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Influence of symmetry energy on protons flow in Pb + Pb collisions at 40 A\$\$.GeV energy

Content :

For Pb+Pb collisions at 40 A\$\$.GeV energy, we calculate the side-ward and elliptic differential flow of protons in the microscopic relativistic transport simulation model. We compare our results with the recent data from the NA49 Collaboration as a function of transverse momenta, rapidity and centrality. We find that the side-ward and elliptic flow explain reasonably well with the experimental data with and without momentum-dependent potentials in the simulation model.

However, in this presentation, we will discuss the influence of symmetry energy of nuclear matter on protons flow at high density collision domain. This is essential due to the interaction of nuclear force or equation of state at such high density region, this may give some insight of understanding the quark gluon plasma, which may be confirmed in the future planned CBM experiment.

Reference:

P.K. Sahu; Eur.Phys.J.C62:159-164,2009 and Phys.Rev.C77:024904,2008.

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