

Diffractive Scattering Factorization from J/ψ and γ Associated Production in HERA ep Collisions

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Abstract: Using three sets of Pomeron structure functions, the cross sections of J/ψ and γ associated production via resolved photon and proton diffractive scattering in ep collision are investigated. It is found that the cross sections calculated with various gluon distribution functions of Pomeron are different. The discrepancy is about 1.8 times for differential cross sections and 1.7 times for total cross sections. The experimental studies of the process could give valuable insight in the diffractive production mechanism and test the color-octet mechanism for heavy quarkonium production in a new environment.

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Key words: diffractive, Pomeron, color-octet

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