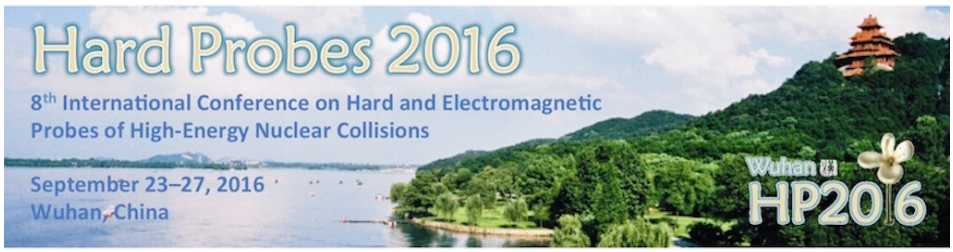

Contribution ID: **95** Type: **not specified**

Production of e^-e^+ from U+U collisions at $\sqrt{s_{NN}}$ = 193 GeV and Au+Au collisions at $\sqrt{s_{NN}}$ = 19.6, 27, 39, 62.4, and 200 GeV as measured by STAR

Saturday, 24 September 2016 14:00 (20 minutes)

Dileptons are able to traverse a strongly interacting medium with minimal interactions and thus are excellent probes of the hot, dense, and strongly interacting medium created in relativistic heavy-ion collisions. For the dileptons with an invariant mass less than ~1.2 GeV/c^2, the production is predominately from vector-meson decays. Information about any in-medium modifications of the vector meson is retained in its decay products, and may provide a possible link to chiral symmetry restoration. In addition, yields from the ρ-meson decays and the hot, dense partonic medium can be used as a measurement of the medium's lifetime. STAR has systematically studied the dielectron invariant mass spectrum in the aforementioned region for a variety of centralities, system-sizes, and collision energies. This presentation will cover the dielectron continuum measurement as a function of centrality, invariant mass, and transverse momentum for U+U collisions at $\sqrt{s_{NN}}$ = 193 GeV and Au+Au collisions at $\sqrt{s_{NN}}$ = 200 GeV; the dielectron continuum measurement as a function of invariant mass for minimum-bias of Au+Au collisions at $\sqrt{s_{NN}}$ = 19.6, 27, 39, and 62.4 GeV; and the acceptance-corrected dielectron excess measurements of U+U collisions at $\sqrt{s_{NN}}$ = 193 and Au+Au collisions at $\sqrt{s_{NN}}$ = 19.6, 27, 39, 62.4, and 200 GeV collisions. The connection between the measured dielectron excess yield and the lifetime of the hot, dense medium will be discussed.

Summary

Presentation type

Oral

Primary author: BUTTERWORTH, Joey (Rice University)

Presenter: BUTTERWORTH, Joey (Rice University)

Session Classification: Parallel Session III: EM Probes (III)