

Strangeness in Quark Matter 2019



Contribution ID: 131

Type: **Poster**

Dielectron simulations for the CBM-TRD

Tuesday 11 June 2019 18:45 (2 hours)

The Compressed Baryonic Matter (CBM) experiment will access a wide range of physics observables for heavy-ion collisions in the regime of highest net-baryon densities. Two of the core topics of its physics program are on one hand the measurement of dilepton production and on the other hand the study of hypernuclei, which were both not measured before with other experiments in this energy range. For both these cases a powerful particle identification is needed. Especially for the study of thermal radiation into dielectrons at intermediate masses the electron identification capabilities of the Transition Radiation Detector (TRD) are crucial. For the hypernuclei program, the dE/dx measurement of the TRD allows the separation of states with different charges, which is not possible with a TOF measurement alone and is therefore an essential contribution to the accessibility of this probe. This contribution will present the newest simulations at different collision energies of spectra of dielectrons and the extraction of the fireball parameters from dielectrons at intermediate masses.

Collaboration name

CBM

Track

QCD phase diagram and critical point

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Session Classification: Poster session with "aperitivo"