

## **Quark-Gluon Plasma is appeared in collisions of medium nuclei at higher energies than in heavy ion interactions**

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Recently the NA61/SHINE collaboration has published new experimental data on Pi- meson production in Ar-40+Sc-45 interactions at projectile nucleus laboratory momenta 13, 19, 30, 40, 75 and 150 GeV/c/N. The data are analyzed in Epos LHC, Epos 1.99 and Geant4 FTF models. The data were obtained for 0 - 5 % centrality interactions. In order to imitate the centrality selection we choose impact parameters intervals 0 - 2.5, 0 - 2.9, and 0 - 3.1 fm for the pointed models, correspondently, normalizing model results on experimental data at 19A GeV/c. *In the case, the model results are in agreement with each other and experimental data at momenta below 75A GeV.* At higher energies, only Epos LHC gives satisfactorily results. Epos 1.99 and Geant4 FTF model essentially underestimate the data. Two last models are pure hadronic models. The Epos LHC considers collective hadronization which simulates QGP effects. Earlier, irregularities in particle production were observed in heavy ion collisions at energies above 20\*A GeV/c (NA49 analysis).

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