

Quark Matter 2019 - the XXVIIIth International Conference on Ultra-relativistic Nucleus-Nucleus Collisions



Contribution ID: 722

Type: **Poster Presentation**

Status and Performance of the CBM-TOF systems

Monday 4 November 2019 17:40 (20 minutes)

The Compressed Baryonic Matter (CBM) experiment aims at exploring the QCD phase diagram at large baryon densities with heavy ion beams in the beam energy range from 2 A GeV to 11 A GeV at the SIS100 accelerator of FAIR/GSI. For charged particle identification that is required by many observables that are sensitive to the phase structure like collective flow, phase space population of rare hyperons, fluctuations of conserved quantities, ... a high performance Time-of-Flight (TOF) wall with a granularity of about 100.000 channels and a system timing resolution of better than 80 ps is being built.. The system comprises Multi-gap Resistive Plate Chambers (MRPCs) in multi-strip configuration with free-streaming readout enabling the measurement of charged particles at a flux of up to 30 kHz/cm² on the detector surface.

As part of the CBM-FAIR phase 0 program about 8% of the CBM TOF wall has been installed in the forward hemisphere ($1.0 < \eta < 1.5$) of the STAR experiment at RHIC/BNL (called eTOF) during the beam energy scan (BES II) campaign which started in the beginning of 2019. Another 5 modules (1600 channels) are installed at miniCBM at SIS18/GSI (also part of FAIR phase 0).

The status, performance and perspectives of both TOF detector systems will be presented.

Authors: DEPPNER, Ingo-Martin (Physikalisches Institut der Universität Heidelberg); HERRMANN, Norbert (Univ. Heidelberg); FOR THE CBM COLLABORATION

Presenter: DEPPNER, Ingo-Martin (Physikalisches Institut der Universität Heidelberg)

Session Classification: Poster Session

Track Classification: Future facilities and instrumentation