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Type: **Invited Talk**

The Chiral Magnetic Effect and Chiral Separation Effect from the lattice QCD perspective

jeudi 25 juillet 2024 09:00 (45 minutes)

In this talk, I will review how the conductivities of anomalous transport phenomena can be extracted using lattice QCD, in particular focusing on the Chiral Separation Effect (CSE) and Chiral Magnetic Effect (CME). For the CSE, I will explain how the sign problem has been circumvented to study this effect in different setups, leading to the determination of its conductivity in QCD with physical quark masses. In the case of CME, I will emphasize the role of regularization for its equilibrium formulation, as well as the importance of using conserved vector currents on the lattice to study this effect. Finally, I will discuss what are the next steps being taken in the lattice community to shed light on how CME manifests in physical systems.

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