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Heavy flavour production in proton-lead and lead-lead collisions with LHCb

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The LHCb experiment has the unique property to study heavy-ion interactions in the forward region ($2 < \eta < 5$), in a kinematic
region complementary to the general purpose detectors. The detector has excellent capabilities for reconstructing quarkonia and open charm states, including baryons, down to zero p_T. Notably, it can separate the prompt and displaced charm components. In pPb collisions, both forward and backward rapidities are covered thanks to the possibility of beam reversal. Results include measurements of the nuclear modification factor and forward-backward ratio for charmonia, open charm and bottomonia states. These quantities are sensitive probes for cold nuclear matter effects in heavy flavour producton. In 2015, LHCb also participated successfully for the first time in the Pb-Pb data-taking. The status of the forward prompt J/ψ nuclear modification factor measurement for up to semi-central lead-lead collisions will be shown.

Preferred Track

Quarkonia

Collaboration

LHCb

Primary author: WINN, Michael Andreas (Universite de Paris-Sud 11 (FR))

Presenter: WINN, Michael Andreas (Universite de Paris-Sud 11 (FR))

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