

Cosmic ray related measurements from LHCb

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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.

The energy scale achievable at the LHC and the excellent detector capabilities for vertexing, tracking and particle identification allow a wealth of novel measurements of great interest for cosmic ray physics. In particular, using a helium target, the first measurement of antiproton production in proton-helium collisions was achieved using a 6.5 TeV proton beam, in the antiproton energy range 12-110 GeV/c. The results are particularly relevant to the interpretation of the recent accurate measurements of the antiproton content in cosmic rays.

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