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# The high-rate data challenge: computing for the CBM experiment

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The Compressed Baryonic Matter experiment (CBM) is a next-generation heavy-ion experiment to be operated at the FAIR facility, currently under construction in Darmstadt, Germany. A key feature of CBM are very high intercation rates, exceeding those of contemporary nuclear collision experiments by several orders of magnitude. Such interaction rates forbid a conventional, hardware-triggered readout; instead, experiment data will be freely streaming from self-triggered frontend electronics. In order to reduce the huge raw data volume to a recordable rate, data will be selected exclusively on CPU, which necessitates partial event reconstruction in real-time. Consequently, the traditional segregation of online and offline software vanishes; an integrated on- and offline data processing concept is called for. In this paper, we will report on concepts and developments for computing for CBM as well as on the status of preparations for its first physics run.

## Tertiary Keyword (Optional)

Data processing workflows and frameworks/pipelines

## Secondary Keyword (Optional)

High performance computing

## Primary Keyword (Mandatory)

Computing models

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