Contribution ID: **68** Type: **Oral contribution**

Muon g-2/EDM experiment at J-PARC

Friday 1 October 2021 08:50 (25 minutes)

The muon g-2 experiment at J-PARC is under preparation and targeted to measure the muon anomalous magnetic moment with the precision of 450 ppb and muon electric dipole moment with 1.5e-21 e cm at its first stage,
thus contributing to investigation of discrepancy between Standard Model prediction and the current world average of g-2. The latter is dominated by two similar experiments E821 BNL and E989 FNAL, while we suggest a novel approach: pulsed primary proton beam provides surface muons, which are diffused through a silica aerogel target forming thermolised muonium atoms. They are laser ionised and re-accelerated by a multi-stage linac up to 300 MeV/c before spiral injection into the storage uniform 3 T MRI-like magnet volume at the stable orbit in the absence of E-field. The silicon strip detector placed inside the magnet measures decayed positron parameters used in data analysis.
We report the experimental approach, current status, and future prospects.

What is your topic?

Anomalous Magnetic Moment of the muon

Author: RAZUVAEV, Georgiy (BINP)

Presenter: RAZUVAEV, Georgiy (BINP)

Session Classification: Session 7: Future directions

Track Classification: Tau2021 Abstracts