**ICONE: the French HiCANS Neutron Source**

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Since the shutdown of the Orphée reactor, France is missing a national neutron facility to support its scientific community. Neutron sources worldwide are progressively transitioning from traditional reactor-based sources (such as ILL, Orphée, and FRM II) to pulsed sources (ESS, SNS, J-PARC). In parallel, the development of High Current Accelerator-driven Neutron Sources (HiCANS) offers a cost-effective route for building high-performance pulsed neutron sources on a smaller scale.

In this context, CEA and CNRS are working on the ICONE project, which aims to establish a French HiCANS facility designed to serve the national scientific community, prepare for optimal use of the ESS and train the younger generation. The project is in the “Avant Projet Détaillé” phase, during which the complete design of the facility is being developed.

A key aspect of this effort is the development of an instrument suite in collaboration with the community. This is done by collecting needs, collaborating on specific aspects through the APICONE call for proposals held in 2024 and the input of the Scientific Council. The planned suite consists of 10-12 instruments, installed on two targets optimized for flux (SANS, reflectometry, …) or resolution (diffraction, inelastic neutron scattering, …).

This presentation will provide an overview of the ICONE project and discuss the details of the instrument suite, with a focus on the specificities and opportunities arising from the pulsed nature of the source.