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Diffractive Production of Quarkonium in p-A Collisions at LHC

Tuesday 20 March 2018 16:00 (1 hour)

In the present work, we investigated the exclusive diffractive production of charmonium in pronton-nucleus collisions at the Large Hadron Collider (LHC) energies. Such exclusive production reactions possess a cleaner experimental signal than inclusive production once it is characterized by low multiplicity of particles between final produced state and the incident protons of collider beam. The considered theoretical framework was the perturbative model of Quantum Cromodynamics (QCD) for the Pomeron exchange. In particular, we have used the resolved Pomeron model which depends on the Pomeron flux and Pomeron parton distribution functions. The main goal is to provide predictions for the single diffractive cross section for the J/Psi meson production at the energies of 5.02 TeV and 8.8 TeV. We have shown that a measurement is feasible as the order of magnitude is 400 microbarns even absorption corrections. Furthermore, we analyze the ratio of the diffractive to inclusive cross section which allows theoretical uncertainties to be canceled, mostly those associated to approximations performed in inclusive case.

Summary

Primary authors: ROCHA, Érison (UFRGS); Dr MACHADO, Magno (IF-UFRGS)

Presenter: ROCHA, Érison (UFRGS)

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