

Design of a Polarized Gas Target (PGT) for the LHC

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Since 2017, the LHCSpin study group (Ferara, Frascati, Jülich, Petersburg, Erlangen) is investigating the addition of a HERMES-type PGT in front of the LHCb detector in order to perform Fixed Target Single-Spin Azimuthal Asymmetry (SSAA) measurements. In cooperation with LHC experts, the conditions for applying a PGT are being studied. A cold openable storage cell is considered. A key role for avoiding instabilities of the 7 TeV proton beam is in the choice of coating and suppression of wake fields. A first warm test storage cell is planned for installation inside the VELO vessel in 2020, subject to final approval. It will help to improve the ongoing SMOG program on LHCb Fixed Target measurements. - The status of the discussion of critical machine issues and of the design of the target will be presented.

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