

Consideration and plan of PFA

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CEPC Physics Performance Group Meeting

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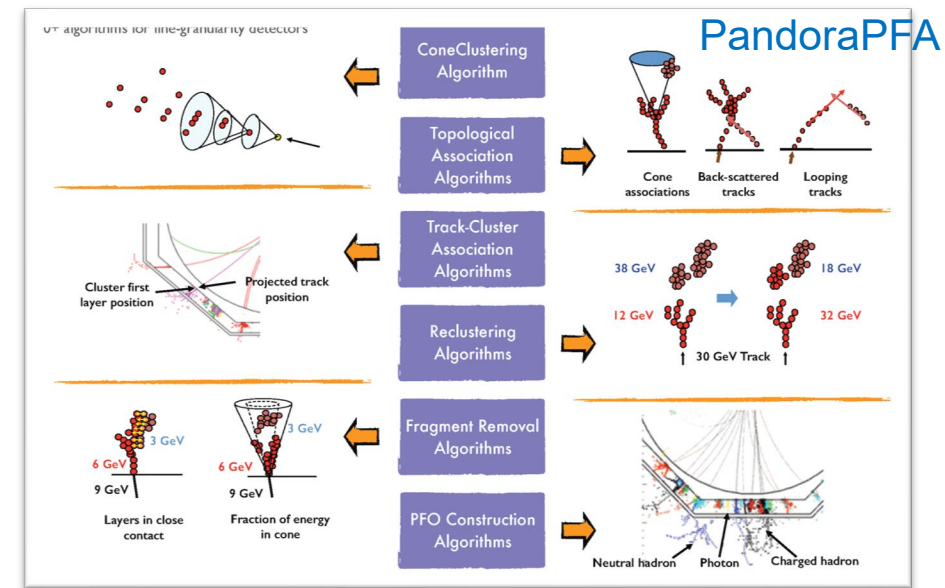
PFA-oriented ECAL

- Long crystal bar ECAL

- ✓ Excellent energy resolution
- ✓ 3D shower imaging
- Cracks between the modules

- CyberPFA

- ✓ Innovation Point 1: energy core based shower recognition — Performance promotion of PFA
- ✓ Innovation Point 2: horizontal-vertical bar matching method — dedicated for long crystal bar ECAL design
- Under developing:
 - Reconstruction of HCAL: a simple prototype → mature form
 - Reconstruction efficiency of photons with low energy
 - Charged track extrapolation: energy loss、non-uniform magnetic field、alignment,
 - Optimization: position, shower splitting,
 - Physics performance: a set of benchmark figures and analyses(IDRC recommendation), tau, strong support to $H \rightarrow qq$,



PFA Algorithm

- DRD Calo / FCCee

- ✓ Highest Priority: Key4hep + PandoraPFA

[FCC-ee Workshop on Particle Flow Reconstruction](#) [DRD Calo Meeting](#)

- April (A Particle Reconstruction for ILC-Lyon)

- ✓ SiWECAL + SDHCAL: a semi-digital readout of $10 \times 10 \text{ mm}^2$ glass resistive plate chamber
- ✓ APRIL $\cong$ ARBOR concept + PandoraSDK algorithms
- ✓ Available for Key4hep
- Split cluster (AMSTER)
- timing

