# UK Nuclear Activity

December 2018 Issue 66

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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

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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.

NIM A 910, 79 (2018) https://www.sciencedirect.com/science/article/pii/S0168900218310799
Characterization and performance of the DTAS detector
V.Guadilla[a1], J.L.Tain[a], A.Algora[ab], J.Agramunt[a], J.Äystö[c], J.A.Briz[d], A.Cucoanes[d], T.Eronen[c], M.Estienne[d], M.Fallot[d], L.M.Fraile[e], E.Ganioğlu[f], W.Gelletly[ag], D.Gorelov[c], J.Hakala[c], A.Jokinen[c], D.Jordan[a], A.Kankainen[c], V.Kolhinen[c], J.Koponen[c], M.Lebois[h], L.Le Meur[d], T.Martinez[i], M.Monserrate[a], A.Montaner-Pizá[a], I.Moore[c], E.Nácher[j], S.E.A.Orrigo[a], H.Penttilä[c], I.Pohjalainen[c], A.Porta[d], J.Reinikainen[c], M.Reponen[c], S.Rice[g], S.Rinta-Antila[c], B.Rubio[a], K.Rytkönen[c], T.Shiba[d], V.Sonnenschein[c], A.A.Sonzogni[k], E.Valencia[a], V.Vedia[e], A.Voss[c], J.N.Wilson[h], A.-A.Zakari-Issoufou[d]
Published 1 December 2018

Phys. Rev. Lett. 121, 232501 (2018) https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.121.232501
Correlating Schiff Moments in the Light Actinides with Octupole Moments
Jacek Dobaczewski[1,2,3,4], Jonathan Engel[5], Markus Kortelainen[2,4], and Pierre Becker[1]
Published 4 December 2018

Phys Lett B 787, 198 (2018) https://www.sciencedirect.com/science/article/pii/S037026931830844X
Lifetime measurement of the $2_1^+$ state in $^{74}$Rb and isospin properties of quadrupole transition strengths at $N = Z$
C.Morse[abd1], H.Iwasaki[ab], A.Lemasson[a], A.Dewald[c], T.Braunroth[c], V.M.Bader[ab], T.Baugher[ab], D.Bazin[a], J.S.Berryman[a], C.M.Campbell[d], A.Gade[ab], C.Langer[ae], I.Y.Lee[d], C.Loelius[ab], E.Lunderberg[ab], F.Recchia[a], D.Smalley[a], S.R.Stroberg[ab], R.Wadsworth[f], C.Walz[ag], D.Weisshaar[a], A.Westerberg[h], K.Whitmore[ab], K.Wimmer[ah]
Published 10 December 2018

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Elizabeth.Cunningham@stfc.ac.uk or E.Cunningham@surrey.ac.uk

## *2. News to Report*

**a. Nuclear Physics Group ECR Prize**

We invite applications for the IoP Nuclear Physics Group early career researcher prize. The prize is awarded annually to promising early-career scientists for outstanding contributions to the field of Nuclear Physics. The winner of the prize shall receive £300 and be invited to present their work at the annual IOP Nuclear Physics Conference. Candidates should normally have had not more than five years of research experience (including postgraduate and postdoctoral work) prior to the date of receipt of nomination by the Group committee. Career breaks, pastime study, or time spent in employment not related to physics-based research do not count towards the five-year period, but a brief career history would be helpful. Nominations for physicists working in the applications of nuclear physics or the nuclear and industry are welcome. We also support nominations from students themselves, so long as they have the support of their supervisor.
Deadline for application forms: 18th January 2019.
Deadline for supporting statements 25th January 2019.
More information can be found here: http://www.iop.org/activity/groups/subject/np/prize/page_45155.html
*Contribution by IOP Nuclear Physics Group*

**b. STFC Leadership Fellows in Public Engagement call now open**

STFC is pleased to announce that the 2019 call for applications to the Leadership Fellowships in Public Engagement is now open. The closing date for receipt of applications is 21st February 2019.
The scheme can support individuals from early career to established career who can demonstrate outstanding personal qualities relative to their level of experience and a passion for public engagement.
Raising the profile of public engagement within their host institution and professional community, including sharing best practice and developing new talent is a core objective.
Applicants are also advised to contact the STFC Public Engagement Team STFCPublicEngagement@stfc.ac.uk in advance of submitting their application.

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## *3. Outreach Activity*

**Outreach talk**

Marcus Scheck gave an outreach talk at Renfrewshire's Astronomical Society (RAS): "Microwaves in the cosmos - how old is our Universe?" The event was attended by about 25 people. After the event UWS's nuclear physics group and RAS agreed to start a collaboration, which will consist of regular talks given by members of UWS nuclear physics group.
*Contribution by Marcus Scheck Marcus.Scheck@uws.ac.uk (University of the West of Scotland)*

**Inspirational Physics**

Jim Al-Khalili and Elizabeth Cunningham (Surrey) spoke at an afternoon of inspiring physics lectures for year 9 to 13 students at the University of Surrey. The event was for students considering studying physics at A level or university or those with a keen interest in the subject and around 100 students attended.
*Contribution by Elizabeth Cunningham Elizabeth.Cunningham@stfc.ac.uk (STFC/Surrey)*

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## 4. Media Interactions

**New Dark Matter Model**

Newsweek Article

Alex Murphy (Edinburgh) was interviewed about the new negative mass model published in Astronomy and Astrophysics at the beginning of December. This proposed model attempts to help solve some of the mysteries surrounding dark matter and dark energy by unifying them into one "dark fluid" that has a negative mass.
'Murphy said much more effort will be required to see if the model holds up against a vast breadth of astronomical observations, it is an interesting starting point. "While all this may seem tremendously speculative (and it is!), standard cosmology—and particle physics—is at something of an impasse. It's just possible that an idea like this might provide the breakthrough that's needed."'