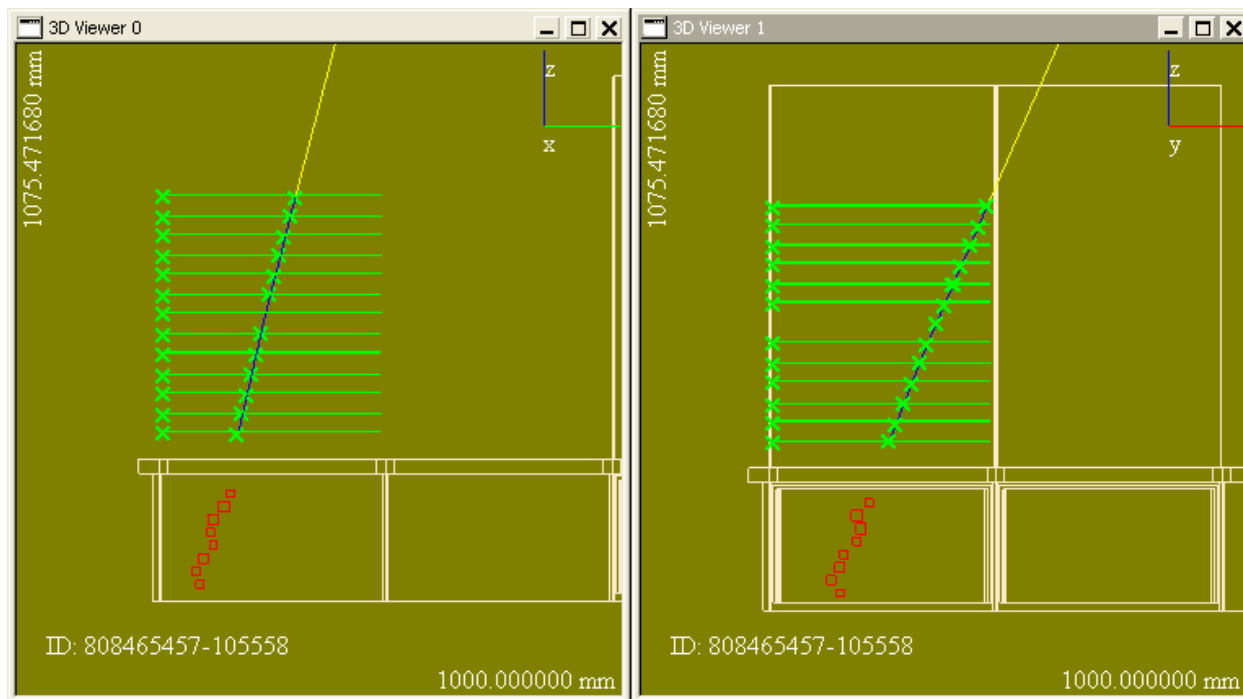
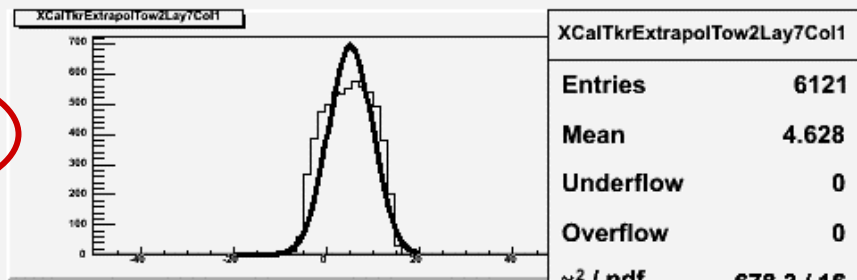
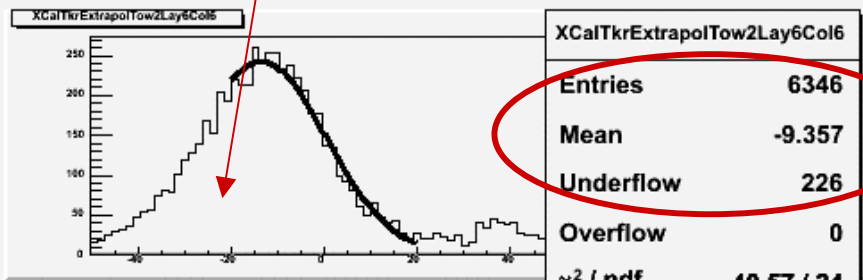
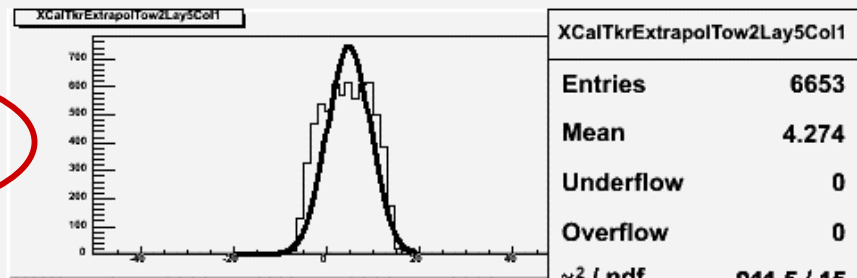
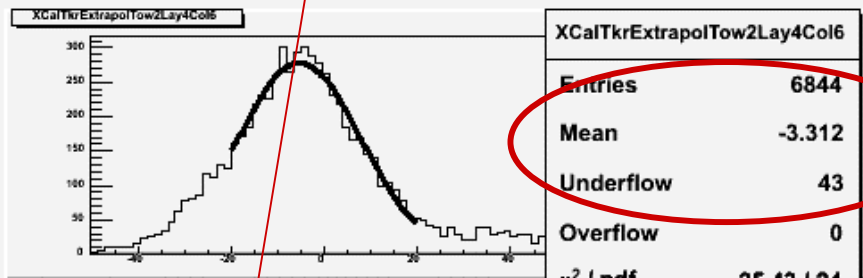
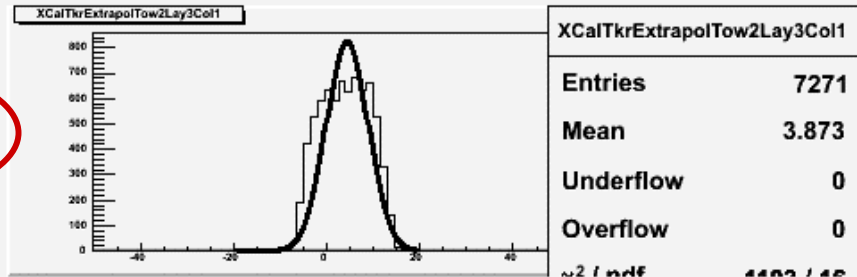
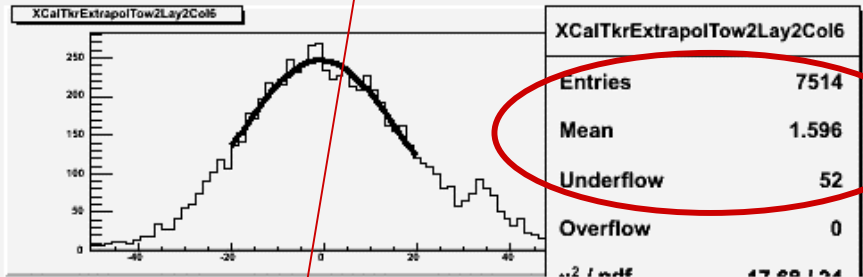
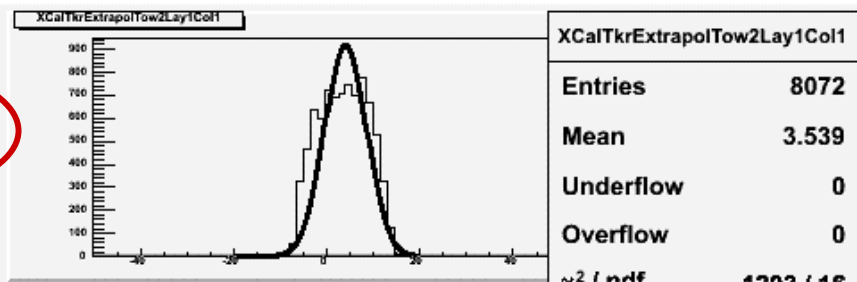
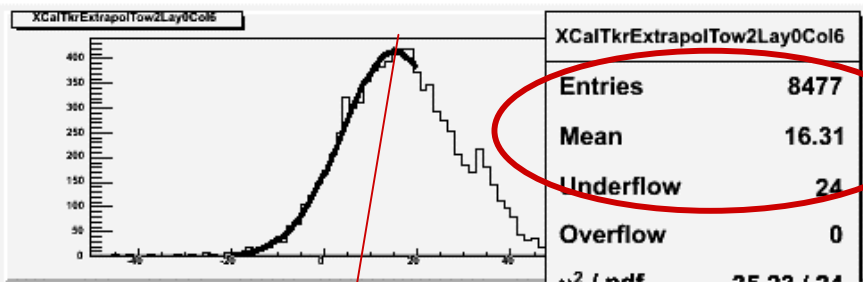


CAL position measurements

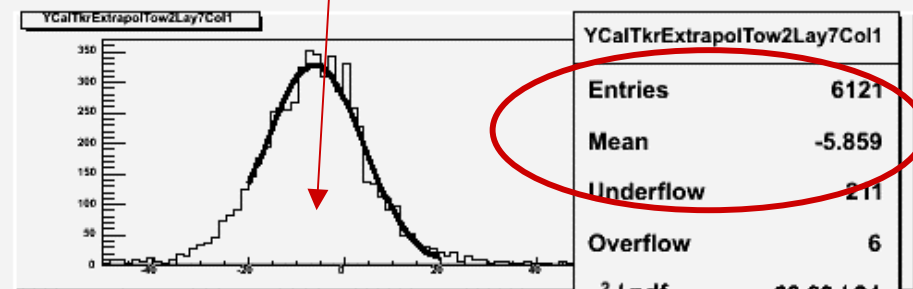
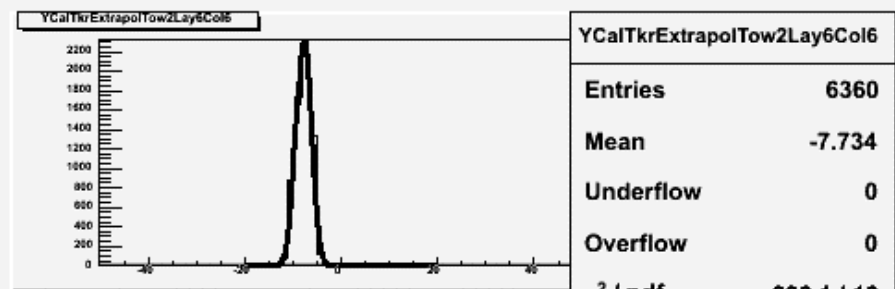
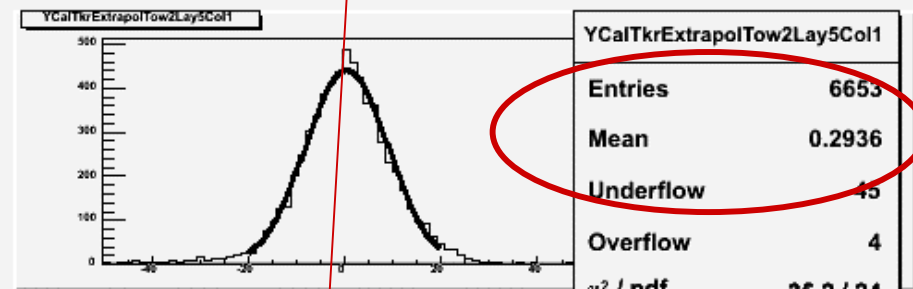
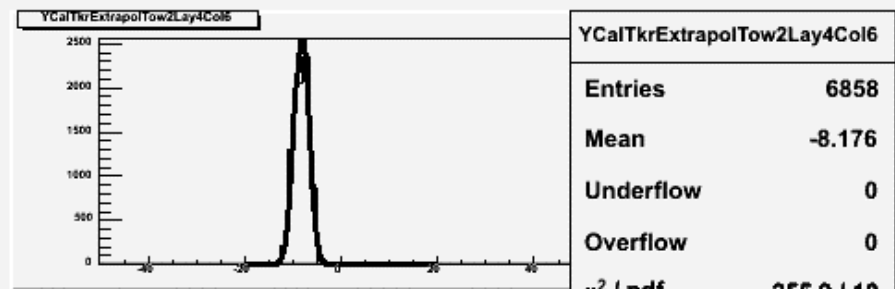
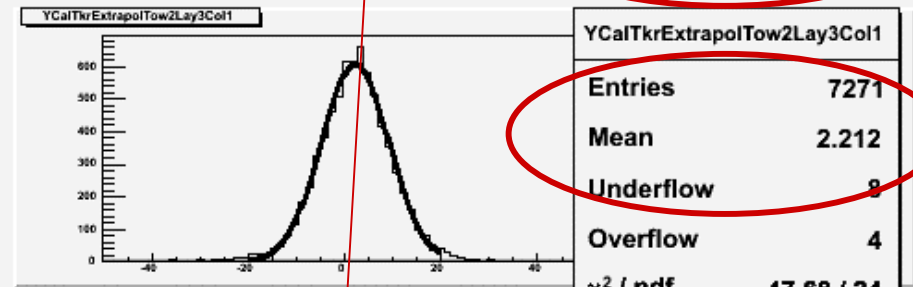
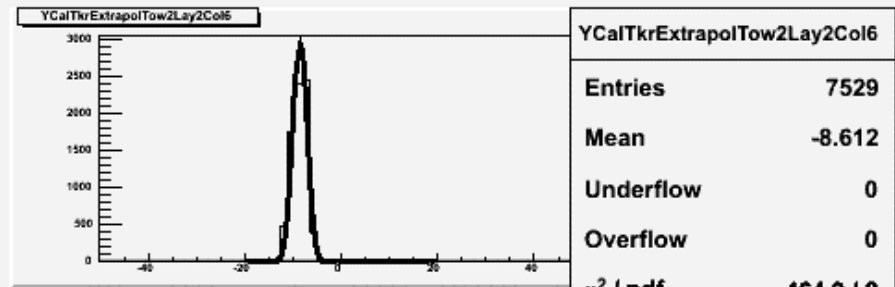
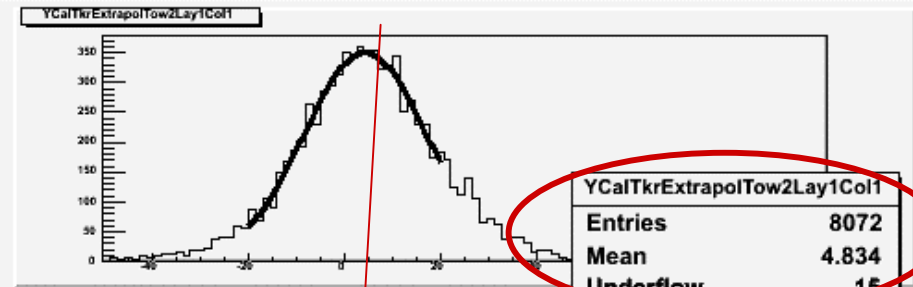
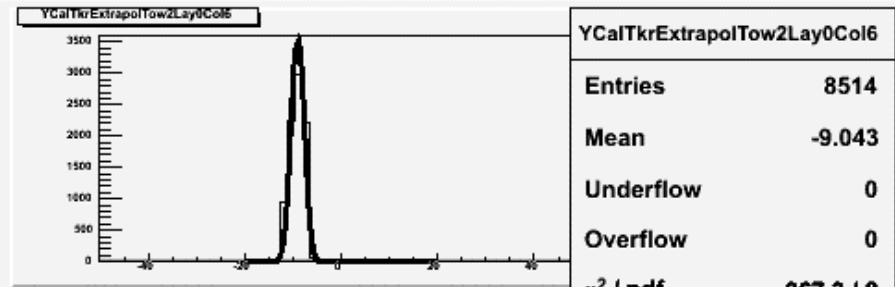
- Goal – see if the CAL position measurements here at the SPS are okay.
- Runs '1864, '1865: 150 GeV protons used for ACD calibration.
- Hitting tower 2, column 6 (1) for even (odd) layers.
- My standard TKR extrapolation to CAL shtick (code from Benoit in 2004...), predict where CAL crystals should be hit, see CAL (E,x,y) at that spot.

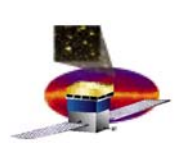


Even layers, X-measurement



Odd layers, Y-measurement





Who's fault? CAL or TKR?

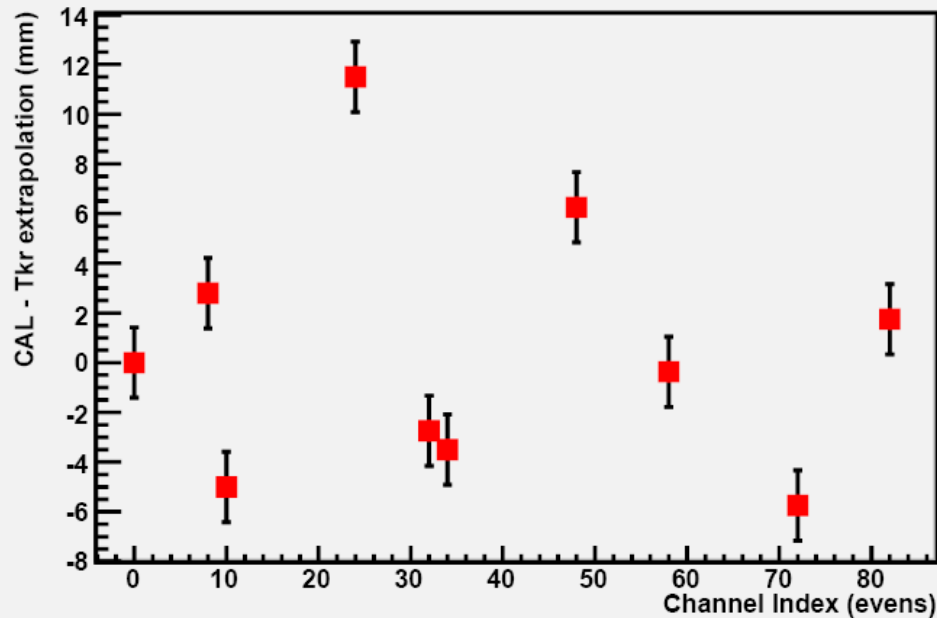
- I looked at the mean position of the TKR-to-CAL extrapolations, and it's as straight as an arrow, from layer to layer
- I looked at the same thing for the CAL measurements, and it has the bias.
- So it's CAL not TKR.

Well...?

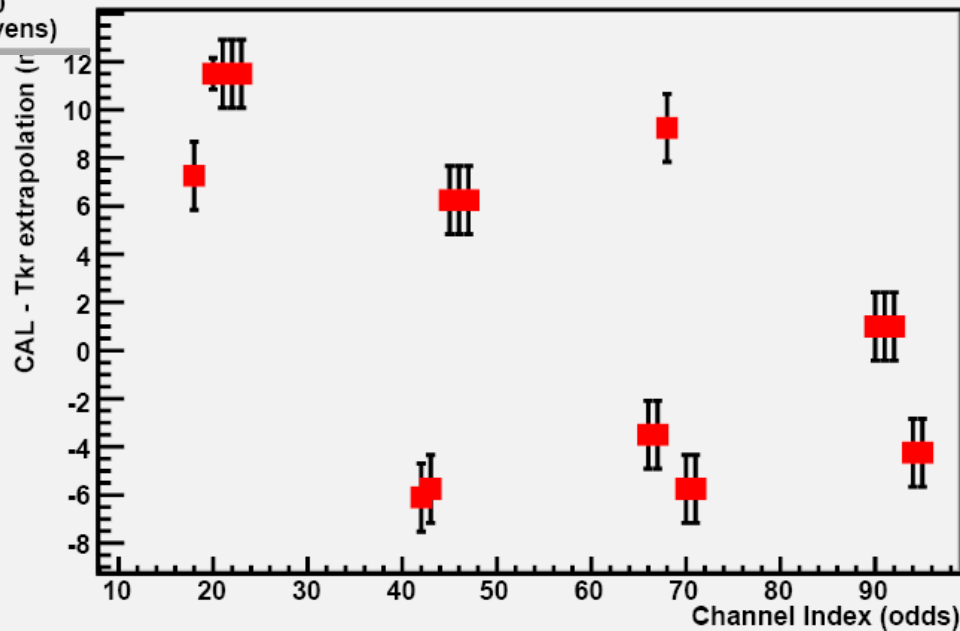
- Position derived from $\log(\text{AdcPedP}/\text{AdcPedN})$ and the asymmetry constants.
- Pedestal issue? E.g. for Layer 0, Column 6, $\text{AdcPedP} \sim 260$ and $\text{AdcPedN} \sim 400$, so $\log(\text{AdcPedP}/\text{AdcPedN}) = -0.187$
- If you add 20 dc to both, get -0.176 , i.e., 6% less
- 6% of 326 mm crystal length is ~ 20 mm.
- Look at Run 700001925: 282 GeV electrons in tower 3, off-center.

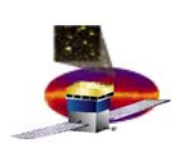
From run '1925

mean delta Y



mean delta Y





Conclusions

- CAL position measurements not as good as what we had with muons at SLAC.
- Pedestals? Asym constants? Not really sure...