



Contribution ID: 14

Type: **Talk**

Towards a new neutron source in France for materials science and industry.

Wednesday, 22 March 2023 11:15 (15 minutes)

The European landscape of neutron facilities is evolving quickly with the closure of a number of aging research reactors: for example the reactor Orphée in France, BER in Berlin and Kjeller in Norway closed in 2019. While the European Spallation Source (ESS) should start later in this decade, its capacity will not be sufficient to replace the closed facilities. Hence, the Laboratoire Léon Brillouin (LLB), operated by the CEA and the CNRS in France, is developing the technologies necessary to build a new type of neutron source using low energy proton accelerators: High Current Compact Accelerator driven neutron sources (HiCANS).

We will describe the ideas driving the design of HiCANS and present the potential capabilities of such sources. Since 2018, the CEA has been engaged in an experimental research program around the IPHI accelerator and has demonstrated a number of technologies on the IPHI -Neutrons platform [1]. We will report on the recent progress in the field of neutron producing targets, the first diffraction measurements on the DIoGENE instrument and the developments around cold moderators.

This work is part of the collaboration within ELENA and LENS on the development of HiCANS. It has been funded by the “CANS Inflexion” program at the CEA and the “IPHI-Neutron” SESAME project of the Ile de France region.

Primary author: OTT, Frédéric (Laboratoire Léon Brillouin CEA/CNRS, Univ. Paris Saclay)

Co-authors: MENELLE, Alain; Mr ANNIGHÖFER, Burkhard; Mr DARPENTIGNY, Jacques; Mr MEURIOT, Jean-Louis; TESSIER, Olivier; GUILLOU, Xavier

Presenter: OTT, Frédéric (Laboratoire Léon Brillouin CEA/CNRS, Univ. Paris Saclay)

Session Classification: Micro Symposium CANS 1

Track Classification: Micro-Symposium CANS