

# GlastRelease v15r37

[Run Manager Summary](#)

[System Tests v15r37](#)

## System Tests Report Summary

Differences for the comparison with the previous release, [GR v15r36](#) are expected from removing the ACD geometry change that was added in [GRv15r35](#).

## Changes

- xmlGeoDBs - update to use trapezoidal ACD tiles (GR v15r35) rolled back

## ACD Geometry Changes

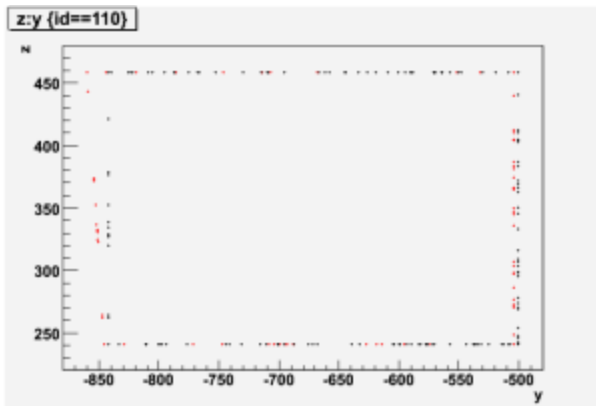
The flagged plots showing variations are

- ACD POCA distributions for the AllGamma, VeritcalGamma100GeV, and VerticalGamma300GeV tests
- ACD MIP and PHA distributions for the BackGndMixDC2 test
- McPositionHits for the BackGndMixDC2, VerticalGamma100GeV and VerticalGamma300GeV tests

Although these are not flagged, the ACDGAPDIST and ACDPOCA plots show minor differences for the background test. All of these are quantities that sensitive to changes in the ACD geometry.

This change affects **side tiles** and so the vertical tests are not very sensitive to it.

Eric C. took a look at the system test recon files for these releases. The plot below shows the difference in edges for tile 110 for v15r37 (black) vs v15r36 (red).



Here is what Eric found for the number of hits coming close to tracks for each release from r33 to r39 (trapezoids are in r35 and r36):

release GRv15	r33	r34	r35	r36	r37	r38	r39
nPoca tile 110	246	246	280	284	251	256	251
nPoca ribs 500-3	2116	2116	2125	2142	2081	2098	2081

The trapezoids (r36) are bigger than the squares (r37). You can see there are more POCA hits for r35 and r36, part of this should be the size difference. As you might guess this also means there are more entries (hits) in general in the ACD system test plots for r35 and r36.

The effect on the ribbons was not obvious, but Joanne adds:

*Just one small footnote - the ribbon geometry is slightly different since the ribbons follow the tiles; see schematics at <http://www.slac.stanford.edu/exp/glast/ground/LATSoft/geometry/pictures/ACD/newSides/XRibbonAnnot.png> (older geometry) and <http://www.slac.stanford.edu/exp/glast/ground/LATSoft/geometry/pictures/ACD/newerSides/v1r45p2-Xmeas-print.png>*

I asked about the y offset between the square and trapezoid and Joanne responds that the new positions should be more accurate. These come from the CAD model, while the older positions were based on approximations.

Eric also notes that the difference in nPOCA between r38 and r39 is curious. The only differences are G4Propagator and AnalysisNtuple. The G4Propagator work relates to stuck tracks. See the [GR v15r39 report](#). This has apparently had some effect on details of the event simulation.