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Production of exotic hadrons in high multiplicity pp and pPb collisions at LHCb

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The recently discovered abundance of hadrons with more than three valence quarks remains poorly understood. Measurements of these exotic hadrons and their interactions with the QCD medium provides a new avenue to investigate their properties. Additionally, the production of hadrons with more than three quarks presents new testing grounds for models of particle transport and recombination in hadron collisions. This talk will explore data on the exotic $X(3872)$ and T_{cc}^{+} hadrons, similarities in their properties, and differences in their production as a function of charged particle multiplicity in pp collisions. We will also present the first measurement of the nuclear modification factor R_{pA} for a four-quark state, the $X(3872)$, in pPb collisions. The outlook for future measurements in heavy ion collisions and with the LHCb fixed-target system SMOG II will be discussed.

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