

Multiplicity dependence of quarkonium production

Monday 22 March 2021 11:00 (15 minutes)

At the LHC collision energies, multiple parton interactions (MPI) are a key ingredient for particle production models including hard scale processes like heavy-quark production (charm and beauty). Multiplicity dependent quarkonium measurements can shed light on the role of MPI at such hard momentum scales, as well as on the interplay between hard and soft particle production mechanisms. Such studies can contribute to improve the understanding of the initial state of hadronic collisions as well as the emergence of collectivity with rising energy and collision system size. In addition, the various design and configurations of the LHC detectors, giving access to different measurement conditions and observables, provide a large set of complementary measurements necessary to study initial and final state effects. These final state effects include a potential dissociation of excited quarkonium states w.r.t. the ground state, investigated through multiplicity differential measurements. In this contribution, a review of the most recent results on multiplicity dependent quarkonium production will be presented. Ongoing studies and possibilities for future related measurements will also be discussed.

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Session Classification: Day 1 (mostly inclusive reactions)

Track Classification: Inclusive reactions (incl. jets & isolation) & tools for PDFs