



Contribution ID: 20

Type: **Flash talk**

Search for the muon electric dipole moment using the frozen-spin technique

Friday 16 June 2023 12:05 (15 minutes)

An electric dipole moment (EDM) of a fundamental particle would violate time (T) and parity (P) symmetry and by the virtue of the CPT theorem also the combined symmetry of charge conjugation and parity inversion (CP). Searches for EDM are generally considered highly sensitive probes for new physics and might shed light on still unresolved questions in particle physics and cosmology like the origins of matter, dark matter, and dark energy.

At the Paul Scherrer Institute in Switzerland, we are setting up an experiment searching for a muon EDM with a sensitivity of $3E-21$ ecm using, for the first time, the frozen-spin technique in a compact storage ring. This will lay the ground work for a second phase with a final precision of better than $6e-23$ ecm.

My contribution is about a project related to sustainability

No

Field of contribution

Particle physics

Limited flash talk slots

I would present a poster instead.

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Session Classification: ECR