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# Quantum corrections to the stress-energy tensor at thermodynamic equilibrium with acceleration and rotation

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## Summary

The quark-gluon plasma created in relativistic heavy ion collisions is described as a relativistic fluid, with a formidably large value of initial acceleration (10^30 g). We show that stress-energy tensor mean value have additional terms with respect to the ideal form which are quadratic in the acceleration and vorticity, of quantum origin and non-dissipative, that is they do not increase entropy.
We show how to obtain these corrections by using general equilibrium form with acceleration and vorticity and performing a perturbative expansion from homogeneous global equilibrium. The thermodynamic coefficients relevant to these corrections can be expressed in terms of correlators of the stress-energy tensor operator and the generators of the Lorentz group.

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