UK Nuclear Activity

October 2022 Issue 111

In this issue,

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

Nuclear Physics Public Engagement Website: NuclearPhysicsForYou

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1. Nuclear Physics Publications for October*

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. Lett. **129**, 152501 (2022) (https://doi.org/10.1103/PhysRevLett.129.152501)
Quenching of Single-Particle Strength in A=15 Nuclei
B. P. Kay *et al.*
Published 3 October 2022

Phys. Rev. Lett. **129**, 162701 (2022) (https://doi.org/10.1103/PhysRevLett.129.162701)
Direct Measurement of Resonances in ^{7}Be(α,γ)^{11}C Relevant to νp-Process Nucleosynthesis
A. Psaltis *et al.*
Published 14 October 2022

Phys. Rev. Lett. **129**, 172701 (2022) (https://doi.org/10.1103/PhysRevLett.129.172701)
β-Delayed One and Two Neutron Emission Probabilities Southeast of 132Sn and the Odd-Even Systematics in r-Process Nuclide Abundances
V. H. Phong *et al.*
Published 18 October 2022

Phys. Rev. Lett. **129**, 182501 (2022) (https://doi.org/10.1103/PhysRevLett.129.182501)
Observation of Azimuth-Dependent Suppression of Hadron Pairs in Electron Scattering off Nuclei
S. J. Paul *et al.* (CLAS Collaboration)
Published 25 October 2022

Edited by Jack Henderson, IOP Nuclear Physics Group Committee
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Phys. Lett. B **833** 137288 (2022) (https://doi.org/10.1016/j.physletb.2022.137288)
Summit of the N=40 island of inversion: Precision mass measurements and ab initio calculations of neutron-rich chromium isotopes
R. Silwal *et al.*
Published 10 October 2022

Phys. Lett. B **833** 137309 (2022) (https://doi.org/10.1016/j.physletb.2022.137309)
Mass measurements towards doubly magic ^{78}Ni: Hydrodynamics versus nuclear mass contribution in core-collapse supernovae
S. Giraud *et al.*
Published 10 October 2022

Phys. Lett. B **833** 137345 (2022) (https://doi.org/10.1016/j.physletb.2022.137345)
First observation of the decay of the 13/2+ isomer in ^{183}Hg and B(M2) systematics of neutron transitions across the nuclear chart
H. Huang *et al.*
Published 10 October 2022

Phys. Lett. B **833** 137361 (2022) (https://doi.org/10.1016/j.physletb.2022.137361)
Single neutron transfer on ^{23}Ne and its relevance for the pathway of nucleosynthesis in astrophysical X-ray bursts
G. Lotay *et al.*
Published 10 October 2022

Phys. Rev. C **106** 044313 (2022) (https://doi.org/10.1103/PhysRevC.106.044313)
Multistep Coulomb excitation of ^{64}Ni: Shape coexistence and nature of low-spin excitations
D. Little *et al.*
Published 14 October 2022

Phys. Rev. C **106**, 045805 (2022) (https://doi.org/10.1103/PhysRevC.106.045805)
First inverse kinematics measurement of resonances in ^{7}Be(α,γ)^{11}C relevant to neutrino-driven wind nucleosynthesis using DRAGON
A. Psaltis *et al.*
Published 14 October 2022

Phys. Rev. C **106**, 044314 (2022) (https://doi.org/10.1103/PhysRevC.106.044314)
Shell-model study on spectroscopic properties in the region "south" of ^{208}Pb
Cenxi Yuan, Menglan Liu, Noritaka Shimizu, Zs. Podolyák, Toshio Suzuki, Takaharu Otsuka, and Zhong Liu
Published 17 October 2022

Phys. Rev. C **106**, 044607 (2022) (https://doi.org/10.1103/PhysRevC.106.044607)
^{178}Hg and asymmetric fission of neutron-deficient pre-actinides
A. Jhingan *et al.*
Published 19 October 2022

Phys. Rev. C **106**, 044324 (2022) (https://doi.org/10.1103/PhysRevC.106.044324)
Model-independent determination of the dipole response of ^{66}Zn using quasimonoenergetic and linearly polarized photon beams
D. Savran *et al.*
Published 21 October 2022

Frontiers in Physics **10** 1019285 (2022) (https://doi.org/10.3389/fphy.2022.1019285)
Mean-field simulations of Es-254 + Ca-48 heavy-ion reactions
P. D. Stevenson
Published 25 October 2022

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2. News to Report

a. Upcoming early career researcher workshop

On the 8th and 9th of December a career development workshop for ECRs will be held at Kings Manor at the University of York. Speakers will cover concepts such as narrative CVs, commercialisation and knowledge exchange, and proposal writing.

Registration (free) and further details can be found here:
https://iop.eventsair.com/npecf2022/

Contribution by Dr. Jack Henderson, University of Surrey, for the ECR forum committee

b. Dr. Carlo Bruno awarded IUPAP Early Career Prize

Dr. Carlo Bruno of the University of Edinburgh was one of three nuclear physicists awarded the International Union of Pure and Applied Physics Early Career Scientist prizes. The prize was awarded to Dr. Bruno *"For his experimental work with low-energy nuclear reactions relevant for astrophysics and his leading role in transferring these experiments into storage rings using radioactive beams."* This prestigious prize was awarded at the International Nuclear Physics Conference (INPC 2022) in Cape Town, South Africa.

More details can be found here:
https://iupap.org/who-we-are/internal-organization/commissions/c12-commission-on-nuclear-physics/c12-news/

Contribution by Dr. Carlo Bruno, University of Edinburgh

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3. Outreach Activity

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4. Media Interactions

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