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Type: **Experimental talk**

Measurement of the antinuclei nuclear inelastic cross sections with ALICE and implications for indirect Dark Matter searches

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The measurement of low-energy cosmic antinuclei may reveal the existence of exotic processes such as dark-matter annihilation, since the production rate of these ions through ordinary secondary processes is very low. However, the lack of experimental data at low energies, where both the antinuclei production and inelastic cross sections are very poorly known, prevents precise predictions of antinuclei fluxes near Earth.

In ultrarelativistic pp, p-Pb and Pb-Pb collisions at the CERN LHC, matter and antimatter are produced in almost equal abundances at midrapidity. This allows us to study the production cross sections of (anti)nuclei with high precision as well as to measure the absorption process of produced (anti)nuclei in the detector material.

In this talk we present the first results on the antideuteron and absorption cross sections in the ALICE detector material and we discuss the implications of these results for indirect Dark Matter searches using cosmic antinuclei.

Collaboration

ALICE

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