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Pair production of heavy quarkonia in the color evaporation model

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We study the prompt single and double J/ψ hadroproduction in the Improved Color Evaporation Model using the Parton Reggeization Approach. We make calculations in a single manner to describe the experimental data for prompt J/ψ transverse momentum spectra from the energy of $\sqrt{s}=19$ GeV up to modern energy of the LHC, $\sqrt{s}=13$ TeV. The numerical calculations are made using parton-level MC generator for k_T -dependent initial-state partons, KaTie. We use the modified KMR-type unintegrated parton distribution functions of Reggeized gluons and quarks with exact normalization based on Kimber-Martin-Ryskin-Watt model. We suggest improvement of the ICEM for the pair-production of J/ψ . In case of double J/ψ production we investigate the relative contributions of the single-parton scattering and double-parton scattering mechanisms.

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