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Leptonic Angular Coefficients in J/ψ Production within the Parton Reggeization Approach

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The process of J/ψ production is an important probe for investigation of gluon parton distribution functions (PDFs) in proton. Though the charmonium production cross section and spectra can be satisfactorily calculated in various frameworks, another observables, such as angular coefficients in leptonic decay of J/ψ , do not have consistent description yet. In the present work, we obtain estimations for three leptonic angular coefficients in the high-energy factorisation (HEF) formalism [1] as it is formulated in the Parton Reggeization Approach (PRA) [2]. We use the nonrelativistic QCD (NRQCD) as a hadronisation model for charmonium hadronisation [3]. Firstly, we made calculations for unpolarised J/ψ cross section and compared them with the existing experimental data. Then we obtained results for leptonic angular coefficients in kinematics of the PHENIX and HERA-B experiments and made predictions for the future SPD NICA experiment.

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