



XXIV QUARK MATTER DARMSTADT 2014

Contribution ID: 483

Type: **Poster**

Tsallis blast-wave analysis in relativistic heavy ion collisions

Tuesday, 20 May 2014 16:30 (2 hours)

In the high-energy nuclear collisions at RHIC, it has been clearly evidenced the formation of the hot and dense matter with strong collectivity developed during the entire collision evolution, driven by intense rescattering among the fireball constituents. The measurable observables that can provide information about thermalization and collective flow are the transverse momentum spectra of produced particles. We will present a study of blast-wave fits using Tsallis statistics performed on the measured transverse momentum spectra obtained in Au-Au collisions at RHIC energies as a function of rapidity and collision centrality. In addition, comparisons with predictions for relativistic heavy ion collisions using the most important simulation codes at the future CBM-FAIR energies will be presented to provide more detailed insights on the properties of the space-time evolution such as collective dynamics of the dense matter.

On behalf of collaboration:

None

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Session Classification: Poster session

Track Classification: Collective Dynamics