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GRAAL: A novel package to reconstruct data of triple-GEM detectors

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Micro-Pattern Gas Detectors (MPGDs) are the new frontier in between the gas tracking systems. Among them, the triple Gas Electron Multiplier (triple-GEM) detectors are widely used. In particular, cylindrical triple-GEM (CGEM) detectors can be used as inner tracking devices in high energy physics experiments. In this contribution, a new offline software called GRAAL (Gem Reconstruction And Analysis Library) is presented: digitization, reconstruction, alignment algorithms and analysis of the data collected with APV-25 and TIGER ASICs within GRAAL framework are reported. An innovative cluster reconstruction method based on charge centroid, micro-TPC and their merge is discussed, and the detector performances evaluated experimentally for both planar triple-GEM and CGEM prototypes.

Consider for promotion

No

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