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Hot and Dense QCD Shear Viscosity at (almost) NLO

The next-to-leading order weak-coupling shear viscosity of QCD was computed six years ago.

However, these results have never been applied at finite baryon chemical potential μ , even though intermediate-energy heavy ion collisions and merging neutron stars may explore the Quark-Gluon Plasma in a regime with large baryon chemical potentials.

In this talk, I extend the next-to-leading order shear viscosity calculations to finite μ , and show that, while the convergence of the weak-coupling expansion is questionable for achievable plasmas, it is somewhat better at $\mu > T$ than at $\mu=0$.

Thursday, 19th September 2024
2.15 p.m.
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