2025 XQCD THE 21ST INTERNATIONAL CONFERENCE ON QCD IN EXTREME CONDITIONS

Contribution ID: **72** Type: **Talk**

Out-of-equilibrium CME conductivity from lattice QCD

Thursday, July 3, 2025 5:00 PM (20 minutes)

In this talk, we present a study of the out-of-equilibrium CME conductivity via Kubo formulas using lattice QCD simulations. We present an analytic study of the CME Kubo formula in 1-loop perturbation theory, which sheds light on the nature of the CME in a system of non-interacting fermions. We then determine the Euclidean correlator as a function of the (imaginary) time using full dynamical simulations at the physical point, analyzing some of its characteristics and how they can be directly related to the conductivity. Finally, we extract the spectral function from the Euclidean correlator using well-known spectral reconstruction methods, discussing the temperature dependence of the determined conductivity in QCD.

Authors: BRANDT, Bastian (University of Bielefeld); ENDRŐDI, Gergely; GARNACHO VELASCO, Eduardo; MARKO, Gergely (University of Bielefeld); MARQUES VALOIS, Adeilton Dean

Presenter: GARNACHO VELASCO, Eduardo

Track Classification: Lattice QCD