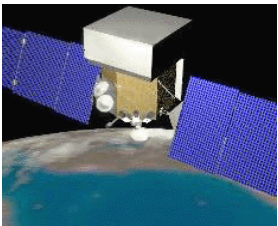


---

---

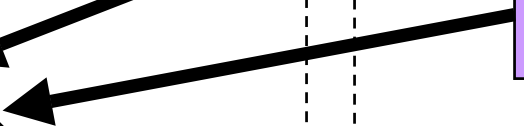
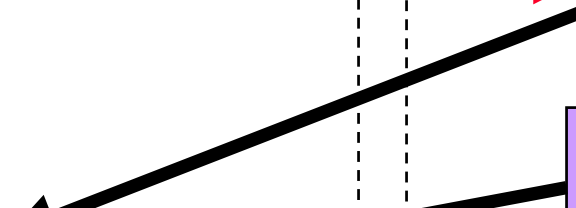
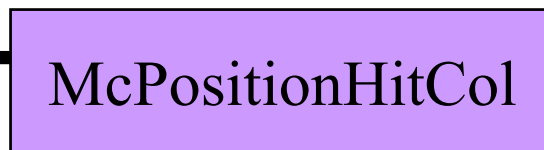
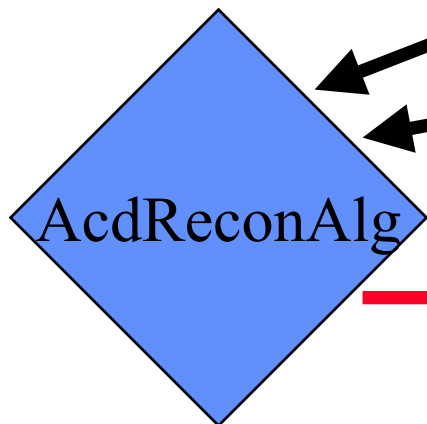
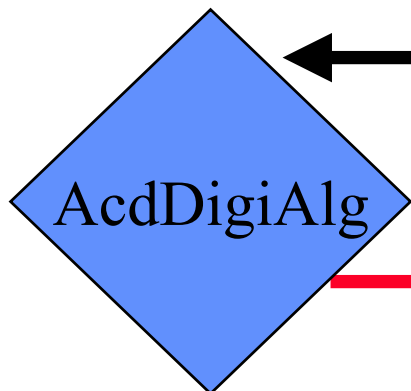
# ACD Status

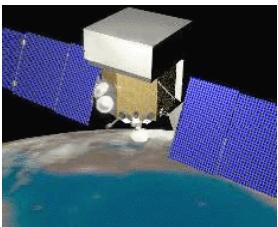


# Overview

Gaudi Algorithms

TDS





# TDS Classes

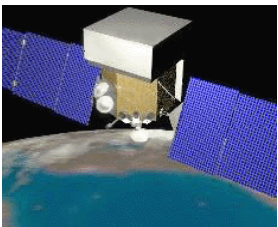
---

## AcidDigi

- Every AcidDigi corresponds to one detector associated with 2 PMTs.
- Each AcidDigi contains:
  - 2 PHAs
  - 2 Sets of Discriminators
    - low
    - veto
    - CNO
  - Energy deposited in MeV

## AcidRecon

- One AcidRecon object per event.
- Each AcidRecon contains:
  - Total energy deposited
  - Count of ACDs above veto
  - DOCA
    - List of DOCAs for top, sides
  - Active Distance
    - List of Act Distance for top, sides
  - Collection of recon energies



# AcidDigi Package

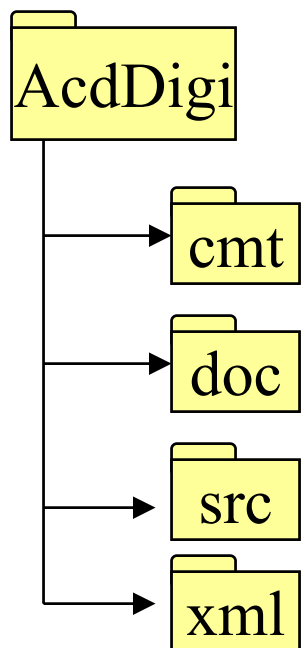
---

- ◆ Three Gaudi algorithms

AcidDigiAlg – uses McPositionHitCol, optional edge effects

AcidDigiMcIntegratingHitAlg – uses McIntegratingHitCol

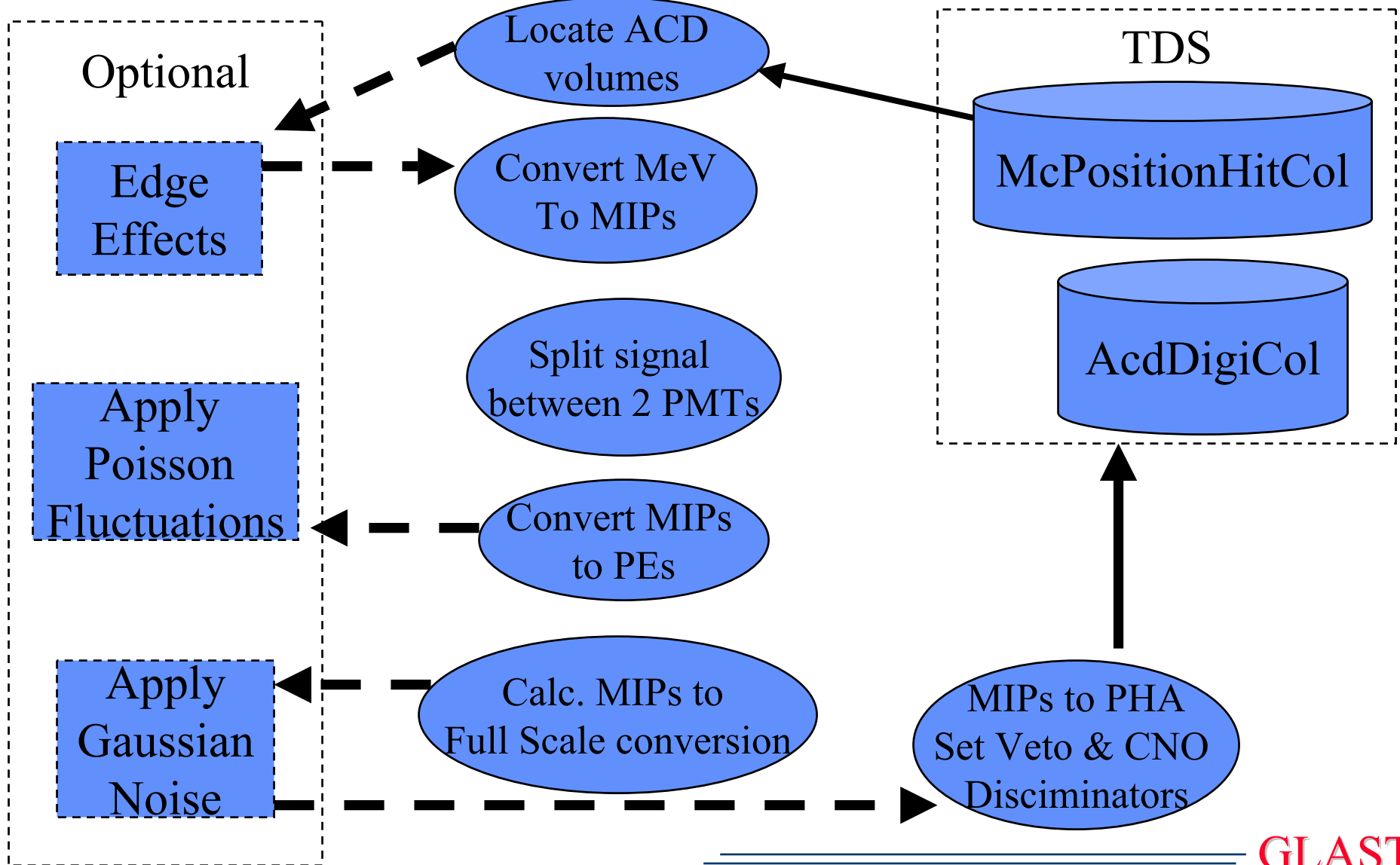
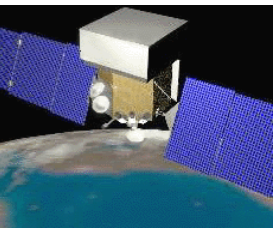
AcidDigiOrgAlg – original PDR alg

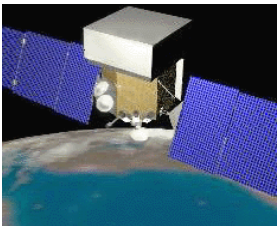


Gaudi Algorithms and AcidUtil class

acidDigi.xml – input parameters

# AcdDigiAlg

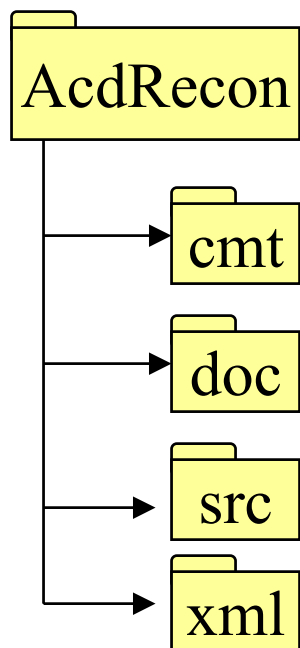




# AcdRecon Package

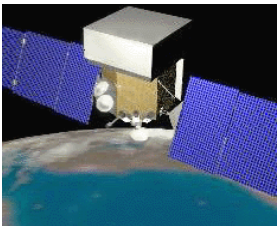
---

- ◆ Currently based on original AcdRecon from glastsim with some updates.
- ◆ Need to insert placeholder for reconstructed energies.
- ◆ The AcdReconAlg will be updated soon.



AcdReconAlg and AcdDisplay

acdBFEM.xml – input parameters

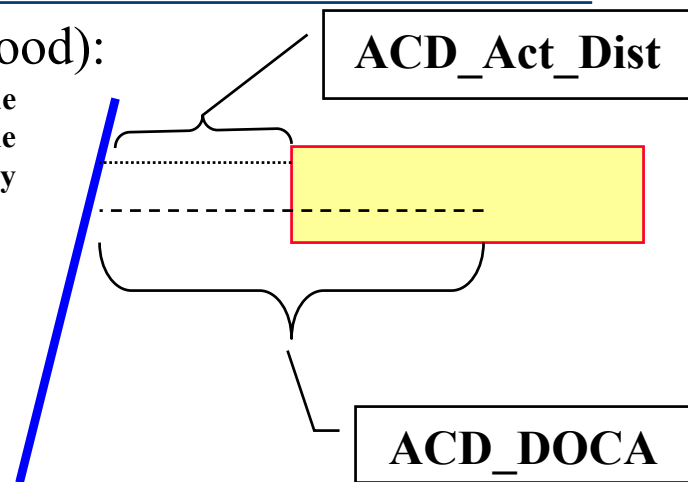
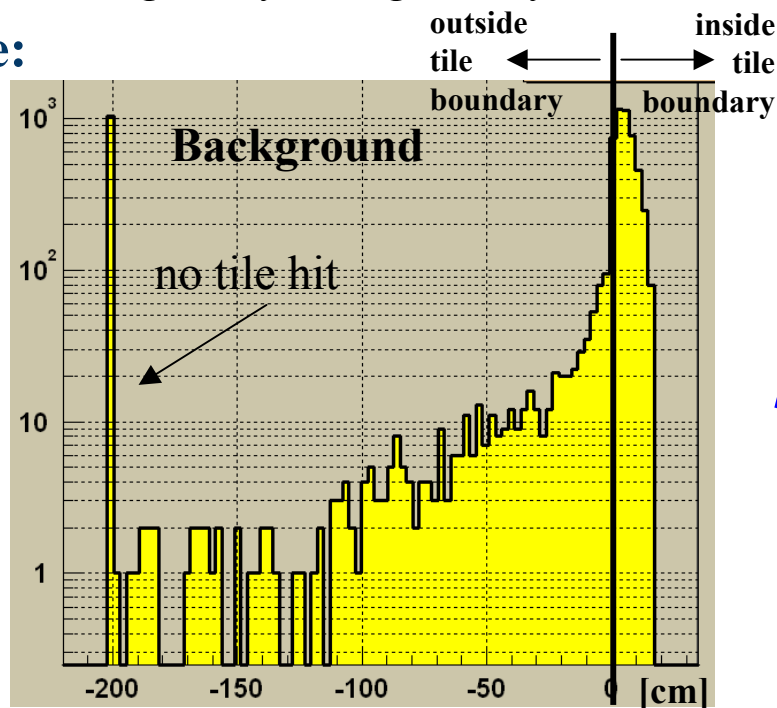


# ACD Recon

Primary outputs (both originally designed by Bill Atwood):

## 1) Active Distance:

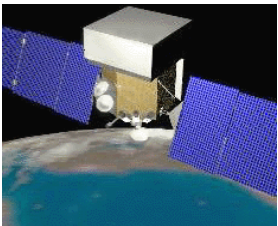
measures distance from edge (done once for entire ACD, and by region)



Note: As work to make the ACD digitization more realistic is nearly finished, will now update recon output

2) **Distance of Closest Approach (DOCA):** measure distance from the center of a tile. Done also for different regions of the ACD, since tile size varies.

**Recon also provides:** energy deposition estimate and counts of tiles above threshold by region.



## To Do List

---

- ◆ Check Geometry last update from Nov 2001.  
Gaps?  
No tilt on sides and no curved tiles which is fine.
- ◆ Setup AcdUtil class as a GaudiTool
- ◆ Treat fibers as detectors
- ◆ Provide performance tests
- ◆ Calibration