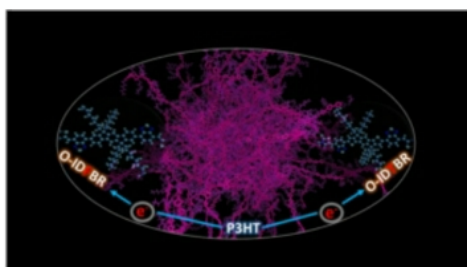


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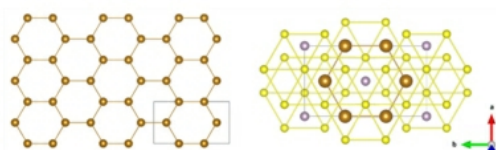
The reactor is currently expected to restart on 21 February

## HIGHLIGHTS AND SCIENCE NEWS



### Towards improved plastic solar cells

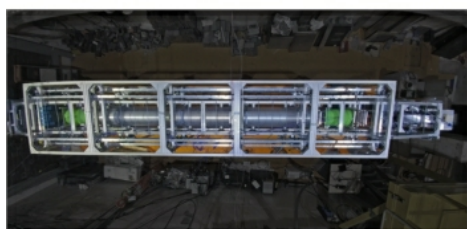
Solar cells are a key component in the provision of future green energy. There is huge worldwide interest in making solar cells from plastic materials. They would be cheaper to manufacture, being fabricated using low-cost ink-jet processing, or as a coating from solution in a continuous process. The plastic device would be lightweight and flexible, and could be scaled up to any desired size. The first successful plastic solar cells used a derivative of fullerene (a sphere-like carbon molecule) as an acceptor. Recently, interest has turned to blends using non-fullerene electron acceptors (NFAs). This study uses neutrons and isotopic substitution techniques to study the dynamical behaviour of these interesting solar cell materials. [Read more](#)



Only by using neutron instruments from across the globe, have researchers been able to characterise the magnetism of a graphene-like material.

### Understanding the feasibility of 'magnetic graphene'

Researchers from neutron facilities around the world worked together to investigate NiPS<sub>3</sub>, with the aim of understanding magnetism in the bulk material and then using that knowledge to understand magnetism and help explain why monolayers are not magnetically ordered. Like graphite, the compound NiPS<sub>3</sub> takes a structure with atomically thin layers, where the nickel atoms are arranged in a honeycomb structure, weakly bonded to one another. However, unlike graphite, it is also magnetic. When you strip graphite down to just a single layer it becomes graphene, which exhibits some interesting properties. Researchers have been investigating whether doing the same to materials like NiPS<sub>3</sub> could produce magnetic monolayers known as 'magnetic graphene' that could offer new ways of making advanced electronic devices. [Read more](#)



### Searching for traces of dark matter with neutron spin clocks

An international research team has succeeded in significantly narrowing the scope for the existence of dark matter, with the use of a precision experiment developed at the University of Bern, and carried out at the polarised cold neutron beam facility PF1B of ILL. The results make an important contribution to the search for dark matter particles, of which little remains known. This experiment benefited from the world's highest cold neutron flux available at the PF1B instrument. [Read more](#)

Photo: Top view of the Beam EDM experiment during its assembly at PF1B

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[A SELECTION OF RECENT ILL PUBLICATIONS](#)

## NEWS FOR USERS

We are looking forward to seeing you at ILL in the coming weeks and months as the user programme restarts. In the meantime, we have launched the next call for proposals for the remaining beam time in 2023.

### Call for proposals

The next deadline for standard proposal submission is **15 February 2023** (midnight central European time). Proposals must be submitted via the Electronic Proposal Submission (EPS) system on our [User Club](#), once you have logged in with your personal username and password. **Easy Access** requests for short measurements and **DDT requests** for full experiments to be performed as soon as possible can be submitted at any time. [Read the detailed information.](#)

### Beamtime allocation policy: "two-thirds rule"

Proposals including non-member country proposers are welcome providing they are part of a collaboration with at least two-thirds of the proposers coming from one of the [Associate or Scientific Member Countries](#) of the ILL. **ILL scientists listed as co-proposers are not taken into account in the calculation.** Proposals not satisfying this rule can be submitted and will be evaluated for beam time allocation. On the basis of scientific excellence, beam time may be awarded as Director's discretionary time.

## Scheduling period

The provisional reactor operating schedule for 2023 is now available on the [ILL website](#). Please note that this schedule is still provisional. The reactor is scheduled to deliver 3 full cycles by October 2023. Proposals accepted from the next round will be scheduled during the last 1.5 cycles.

## Important information for users coming to the ILL

Administrative screening ('criblage') is now mandatory for all persons requiring access to the reactor building ILL5 (Levels C and D) and experimental halls. It takes the authorities **up to 21 days to process security screening and the ILL will only send the application for screening once you have registered for the experiment**. Visitor access requests must therefore be submitted as early as possible - i.e. 3 weeks before the visit. When the screening process is complete and access granted, the information will be added to the personal data section on your User Club account.

You will now be able to access the ILL main building and experimental halls after your site entrance badge has been programmed to allow access to the ZAC (controlled access zone: *zone à accès contrôlé*) on the ground floor reception in the new ILL50 building. Your dosimeter will also be distributed at this stage. **The reception at the ZAC entrance is open Monday to Saturday from 7am until 7pm, but closed on Sundays**. It will still be possible to enter the site at night and on Sundays and access the Guesthouse, for example, but not to enter the ZAC.

**Covid restrictions have been lifted** from the EPN site and in France in general. Please refer to the French Embassy [website](#) for the most up-to-date information.

Read all the necessary information [here](#).

**The ILL wishes you all a healthy and prosperous 2023**

[Click to view our greetings card](#)

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