

Rapidity spectra for net proton production at LHC

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Net proton rapidity distributions are calculated for different heavy-ion experiments. They reproduce very well results obtained at AGS, SPS and RHIC and make prediction for the LHC experiment [1].

Presence of non-ideal plasma effects due to strongly coupled plasma in the early stage of relativistic heavy-ion collisions is investigated in the framework of non-conventional statistical mechanics [2]. The broad rapidity shape is very well reproduced in the framework of a non-linear relativistic Fokker-Planck equation which incorporates non-extensive statistics and anomalous diffusion.

[1] W.M. Alberico, P. Czerski, A. Lavagno, M. Nardi, V. Somá, *Physica A* **387**, 467 (2008).

[2] C. Tsallis, *J. Stat. Phys.* **52**, 479 (1988).

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