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Progress of online process software frame for CEPC ref-detector

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In high-energy physics experiments, online data processing plays an important role. Positioned between the readout of the front-end electronics and the disk, it reduces the vast raw data to a storable size through fast reconstruction and event filtering. Next-generation experiments such as the Circular Electron–Positron Collider (CEPC) impose even more stringent requirements on online data processing. Heterogeneous computing—coordinating different processors like CPUs and GPUs—can boost online data-processing capability and meet these higher demands. This report presents and describes a heterogeneous online data-processing framework designed for CEPC, aiming to improve online computing power through heterogeneous computing resources and thereby provide solid online data-processing support for the CEPC.

Primary authors: LI, Fei (EPC, IHEP);   JI, Xiaolu (Institute of High Energy Physics, CAS);   ZHANG, Xu (IHEP)

Presenter: ZHANG, Xu (IHEP)

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