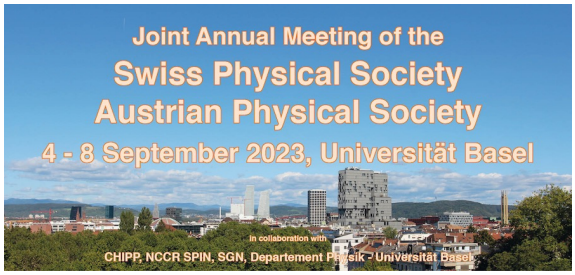

Contribution ID: **232** Type: **Talk**

【325】Measuring the free neutron lifetime with the τSPECT experiment at Paul Scherrer Institute

Wednesday 6 September 2023 15:30 (15 minutes)

Ultracold Neutrons (UCN) provide a unique tool for fundamental low energy particle physics and in particular measurements with neutrons with long observation times. The τSPECT experiment, which has been developed and built at Johannes Gutenberg University Mainz, Germany, and is currently being set up at the UCN source at Paul Scherrer Institute, aims to utilize this fact in order to precisely measure the free neutron lifetime.

τSPECT is the first neutron lifetime experiment using 3-dimensional magnetic storage of spin polarized UCN and uses the spin-flip loading technique to transport UCN into the trap.

The τSPECT experiment and first results from commissioning with neutrons at PSI will be presented.

Theoretical Work

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Session Classification: Nuclear, Particle- & Astrophysics (TASK - FAKT)

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