Analysis of AcdPedestal during EMI runs

During the EMC-EMI scans we are looking for discrete changes in the behavior of the ACD as we scan the frequency of the EM stimuli

- Split the runs up into numerous small time sliced and compare the slices to each other

Plot shows the 20–80% Truncated mean of the PHA Distribution from pedestal events for each of 300 Slices of the run.

The slices are made to have Equal numbers of events in Each slice.

**This is what it looks like when every goes as hoped**
First sign of issues

This was the largest discrete shift that we saw in all the runs: 12 counts ~ 0.6 pe. Comparable to the zero suppression threshold (15) (We had set the pass/fail level at 30 counts based on physics)
More pedestal shifts in tile 603, pmt A

These data were taken during a pratice
Smaller effect seen in other tiles

- Scan of log files shows several other events in this channel (ribbon 603, pmt A) aka Garc 8, Gafe 4)
  - Looking for pedestal shift of > 7 counts

- Many of these event occurred outside the EM-scans
  - NOT cause by EMI events
    - Looking back into older data sets for evidence of these issues
Discrete events in other channels

So far channel 603:A has shown about 15 pedestal shift events.

No other channel has shown more than two events at > 7 counts.

Need to study frequency of smaller shifts.