

Study of charmonium and associated charmonium production in pp collisions at LHCb

Friday 19 July 2024 12:00 (15 minutes)

The study of charmonium production in proton-proton collisions provide an excellent probe of QCD, as it involves both the perturbative and non-perturbative regime. At the LHC, charmonia are produced via hadroproduction in proton-proton collision vertex or from b-hadron decays. In both cases, they can also originate from an intermediate excited charmonium, which is required to be understood to compare the measured production cross-sections charmonium mesons to theory. The associated production of charmonium states provide another way to probe the quarkonium production mechanism. The associated quarkonium production is also considered an ideal way to probe the transverse momentum dependent parton distribution functions of gluons inside the proton, leading towards a more comprehensive knowledge of the proton structure. In this talk, the latest results on charmonium and associated charmonium production from LHCb will be presented.

Alternate track

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Yes

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Session Classification: Strong interactions and Hadron Physics

Track Classification: 06. Strong Interactions and Hadron Physics