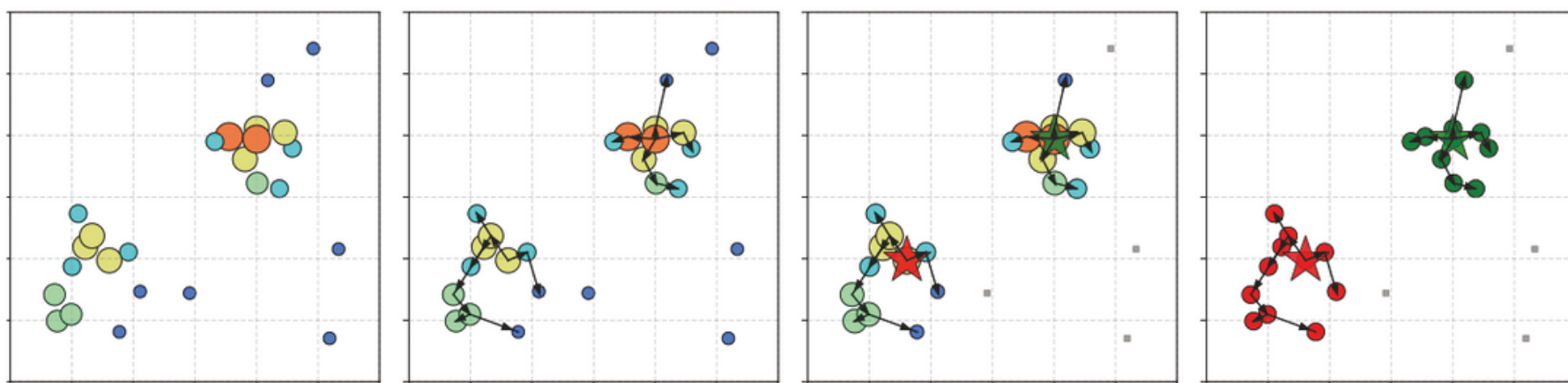


Algo

CLUster of Energy (CLUE) is a **clustering algorithm**. It uses energy density - rather than individual cell energy - to establish **seeds, outliers, and followers** in 2D planes. It is **GPU-friendly** and thus highly suitable for the upcoming era of heterogeneous computing in HEP.



[Article](#)

[GitHub](#)

[Poster](#)

[Website](#)

key4hep is a common set of software tools for detector optimization and physics performance studies for **future colliders**.

[key4hep / k4Clue](#) Public



k4Clue is a dedicated repository in key4hep to use CLUE:

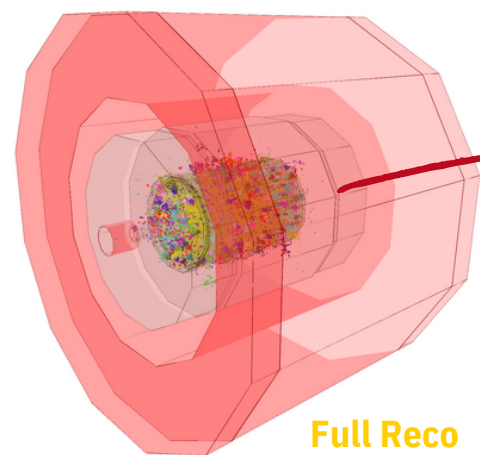
- I/O using **EDM4hep** data
- **Gaudi** algorithm wrapper
- CLUE standalone repo included in the **spack** package manager

In addition:

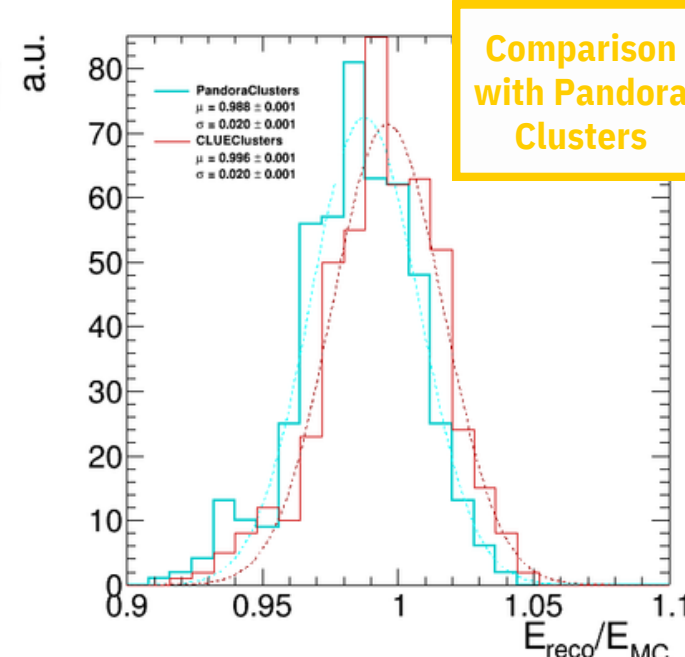
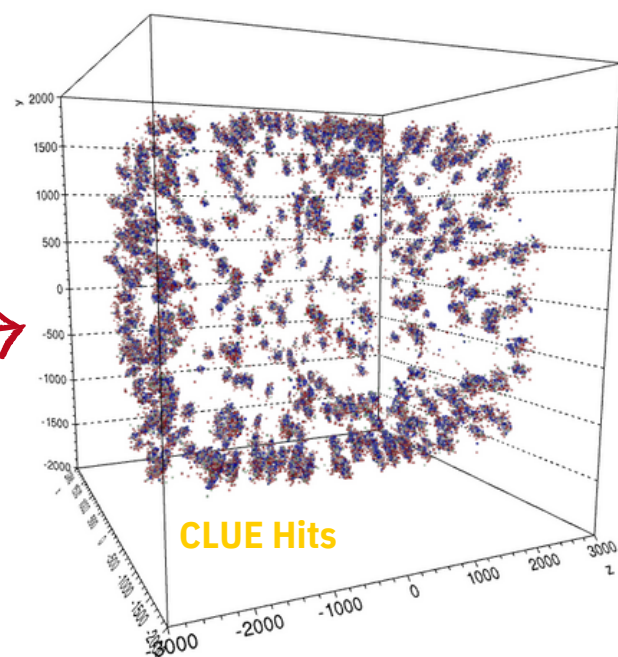
- Continuous integration **tests**
- Ntuple production for **validation** w/customized **edm4hep::CLUECalorimeterHit**

Results

Preliminary results are very **promising**. New developments and lessons learned will be **integrated** soon in CLUE library.

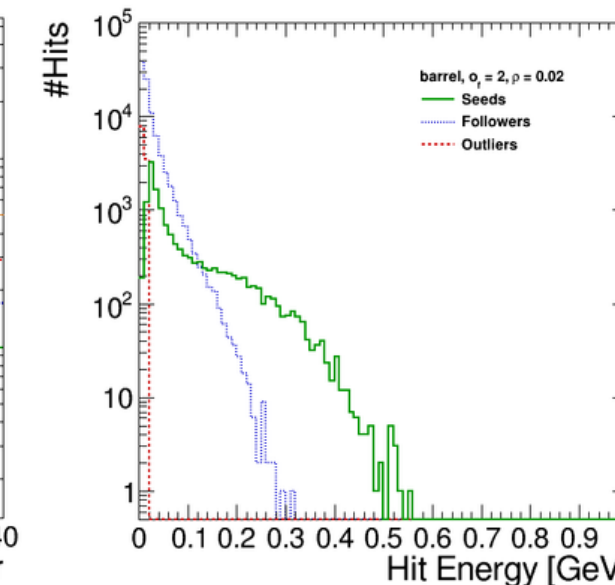
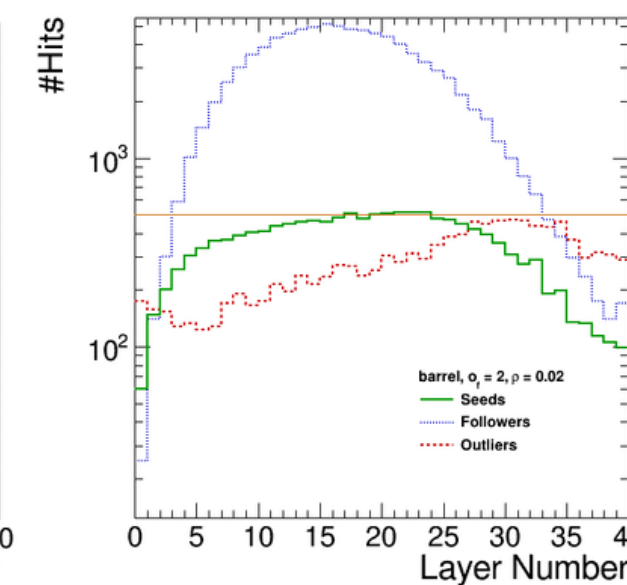
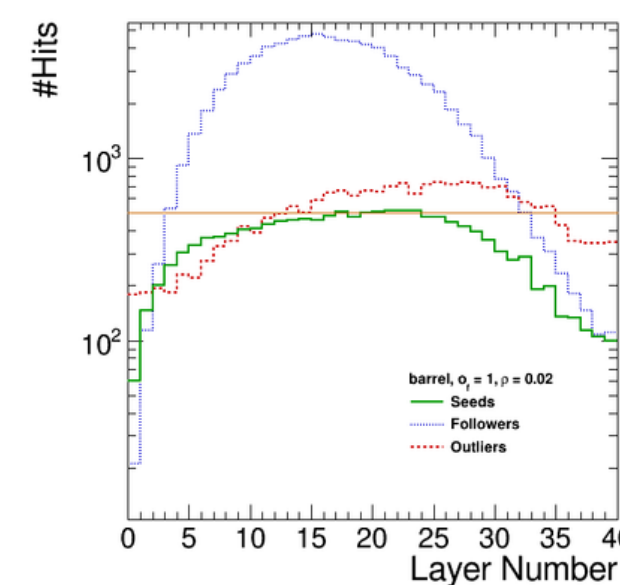


Full Reco



Example: Parameters tuning Layer number and energy distributions

Sample: 500 events of single gamma generated with 10 GeV energy in the CLIC detector.



Test

Sample: 1 event of 500 gammas generated with 10 GeV energy in the CLIC detector.

Sample: 500 events of single gamma with 100 GeV energy in the CLIC detector.