

Understanding the background in dark matter searches by studying anti-nucleosynthesis in the laboratory with ALICE

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Anti-nuclei are considered to be one of the most promising probes in the indirect search of dark matter annihilation in space. However, in light of the recent results on the production of light anti-nuclei in pp collisions at the LHC, an abundant production of light (anti-)nuclei is also expected from Standard Model collisions of primary cosmic rays with the interstellar medium. Hence further precise measurements are required to constrain the production models of anti-nuclei in SM collisions to be sensitive to the DM annihilation events.

In this talk all the most recent results of the ALICE collaboration on the production of anti-deuterons and anti- ^3He in pp and p-Pb collisions are shown.

These results challenge the state-of-the-art calculations of the production models currently used to estimate the SM background to DM searches and a detailed comparison of the new ALICE measurements with the models will be shown.

I read the instructions

Secondary track (number)

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