

PHYSICAL REVIEW CTM

For editorial and subscription correspondence,
please see inside front cover
(ISSN: 2469-9985)

PERIODICALS

Postmaster send address changes to:

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

THIRD SERIES, VOLUME 98, NUMBER 5

CONTENTS

NOVEMBER 2018

RAPID COMMUNICATIONS

Nucleon-Nucleon Interaction, Few-Body Systems

- Few-body universality in the deuteron- α system (5 pages) 051001(R)
Jin Lei, L. Hlophe, Ch. Elster, A. Nogga, F. M. Nunes, and D. R. Phillips

Nuclear Structure

- Coupling charge-exchange vibrations to nucleons in a relativistic framework: Effect on Gamow-Teller transitions and β -decay half-lives (5 pages) 051301(R)
Caroline Robin and Elena Litvinova
- Second $T = 3/2$ state in ${}^9\text{B}$ and the isobaric multiplet mass equation (5 pages) 051302(R)
N. J. Mukwevho, B. M. Rebeiro, D. J. Marín-Lámbarri, S. Triambak, P. Adsley, N. Y. Kheswa, R. Neveling, L. Pellegri, V. Pesudo, F. D. Smit, E. H. Akakpo, J. W. Brümmer, S. Jongile, M. Kamil, P. Z. Mabika, F. Nemulodi, J. N. Orce, P. Papka, G. F. Steyn, and W. Yahia-Cherif
- Beyond-mean-field effective masses in the nuclear Fermi liquid from axial breathing modes (5 pages) 051303(R)
M. Grasso, D. Gambacurta, and O. Vasseur

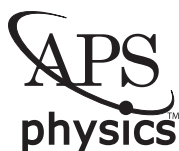
ARTICLES

Nucleon-Nucleon Interaction, Few-Body Systems

- Radiative pion capture in ${}^2\text{H}$, ${}^3\text{He}$, and ${}^3\text{H}$ (15 pages) 054001
J. Golak, R. Skibiński, K. Topolnicki, H. Witała, A. Grassi, H. Kamada, A. Nogga, and L. E. Marcucci
- Density-dependent NN interaction from subleading chiral $3N$ forces: Short-range terms and relativistic corrections (12 pages) 054002
N. Kaiser and V. Niessner

Nuclear Structure

- Pion-less effective field theory for atomic nuclei and lattice nuclei (26 pages) 054301
A. Bansal, S. Binder, A. Ekström, G. Hagen, G. R. Jansen, and T. Papenbrock
- Relativistic Brueckner-Hartree-Fock theory in nuclear matter without the average momentum approximation (12 pages) 054302
Hui Tong (童辉), Xiu-Lei Ren (任修磊), Peter Ring, Shi-Hang Shen (申时行), Si-Bo Wang (王锬博), and Jie Meng (孟杰)



Copyright 2018 by American Physical Society



2469-9985(201811)98:5;1-F

(Continued)

The editors and referees of PRC find these papers to be of particular interest, importance, or clarity. Please see our Announcement Phys. Rev. C 86, 010001 (2012).

CONTENTS - *Continued*

PHYSICAL REVIEW C

THIRD SERIES, VOLUME 98, NUMBER 5

NOVEMBER 2018

Test of the generalized Brink-Axel hypothesis in $^{64,65}\text{Ni}$ (10 pages)	054303
L. Crespo Campo, M. Guttormsen, F. L. Bello Garrote, T. K. Eriksen, F. Giacoppo, A. Görgen, K. Hadynska-Klek, M. Klintefjord, A. C. Larsen, T. Renstrøm, E. Sahin, S. Siem, A. Springer, T. G. Tornyi, and G. M. Tveten	
Excitation spectra of exotic nuclei in a self-consistent phonon-coupling model (13 pages)	054304
N. Lyutorovich, V. Tselyaev, J. Speth, and P.-G. Reinhard	
Lifetime measurements in the chiral-candidate doublet bands of ^{130}La (10 pages)	054305
M. Ionescu-Bujor, S. Aydin, N. Mărginean, C. Costache, D. Bucurescu, N. Florea, T. Glodariu, A. Ionescu, A. Iordăchescu, R. Mărginean, C. Mihai, R. E. Mihai, A. Mitu, A. Negreț, C. R. Niță, A. Olăcel, S. Pascu, B. Saygi, L. Stroe, R. Suvăilă, S. Toma, and A. Turturică	
Tensor correlations in ^4He and ^8Be within an antisymmetrized quasicluster model (15 pages)	054306
H. Matsuno, Y. Kanada-En'yo, and N. Itagaki	
β -decay half-lives of $^{134,134m}\text{Sb}$ and their isomeric yield ratio produced by the spontaneous fission of ^{252}Cf (5 pages)	054307
K. Siegl, K. Kolos, N. D. Scielzo, A. Aprahamian, G. Savard, M. T. Burkey, M. P. Carpenter, P. Chowdhury, J. A. Clark, P. Copp, G. J. Lane, C. J. Lister, S. T. Marley, E. A. McCutchan, A. J. Mitchell, J. Rohrer, M. L. Smith, and S. Zhu	
Shape evolution and coexistence in neutron-deficient Nd and Sm nuclei (8 pages)	054308
J. Xiang, Z. P. Li, W. H. Long, T. Nikšić, and D. Vretenar	
Variational Monte Carlo method for shell-model calculations in odd-mass nuclei and restoration of symmetry (10 pages)	054309
Noritaka Shimizu and Takahiro Mizusaki	
Verification of detailed balance for γ absorption and emission in Dy isotopes (14 pages)	054310
T. Renstrøm, H. Utsunomiya, H. T. Nyhus, A. C. Larsen, M. Guttormsen, G. M. Tveten, D. M. Filipescu, I. Gheorghe, S. Goriely, S. Hilaire, Y.-W. Lui, J. E. Midtbø, S. Péru, T. Shima, S. Siem, and O. Tesileanu	
Generator-coordinate reference states for spectra and $0\nu\beta\beta$ decay in the in-medium similarity renormalization group (11 pages)	054311
J. M. Yao, J. Engel, L. J. Wang, C. F. Jiao, and H. Hergert	
Millisecond $23/2^+$ isomers in the $N = 79$ isotones ^{133}Xe and ^{135}Ba (16 pages)	054312
L. Kaya <i>et al.</i>	
Normal-deformed structures in hafnium isotopes (9 pages)	054313
H. Taheri, A. Kardan, and M. H. Hadizadeh Yazdi	
Chaos and regularity in the spectra of the low-lying dipole excitations of $^{50,52,54}\text{Cr}$ (8 pages)	054314
B. Dietz, B. A. Brown, U. Gayer, N. Pietralla, V. Yu. Ponomarev, A. Richter, P. C. Ries, and V. Werner	
Temperature dependence of the volume and surface contributions to the nuclear symmetry energy within the coherent density fluctuation model (10 pages)	054315
A. N. Antonov, D. N. Kadrev, M. K. Gaidarov, P. Sarriuren, and E. Moya de Guerra	
Giant resonances in $^{40,48}\text{Ca}$, ^{68}Ni , ^{90}Zr , ^{116}Sn , ^{144}Sm , and ^{208}Pb (19 pages)	054316
G. Bonasera, M. R. Anders, and S. Shlomo	
Decays of $^{15}\text{Be}(5/2^+)$ (2 pages)	054317
H. T. Fortune	
Cluster Thomas-Ehrman effect in mirror nuclei (6 pages)	054318
M. Nakao, H. Umehara, S. Ebata, and M. Ito	

(Continued)

CONTENTS - Continued

PHYSICAL REVIEW C

THIRD SERIES, VOLUME 98, NUMBER 5

NOVEMBER 2018

Quantum and Coulomb repulsion effects on the bubble structures in $^{204,206}\text{Hg}$ (7 pages)	054319
X. Y. Wu (吴先业) and J. Xiang (向剑)	
Shell-model coupled-cluster method for open-shell nuclei (12 pages)	054320
Z. H. Sun, T. D. Morris, G. Hagen, G. R. Jansen, and T. Papenbrock	
Precise measurement of α_K and α_T for the 39.8-keV $E3$ transition in ^{103}Rh : Test of internal-conversion theory (11 pages)	054321
N. Nica, J. C. Hardy, V. E. Iacob, V. Horvat, H. I. Park, T. A. Werke, K. J. Glennon, C. M. Folden III, V. I. Sabla, J. B. Bryant, X. K. James, and M. B. Trzhaskovskaya	
Isospin-symmetry breaking corrections for the description of triplet energy differences (9 pages)	054322
S. M. Lenzi, M. A. Bentley, R. Lau, and C. Aa. Diget	
$2\alpha + t$ cluster structure in ^{11}B (11 pages)	054323
Bo Zhou and Masaaki Kimura	

Nuclear Reactions

Determination of the photodisintegration reaction rates involving charged particles: Systematic calculations and proposed measurements based on the facility for Extreme Light Infrastructure–Nuclear Physics (12 pages)	054601
H. Y. Lan, Y. Xu, W. Luo, D. L. Balabanski, S. Goriely, M. La Cognata, C. Matei, A. Anzalone, S. Chesnevskaya, G. L. Guardo, D. Lattuada, R. G. Pizzone, S. Romano, C. Spitaleri, A. Taffara, A. Tumino, and Z. C. Zhu	
Systematic analysis of the peripherality of the $^{10}\text{Be}(d, p)^{11}\text{Be}$ transfer reaction and extraction of the asymptotic normalization coefficient of ^{11}Be bound states (10 pages)	054602
J. Yang and P. Capel	
Mean-field approach to reconstructed neutrino energy distributions in accelerator-based experiments (9 pages)	054603
A. Nikolakopoulos, M. Martini, M. Ericson, N. Van Dessel, R. González-Jiménez, and N. Jachowicz	
First experimental prompt γ -ray spectra in fast-neutron-induced fission of ^{238}U (8 pages)	054604
J.-M. Laborie, R. Billnert, G. Bélier, A. Oberstedt, S. Oberstedt, and J. Taieb	
Effect of energy conservation on the in-medium $NN \rightarrow N\Delta$ cross section in isospin-asymmetric nuclear matter (8 pages)	054605
Ying Cui, Yingxun Zhang, and Zhuxia Li	
Distributions of the largest fragment size in multifragmentation: Traces of a phase transition (14 pages)	054606
J. Brzychczyk, T. Pietrzak, A. Wieloch, and W. Trautmann	
Systematic study of precompound neutron emission in α -particle-induced reactions (9 pages)	054607
Manoj Kumar Sharma, Mahesh Kumar, Mohd. Shuaib, Vijay Raj Sharma, Abhishek Yadav, Pushpendra P. Singh, B. P. Singh, and R. Prasad	
Reexamining the isospin-relaxation time in intermediate-energy heavy-ion collisions (9 pages)	054608
Han-Sheng Wang, Jun Xu, Bao-An Li, and Wen-Qing Shen	
Near-barrier photofission in ^{232}Th and ^{238}U (13 pages)	054609
J. A. Silano and H. J. Karwowski	
Fusion cross section for Ni-based reactions within the relativistic mean-field formalism (10 pages)	054610
M. Bhuyan and Raj Kumar	
 Theoretical study of the $\Delta^{++}\text{-}\Delta^{-}$ configuration in the deuteron using an antiproton beam (19 pages)	054611
A. B. Larionov, A. Gillitzer, J. Haidenbauer, and M. Strikman	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW C

THIRD SERIES, VOLUME 98, NUMBER 5

NOVEMBER 2018

Three-body correlations in direct reactions: Example of ${}^6\text{Be}$ populated in the (p, n) reaction (15 pages)	054612
V. Chudoba, L. V. Grigorenko, A. S. Fomichev, A. A. Bezbakh, I. A. Egorova, S. N. Ershov, M. S. Golovkov, A. V. Gorshkov, V. A. Gorshkov, G. Kaminski, S. A. Krupko, I. Mukha, E. Yu. Nikolskii, Yu. L. Parfenova, S. I. Sidorchuk, P. G. Sharov, R. S. Slepnev, L. Standylo, S. V. Stepantsov, G. M. Ter-Akopian, R. Wolski, and M. V. Zhukov	
Manifestation of the important role of nuclear forces in the emission of photons in pion scattering off nuclei (12 pages)	054613
Sergei P. Maydanyuk, Peng-Ming Zhang, and Li-Ping Zou	
Pion production in a transport model based on mean fields from chiral effective field theory (11 pages)	054614
Zhen Zhang and Che Ming Ko	
Analysis of the one-neutron transfer to ${}^{16}\text{O}$, ${}^{28}\text{Si}$, and ${}^{64}\text{Ni}$ induced by the $({}^{18}\text{O}, {}^{17}\text{O})$ reaction at 84 MeV (10 pages)	054615
R. Linares, M. J. Ermamatov, J. Lubian, F. Cappuzzello, D. Carbone, E. N. Cardozo, M. Cavallaro, J. L. Ferreira, A. Foti, A. Gargano, B. Paes, G. Santagati, and V. A. B. Zagatto	
Irreducible nonlocality of optical model potentials based on realistic NN interactions (12 pages)	054616
H. F. Arellano and G. Blanchon	
Pauli rearrangement potential for a scattering state with the nucleon-nucleon interaction in chiral effective field theory (6 pages)	054617
M. Kohno (河野通郎)	
Extended Skyrme interactions for transport model simulations of heavy-ion collisions (13 pages)	054618
Rui Wang, Lie-Wen Chen, and Ying Zhou	
Photoneutron cross sections for Ni isotopes: Toward understanding (n, γ) cross sections relevant to weak s -process nucleosynthesis (9 pages)	054619
H. Utsunomiya, T. Renstrøm, G. M. Tveten, S. Goriely, S. Katayama, T. Ari-izumi, D. Takenaka, D. Symochko, B. V. Kheswa, V. W. Ingeberg, T. Glodariu, Y.-W. Lui, S. Miyamoto, A. C. Larsen, J. E. Midtbø, A. Görgen, S. Siem, L. Crespo Campo, M. Guttormsen, S. Hilaire, S. Péru, and A. J. Koning	
Cumulants of the baryon number from central Au+Au collision at $E_{\text{lab}} = 1.23$ GeV/nucleon reveal the nuclear mean-field potentials (10 pages)	054620
Yunxiao Ye, Yongjia Wang, Jan Steinheimer, Yasushi Nara, Hao-jie Xu, Pengcheng Li, Dinghui Lu, Qingfeng Li, and Horst Stoecker	
Measurement of the ${}^{80}\text{Se}(\gamma, n)$ reaction with linearly polarized γ rays (15 pages)	054621
S. A. Yates, B. Fallin, C. R. Howell, Krishichayan, W. Tornow, and S. M. Grimes	
Relativistic Nuclear Collisions	
Large proton cumulants from the superposition of ordinary multiplicity distributions (10 pages)	054901
Adam Bzdak, Volker Koch, Dmytro Oliinychenko, and Jan Steinheimer	
Low-momentum direct-photon measurement in Cu + Cu collisions at $\sqrt{s_{NN}} = 200$ GeV (11 pages)	054902
A. Adare <i>et al.</i> (PHENIX Collaboration)	
Production of π^0 and η mesons in Cu + Au collisions at $\sqrt{s_{NN}} = 200$ GeV (11 pages)	054903
C. Aidala <i>et al.</i> (PHENIX Collaboration)	
Spectra and flow of light nuclei in relativistic heavy ion collisions at energies available at the BNL Relativistic Heavy Ion Collider and at the CERN Large Hadron Collider (8 pages)	054905
Wenbin Zhao, Lilin Zhu, Hua Zheng, Che Ming Ko, and Huichao Song	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW C

THIRD SERIES, VOLUME 98, NUMBER 5

NOVEMBER 2018

Temperature dependence of transport coefficients of QCD in high-energy heavy-ion collisions (<i>16 pages</i>)	054906
Kazuhisa Okamoto and Chiho Nonaka	
Multiphase transport model predictions of isobaric collisions with nuclear structure from density functional theory (<i>7 pages</i>)	054907
Hanlin Li, Hao-jie Xu, Jie Zhao, Zi-Wei Lin, Hanzhong Zhang, Xiaobao Wang, Caiwan Shen, and Fuqiang Wang	
Dilepton production and resonance properties within a new hadronic transport approach in the context of the GSI-HADES experimental data (<i>19 pages</i>)	054908
Jan Staudenmaier, Janus Weil, Vincent Steinberg, Stephan Endres, and Hannah Petersen	
Statistical hadron-gas treatment of systems created in proton-proton interactions at energies available at the CERN Super Proton Synchrotron (<i>9 pages</i>)	054909
V. V. Begun, V. Vovchenko, M. I. Gorenstein, and H. Stoecker	
Landau-Pomeranchuk-Midgal effect and charm production in pp collisions at energies available at the CERN Large Hadron Collider using the parton cascade model (<i>8 pages</i>)	054910
Dinesh K. Srivastava, Rupa Chatterjee, and Steffen A. Bass	
Estimate of the signal from the chiral magnetic effect in heavy-ion collisions from measurements relative to the participant and spectator flow planes (<i>4 pages</i>)	054911
Sergei A. Voloshin	
Hadronic Physics and QCD	
Charge-dependent flow induced by magnetic and electric fields in heavy ion collisions (<i>15 pages</i>)	055201
Umut Gürsoy, Dmitri Kharzeev, Eric Marcus, Krishna Rajagopal, and Chun Shen	
Properties of structure functions from helicity components of light quarks and antiquarks in the statistical model (<i>8 pages</i>)	055202
Claude Bourrely	
Hidden strange pentaquark states in constituent quark models (<i>6 pages</i>)	055203
Xuejie Liu, Hongxia Huang, and Jialun Ping	
Soft rescattering in the timelike proton form factor within a spacetime scheme (<i>14 pages</i>)	055204
Andrea Bianconi and Egle Tomasi-Gustafsson	
Electroweak Interaction, Symmetries	
First limit on neutrinoless quadruple β decay of ^{150}Nd to the 0_1^+ state of ^{150}Gd (<i>5 pages</i>)	055501
M. F. Kidd and W. Tornow	
Nuclear Astrophysics	
Domains and defects in nuclear pasta (<i>20 pages</i>)	055801
A. S. Schneider, M. E. Caplan, D. K. Berry, and C. J. Horowitz	
Emission probability of the 66.7 keV γ transition in the decay of ^{171}Tm (<i>4 pages</i>)	055802
I. Kajan, S. Heinitz, R. Dressler, P. Reichel, N. Kivel, and D. Schumann	
Theoretical study of the $\alpha + d \rightarrow {}^6\text{Li} + \gamma$ astrophysical capture process in a three-body model. II. Reaction rates and primordial abundance (<i>9 pages</i>)	055803
E. M. Tursunov, S. A. Turakulov, A. S. Kadyrov, and I. Bray	
Excited states of ^{39}Ca and their significance in nova nucleosynthesis (<i>13 pages</i>)	055804
K. Setoodehnia, C. Marshall, J. H. Kelley, J. Liang, F. Portillo Chaves, and R. Longland	

(Continued)

CONTENTS - *Continued*

PHYSICAL REVIEW C

THIRD SERIES, VOLUME 98, NUMBER 5

NOVEMBER 2018

Deconfinement phase transition in proto-neutron-star matter (<i>11 pages</i>)	055805
J. Roark and V. Dexheimer	

ERRATA

Erratum: Closed expression for the pair vibrational correlation energy of a uniform distribution of single-nucleon levels [Phys. Rev. C 94 , 054328 (2016)] (<i>1 page</i>)	059901(E)
K. Neergård	
Erratum: Rotational band on a three-quasineutron isomer in ^{127}Xe [Phys. Rev. C 97 , 054311 (2018)] (<i>1 page</i>)	059902(E)
S. Chakraborty, H. P. Sharma, S. S. Tiwary, C. Majumder, P. Banerjee, S. Ganguly, S. Rai, Pragati, Swati Modi, P. Arumugam, Mayank, S. Kumar, R. Palit, A. Kumar, S. S. Bhattacharjee, R. P. Singh, and S. Muralithar	