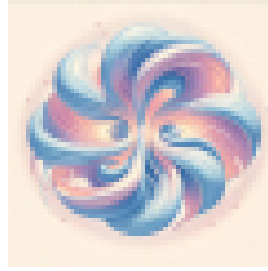


The 8th International Conference on Chirality, Vorticity and Magnetic Field in Quantum Matter



ID de Contribution: 28

Type: **On-line talk**

Chirality and a strong magnetic field give rise to novel hydrodynamic transport near and far from equilibrium (online)

jeudi 25 juillet 2024 14:30 (30 minutes)

When chiral charged matter is exposed to extremely strong magnetic fields, novel hydrodynamic transport effects emerge ¹. These novel effects need to be estimated and possibly taken into account, for example in the hydrodynamic codes used to analyze heavy-ion collision data or magnetars. Kubo formulae link the macroscopic transport coefficients to the microscopic retarded two-point correlation functions of conserved currents. Some among the transport effects cause no dissipation, i.e. they produce no entropy; one well known example is the chiral magnetic effect (CME). As a case study far away from equilibrium, the CME within holographic plasma suggests lessons for the quark-gluon-plasma at colliders ².

References: Phys.Rev.C 105 (2022) 3, 034903; JHEP 04 (2021) 078

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