



# UK Nuclear Activity

December 2022 Issue 113

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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 December\*

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**, 242501 (2022) (<https://doi.org/10.1103/PhysRevLett.129.242501>)

*Dissipative Reactions with Intermediate-Energy Beams: A Novel Approach to Populate Complex-Structure States in Rare Isotopes*

A. Gade *et al.*

Published 7 December 2022

Phys. Rev. C **106**, L061301 (2022) (<https://doi.org/10.1103/PhysRevC.106.L061301>)

*Discovery of the new isotope  $^{251}\text{Lr}$ : Impact of the hexacontetrapole deformation on single-proton orbital energies near the  $Z=100$  deformed shell gap*

T. Huang *et al.*

Published 1 December 2022

Phys. Rev. C **106**, L061303 (2022) (<https://doi.org/10.1103/PhysRevC.106.L061303>)

*Core of  $^{25}\text{F}$  studied by the  $^{25}\text{F}(-p)$  proton-removal reaction*

H. L. Crawford *et al.*

Published 5 December 2022

Phys. Rev. C **106**, 064301 (2022) (<https://doi.org/10.1103/PhysRevC.106.064301>)

*New  $K$  isomers in  $^{248}\text{Cf}$*

R. Orlandi *et al.*

Published 2 December 2022

Phys. Rev. C **106**, 064303 (2022) (<https://doi.org/10.1103/PhysRevC.106.064303>)  
*Exploiting dissipative reactions to perform in-beam  $\gamma$ -ray spectroscopy of the neutron-deficient isotopes  $^{38,39}\text{Ca}$*

A. Gade *et al.*

Published 7 December 2022

Phys. Rev. C **106**, 064307 (2022) (<https://doi.org/10.1103/PhysRevC.106.064307>)

*Coulomb excitation of  $^{102}\text{Ru}$  with  $^{12}\text{C}$  and  $^{16}\text{O}$*

P. E. Garrett *et al.*

Published 8 December 2022

Phys. Rev. C **106**, 064312 (2022) (<https://doi.org/10.1103/PhysRevC.106.064312>)

*Probing the quadrupole transition strength of  $^{15}\text{C}$  via deuteron inelastic scattering*

J. Chen *et al.*

Published 12 December 2022

Phys. Rev. C **106**, 064324 (2022) (<https://doi.org/10.1103/PhysRevC.106.064324>)

*New collective structures in  $^{179}\text{Au}$  and their implications for the triaxial deformation of the  $^{178}\text{Pt}$  core*

M. Balogh *et al.*

Published 22 December 2022

Phys. Rev. C **106**, 064328 (2022) (<https://doi.org/10.1103/PhysRevC.106.064328>)

*First observation of isomeric states in  $^{111}\text{Zr}$ ,  $^{113}\text{Nb}$ , and  $^{115}\text{Mo}$*

J. Wu *et al.*

Published 26 December 2022

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## 2. News to Report

### a. IoP Group Prizes - calling notice

The closing date for nominations for the two IoP Nuclear Physics Group prizes is the 16<sup>th</sup> of January. This year there are two prizes available: the Thesis Prize, and the Early Career Researcher prize. For more details, including instructions for making nominations, please see:

<https://www.iop.org/physics-community/special-interest-groups/nuclear-physics-group>

*Contribution by James Benstead - IoP Nuclear Physics Group Secretary*

### b. Early career researcher workshop

The second early career researcher workshop was held at the Ron Cooke Hub at the University of York on December 8<sup>th</sup> and 9<sup>th</sup>. More than thirty participants attended sessions focussing on CV and proposal writing, commercialisation and outreach.

*Contribution by Jack Henderson - University of Surrey*

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## 3. Outreach Activity

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## 4. Media Interactions

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