



Contribution ID: 288

Type: **Invited Presentation**

## Exploring the phase diagram with electromagnetic probes

Understanding the phase structure of strongly interacting matter is a central goal in high-energy nuclear physics. Electromagnetic probes—such as photons and dileptons—offer a unique window into the space-time evolution of the quark-gluon plasma (QGP) and hadronic matter created in relativistic heavy-ion collisions. Unlike hadrons, these probes interact only electromagnetically and thus carry undistorted information from the entire evolution of the system, including its early, hot stages. In this presentation, we explore how electromagnetic observables can be used to map out the QCD phase diagram, constrain the properties of the QGP, and provide insight into the nature of the phase transition between quark-gluon plasma and hadronic matter. We discuss recent theoretical developments, experimental measurements, and the role of ongoing and future programs in pushing the boundaries of our understanding of the QCD medium.

**Author:** TOIA, Alberica (Goethe Uni. Frankfurt & GSI)

**Presenter:** TOIA, Alberica (Goethe Uni. Frankfurt & GSI)

**Session Classification:** Parallel session

**Track Classification:** Heavy Ion Collisions and QCD Phases