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Using the Ultra-relativistic Quantum Molecular Dynamics (UrQMD) model to extract the thermal conductivity transport coefficient of hadron gas.

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Thermal conductivity of hadron matter is studied using a microscopic transport model, which can support the newly Large Hadron Collider (LHC) energy of up to √s = 14 TeV, namely the Ultra-relativistic Quantum Molecular Dynamics (UrQMD). The molecular dynamics simulation is performed for a system of light mesons species (pions, rhos, Kaons) in a box with periodic boundary conditions. Equilibrium state is investigated by studying chemical equilibrium and thermal equilibrium of the system. Particle multiplicity equilibrates with time, and the energy spectra of different light mesons species have the same slopes and com- mon temperatures when thermal equilibrium is reached. Thermal conductivity transport coefficient is calculated from the heat current - current correlations using the Green-Kubo relations.

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