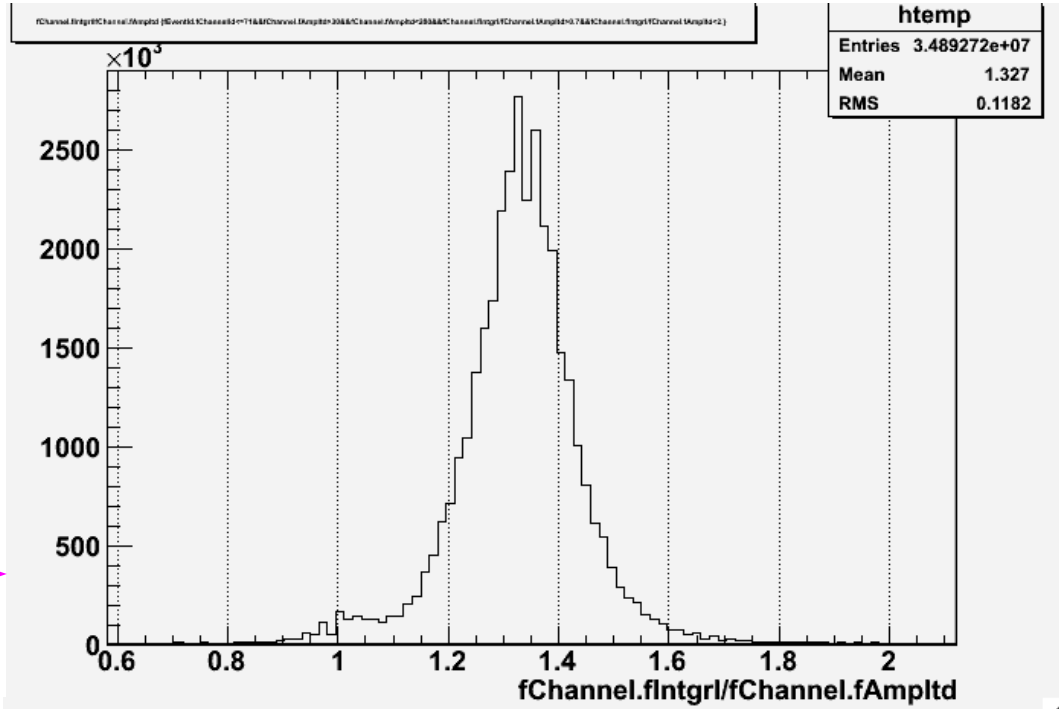
Pulse width: DAQ in/out tunnel

- One (main?) purpose of DAQ in tunnel exercise:
  shorter analog cables to WFDs ⇒ shorter pulses
- Quantify in data we have before/after DAQ removed from tunnel?
- From waveform v(t) WFDs reconstruct (from samples)
  - amplitude: Amp = max[v(t)] (amplitude max. sample)
  - integral: Int = $\int v(t)dt$ (sum of all samples)
- Then Int/Amp is a measure of the pulse width

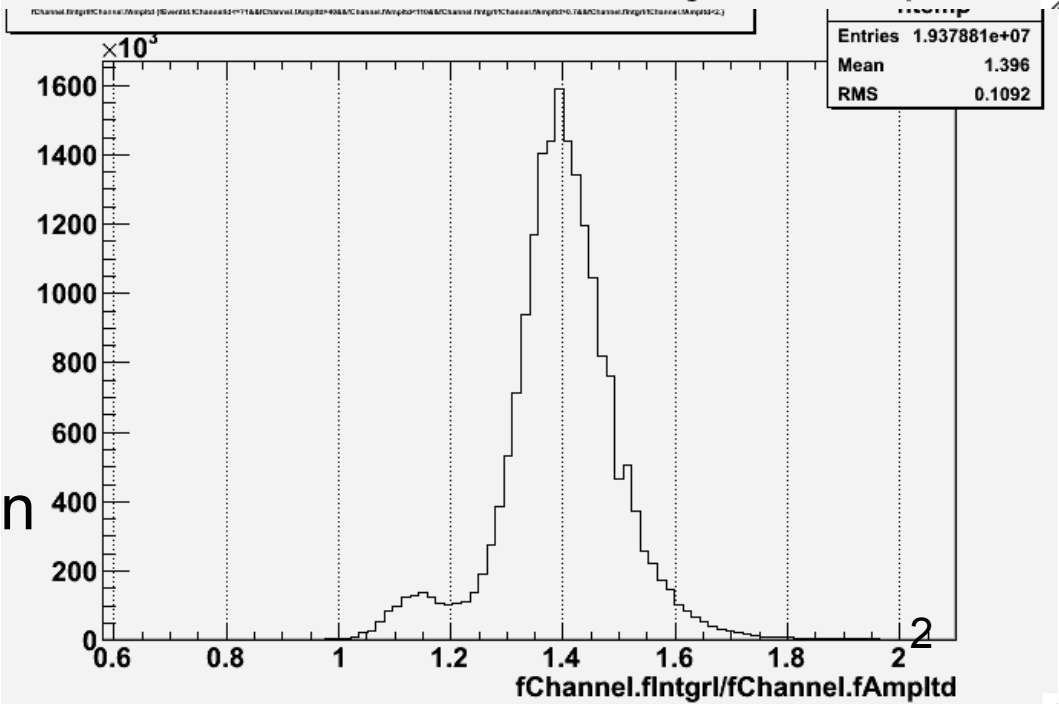
- Downstream DAQ removed from tunnel Feb. 14, running Feb. 19
- Look at runs just before/after removal;
  different cuts on Amp due to shaper gain change, avoid pulser, ...
  - Run 15166.112 on Feb. 14 (early AM) 30<Amp<200
  - Run 15202.103 on Feb. 20 40<Amp<110

Int/Amp: DAQ in/out tunnel

- DAQ in tunnel:



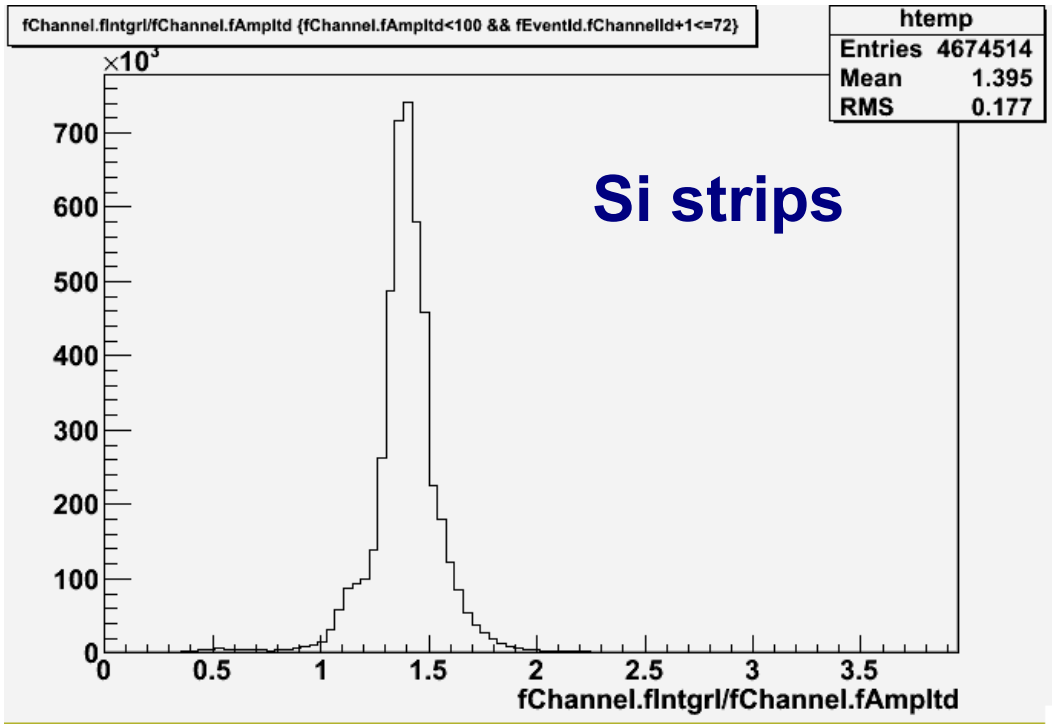
- DAQ in counting room:

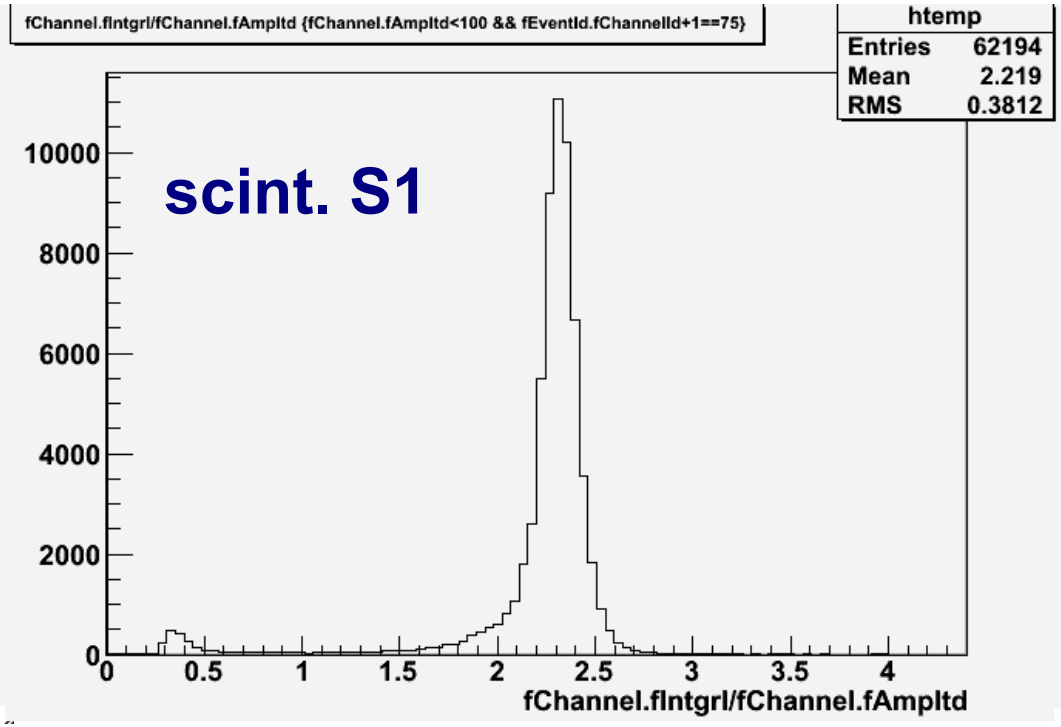


- DAQ in tunnel Int/Amp peaks a bit lower
- Difference could be within run-to-run variations, different Amp range, ...

Summary

- Pulse width e.g. for scintillator S1 has significantly larger Int/Amp:





- Conclusion from Int/Amp:

  pulses DAQ in/out tunnel ~ same width