Contribution ID: **874** Type: **Parallel session talk**

Status of the muEDM experiment at PSI

Thursday 18 July 2024 14:30 (15 minutes)

Explaining the matter-antimatter asymmetry in the Universe requires new sources of CP violation beyond the predictions of the Standard Model (SM). Electric dipole moments (EDMs) of particles, being zero if CP is exactly conserved and extremely small in the SM, are a very clean and sensitive probe for new physics. We will present the status of the muEDM experiment, a search for a muon EDM at PSI (CH) pioneering the frozen spin technique. Muons will be stored in a solenoid, with a radial electric field tuned to eliminate the spin precession generated by the magnetic moment. Measuring a residual, longitudinal precession would indicate a non-zero EDM. The first phase of the experiment will demonstrate, by 2026, the feasibility and unique potential of the technique, while reaching a sensitivity competitive with the parasitic measurements performed in the muon g-2 experiments. The ultimate goal of the muEDM experiment is to improve this sensitivity by a factor of 100 by the early 2030s.

Alternate track

I read the instructions above

Yes

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