



Contribution ID: 93

Type: Poster

Effects of the Critical Point on Selected Observables from 3+1D EbE Hybrid Simulations

Monday, March 10, 2025 5:40 PM (2 minutes)

The Quark-Gluon Plasma produced in relativistic heavy-ion collisions allows the study of the QCD phase diagram through hydrodynamic phenomenology. An open question is the existence and location of a critical point.

At high energies, such as 200 GeV A at RHIC or a few TeV at LHC, the region of the QCD phase diagram being probed at mid-rapidity is characterized by high temperature and an almost zero baryonic chemical potential.

In order to explore other regions of the QCD phase diagram, on the experimental side, many efforts are being done or planned at various laboratories and accelerators.

In this work, we study three observables for detecting the critical point or a first-order phase transition line: anisotropic flow in the longitudinal direction, cumulants of conserved charge and HBT radii. Using a state-of-the-art 3+1 D simulation we aim to investigate the behavior of these observables comparing results with and without critical point on several RHIC energies.

Authors: GRASSI, Frederique; P. PALA, Kevin; BARBOSA, Leonardo; ISHIDA, Pedro (Instituto de Física da Universidade de São Paulo); FRANÇÃO, Vinícius

Presenter: FRANÇÃO, Vinícius

Session Classification: Poster session