



Объединенный институт ядерных исследований
ЛАБОРАТОРИЯ ТЕОРЕТИЧЕСКОЙ ФИЗИКИ
им. Н. Н. Боголюбова

Семинар
"ТЕОРИЯ АДРОННОГО ВЕЩЕСТВА ПРИ ЭКСТРЕМАЛЬНЫХ УСЛОВИЯХ"

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Семинар состоится в среду,
16 апреля в 16.00
в аудитории им. Д. И. Блохинцева (4 этаж)

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Beam energy scan using a viscous hydro+cascade model

Following the experimental program at BNL/RHIC, we perform a similar "energy scan" using 3+1D viscous hydrodynamics coupled to the UrQMD hadron cascade, and study the collision energy dependence of pion and kaon rapidity distributions and m_t -spectra, as well as charged hadron elliptic flow. To this aim the equation of state for finite baryon density from a Chiral model coupled to the Polyakov loop is employed for hydrodynamic stage. 3D initial conditions from UrQMD are used to study gradual deviation from boost-invariant scaling flow. We find that the inclusion of shear viscosity in the hydrodynamic stage of evolution consistently improves the description of the data for Pb-Pb collisions at CERN SPS, as well as of the elliptic flow measurements for Au-Au collisions in the Beam Energy Scan (BES) program at BNL/RHIC. The suggested value of shear viscosity is $\eta_s > 0.2$ for $\sqrt{s} = 6.3...39$ GeV.