Contribution ID: **43** Type: **Talk**

The Compressed Baryonic Matter (CBM) Experiment at FAIR

Tuesday, 31 August 2021 17:30 (30 minutes)

The Compressed Baryonic Matter (CBM) experiment is one of the major scientific pillars of the future Facility for Antiproton and Ion Research (FAIR), which presently is under construction adjacent to the GSI Helmholtz Centre in Darmstadt, Germany, and is expected to come under operation in 2025. The goal of the CBM at FAIR is to explore the QCD phase diagram in the region of high baryon densities using high-energy nucleus-nucleus collisions (up to 11 AGeV Au-Au). This gives CBM a unique access to study the intricate nuclear physics of the astrophysical objects and events in laboratory in a controlled and precise manner by utilizing the peak beam-target interaction rates of up to 10 MHz.

This contribution will give an overview of the CBM physics program and goals, i.e., the study of the equation-of-state of dense nuclear matter, the possible phase transition from hadronic to partonic phase and chiral symmetry restoration. The status of various detector sub-systems and physics performance results showing CBM's capabilities to detect the respective experimental observables will also be discussed. Additionally, various FAIR Phase-0 activities will also be addressed, which have proven to be crucial in the CBM's preparation and understanding towards a functioning Day-1 setup.

Is this abstract from experiment?

Yes

Name of experiment and experimental site

CBM-FAIR Collaboration

Is the speaker for that presentation defined?

Yes

Details

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Internet talk

No

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