

Abstract Submitted
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Hadron production at LHCb¹ XUHUAO YUAN, Syracuse University

— The measurement of heavy hadron production cross-sections provides powerful tests on QCD models, at both perturbative and non-perturbative levels. Heavy hadron production involves the production of heavy quarks, and their subsequent hadronization into heavy hadrons. The first step can be calculated with perturbative QCD, while the latter is nonperturbative and its mechanism is not fully understood. There are many theories to describe hadron productions, such as the Color Singlet Model (CSM), or nonrelativistic QCD model for the J/psi production, polarization and the fragmentation approach or the complete order approach for B_c^+ production. However, current models cannot describe all experiment measurements well. This talk will present highlights from recent LHCb measurements, including the production of the heavy quarkonia and the fraction of B hadrons in the LHCb acceptance region ($2 < \eta < 5$) at different proton-proton collision energies. With these measurements, many theoretical models are tested and the understanding of strong interactions are improved.

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