PHYSICAL REVIEW C THIRD SERIES, VOLUME 91, NUMBER 4 APRIL 2015

Measurement of the ^{52}Fe mass via the precise proton-decay energy of ^{53}Co^{m} *(4 pages)* 047304
Y. P. Shen (谌阳平), W. P. Liu (柳卫平), J. Su (苏俊), N. T. Zhang (张宁涛), L. Jing (景龙), Z. H. Li (李志宏), Y. B. Wang (王友宝), B. Guo (郭冰), S. Q. Yan (颜胜权), Y. J. Li (李云居), S. Zeng (曾晟), G. Lian (连钢), X. C. Du (杜先超), L. Gan (甘林), X. X. Bai (白希祥), J. S. Wang (王建松), Y. H. Zhang (张玉虎), X. H. Zhou (周小红), X. D. Tang (唐晓东), J. J. He (何建军), Y. Y. Yang (杨彦云), S. L. Jin (金仕纶), P. Ma (马朋), J. B. Ma (马军兵), M. R. Huang (黄美容), Z. Bai (白真), Y. J. Zhou (周远杰), W. H. Ma (马维虎), J. Hu (胡钧), S. W. Xu (许世伟), S. B. Ma (马少波), S. Z. Chen (陈思泽), L. Y. Zhang (张立勇), B. Ding (丁兵), and Z. H. Li (李智焕)

Nuclear Reactions

Reexamination of the neutron-to-proton-ratio puzzle in intermediate-energy heavy-ion collisions *(5 pages)* 047601
Hai-Yun Kong, Yin Xia, Jun Xu, Lie-Wen Chen, Bao-An Li, and Yu-Gang Ma

Addendum to "Measurement of the ^{8}Li$(\alpha,n)^{11}$B reaction and astrophysical implications" *(2 pages)* 047602
Y. Mizoi and T. Fukuda

Nuclear Astrophysics

New measurement of the α asymptotic normalization coefficient of the $1/2^{+}$ state in ^{17}O at 6.356 MeV that dominates the ^{13}C$(\alpha,n)^{16}$O reaction rate at temperatures relevant for the *s* process *(4 pages)* 048801
M. L. Avila, G. V. Rogachev, E. Koshchiy, L. T. Baby, J. Belarge, K. W. Kemper, A. N. Kuchera, and D. Santiago-Gonzalez

ERRATA

Erratum: Effect of pairing correlations on the isospin-mixing parameter in deformed $N = Z$ even-even nuclei [Phys. Rev. C **86**, 034332 (2012)] *(6 pages)* . . . . . 049901(E)
J. Le Bloas, L. Bonneau, P. Quentin, J. Bartel, and D. D. Strottman

Erratum: Constraints on Skyrme equations of state from properties of doubly magic nuclei and *ab initio* calculations of low-density neutron matter [Phys. Rev. C **89**, 011307(R) (2014)] *(1 page)* . . . . . 049902(E)
B. Alex Brown and A. Schwenk

Erratum: Incident-energy dependence of angular distributions of cross section and analyzing power for the ^{58}Ni$(\vec{p},^{3}$He$)^{56}$Co reaction between 80 and 120 MeV [Phys. Rev. C **91**, 024614 (2015)] *(1 page)* . . . . . 049903(E)
J. J. van Zyl, A. A. Cowley, R. Neveling, E. Z. Buthelezi, S. V. Förtsch, J. Mabiala, J. P. Mira, F. Nemulodi, F. D. Smit, G. F. Steyn, J. A. Swartz, and I. T. Usman

Erratum: Limits on tensor-type weak currents from nuclear and neutron β decays [Phys. Rev. C **89**, 025501 (2014)] *(2 pages)* . . . . . 049904(E)
F. Wauters, A. García, and R. Hong

Publisher's Note: Systematic *R*-matrix analysis of the ^{13}C$(p,\gamma)^{14}$N capture reaction [Phys. Rev. C **91**, 045801 (2015)] *(1 page)* . . . . . 049905(E)
Suprita Chakraborty, Richard deBoer, Avijit Mukherjee, and Subinit Roy

PHYSICAL REVIEW C THIRD SERIES, VOLUME 91, NUMBER 4 APRIL 2015

Electroweak Interaction, Symmetries

Investigation of recent weak single-pion production data *(6 pages)* 045501
Jan T. Sobczyk and Jakub Żmuda

Parity violation in quasielastic electron-nucleus scattering within the relativistic impulse approximation *(13 pages)* 045502
R. González-Jiménez, J. A. Caballero, and T. W. Donnelly

Parity violation and dynamical relativistic effects in $(\vec{e},e'N)$ reactions *(16 pages)* 045503
R. González-Jiménez, J. A. Caballero, and T. W. Donnelly

Penning trap mass measurements utilizing highly charged ions as a path to benchmark isospin-symmetry breaking corrections in ^{74}Rb *(16 pages)* 045504
S. Malbrunot-Ettenauer, T. Brunner, U. Chowdhury, A. T. Gallant, V. V. Simon, M. Brodeur, A. Chaudhuri, E. Mané, M. C. Simon, C. Andreoiu, G. Audi, J. R. Crespo López-Urrutia, P. Delheij, G. Gwinner, A. Lapierre, D. Lunney, M. R. Pearson, R. Ringle, J. Ullrich, and J. Dilling

Improved description of one- and two-hole excitations after electron capture in ^{163}Ho and the determination of the neutrino mass *(9 pages)* 045505
Amand Faessler and F. Šimkovic

Measurement of parity-violating asymmetry in electron-deuteron inelastic scattering *(39 pages)* 045506
D. Wang *et al.* (The PVDIS Collaboration)

Nuclear Astrophysics

Systematic R-matrix analysis of the ^{13}C$(p,\gamma)^{14}$N capture reaction *(9 pages)* 045801
Suprita Chakraborty, Richard deBoer, Avijit Mukherjee, and Subinit Roy

Exploration of direct neutron capture with covariant density functional theory inputs *(5 pages)* 045802
Shi-Sheng Zhang, Jin-Peng Peng, M. S. Smith, G. Arbanas, and R. L. Kozub

Magnetic susceptibility and magnetization properties of asymmetric nuclear matter in a strong magnetic field *(13 pages)* 045803
A. Rabhi, M. A. Pérez-García, C. Providência, and I. Vidaña

Low energy scattering cross section ratios of ^{14}N$(p,p)^{14}$N *(10 pages)* 045804
R. J. deBoer, D. W. Bardayan, J. Görres, P. J. LeBlanc, K. V. Manukyan, M. T. Moran, K. Smith, W. Tan, E. Uberseder, M. Wiescher, P. F. Bertone, A. E. Champagne, and M. S. Islam

Constraining supernova equations of state with equilibrium constants from heavy-ion collisions *(18 pages)* 045805
Matthias Hempel, Kris Hagel, Joseph Natowitz, Gerd Röpke, and Stefan Typel

BRIEF REPORTS

Nuclear Structure

Microscopic investigations of α emitters close to the $N = Z$ line *(4 pages)* 047301
J. P. Maharana, A. Bhagwat, and Y. K. Gambhir

Near-yrast excitations in nucleus ^{83}As: Tracing the $\pi g_{9/2}$ orbital in the ^{78}Ni region *(4 pages)* 047302
P. Bączyk, W. Urban, D. Złotowska, M. Czerwiński, T. Rząca-Urban, A. Blanc, M. Jentschel, P. Mutti, U. Köster, T. Soldner, G. de France, G. Simpson, and C. A. Ur

Odd-even mass staggering with Skyrme-Hartree-Fock-Bogoliubov theory *(4 pages)* 047303
W. J. Chen (陈文俊), C. A. Bertulani, F. R. Xu (许甫荣), and Y. N. Zhang (张一怒)

(Continued)

PHYSICAL REVIEW C THIRD SERIES, VOLUME 91, NUMBER 4 APRIL 2015

Relativistic Nuclear Collisions

Thermally fluctuating second-order viscous hydrodynamics and heavy-ion collisions *(8 pages)* 044901
C. Young, J. I. Kapusta, C. Gale, S. Jeon, and B. Schenke

Subleading harmonic flows in hydrodynamic simulations of heavy ion collisions *(10 pages)* 044902
Aleksas Mazeliauskas and Derek Teaney

Electrical conductivity of an anisotropic quark gluon plasma: A quasiparticle approach *(7 pages)* 044903
P. K. Srivastava, Lata Thakur, and Binoy Krishna Patra

Longitudinal decorrelation of anisotropic flows in heavy-ion collisions at the CERN Large Hadron Collider *(11 pages)* 044904
Long-Gang Pang, Guang-You Qin, Victor Roy, Xin-Nian Wang, and Guo-Liang Ma

Questioning tests of hadron production models based on minimum-bias distributions on transverse energy *(22 pages)* 044905
Thomas A. Trainor

Jet transport and photon bremsstrahlung via longitudinal and transverse scattering *(14 pages)* 044906
Guang-You Qin and Abhijit Majumder

Heavy-quark production and elliptic flow in Au + Au collisions at $\sqrt{s_{NN}} = 62.4$ GeV *(19 pages)* 044907
A. Adare *et al.* (PHENIX Collaboration)

Photoproduction of dileptons, photons, and light vector mesons in ultrarelativistic heavy ion collisions *(14 pages)* 044908
Gong-Ming Yu and Yun-De Li

Quarkonium formation time in relativistic heavy-ion collisions *(5 pages)* 044909
Taesoo Song, Che Ming Ko, and Su Houng Lee

Hadron resonance gas and mean-field nuclear matter for baryon number fluctuations *(8 pages)* 044910
Kenji Fukushima

Hadronic Physics and QCD

Antineutrino induced $\Lambda(1405)$ production off the proton *(11 pages)* 045201
Xiu-Lei Ren, E. Oset, L. Alvarez-Ruso, and M. J. Vicente Vacas

Finite isospin chiral perturbation theory in a magnetic field *(7 pages)* 045202
Prabal Adhikari, Thomas D. Cohen, and Julia Sakowitz

Measurements of $ep \to e'\pi^+ n$ at $1.6 < W < 2.0$ GeV and extraction of nucleon resonance electrocouplings at CLAS *(21 pages)* 045203
K. Park *et al.* (The CLAS Collaboration)

Dissipative effects on quarkonium spectral functions *(5 pages)* 045204
Yusuf Buyukdag and Clint Young

Zemach moments of the proton from Bayesian inference *(4 pages)* 045205
Krzysztof M. Graczyk and Cezary Juszczak

Open bottom mesons in a hot asymmetric hadronic medium *(17 pages)* 045206
Divakar Pathak and Amruta Mishra

Photoproduction of the ω meson on the proton near threshold *(8 pages)* 045207
I. I. Strakovsky *et al.* (A2 Collaboration at MAMI)

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW C **THIRD SERIES, VOLUME 91, NUMBER 4** **APRIL 2015**

Dynamical and statistical description of multifragmentation in heavy-ion collisions *(5 pages)* 044604
Lihua Mao (毛莉花), Ning Wang (王宁), and Li Ou (欧立)

Integral cross section measurement of the ^{235}U$(n,n')^{235m}$U reaction in a pulsed reactor *(8 pages)* 044605
G. Bélier, E. M. Bond, D. J. Vieira, N. Authier, J. A. Becker, D. Hyneck, X. Jacquet, Y. Jansen, J. Legendre, R. Macri, V. Méot, and P. Romain

Multidimensional fission model with a complex absorbing potential *(6 pages)* 044606
Guillaume Scamps and Kouichi Hagino

Fission probabilities of ^{242}Am, ^{243}Cm, and ^{244}Cm induced by transfer reactions *(19 pages)* 044607
G. Kessedjian, B. Jurado, G. Barreau, P. Marini, L. Mathieu, I. Tsekhanovich, M. Aiche, G. Boutoux, S. Czajkowski, and Q. Ducasse

Predicting the production of neutron-rich heavy nuclei in multinucleon transfer reactions using a semi-classical model including evaporation and fission competition, GRAZING-F *(14 pages)* 044608
R. Yanez and W. Loveland

Decomposition of the sensitivity of the symmetry energy observables *(4 pages)* 044609
He-lei Liu, Gao-Chan Yong, and De-Hua Wen

Energy dependence of the optical potentials for the ^{9}Be + ^{208}Pb and ^{9}Be + ^{209}Bi systems at near-Coulomb-barrier energies *(6 pages)* 044610
A. Gómez Camacho, N. Yu, H. Q. Zhang, P. R. S. Gomes, H. M. Jia, J. Lubian, and C. J. Lin

Yields of neutron-rich nuclei by actinide photofission in the giant dipole resonance region *(6 pages)* 044611
Debasis Bhowmick, Debasis Atta, D. N. Basu, and Alok Chakrabarti

Effect of the exit reaction channels on ^{6}Li + ^{18}O elastic scattering *(4 pages)* 044612
K. Rusek, N. Keeley, K. W. Kemper, and A. T. Rudchik

Hybrid model for studying nuclear multifragmentation around the Fermi energy domain: The case of central collisions of Xe on Sn *(4 pages)* 044614
S. Mallik, G. Chaudhuri, and S. Das Gupta

Analysis of elastic, quasielastic, and inelastic scattering of lithium isotopes on a ^{28}Si target *(7 pages)* 044615
B. Canbula, D. Canbula, and H. Babacan

True ternary fission *(4 pages)* 044616
K. R. Vijayaraghavan, M. Balasubramaniam, and W. von Oertzen

Examination of fusion cross sections and fusion oscillations with a generalized Wong formula *(13 pages)* 044617
N. Rowley and K. Hagino

Small suppression of the complete fusion of the ^{6}Li + ^{96}Zr system at near-barrier energies *(6 pages)* 044619
S. P. Hu, G. L. Zhang, J. C. Yang, H. Q. Zhang, P. R. S. Gomes, J. Lubian, X. G. Wu, J. Zhong, C. Y. He, Y. Zheng, C. B. Li, G. S. Li, W. W. Qu, F. Wang, L. Zheng, L. Yu, Q. M. Chen, P. W. Luo, H. W. Li, Y. H. Wu, W. K. Zhou, B. J. Zhu, and H. B. Sun

Direct evidence of "washing out" of nuclear shell effects *(6 pages)* 044620
A. Chaudhuri, T. K. Ghosh, K. Banerjee, S. Bhattacharya, Jhilam Sadhukhan, C. Bhattacharya, S. Kundu, J. K. Meena, G. Mukherjee, R. Pandey, T. K. Rana, P. Roy, T. Roy, V. Srivastava, and P. Bhattacharya

Probing nuclear dissipation via evaporation residue excitation functions for the ^{16,18}O + ^{198}Pt reactions *(8 pages)* 044621
Rohit Sandal, B. R. Behera, Varinderjit Singh, Maninder Kaur, A. Kumar, Gurpreet Kaur, P. Sharma, N. Madhavan, S. Nath, J. Gehlot, A. Jhingan, K. S. Golda, Hardev Singh, S. Mandal, S. Verma, E. Prasad, K. M. Varier, A. M. Vinodkumar, A. Saxena, Jhilam Sadhukhan, and Santanu Pal

(Continued)

PHYSICAL REVIEW C THIRD SERIES, VOLUME 91, NUMBER 4 APRIL 2015

Ground-state and pairing-vibrational bands with equal quadrupole collectivity in ^{124}Xe *(6 pages)* 044320
A. J. Radich, P. E. Garrett, J. M. Allmond, C. Andreoiu, G. C. Ball, L. Bianco, V. Bildstein, S. Chagnon-Lessard, D. S. Cross, G. A. Demand, A. Diaz Varela, R. Dunlop, P. Finlay, A. B. Garnsworthy, G. Hackman, B. Hadinia, B. Jigmeddorj, A. T. Laffoley, K. G. Leach, J. Michetti-Wilson, J. N. Orce, M. M. Rajabali, E. T. Rand, K. Starosta, C. S. Sumithrarachchi, C. E. Svensson, S. Triambak, Z. M. Wang, J. L. Wood, J. Wong, S. J. Williams, and S. W. Yates

Lowest $(sd)^2$ states in odd-A light nuclei *(4 pages)* 044321
H. T. Fortune

Oblately deformed isomeric proton-emitting state in ^{151}Lu *(6 pages)* 044322
M. J. Taylor, D. M. Cullen, M. G. Procter, A. J. Smith, A. McFarlane, V. Twist, G. A. Alharshan, L. S. Ferreira, E. Maglione, K. Auranen, T. Grahn, P. T. Greenlees, K. Hauschild, A. Herzan, U. Jakobsson, R. Julin, S. Juutinen, S. Ketelhut, J. Konki, M. Leino, A. Lopez-Martens, J. Pakarinen, J. Partanen, P. Peura, P. Rahkila, S. Rinta-Antila, P. Ruotsalainen, M. Sandzelius, J. Saren, C. Scholey, J. Sorri, S. Stolze, J. Uusitalo, and M. Doncel

Complex-energy approach to sum rules within nuclear density functional theory *(10 pages)* 044323
Nobuo Hinohara, Markus Kortelainen, Witold Nazarewicz, and Erik Olsen

Identification of the 0^+ proton pairing vibration state in the doubly magic nucleus ^{208}Pb by particle spectroscopy *(12 pages)* 044325
A. Heusler, T. Faestermann, R. Hertenberger, H.-F. Wirth, and P. von Brentano

Experimental investigation on the temperature dependence of the nuclear level density parameter *(5 pages)* 044326
Balaram Dey, Deepak Pandit, Srijit Bhattacharya, K. Banerjee, N. Quang Hung, N. Dinh Dang, Debasish Mondal, S. Mukhopadhyay, Surajit Pal, A. De, and S. R. Banerjee

Role of the $\nu g_{9/2}$ orbital in the development of collectivity in the $A \approx 60$ region: The case of ^{61}Co *(15 pages)* 044327
A. D. Ayangeakaa, S. Zhu, R. V. F. Janssens, M. P. Carpenter, M. Albers, M. Alcorta, T. Baugher, P. F. Bertone, C. J. Chiara, P. Chowdhury, H. M. David, A. N. Deacon, B. DiGiovine, A. Gade, C. R. Hoffman, F. G. Kondev, T. Lauritsen, C. J. Lister, E. A. McCutchan, D. S. Moerland, C. Nair, A. M. Rogers, and D. Seweryniak

Polarized photon scattering off ^{52}Cr: Determining the parity of $J = 1$ states *(8 pages)* 044328
Krishichayan, Megha Bhike, W. Tornow, G. Rusev, A. P. Tonchev, N. Tsoneva, and H. Lenske

Magnetic and antimagnetic rotation in ^{110}Cd within tilted axis cranking relativistic mean-field theory *(8 pages)* 044329
J. Peng and P. W. Zhao

Nuclear Reactions

Effects of the kinetic symmetry energy reduced by short-range correlations in heavy-ion collisions at intermediate energies *(7 pages)* 044601
Bao-An Li, Wen-Jun Guo, and Zhaozhong Shi

Fusion reactions of ^{58,64}Ni + ^{124}Sn *(7 pages)* 044602
C. L. Jiang, A. M. Stefanini, H. Esbensen, K. E. Rehm, S. Almaraz-Calderon, M. L. Avila, B. B. Back, D. Bourgin, L. Corradi, S. Courtin, E. Fioretto, F. Galtarossa, A. Goasduff, F. Haas, M. M. Mazzocco, D. Montanari, G. Montagnoli, T. Mijatovic, R. Sagaidak, D. Santiago-Gonzalez, F. Scarlassara, E. E. Strano, and S. Szilner

α-accompanied cold ternary fission of $^{238-244}$Pu isotopes in equatorial and collinear configuration *(12 pages)* 044603
K. P. Santhosh, Sreejith Krishnan, and B. Priyanka

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW C **THIRD SERIES, VOLUME 91, NUMBER 4** **APRIL 2015**

β-decay properties of neutron-rich Ge, Se, Kr, Sr, Ru, and Pd isotopes from deformed quasiparticle random-phase approximation *(15 pages)* 044304
P. Sarriguren

Effects of thermal shape fluctuations and pairing fluctuations on the giant dipole resonance in warm nuclei *(15 pages)* 044305
A. K. Rhine Kumar, P. Arumugam, and N. Dinh Dang

Spectroscopy and shell model calculations in Si isotopes *(12 pages)* 044306
S. S. Bhattacharjee, R. Bhattacharjee, R. Raut, S. S. Ghugre, A. K. Sinha, L. Chaturvedi, T. Trivedi, U. Garg, S. Ray, B. K. Yogi, M. Kumar Raju, R. Chakrabarti, S. Mukhopadhyay, A. Dhal, R. P. Singh, N. Madhavan, S. Muralithar, S. Saha, J. Sethi, and R. Palit

Nuclear moments and charge radii of neutron-deficient francium isotopes and isomers *(7 pages)* 044307
A. Voss, F. Buchinger, B. Cheal, J. E. Crawford, J. Dilling, M. Kortelainen, A. A. Kwiatkowski, A. Leary, C. D. P. Levy, F. Mooshammer, M. L. Ojeda, M. R. Pearson, T. J. Procter, and W. Al Tamimi

Mass dependence of symmetry energy coefficients in the Skyrme force *(7 pages)* 044308
N. Wang, M. Liu, H. Jiang, J. L. Tian, and Y. M. Zhao

Identification of deformed intruder states in semi-magic ^{70}Ni *(10 pages)* 044309
C. J. Chiara *et al.*

High-resolution α and electron spectroscopy of $^{249}_{98}$Cf *(8 pages)* 044310
I. Ahmad, J. P. Greene, F. G. Kondev, and S. Zhu

Probing collectivity in Zn isotopes with one particle or hole outside the $N = 40$ subshell closure *(5 pages)* 044311
I. Čeliković, A. Dijon, E. Clément, G. de France, P. Van Isacker, J. Ljungvall, A. Dewald, C. Fransen, G. Georgiev, A. Görgen, A. Gottardo, M. Hackstein, T. W. Hagen, C. Louchart, P. Napiorkowski, A. Obertelli, F. Recchia, W. Rother, S. Siem, B. Sulignano, P. Ujić, J. J. Valiente-Dobón, and M. Zielińska

Further insights into the reaction ^{14}Be(CH_2,X)^{10}He *(6 pages)* 044312
M. D. Jones, Z. Kohley, T. Baumann, G. Christian, P. A. DeYoung, J. E. Finck, N. Frank, R. A. Haring-Kaye, A. N. Kuchera, B. Luther, S. Mosby, J. K. Smith, J. Snyder, A. Spyrou, S. L. Stephenson, and M. Thoennessen

Conservation laws in the $1f_{7/2}$ shell model of ^{48}Cr *(6 pages)* 044313
K. Neergård

Empirical description of β-delayed fission partial half-lives *(7 pages)* 044314
L. Ghys, A. N. Andreyev, S. Antalic, M. Huyse, and P. Van Duppen

Toward global beyond-mean-field calculations of nuclear masses and low-energy spectra *(16 pages)* 044315
Tomás R. Rodríguez, Alexander Arzhanov, and Gabriel Martínez-Pinedo

Calculated fission-fragment yield systematics in the region $74 \leqslant Z \leqslant 94$ and $90 \leqslant N \leqslant 150$ *(7 pages)* 044316
Peter Möller and Jørgen Randrup

Single particle strengths and mirror states in ^{15}N-^{15}O below 12.0 MeV *(9 pages)* 044317
C. E. Mertin, D. D. Caussyn, A. M. Crisp, N. Keeley, K. W. Kemper, O. Momotyuk, B. T. Roeder, and A. Volya

Pygmy resonances and radiative nucleon captures for stellar nucleosynthesis *(11 pages)* 044318
N. Tsoneva, S. Goriely, H. Lenske, and R. Schwengner

Nuclear clustering using a modern shell model approach *(10 pages)* 044319
Alexander Volya and Yury M. Tchuvil'sky

(Continued)

PHYSICAL REVIEW C THIRD SERIES, VOLUME 91, NUMBER 4 APRIL 2015

Reduced quasifission competition in fusion reactions forming neutron-rich heavy elements *(5 pages)* . . . . . 041602(R)
K. Hammerton, Z. Kohley, D. J. Hinde, M. Dasgupta, A. Wakhle, E. Williams, V. E. Oberacker, A. S. Umar, I. P. Carter, K. J. Cook, J. Greene, D. Y. Jeung, D. H. Luong, S. D. McNeil, C. S. Palshetkar, D. C. Rafferty, C. Simenel, and K. Stiefel

Description of isotopic fission-fragment distributions within the Langevin approach *(5 pages)* . . . . . 041603(R)
K. Mazurek, C. Schmitt, and P. N. Nadtochy

Relativistic Nuclear Collisions

Thermodynamics and fluctuations of conserved charges in a hadron resonance gas model in a finite volume *(6 pages)* . . . . . 041901(R)
Abhijit Bhattacharyya, Rajarshi Ray, Subhasis Samanta, and Subrata Sur

Hadronic Physics and QCD

Evidence for narrow resonant structures at $W \approx 1.68$ GeV and $W \approx 1.72$ GeV in real Compton scattering off the proton *(4 pages)* . . . . . 042201(R)
V. Kuznetsov, F. Mammoliti, V. Bellini, G. Gervino, F. Ghio, G. Giardina, W. Kim, G. Mandaglio, M. L. Sperduto, and C. M. Sutera

Electroweak Interaction, Symmetries

Oscillating decay rate in electron capture and the neutrino mass difference *(4 pages)* . . . . . 042501(R)
Murray Peshkin

Nuclear Astrophysics

Neutrino-pair bremsstrahlung from nucleon-α versus nucleon-nucleon scattering *(5 pages)* . . . . . 042801(R)
Rishi Sharma, Sonia Bacca, and A. Schwenk

ARTICLES

Nucleon-Nucleon Interaction, Few-Body Systems

Efficient calculation of chiral three-nucleon forces up to N^{3}LO for *ab initio* studies *(9 pages)* 044001
K. Hebeler, H. Krebs, E. Epelbaum, J. Golak, and R. Skibiński

Nuclear Structure

Evolution of $E2$ transition strength in deformed hafnium isotopes from new measurements on ^{172}Hf, ^{174}Hf, and ^{176}Hf *(15 pages)* 044301
M. Rudigier, K. Nomura, M. Dannhoff, R-B. Gerst, J. Jolie, N. Saed-Samii, S. Stegemann, J-M. Régis, L. M. Robledo, R. Rodríguez-Guzmán, A. Blazhev, Ch. Fransen, N. Warr, and K. O. Zell

New measurement of the excited states in ^{11}B via elastic resonance scattering of ^{10}Be + p *(7 pages)* 044302
Y. D. Liu (刘应都), H. W. Wang (王宏伟), Y. G. Ma (马余刚), X. G. Cao (曹喜光), G. Q. Zhang (张国强), D. Q. Fang (方德清), M. Lyu (吕明), W. B. He (何万兵), Z. T. Dai (代智涛), C. Li (李琛), C. L. Zhou (周铖龙), S. Q. Ye (叶绍强), C. Tao (陶城), J. Wang (王佳), S. Kumar, J. L. Han (韩建龙), Y. Y. Yang (杨彦云), P. Ma (马朋), J. B. Ma (马军兵), S. L. Jin (金仕纶), Z. Bai (白真), L. Jin (金磊), D. Yan (闫铎), and J. S. Wang (王建松)

High-spin states and possible "stapler" band in ^{115}In *(5 pages)* 044303
Z. Q. Chen (陈志强), S. Y. Wang (王守宇), L. Liu (刘雷), P. Zhang (张盼), H. Jia (贾慧), B. Qi (亓斌), S. Wang (王硕), D. P. Sun (孙大鹏), C. Liu (刘晨), Z. Q. Li (李志泉), X. G. Wu (吴晓光), G. S. Li (李广生), C. Y. He (贺创业), Y. Zheng (郑云), and L. H. Zhu (竺礼华)

(Continued)

PHYSICAL REVIEW C™

For editorial and subscription correspondence, please see inside front cover
(ISSN: 0556-2813)

PERIODICALS
Postmaster send address changes to:

PHYSICAL REVIEW C
APS Subscription Services
P.O. Box 41
Annapolis Junction, MD 20701

THIRD SERIES, VOLUME 91, NUMBER 4 ***CONTENTS*** **APRIL 2015**

EDITORIALS AND ANNOUNCEMENTS

Announcement: New Associate Editor in *Physical Review C (1 page)* 040001

RAPID COMMUNICATIONS

Nucleon-Nucleon Interaction, Few-Body Systems

Modern nuclear force predictions for n-^{3}H scattering above the three- and four-nucleon breakup thresholds *(5 pages)* . . . . . 041001(R)
Rimantas Lazauskas

Nuclear Structure

Shell-model study of quadrupole collectivity in light tin isotopes *(5 pages)* . . . . . 041301(R)
L. Coraggio, A. Covello, A. Gargano, N. Itaco, and T. T. S. Kuo

Neutron single-particle strength in silicon isotopes: Constraining the driving forces of shell evolution *(5 pages)* . . . . . 041302(R)
S. R. Stroberg, A. Gade, J. A. Tostevin, V. M. Bader, T. Baugher, D. Bazin, J. S. Berryman, B. A. Brown, C. M. Campbell, K. W. Kemper, C. Langer, E. Lunderberg, A. Lemasson, S. Noji, T. Otsuka, F. Recchia, C. Walz, D. Weisshaar, and S. Williams

Magnetic response of the halo nucleus ^{19}C studied via lifetime measurement *(5 pages)* . . . . . 041303(R)
K. Whitmore, D. Smalley, H. Iwasaki, T. Suzuki, V. M. Bader, D. Bazin, J. S. Berryman, B. A. Brown, C. M. Campbell, P. Fallon, A. Gade, C. Langer, A. Lemasson, C. Loelius, A. O. Macchiavelli, C. Morse, T. Otsuka, J. Parker, F. Recchia, S. R. Stroberg, D. Weisshaar, and K. Wimmer

Ground-state electromagnetic moments of calcium isotopes *(6 pages)* . . . . . 041304(R)
R. F. Garcia Ruiz, M. L. Bissell, K. Blaum, N. Frömmgen, M. Hammen, J. D. Holt, M. Kowalska, K. Kreim, J. Menéndez, R. Neugart, G. Neyens, W. Nörtershäuser, F. Nowacki, J. Papuga, A. Poves, A. Schwenk, J. Simonis, and D. T. Yordanov

Nuclear Reactions

Dipolar degrees of freedom and isospin equilibration processes in heavy ion collisions *(6 pages)* . . . . . 041601(R)
M. Papa, I. Berceanu, L. Acosta, F. Amorini, C. Agodi, A. Anzalone, L. Auditore, G. Cardella, S. Cavallaro, M. B. Chatterjee, E. De Filippo, L. Francalanza, E. Geraci, L. Grassi, B. Gnoffo, J. Han, E. La Guidara, G. Lanzalone, I. Lombardo, C. Maiolino, T. Minniti, A. Pagano, E. V. Pagano, S. Pirrone, G. Politi, F. Porto, L. Quattrocchi, F. Rizzo, E. Rosato, P. Russotto, A. Trifirò, M. Trimarchi, G. Verde, and M. Vigilante

Copyright 2015 by American Physical Society

0556-2813(201504)91:4;1-4

(Continued)