

SMOG2: a high-density gas target at the LHCb experiment

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In preparation to the LHC Run3, the LHCb gaseous fixed-target, SMOG, was upgraded to offer higher instantaneous luminosity by up to two orders of magnitude with respect to Run2, new gases, including non-noble ones such as hydrogen, and an increased experimental accuracy. Since 2022, LHCb is working with two independent collision points and as a collider and a fixed-target experiment simultaneously, a unique opportunity in the scientific panorama. In this contribution, the performance of the system from the 2024 acquired data, the first obtained results and the physics prospects for the incoming years will be presented.

Category

Experiment

Collaboration

LHCb

Primary author: FABIANO, Federica (Università e INFN Cagliari (IT))

Presenter: FABIANO, Federica (Università e INFN Cagliari (IT))

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