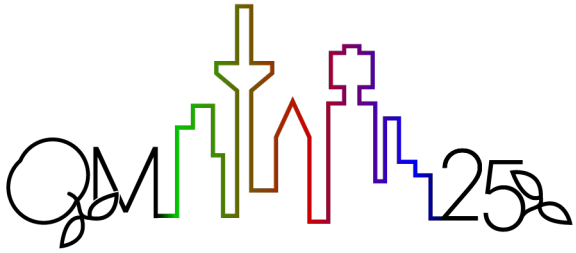

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Operations and prospects for fixed-target data-taking with LHCb

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 2024, samples with larger statistics up to three orders of magnitude with respect to Run2 have been collected, giving access to very accurate measurements of abundant probes and the possibility to explore the rarer ones, such as bottomonia resonances, which is unique at this energy scale. 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 (if applicable)

LHCb

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