

Measurements of Dielectron Production with the STAR Experiment

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Dielectron production is suggested as an excellent probe of the hot and dense medium created in relativistic heavy-ion collisions due to their minimal interactions with the partonic and hadronic medium. They can carry the information from the initial to the final stage of a collision. The study of the dielectron mass spectrum could help to disentangle various contributions. In the low mass region (LMR, $M_{ee} < M_{\phi}$), the mass spectra of vector mesons are modified due to their interaction with the medium which could provide an access to the chiral symmetry restoration. In the intermediate mass region (IMR, $M_{\phi} < M_{ee} < M_{J/\psi}$), dielectrons from thermal radiation are predicted as a QGP thermometer, meanwhile the contributions from heavy quark semi-leptonic decays make the extraction of the thermal radiation contribution very challenging. In this talk, I will review the recent progress of dielectron measurements with the STAR experiment and discuss the prospects of the STAR BES-II dielectron program.

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Via Zoom