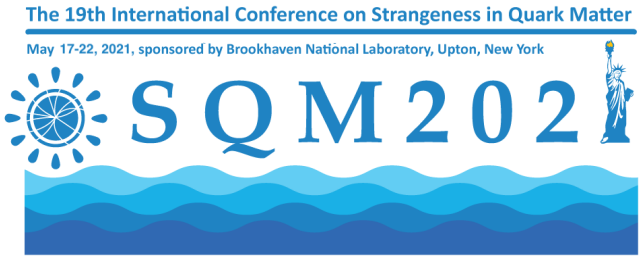

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Hadron production within a full transport approach with statistical hadronization mechanism at RHIC and LHC energies

Tuesday 18 May 2021 10:50 (20 minutes)

We present for the first time results on final hadron production, with and without strangeness content, in Ultrarelativistic Heavy Ion Collisions at RHIC and LHC center of mass energies obtained combining a full 3+1D relativistic Boltzmann transport approach with a statistical hadronization mechanism. The non-perturbative interaction between quarks and gluons is described by means of a quasi-particle approach that permits to have an Equation of State close to lattice QCD. The resulting framework naturally includes both shear and bulk viscous effects. The 3+1D full transport evolution is converted to hadrons by mean of a realistic freeze-out hypersurface considering all known hadron resonances and by performing resonance decays. In this talk we present results on charged-hadron multiplicity, identified-particle spectra, identified-particle average transverse momentum and identified-particle elliptic flow produced at RHIC and LHC energies for different centralities. We focus on π, K, p, Λ and Φ and their related baryon over meson ratios, from which we obtain further constrain on η/s of QGP. In the same transport framework we study the existence of far-fromequilibrium attractor in the momenta of the distribution function. We show that the resulting far-fromequilibrium evolution is insensitive to different initial conditions: the initial momentum-space anisotropy and initial occupancy. Finally we investigate the possible existence of attractors in the anisotropic flow coefficient.

[1] G. Galesi, S. Plumari, V. Greco in preparation

Collaboration

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