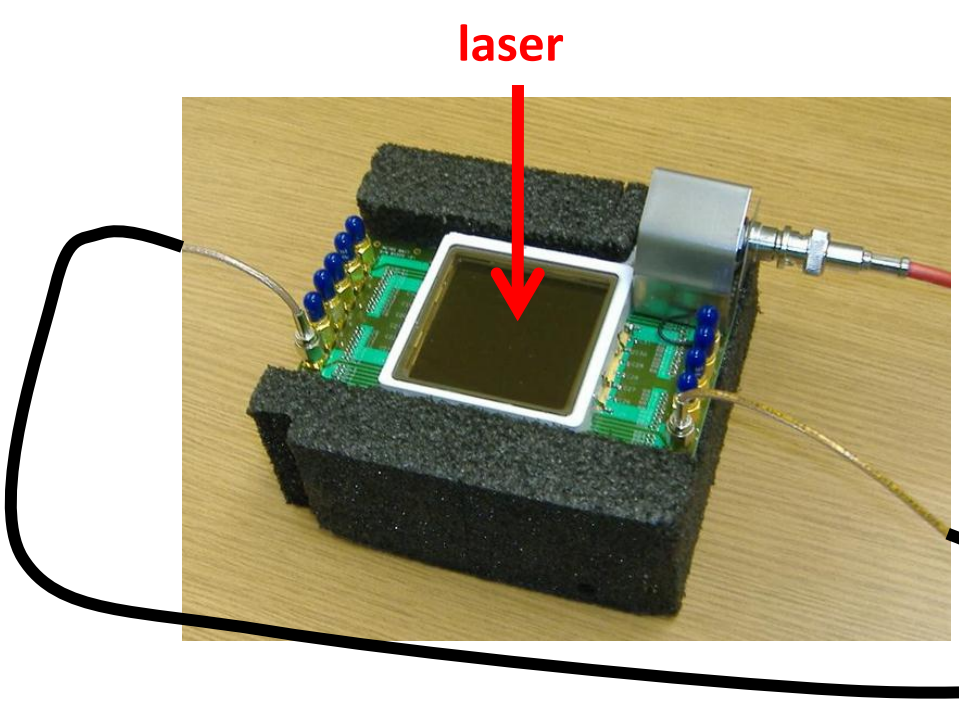
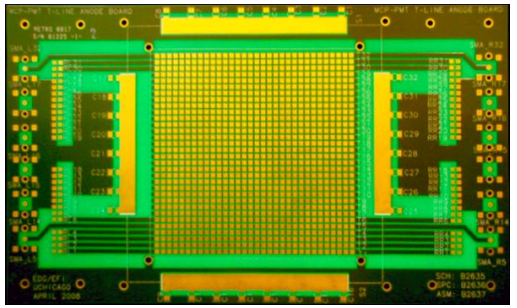
# Transmission Line-MCP readout with PSEC-3

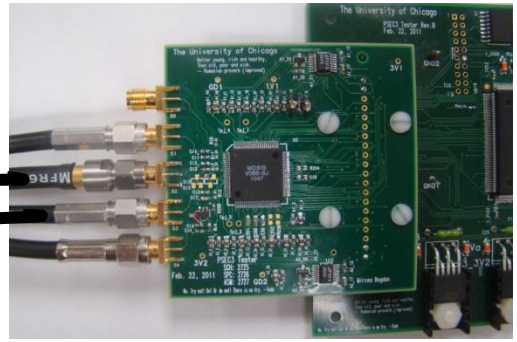
LAPPD Collaboration

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



F. Tang - UChicago

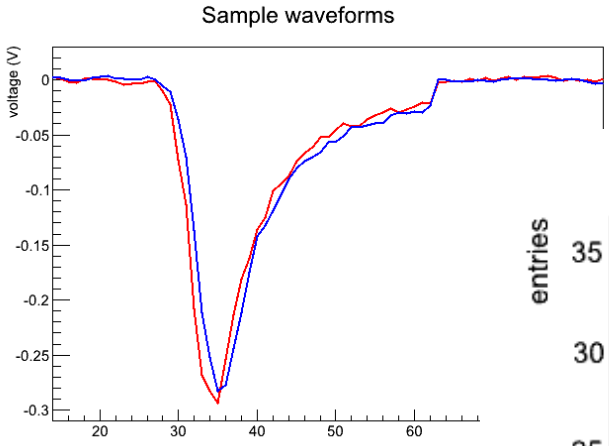


*Setup includes ~40 dB amplifier

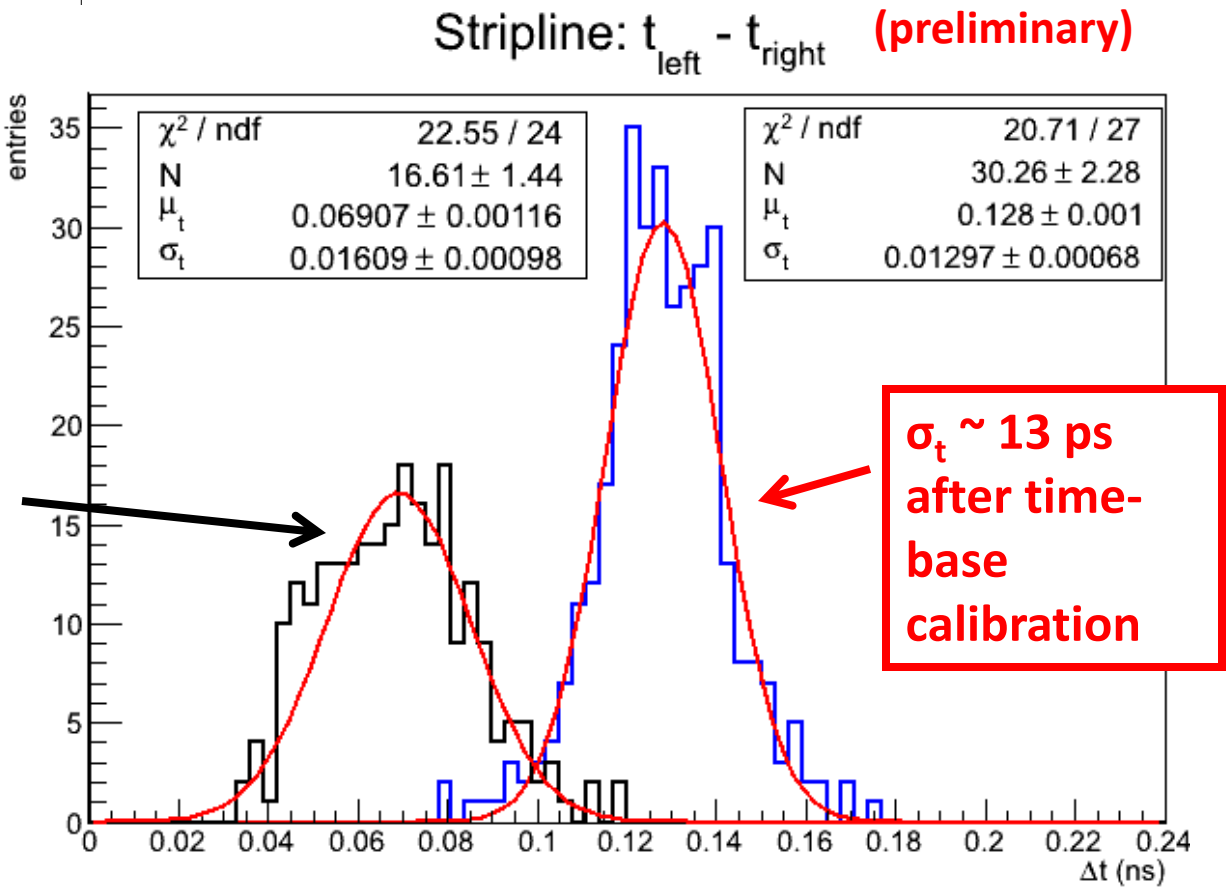
**PSEC-3 sampling @ 10 Gsa/s**

# Transmission Line-MCP readout with PSEC-3

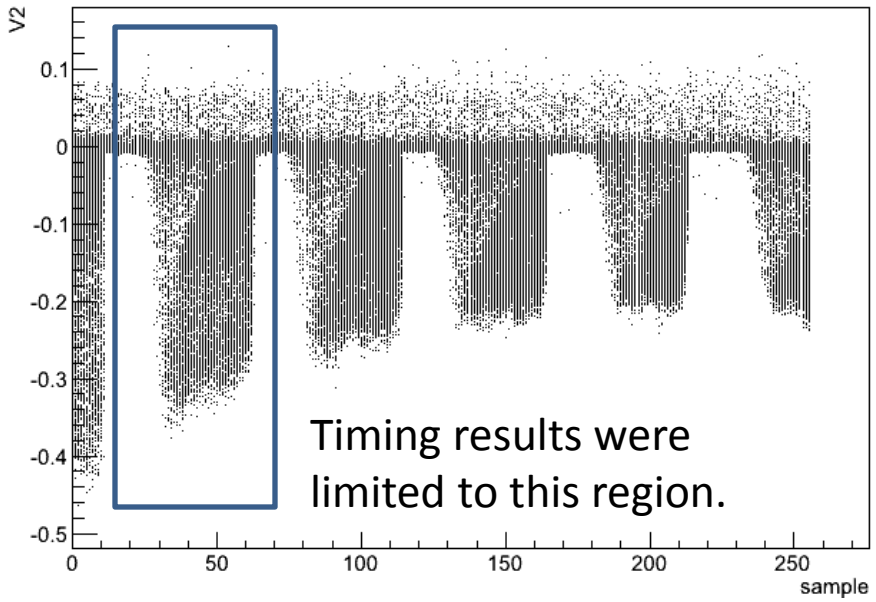
LAPPD Collaboration

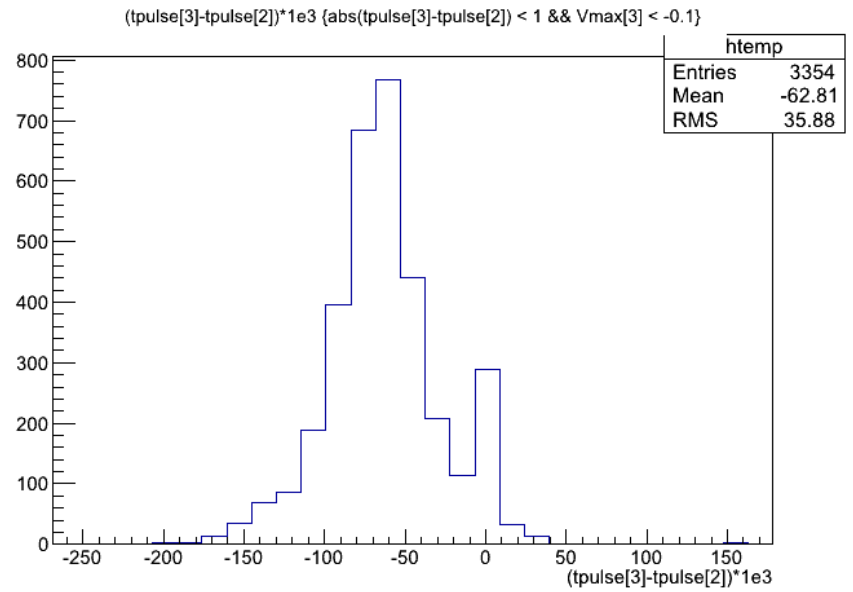



**$\sigma_t$ ~ 17 ps** assuming nominal 100ps per cell

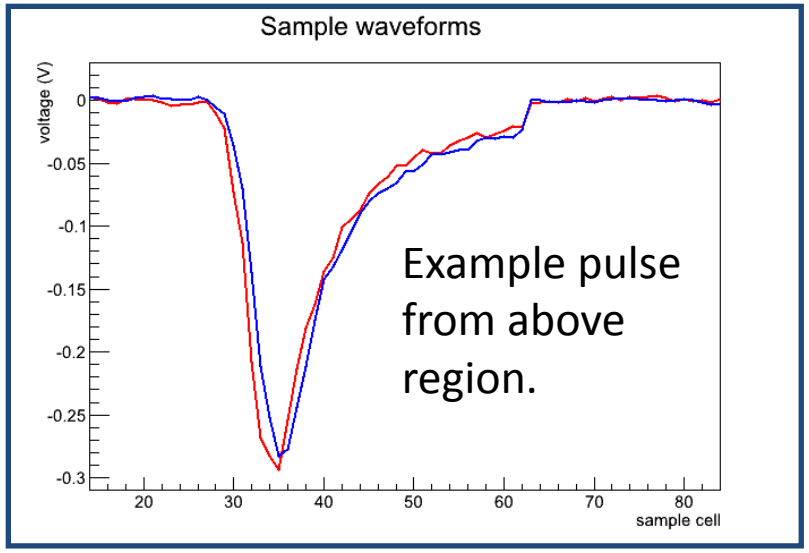


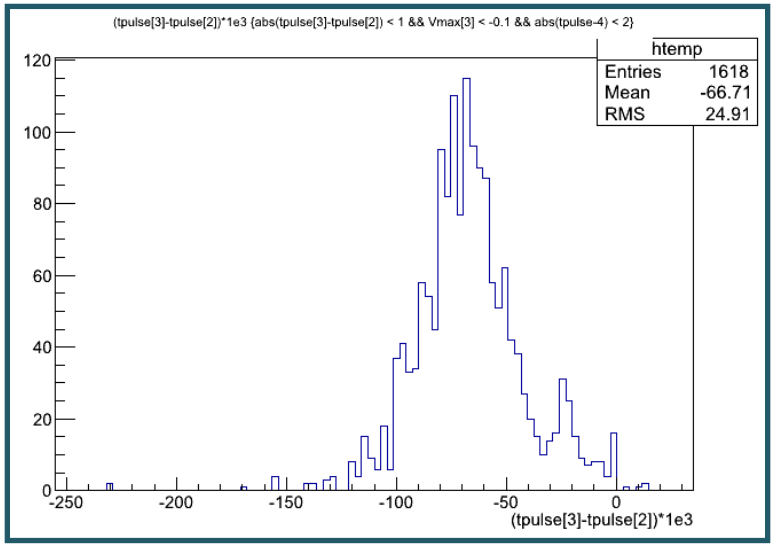

**$\sigma_t$ ~ 13 ps after time-base calibration**




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




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

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