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1. Nuclear Physics Publications for August

   (Editor's pick)

   Laser-assisted decay spectroscopy for the ground states of 180, 182Au


   Published 11 August 2020

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   Published 21 July 2020

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Newsletter archive: [http://npg.dl.ac.uk/OutreachNewsletter/index.html](http://npg.dl.ac.uk/OutreachNewsletter/index.html)

Nuclear Physics Public Engagement Website: [NuclearPhysicsForYou](http://npg.dl.ac.uk/OutreachNewsletter/index.html)

[Nuclear Physics Outreach Poster](http://npg.dl.ac.uk/OutreachNewsletter/index.html) – order hardcopies from STFC free of charge [here](http://npg.dl.ac.uk/OutreachNewsletter/index.html)

IOP SciNotes 1, 025201 (2020)

http://dx.doi.org/10.1088/2633-1357/ab952a

Internuclear potentials from the Sky3d code

P. D. Stevenson

Published 21 July 2020
Collective 2p-2h intruder states in 118Sn studied via β decay of 118In using the GRIFFIN spectrometer at TRIUMF


Published 18 August 2020

Single-particle structure in neutron-rich Sr isotopes approaching the N=60 shape transition


Published 31 August 2020

Decay spectroscopy of 129Cd


Published 31 August 2020

K²(892)0 and q(1020) production at midrapidity in pp collisions at √s=8 TeV

S. Acharya et al. (ALICE Collaboration)

Published 17 August 2020

Shell-model studies of the astrophysical rp-process reactions 34S(p,γ)35Cl and 34g,35Ar

W. A. Richter, B. A. Brown, R. Longland, C. Wrede, P. Denissenkov, C. Fry, F. Herwig, D. Kurtulgil, M. Pignataro, and R. Reifarth

Published 4 August 2020

New 13C(α,n)16O Cross Section with Implications for Neutrino Mixing and Geoneutrino Measurements


Published 7 August 2020

New 13C(α,n)16O Cross Section with Implications for Neutrino Mixing and Geoneutrino Measurements
2. News to Report

a. Prof Regan made NPL Fellow

Professor Patrick ‘Paddy’ Regan, FinStP, is the first NPL Fellow in Nuclear and Radiation Science and Metrology. He leads NPL’s science in nuclear structure physics, radioactive decay characterisation and radioactivity measurement. Paddy joined NPL in 2013 as the UK’s first Professor of Nuclear Metrology, joint with the University of Surrey.

NPL Fellowship is a recognition of individual merit awarded to scientists who are making very significant contributions to NPL’s scientific achievement and standing. Professor Regan is being acknowledged for his scientific leadership in the field of nuclear and radiation physics and its applications to both fundamental and applied measurement problems.

Since taking up the UK’s first Professorship in Nuclear Metrology joint between NPL and the University of Surrey in 2013, Professor Regan’s team has led research into complex data analysis and calibration techniques for nuclear structure science and the related provision of standards and reference materials for applications in the energy, environment and health sectors. Impact from these research contributions crosses over areas including ‘big science questions’ such as understanding the nature of nuclear matter and nucleosynthesis of the elements formed in stellar interiors to direct applications including nuclear forensics; power generation and waste management; and nuclear medicine.

Professor Regan aims to provide the academic ‘bridge’ between the worlds of academic, fundamental research into nuclear structure physics and the application of this knowledge into the National Metrology Institute and nuclear science industrial sectors.

Professor Regan has made significant contributions to NPL’s external profile. He sits on various national and international nuclear science committees, including several UKRI and overseas research grant and international laboratory evaluation reviews.

He has also made major contributions to the scientific community with more than 300 co-authored, peer-reviewed publications and acted as primary supervisor for more than 40 successful doctoral research students in nuclear and radiation science.

Further information can be found via the NPL and Surrey links below.


Contributed by P. Regan (Univ. Surrey) (pictured above)
b. New UK representative to ISOLDE

Dr Liam Gaffney has been elected as the new UK representative to the ISOLDE Collaboration Committee.

Following an election last month, it is our pleasure to inform the community that Dr Liam Gaffney (Ernest Rutherford Fellow based at the University of Liverpool) has been elected to serve as the new UK representative to the ISOLDE Collaboration Committee (ISCC) for a period of 3 years.

Liam takes over from Dan Doherty (University of Surrey) from November 2020. We would like to take this opportunity to wish Liam every success representing the UK community and to thank Andrei Andreyev (York) and David Sharp (Manchester) for standing in the election as well as the community for casting their votes.

Contribution by Daniel Doherty (Surrey) and David Joss (Liverpool)


c. Sellafield Game Changers

As part of their decommissioning activities, Sellafield need to map and characterise legacy waste disposal facilities including landfill, land-raise, tips and trenches. In particular they need to be able to undertake measurements to confirm that these waste areas don’t contain any radioactive material.

Through Sellafield’s Game Changers programme, £10,000 grants are offered to organisations who are interested in working with Sellafield. This funding is to enable an exploration of ideas which might help Sellafield solve their challenges and to produce business cases for larger pieces of work. Larger scale projects can then be funded with the intention that they then go on to become commercially deployed solutions on site.

There’s more information about the challenge on the Game Changers website:
https://www.gamechangers.technology/challenges/characterisation-of-landfill-and-disposal-areas/

There’s also a webinar on the 16th September to explain the challenge in more detail and to give interested organisations a chance to ask questions.

If you’d like any further information contact Josephine Tunney via jo.tunney@fis360.com

Contribution by Josephine Tunney (fis360)

3. Outreach Activity

4. Media Interactions
a. Polonium and the Piano Player

It’s a classic spy story, where truth is stranger than fiction. Sky News have now produced a “StoryCast” (link below) in four parts, about the 2006 poisoning of Alexander Litvinenko, with a focus on the involvement of the piano player, Derek Conlon, in the Millennium Hotel, where the polonium poisoning took place. Phil Walker contributes comments about the use of polonium.

https://podcasts.apple.com/gb/podcast/polonium-the-piano-player/id1522548553

Contribution by Phil Walker (Univ. Surrey)