

Study of prompt D^0 meson production and cold nuclear matter effects in proton-lead collisions at $\sqrt{s_{NN}} = 5\text{TeV}$ in the forward region with LHCb

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The productions of prompt D^0 mesons in proton-lead collisions in the forward and backward configurations were studied. The data are collected with the LHCb detector with at a centre-of-mass energy of 5TeV. The integrated cross-section is measured to be $237 \pm 1 \pm 15 \text{mb}$ ($259 \pm 3 \pm 19 \text{mb}$) for the forward (backward) rapidity range $1.5 < y < 4$ ($5 < y < 2.5$), in the p_T range $0 < p_T < 8 \text{ GeV}/c$. Nuclear modification factors and forward-backward ratios are determined, suggesting suppression in the forward direction.

Collaboration

LHCb

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