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Entropy production and dissipation in spin hydrodynamics: Relativistic quantum-statistical approach

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Motivated by the evidence of spin polarization of matter produced in relativistic heavy ion collisions, there is a growing interest in developing relativistic hydrodynamics for spin-polarized media. This interest is mostly inspired by the previous successes of relativistic hydrodynamics in describing the collective behavior of the quark-gluon plasma. In this talk, I will present the preliminary outcomes of a quantum-statistical-based approach to relativistic spin hydrodynamics and discuss key findings in comparison to standard spin hydrodynamics, along with its future potential (arXiv:2309.05789).

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Classification de thématique: Bulk matter phenomena, QCD phase diagram and Critical point