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## Status of the Compressed Baryonic Matter (CBM) Experiment at FAIR

*Wednesday, 6 April 2022 12:30 (20 minutes)*

The Compressed Baryonic Matter (CBM) experiment is one of the major scientific pillars of the Facility for Antiproton and Ion Research (FAIR), which is expected to become operational in 2025-26. The goal of CBM is to explore the QCD phase diagram in the region of high baryon densities using nucleus-nucleus collisions in the energy range  $\sqrt{s_{NN}} = 2.9 - 4.9$  GeV. CBM will be utilizing peak interaction rates of up to 10 MHz and an advanced triggerless data acquisition scheme, giving access to rare physics probes not studied before.

This contribution will give an overview of the CBM physics goals among which the equation-of-state of dense nuclear matter, the possible phase transition from hadronic to partonic phase, and chiral symmetry restoration play a major role. The CBM physics performance in terms of (multi-) strange particle production, dilepton spectroscopy, collective flow and femtoscopic observables will be discussed. In addition, the status of the comprising detector sub-systems will be presented. This includes their performance in FAIR Phase-0 experiments, especially in the currently operated demonstrator mCBM at SIS18.

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