THE EUROPEAN NEUTRON SOURCE

NEUTRONS FOR SOCIETY

ILL newsletter

JULY 2018

Consult our web site and follow us on Twitter !

NEWS FOR USERS

Call for proposals

Next deadline for standard proposal and long term proposal submission is **17th September 2018**, midnight (EU time). The web system is now open all year round. Accepted proposals will be scheduled during the first **1.5 cycles in 2019**.

ILL 2/3 member country rule : ALL proposals will be considered and a few % of the total beam time will be granted to proposals not complying with this rule on the basis of scientific excellence. Please note that the rules for counting the 2/3 participation have changed. Read the detailed information here.

Outreach for new users: A limited beam time access for new users from non-member countries will also be available via the EU project FILL2030.

Explore other routes for getting beamtime.

ILL and ESS European User meeting

Final ('Late Bird') registration to the ILL&ESS European User Meeting (10-12 October 2018, in Grenoble) will close on 4th September. Abstract submission for posters will remain open until 27th August. The capacity of the conference venue is limited and the remaining places will be attributed on a first-come first-served basis.

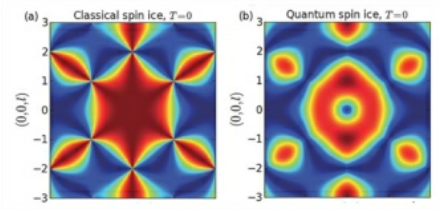
All information concerning the User Meeting is available on the website: http://www.neutrons4europe.com/

We look forward to an exciting meeting on the future opportunities for neutron scattering at European facilities.

Reactor cycle n°184 shortened

On 4th July, we discovered that one of our principal monitoring circuits was not fully-functional. According to our operating rules, this situation could not exceed 24 hours and the reactor had to be stopped at 5pm on 5th July, shortening cycle n°184 by one week. The valve that caused this anomaly is being repaired. The next cycle will start on 3rd September 2018. We apologise for any inconvenience caused to your research programme.

SPOTLIGHTS ON SCIENCE

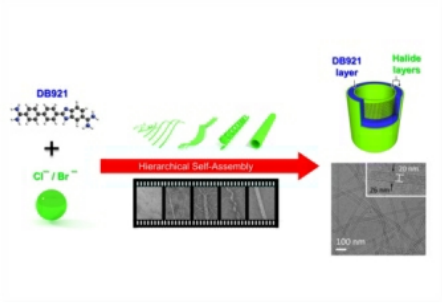


Emergent excitations from a quantum spin ice

A quantum spin liquid is a system where the magnetic moments of the constituent electron spins evade classical long-range order to form an exotic state that is quantum entangled and coherent over macroscopic length scales. Such phases of the solid state offer promising opportunities for future new quantum technologies. A recent, multi-partner, neutron study, with measurements performed at ILL and SNS, provide evidence for a quantum spin ice ground state in the magnetic pyrochlore Pr2Hf2O7. This observation constitutes a concrete example of a three-dimensional quantum spin liquid - a topical state of matter that has so far mostly been observed in lower dimensions. Read more

Kicking a curve with magic nuclei leads to a win for nuclear fission

Nuclear reactors have already been in successful operation for 75 years without a complete understanding of the microscopic processes underpinning fission. Despite tremendous effort, aspects of nuclear fission are still open to inquiry. Nowadays advancements across manufacturing and construction are made using very detailed simulations, well before any physical object is made. However, these simulations are only as good as the quality of the input data, so it is imperative that we improve our knowledge in order to develop better models and simulations. A collaboration between the ILL, the French Alternative Energies and Atomic Energy Commission (CEA) and the National Centre for Scientific Research (CNRS) has performed experiments to better understand the generation of fission fragment angular momentum. Read more



Triggering self-assembly of DNA minor groove-binding ligands into nanotubes

Self-assembling systems are a promising category of material that enable complex structures to form from smaller and simpler molecular building blocks. This offers the possibility for the rational design of materials that are tailored to specific applications, ranging from drug delivery in healthcare to molecular electronics. Serendipitously, a ligand designed to bind in the minor groove of DNA was found to form nanotubes in the presence of alkali halide salts. Read about this new study, published in the journal Nanoscale, which tackled the problem with a multi-technique approach via a collaboration of the EPN campus partners: ILL, ESRF and IBS. Read more

MORE HIGHLIGHTS HERE !

GENERAL NEWS

France's Minister for Higher Education, Research and Innovation visits the EPN campus

It was with great pleasure that we welcomed Frédérique Vidal, France Minister for Higher Education, Research and Innovation, to the EPN campus on 13th June 2018. Shortly after the arrival of the minister's group at the ESRF, Helmut Schober, Director of the ILL, presented the institute to the Minister and to the assembly of guests at this important occasion.
Read more.

Visit of Mona Nemer, Chief Science Advisor of Canada

On 18th May, the ILL was delighted to welcome Mona Nemer, the Chief Science Advisor of Canada, who was visiting Grenoble and the EPN campus. The ILL and Canada are currently exploring opportunities for strengthening their scientific collaboration. Canada is home to an outstanding community of world-class neutron scientists, many of whom are already regular visitors to the ILL. Formal membership would offer them privileged access to the Institute's scientific facilities, bearing in mind the recent closure, on 31th March, of Canada's own neutron research source, the National Research Universal reactor (NRU).
Read more.

Previous issues of the ILL newsletter

www.ill.eu
communication@ill.eu