



Contribution ID: 735

Type: **Parallel Talk**

## Multi-differential pattern of low-mass $e+e-$ excess from 2.42 GeV Au+Au collisions with HADES

*Monday, May 14, 2018 5:30 PM (20 minutes)*

The matter formed in central heavy-ion collisions at a few GeV per nucleon is commonly understood as resonance matter, a gas of nucleons and excited baryon states with a substantial contribution from mesonic, mostly pionic excitations. Yet, in the initial phase of the reaction the system is compressed to beyond nuclear ground state density and hence substantial modifications of the hadron properties are expected to occur. The spectral distribution of virtual photons measured in Au+Au collisions at 2.42 GeV center of mass energy indicates strong medium effects beyond pure superposition of individual NN collisions. We present multi-differential distributions of low-mass electron pairs measured in Au+Au collisions at 2.42 GeV center of mass energy. The data is analyzed in terms of excess radiation above a conventional cocktail of contributions from meson decay after thermal freeze-out. This strong excess radiation is remarkably well described assuming emission from a thermalized system. To gain deeper understanding of the microscopic origin of the excess radiation, we extracted its centrality dependent true (not blue-shifted) temperature, its azimuthal distribution and polarization, as well as mass dependent effective slope parameter. Virtual photon spectra will be confronted with results of other experiments as well as with available model calculations.

### Content type

Theory

### Collaboration

HADES

### Centralised submission by Collaboration

Presenter name already specified

**Primary author:** HARABASZ, Szymon

**Presenter:** HARABASZ, Szymon

**Session Classification:** Electromagnetic and weak probes

**Track Classification:** Electromagnetic and weak probes