



Contribution ID: 129

Type: **Talk**

【389】 A muon beam of small phase space

Thursday 7 September 2023 16:00 (15 minutes)

High precision experiments including the measurement of the muon $g-2$, muonium spectroscopy and muonium gravity would benefit from intense high-quality and low-energy muon beams.

At the Paul Scherrer Institute, the muCool device is being developed to compress the phase space of a standard μ^+ beam by a factor of 10^9 with 10^{-4} efficiency. This is achieved with a cryogenic helium gas cell and complex E and B-fields. Once compressed, the beam is extracted from a small orifice into a vacuum and into a magnetic field free region.

This talk will outline the present status and future prospects of the experiment with a special focus on the extraction stage.

Theoretical Work

Authors: Prof. ANTOGNINI, Aldo (Paul Scherrer Institut); KNECHT, Andreas; Prof. PAPA, Angela; VITALI, Bastiano; PETITJEAN, Claude; TAQQU, David; LOSPALLUTO, Giuseppe; PESZKA, Joanna (ETH Zurich); NUBER, Jonas (ETH Zurich); Prof. KIRCH, Klaus (Paul Scherrer Institut); HILDENBRANDT, Malte; SAKURAI, Mikio (ETH Zurich); MULLAN, Patrick (ETH Zurich); IWAI, Ryoto (ETH Zurich); YAN, Taylor (ETH Zurich)

Presenter: LOSPALLUTO, Giuseppe

Session Classification: Accelerator Science and Technology

Track Classification: Accelerator Science and Technology