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Low-mass di-electron reconstruction at the CBM experiment

The Compressed Baryonic Matter (CBM) experiment at the future FAIR facility is designed to investigate high baryon density matter at moderate temperatures in Au+Au collisions from 4A GeV to 35A GeV beam energies. One of the key observables of the CBM physics program is electromagnetic radiation from the early fireball carrying undistorted information on its conditions to the detector. This includes detailed investigations of low-mass vector mesons in their di-electron decay channel. In the presented simulation studies we investigate the feasibility to effectively reduce the combinatorial background with the currently foreseen experimental setup, which does not provide electron identification in front of the magnetic field. The strategy of the electron identification and background suppression will be discussed. Simulation results with most-up-to date realistic detector description as well as detailed background studies will be presented.

Invited Talk (yes/no)?

no

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