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LHC Run 3 and Run 4 prospects for heavy-ion physics with LHCb

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The largely unknown parton distribution functions of nuclei and the similarities observed between high-multiplicity pp and pPb events compared to PbPb, often described by means of hydrodynamics, are the main motivations for an extended pPb data taking program during LHC Run 3 and Run 4. The future increase in luminosity combined with the LHCb unique detector capabilities will allow to perform new and precise measurements. Moreover, an upgraded internal gas target is going to be installed for the LHCb run 3 fixed target program, allowing a wider choice of target gas species and an increase of the gas density by up to two order of magnitude. Prospects will be presented on both the LHCb collider and fixed target programs.

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