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A proposal for a polarised target at LHCb

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A polarized fixed-target experiment at LHC will open the way for a broad and unique physics program. The kinematic coverage will also allow to study the negative-rapidity region in the CM, corresponding to the poorly explored high x -Bjorken domain for the target proton. Furthermore, the use of a polarized H or D gas will allow precision measurements of spin-asymmetries in Drell-Yan and in inclusive production of quarkonia, thus opening the way to the measurement of the unknown gluon PDFs, such as the gluon Sivers function. The idea of installing gaseous polarized and unpolarized targets into the LHCb detector (LHCSpin project) is presented along with the status of the project. A selection of relevant physics cases is also discussed.

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