Société Française de Physique

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Dynamical Thermalization in Heavy-Ion Collisions

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The development of the merged EPOS+PHSD approach is one way to study the influence of the initial non-equilibrium stage of the heavy-ion reactions on the final observables. The microscopic understanding of the initial phase of heavy-ion collisions is an intricate problem, in this respect, the EPOS and PHSD approaches provide a unique possibility to address this problem. We employ the EPOS to do the initial stage of Heavy-Ion Collisions and produce the particles based on a multiple Pomeron exchange in Gribov Reggeon Field Theory formalism. EPOS is a particularly successful event generator and universal model for all collisions. Following injecting particles from EPOS to PHSD, we investigate the medium based on the theory inside PHSD. PHSD is a microscopic covariant dynamical approach for strongly interacting systems formulated based on Kadanoff-Baym equations. I am going to present our results concerning various observables such as charged particle multiplicity, elliptical flow, pt spectra, and mt spectra in EPOS+PHSD and make compare them with EPOS+hydro, and pure PHSD simulations for Au-Au@200 GeV.

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