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1. [Nuclear Physics Publications for October](#)

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1. *Nuclear Physics Publications for October (also includes missed publications from previous months)*

If you are publishing a paper that you think would be of media value please contact [Wendy Ellison](#), STFC Press Officer. She can help with press releases and publicity. If you get in touch with her before publication she can also get material ready in advance for the day of publication.

J. of Phys. G: Nuclear and Particle Physics (Editor's Pick)

<https://iopscience.iop.org/article/10.1088/1361-6471/aba16c>

High-spin states of ^{218}Th

D O'Donnell^{1,2,8}, R D Page², T Grahn³, F A Ali^{2,4}, K Auranen³, L Capponi¹, R J Carroll², M M R Chishti¹, M C Drummond², P T Greenlees³, J Henderson^{9,4}, A Herzan³, U Jakobsson³, D T Joss², R Julin³, S Juutinen³, J Konki^{10,3}, M Labiche⁵, M Leino³, P J R Mason⁵, C G McPeake², J Pakarinen³, P Papadakis², J Partanen³, P Peura³, P Rahkila³, J Revill², P Ruotsalainen³, M Sandzelius³, J Sarén⁶, B Saygi^{11,2}, C Scholey³, J Simpson⁵, J F Smith¹, M Smolen¹, J Sorri^{12,3}, S Stolze³, C M Sullivan², A Thornthwaite², J Uusitalo³, A Kumar⁷ and P C Srivastava⁷

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Phys. Lett. B 809, 135678

<https://www.sciencedirect.com/science/article/pii/S0370269320304810>

Electromagnetic properties of ^{21}O for benchmarking nuclear Hamiltonians

S.Heil^a, M.Petri^{ba}, K.Vobig^a, D.Bazin^{cd}, J.Belarge^{c1}, P.Bender^{ce}, B.A.Brown^{cd}, R.Elder^{cd}, B.Elman^{cd}, A.Gade^{cd}, T.Haylett^b, J.D.Holt^f, T.Hüther^a, A.Hufnagel^g, H.Iwasaki^{cd}, N.Kobayashi^c, C.Loelius^{cd}, B.Longfellow^{cd}, E.Lunderberg^{cd}, M.Mathy^a, J.Menéendez^g, S.Paschalis^b, R.Roth^a, A.Schwenk^{ahi}, J.Simonis^a, I.Syndikus^a, D.Weisshaar^c, K.Whitmore^{cd}

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Phys. Lett. B 809, 135748

<https://www.sciencedirect.com/science/article/pii/S0370269320305517>

Probing the Z = 6 spin-orbit shell gap with (p,2p) quasi-free scattering reactions

I.Syndikus^{ab}, M.Petri^c, A.O.Macchiavelli^d, S.Paschalis^c, C.A.Bertulani^e, T.Aumann^{ab}, H.Alvarez-Pol^f, L.Atar^a, S.Beceiro-Novo^{fg}, J.Benlliure^f, J.M.Boillos^f, K.Boretzky^b, M.J.G.Borge^h, B.A.Brown^{gi}, M.Caamaño^f, C.Caesar^{ab}, E.Casarejos^l, W.Catford^m, J.Cederkall^s, S.Chakraborty^{ak}, L.V.Chulkovⁿ, D.Cortina-Gil^f, E.Cravo^{pr}, R.Crespo^q, U.Datta Pramanik^{ak}, I.Dillmann^{br}, P.Díaz Fernández^{fs}, Z.Elekes^t, J.Enders^a, F.Farinon^b, L.M.Fraile^v, D.Galaviz^w, H.Geissel^l, R.Gernhäuser^x, P.Golubev^j, K.Göbel^y, M.Heil^b, M.Heine^z, A.Heinz^s, A.Henriques^w, M.Holl^a, H.T.Johansson^s, B.Jonson^s, N.Kalantar-Nayestanaki^{ab}, R.Kanungo^{ac}, A.Kelic-Heil^{bt}, K.Tröll^a, N.Kurz^b, C.Langer^y, T.Le Bleis^x, J.Machado^{aa}, J.Marganec-Gałązka^{abae}, E.Nacher^h, T.Nilsson^s, C.Nociforo^b, V.Panin^a, A.Perea^h, S.B.Pietri^b, R.Plag^b, A.Rahaman^{ak}, R.Reifarth^y, A.Revelⁱ, G.Ribeiro^h, C.Rigollet^{ab}, D.M.Rossi^{ab}, D.Savran^b, H.Scheit^a, H.Simon^b, O.Sorlin^{ag}, O.Tengblad^h

Y.Togano^{ah}, M.Vandebrouck^{ag}, V.Volkov^{ano}, F.Wamers^{ab}, C.Wheldon^{aj}, G.L.Wilson^m, J.S.Winfield^b, H.Weick^b, P.Woods^u, D.Yakorev^k, M.Zhukov^s, A.Zilges^{ai}, K.Zuber^{af} for the R³B Collaboration
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Phys. Rev. C **102**, 044333

<https://journals.aps.org/prc/abstract/10.1103/PhysRevC.102.044333>

Reexamining the relation between the binding energy of finite nuclei and the equation of state of infinite nuclear matter

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Phys. Rev. C **102**, 041304(R)

<https://journals.aps.org/prc/abstract/10.1103/PhysRevC.102.041304>

Restoring the valence-shell stabilization in ¹⁴⁰Nd

R. Kern^{1,*}, R. Zidarova^{1,2}, N. Pietralla¹, G. Rainovski², R. Stegmann¹, A. Blazhev³, A. Boukhari⁴, J. Cederkäll^{4,5}, J. G. Cubiss⁶, M. Djongolov², C. Fransen³, L. P. Gaffney^{4,7}, K. Gladnishki², E. Giannopoulos^{4,8,9}, H. Hess³, J. Jolie³, V. Karayonchev³, L. Kaya³, J. M. Keatings^{10,11}, D. Kocheva², Th. Kröll¹, O. Möller¹, G. G. O'Neill^{12,13}, J. Pakarinen^{8,9}, P. Reiter³, D. Rosiak³, M. Scheck^{10,11}, J. Snall⁵, P.-A. Söderström^{1,14}, P. Spagnoletti^{10,11}, M. Stoyanova², S. Thiel³, A. Vogt³, N. Warr³, A. Welker⁴, V. Werner¹, J. Wiederhold¹, and H. De Witte¹⁵

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Phys. Rev. C **102**, 044004

<https://journals.aps.org/prc/abstract/10.1103/PhysRevC.102.044004>

Total and differential cross sections of the dp→3Heη reaction at excess energies between 1 and 15 MeV

C. Fritsch^{1,*}, S. Barsov², I. Burmeister¹, S. Dymov^{3,4}, R. Gebel³, M. Hartmann³, A. Kacharava³, A. Khoukaz^{1,†}, V. Komarov⁴, P. Kulesa⁵, A. Kulikov⁴, A. Lehrach³, B. Lorentz³, D. Mchedlishvili^{3,6}, T. Mersmann¹, M. Mielke¹, S. Mikirtychiants², M. Nioradze⁶, H. Ohm³, M. Papenbrock¹, D. Prasuhn³, V. Serdyuk³, H. Ströher³, A. Täschner¹, Yu. Valdau^{3,2}, and C. Wilkin⁷ (ANKE Collaboration)

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Phys. Rev. C **102**, 044332

<https://journals.aps.org/prc/abstract/10.1103/PhysRevC.102.044332>

Laser-assisted decay spectroscopy and mass spectrometry of ¹⁷⁸Au

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Reexamining the relation between the binding energy of finite nuclei and the equation of state of infinite nuclear matter

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Phys. Rev. C **102**, 044614

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Single-nucleon knockout cross sections for reactions producing resonance states at or beyond the drip line

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Phys. Rev. C **102**, 044615

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Measurement of the α ratio and (n,γ) cross section of ^{235}U from 0.2 to 200 eV at n_TOF

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Phys. Rev. C **102**, 044617

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Optical potentials, retarded Green's functions, and nonorthogonality

Michael C. Birse

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Phys. Rev. C **102**, 044908

<https://journals.aps.org/prc/abstract/10.1103/PhysRevC.102.044908>

Measurement of isolated photon-hadron correlations in $\sqrt{s_{\text{NN}}} = 5.02$ TeV pp and p-Pb collisions

S. Acharya et al. (ALICE Collaboration)

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Phys. Rev. C **102**, 045802

<https://journals.aps.org/prc/abstract/10.1103/PhysRevC.102.045802>

^{19}Ne level structure for explosive nucleosynthesis

M. R. Hall^{1,2,*}, D. W. Bardayan¹, T. Baugher³, A. Lepailleur³, S. D. Pain², A. Ratkiewicz³, S. Ahn⁴, J. M. Allen¹, J. T. Anderson⁵, A. D. Ayangeakaa⁵, J. C. Blackmon⁶, S. Burcher⁷, M. P. Carpenter⁵, S. M. Cha⁸, K. Y. Chae⁸, K. A. Chipps^{2,7}, J. A. Cizewski³, M. Febbraro², O. Hall^{1,9}, J. Hu¹, C. L. Jiang⁵, K. L. Jones⁷, E. J. Lee⁸, P. D. O'Malley¹, S. Ota¹⁰, B. C. Rasco⁶, D. Santiago-Gonzalez⁶, D. Seweryniak⁵, H. Sims^{3,9}, K. Smith⁷, W. P. Tan¹, P. Thompson^{2,7}, C. Thornsberry⁷, R. L. Varner², D. Walter³, G. L. Wilson^{6,11}, and S. Zhu^{5,12}

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Phys. Rev. Lett. **125**, 172501

<https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.125.172501>

Absence of Low-Energy Shape Coexistence in ^{80}Ge : The Nonobservation of a Proposed Excited 0+2 Level at 639 keV

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Phys. Rev. Lett. **125**, 182501

<https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.125.182501>

***Ab Initio* Computation of Charge Densities for Sn and Xe Isotopes**

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