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Few important characteristics of charmed hadroproduction in pp collision

Abstract content

The production of charmed hadrons (D^+ , D^- , D^0 , \bar{D}^0 , Λ_c^+ , $\bar{\Lambda}_c^-$) in pp collision as a function of \sqrt{s} , x_F , p_{\perp} and p_{\perp}^2 have been studied in the framework of the QGSJET model. The charmed hadrons are considered as the potential sources of prompt lepton's fluxes in cosmic rays. So in this context, the study of the charmed hadroproduction characteristics in pp collision under a sound physical model is particularly significant to check the reliability of the model prediction. The charmed hadroproduction cross sections or the charmed hadrons' average multiplicities in pp collision have been found to be relatively very small. The maximum production of all charmed hadrons take place with low values of x_F , p_{\perp} and p_{\perp}^2 within a small range for all values of \sqrt{s} under study. The Charmed hadroproduction cross sections as a function of x_F and p_{\perp}^2 are compared with the LEBC-EHS and LEBC-MPS experiments' data for D-mesons production in the low energy range. The agreement is quite satisfactory for the smaller values of p_{\perp}^2 (≤ 2 (GeV/c) 2).

If this papers is presented for a collaboration, please specify the collaboration

Summary

Reference

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