



Beitrag ID: 95

Typ: Poster

Low-dimensional para-hydrogen moderators

Dienstag, 17. September 2024 22:40 (20 Minuten)

Para-hydrogen has very different mean free paths for thermal neutrons (ca. 1 cm) and cold neutrons (ca. 10 cm). This unique feature makes it possible to design and construct low-dimensional moderators which are elongated along the cold neutron extraction direction(s) but compact along the thermal neutron feeding directions. The small luminous surface together with the directed emission of cold neutrons leads allows to extract cold neutron beams with high brilliance.

Here, we will present the concept of low-dimensional moderators as developed within the HBS project for a HiCANS neutron source as well as the experimental realization of a 1-dimensional para-hydrogen cold moderator and first experimental results obtained at the JULIC Neutron Platform.

Hauptautor: RUECKER, Ulrich (JCNS-HBS, Forschungszentrum Jülich)

Co-Autoren: SCHWAB, Alexander (Jülich Centre For Neutron Science (JCNS-2), Forschungszentrum Jülich, Germany); YANNICK, Beßler (ZEA-1, Forschungszentrum Jülich); ROSENTHAL, Eberhard (ZEA-1, Forschungszentrum Jülich); SUXDORF, Frank (JCNS-IT, Forschungszentrum Jülich); HANNOT, Max (ZEA-1, Forschungszentrum Jülich); ZAKALEK, Paul (Jülich Centre for Neutron Science (JCNS-HBS), Forschungszentrum Jülich GmbH, 52425 Jülich, Germany); EISENHUT, Sebastian (IET, TU Dresden); BRÜCKEL, Thomas (Jülich Centre for Neutron Science (JCNS-2), JARA-FIT, Forschungszentrum Jülich GmbH, Jülich, Germany.); GUTBERLET, Thomas (Jülich Centre for Neutron Science JCNS)

Vortragende(r): RUECKER, Ulrich (JCNS-HBS, Forschungszentrum Jülich)

Sitzung Einordnung: Mounting Posters, Beer and light Dinner

Track Klassifizierung: Sources & Upgrades