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Commissioning and first collisions with the LHCb SMOG2 system

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Within the recent LHCb upgrade program, notably including the replacement of the whole tracking system and the removal of the hardware trigger level, the gaseous target SMOG has been improved by the installation of a gas storage cell upstream of the nominal LHCb interaction point. This is allowing to increase the injected gas pressure by up to two orders of magnitude for the same gas flow as Run2 and to also collect data for collisions of LHC beams on non-noble gases, notably hydrogen. In this contribution, the commissioning of the system, the first performance from the early analysis of 2022 data and the physics prospects for Run3 will be presented.

Category

Experiment

Collaboration (if applicable)

LHCb

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