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Open charm production from small to large systems at LHCb

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Open charm production is a sensitive probe of both hot and cold nuclear matter effects. Charm meson production provides strong constraints on nuclear parton distributions, while charm baryon and strange charm hadron production can be used to probe strangeness- and baryon-enhancing hot QCD effects, respectively. The LHCb detector is designed to study heavy flavor hadrons at the LHC, providing unique opportunities to study open charm production in heavy-ion collisions. In this contribution, recent LHCb results on open charm production will be discussed, as well as progress on studies of strangeness and baryon enhancement in the heavy flavor sector with 2024 PbPb data.

Category

Experiment

Collaboration (if applicable)

LHCb

Author: DURHAM, John Matthew (Los Alamos National Laboratory)

Presenter: DURHAM, John Matthew (Los Alamos National Laboratory)

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