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Polarization measurement and prospects at LHCb

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With its precise vertex reconstruction and particle identification capabilities, the LHCb detector is ideally suited to study the production and polarization of primary and secondary particles. In particular, as the origin of hyperon polarization from unpolarized proton-proton and proton-nucleus collisions is not yet fully understood, measurements in different collision systems and kinematic ranges must be provided. In this contribution, recent LHCb measurements of hyperon polarization in heavy-ion collider and in fixed-target modes are discussed, including their implications for hadronization modification in small collision systems and for transverse-momentum-dependent parton distributions and fragmentation functions.

Category

Experiment

Collaboration

LHCb

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