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Thermalized One-Loop In-medium Baryon resonances in πN matter

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We analyse the cross-sections for each of the $2 \rightarrow 2$ scattering processes with the modified propagator(s) at the finite temperature in the dense fluid of a strongly interacting pion nucleon system (πN) that are observed in relativistic heavy ion collisions and neutron star mergers. We examine the shape profile of the resulting transport coefficients like shear viscosity, bulk viscosity, and thermal conductivity in the hydrodynamical evolution of dissipative transient hot and dense nuclear matter using the thermalized one-loop in-medium effects of the iso-nucleon (938 MeV) and unstable baryonic resonances Roper (1440 MeV) and Delta (1232 MeV).

Reference publication/preprint

Designation

Faculty

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