Published Journal Articles of the Physics Division, July-December 2008

PHY-11992-HI-2008
Unified Description of 0^+ States in a Large Class of Nuclear Collective Models
Dennis Bonatsos, E. A. McCutchan, and R. F. Casten
Phys. Rev. Lett. **101**, 022501/1-4 (2008)

PHY-12144-ME-2008
Hyperfine Suppression of $2\ ^3S_1$ - $3\ ^3P_J$ Transitions in ^{3}He
I. A. Sulai, Qixue Wu, M. Bishof, G. W. F. Drake, Z.-T. Lu, P. Mueller, and R. Santra
Phys. Rev. Lett. **101**, 173001/1-4 (2008)

PHY-12066-ME-2008
Quark-Hadron Duality in Neutron (^{3}He) Spin Structure
P. Solvignon *et al.* (Jefferson Lab E01-012 Collaboration)
Phys. Rev. Lett. **101**, 182502/1-5 (2008)

PHY-12057-HI-2008
Collective Oblate Rotation at High Spins in Neutron-Rich ^{180}Hf
U. S. Tandel, S. K. Tandel, P. Chowdhury, D. Cline, C. Y. Wu, M. P. Carpenter, R. V. F. Janssens, T. L. Khoo, T. Lauritsen, C. J. Lister, D. Seweryniak, and S. Zhu
Phys. Rev. Lett. **101**, 182503/1-4 (2008)

PHY-11909-ME-2007
Transverse Momentum Dependence of Semi-Inclusive Pion Production
H. Mkrtchyan *et al.*
Phys. Lett. **B665**, 20-25 (2008)

PHY-12267-HI-2009
Low-Lying Proton Intruder State in ^{13}B
S. Ota *et al.*
Phys. Lett. **B666**, 311-314 (2008)

PHY-12047-ME-2008
Measurement of Parton Distributions of Strange Quarks in the Nucleon from Charged-Kaon Production in Deep-Inelastic Scattering on the Deuteron
A. Airapetian *et al.* (HERMES Collaboration)
Phys. Lett. **B666**, 446-450 (2008)

PHY-12155-HI-2008
High-K Structure in ^{250}Fm and the Deformed Shell Gaps in $N = 152$ and $Z = 100$
P. T. Greenlees, R.-D. Herzberg, S. Ketelhut, P. A. Butler, P. Chowdhury, T. Grahn, C. Gray-Jones, G. D. Jones, P. Jones, R. Julin. S. Juutinen, T. L. Khoo, M. Leino, S. Moon, M. Nyman, J. Pakarinen, P. Rahkila, D. Rostron, J. Sarén, C. Scholey, J. Sorri, S. K. Tandel, J. Uusitalo, and M. Venhart
Phys. Rev. C **78**, 021303(R)/1-5 (2008)

PHY-12147-HI-2008
Determination of the Proton Separation Energy of ^{93}Rh from Mass Measurements
J. Fallis, J. A. Clark, K. S. Sharma, G. Savard, F. Buchinger, S. Caldwell, J. E. Crawford, C. M. Deibel, J. L. Fisker, 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. Sternberg, T. Sun, I. Tanihata, J. Van Schelt, J. C. Wang, Y. Wang, C. Wrede, and Z. Zhou
Phys. Rev. C **78**, 022801(R)/1-4 (2008)

PHY-12108-HI-2008
Lifetime Measurement of Candidate Chiral Doublet Bands in the ^{103,104}Rh Isotopes with the Recoil-Distance Doppler-Shift Method in Inverse Kinematics
T. Suzuki, G. Rainovski, T. Koike, T. Ahn, M. P. Carpenter, A. Costin, M. Danchev, A. Dewald, R. V. F. Janssens, P. Joshi, C. J. Lister, A. Möller, N. Pietralla, T. Shinozuka, J. Timár, R. Wadsworth, C. Vaman, and S. Zhu
Phys. Rev. C **78**, 031302(R)/1-5 (2008)

PHY-12100-ME-2008
Neutron Negative Central Charge Density: An Inclusive-Exclusive Connection
Gerald A. Miller and John Arrington
Phys. Rev. C **78**, 032201(R)/1-4 (2008)

PHY-12102-HI-2008
Structure of ^{7}He by Proton Removal from ^{8}Li with the (d,^{3}He) Reaction
A. H. Wuosmaa, J. P. Schiffer, K. E. Rehm, J. P. Greene, D. J. Henderson, R. V. F. Janssens, C. L. Jiang, L. Jisonna, J. C. Lighthall, S. T. Marley, E. F. Moore, R. C. Pardo, N. Patel, M. Paul, D. Peterson, Steven C. Pieper, G. Savard, R. E. Segel, R. H. Siemssen, X. D. Tang, and R. B. Wiringa
Phys. Rev. C. **78**, 041302(R)/1-5 (2008)

PHY-12149-HI-2008
Identified Charged Antiparticle to Particle Ratios Near Midrapidity in Cu + Cu Collisions at $\sqrt{s}_{NN} = 62.4$ and 200 GeV
B. Alver, B. B. Back, M. D. Baker, M. Ballintijn, D. S. Barton, R. R. Betts, R. Bindel, W. Busza, Z. Chai, V. Chetluru, E. Garcia, T. Gburek, K. Gulbrandsen, J. Hamblen, I. Harnarine, C. Henderson, D. J. Hofman, R. S. Hollis, R. Holynski, B. Holzman, A. Iordanova, J. L. Kane, P. Kulinich, C. M. Kuo, W. Li, W. T. Lin, C. Loizides, S. Manly, A. C. Mignerey, R. Nouicer, A. Olszewski, R. Pak, C. Reed, E. Richardson, C. Roland, G. Roland, J. Sagerer, I. Sedykh, C. E. Smith, M. A. Stankiewicz, P. Steinberg, G. S. F. Stephans, A. Sukhanov, A. Szostak, M. B. Tonjes, A. Trzupek, G. J. van Nieuwenhuizen, S. S. Vaurynovich, R. Verdier, G. I. Veres, P. Walters, E. Wenger, D. Willhelm, F. L. H. Wolfs, B. Wosiek, K. Wozniak, S. Wyngaardt, and B. Wyslouch
Phys. Rev. C **77**, 061901(R)/1-5 (2008)

PHY-12148-HI-2008
Importance of Correlations and Fluctuations on the Initial Source Eccentricity in High-Energy Nucleus-Nucleus Collisions
B. Alver, B. B. Back, M. D. Baker, M. Ballintijn, D. S. Barton, R. R. Betts, R. Bindel, W. Busza, V. Chetluru, E. Garcia, T. Gburek, J. Hamblen, U. Heinz, D. J. Hofman, R. S. Hollis, A. Iordanova, W. Li, C. Loizides, S. Manly, A. C. Mignerey, R. Nouicer, A. Olszewski, C. Reed, C. Roland, G. Roland, J. Sagerer, P. Steinberg, G. S. F. Stephans, M. B. Tonjes, A. Trzupek, G. J. van Nieuwenhuizen, S. S. Vaurynovich, R. Verdier, G. I. Veres, P. Walters, E. Wenger, B. Wosiek, K. Wozniak, and B. Wyslouch
Phys. Rev. C **77**, 014906/1-16 (2008)

PHY-12027-HI-2008
Two-Quasineutron States in $^{248}_{98}$Cf and $^{250}_{98}$Cf and the Neutron-Neutron Residual Interactions
K. Katori, I. Ahmad, and A. M. Friedman
Phys. Rev. C **78**, 014301/1-9 (2008)

PHY-11981-HI-2008
β Decay Spectroscopy of ^{192}Pt and the Nature of 0^+ Excitations
E. A. McCutchan, R. F. Casten, V. Werner, R. Winkler, R. B. Cakirli, G. Gürdal, X. Liang, and E. Williams
Phys. Rev. C **78**, 014320/1-19 (2008)

PHY-12139-ME-2008
Light Vector Mesons in the Nuclear Medium
M. H. Wood *et al.* (CLAS Collaboration)
Phys. Rev. C **78**, 015201/1-15 (2008)

PHY-12136-ME-2008
Ratios of ^{15}N/^{12}C and ^{4}He/^{12}C Inclusive Electroproduction Cross Sections in the Nucleon Resonance Region
P. E. Bosted *et al.* (CLAS Collaboration)
Phys. Rev. C **78**, 015202/1-6 (2008)

PHY-12274-HI-2009
Triaxial Strongly Deformed Bands in ^{160,161}Tm
C. Teal, K. Lagergren, A. Aguilar, D. J. Hartley, M. A. Riley, J. Simpson, M. P. Carpenter, U. Garg, R. V. F. Janssens, D. T. Joss, F. G. Kondev, T. Lauritsen, C. J. Lister, X. Wang, S. Zhu, and I. Ragnarsson
Phys. Rev. C **78**, 017305/1-4 (2008)

PHY-12055-HI-2008
Fusion Hindrance for a Positive Q-Value System
C. L. Jiang, B. B. Back, H. Esbensen, J. P. Greene, R. V. F. Janssens, D. J. Henderson, H. Y. Lee, C. J. Lister, M. Notani, R. C. Pardo, N. Patel, K. E. Rehm, D. Seweryniak, B. Shumard, X. Wang, S. Zhu, S. Misicu, P. Collon, and X. D. Tang
Phys. Rev. C **78**, 017601/1-4 (2008)

PHY-12080-TH-2008
Dependence of Two-Nucleon Momentum Densities on Total Pair Momentum
R. B. Wiringa, R. Schiavilla, Steven C. Pieper, and J. Carlson
Phys. Rev. C **78**, 021001/1-3 (2008)

PHY-12160-TH-2008
Poincaré Invariant Three-Body Scattering at Intermediate Energies
T. Lin, Ch. Elster, W. N. Polyzou, H. Witala, and W. Glöckle
Phys. Rev. C **78**, 024002/1-19 (2008)

PHY-12113-HI-2008
Analog $E1$ Transitions and Isospin Mixing
N. S. Pattabiraman, D. G. Jenkins, M. A. Bentley, R. Wadsworth, C. J. Lister, M. P. Carpenter, R. V. F. Janssens, T. L. Khoo, T. Lauritsen, D. Seweryniak, S. Zhu, G. Lotay, P. J. Woods, Krishichayan, and P. Van Isacker
Phys. Rev. C **78**, 024301/1-8 (2008)

PHY-12275-HI-2009
Large Proton Contribution to the 2^+ Excitation in ^{20}Mg Studied by Intermediate Energy Inelastic Scattering
N. Iwasa *et al.*
Phys. Rev. C **78**, 024306/1-5 (2008)

PHY-12097-TH-2008
Coulomb Excitation at Intermediate Energies
H. Esbensen
Phys. Rev. C **78**, 024608/1-11 (2008)

PHY-12062-TH-2008
Coupled-Channels Study of the $\pi^- p \to \eta n$ Process
J. Durand, B. Juliá-Díaz, T.-S. H. Lee, B. Saghai, and T. Sato
Phys. Rev. C **78**, 025204/1-12 (2008)

PHY-12140-ME-2008
Electroproduction of $\phi(1020)$ Mesons at $1.4 \leq Q^2 \leq 3.8$ GeV^2 Measured with the CLAS Spectrometer
J. P. Santoro *et al.* (CLAS Collaboration)
Phys. Rev. C **78**, 025210/1-14 (2008)

PHY-11945-HI-2007
$K^\pi = 8^-$ Isomers and $K^\pi = 2^-$ Octupole Vibrations in $N = 150$ Shell-Stabilized Isotones
A. P. Robinson, T. L. Khoo, I. Ahmad, S. K. Tandel, F. G. Kondev, T. Nakatsukasa, D. Seweryniak, M. Asai, B. B. Back, M. P. Carpenter, P. Chowdhury, C. N. Davids, S. Eeckhaudt, J. P. Greene, P. T. Greenlees, S. Gros, A. Heinz, R.-D. Herzberg, R. V. F. Janssens, G. D. Jones, T. Lauritsen, C. J. Lister, D. Peterson, J. Qian, U. S. Tandel, X. Wang, and S. Zhu
Phys. Rev. C **78**, 034308/1-6 (2008)

PHY-12092-HI-2008
Electromagnetic Transition Rates in High-Spin Bands in ^{136}Nd
S. Mukhopadhyay, D. Almehed, U. Garg, S. Frauendorf, T. Li, P. V. Madhusudhana Rao, X. Wang, S. S. Ghugre, M. P. Carpenter, S. Gros, A. Hecht, R. V. F. Janssens, F. G. Kondev, T. Lauritsen, D. Seweryniak, and S. Zhu
Phys. Rev. C **78**, 034311/1-6 (2008)

PHY-12276-HI-2009
Deformation of Rotational Structures in ^{73}Kr and ^{74}Rb: Probing the Additivity Principle at Triaxial Shapes
F. Johnston-Theasby, A. V. Afanasjev, C. Andreoiu, R. A. E. Austin, M. P. Carpenter, D. Dashdorj, S. J. Freeman, P. E. Garrett, J. Greene, A. Görgen, D. G. Jenkins, P. Joshi, A. O. Macchiavelli, F. Moore, G. Mukherjee, W. Reviol, D. Sarantites, D. Seweryniak, M. B. Smith, C. E. Svensson, J. J. Valiente-Dobón, R. Wadsworth, and D. Ward
Phys. Rev. C **78**, 034312/1-8 (2008)

PHY-12049-HI-2008
Intruder Excitations in ^{35}P
M. Wiedeking, E. Rodriguez-Vieitez, P. Fallon, M. P. Carpenter, R. M. Clark, D. Cline, M. Cromaz, M. Descovich, R. V. F. Janssens, I-Y. Lee, M-A. Deleplanque, A. O. Macchiavelli, F. S. Stephens, R. Teng, X. Wang, D. Ward, C. Y. Wu, S. Zhu, T. Otsuka, Y. Utsuno, and A. Volya
Phys. Rev. C **78**, 037302/1-4 (2008)

PHY-12277-HI-2009
Reply to "Comment on 'Level Structure of ^{92}Rh: Implications for the Two-Proton Decay of ^{94}Ag^m' "
O. L. Pechenaya, D. G. Sarantites, W. Reviol, C. J. Chiara, R. V. F. Janssens, C. J. Lister, and D. Seweryniak
Phys. Rev. C **78**, 039804/1 (2008)

PHY-12091-HI-2008
Identification of Triaxial Strongly Deformed Band in ^{168}Hf
R. B. Yadav, W. C. Ma, G. B. Hagemann, R. Bengtsson, H. Ryde, H. Amro, A. Bracco, M. P. Carpenter, J. Domscheit, S. Frattini, D. J. Hartley, B. Herskind, H. Hübel, R. V. F. Janssens, T. L. Khoo, F. G. Kondev, T. Lauritsen, C. J. Lister, B. Million, S. Ødegård, L. L. Riedinger, K. A. Schmidt, S. Siem, G. Sletten, P. G. Varmette, J. N. Wilson and Y. C. Zhang
Phys. Rev. C **78**, 044316/1-7 (2008)

PHY-12060-ME-2008
Charged Pion Form Factor Between $Q^2 = 0.60$ and 2.45 GeV^2. 1. Measurements of the Cross Section for ^{1}H$(e, e'\pi^+)n$ Reaction
H. P. Blok *et al.* (Jefferson Lab F_π Collaboration)
Phys. Rev. C **78**, 045202/1-25 (2008)

PHY-12061-ME-2008
Charged Pion Form Factor Between $Q^2 = 0.60$ and 2.45 GeV^2. II: Determination of, and Results for, the Pion Form Factor
G. M. Huber *et al.* (Jefferson Lab F_π Collaboration)
Phys. Rev. C **78**, 045203/1-16 (2008)

PHY-12142-ME-2008
First Measurement of Target and Double Spin Asymmetries for $\vec{e}\vec{p} \to ep\pi^0$in the Nucleon Resonance Region Above the $\Delta(1232)$
A. S. Biselli *et al.*
Phys. Rev. C **78**, 045204/1-11 (2008)

PHY-12141-ME-2008
Electroexcitation of the Roper Resonance for $1.7 < Q^2 < 4.5$ GeV^2 in $\vec{e}p \to en\pi^+$
I. G. Aznauryan *et al.* (CLAS Collaboration)
Phys. Rev. C **78**, 045209/1-7 (2008)

PHY-12129-TH-2008
Collectivity-Induced Quenching of Signatures for Shell Closures
M. Bender, G. F. Bertsch, and P.-H. Heenen
Phys. Rev. C **78**, 054312/1-7 (2008)

PHY-12491-HI-2009
Deformation and Magnetic Rotations in the ^{60}Ni Nucleus
D. A. Torres, F. Cristancho, L.-L. Andersson, E. K. Johansson, D. Rudolph, C. Fahlander, J. Ekman, R. du Rietz, C. Andreoiu, M. P. Carpenter, D. Seweryniak, S. Zhu, R. J. Charity, C. J. Chiara, C. Hoel, O. L. Pechenaya, W. Reviol, D. G. Sarantites, L. G. Sobotka, C. Baktash, C.-H. Yu, B. G. Carlsson, and I. Ragnarsson
Phys. Rev. C **78**, 054318/1-24 (2008)

PHY-12157-HI-2008
Possible Shears Bands in ^{204}At and ^{206}Fr, and Identification of Excited States in ^{205,207}Fr
D. J. Hartley, E. P. Seyfried, W. Reviol, D. G. Sarantites, C. J. Chiara, O. L. Pechenaya, K. Hauschild, A. Lopez-Martens, M. P. Carpenter, R. V. F. Janssens, D. Seweryniak, and S. Zhu
Phys. Rev. C **78**, 054319/1-8 (2008)

PHY-12492-HI-2009
^{132}Sn + ^{96}Zr Reaction: A Study of Fusion Enhancement/Hindrance
A. M. Vinodkumar, W. Loveland, J. J. Neeway, L. Prisbrey, P. H. Sprunger, D. Peterson, J. F. Liang, D. Shapira, C. J. Gross, R. L. Varner, J. J. Kolata, A. Roberts, and A. L. Caraley
Phys. Rev. C **78**, 054608/1-7 (2008)

PHY-12078-TH-2008
Confinement and Dynamical Chiral Symmetry Breaking in QED3
A. Bashir, A. Raya, I. C. Cloët, and C. D. Roberts
Phys. Rev. C **78**, 055201/1-7 (2008)

PHY-11994-ME-2008
Scaling Study of the Pion Electroproduction Cross Sections
T. Horn *et al.*
Phys. Rev. C **78**, 058201/1-4 (2008)

PHY-12158-HI-2008
Electron-Capture Branch of ^{100}Tc and Tests of Nuclear Wave Functions for Double-β Decays
S. K. L. Sjue, D. Melconian, A. Garcia, I. Ahmad, A. Algora, J. Äystö, V.-V. Elomaa, T. Eronen, J. Hakala, S. Hoedl, A. Kankainen, T. Kessler, I. D. Moore, F. Naab, H. Penttilä, S. Rahaman, A. Saastamoinen, H. E. Swanson, C. Weber, S. Triambak, and K. Deryckx
Phys. Rev. C **78**, 064317/1-7 (2008)

PHY-12159-TH-2008
Quantum Monte Carlo Calculations of Magnetic Moments and $M1$ Transitions in $A \leq 7$ Nuclei Including Meson-Exchange Currents
L. E. Marcucci, Muslema Pervin, Steven C. Pieper, R. Schiavilla, and R. B. Wiringa
Phys. Rev. C **78**, 065501/1-10 (2008)

PHY-12094-TH-2008
Chemical Potential and the Gap Equation
Huan Chen, Wei Yuan, Lei Chang, Yu-Xin Liu, Thomas Klähn, and Craig D. Roberts
Phys. Rev. D **78**, 116015/1-11 (2008)

PHY-12081-TH-2008
Viscous Damping of r-Mode Oscillations in Compact Stars with Quark Matter
Prashanth Jaikumar, Gautam Rupak, and Andrew W. Steiner
Phys. Rev. D **78**, 123007/1-14 (2008)

PHY-12050-HI-2008
Optimizing Recoil-Isomer Tagging with the Argonne Fragment Mass Analyzer
A. B. Garnsworthy, C. J. Lister, P. H. Regan, B. B. Blank, I. J. Cullen, S. Gros, D. J. Henderson, G. A. Jones, Z. Liu, D. Seweryniak, B. R. Shumard, N. J. Thompson, S. J. Williams, and Z. Shu
Nucl. Instrum. Methods **A594**, 184-187 (2008)

PHY-11793-HI-2007
A Study of the Cyclotron Gas-Stopping Concept for the Production of Rare Isotope Beams
M. Sternberg and G. Savard
Nucl. Instrum. Methods **A596**, 257-268 (2008)

PHY-12265-HI-2009
First Results from the Nuclear Astrophysics AMS Program at the NSL Using the MANTIS System in Gas-Filled Mode
D. Robertson, P. Collon, D. Henderson, S. Kurtz, L. Lamm, C. Schmitt, B. Shumard, and J. Webb
Nucl. Instrum. Methods **B266**, 3481-3486 (2008)

PHY-12220-TH-2008
Three-Dimensional Simulations of the Deflagration Phase of the Gravitationally Confined Detonation Model of Type Ia Supernovae
G. C. Jordan IV, R. T. Fisher, D. M. Townsley, A. C. Calder, C. Graziani, S. Asida, D. Q. Lamb, and J. W. Truran
Astrophys. J. **681**, 1448-1457 (2008)

PHY-12221-TH-2008
Proton-Rich Nuclear Statistical Equilibrium
I. R. Seitenzahl, F. X. Timmes, A. Marin-Laflèche, E. Brown, G. Magkotsios, and J. Truran
Astrophys. J. Lett. **685**, L129-L132, (2008)

PHY-12179-TH-2008
Modeling Electromagnetic Form Factors of Light and Heavy Pseudoscalar Mesons
B. El-Bennich, J. P. B. C. de Melo, B. Loiseau, J.-P. Dedonder, and T. Frederico
Braz. J. Phys. **38**, 465-471 (2008)

PHY-12243-ME-2008
Flavor Physics of Leptons and Dipole Moments
M. Raidal *et al.*
Eur. Phys. J. C **57**, 13-182 (2008)

PHY-12043-TH-2008
Current Quark-Mass Dependence of Nucleon Magnetic Moments and Radii
I. C. Cloët, G. Eichmann, V. V. Flambaum, C. D. Roberts, M. S. Bhagwat, and A. Höll
Few-Body Systems **42**, 91-113 (2008)

PHY-11971-TH-2008
Heavy Baryons in a Quark Model
W. Roberts and Muslema Pervin
Int. J. Mod. Phys. A **23**, 2817-2860 (2008)

PHY-12107-RI-2008
Identification of New Isotopes ^{125}Pd and ^{126}Pd Produced by In-Flight Fission of 345 MeV/Nucleon ^{238}U: First Results from the RIKEN RI Beam Factory
Tetsuya Ohnishi *et al.*
J. Phys. Soc. Japan **77**, 083201/1-4 (2008)

PHY-12143-ME-2008
Halo Nuclei in Laser Light
G. W. F. Drake, Z.-T. Lu, W. Noertershaeuser, and Z.-C. Yan
Lecture Notes in Physics **745**, 131-153 (2008)

PHY-11954-TH-2008
Quantum Monte Carlo Methods for Nuclei
Robert B. Wiringa
Physics in Canada **64**, 67 (2008)