

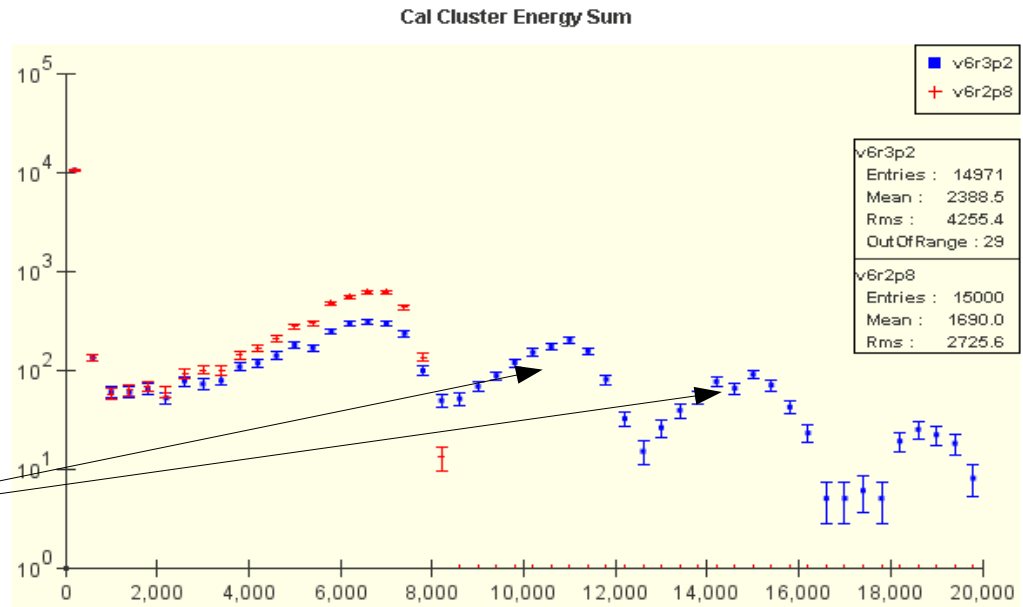
System Tests Report

GlastRelease – v6r4 (new CalRecon/Digi with bugfix), v6r5

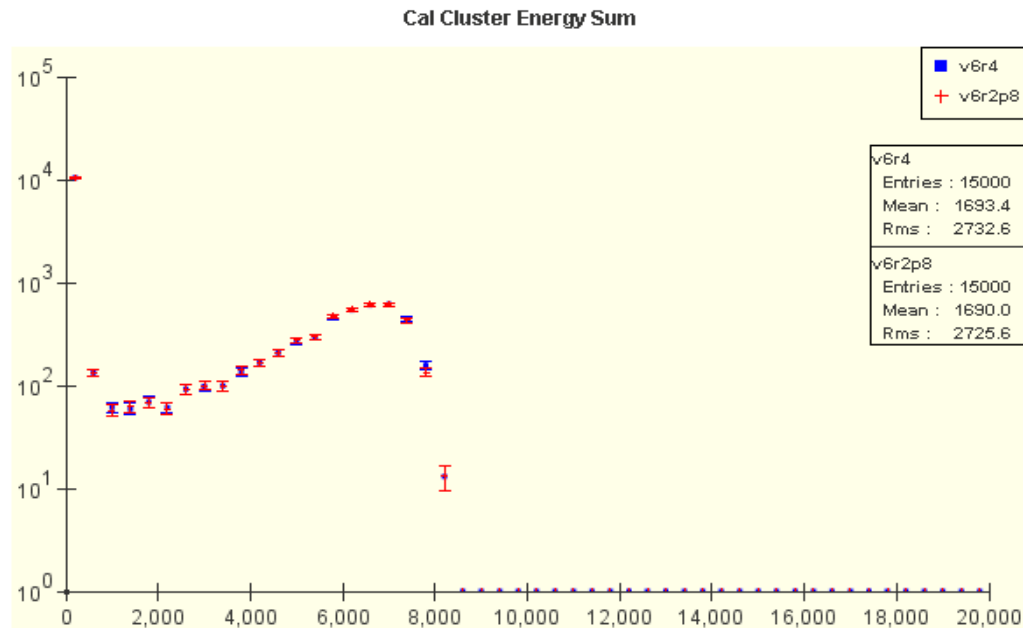
Cal Upgrade – multiple bumps

VerticalGamma10GeV
CalEnergySum

Multiple peaks introduced
in GlastRelease v6r3.

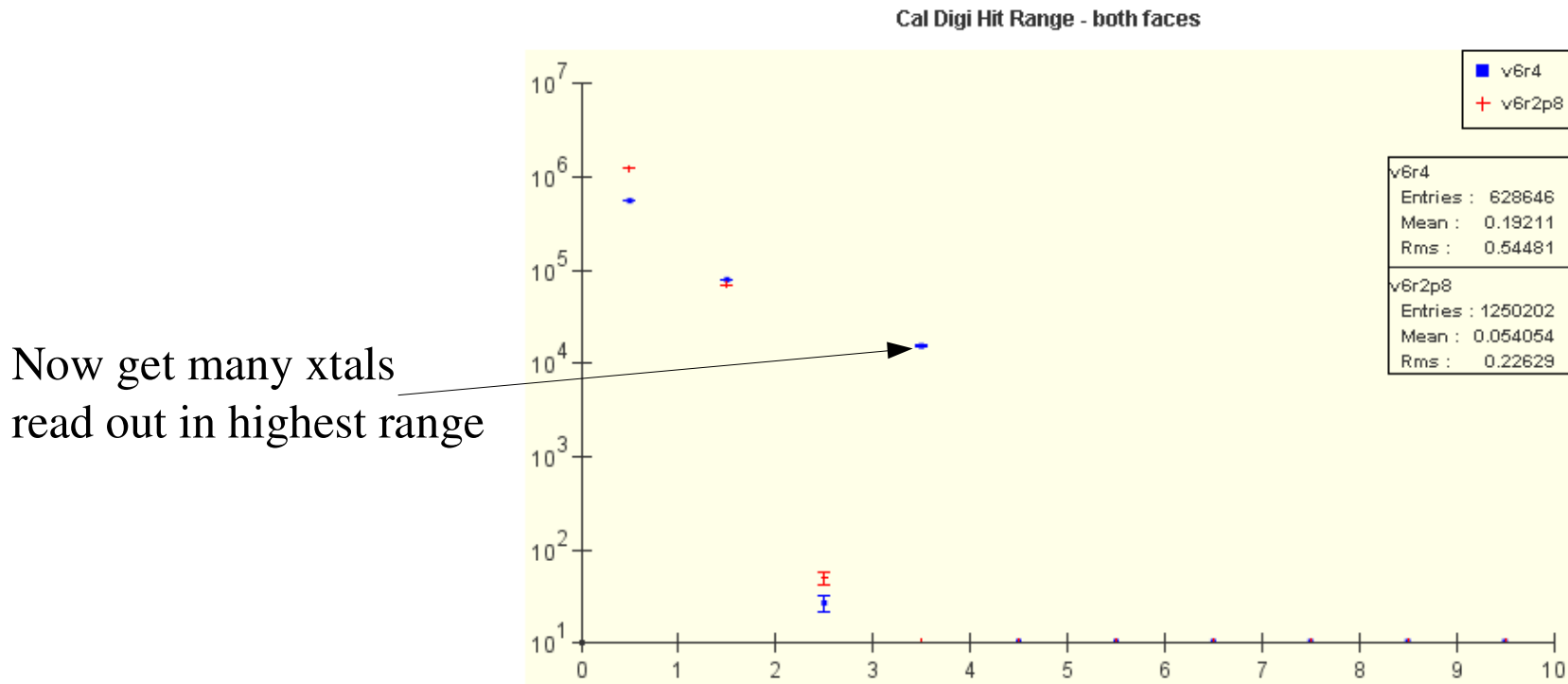


Fixed in GlastRelease v6r4



CAL Range

VerticalGamma10GeV

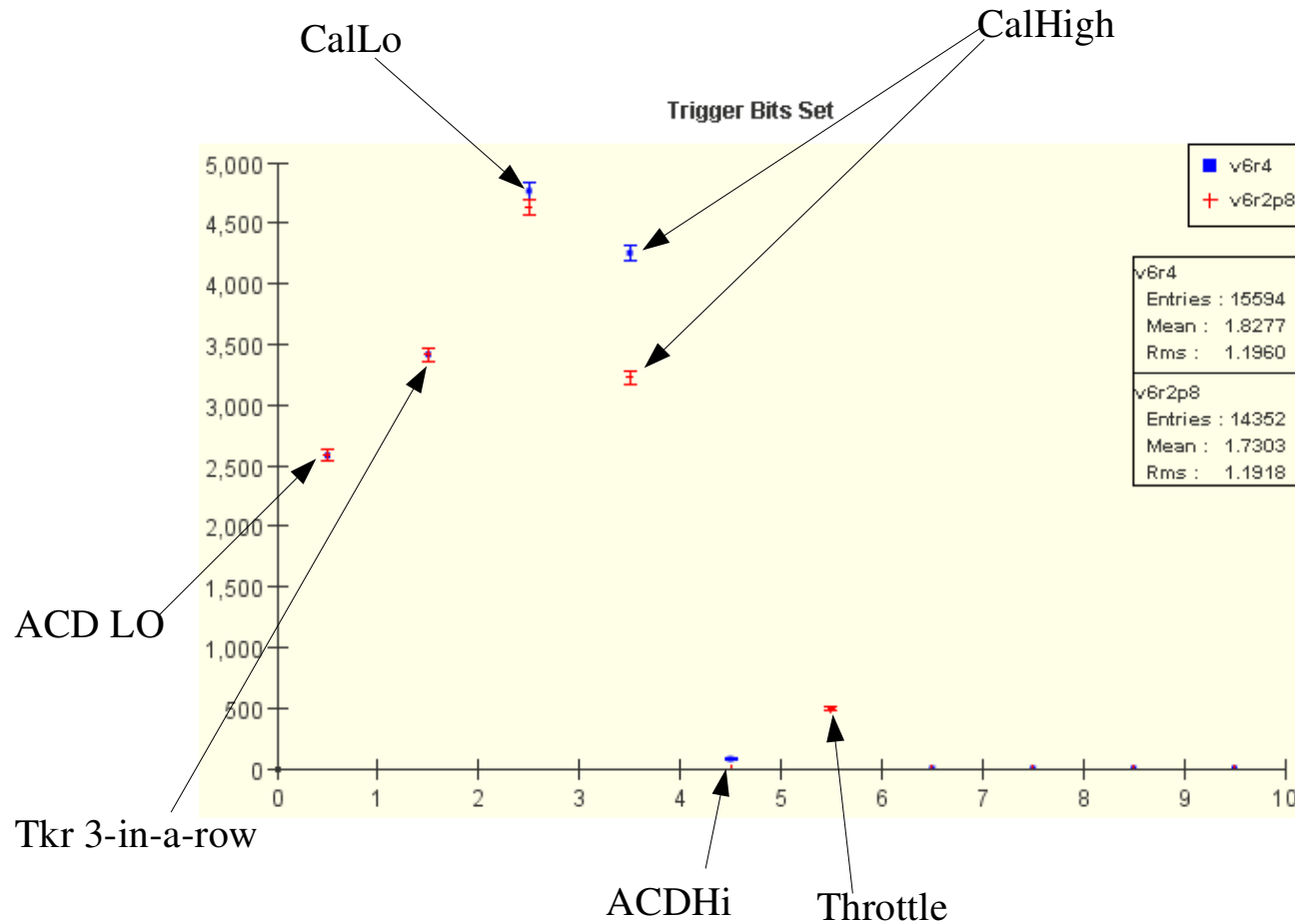


Now get many xtals
read out in highest range

Current “ideal mode” default calibrations are for muon gain, where the high energy gain is a factor of 10 higher than for flight. So HEX8 now overlaps or is lower energy than LEX1. Also means that the xtals will saturate at ~7 GeV. Fake “flight mode” calibrations will be introduced soon.

Trigger Bits

VerticalGamma10GeV



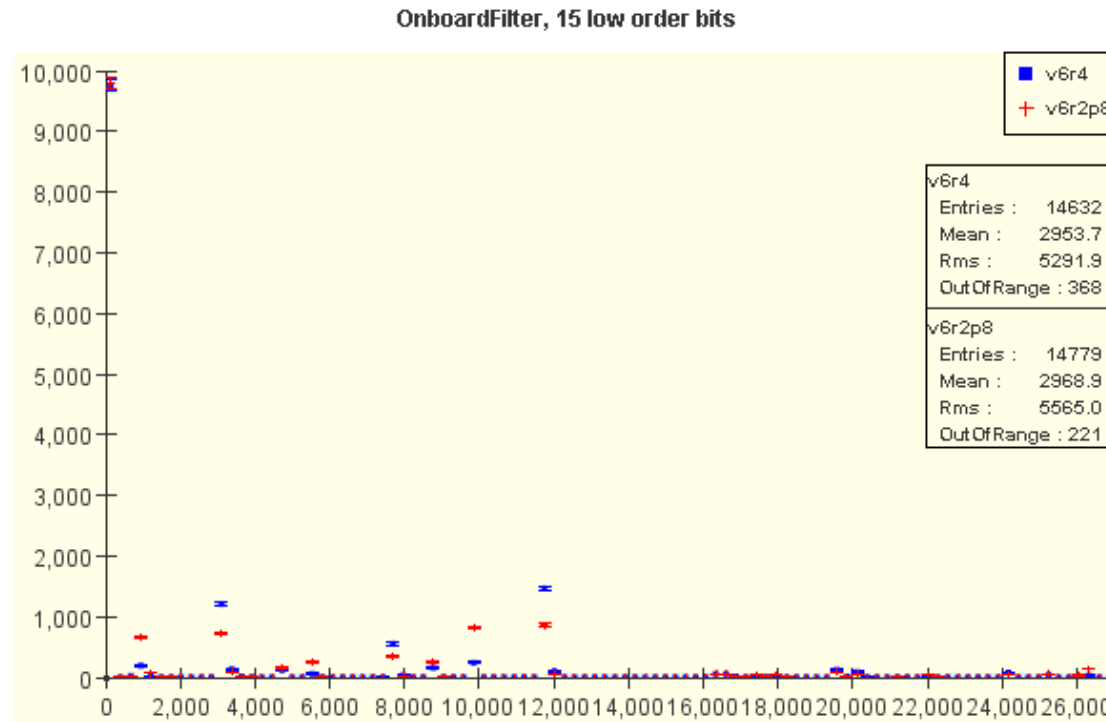
Increase in CalHi triggers due to muon gain mode? Why do we see an increase in ACD high (CNO) triggers?

System Tests, Mar28 2005

OnBoard Filter

VerticalGamma10GeV

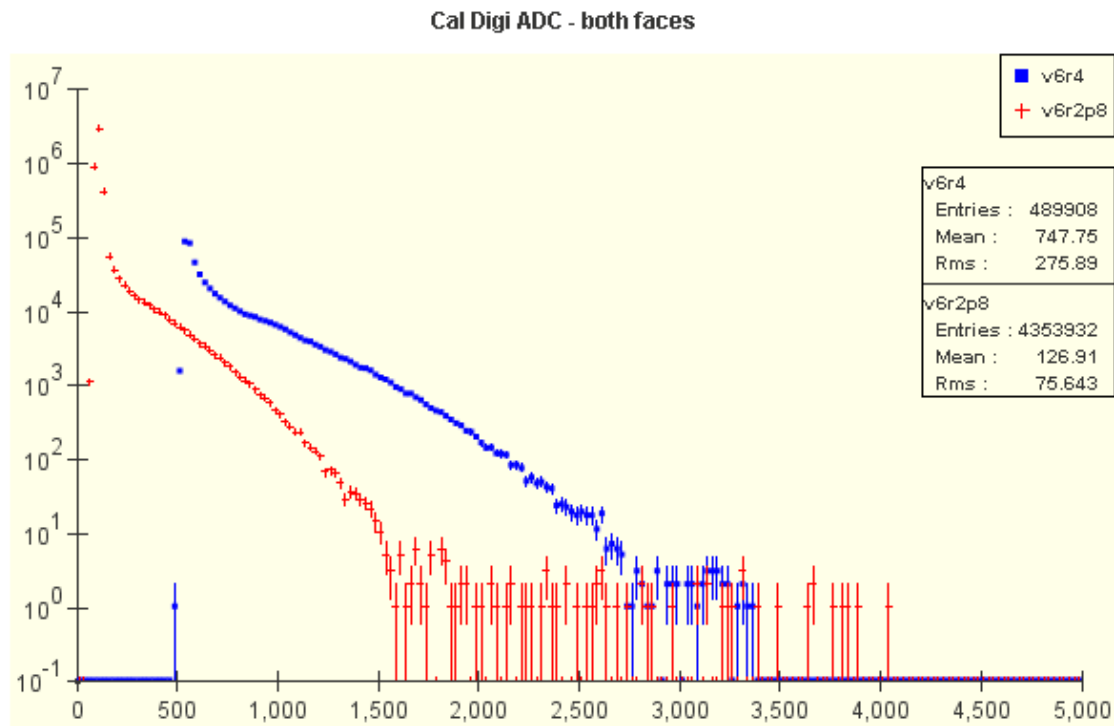
OnBoard filter word
has changed.



We are plotting the filter word, not the frequency that each bit was set. This makes it challenging to interpret the plot. It would be nice to add this word to the digi root tree. Since this simulation is not “flight-like” it is probably not useful to worry about the changes in the distributions just yet.

CAL ADC

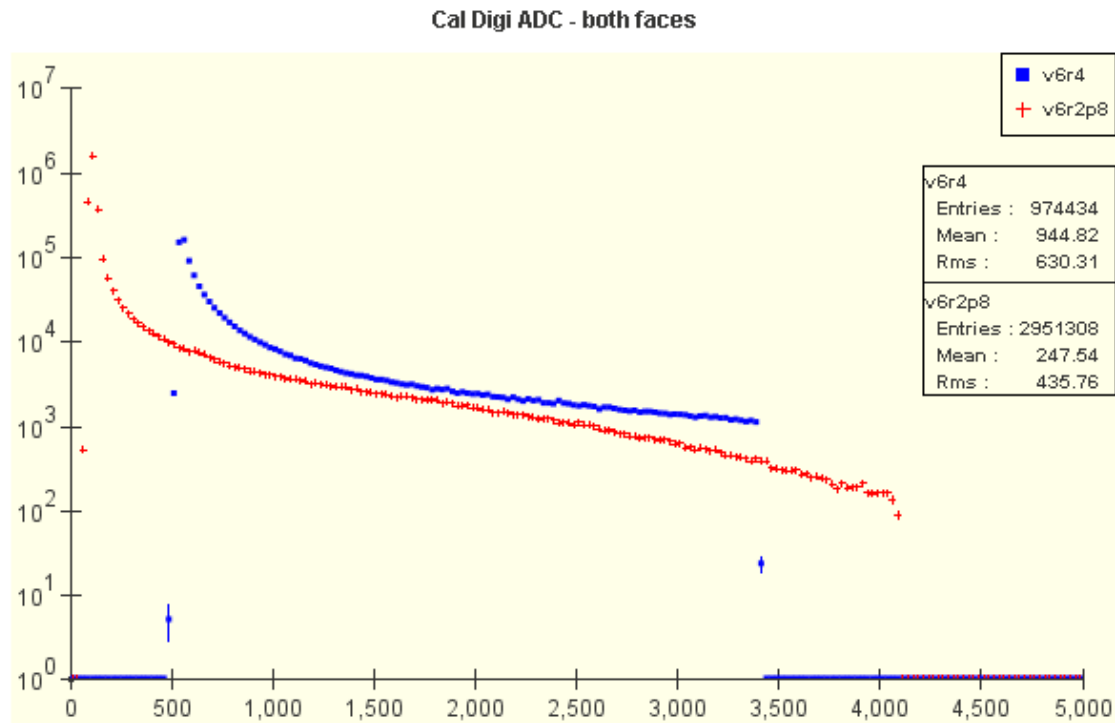
VerticalGamma100MeV



With the new calibrations the pedestals are now at higher values. There are many fewer hits (more later).

CAL ADC

VerticalGamma1GeV

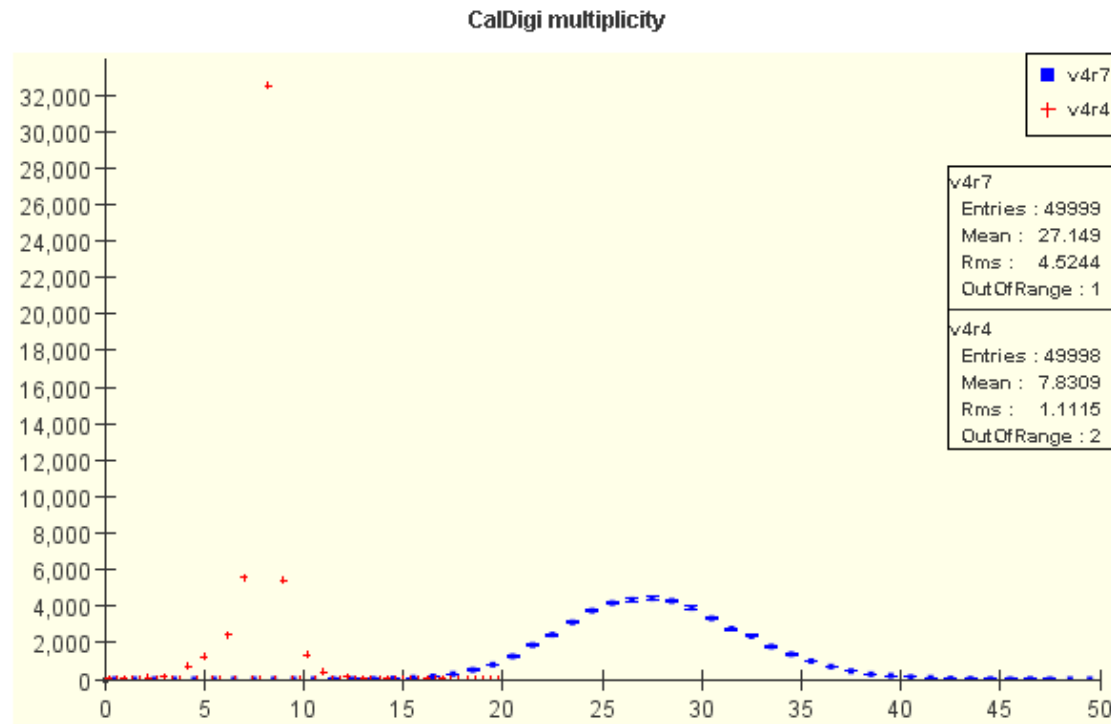


This plot includes data from all readout ranges. I've added new plots to the systests that divide ADC histograms into separate ranges.

CALDIGICOUNT (some history)

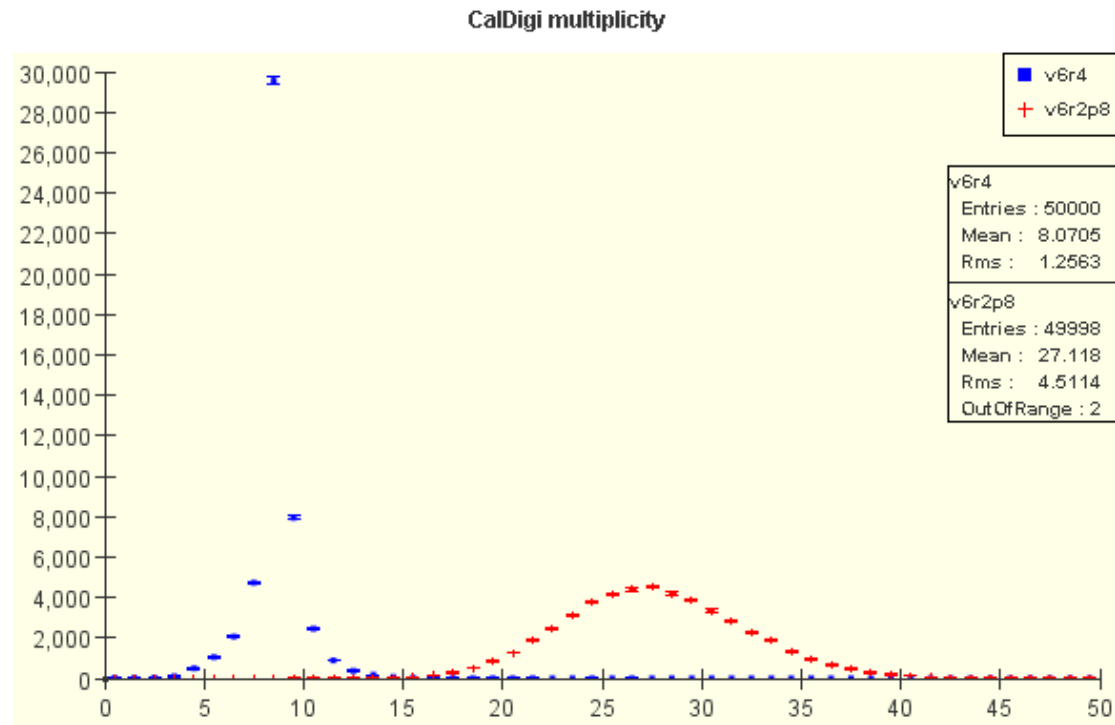
VerticalMuon1GeV

Changed the zero suppression threshold from 2 MeV to 1 MeV after GR v4r4.



For the calibration/digi parameters in use at the time this meant that a 2.5 sigma fluctuation was required to be above threshold rather than 5 sigma. So we would expect ~ 19 noise hits per event with a 1 MeV threshold and $\ll 1$ for a 2 MeV threshold, as observed.

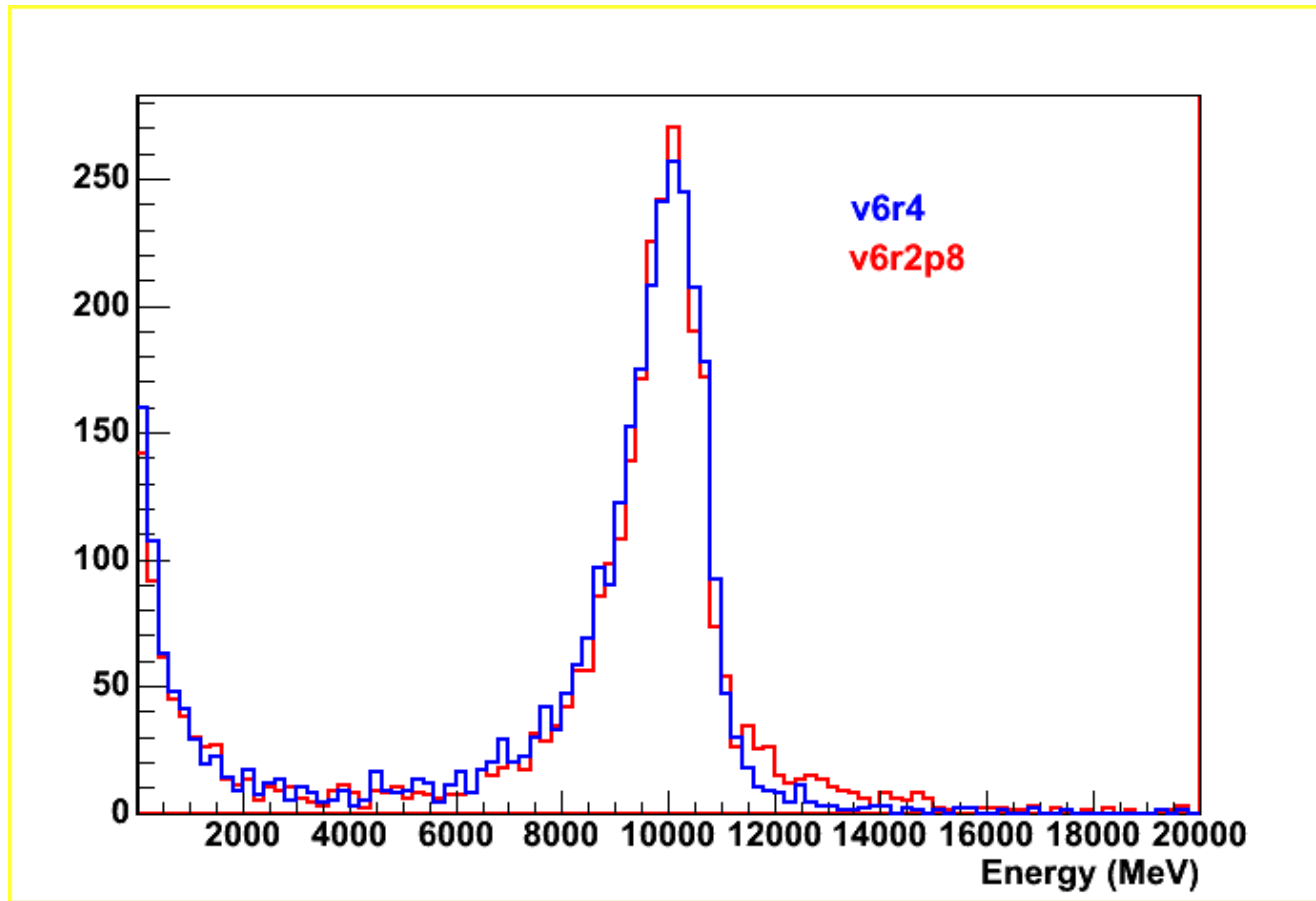
CALDIGICOUNT (now)



We are back to where we were! Either the zero suppression threshold has increased or the noise level has decreased. I suspect the latter, but CAL subsystem people should confirm.

Energy Resolution

VerticalGamma10GeV

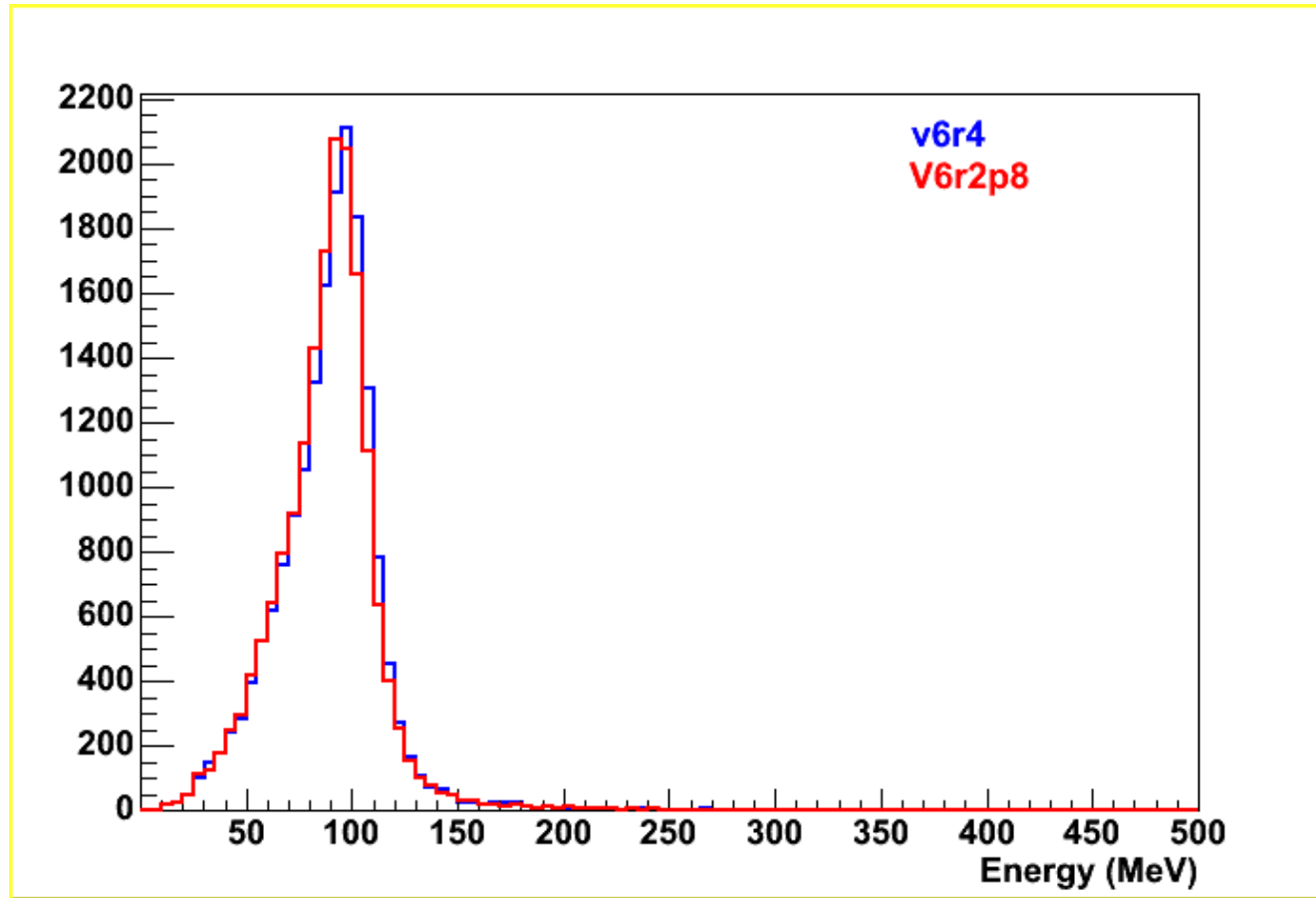


EvtEnergySumOpt for events with CalCsIRLn>2&&CalEnergySum>5.0

System Tests, Mar28 2005

Energy Resolution

VerticalGamma100MeV



EvtEnergySumOpt for events with CalCsIRLn>2&&CalEnergySum>5.0

System Tests, Mar28 2005