

HCAL Optimization for Eflow – ANL Plans

GOAL : Optimize HCAL Design for 30%/√E Jet Energy Resolution

What we think we know :

- **Eflow is necessary**
Charged particles – Tracker
Photons – ECAL
Neutral hadrons – HCAL
- **Assume TPC Tracker**
- **Assume Si/W ECAL**
Dense (small r_M), high granularity design
Keeps γ showers small (transverse size)
Maximum longitudinal separation between EM/HAD showers
Analog readout in towers

HCAL Optimization Plans

How we will optimize HCAL :

- Cell size determination
Separation of charged/neutral clusters in 3-D
- Cluster algorithms
E-weighted cell association to clusters (analog readout)
Tracking clusterer (digital readout)
- Fine tuning of Absorber
W/Pb/U?

