

Exclusive and semiexclusive production of vector mesons in proton-proton collisions with electromagnetic dissociation of protons

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We calculate distributions of different vector mesons in purely exclusive ($pp \rightarrow ppV$) and semiexclusive ($pp \rightarrow pXV$) processes with the electromagnetic dissociation of a proton. The cross section for exclusive production depends on wave function of the vector mesons and unintegrated gluon distribution function. We show results for rapidity and transverse momentum of vector mesons distributions. The cross section for the electromagnetic dissociation is expressed through electromagnetic structure functions of the proton. We include the transverse momentum distribution of initial photons in the associated flux. Contributions of the exclusive and semiexclusive processes are compared for different vector mesons ($V = \phi, J/\psi, \Upsilon$). We show the ratio of semiexclusive to exclusive contributions and we compare for different mesons in different variables (y, p_t).

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