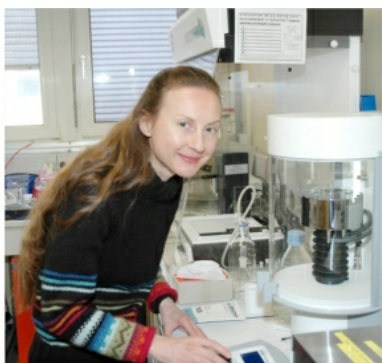


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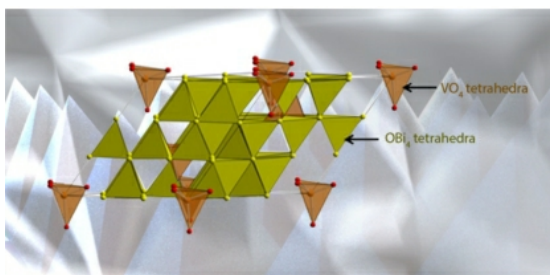


IN MEMORY OF ISABELLE GRILLO

Isabelle passed away suddenly in her sleep at the beginning of August. She was a brilliant scientist, who joined the ILL at the tender age of just 25. In the space of two decades, she published some 225 articles, which have since been cited over 5000 times. Her most recent article appeared in the prestigious journal *Nature Materials* the day before her funeral. She also performed a tremendous amount of experimental work, conducting around twenty experiments a year not just at the ILL but also at other institutes, such as the LLB, ISIS and ESRF. As Mark Johnson pointed out, "Isabelle, with her bright intellect, her smile and her openness, was truly committed to serving the ILL, our present and future users and the scientific community as a whole". We will cherish our memories of Isabelle.

[Read more](#)

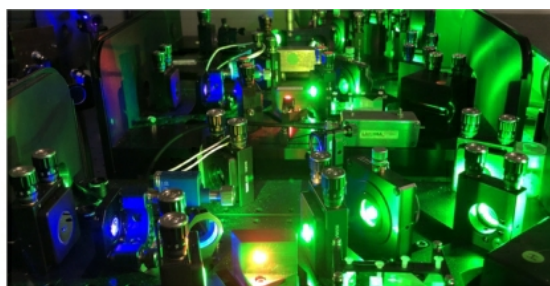
SPOTLIGHTS ON SCIENCE



Understanding the properties of oxide ion conductors for efficient energy devices

Given the ever-increasing need for cleaner, more efficient energy sources, materials scientists are constantly searching for new ways to understand and exploit the properties of functional materials to create more environmentally-friendly electrical devices. A team of scientists from the ILL and UK's Durham University have used neutron scattering techniques to characterise the material properties of oxide ion conductors, solids with highly mobile oxide ions, which can be used for several energy and environmental applications, such as oxygen sensors and pumps or solid oxide fuel cells (SOFCs).

[Read more](#)



Closing the last gap for the Periodic Table's 150th birthday

Just in time for the "International Year of the Periodic Table of Chemical Elements", which celebrates the 150th anniversary of Mendeleev's discovery of the periodic table, a European collaboration of chemists and physicists has published the first experimental determination of the ionization potential of the lanthanide element promethium, thus closing the last remaining gap for this fundamental atomic property in the Periodic Table.

[Read more](#)



Accurate measurement of the weak axial vector coupling constant

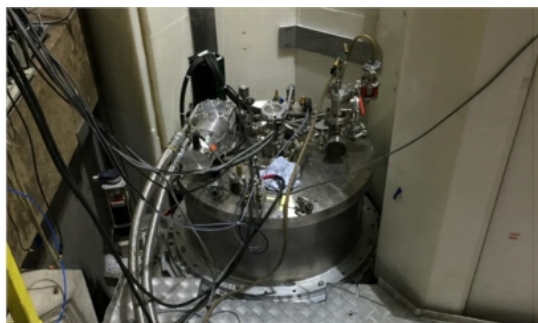
For the first time, a pulsed cold neutron beam has been used for a precision measurement of the axial-vector coupling constant g_A in the decay of polarised free neutrons. This method allows major sources of systematic uncertainty to be suppressed. The fundamental constant relates the weak decay of nucleons to that of quarks: on the level of elementary fermions, the weak interaction is described by vector coupling and axial vector coupling, equal in magnitude and opposite in sign. But quarks are bound in nucleons and the strong interaction renormalises the weak axial vector current for neutron decay. This is quantified by the weak axial vector coupling constant g_A . Although g_A can be calculated in lattice QCD, calculations only reach 1% accuracy today and are benchmarked by experiments...

[Find the rest of article here](#)

[MORE HIGHLIGHTS HERE !](#)

NEWS FOR USERS

654 proposals received in September. Please use DDT and Easy Access for rapid [beam time access](#)



The IN5+ Project

Within the Endurance programme, the IN5 instrument was upgraded with a new guide and, on the sample environment side, a high field magnet for magnetism studies. The new guide, installed during the previous long shutdown, was commissioned in June 2019 and delivers a factor 3 more neutrons to the sample at 5A, in agreement with simulations. The 10 Tesla magnet, after shielding the choppers, has been commissioned in May this year and successfully used for regular experiments during the first reactor cycle. More experiments with the magnet are scheduled for November 2019..



New access procedure for the reactor building (Level C)

As of 1st September, all persons wishing to access the reactor building must undergo a security screening process (known as 'criblage' in French) which could take up to about three weeks. This means that visitor access requests involving access to instruments inside the reactor building must be submitted more than three weeks in advance. The procedure will be fully operational by the end of 2019.

[Read more](#)



Annual report 2019

The deadline for submission of abstracts is 30 September 2019. Please send to [Giovanna Cicognani](#) an abstract with the reference of the work (or copy of the accepted manuscript) published in 2019. If your contribution is accepted we will ask you to send the final manuscript by the beginning of November 2019. We look forward to receiving your contributions.



ILL call for PhD applications

The deadline for submitting a proposal for a PhD project is midnight Friday 18 October 2019. Project selection is a two-stage procedure involving evaluation by in-house review panels and final decisions by the ILL directors. Please follow the application instructions at : <https://www.ill.eu/careers/all-our-vacancies/phd-recruitment/propose-a-phd-project/>



InnovaXN: call for PhD projects at ILL

The ILL and ESRF have been successful in obtaining H2020-COFUND support for a PhD programme called "InnovaXN". The specificity of the InnovaXN PhD projects is that they must involve an industrial partner. The programme will support 40 fully-funded PhD studentships; there will be two recruitment waves, each with 20 students (hired either by ESRF or ILL), who will start in September 2020 and September 2021. Project applications should be sent to innovaxn-industry@innovaxn.eu by 30th September. For more information, the same email address can be used.

[Read more](#)



Free "gold open access" publications

As part of the FILL2030 project, the ILL will be financing about 40 publications with "gold open access" status by the end of 2020. Please fill out this short [form](#) to request an open access grant. The funding will run on a 'first come, first served' basis. Check out the reminder note on requirements for ILL publications:

[What you need to know.](#)

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