MATTER AND TECHNOLOGIES

Contribution ID: **76** Type: **Poster with possible speed talk**

High current accelerator systems for future HBS: HBS Innovationpool Project

Monday 26 September 2022 17:55 (5 minutes)

Hi-current compact accelerator-based neutron sources (Hi-CANS) offer a promising alternative to small and medium reactor and spallation based neutron research facilities. They do not require research reactors or high-energy spallation sources as they efficiently utilize nuclear processes at low acceleration energies. For the research and development of the various components and areas relevant to establish a high brilliance accelerator based neutron source the Innovation Pool project on "High current accelerator systems for future HBS"has been set up within the Research Field Matter of the Helmholtz Association starting in 2019.
Research and development in this project deal with i) linear pulsed proton accelerator cavities, (GSI HI Mainz), ii) fast proton beam multiplexing and beam dynamics (FZJ), iii) neutron target- and moderator development (FZJ), iv) neutron beam extraction and instrumentation (HZG) and v) neutron imaging and irradiation experiments (HZDR). The current status of the project and recent results of the work done so far will be presented.

Primary authors: BAGGEMANN, Johannes (Forschungszentrum Jülich GmbH); BARTH, Winfried (GSI); BRÜCKEL, Thomas (Forschungszentrum Jülich GmbH); FACSKO, Stefan (Helmholtz-Zentrum Dresden-Rossendorf); FELDEN, Olaf (Forschungszentrum Jülich GmbH); FENSKE, Jochen (Hereon); GEBEL, Ralf (Forschungszentrum Jülich); GUTBERLET, Thomas (Forschungszentrum Jülich GmbH); LEHRACH, Andreas (Forschungszentrum Jülich, RWTH Aachen University); LI, Jingjing (Forschungszentrum Jülich GmbH); LIEUTENANT, Klaus (Forschungszentrum Jülich GmbH); MAUERHOFER, Eric (Forschungszentrum Jülich GmbH); RÜCKER, Ulrich (Forschungszentrum Jülich GmbH); SCHWAB, Alexander (JCNS-2, Forschungszentrum Jülich GmbH); VOIGT, Jörg (Forschungszentrum Jülich GmbH); ZAKALEK, Paul (Forschungszentrum Jülich GmbH)

Presenter: SCHWAB, Alexander (JCNS-2, Forschungszentrum Jülich GmbH)

Session Classification: Plenary

Track Classification: Accelerator Research and Development