

XXV International Baldin Seminar on High Energy Physics Problems
"Relativistic Nuclear Physics and Quantum Chromodynamics"



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Associated production of heavy quarkonia and D mesons in the high energy factorization

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In the article, we study associated production of heavy quarkonia and D mesons in the improved color evaporation model using the high-energy factorization as it is formulated in the parton Reggeization approach. The last one is based on the modified Kimber-Martin-Ryskin-Watt model for unintegrated parton distribution functions and the effective field theory of Reggeized gluons and quarks, suggested by L.N. Lipatov. We predict cross section for associated J/ψ or Υ and D hadroproduction via the single and double parton scattering mechanisms using the set of model parameters that have been obtained early for the description of single and double J/ψ and Υ production at the LHC energies. The numerical calculations are realized using the Monte-Carlo event generator KaTie. The calculation results are compared with the LHC data at the energies $\sqrt{s} = 7$ and 8 TeV.

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