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Statistical Jet Fragmentation at LHC

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Fragmentation functions measured in $e+e-$ and pp collisions are well reproduced via a fragmentation model based on microcanonical statistics and superimposed Euler–Gamma-type multiplicity fluctuations [1,2]. The power of the obtained analytic fragmentation function (which is a cut-power function in x) develops a double-logarithmic dependence on the QCD scale Q^2 [3]. Besides, this function also describes transverse hadron spectra measured in pp and AA collisions at RHIC and LHC energies [4,5]. Interestingly, the power of the spectra of pions, kaons and protons stemming from pp collisions exhibits a similar double-logarithmic dependence on the collision energy \sqrt{s} and on the hadron multiplicity N (measured in the $|\eta| < 1$ region) [6].

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