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Temperature dependence of $SU(3)$ -gluodynamics bulk and shear viscosities within lattice simulation

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The talk is aimed at the study of $SU(3)$ -gluodynamics bulk and shear viscosities temperature dependence. We measured the correlation functions of the Energy-Momentum Tensor for a set of temperatures in the region $T/T_c \in [0.9, 1.5]$ and then applied various parametrical and non-parametrical approaches which give consistent results. Observed temperature dependence agrees with the recent experimental data and previously performed calculations. We notice a peak of bulk viscosity in the vicinity of phase transition, as for shear viscosity, there is a slight rise with the temperature at $T > T_c$. The analysis of our data confirms that the quark-gluon plasma behaves as a strongly-interacting system.

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