Contribution ID: **319** Type: **Talk**

A compact accelerator driven neutron source for Sweden

Wednesday, 22 March 2023 12:15 (15 minutes)

Sweden is hosting the European Spallation Source (ESS), which will be the worlds most brilliant neutron source once it is commissioned. In order to take best benefit of the capabilities of high-end facilities an ecosystem of smaller sources is required but currently Sweden has no neutron source allowing materials research. As a consequence of that the number of experts in the field has stagnated or slightly decreased, despite of the fact that the total number of occasional Swedish neutron users has increased over the past years.
Currently, two projects are ongoing, the conversion of a single end 3 MV accelerator in Lund and the procurement of a commercial D-T fusion source (NESSA) in Uppsala. Both sources may provide neutron production rates on the order of 10^{10}-10^{11}, which may be sufficient for nuclear physics and detector testing but do not provide the fluxes required to serve the material science user community.
A low to medium power compact accelerator driven neutron source can overcome this challenge and the development of such a facility will build on the countries strength in accelerator and nuclear physics. It will enable and facilitate long term projects, industrial research, method and technological developments as well as training and straight forward and complementary, to ESS, experiments. We will provide a summary of the current stage of planning and outline potential funding lines.

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Session Classification: Micro Symposium CANS 1

Track Classification: Micro-Symposium CANS