



EINLADUNG

zum Vortrag von

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High Current Accelerator-based Neutron Sources - The HBS project for a next generation neutron facility

am Dienstag, 16. Jänner 2024, um 17:30 Uhr

Ort: Lise-Meitner-Hörsaal, Fakultät für Physik, Universität Wien

1090 Wien, Strudlhofgasse 4 / Boltzmannngasse 5, 1. Stock

Barrierefreier Zugang: Boltzmannngasse 5, Lift, 1. Stock rechts über den Gang zum Hintereingang des Hörsaals

Abstract:

Accelerator driven neutron sources with high brilliance neutron provision present an attractive alternative to classical neutron sources of fission reactors and spallation sources to provide neutrons for science and industry. With the availability of high current proton accelerator systems, a novel class of such neutron facilities can be established termed High-Current Accelerator-driven Neutron Sources (HiCANS). Basic features of HiCANS are a high current proton accelerator, a compact neutron production and moderator unit and an optimized neutron transport system to provide neutrons with high brilliance and a full suite of high performing epithermal, thermal and cold neutron instruments for various applications. At the Jülich Centre for Neutron Science a project to develop, design and demonstrate such a novel high-current accelerator driven neutron facility termed High-Brightness neutron Source (HBS) has been established. The project aims at the construction of a scalable neutron source for a user facility with open access and service according to the various and changing demand of the scientific and industrial communities. Embedded within an international collaboration with partners from Germany, Europe and Japan the Jülich HBS project offers flexible solutions to a broad range of scientific and industrial applications. The conceptual design as well as the technical design of HBS as blueprint of a HiCANS facility was published recently in a series of reports.

We will present the current status of the project, progress made and next steps regarding proton accelerator, neutron target and moderators and beam delivery systems. Recent milestones and its impact on the vision for future neutron landscape will be outlined.



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