

# System Tests Report

Engineering Model – v5r0608p3 (updated CalXtalResponse, geometry tweaks, updated TkrUtil)

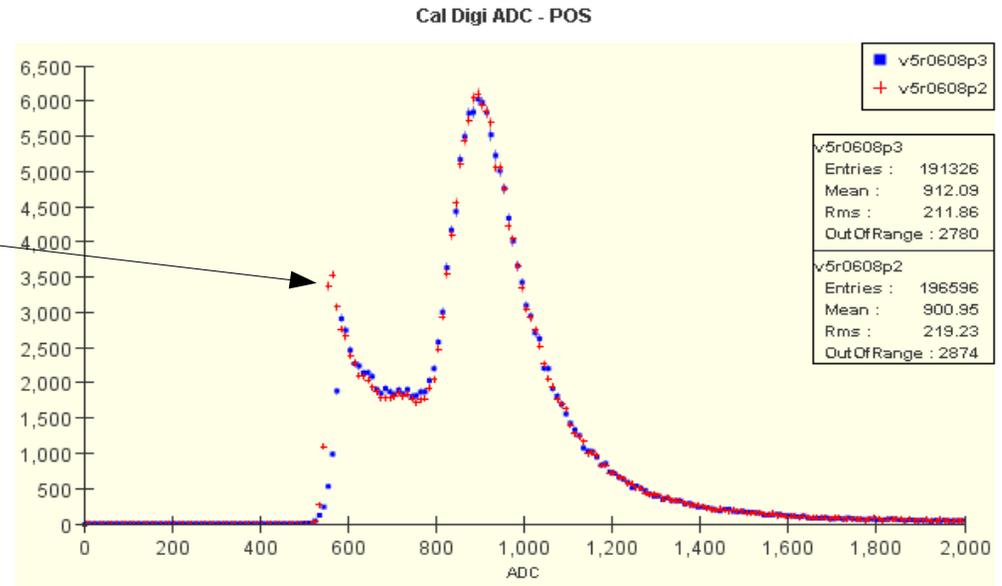
GlastRelease – A sequence of HEAD releases all using the new Cal TDS/PDS classes.

We currently have versions of the systest code: systests (the one currently in use), and systemTests (greatly improved version from Tracy).

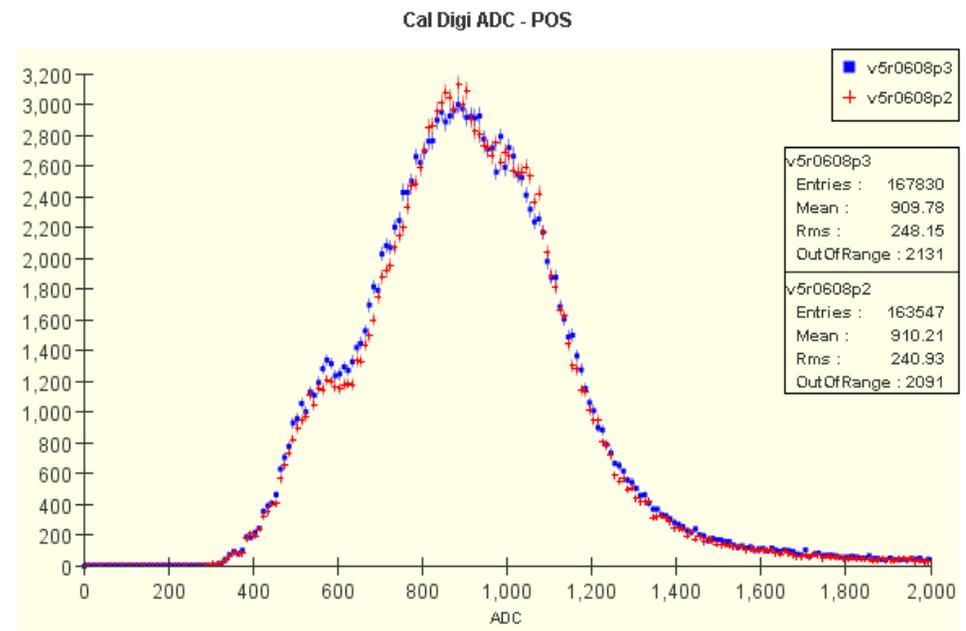
- systests has been updated to not crash with the new Cal TDS, but some of the distributions are no longer made (I can't figure out how to access some of the variables in a RootAnalysis macro).
- systemTests has been updated to work with the current front end (i.e. be callable by the RM scripts, produce the correct files and put them in the right place), need to update the Cal stuff then we should move to the new system

# EngineeringModel

SurfaceMuons\_2Tower  
(uses ideal flight mode for digi)  
Change at low ADC may be due  
to changed noise/zero supp.



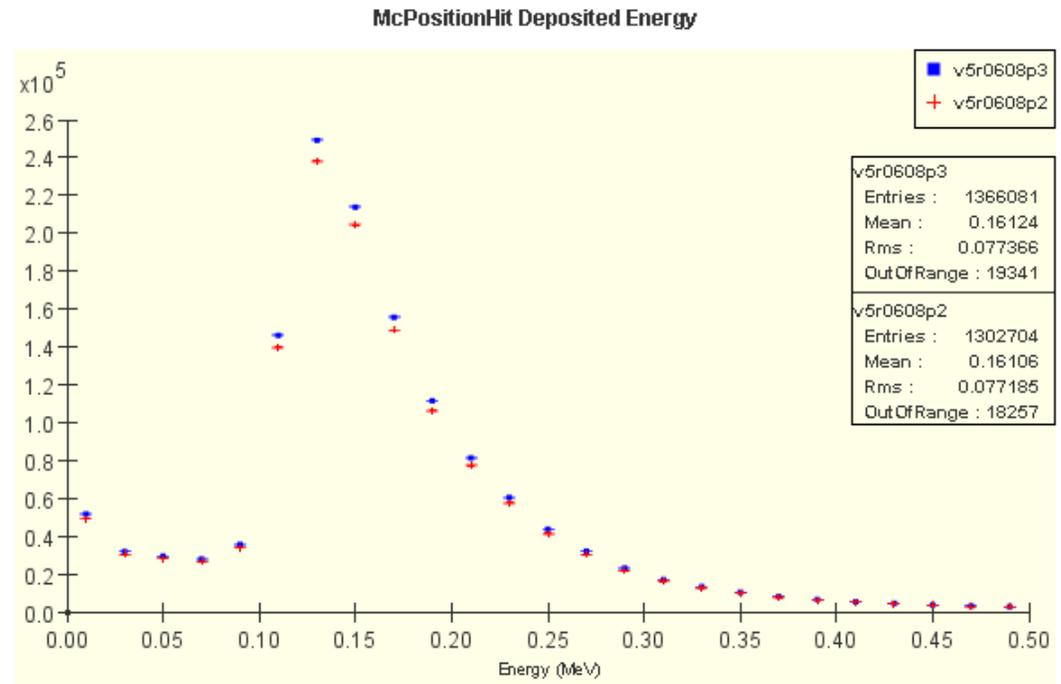
SurfaceMuons\_twoTower  
(uses real calibrations for Digi)



# Position hits

## SurfaceMuons\_twoTowers

- Increase in the number of position hits. This is probably connected to the small change in geometry.  
There is also about a 2% increase in Tkr triggers – related to this?



# GlastRelease HEAD builds

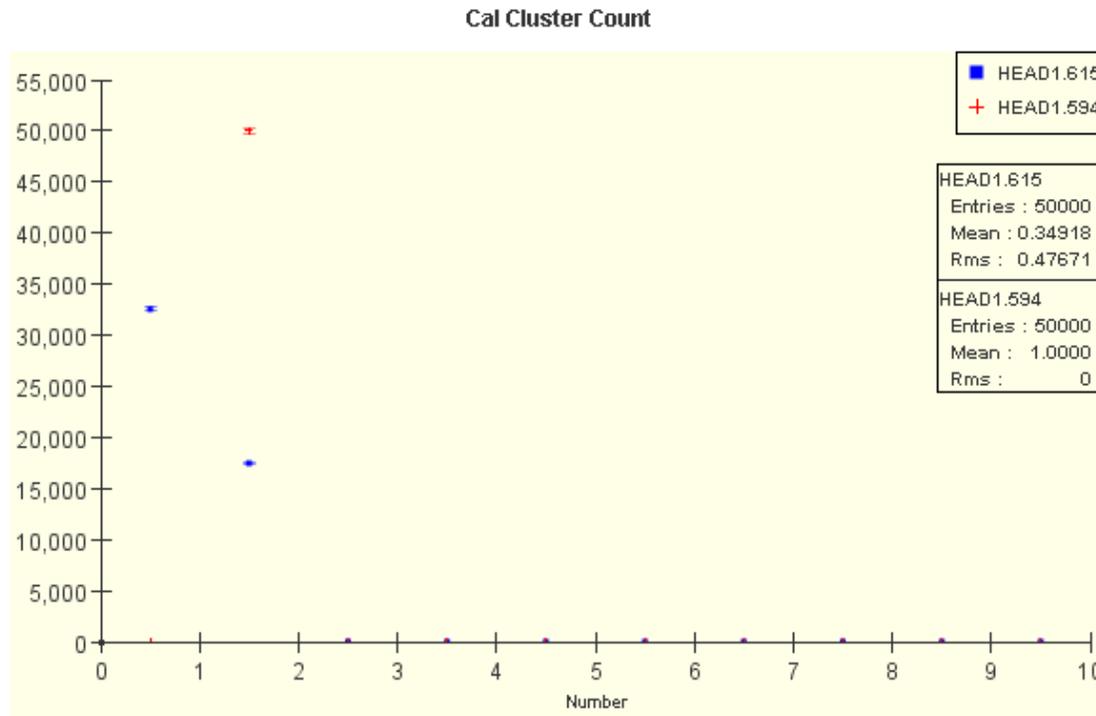
The release manager triggers system tests on every optimised build.

We make an optimised build for HEAD releases that are intended to be used to make a sample dataset.

- All the head builds used to make the 2M/10M datasets have a set of system tests.
- Many of the systests for the recent HEAD builds have failed or short runs (sometimes we get a segfault part way through), so the default comparison releases are not always that useful.
- Not yet fully updated the code to make plots from the new Cal TDS classes – yet now is the moment where we really need them.

# GlastRelease HEAD builds

## VerticalGamma1GeV



```
TObjArray* clusterCol = cRH->getCalClusterCol();
```

```
int nCalClus = clusterCol->GetEntries();
```

Why is the number of clusters always one for older versions of GlastRelease?

Many of these events miss the LAT entirely.

# MeritTuple Variables

Almost all the distributions in the systests are made directly from mc, digi and recon trees, not from the MeritTuple.

Most of the merittuple distributions that were there stopped being filled when the IM variables went away (at GRB v6r0).

Several of these have been added back, the “first gamma selection” cuts presented by Bill a few weeks ago has been applied to clean things up.

```
TCut gammaEvent1 = "CalTotalCorr<3.5&&CalDeadTotRat<0.15&&  
CalGapFraction<0.30&&CalTransRms<60&&CalLRmsAsym>0.&&CalCsIRLn>4.0  
&&CalEnergyRaw>5.0";
```

The distributions added were: McDirErr, EvtMcEnergySigma, Tkr1PhiErr, Tkr1ThetaErr (FilterStatus\_HI and FilterStatus\_LO were there already with no cuts)

More distributions to follow, suggestions are welcome.