

Physics Division Published Journal Articles, July-December 2011

PHY-12991-ME-2011

Optical Excitation and Decay Dynamics of Ytterbium Atoms Embedded in a Solid Neon Matrix

C.-Y. Xu, S.-M. Hu, J. Singh, K. Bailey, Z.-T. Lu, P. Mueller, T. P. O'Connor, and U. Welp
Phys. Rev. Lett. **107**, 093001/1-4 (2011)

PHY-13038-ME-2011

Comment on "High-Precision Determination of the Electric and Magnetic Form Factors of the Proton"

J. Arrington
Phys. Rev. Lett. **107**, 119101/1 (2011)

PHY-12880-HI-2010

Quadrupole Moments of Collective Structures Up to Spin $\sim 65 \hbar$ in ^{157}Er and ^{158}Er : A Challenge for Understanding Triaxiality in Nuclei

X. Wang, M. A. Riley, J. Simpson, E. S. Paul, J. Ollier, R. V. F. Janssens, A. D. Ayangeakaa, H. C. Boston, M. P. Carpenter, C. J. Chiara, U. Garg, D. J. Hartley, D. S. Judson, F. G. Kondev, T. Lauritsen, N. M. Lumley, J. Matta, P. J. Nolan, M. Petri, J. P. Reville, L. L. Riedinger, S. V. Rigby, C. Unsworth, S. Zhu, and I. Ragnarsson
Phys. Lett. **B702**, 127-130 (2011)

PHY-13083-ME-2011

Measurement of Double-Spin Asymmetries Associated with Deeply Virtual Compton Scattering on a Transversely Polarized Hydrogen Target

A. Airapetian *et al.* (HERMES Collaboration)
Phys. Lett. **B704**, 15-23 (2011)

PHY-12930-HI-2011

Charged Particle Multiplicity and Pseudorapidity Distributions Measured with the PHOBOS Detector in Au + Au, Cu + Cu, d + Au, and p + p Collisions at Ultra-Relativistic Energies

B. B. Back *et al.* (Phobos Collaboration)
Phys. Rev. C **83**, 024913/1-4 (2011)

PHY-13057-HI-2011

^{69}Kr β -Delayed Proton Emission: A Trojan Horse for Studying States in Proton-Unbound ^{69}Br
A. M. Rogers, J. Giovinazzo, C. J. Lister, B. Blank, G. Cachel, J. A. Clark, G. de France, S. Grévy, S. Gros, E. A. McCutchan, F. de Oliveira Santos, G. Savard, D. Seweryniak, I. Stefan, and J.-C. Thomas
Phys. Rev. C **84**, 051306(R)/1-5 (2011)

PHY-12979-HI-2011

High-Spin States and Isomers in the One-Proton-Hole and Three-Neutron-Hole ^{204}Tl Isotope

R. Broda, K. H. Maier, B. Fornal, J. Wrzesiński, B. Szpak, M. P. Carpenter, R. V. F.

Janssens, W. Królas, T. Pawlat, and S. Zhu

Phys. Rev. C **84**, 014330/1-11 (2011)

PHY-13029-TH-2011

Two-Nucleon Electromagnetic Charge Operator in Chiral Effective Field Theory (χEFT) up to One Loop

S. Pastore, L. Girlanda, R. Schiavilla, and M. Viviani

Phys. Rev. C **84**, 024001/1-15 (2011)

PHY-12958-HI-2011

Highly Deformed High-Spin Band in ^{125}I

Purnima Singh, Somnath Nag, A. K. Singh, I. Ragnarsson, H. Hübel, A. Al-Khatib, P.

Bringel, C. Engelhardt, A. Neußer-Neffgen, G. B. Hagemann, C. R. Hansen, B. Herskind, G.

Sletten, A. Bracco, G. Benzoni, F. Camera, P. Fallon, R. M. Clark, M. P. Carpenter, R. V. F.

Janssens, T. L. Khoo, T. Lauritsen, P. Chowdhury, and H. Amro

Phys. Rev. C **84**, 024316/1-7 (2011)

PHY-13028-TH-2011

Quantum Monte Carlo Calculations of Spectroscopic Overlaps in $A \leq 7$ Nuclei

I. Brida, Steven C. Pieper, and R. B. Wiringa

Phys. Rev. C **84**, 024319/1-15 (2011)

PHY-13019-HI-2011

Single-Neutron Energies Outside ^{136}Xe

B. P. Kay, J. P. Schiffer, S. J. Freeman, C. R. Hoffman, B. B. Back, S. I. Baker, S. Bedoor, T.

Bloxham, J. A. Clark, C. M. Deibel, A. M. Howard, J. C. Lighthall, S. T. Marley, K. E. Rehm,

D. K. Sharp, D. V. Shetty, J. S. Thomas, and A. H. Wuosmaa

Phys. Rev. C **84**, 024325/1-6 (2011)

PHY-12954-HI-2011

High-Spin Yrast Structure of ^{159}Ho

J. Ollier, J. Simpson, M. A. Riley, E. S. Paul, X. Wang, A. Aguilar, M. P. Carpenter, I. G.

Darby, D. J. Hartley, R. V. F. Janssens, F. G. Kondev, T. Lauritsen, P. J. Nolan, M. Petri, S.

V. Rigby, C. Teal, J. Thomson, C. Unsworth, and S. Zhu

Phys. Rev. C **84**, 027302/1-4 (2011)

PHY-13061-HI-2011

Identification of Analog States in the $T = 1/2$ $A = 27$ Mirror System from Low Excitation Energies to the Region of Hydrogen Burning in the $^{26}\text{Al}^g,^m(p,\gamma)^{27}\text{Si}$ Reactions

G. Lotay, P. J. Woods, D. Seweryniak, M. P. Carpenter, H. M. David, R. V. F. Janssens, and S. Zhu

Phys. Rev. C **84**, 035802/1-14 (2011)

PHY-13021-HI-2011

Seniority, Collectivity, and $B(E2)$ Enhancement in ^{72}Ni

C. J. Chiara, W. B. Walters, I. Stefanescu, M. Alcorta, M. P. Carpenter, B. Fornal, G. Gürdal, C. R. Hoffman, R. V. F. Janssens, B. P. Kay, F. G. Kondev, W. Królas, T. Lauritsen, C. J. Lister, E. A. McCutchan, T. Pawlat, A. M. Rogers, D. Seweryniak, N. Sharp, J. Wrzesiński, and S. Zhu

Phys. Rev. C **84**, 037304/1-4 (2011)

PHY-13093-HI-2011

High-Resolution Spectroscopy of Decay Pathways in the $^{12}\text{C}(^{12}\text{C},\gamma)$ Reaction

P. Marley, D. G. Jenkins, P. J. Davies, A. P. Robinson, R. Wadsworth, C. J. Lister, M. P. Carpenter, R. V. F. Janssens, C. L. Jiang, T. L. Khoo, T. Lauritsen, D. Seweryniak, S. Zhu, S. Courtin, F. Haas, D. Lebhertz, M. Bouhelal, J. C. Lighthall, A. H. Wuosmaa, and D. O'Donnell

Phys. Rev. C **84**, 044332/1-8 (2011)

PHY-12929-HI-2011

First Measurement of the $^{33}\text{Cl}(p,\alpha)^{30}\text{S}$ Reaction

C. M. Deibel, K. E. Rehm, J. M. Figueira, J. P. Greene, C. L. Jiang, B. P. Kay, H. Y. Lee, J. C. Lighthall, S. T. Marley, R. C. Pardo, N. Patel, M. Paul, C. Ugalde, A. Woodard, A. H. Wuosmaa, and G. Zinkann

Phys. Rev. C **84**, 045802/1-6 (2011)

PHY-13002-HI-2011

Mass Measurements of Isotopes of Nb, Mo, Tc, Ru, and Rh along the vp- and rp-process Paths Using the Canadian Penning Trap Mass Spectrometer

J. Fallis, J. A. Clark, K. S. Sharma, G. Savard, F. Buchinger, S. Caldwell, A. Chaudhuri, J. E. Crawford, C. M. Deibel, S. Gulick, A. A. Hecht, D. Lascar, J. K. P. Lee, A. F. Levand, G. Li, B. F. Lundgren, A. Parikh, S. Russell, M. Scholte-van de Vorst, N. D. Scielzo, R. E. Segel, H. Sharma, S. Sinha, M. G. Sternberg, T. Sun, I. Tanihata, J. Van Schelt, J. C. Wang, Y. Wang, C. Wrede, and Z. Zhou

Phys. Rev. C **84**, 045807/1-15 (2011)

PHY-13076-HI-2011

Diverse Collective Excitations in ^{159}Er Up to High Spin

M. Mustafa, J. Ollier, J. Simpson, M. A. Riley, E. S. Paul, X. Wang, A. Aguilar, M. P. Carpenter, I. G. Darby, D. J. Hartley, R. V. F. Janssens, F. G. Kondev, T. Lauritsen, P. J. Nolan, M. Petri, J. M. Rees, J. P. Reville, S. V. Rigby, C. Teal, J. Thomson, C. Unsworth, S. Zhu, B. G. Carlsson, H. L. Ma, T. Mufti, and I. Ragnarsson
Phys. Rev. C **84**, 054320/1-20 (2011)

PHY-13090-HI-2011

Coupling of the Proton-Hole and Neutron-Particle States in the Neutron-Rich ^{48}K Isotope

W. Królas, R. Broda, B. Fornal, R. V. F. Janssens, A. Gadea, S. Lunardi, J. J. Valiente-Dobon, D. Mengoni, N. Mărginean, L. Corradi, A. M. Stefanini, D. Bazzacco, M. P. Carpenter, G. De Angelis, E. Farnea, E. Fioretto, F. Galtarossa, T. Lauritsen, G. Montagnoli, D. R. Napoli, R. Orlandi, T. Pawlat, I. Pokrovskiy, G. Pollarolo, E. Sahin, F. Scarlassara, D. Seweryniak, S. Szilner, B. Szpak, C. A. Ur, J. Wrzesiński, and S. Zhu
Phys. Rev. C **84**, 064301/1-8 (2011)

PHY-13165-HI-2011

Isospin Symmetry in the Odd-Odd Mirror Nuclei $^{44}\text{V}/^{44}\text{Sc}$

M. J. Taylor, M. A. Bentley, J. R. Brown, P. E. Kent, R. Wadsworth, C. J. Lister, D. Seweryniak, M. P. Carpenter, R. V. F. Janssens, S. Zhu, T. Lauritsen, L.-L. Andersson, E. K. Johansson, P. E. Garrett, K. L. Green, G. A. Demand, and S. M. Lenzi
Phys. Rev. C **84**, 064319/1-7 (2011)

PHY-12853-TH-2010

Helium Shell Detonations on Low Mass White Dwarfs as a Possible Explanation for SN 2005E

Roni Waldman, Daniel Sauer, Eli Livne, Hagai Perets, Ami Glasner, Paolo Mazzali, James W. Truran, and Avishay Gal-Yam
Astrophys. J. **738**, 21-32 (2011)

PHY-13088-ME-2011

Multidimensional Study of Hadronization in Nuclei

A. Airapetian *et al.* (HERMES Collaboration)
Eur. Phys. J. A **47**, 113/1-8 (2011)