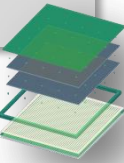
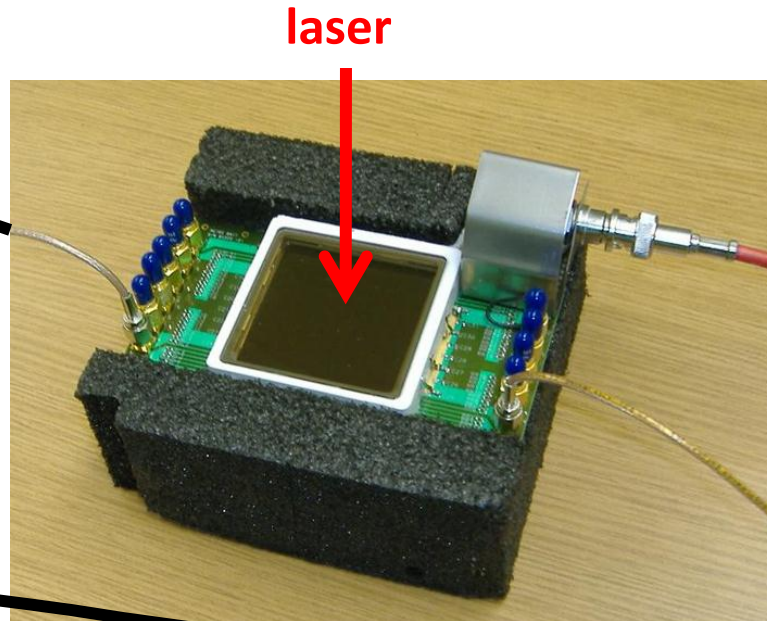


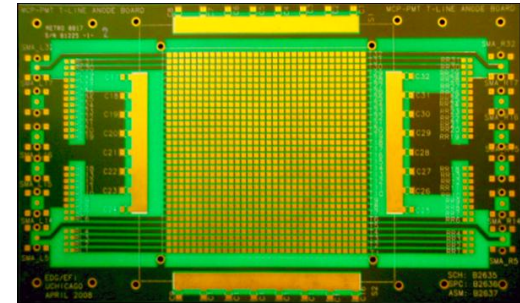
# Transmission Line-MCP readout with PSEC-3



2" x 2" Burle Planacon w/ custom PCB T-Line board



\*Setup includes ~40 dB amplifier

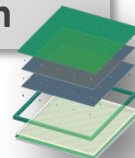


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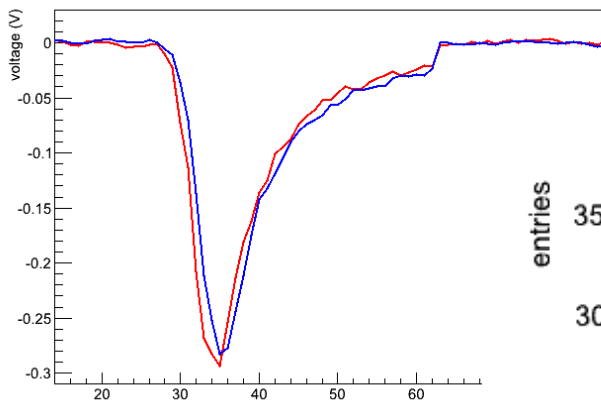


**PSEC-3 sampling @  
10 Gsa/s**

# Transmission Line-MCP readout with PSEC-3

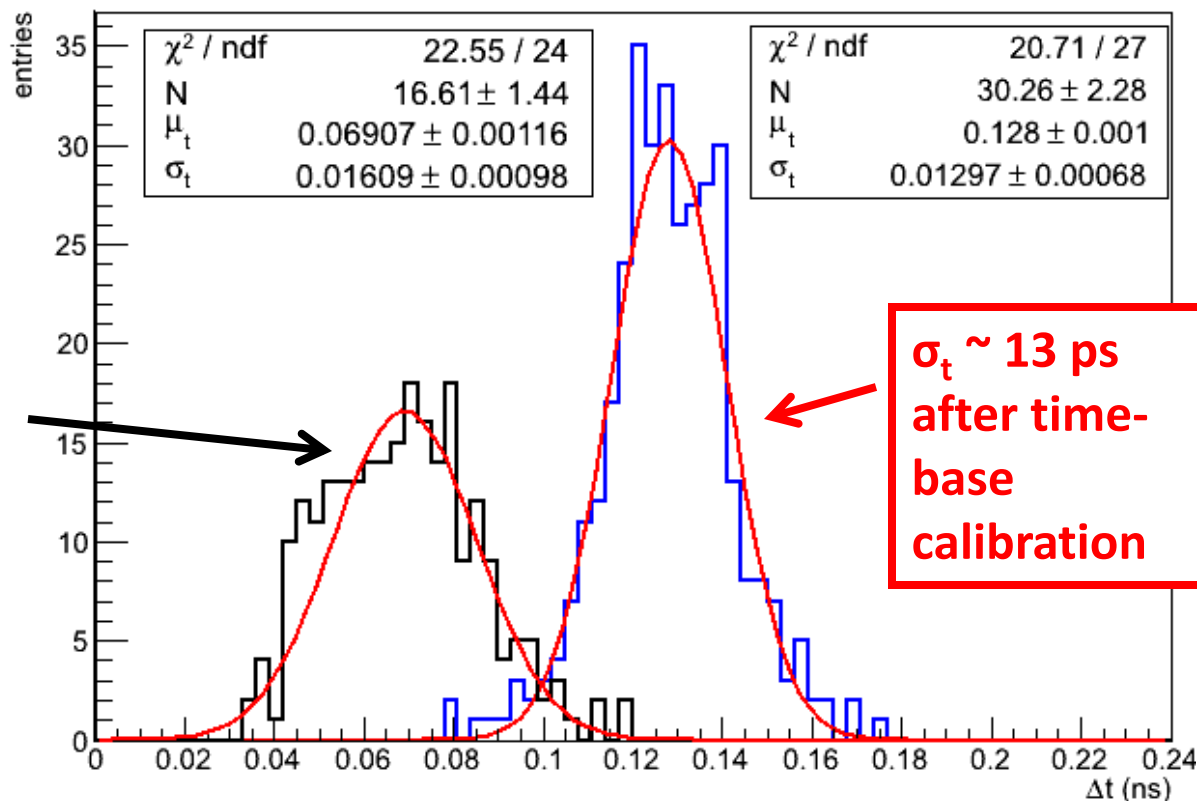


Sample waveforms



$\sigma_t \sim 17$  ps  
assuming  
nominal 100ps  
per cell

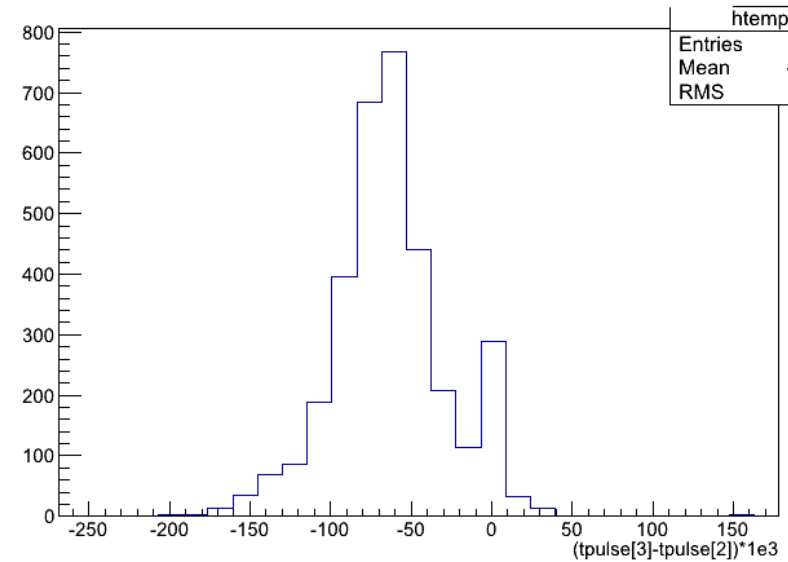
Stripline:  $t_{\text{left}} - t_{\text{right}}$  (preliminary)



$\sigma_t \sim 13$  ps  
after time-  
base  
calibration

(tpulse[3]-tpulse[2])\*1e3 {abs(tpulse[3]-tpulse[2]) < 1 && Vmax[3] < -0.1}

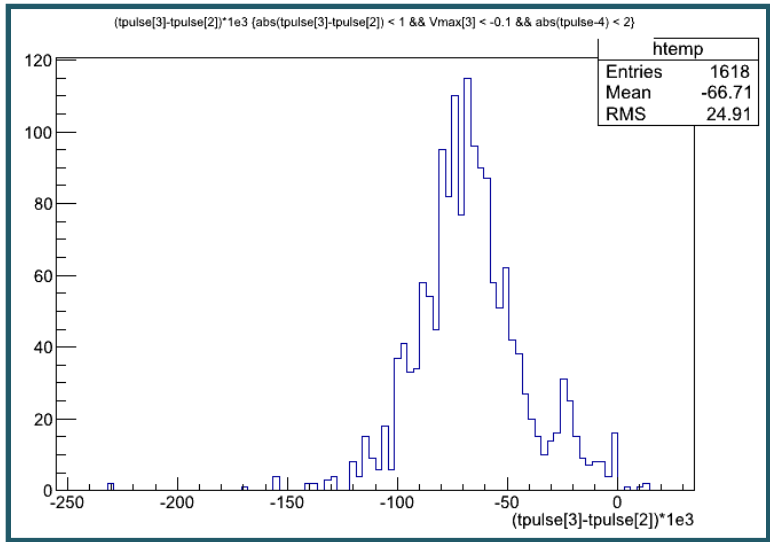
htemp	
Entries	3354
Mean	-62.81
RMS	35.88



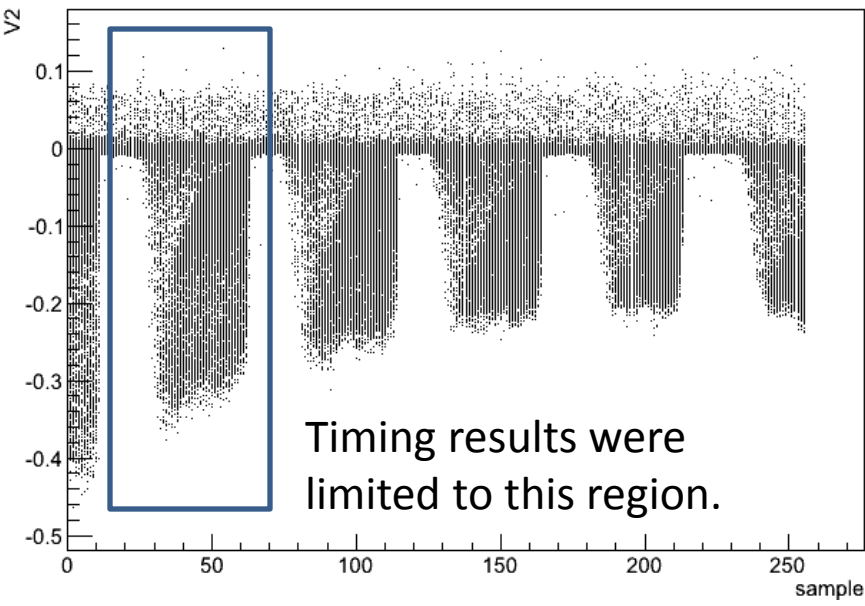
Timing over full window (above) and restricted window (below) [w/ cuts to remove noise-only waveforms]

(tpulse[3]-tpulse[2])\*1e3 {abs(tpulse[3]-tpulse[2]) < 1 && Vmax[3] < -0.1 && abs(tpulse-4) < 2}

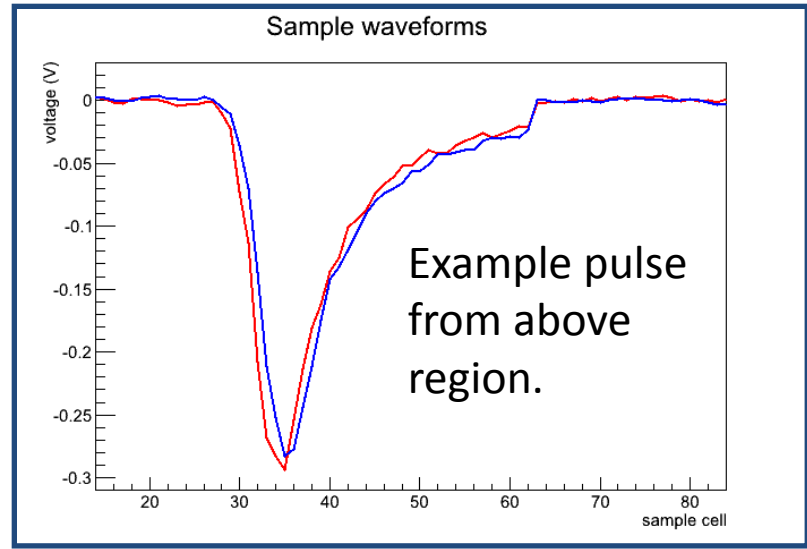
htemp	
Entries	1618
Mean	-66.71
RMS	24.91



All timing based on 20% constant fraction. (No optimized of fraction performed.) These results w/ no timing calibration.



Timing results were limited to this region.



Example pulse from above region.

$N_{pe} < 10$  based on:  
 $(pulseheight)^2 / (pulseheightrms)^2$