Contribution ID: **13** Type: **Parallel talk**

The LHCspin project

Tuesday 3 May 2022 11:30 (20 minutes)

The goal of LHCspin is to develop, in the next few years, innovative solutions and cutting-edge technologies to access spin physics in polarised fixed-target collisions at high energy, exploring the unique kinematic regime offered by LHC and exploiting new final states by means of the LHCb detector. The forward geometry of the LHCb spectrometer is perfectly suited for the reconstruction of particles produced in fixed-target collisions. This configuration, with centre of mass energies ranging from 115 GeV in p–p interactions to 72 GeV in heavy ion collisions, allows to cover a wide backward rapidity region, including the poorly explored high–x regime. With the instrumentation of the proposed target system, LHCb will become the first experiment simultaneously collecting unpolarised beam-beam collisions at 14 TeV and both unpolarised and polarised beam-target collisions. The status of the project is presented along with a selection of physics opportunities.

Submitted on behalf of a Collaboration?

Yes

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Session Classification: WG6: Future Experiments

Track Classification: WG6: Future Experiments