Contribution ID: **24** Type: **Poster**

【372】Ultracold neutron production and extraction from the solid deuterium converter of the PSI UCN source

Wednesday 28 August 2019 19:02 (1 minute)

Ultracold neutrons (UCN) with energies below 300 neV are storable for hundreds of seconds due to total reflection on the effective optical wall potential of the containment. They are used in experiments that benefit greatly from long measurement times, like the search for a permanent electric dipole moment of the neutron. The PSI UCN source makes use of solid deuterium as superthermal moderator to produce UCN. Increasing UCN extraction from the moderator poses a big challenge. We study the impact of structural features in the deuterium on UCN extraction by dedicated energy-dependent measurements and detailed simulations. This will provide important insights helping to further increase the UCN output of the PSI UCN source.

Primary author: Mr RIENÄCKER, Ingo (Paul Scherrer Institut, ETH Zurich)

Presenter: Mr RIENÄCKER, Ingo (Paul Scherrer Institut, ETH Zurich)

Session Classification: Poster Session

Track Classification: Nuclear, Particle- and Astrophysics (TASK)