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Prospects for direct measurement of Lambda baryon dipole moments at LHCb

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The progress towards the direct measurement of electric and magnetic dipole moments of Lambda baryons at LHCb is presented. In addition, the measurement of magnetic dipole moments for particles and antiparticles would allow a test of the CPT symmetry. The experimental technique is based on the spin precession of Lambda baryons in the dipole magnet of the LHCb tracking system. Lambda baryons decaying downstream of the magnet have been reconstructed exploiting the excellent capabilities of the LHCb detector and developing ad-hoc techniques. The performance in the reconstruction of Lambda baryons from $L_b \rightarrow J/\Psi$ Lambda decays using Run1-Run2 data are discussed, along with the perspectives for the future dipole moment measurements in Run3.

session

A. Facilities and Detectors

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