

Polarization of thermal dilepton radiation in high-energy heavy-ion collisions

Dileptons are one of the most precise probes of the QCD phase diagram in high-energy heavy-ion experiments. Traversing the fireball undisturbed they yield information about the entire space-time history of the collision. Over the last decade, a rather consistent picture has emerged in interpreting the observed inclusive dilepton spectra over a wide range of collision energies. Polarization observables can further elucidate the microscopic emission processes, as they provide independent tests of the longitudinal and transverse components of the virtual photon's selfenergy. In this talk, I will present theoretical predictions of these observables based on a realistic model for the in-medium electromagnetic spectral function. Comparisons to available data from the HADES and NA60 experiments are discussed. They set stage for quantitative polarization studies at FAIR and collider energies in the future.

Presenter: WAMBACH, Jochen (TU Darmstadt)