated K-shell binding energies.

85Br02 *Dynamical Effects of the Repulsive Core in 54.7 MeV $^{16}\text{O} + ^{28}\text{Si}$ Large-Angle Elastic Scattering*

V. N. Bragin, R. Donangelo, Nucl. Phys. A433, 495 (1985).

Nuclear Reactions: $^{28}\text{Si}(^{16}\text{O}, ^{16}\text{O})$, $E=54.7$ MeV; analyzed $\sigma(\theta)$; deduced potential parameters, repulsive core dynamical effects. Optical model.

85Br03 *Mass Excess of ^{51}Ca*

M. Brauner, D. Rychel, R. Gyufko, C. A. Wiedner, S. T. Thornton, Phys. Lett. 150B, 75 (1985).

Nuclear Reactions: $^{48}\text{Ca}(^{18}\text{O}, ^{15}\text{O})$, $E=102\text{ MeV}$; measured $\sigma(E(^{15}\text{O}))$, Q. ^{51}Ca deduced levels, mass excess.

85Br04 *Classical and Statistical Analysis of $^{40}\text{Ar}(300\text{ MeV}) + ^{197}\text{Au}$ Deep Inelastic Interaction*

I. M. Brancus, I. Berceanu, A. Buta, C. Grama, I. Lazar, I. Mihai, M. Petrascu, V. Simion, A. Constantinescu, Z. Phys. A320, 443 (1985).

Nuclear Reactions: $^{197}\text{Au}(^{40}\text{Ar}, X)$, $E=300\text{ MeV}$; calculated $\sigma(\text{fragment } \theta, E)$, interaction potential, deflection function. Deep inelastic collision, classical, statistical analyses.

85Br05 *Separation of Projectile and Ejectile Spin-Orbit Distortions in an $L=0$ ($d, {}^3\text{He}$) Reaction*

J. D. Brown, J. M. Barnwell, S. Roman, H. E. Conzett, D. Eversheim, R. M. Larimer, J. Birchall, C. Lapointe, J. S. C. McKee, N. M. Clarke, R. J. Griffiths, J. S. Hanspal, R. A. McCulloch, R. C. Johnson, J. A. Tostevin, Nucl. Phys. A436, 125 (1985).

Nuclear Reactions: ${}^{30}\text{Si}(\text{polarized } {}^3\text{He}, d)$, ${}^{31}\text{P}(\text{polarized } d, d)$, $E=33$ MeV; measured $\sigma(\theta)$, analyzing power vs θ . DWBA analysis, natural ${}^{31}\text{P}$, enriched ${}^{30}\text{Si}$ targets.

85Br06 *Capture of Polarized Protons by ^{12}C and the Interference of Compound and Direct Reaction Mechanisms near $E(p) = 1.7 \text{ MeV}$*

J. C. Brown, R. G. Seyler, T. L. Tsin, S. L. Blatt, Phys. Rev. C31, 1607 (1985).

Nuclear Reactions: $^{12}\text{C}(\text{polarized p}, \gamma)$, $E=1.6\text{-}1.8 \text{ MeV}$; measured $A(E, \theta)$, γ yield vs E . ^{13}N deduced level parameters. R-matrix theory.

85Br07 *Two-Proton Neutron-Hole Yrast Excitations in $^{147}_{66}\text{Dy}_{81}$*

R. Broda, P. J. Daly, Z. W. Grabowski, H. Helppi, M. Kortelahti, J. McNeill, R. V. F. Janssens, R. D. Lawson, D. C. Radford, J. Blomqvist, Z. Phys. A321, 287 (1985).

Nuclear Reactions: $^{89}\text{Y}(^{60}\text{Ni},\text{np})$, $^{90}\text{Zr}(^{60}\text{Ni},\text{n2p})$, $^{92}\text{Zr}(^{58}\text{Ni},\text{n2p})$, $E=230\text{-}250\text{ MeV}$; measured E_γ , I_γ , $\gamma\gamma$ -coin. ^{147}Dy deduced levels, J , π , yrast sequence, γ -multipolarity, branching, transition widths, ICC, seniority characteristics, $B(\lambda)$, configurations.

85Br08 *Operation of a High Temperature Ion Source at the Helium-Jet On-Line Isotope Separator Facility HELIOS*

M. Brugger, N. Hildebrand, T. Karlewski, N. Trautmann, A. K. Mazumdar, G. Herrmann, Nucl. Instrum. Methods 234, 218 (1985).

Radioactivity: $^{152}\text{Pr}(\beta^-)$ [from ^{235}U fission]; measured E_γ , I_γ . ^{152}Nd deduced transitions. High temperature ion source coupled to helium gas-jet transport system.

85Br09 *Nuclear Moments of the Low Abundant Natural Isotope ^{176}Lu and Hyperfine Anomalies in the Lutetium Isotopes*

T. Brenner, S. Buttgenbach, W. Rupprecht, F. Traber, Nucl. Phys. A440, 407 (1985).

Nuclear Moments: +175}, ^{176}Lu ; measured μ , hfs; deduced quadrupole moment, hyperfine anomaly, Sternheimer shielding factors. Atomic beam magnetic resonance technique.

85Br10 *K-Electron Capture Decay of ^{158}Tb : A disappointment for the neutrino mass 'balance' experiment*

V. B. Brudanin, Ts. Vylov, Ch. Briancon, V. M. Gorojankin, K. Ya. Gromov, A. Marinov, A. F. Novgorodov, V. N. Pokrovski, N. I. Rukhadze, V. T. Sidorov, J. Phys. (London) G11, L119 (1985).

Radioactivity: $^{158}\text{Tb}(\text{EC})$; measured $\gamma(\text{K X-ray})$ -coin; deduced no ultra-low energy capture decay. ^{158}Gd levels deduced K-capture probability.

85Br11 Quasi-Elastic Reaction Cross Sections and the Merging Instability

U. Brosa, W. Westmeier, Nucl. Phys. A441, 109 (1985).

Nuclear Reactions: $^{27}\text{Al}(^{16}\text{O},\text{X})$, $E=90, 100 \text{ MeV}$; $^{40}\text{Ca}(^{20}\text{Ne}, \text{X})$, $E=151 \text{ MeV}$; $^{107}\text{Ag}(^{40}\text{Ca},\text{X})$, $E \leq 303 \text{ MeV}$; $^{92}\text{Mo}(^{92}\text{Mo},\text{X})$, $E=1350 \text{ MeV}$; $^{56}\text{Fe}(^{132}\text{Xe}, \text{X})$, $E=600\text{-}940 \text{ MeV}$; $\text{Ag}(^{86}\text{Kr},\text{X})$, $E=620 \text{ MeV}$; $^{181}\text{Ta}(^{16}\text{O}, \text{X})$, $E=83, 90, 96 \text{ MeV}$; $^{165}\text{Ho}(^{56}\text{Fe},\text{X})$, $E=462 \text{ MeV}$; $^{209}\text{Bi}(^{14}\text{N},\text{X})$, $E=99 \text{ MeV}$; $^{208}\text{Pb}(^{16}\text{O}, \text{X})$, $E=80\text{-}102 \text{ MeV}$; $^{139}\text{La}(^{86}\text{Kr},\text{X})$, $E=505\text{-}710 \text{ MeV}$; $^{166}\text{Er}(^{86}\text{Kr},\text{X})$, $E=705 \text{ MeV}$; $^{197}\text{Au}(^{56}\text{Fe}, \text{X})$, $E \leq 538 \text{ MeV}$; $^{197}\text{Au}(^{63}\text{Cu},\text{X})$, $E=365, 443, 605 \text{ MeV}$; $^{63}\text{Cu}(^{197}\text{Au},\text{X})$, $E=1400 \text{ MeV}$; $^{208}\text{Pb}(^{56}\text{Fe},\text{X})$, $E=340 \text{ MeV}$; $^{209}\text{Bi}(^{56}\text{Fe}, \text{X})$, $E=385, 480 \text{ MeV}$; $^{232}\text{Th}(^{40}\text{Ar},\text{X})$, $E=297, 388 \text{ MeV}$; $^{238}\text{U}(^{40}\text{Ar},\text{X})$, $E \leq 288 \text{ MeV}$; $^{238}\text{U}(^{56}\text{Fe},\text{X})$, $E=538 \text{ MeV}$; $^{56}\text{Fe}(^{238}\text{U}, \text{X})$, $E=1809 \text{ MeV}$; $^{238}\text{U}(^{86}\text{Kr},\text{X})$, $E \leq 605 \text{ MeV}$; $^{197}\text{Au}(^{129}\text{Xe},\text{X})$, $E \leq 761 \text{ MeV}$; $^{197}\text{Au}(^{132}\text{Xe}, \text{X})$, $E=890 \text{ MeV}$; $^{238}\text{U}(^{92}\text{Mo},\text{X})$, $E=1350 \text{ MeV}$; $^{209}\text{Bi}(^{136}\text{Xe},\text{X})$, $E=940\text{-}1420 \text{ MeV}$; $^{238}\text{U}(^{132}\text{Xe}, \text{X})$, $E \leq 1150 \text{ MeV}$; $^{238}\text{U}(^{238}\text{U},\text{X})$, $E=1766, 1785 \text{ MeV}$; calculated reaction, quasielastic σ ; deduced deep inelastic, quasielastic process separation, instability role.

85Br12 *Real-To-Imaginary Ratio of the (p-Bar) Forward Elastic Scattering Amplitude in the Momemtum Range Between 180 and 590 MeV/c*

W. Bruckner, H. Dobbeling, F. Guttner, D. Von Harrach, H. Kneis, S. Majewski, M. Nomachi, S. Paul, B. Povh, R. D. Ransome, T. -A. Shibata, M. Treichel, Th. Walcher, Phys. Lett. 158B, 180 (1985).

Nuclear Reactions: $^1\text{H}(\text{p-bar}, \text{p-bar})$, E at 181-590 MeV/c; measured $\sigma(\theta)$; deduced real to imaginary forward scattering amplitude ratio.

85Br13 *Measurement of the Polarization of Protons from Reaction $\gamma p \rightarrow p\pi^0$ in the Third Resonance*

A. S. Bratashevsky, A. A. Zybalov, S. P. Karasev, O. G. Konovalov, A. S. Omelaenko, P. V. Sorokin, N. E. Sagalovich, Yu. O. Storozhenko, A. E. Tenishev, *Yad. Fiz.* 41, 1515 (1985).

Nuclear Reactions: $^1\text{H}(\gamma, \pi^0)$, $E=1.125\text{-}1.3$ MeV; measured proton polarization. Carbon polarimeter. Phenomenological analysis.

85Br14 *Analysis of Elastic Li Ion Scattering with Inclusion of Disintegration*

V. N. Bragin, I. J. Thompson, Yad. Fiz. 41, 314 (1985); Sov. J. Nucl. Phys. 41, 199 (1985).

Nuclear Reactions: $^{28}\text{Si}(^6\text{Li}, ^6\text{Li})$, $E=154$ MeV; calculated $\sigma(\theta)$; deduced disintegration channel role, potential parameters. Adiabatic, cluster approximations, folding model.

85Br15 *Shell-Model Analysis of High-Resolution Data for Elastic and Inelastic Electron Scattering on ^{19}F*

B. A. Brown, B. H. Wildenthal, C. F. Williamson, F. N. Rad, S. Kowalski, H. Crannell, J. T. O'Brien, Phys. Rev. C32, 1127 (1985).

Nuclear Reactions: $^{19}\text{F}(\text{e},\text{e}')$, $E=78\text{-}340\text{ MeV}$; measured $\sigma(E,\theta)$; deduced longitudinal, transverse form factors. Shell model comparison.

Nuclear Structure: ^{19}F ; calculated shell model wave functions; deduced electron scattering form factors, effective charges. Comparison with data.

85Br16 $^{58}\text{Ni} + ^{64}\text{Ni}$ Subbarrier Fusion Cross Section

R. A. Broglia, C. H. Dasso, S. Landowne, Phys. Rev. C32, 1426 (1985).

Nuclear Reactions: $^{64}\text{Ni}(^{58}\text{Ni}, X)$, $E(\text{cm})=84\text{-}109$ MeV; calculated fusion $\sigma(E)$. $^{64}\text{Ni}(^{58}\text{Ni}, ^{60}\text{Ni})$, $E(\text{cm})=89\text{-}110$ MeV; calculated $\sigma(E)$. Collective model, channel coupling, macroscopic form factors.

85Br17 *Sawtooth Curve of Neutron Multiplicity*

U. Brosa, Phys. Rev. C32, 1438 (1985).

Radioactivity: $^{252}\text{Cf}(\text{SF})$; calculated fission fragment yield, average neutron multiplicity vs fragment mass; deduced Whetstone fission model validity.

Nuclear Reactions: $^{238}\text{U}(\gamma, \text{F})$, $E=12, 30 \text{ MeV}$ bremsstrahlung; calculated average neutron multiplicity vs fission fragment mass.
 $^{165}\text{Ho}(^{56}\text{Fe}, \text{X})$, $E=476 \text{ MeV}$; calculated average neutron multiplicity vs fragment Z ; deduced Whetstone model validity.

85Br18 *Multiple Coulomb Excitation of the Transitional Nucleus ^{82}Kr*

S. Brussermann, K. P. Lieb, P. Sona, H. Emling, E. Grosse, J. Stachel, Phys. Rev. C32, 1521 (1985).

Nuclear Structure: ^{82}Kr ; calculated levels, B(E2). Asymmetric rotor, interacting boson, Gneuss-Greiner models.

Nuclear Reactions: $^{208}\text{Pb}(^{86}\text{Kr}, ^{86}\text{Kr}')$, E=4.6 MeV/nucleon; measured Doppler corrected E_γ , I_γ , γ yields, $\gamma(^{82}\text{Kr})$ -coin. ^{82}Kr levels deduced γ -branching, B(E2). Model calculation comparison.

85Br19 *Alpha decays in ^{24}Mg*

D. Branford, J. Phys. (London) G11, 1207 (1985).

Nuclear Structure: ^{24}Mg ; calculated α -decay branching ratios. Configuration mixing, shell model.

85Br20 *The Reversal Effect for Neutron and Proton Multipole Matrix Elements in Higher 2^+ Transitions*

V. R. Brown, A. M. Bernstein, V. A. Madsen, Phys. Lett. 164B, 217 (1985).

Nuclear Structure: ^{118}Sn , ^{54}Fe , ^{90}Zr , ^{208}Pb ; calculated 2^+ multipole neutron, proton matrix elements; deduced spin-orbit intruder role. RPA.

85Br21 *Measurement of Polarization of Protons from the Reaction $\gamma p \rightarrow p\pi^0$ at $\theta(\pi) = 110^\circ$ c. m. in the Range of the Second and Third Resonances*

A. S. Bratashevsky, A. A. Zybalov, S. P. Karasev, O. G. Konovalov, E. E. Korobova, A. S. Omelaenko, P. V. Sorokin, Yu. O. Storozhenko, A. E. Tenishev, *Yad. Fiz.* 42, 658 (1985).

Nuclear Reactions: $^1\text{H}(\gamma, \pi^0)$, $E=0.58\text{-}1.26$ GeV; measured proton polarization. Carbon calorimeter including wire spark chambers, magnetic spectrometer.

85Br22 *Relativistic Wave Functions of Deuteron and Hard Processes*

M. A. Braun, Yad. Fiz. 42, 818 (1985).

Nuclear Reactions: $^2\text{H}(\text{e},\text{e})$, E not given; calculated structure functions. Relativistic treatment.

Nuclear Structure: ^2H ; calculated electromagnetic form factors. Relativistic treatment.

85Br23 *Differential Cross Sections for $p + d \rightarrow \gamma + {}^3\text{He}$ at Intermediate Energies*

W. J. Briscoe, B. H. Silverman, D. H. Fitzgerald, B. M. K. Nefkens, A. Boudard, G. Bruge, L. Farvacque, C. Glashausser, Phys. Rev. C32, 1956 (1985).

Nuclear Reactions: ${}^1\text{H}(d,\gamma)$, $E=300\text{-}500$ MeV; measured $\sigma(\theta)$; deduced time reversal invariance validity.

85Br24 *Variational Formulation of Nuclear Fluid Dynamics*

L. P. Brito, C. da Providencia, Phys. Rev. C32, 2049 (1985).

Nuclear Structure: ^{208}Pb ; calculated giant multipoles excitation, EWSR. Fluid dynamical model, variational formulation.

85Br25 *Effects of the Pauli Principle on the $^{16}\text{O} + ^{28}\text{Si}$ Optical Potential at 55 and 215 MeV Laboratory Energy*

V. N. Bragin, R. Donangelo, Phys. Rev. C32, 2176 (1985).

Nuclear Reactions: $^{28}\text{Si}(^{16}\text{O}, ^{16}\text{O})$, E=55-215 MeV; analyzed data; deduced optical potential shape transition. Pauli effects.

85Br26 *Anomalous Scattering of ^{16}O Ions on $^{28}, ^{29}, ^{30}\text{Si}$ Nuclei and the Shell Structure of Silicon Isotopes*

V. N. Bragin, J. M. Quesada, Yad. Fiz. 42, 1114 (1985).

Nuclear Reactions: $^{28}, ^{29}, ^{30}\text{Si}(^{16}\text{O}, ^{16}\text{O})$, $E=54.7, 60$ MeV; analyzed $\sigma(\theta)$; deduced optical model parameters. $^{28}, ^{29}, ^{30}\text{Si}$ deduced shell structure. Microscopic approach.

85Br27 *Quark-Momentum Distribution in Nuclei*

K. Brauer, A. Faessler, K. Wildermuth, Nucl. Phys. A437, 717 (1985).

Nuclear Structure: Fe, He, ^2H ; calculated relative response function. Nonrelativistic quark model.

85Br28 *Random Phase Approximation Treatment of the Pairing Phase Transition in Strongly Rotating Nuclei*

R. A. Broglia, M. Gallardo, Nucl. Phys. A447, 489c (1985).

Nuclear Structure: 169 , 168 , ^{167}Yb ; calculated routhians. RPA.

85Br29 *Experimental and Theoretical Gamow-Teller Beta-Decay Observables for the sd-Shell Nuclei*

B. A. Brown, B. H. Wildenthal, At. Data Nucl. Data Tables 33, 347 (1985).

Nuclear Structure: A=17-39; analyzed Gamow-Teller decay data. Shell model, effective one-body operator, densities.

85Br30 *Excitation Cross Section of the Characteristic X Radiation by Protons and ^4He Ions for Elements with Z in the Range $22 \leq Z \leq 83$*

E. Brazevich, Ya. Brazevich, V. F. Volkov, S. A. Gerasimov, Lyu Zai Ik, G. M. Osetinsky, A. Purev, At. Energ. 59, 52 (1985); Sov. At. Energy 59, 603 (1985).

Nuclear Reactions: Ti, Se, Rb, Zr, Nb, Mo, Pd, Ag, Sb, Te, Ta, W, Bi(p, X), (α ,X), E 1.5-3.8 MeV; measured X-ray production $\sigma(E)$. Thin targets.

85Br31 *Electric Quadrupole Transition Rates in ^{195}Pt and the $O(6)$ Boson-Fermion Symmetry*

A. M. Bruce, W. Gelletly, J. Lukasiak, W. R. Phillips, D. D. Warner, Phys. Lett. 165B, 43 (1985).

Nuclear Reactions: $^{195}\text{Pt}(\alpha, \alpha')$, $E=5.6\text{-}6.5$ MeV; measured $\gamma(\theta)$ following Coulomb excitation. ^{195}Pt levels deduced δ , $B(E2)$. Boson-fermion $O(6)$ symmetry comparison.

85Br32 *Cumulative Yields of ^{131m}Te and ^{133m}Te in the Fission of ^{235}U*

H. Braun, H. O. Denschlag, Radiochim. Acta 38, 169 (1985).

Nuclear Reactions: $^{235}\text{U}(\text{n},\text{f})^{131}\text{Te}/^{131m}\text{Te}/^{133}\text{Te}/^{133m}\text{Te}$, E=thermal; measured residuals cumulative yield following fission. Radiochemical, activation techniques.

85Br33 *Polarization in Three-Nucleon Breakup: Experiment and theory*

R. E. Brown, R. A. Hardekopf, N. Jarmie, F. D. Correll, J. M. Lambert, P. A. Treado, I. Slaus, P. Schwandt, W. W. Jacobs, H. O. Meyer, E. J. Stephenson, J. Q. Yang, W. T. H. van Oers, P. Doleschall, J. A. Tjon, Nucl. Instrum. Methods Phys. Res. B10/11, 356 (1985)

Nuclear Reactions: $^1\text{H}(\text{polarized d,d})$, $E=16, 79 \text{ MeV}$; measured vector analyzing power vs rotation angle. Faddeev formalism.

85BrZV

Report: KVI 1984 Ann, P13, Brandenburg

Nuclear Reactions: $^{208}\text{Pb}(\alpha, \alpha'n)$, $E=120$ MeV; measured αn -coin. ^{208}Pb deduced giant monopole resonance decay. QMG/2 magnetic spectrograph, large liquid scintillator. Statistical model calculation.

85BrZW

Report: KVI 1984 Ann, P9, Brandenburg

Nuclear Reactions: $^{24}\text{Mg}(\alpha, \alpha')$, $E=120$ MeV; measured $\sigma(\theta)$. ^{24}Mg deduced isoscalar monopole, dipole transition strength, EWSR. DWBA analysis.

85BrZX Decay of ^{137}Sm and Deformation in Light Pm Region

R. A. Braga, R. W. Fink, R. L. Mlekodaj, G. A. Leander, B. D. Kern, K. S. Toth, B. E. Gnade, Bull. Am. Phys. Soc. 30, No. 8, 1264, CC5 (1985)

Nuclear Reactions: $^{92}\text{Mo}(^{48}\text{Ti}, \text{xnyp})$, E not given; measured $E\gamma$, $I\gamma$, $\gamma\gamma$ -coin, $\gamma(\text{X-ray})(t)$. ^{137}Pm deduced levels.

85BrZY

Journal: BAPSA 30 1246, AB7,Bradley

Nuclear Reactions: La(^{139}La ,X), E=40 MeV/nucleon; measured fragment production σ , mass, charge distributions.

85BrZZ

Journal: BAPSA 30 746, DG1,Breuer

Nuclear Reactions: $^{156}\text{Ho}(^{56}\text{Fe},\text{X})$, $E=505\text{ MeV}$; measured $\sigma(\text{fragment } \theta)$, $\sigma(\text{fragment } E)$, mass, charge distributions; deduced residuals energy sharing mechanism.

85Bu01 *A Measurement of $B(E3; 0^+ \rightarrow 3_1^-)$ and Some E2 Transition Probabilities in $^{132}, ^{134}, ^{136}, ^{138}\text{Ba}$ using Coulomb Excitation*

S. M. Burnett, A. M. Baxter, S. Hinds, F. Pribac, R. H. Spear, W. J. Vermeer, Nucl. Phys. A432, 514 (1985).

Nuclear Reactions: $^{132}, ^{134}, ^{136}, ^{138}\text{Ba}(^{12}\text{C}, ^{12}\text{C}')$, E=38-42 MeV; measured Coulomb excitation. $^{132}, ^{134}, ^{136}, ^{138}\text{Ba}$ deduced B(E2), B(E3) values. Enriched targets.

85Bu02 *Cluster Model of $A = 7$ Nuclei and the Astrophysical S Factor for ${}^3\text{He}(\alpha,\gamma){}^7\text{Be}$ at Zero Energy*

B. Buck, R. A. Baldock, J. A. Rubio, J. Phys. (London) G11, L11 (1985).

Nuclear Reactions: ICPND ${}^3\text{He}(\alpha,\gamma)$, $E = 0$; calculated astrophysical σ factor $S(E)$. ${}^4\text{He}({}^3\text{He},{}^3\text{He})$, $E(\text{cm})=0-15$ MeV; calculated phase shifts. Cluster model.

Nuclear Structure: ${}^7\text{Li}$; calculated rms radii, quadrupole moment, $B(E2)$, $B(M1)$, μ . ${}^7\text{Be}$; calculated $B(M1)$, $\log ft$.

85Bu03 *Isospin Impurity in the ^{16}O Ground State*

M. N. Butler, S. E. Koonin, Phys. Lett. 150B, 18 (1985).

Nuclear Structure: ^{16}O ; calculated level isospin impurity. ^{17}O , ^{17}F ; calculated energy difference. Relativistic mean field model, Skyrme forces, direct Coulomb interaction.

85Bu04 *An Analyser of Deuteron Tensor Polarisation for the GeV/c Momentum Range*

D. V. Bugg, C. Wilkin, Phys. Lett. 152B, 37 (1985).

Nuclear Reactions: $^1\text{H}(\text{d}, 2\text{p})$, E at 0.6-3 GeV/c; calculated analyzing power t_{20} , t_{22} vs momentum transfers.

85Bu05 *New Data on the $^{112}\text{Rh} \rightarrow ^{112}\text{Pd}$ Decay*

V. P. Bugrov, A. A. Byalko, V. M. Kolobashkin, A. I. Slyusarenko, Izv. Akad. Nauk SSSR, Ser. Fiz. 49, 96 (1985); Bull. Acad. Sci. USSR, Phys. Ser. 49, No. 1, 99 (1985).

Radioactivity: $^{112}\text{Rh}(\beta^-)$ [from $^{235}\text{U}(\text{n},\text{F})$, $E=\text{thermal}$]; measured E_γ , I_γ , $\gamma\gamma$ -coin. ^{112}Pd deduced levels, possible J, π , γ -branching.

85Bu06 *The Four-Nucleon System and the Pairwise NN-Interaction Potentials with Forbidden States*

A. V. Bursak, A. M. Gorbatov, V. I. Kukulin, V. G. Neudatchin, B. V. Rudyak, Phys. Lett. 153B, 127 (1985).

Nuclear Structure: ^4He ; calculated binding energy, rms radius. Pairwise nucleon-nucleon interaction.

85Bu07 β^+ Decay of ^{47}Cr

T. W. Burrows, J. W. Olness, D. E. Alburger, Phys. Rev. C31, 1490 (1985).

Radioactivity: $^{47}\text{Cr}(\beta^+)$ [from $^9\text{Be}(^{40}\text{Ca}, 2n)$, $E=120$ MeV; measured $T_{1/2}$, E_γ , I_γ ; deduced log ft. ^{47}Cr deduced level J, π . He-jet transfer system, Ge(Li) detector.

85Bu08 *A Direct Observation of Plasma Delay in Silicon Surface Barrier Detectors*

R. Butsch, J. Pochodzalla, B. Heck, Nucl. Instrum. Methods 228, 586 (1985).

Nuclear Reactions: $^{13}\text{C}(^{28}\text{Si},\text{X})$, $E=327\text{ MeV}$; measured $\sigma(\text{fragment } \theta, E)$. Tof spectrometer.

85Bu09 *Estimate of ^{12}C Coulomb Energy from Electron Scattering Experiments*

A. U. Buki, N. G. Shevchenko, V. P. Likhachev, V. N. Polishchuk, A. A. Khomich, B. V. Mazanko, Ukr. Fiz. Zh. 30, 499 (1985).

Nuclear Reactions: $^{12}\text{C}(\text{e},\text{e})$, E not given; calculated longitudinal response functions. ^{12}C deduced Coulomb energy. Data input.

85Bu10 *Interacting Boson and Interacting Boson-Fermion Calculations in the A 100 Transitional Region*

D. Bucurescu, G. Cata, G. Constantinescu, D. Cutoiu, M. Ivascu, N. V. Zamfir, Rev. Roum. Phys. 30, 181 (1985).

Nuclear Structure: $^{96, 98, 100, 102, 104, 106}\text{Ru}$, $^{98, 100, 102, 104, 106, 108}\text{Pd}$; calculated levels, band structure, $B(E2)$, quadrupole moment. $^{97, 99, 101, 103, 105}\text{Rh}$; calculated levels, model parameter dependence. Interacting boson model.

85Bu11 *IBFA Description of High-Spin Positive-Parity States in Rh Isotopes*

D. Bucurescu, G. Cata, D. Cutoiu, G. Constantinescu, M. Ivascu, N. V. Zamfir, Nucl. Phys. A443, 217 (1985).

Nuclear Structure: $^{96, 98, 100, 102, 104, 106}\text{Ru}$, ^{99}Rh ; calculated levels, $B(E2)$. $^{97, 101, 103, 105, 107}\text{Ru}$; calculated levels; deduced model parameters. Interacting boson-fermion approximation.

Nuclear Reactions: $^{88}\text{Sr}(^{14}\text{N}, 3n)$, $E=54$ MeV; measured E_γ , I_γ , recoil. ^{99}Rh deduced levels, $T_{1/2}$, $B(E2)$. Interacting boson-fermion approximation model comparison.

85Bu12 *Two-Quasineutron States in ^{168}Er Populated by the $^{167}\text{Er}(d,p)$ and $^{167}\text{Er}(t,d)$ Reactions*

D. G. Burke, B. L. W. Madaock, W. F. Davidson, Nucl. Phys. A442, 424 (1985).

Nuclear Reactions: $^{167}\text{Er}(d,p)$, $E=12$ MeV; measured $\sigma(E(p),\theta)$; $^{167}\text{Er}(t,d)$, $E=15$ MeV; measured $\sigma(E(d),\theta)$. ^{168}Er deduced levels, J , π , band structure two-quasineutron assignments. Enriched targets.

85Bu13 *Octupole Vibrational States in the Even-Mass Barium Isotopes*

S. M. Burnett, A. M. Baxter, S. Hinds, F. Pribac, R. Smith, R. H. Spear, M. P. Fewell, Nucl. Phys. A442, 289 (1985).

Nuclear Reactions: $^{130, 132, 134, 136, 138}\text{Ba}(\alpha, \alpha')$, $E=20$ MeV; measured $\sigma(E(\alpha'))$. $^{132, 134, 136, 138}\text{Ba}(\alpha, \alpha')$, $E=20$ MeV; measured $\sigma(E\alpha, \theta)$. $^{132, 134, 136, 138}\text{Ba}$ deduced levels, $J, \pi, L, \beta_2, \beta_3$. ^{130}Ba deduced levels. Enriched targets.

85Bu14 *Spins and Parities of Low-Lying States in ^{81}Kr from the $^{80}\text{Kr}(d(\text{pol}),p)^{81}\text{Kr}$ Reaction and Implications for a ^{81}Br Solar Neutrino Detector*

B. L. Burks, R. E. Anderson, T. B. Clegg, E. J. Ludwig, R. L. Varner, Nucl. Phys. A442, 300 (1985).

Nuclear Reactions: $^{80}\text{Kr}(\text{polarized } d,p)$, $(\text{polarized } d,d)$, $E=11 \text{ MeV}$; $^{80}\text{Kr}(\text{polarized } p,p)$, $E=16 \text{ MeV}$; measured $\sigma(\theta)$, $A(\theta)$. ^{81}Kr levels deduced J , π , S . Enriched gas, ion-implanted foil target. Optical model, DWBA analyses.

85Bu15 *Assaying of Targets for Nuclear Measurements with a Gridded Ionization Chamber*

C. Budtz-Jorgensen, H. -H. Knitter, G. Bortels, Nucl. Instrum. Methods 236, 630 (1985).

Nuclear Reactions: $^{235}\text{U}(\text{n},\alpha)$, (n,F) , $E=\text{thermal}$; measured fission fragment, α -spectra. Vacuum evaporated UF_4 , electrodeposited, suspension sprayed $^{235}\text{U}_3\text{O}_8$ layer targets, gridded ionization chamber.

Radioactivity: $^{224}\text{Ra}(\alpha)$ [from $^{228}\text{Th}(\alpha\text{-decay})$]; $^{220}\text{Rn}(\alpha)$ [from $^{224}\text{Ra}(\alpha\text{-decay})$]; $^{216}\text{Po}(\alpha)$ [from $^{220}\text{Rn}(\alpha\text{-decay})$]; measured $E\alpha$, $I\alpha$, α -recoil spectra. Self-transferred source, gridded ionization chamber.

85Bu16 *Momentum Balance for the Incomplete Fusion $^{16}\text{O} + ^{40}\text{Ca}$*

A. Budzanowski, H. Dabrowski, Y. Chan, R. G. Stokstad, I. Tserruya, S. Wald, Phys. Rev. C32, 1534 (1985).

Nuclear Reactions: $^{40}\text{Ca}(^{16}\text{O},\text{X})$, $E=313\text{ MeV}$; measured $\sigma(\text{fusion residue } \theta, \theta_\alpha)$ vs fragment velocity; deduced projectile breakup mechanism.

85Bu17 *A Gauge-Invariant Exchange Current for the Paris Potential*

A. Buchmann, W. Leidemann, H. Arenhovel, Nucl. Phys. A443, 726 (1985).

Nuclear Reactions: $^2\text{H}(\gamma, p)$, (polarized γ, p), (γ, n) , $E=100, 140$ MeV; calculated $\sigma(\theta)$, γ -asymmetry, neutron polarization vs θ .
 $^2\text{H}(e, e')$, E not given; calculated breakup $\sigma(\theta, E(e'))$. Gauge invariant exchange current model.

85Bu18 *Two-Quasiproton States in ^{168}Er Studied by the $^{169}\text{Tm}(t(\text{pol}),\alpha)^{168}\text{Er}$ Reaction*

D. G. Burke, W. F. Davidson, J. A. Cizewski, R. E. Brown, J. W. Sunier, Nucl. Phys. A445, 70 (1985).

Nuclear Reactions: $^{169}\text{Tm}(\text{polarized } t, \alpha)$, $E=17$ MeV; measured $\sigma(\theta)$, $\sigma(E(\alpha), \theta)$. ^{168}Er deduced levels, J, π , K, two-quasiparticle Nilsson assignments.

85Bu19 *The Nuclear Structure of ^{168}Er Studied with the $^{170}\text{Er}(p,t)^{168}\text{Er}$ and $^{166}\text{Er}(t,p)^{168}\text{Er}$ Reactions*

D. G. Burke, W. F. Davidson, J. A. Cizewski, R. E. Brown, E. R. Flynn, J. W. Sunier, Can. J. Phys. 63, 1309 (1985).

Nuclear Reactions: $^{170}\text{Er}(p,t)$, $E=18$ MeV; $^{166}\text{Er}(t,p)$, $E=17$ MeV; measured $\sigma(Et)$, $\sigma(Ep)$, $\sigma(\theta)$. ^{168}Er deduced levels, J, π , configurations.

85Bu20 *Influence of the $N = 50$ Shell Closure on Mean Square Charge Radii of Strontium*

F. Buchinger, R. Corriveau, E. B. Ramsay, D. Berdichevsky, D. W. L. Sprung, Phys. Rev. C32, 2058 (1985).

Nuclear Moments: $+84\}$, 86 , 87 , ^{88}Sr ; measured optical isotope shift; deduced skin thickness variation. 90 , 89 , 87 , 86 , ^{84}Sr deduced rms charge radii. Hartree-Fock methods, other data input, Laser spectroscopy, collimated beams.

Radioactivity: 89 , ^{90}Sr ; measured optical isotope shifts; deduced skin thickness variation. 90 , 89 , 87 , 86 , ^{84}Sr deduced rms charge radii. Hartree-Fock methods, other data input, laser spectroscopy, collimated beams.

85Bu21 NMR of ^{165}Ho in the Ising Ferromagnet $\text{Ho}(\text{OH})_3$

D. St P. Bunbury, C. Carboni, M. A. H. McCausland, J. Phys. (London) C18, L1151 (1985).

Nuclear Moments: +165}Ho; measured NMR in Ising ferromagnet; deduced hyperfine parameters.

85Bu22 *The Application of a Multiple Gas Counter Spectrometer to the Study of Heavy Ion Reactions*

P. A. Butler, K. A. Connell, J. D. Burrows, A. M. Y. El-Lawindy, M. W. Guidry, A. N. James, G. D. Jones, C. Lauterbach, T. P. Morrison, J. Simpson, Nucl. Instrum. Methods 239, 221 (1985).

Nuclear Reactions: $^{163}\text{Dy}(^{58}\text{Ni}, ^{58}\text{Ni}')$, $(^{58}\text{Ni}, ^{59}\text{Ni})$, $E=280\text{-}304\text{ MeV}$; measured (particle) γ -coin, $s(\theta)$. Multiple gas counter spectrometer.

85Bu23 ^{169}Tm KLL-Group Auger-Electron Spectra

V. V. Bulgakov, V. I. Gavrilyuk, A. P. Lashko, N. V. Strilchuk, A. I. Feoktistov, Yu. E. Frantsev, V. B. Kharlanov, Izv. Akad. Nauk SSSR, Ser. Fiz. 49, 2107 (1985); Bull. Acad. Sci. USSR, Phys. Ser. 49, No. 11, 23 (1985).

Radioactivity: $^{169}\text{Yb}(\text{EC})$; measured Auger electron spectra. ^{169}Tm deduced KLL-electron group intensities.

85Bu24 *Determination of $E1 + M2 + E3$ - Mixing of Multipoles in the 921 keV γ -Transition and the Analysis of the Structure of the 1285 keV, 5^- Level in ^{184}W*

V. V. Bulgakov, V. I. Gavriluk, V. I. Kirishchuk, P. N. Muzalev, L. P. Sidorenko, A. I. Feoktistov, V. B. Kharlanov, *Izv. Akad. Nauk SSSR, Ser. Fiz.* 49, 2126 (1985); *Bull. Acad. Sci. USSR, Phys. Ser.* 49, No. 11, 40 (1985).

Radioactivity: $^{184}\text{Re}(\text{EC})$; $^{184\text{m}}\text{Re}(\text{EC})$, (IT) [from $^{183}\text{W}(\text{d}, \text{n})$, $^{184}\text{W}(\text{d}, 2\text{n})$, $E=13.6$ MeV]; measured E_γ , I_γ , $I(\text{ce})$. ^{184}W level deduced decay characteristics, γ -branching, γ -multipolarity mixing, $B(\lambda)$.

85Bu25 *Multiparticle Variant of Proton and Neutron Radioactivity. The Case of Diagonal Transitions*

V. P. Bugrov, S. G. Kadmsky, V. I. Furman, V. G. Khlebostrov, Yad. Fiz. 41, 1123 (1985); Sov. J. Nucl. Phys. 41, 717 (1985).

Nuclear Structure: ^{81}Zr , 97 , ^{99}Cd , 61 , ^{63}Sc , ^{150}Yb , ^{150}Lu ; calculated n-, p-decay widths.

85Bu26 *Remark on the Optimum Q Values for Multinucleon Transfer Reactions*

A. Buta, M. Petrascu, Rev. Roum. Phys. 30, 559 (1985).

Nuclear Reactions: $^{24}\text{Mg}(^{19}\text{F}, ^{12}\text{C})$, $(^{19}\text{F}, ^{15}\text{N})$, $(^{19}\text{F}, ^{16}\text{O})$, $(^{19}\text{F}, ^{19}\text{F})$, $E=72$ MeV; $^{232}\text{Th}(^{40}\text{Ar}, X)$, $E=388$ MeV; analyzed $\sigma(\theta, E(^{12}\text{C}))$, $\sigma(\theta, E(^{15}\text{N}))$, $\sigma(\theta, E(^{16}\text{O}))$, $\sigma(\theta, E(^{19}\text{F}))$, $\sigma(\text{fragment } \theta, E)$ for $X=\text{Ar, Cl, S, P}$; deduced product, projectile most probable velocity correlation.

85Bu27 *Single-Nucleon Decay of Isomeric Nuclear States*

V. P. Bugrov, V. E. Bunakov, S. G. Kadmsky, V. I. Furman, Yad. Fiz. 42, 57 (1985); Sov. J. Nucl. Phys. 42, 34 (1985).

Nuclear Structure: $^{77, 79}\text{Rb}$, ^{81}Y , ^{95}Ag , ^{151}Lu , $^{121, 80, 82}\text{Zr}$, $^{123, 82, 84}\text{Mo}$, ^{96}Cd , $^{63, 70}\text{Ti}$, $^{67, 75}\text{Fe}$, ^{53}Co ; calculated isomeric state single nucleon decay $T_{1/2}$; deduced residual interaction finite range importance.

85Bu28 *Study of the γ -Radiation of Short-Life Neutron Excess Nuclei Formed on Spontaneous Fission of ^{252}Cf*

V. P. Bugrov, A. A. Byalko, V. M. Kolobashkin, A. I. Slyusarenko, S. D. Chigir, *Izv. Akad. Nauk SSSR, Ser. Fiz.* 49, 911 (1985); *Bull. Acad. Sci. USSR, Phys. Ser.* 49, No. 5, 71 (1985).

Radioactivity: $^{252}\text{Cf}(\text{SF})$; measured $\gamma\gamma$ -coin of fission fragment decay; deduced advantage over chemical separation method for fragment masses $A=105-115$.

85BuZP *Electromagnetic Properties of High Spin States in ^{85}Y*

D. Bucurescu, G. Cata, G. Constantinescu, D. Cutoiu, M. Ivascu, N. V. Zamfir, A. Abdel-Haliem, IPNE-NP-45-1985, Inst. Phys. Nucl. Eng., Bucharest (1985).

Nuclear Reactions: $^{70}\text{Ge}(^{19}\text{F},\alpha)$, $E=76$ MeV; measured E_γ , I_γ , recoil distance. ^{85}Y deduced yrast level $T_{1/2}$, $B(E2)$, J , π , band structure. Model comparisons.

85BuZQ *Life Time of the 1417 keV Level by Gamma-Gamma Correlations in ^{209}Po Nucleus*

M. Budzynski, O. I. Kochetov, G. I. Lizurei, A. I. Muminov, Yu. V. Norseev, R. Razhabbaev, Ya. Sazhinski, R. R. Usmanov, Yu. V. Yushkevich, Program and Theses, Proc. 35th Ann. Conf. Nucl. Spectrosc. Struct. At. Nuclei, Leningrad, p. 142 (1985).

Radioactivity: $^{209}\text{At}(\text{EC})$; measured $\gamma\gamma(\theta)$, $\text{ce}\gamma(t)$; deduced A_2 , A_4 coefficients. ^{209}Po levels deduced J , π , $T_{1/2}$, δ , γ -multipolarity. Magnetic, scintillation spectrometers.

$^{85}\text{BuZR}$

Conference proceedings: Leningrad, P136, Bulgakov

Radioactivity: $^{184\text{m}}\text{Re}(\text{EC})$; measured $I(\text{ce})$. ^{184}W transitions deduced ICC, subshell intensity ratios. Double-focusing β -spectrometer.

85BuZS

Conference proceedings: Leningrad, P125,Bulgakov

Radioactivity: ^{169}Yb (EC); measured Auger spectra. ^{169}Tm deduced KLL-electron intensities. Double-focusing β -spectrometer.

85BuZT *Gamma-Gamma Angular Correlation in the Nuclei ^{209}At , ^{211}At*

M. Budzynski, O. I. Kochetov, G. I. Lizurei, A. I. Muminov, Yu. V. Norseev, R. Razhabbaev, Ya. Sazhinski, Yu. V. Yushkevich, Program and Theses, Proc. 35th Ann. Conf. Nucl. Spectrosc. Struct. At. Nuclei, Leningrad, p. 143 (1985).

Radioactivity: $^{209}\text{Rn}(\beta^+)$, (EC); measured $\gamma\gamma(\theta)$; deduced A_2 , A_4 coefficients. ^{209}At levels deduced J, π , δ . $^{211}\text{Rn}(\beta^+)$, (EC); measured $\gamma\gamma(\theta, H, t)$; deduced A_2 , A_4 coefficients. ^{211}At levels deduced J, π , μ , γ -multipolarity, δ . Mass-separated sources.

85BuZU *Level Structure of ^{151}Nd*

M. E. Bunker, H. A. Smith, Jr., J. W. Starner, D. G. Burke, Priv. Comm. (February 1985).

Nuclear Reactions: $^{150}\text{Nd}(\text{d},\text{p})$, $E=12\text{ MeV}$; measured E_γ , I_γ , Q , $\sigma(\text{Ep})$, $\sigma(\theta)$. $^{150}\text{Nd}(\text{n},\gamma)$, $E=\text{thermal}$; measured E_γ , I_γ . ^{151}Nd deduced levels, J , π , L , Nilsson assignment, band structure.

85BuZV

Journal: BAPSA 30 1255, BB8,Burks

Nuclear Reactions: $^{28}\text{Si}(^{18}\text{O}, ^{18}\text{F})$, $(^{18}\text{O}, ^{17}\text{O})$, $(^{18}\text{O}, ^{19}\text{F})$, $(^{18}\text{O}, ^{18}\text{O})$, $(^{18}\text{O}, ^{18}\text{O}')$, $E=352\text{ MeV}$; measured $\sigma(\theta)$; deduced optical model parameters. 28 , ^{27}Al , ^{29}Si deduced levels.

85BuZW

Journal: BAPSA 30 741, DE3, Buchinger

Radioactivity: 89 , ^{90}Sr ; measured optical isotope shifts; deduced rms charge radii variation. Droplet model. Doppler-free laser spectroscopy.

Nuclear Moments: $+84\}$, 86 , 87 , ^{88}Sr ; measured optical isotope shifts; deduced rms charge radii variation. Droplet model. Doppler-free laser spectroscopy.

85BuZX

Journal: BAPSA 30 726, CE15,Burlein

Nuclear Reactions: $^{70}\text{Zn}(\text{p},\text{t})$, $E=35$ MeV; measured $\sigma(\theta)$. ^{68}Zn deduced $\sigma(0^+(2))/\sigma(\text{g.s.})$. Two-state model, DWBA analyses.

85BuZY

Journal: BAPSA 30 725, CE5,Burlein

Nuclear Reactions: $^{27}\text{Al}(^6\text{Li},\alpha)$, $E=32$ MeV; measured $\sigma(\theta)$; deduced direct, compound process components. Zero-range DWBA, statistical model calculations.

85BuZZ

Journal: BAPSA 30 700, AE1, Budick

Radioactivity: $^3\text{H}(\beta^-)$; measured $T_{1/2}$, $E\beta$. Tritium-xenon gas mixture, external bremsstrahlung monitoring.

85By01 *Mechanism of Spin-Dependent Inelastic Scattering in the $^{13}\text{C} + ^{12}\text{C}$ System*

D. P. Bybell, W. K. Wells, D. P. Balamuth, Phys. Rev. C32, 452 (1985).

Nuclear Reactions: $^{12}\text{C}(^{13}\text{C}, ^{13}\text{C})$, $E(\text{cm})=17.28, 26.88$ MeV; measured (particle) $\gamma(\theta)$, (particle) γ -coin; deduced spin-flip probability. ^{12}C level deduced density matrix.

85By02 *Measurement of np and pp Asymmetry with an Accelerated Polarized Deuteron Beam from 725 to 1000 MeV per Nucleon*

J. Bystricky, J. Deregél, F. Lehar, A. De Lesquen, L. Van Rossum, J. M. Fontaine, F. Perrot, J. Arvieux, T. Hasegawa, C. R. Newsom, Y. Onel, A. Penzo, H. Azaiez, A. Michalowicz, C. Raymond, Nucl. Phys. A444, 597 (1985).

Nuclear Reactions: $^2\text{H}(\text{polarized } d, np)$, $E=0.725\text{-}1\text{ GeV}$; measured analyzing power, pp-, np-asymmetries vs θ .

85By03 *A Proton and Neutron Beam Polarimeter at Saturne II*

J. Bystricky, J. Deregél, F. Lehar, A. De Lesquen, L. Van Rossum, J. M. Fontaine, F. Perrot, C. A. Whitten, Jr., T. Hasegawa, C. R. Newsom, W. R. Leo, Y. Onel, S. Dalla Torre-Colautti, A. Penzo, H. Azaiez, A. Michalowicz, Nucl. Instrum. Methods 239, 131 (1985).

Nuclear Reactions: ^1H (polarized p,p), $E=0.4\text{-}2.8$ GeV; measured analyzing power vs E , θ ; deduced (n,p) analyzing power calibration. Beam polarimeter using CH_2 , C targets.

85By04 *Measurement of the Spin Correlation Parameter $A(00nn)$ and of the Analyzing Power for pp Elastic Scattering in the Energy Range from 0.5 to 0.8 GeV*

J. Bystricky, P. Chaumette, J. Deregél, J. Fabre, F. Lehar, A. De Lesquen, L. Van Rossum, J. M. Fontaine, J. Gosset, F. Perrot, C. A. Whitten, Jr., J. Ball, Ph. Chesny, C. R. Newsom, J. Yonnet, T. Niinikoski, M. Rieubland, A. Michalowicz, S. Dalla Torre-Colautti, Nucl. Phys. B262, 727 (1985).

Nuclear Reactions: $^1\text{H}(\text{polarized } p, p)$, $E=0.5\text{-}0.8$ GeV; measured analyzing power, spin-correlation parameter vs θ . Simultaneous measurement, frozen spin polarized target.

85By05 *Measurement of the Spin Correlation Parameter $A(00nn)$ for pp Elastic Scattering in the Energy Range from 0.83 to 1.1 GeV*

J. Bystricky, P. Chaumette, J. Deregél, J. Fabre, F. Lehar, A. De Lesquen, F. Petit, L. Van Rossum, J. M. Fontaine, F. Perrot, J. Ball, A. Michalowicz, Y. Onel, A. Penzo, Nucl. Phys. B262, 715 (1985).

Nuclear Reactions: $^1\text{H}(\text{polarized } p, p)$, $E=0.834\text{-}1.095$ GeV; measured analyzing power, spin correlation parameter vs θ . Polarized target.

85By06 *Measurement of n-p and p-p Asymmetry with Accelerated Polarized Deuteron Beam*

J. Bystricky, J. Deregél, F. Lehar, A. de Lesquen, L. Van Rossum, J. M. Fontaine, F. Perrot, J. Arvieux, T. Hasegawa, C. R. Newsom, H. Azaiez, A. Penzo, J. Phys. (Paris), Colloq. C-2, 463 (1985).

Nuclear Reactions: ^1H (polarized d,np), $E=1450$ MeV; measured (np), (pp) analyzing power ratio, asymmetries; deduced (np) elastic scattering analyzing power. ^2H deduced nucleon polarization.

85By07 *Measurement of the Spin Correlation Parameter $A(\text{pp})$ in the Energy Range 0.84-1.1 GeV at Saturne II*

J. Bystricky, P. Chaumette, J. Deregél, J. Fabre, F. Lehar, A. de Lesquen, L. Van Rossum, J. M. Fontaine, F. Perrot, J. Ball, T. Hasegawa, C. R. Newsom, Y. Onel, A. Penzo, H. Azaiez, J. Phys. (Paris), Colloq. C-2, 479 (1985).

Nuclear Reactions: ^1H (polarized p,p), $E=0.84\text{-}1.1$ GeV; measured spin correlation parameter. Polarized target.

85By08 *Analyzing Power for Quasi-Elastic pp Scattering in Carbon and for Elastic pp Scattering on Free Nucleons*

J. Bystricky, J. Deregél, J. M. Fontaine, T. Hasegawa, F. Lehar, A. de Lesquen, C. R. Newsom, Y. Onel, A. Penzo, F. Perrot, L. Van Rossum, J. Phys. (Paris), Colloq. C-2, 483 (1985).

Nuclear Reactions: ^1H , C(polarized p,p), E=0.52-2.8 GeV; measured analyzing power ratio.

85By09 *Nucleon-Nucleon Scattering Data in Light of Recent Phase Shift Analyses*

J. Bystricky, J. Phys. (Paris), Colloq. C-2, 487 (1985).

Nuclear Reactions: $^1\text{H}(n,n)$, $n(p,p)$, $E \leq 1$ GeV; analyzed $\sigma(\theta)$, analyzing powers, spin correlation parameters, phase shifts; deduced interaction potential.