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Electron identification with Transition Radiation Detector in the CBM experiment

Currently the CBM experiment is being developed in GSI (Darmstadt, Germany) at the FAIR accelerator complex of an international collaboration with JINR. The study of charmonium production is one of the key objectives of the CBM experiment. To kegister them via the dielectron decay channel, one needs a reliable electronpositron identification in the conditions of a dominant hadronic, primarily from pions, background. The TRD is most suitable for solving the above-mentioned task. TRD should yield reliable electron identification, a high pion suppression level, a reconstruction of trajectories of charged particles passing through the detector in conditions of intense fluxes (up to 10^7 collisions per second), and a high multiplicity of secondary particles (from 100 to 1000 particles per nucleus–nucleus collision). The solution of these tasks is presented in the talk.

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