

The MRPC3b mass production for CBM-TOF and eTOF at STAR

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Abstract: The Compressed Baryonic Matter spectrometer(CBM) is expected to be operational in the year 2024 at the Facility for Anti-proton and Ion Research(FAIR) in Darmstadt, Germany. CBM aims to study strongly interacting matter under extreme conditions. The key element providing hadron identification at incident energies between 2 and 10AGeV (30 AGeV) at SIS100 (SIS300) is a Time-of-Flight (TOF) wall covering the polar angular range from 2.5° – 25° and full azimuth. The existing conceptual design foresees a 120 m^2 ToF-wall composed of Multi-gap Resistive Plate Chambers (MRPC) which is subdivided into a high rate region, a middle rate region and a low rate region. The Multistrip-MRPCs, foreseen to be integrated in the low rate region, have to cope with fluxes up to 1 kHz/cm^2 and therefore will be constructed with thin float glass (0.230mm) as resistive electrode material. In the scope of the FAIR phase 0 program it is planned to install about 36% of this type of counters, called MRPC3b, in the east endcap region of the STAR experiment at BNL as an upgrade for the Beam Energy Scan campaign (BESII) in 2019/2020.

In this poster we present the design of the MRPC3b counter and report on the CBM-TOF MRPC3b mass production status at USTC, as well as the QC&QA procedure. The MRPC3b counters are integrated in modules at the Heidelberg University and all necessary counter information are stored in a component database. The structure of this database will be explained in this contribution.

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