

Understanding of quarkonia production in forward rapidity region

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Due to the heavy-quark symmetry of Non-Relativistic Quantum Chromodynamics (NRQCD), the cross-section for the production of η_c can be predicted. This NRQCD prediction when confronted with data from the LHCb is seen to fail miserably. However, modified NRQCD provides a neat solution to the LHCb η_c anomaly and provides an understanding of all the features of the η_c data. Furthermore, we compare the recent LHCb data for the integrated cross-section of h_c production at $\sqrt{s} = 13$ TeV in the kinematic range $5.0 < p_T < 20.0$ GeV and $2.0 < y < 4.0$ with the theoretical predictions using NRQCD and modified NRQCD. Modified NRQCD gives an agreement with the recent LHCb experimental data.

Motivated by the success of modified NRQCD, we have extended the work to study charmonia production in the forward rapidity region.

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