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Shear viscosity of strange and non-strange particles in Au+Au collisions at intermediate energies

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We calculated the shear viscosity of strange and non-strange hadrons produced in central gold-gold collisions at intermediate energies. For calculations of the collisions the transport model UrQMD is employed. The shear viscosity is obtained within the Green-Kubo formalism. The hadron resonance gas model is used to determine temperature and chemical potentials of baryon charge and strangeness out of microscopic model calculations. Then, we determine the partial viscosity of main hadron species, such as nucleons, pions, kaons and Lambdas. The decrease of the beam energy from $E_{lab} = 40$˜AGeV to 10˜AGeV leads to rise of baryon shear viscosity accompanied by drop of shear viscosity of mesons. In contrast to that of non-strange hadron species, the shear viscosity of kaons and Lambdas remains independent on energy within the studied energy range. Its ratio over the entropy density increases with the drop of temperature and rise of baryon chemical potential.

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