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## Oxygen beams and LHCb: prospects of collisions with fixed-targets

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The LHCb experiment has the unique possibility, among the LHC experiments, to be operated in fixed target mode using its internal gas target. After reviewing the results achieved so far in the fixed target configuration, we will discuss prospects for the incoming run, where, thanks to the upgraded target system, a significant improvement in luminosity and a wider choice of the target gas are expected.

The possibility of running with oxygen beams offers novel possibilities for nuclear and astroparticle physics. In particular, collisions of O beams on a hydrogen target can provide measurements of identified charged particle production up to very forward rapidity in the O nucleus rest frame.

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