

Quantifying the Underlying Event in pp Collisions at LHC Energies using Non-extensive Statistics

Thursday 27 July 2023 16:45 (30 minutes)

I present our study of the transverse momentum spectra and their evolution in function of the position of the azimuthal of the particles associated to the leading particle in this talk. Additionally, the behavior of the sphericity distribution in the same azimuthal bins is reported. The studies were made using proton-proton collisions at $\sqrt{s} = 13$ TeV using PYTHIA8 Monte Carlo event generator. The Multiplicity and midrapidity transverse momentum spectra of charged hadrons have been analyzed in the non-extensive statistical framework. The results on the findings corresponding to the Underlying Event are reported. $v_2(p_T)$, depicting a change in meson- baryon elliptic flow at intermediate-pT, is studied for various collision systems and energies. The model is further evaluated by training it for different p_T regions. These results are compared with the available experimental data wherever possible.

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Session Classification: Short talks