Contribution ID: **244** Type: **Poster**

Status of the PSI UCN source

Tuesday, October 18, 2016 6:24 PM (1 minute)

Ultra-cold Neutrons (UCN) are a very prominent tool in fundamental physics since they can be stored due to their low kinetic energy below 300 neV. The UCN source at PSI has been in operation since 2011. Fast neutrons, produced by guiding PSI's high intensity 590 MeV proton beam on a lead spallation target, are frst thermalized in D2O and then moderated into the cold regime using solid D2 (sD2) held at 5 K. Afterwards, the neutrons lose almost their entire kinetic energy through phonon excitation of the sD2 lattice and become UCN that can be guided to various experiments.
This report presents the current status and performance of the source, as well as new findings concerning the optimization of the UCN output.
Support from SNF # 200020 163413 is acknowledged.

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Session Classification: Poster Session