Reconstruction Improvements

Improvements to ActiveDistance

Background information available at http://www-glast.slac.stanford.edu/software/ACD/talks/ActiveDistUpdate-20051019.pdf

As of Oct 19th, the new version of ActiveDistance was added to AcdRecon v1r10. The output ntuple contains both the old and the new calculation to allow a direct comparison.

As of Nov 2nd, Bill Atwood fixed a variety of bugs in the implementation and the new AcdRecon was tagged v1r10p2

Addition of AcdCornerDoca

New variable suggested by Bill to eliminate events that sneak through gaps between side faces of the ACD. The algorithm:

1. Calculate the DOCA to the corner trajectory
2. Check if the location of the DOCA is within the limits of the LAT - i.e. did the trajectory go out the top before the DOCA point. if so - set the DOCA to the large rogue value (2000)
3. sign the DOCA with sign(Tkr1X0*Tkr1YDir - Tkr1Y0*Tkr1XDir)

Included in AcdRecon tag v1r12p1, and inserted into reconRootData as well as the summary ntuple, called AcdCornerDoca.