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Investigation of the scaled charged multiplicity in p-p collisions at 13.6 and 27 TeV, the current and future LHC energy

Friday 16 December 2022 14:00 (1 hour)

Analysis of the charged multiplicity in proton-proton inelastic interactions at the LHC energies in the setting of Dual Parton Model is presented. The data simulated at different energies in various pseudo-rapidity windows using the event generator PYTHIA8 are analysed and compared with the calculations from the model and the published data from the CMS experiment. The theoretical Koba-Nielsen-Olesen (KNO) scaling of the multiplicity distributions is studied and compared with the experimental results at $\sqrt{s} = 0.9, 2.36, 7$ TeV. Predictions from the model for the KNO distributions at $\sqrt{s} = 13, 13.6$ TeV and for the future LHC energy of 27 TeV are computed and compared with the simulated data.

Session

Future Experiments and Detector Development

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