Quark Matter 2012



Contribution ID: 39

Type: Poster

Microcanonical Tsallis statistics in jet fragmentation at LHC and LEP

Thursday 16 August 2012 16:00 (2 hours)

For the description of hadronic spectra in high-energy nuclear reactions, it is essential to understand the process of hadronisation. However, hadron creation is still an unsettled matter from the theoretical point of view.

In the talk, I show that hadron distributions inside jets (fragmentation functions) created in $s^1/2 = 7$ TeV (LHC) proton-proton [1] and also in high-energy electron-positron [2] collisions can be described by a statistical jet-fragmentation model. This model combines microcanonical statistics and super-statistics induced by multiplicity fluctuations. The resulting scale dependence of the parameters of the model turns out to be similar to what was observed in electron-positron annihilations in Ref. [2].

Phys. Lett. B 701: 111-116, 2011; arXiv:1101.3023
Submitted to PLB, arXiv:1204.1508

Author: UERMOESSY, Karoly (Hungarian Academy of Sciences (HU))

Co-authors: Dr BARNAFÖLDI, Gergely Gábor (Wigner RCP of the HAS); Prof. BIRO, Tamás Sándor (Wigner RCP of the HAS)

Presenter: UERMOESSY, Karoly (Hungarian Academy of Sciences (HU))

Session Classification: Poster Session Reception

Track Classification: New theoretical developments