Contribution ID: 193

Type: Parallel Session Presentation

The spin-injector for the P2 experiment at MESA

Tuesday, 19 October 2021 21:40 (20 minutes)

The P2-experiment will measure the weak charge of the proton with high precision at the MESA accelerator facility.

Using elastic scattering of longitudinally spin polarized electrons off the proton, the parity-violating asymmetry has to be measured with high accuracy.

New approaches have been chosen to fulfill the increased demands compared to older experiments which to large extent concern the injection system of MESA.

These include in particular a double Wien filter for independent setting of the polarization sign and redundant polarimetry.

The beam dynamics of the spin-injector is simulated in start-to end fashion, taking space charge effects into account.

Primary authors: AULENBACHER, Kurt (Institut für Kernphysik der Johannes Gutenberg-Universität Mainz); GROTH, Jennifer (Institut für Kernphysik der Johannes Gutenberg-Universität Mainz); FRIEDERICH, Simon (Institut für Kernphysik der Johannes Gutenberg-Universität Mainz)

Presenter: AULENBACHER, Kurt (Institut für Kernphysik der Johannes Gutenberg-Universität Mainz)

Session Classification: Acceleration, Storage and Polarimetry of polarized Beams

Track Classification: Parallel Sessions: Acceleration, Storage and Polarimetry of polarized Beams