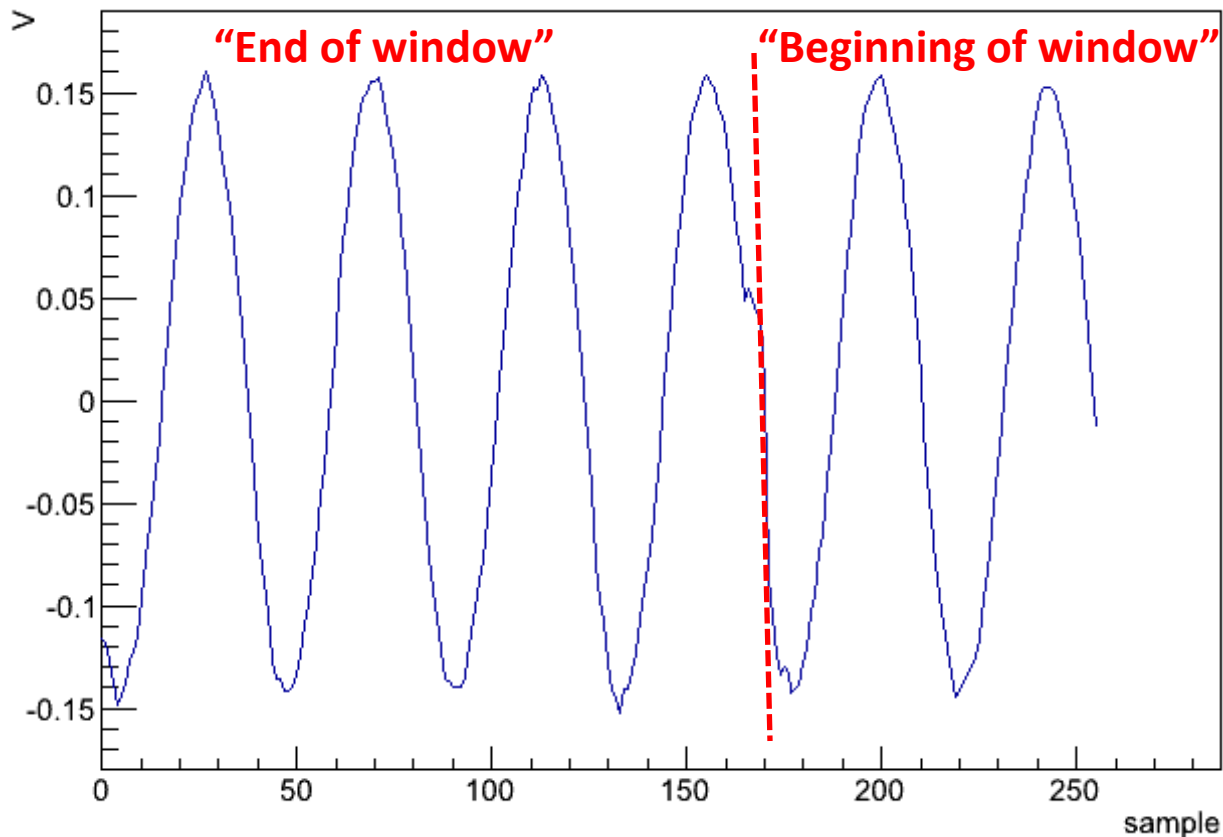


PSEC4 Timing - Current Data Sample

- New data provided by Eric:
 - http://hep.uchicago.edu/~eric/work/caldata/psec42011_1201/
 - 10.24 GSa/s
 - 240 MHz (?) sine wave input
 - 20,000 events for CH3
 - 20,000 events for CH5
- Attempting simple “zero-crossing” analysis.
 - Measure period of waveform to get sampling rate.
 - Measure occupancy of zero crossings to get Δt values.

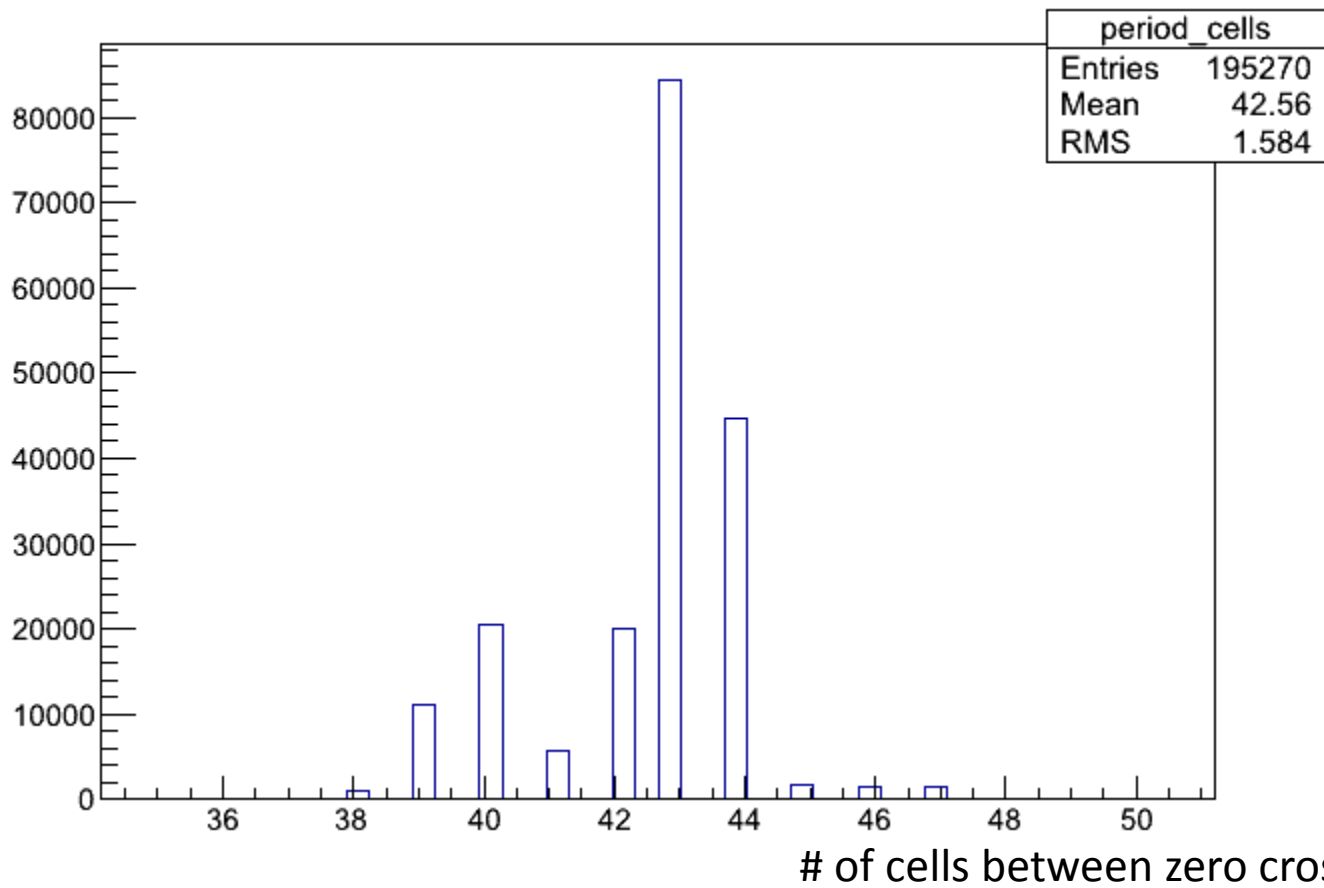
Sample “Unwrapping”

- End/beginning of an event is around sample ~170. I redefine sample 173 as sample 0 for the analysis.



Sampling Rate

- Measure number of sampling cells between zero crossings:



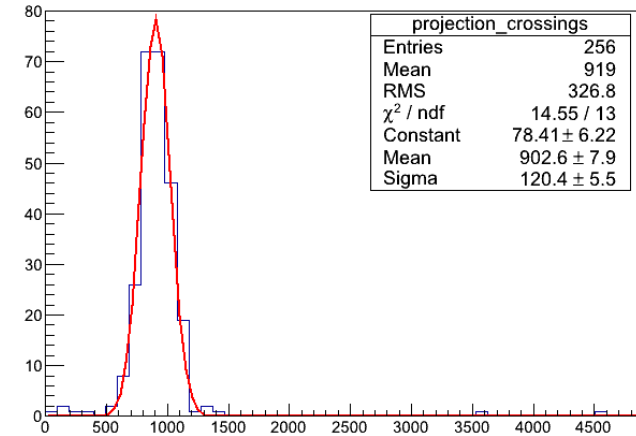
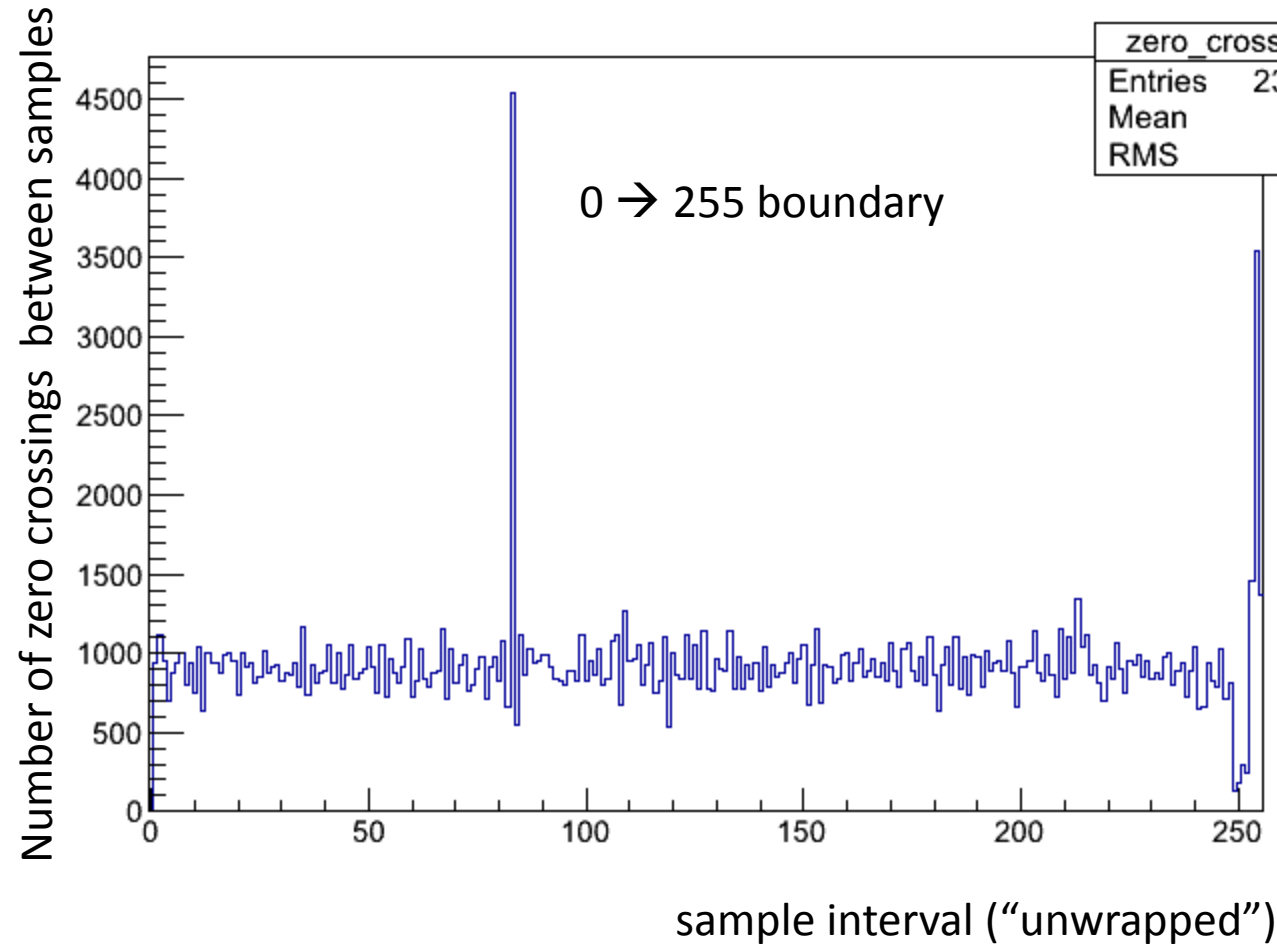
Assuming 240 MHz input, this corresponds to average

Δt : 0.0979 ns

Nominal for sampling rate of 10.24 GSa/s is Δt : 0.0977

Including measurements across the 255-0 boundary may be systematically shifting this

Zero Crossing Occupancy



Y-projection of left plot
→ indicative of
"spread" of Δt values.