Contribution ID: **77** Type: **Plenary**

In-medium spectral functions of vector and axial-vector mesons from analytically continued FRG flow equations

Tuesday, May 18, 2021 3:15 PM (30 minutes)

The Functional Renormalization Group (FRG) can be used to calculate spectral functions from analytically continued FRG flow equations for two-point correlation functions. Here we report on the current status of applying this aFRG framework to the calculation of vector and axial-vector meson spectral functions in effective hadronic theories at finite temperature and density. Their medium modifications have a direct impact on the electromagnetic spectral function and thus on thermal dilepton rates in the range of invariant-mass values of up to about 1 GeV. Because chiral symmetry restoration at finite temperature and/or density is reflected in these spectral functions, this can be exploited to search for experimental signatures, from heavy-ion collisions at HADES energies and later with CBM at FAIR, of a chiral first-order phase transition and the associated critical endpoint (CEP) in the phase diagram of QCD.

Collaboration

Theory

Primary author: VON SMEKAL, Lorenz (University of Giessen)

Presenter: VON SMEKAL, Lorenz (University of Giessen)

Session Classification: Plenary Session