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Heavy flavor and exotic production at LHCb

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Charm and bottom quark production is an important experimental observable that sheds light on the heavy quark interaction with the nuclear medium. With high statistics datasets, tracking and PID at very low transverse momentum, and excellent vertexing capabilities, LHCb performs precision measurements of a rich set of heavy flavor hadrons, including B mesons, open charm hadrons and charmonia. These capabilities allow for precise studies of strangeness enhancement, baryon enhancement, and charmonia suppression in various colliding systems from pp to pPb and PbPb. Furthermore, the production of the exotic $X(3872)$ hadrons in pp and pPb collisions is also studied. The nuclear modification factor R_{pA} for the four-quark state $X(3872)$ is measured for the first time. We will present these results along with comparisons to theoretical calculations.

In-person participation

Yes

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