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Newsletter archive: <http://npg.dl.ac.uk/OutreachNewsletter/index.html>

Nuclear Physics Public Engagement Website: [NuclearPhysicsForYou](#)

[Nuclear Physics Outreach Poster](#) – order hardcopies from STFC free of charge [here](#)

1. Nuclear Physics Publications for June (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.

Phys. Rev. C 103, 064320

(Editor's Pick)

<https://journals.aps.org/prc/abstract/10.1103/PhysRevC.103.064320>

Configuration mixing in ^{28}Mg and the $^{26}\text{Mg}(t,p)^{28}\text{Mg}$ reaction

D. G. McNeel, A. H. Wuosmaa, S. A. Kuvin, J. Smith, B. B. Back, J. Chen, C. R. Hoffman, B. P. Kay, G. L. Wilson, D. K. Sharp, R. M. Clark, H. L. Crawford, P. Fallon, and A. O. Macchiavelli

Published 16 June 2021

Phys. Rev. C 103, 064305

<https://journals.aps.org/prc/abstract/10.1103/PhysRevC.103.064305>

Configuration mixing and K-forbidden E2 decays

P. M. Walker and P. D. Stevenson

Published 7 June 2021

Phys. Rev. C 103, 054327

<https://journals.aps.org/prc/abstract/10.1103/PhysRevC.103.054327>

Competition between allowed and first-forbidden β decays of ^{208}At and expansion of the ^{208}Po level scheme

M. Brunet^{1,*}, Zs. Podolyák¹, T. A. Berry¹, B. A. Brown², R. J. Carroll¹, R. Lica^{3,4}, Ch. Sotty^{4,5}, A. N. Andreyev^{6,7}, M. J. G. Borge³, J. G. Cubiss^{3,8}, L. M. Fraile⁸, H. O. U. Fynbo⁹, E. Gamba¹⁰, P. Greenlees¹¹, L. J. Harkness-Brennan¹², M. Huysse⁵, D. S. Judson¹², J. Konki¹¹, J. Kurcewicz³, I. Lazarus¹³, M. Madurga³, N. Marginean⁴, R. Marginean⁴, I. Marroquin¹⁴, C. Mihai⁴, E. Nácher¹⁵, A. Negret⁴, S. Pascu⁴, R. D. Page¹², A. Perea¹⁴, J. Phrompao¹⁶, M. Piersa¹⁷, V. Pucknell¹³, P. Rahkila¹¹, E. Rapisarda³, P. H. Regan^{1,18}, F. Rotaru⁴, M. Rudigier¹, C. M. Shand¹, R. Shearman^{1,18}, E. C. Simpson¹⁹, T. Stora³, O. Tengblad¹⁴, P. Van Duppen⁵, V. Vedia⁸, S. Vinals¹⁴, R. Wadsworth⁶, N. Warr¹⁹, and H. De Witte⁵

Published 28 May 2021

Phys. Rev. C 103, 064304

<https://journals.aps.org/prc/abstract/10.1103/PhysRevC.103.064304>

Nuclear ground states in a consistent implementation of the time-dependent density matrix approach

Matthew Barton, Paul Stevenson, and Arnau Rios

Published 4 June 2021

Phys. Rev. C 103, 064317

<https://journals.aps.org/prc/abstract/10.1103/PhysRevC.103.064317>

Application of an *ab-initio*-inspired energy density functional to nuclei: Impact of the effective mass and the slope of the symmetry energy on bulk and surface properties

Stefano Burrello, Jérémy Bonnard, and Marcella Grasso

Published 15 June 2021

Phys. Rev. C 103, 064328

<https://journals.aps.org/prc/abstract/10.1103/PhysRevC.103.064328>

Persistence of the Z=28 shell gap in A=75 isobars: Identification of a possible (1/2⁻) μ s isomer in ⁷⁵Co and β decay to ⁷⁵Ni

[S. Escrig^{1,2,*}](#), [A. I. Morales^{1,†}](#), [S. Nishimura³](#), [M. Niikura⁴](#), [A. Poves^{5,6}](#), [Z. Y. Xu^{4,3}](#), [G. Lorusso³](#), [F. Browne^{7,3}](#), [P. Doornenbal³](#), [G. Gey^{8,9,3}](#), [H.-S. Jung¹⁰](#), [Z. Li¹¹](#), [P.-A. Söderström^{3,12}](#), [T. Sumikama¹³](#), [J. Taprogge^{5,2,3}](#), [Zs. Vajta^{14,3}](#), [H. Watanabe¹⁵](#), [J. Wu^{11,3}](#), [A. Yagi¹⁶](#), [K. Yoshinaga¹⁷](#), [H. Baba³](#), [S. Franchoo¹⁸](#), [T. Isobe³](#), [P. R. John^{19,20}](#), [I. Kojouharov²¹](#), [S. Kubono³](#), [N. Kurz²¹](#), [I. Matea¹⁸](#), [K. Matsui⁴](#), [D. Mengoni¹⁹](#), [P. Morfouace¹⁸](#), [D. R. Napoli²²](#), [F. Naqvi²³](#), [H. Nishibata¹⁶](#), [A. Odahara¹⁶](#), [E. Sahin²⁴](#), [H. Sakurai^{4,3}](#), [H. Schaffner²¹](#), [I. G. Stefan¹⁸](#), [D. Suzuki^{18,3}](#), [R. Taniuchi⁴](#), [V. Werner^{23,20}](#), and [D. Sohler¹⁴](#)

Published 28 June 2021

ApJ. **912**, 59

<https://iopscience.iop.org/article/10.3847/1538-4357/abee91>

New Experimental ²³Na(α , p)²⁶Mg Reaction Rate for Massive Star and Type Ia Supernova Models

[N. J. Hubbard^{1,2,3,4}](#), [C. Aa. Diget¹](#), [S. P. Fox¹](#), [H. O. U. Fynbo²](#), [A. M. Howard⁵](#), [O. S. Kirsebom⁶](#), [A. M. Laird¹](#), [M. Munch²](#), [A. Parikh⁷](#), [M. Pignatari^{11,8,9,10}](#), and [J. R. Tomlinson¹](#)

Published 2021 May 5

Phys. Lett. B 819 136438

<https://www.sciencedirect.com/science/article/pii/S0370269321003786?via%3Dihub>

Total absorption gamma-ray spectroscopy study of the β -decay of ¹⁸⁶Hg

[A. Algora](#), [E. Ganioglu](#), [P. Sarriguren](#), [V. Guadilla](#), [L.M. Fraile](#), [E. Nacher](#), [B. Rubio](#), [J.L. Tain](#), [J. Agramunt](#), [W. Gelletly](#), [J.A. Briz](#), [R.B. Cakirli](#), [M. Fallot](#), [D. Jordán](#), [Z. Halász](#), [I. Kuti](#), [A. Montaner](#), [A. Onillon](#), [S.E.A. Orrigo](#), [A. Perez Cerdan](#), [S. Rice](#), [V. Vedia](#), [E. Valencia](#)

Available online 8 June 2021

Eur. Phys. J. A 57, 85

<https://link.springer.com/article/10.1140/epja/s10050-020-00316-4>

Beta-decay studies for applied and basic nuclear physics

[A. Algora](#), [J. L. Tain](#), [B. Rubio](#), [M. Fallot](#) & [W. Gelletly](#)

Published: 03 March 2021

Biographical Memoirs of Fellows of the Royal Society

<https://royalsocietypublishing.org/doi/10.1098/rsbm.2021.0006>

James Philip Elliott. 27 July 1929—21 October 2008

[Piet Van Isacker](#) and [William Gelletly](#)

Available online 23 June 2021

2. News to Report

a. IOP Nuclear Physics Colloquia

The IOP Nuclear Physics Colloquia is a series of online open access research colloquia for all those involved in nuclear physics. In this series we highlight the latest results, new techniques and future prospects in the field, for the attention and discussion of the research community.

Colloquia feature talks from invited international speakers and the best of young UK-based researchers, as well as open discussions.

Sessions are open to all, but are aimed towards graduate students, researchers and academics.

Each of the sessions are chaired on behalf of the IOP by experts in the field invited from esteemed UK research groups.

Recently, the second in the colloquium series was successfully held.

July 6th: Novel Approaches to Neutron Measurement

Speakers: Dr Tanya Hutton, Dr Jose Javier Valiente Dobon, Mr Ocean Wong
Chairs: Prof Alison Bruce, Dr Robin Smith

The next scheduled edition will be hosted by the University of Edinburgh on **September 9th 3pm BST: Big Bang Nucleosynthesis**

Speakers:
Prof. Brian Fields (U. Illinois, US)

Dr. F. Cavanna (INFN/U. Turin, Italy)
Mr. J. Marsh (U. Edinburgh)

<https://ed-ac-uk.zoom.us/j/88055037309>

Meeting ID: 880 5503 7309

Passcode: BBN_2021

Further details will be sent out closer to the time

*Contribution by James Smallcombe
(IOP Nuclear Physics Group
and University of Liverpool)*

b. IOP Nuclear Physics Group Committee Nominations

A reminder that the IOP Nuclear Physics Group Committee has 6 vacancies that are open for self-nominations. This includes 5 committee members as well as the position of treasurer.

I would like to remind anyone who is interested in joining the committee that the extended deadline for nominating yourself for these positions is 13th July. Nominations can be made via the [IOP Nomination Portal](#). You must be a member of the IOP to join the committee.

*Contribution by David Sharp
(Chair, IOP Nuclear Physics Group
and University of Manchester)*

3. Outreach Activity

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4. Media Interactions

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