



UK Nuclear Activity

November 2025 Issue 148

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

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

IoP Support and grants: <https://www.iop.org/about/support-grants>

1. Nuclear Physics Publications for November*

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.

*Also includes missed publications from previous months

Nature Communications **16** 10631 (2025) (<https://doi.org/10.1038/s41467-025-65621-2>)
Abrupt structural transition in exotic molybdenum isotopes unveils an isospin-symmetric island of inversion
J. Ha *et al.*
Published 27 November 2025

Phys. Rev. Lett. **135** 222503 (2025) (<https://doi.org/10.1103/kwm2-9bmd>)
Identification of Prompt Proton Emission in $N=Z-1$ ^{61}Ga : Isospin Symmetry at the Limit of Nuclear Binding
Y. Hrabar *et al.*
Published 25 November 2025

Phys. Rev. Lett. **135** 222502 (2025) (<https://doi.org/10.1103/7ysn-8y1w>)
First Measurement of the Quadrupole Moment of the 2^+_1 State in ^{110}Sn
J. Park *et al.*
Published 25 November 2025

- Phys. Rev. Lett. **135** 222501 (2025) (<https://doi.org/10.1103/wbdx-k3cd>)
Charge Radii Measurements of Exotic Tin Isotopes in the Proximity of $N=50$ and $N=82$
F. P. Gustafsson *et al.*
Published 25 November 2025
- Phys. Lett. B **871** 140013 (2025) (<https://doi.org/10.1016/j.physletb.2025.140013>)
Electromagnetic moments of $^{215,217}\text{Bi}$: Probing shell evolution beyond $N=126$
A. N. Andreyev *et al.*
Published 7 November 2025
- Phys. Rev. C **112** 054603 (2025) (<https://doi.org/10.1103/954z-cn34>)
Unconventional ^{67}Cu production using high-energy bremsstrahlung and cross section evaluation
M. Eslami, D. G. Jenkins and M. Bashkanov
Published 7 November 2025
- Phys. Rev. C **112** 054319 (2025) (<https://doi.org/10.1103/gkvv-y4w8>)
 β decay of the $T_z=-2$ nucleus ^{64}Se and its descendants: The $T=2$ isobaric multiplet
P. Aguilera *et al.*
Published 20 November 2025
- Phys. Rev. C **112** L051304 (2025) (<https://doi.org/10.1103/3t7h-nds7>)
Hot pygmy dipole strength in nickel isotopes
A. Kaur, E. Yüksel, N. Paar
Published 26 November 2025
- Phys. Rev. C **112** L052801 (2025) (<https://doi.org/10.1103/vqt1-jxpw>)
Improved direct measurement of low-energy resonances in the $^{21}\text{Ne}(p,\gamma)^{22}\text{Na}$ reaction
R. S. Sidhu *et al.*
Published 3 November 2025
- Phys. Rev. C **112** 054304 (2025) (<https://doi.org/10.1103/4lzs-mv3l>)
Valence $1s-0d$ proton vacancy of the ^{32}Si ground state
N. Natwood *et al.*
Published 5 November 2025
- Phys. Rev. C **112** 054318 (2025) (<https://doi.org/10.1103/phgw-fxym>)
Potential absence of observed π^2 linear-chain structures in ^{14}O via $^{10}\text{C}(\alpha,\alpha)$ resonant scattering
J. Bishop *et al.*
Published 19 November 2025
- Phys. Rev. C **112** 054906 (2025) (<https://doi.org/10.1103/xl6m-vbqk>)
Dielectron production in central Pb-Pb collisions at $\sqrt{s_{NN}}=5.02$ TeV
S. Acharya *et al.* (ALICE Collaboration)
Published 18 November 2025
- Phys. Rev. C **112** 055202 (2025) (<https://doi.org/10.1103/2m4z-htrp>)
Multidimensional measurements of beam single-spin asymmetries in semi-inclusive deep-inelastic charged-kaon electroproduction off protons in the valence region
A. Kripko *et al.* (CLAS Collaboration)
Published 12 November 2025
- Phys. Rev. D **112** 092012 (2025), (<https://doi.org/10.1103/nt4q-7t77>)
 D_0 -meson-tagged jet axes difference in proton-proton collisions at $\sqrt{s} = 5.02$ TeV
S. Acharya *et al.* (ALICE Collaboration)
Published 19 November 2025

Eur. Phys. J. A **61** 268 (2025) (<https://doi.org/10.1140/epja/s10050-025-01745-9>)

Modelling simultaneous detection of electrons and γ rays in-beam

D. M. Cox *et al.*

Published 24 November 2025

J. Phys. G **52** 115103 (2025) (<https://doi.org/10.1088/1361-6471/ae1248>)

$^{16}\text{O} + ^{16}\text{O}$ fusion at sub-coulomb energies

M. Sujan Islam *et al.*

Published 21 November 2025

J. High Energ. Phys. **2025** 76 (2025) ([https://doi.org/10.1007/JHEP11\(2025\)076](https://doi.org/10.1007/JHEP11(2025)076))

Study of $\langle p_T \rangle$ and its higher moments, and extraction of the speed of sound in Pb-Pb collisions with ALICE

I. J. Abualrob, *et al.* (ALICE Collaboration)

Published 13 November 2025

Sci. China Phys. Mech. Astron. **68** 119503 (2025) (<https://doi.org/10.1007/s11433-025-2761-4>)

Dense matter in neutron stars with eXTP

A. Li *et al.*

Published 18 September 2025

2. News to Report

a. R3B Collaboration News: Professor Marina Petri Elected Spokesperson

The R3B Collaboration is thrilled to announce the election of Professor Marina Petri from the University of York as the new spokesperson for the experiment at FAIR in Germany.

The R3B (Reactions with Relativistic Radioactive Beams) Collaboration is a leading international partnership of over 200 scientists from 23 countries. As a strategic sub-collaboration of the FAIR-pillar NuSTAR, our mission is to leverage the unique capabilities of the Facility for Antiproton and Ion Research (FAIR). We perform kinematically-complete measurements using high-energy radioactive beams to enable an extended scientific program covering nuclear structure, dynamics, and astrophysics.

Professor Petri's appointment comes at a particularly exciting time for the R3B

community. With the upcoming operation of FAIR and the opening of the High Energy Cave, we are entering a pivotal phase. These developments represent a major turning point that will unlock the full potential of our versatile experimental setup, allowing us to pursue our scientific goals with unprecedented efficiency and precision.

Crucially, this election underpins the UK's leadership role in the R3B experiment and FAIR. It directly reaffirms the strategic importance of current UK-funded instrumentation efforts, such as the R3B-TRT (target-recoil-tracking array), an ongoing £3.3M project led by the University of York.

Contribution from Marina Petri, University of York

3. Outreach Activity

4. Media Interactions

a. HIE-ISOLDE: 10 years, 10 highlights

An [article](#) was published in the CERN Courier celebrating the 10-year anniversary of the HIE-ISOLDE facility.

*Contribution from Robert Page, University of
Liverpool*

