ID de Contribution: **68**   Type: **Non spécifié**

Scaling Analysis of Proton Cumulants and the QCD Critical Point

jeudi 7 novembre 2024 14:35 (25 minutes)

We perform a finite-size scaling analysis of net-proton number cumulants in Au+Au collisions at center-of-mass energies between 2.4 GeV and 54.4 GeV to search for evidence of a critical point in the QCD phase diagram. We show that for 7.7 GeV and above, the data as a function of rapidity bin width exhibits scale invariance, satisfying the conditions for a finite-size scaling analysis. We use model simulations to verify the applicability of this approach, then apply it to data and find evidence for a critical point near the baryon chemical potential of $\mu_B \approx 625$ MeV. This is the first analysis of experimental data to locate the critical point in a range consistent with recent theoretical predictions.

Auteur principal: SORENSEN, Agnieszka (FRIB)

Orateur: SORENSEN, Agnieszka (FRIB)