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PRISMA+ Colloquium

Feb. 10, 2021 at 1 p.m. None

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Direct measurements of short-lived particles dipole moments at the LHC

Magnetic and electric dipole moments of fundamental particles provide powerful probes for physics within and beyond the Standard Model. For the case of short-lived particles these have not been experimentally accessible to date due to the difficulties imposed by their short lifetimes. A unique program of direct measurements of electromagnetic dipole moments of strange and charm baryons, and ultimately beauty baryons and the tau lepton, at the LHC is proposed. Novel experimental techniques have been developed, along with feasibility studies and projected sensitivities for different luminosity scenarios.

