Contribution ID: **42** Type: **Parallel session talk**

Measurement of the cross-section ratio σψ(2S)/σJ/ψ(1S) in exclusive photoproduction at HERA

Friday 19 July 2024 14:45 (15 minutes)

The exclusive photoproduction reactions γp → J/ψ(1S)p and γp → ψ(2S)p have been measured at an ep centre-of-mass energy of 318 GeV with the ZEUS detector at HERA using an integrated luminosity of 373 pb^{-1}. The measurement was made in the kinematic range 30 < W < 180 GeV, Q^2 < 1 GeV2 and |t| < 1 GeV^2, where W is the photon-proton centre-of-mass energy, Q^2 is the photon virtuality and t is the squared four-momentum transfer at the proton vertex. The decay channels used were J/ψ(1S) → μ+μ−, ψ(2S) → μ+μ− and ψ(2S) → J/ψ(1S)π+π− with subsequent decay J/ψ(1S) → μ+μ−. The ratio of the production cross sections, R = σψ(2S)/σJ/ψ(1S), has been measured as a function of W and |t| and compared to previous data in photoproduction and deep inelastic scattering and with predictions of QCD-inspired models of exclusive vector-meson production, which are in reasonable agreement with the data.

Alternate track

I read the instructions above

Yes

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