Contribution ID: **24** Type: **not specified**

Chiral vortical conductivity across a topological phase transition from holography

Wednesday, 4 December 2019 16:00 (15 minutes)

We study the chiral vortical conductivity in a holographic Weyl semimetal model, which describes a topological phase transition from the strongly coupled topologically nontrivial phase to a trivial phase. We focus on the temperature dependence of the chiral vortical conductivity where the mixed gauge-gravitational anomaly plays a crucial role. After a proper renormalization of the chiral vortical conductivity by the anomalous Hall conductivity and temperature squared, we find that at low temperature in both the Weyl semimetal phase and the quantum critical region this renormalized ratio stays as universal constants. More intriguingly, this ratio in the quantum critical region depends only on the emergent Lifshitz scaling exponent at the quantum critical point.

Presenter: Dr JI, Xuanting

Session Classification: Short talks