Contribution ID: **249** Type: **LHC experiments**

Anti-deuteron sensitivity studies at LHCb

Tuesday, 5 June 2018 16:00 (1h 30m)

Measurements of anti-deuterons in collider experiments can help to reduce systematic uncertainties in indirect searches for dark matter. Two predominant unknowns in these searches are the production of secondary anti-deuterons in the cosmos from spallation processes, and anti-deuteron production from annihilating dark matter.
LHCb is a forward spectrometer on the LHC ring, designed to measure b-hadron decays from high energy proton-proton collisions. With the detector's excellent particle identification capabilities, deuteron and anti-deuteron measurements at LHCb could help to parametrise the two cosmological processes. Recent studies of (anti-)deuteron identification at LHCb and the prospects for measuring prompt (anti-)deuterons from pp-collisions will be presented, as well as a working analysis of b-baryrons decaying to deuterons.

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Session Classification: Posters session