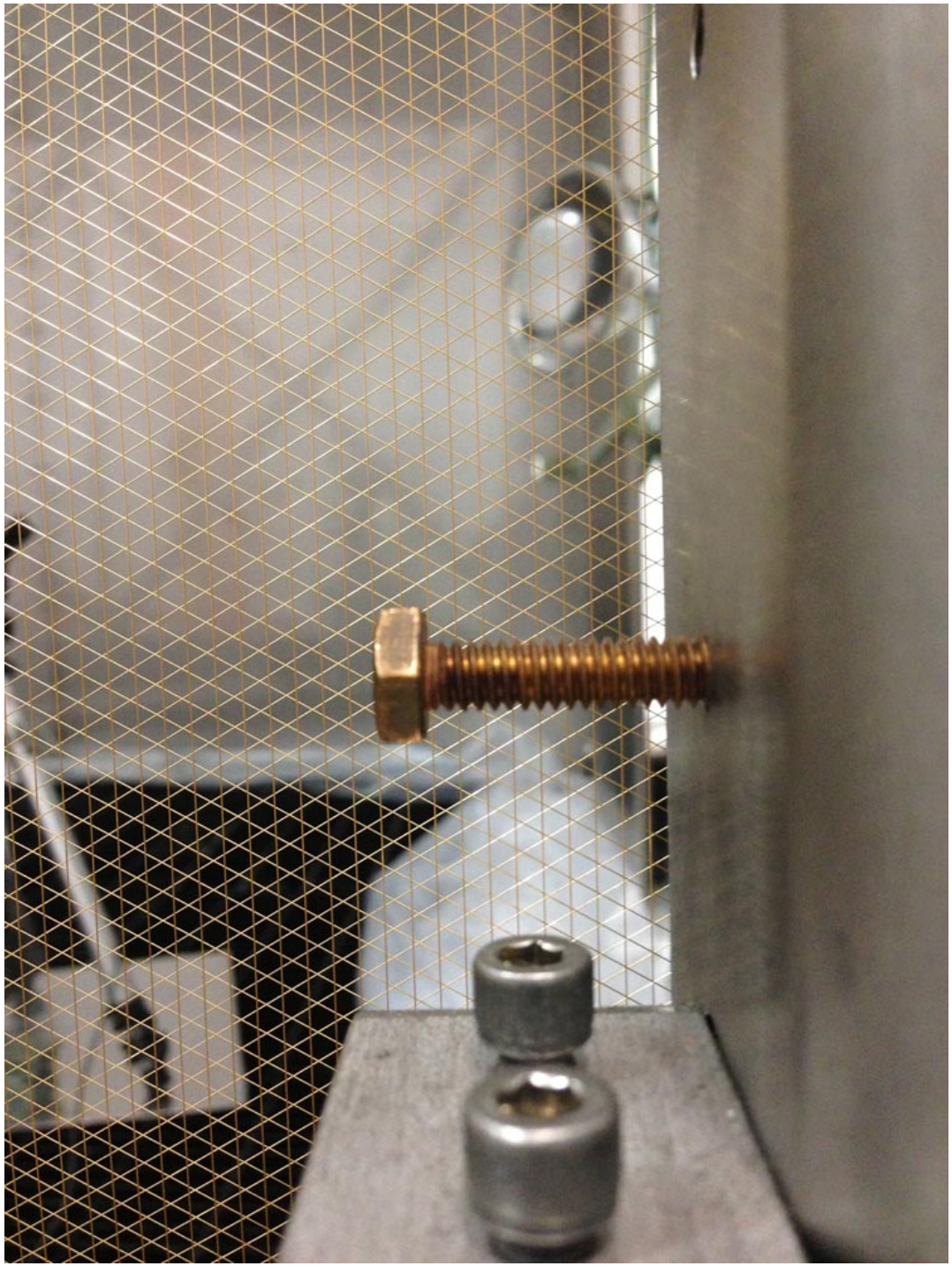
MRT Tests

David Kaleko


Tent with TPC inside
Cryostat

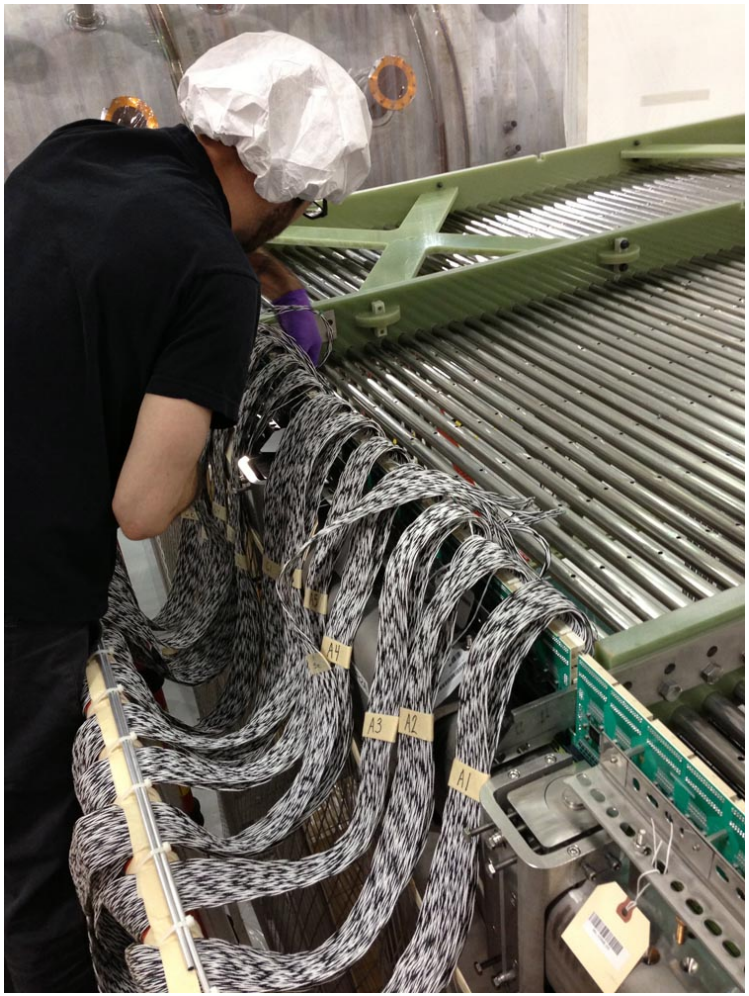


What MRT Tests Are

- "MicroBooNE Receiving Tests"
- Receiving electronics made by BNL and testing them
- Electronics: ASICS + cold cables (connection between the physical TPC wires and readout electronics)

How we Test Them

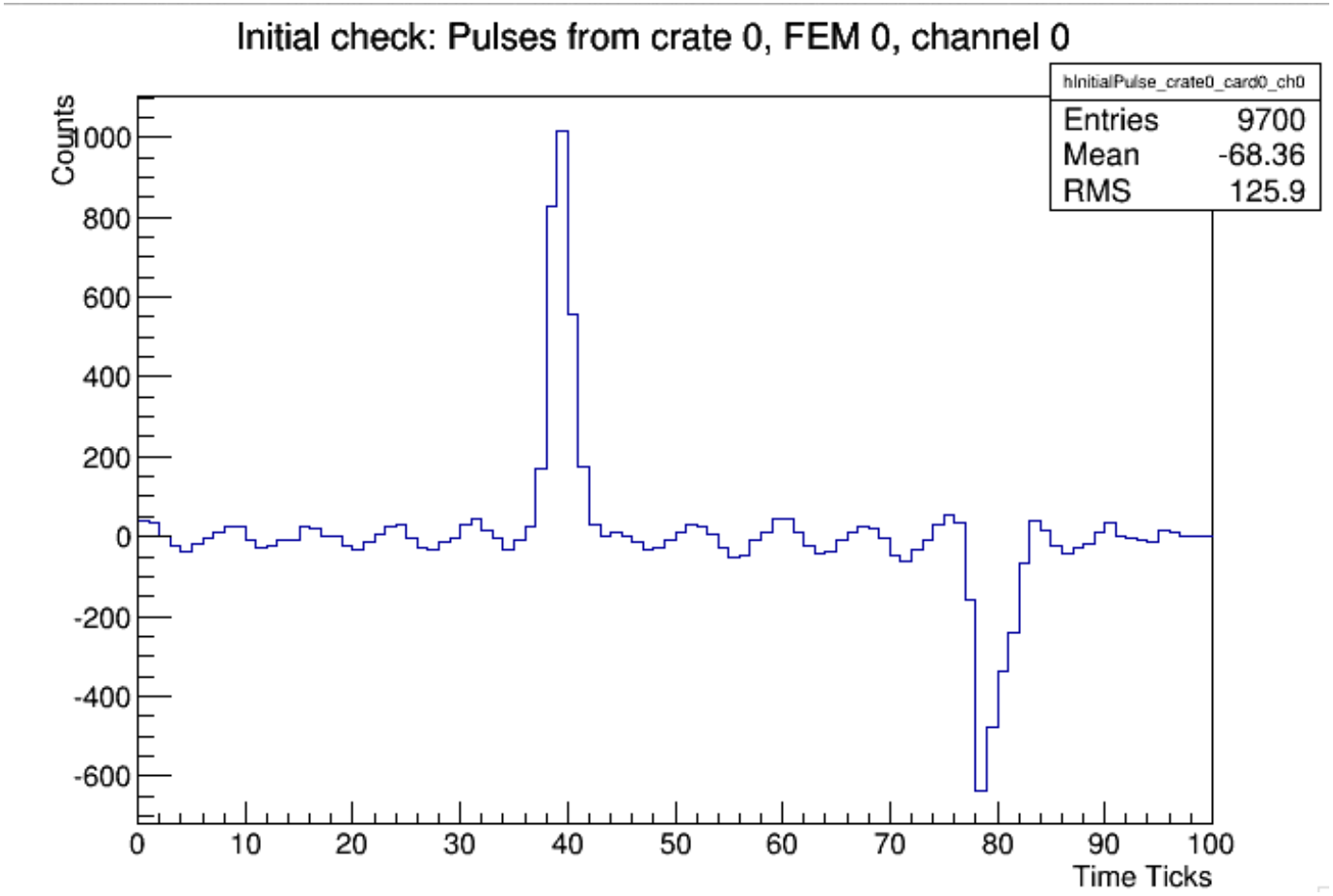
- "Mock Feedthrough"
- Python script to take data (DAQ different from Nevis; "state machine" etc.)
- Many "subruns" in each feedthrough's test
- Each subrun configures ASICs and Pulser slightly differently to look for different possible effects
  - Miswiring
  - Bad channels
  - Channel-to-channel crosstalk
  - Asic-to-asic crosstalk
  - Motherboard-to-motherboard crosstalk
  - Shaping time problems
  - Gain problems



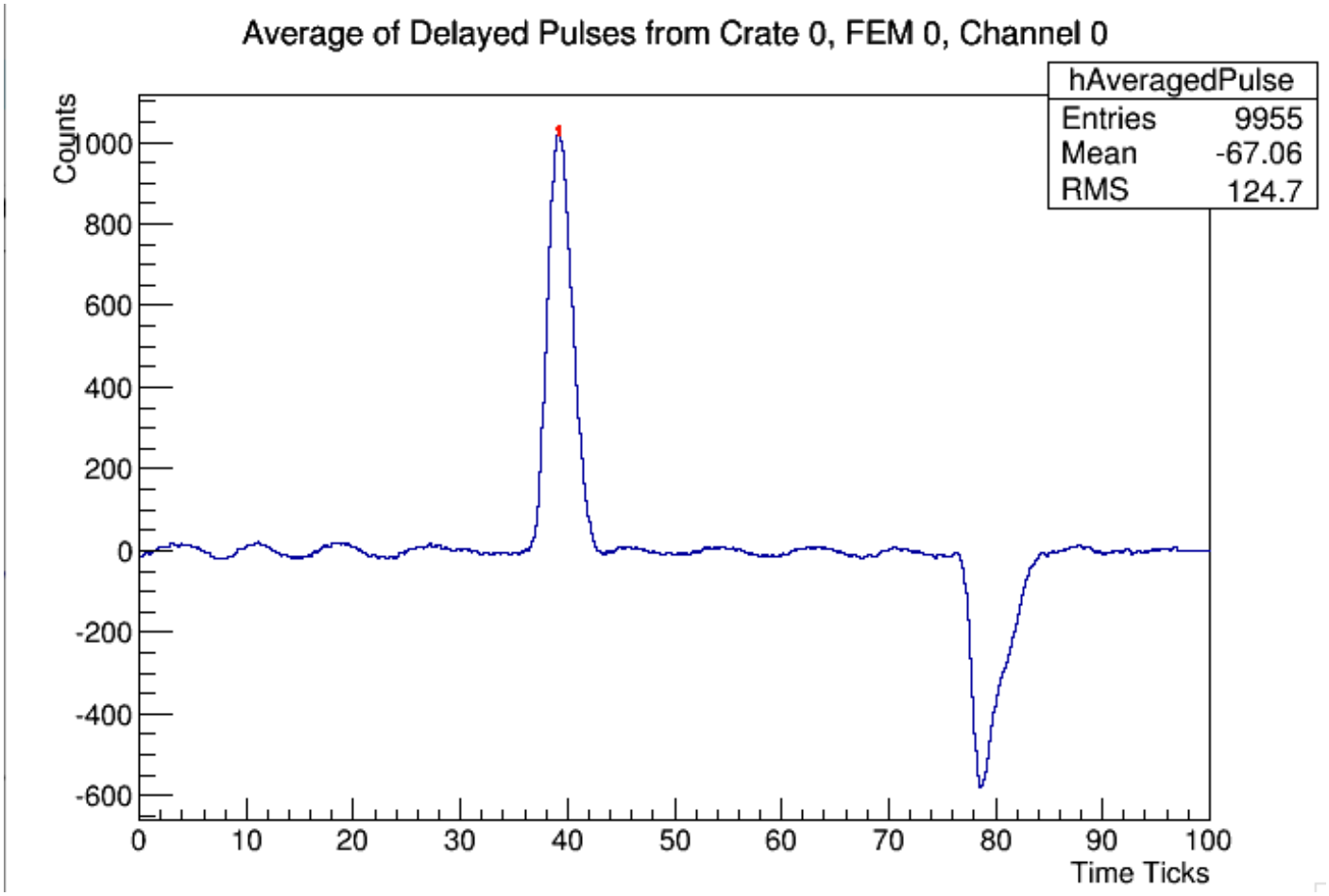
What I'm Doing

- Working on code that analyzes output data, making histograms and auto-spotting problem channels/unusual behavior.
  - Will be reused in "phase-2" MRT and eventual electronics calibration.
- Helping re-cable ASICs as we complete runs and move down the TPC.
- Familiarizing myself with DAQ/run control.
- Attending ~35 meetings/day.
- Being the one who stays late to turn things off when runs take too long ;)

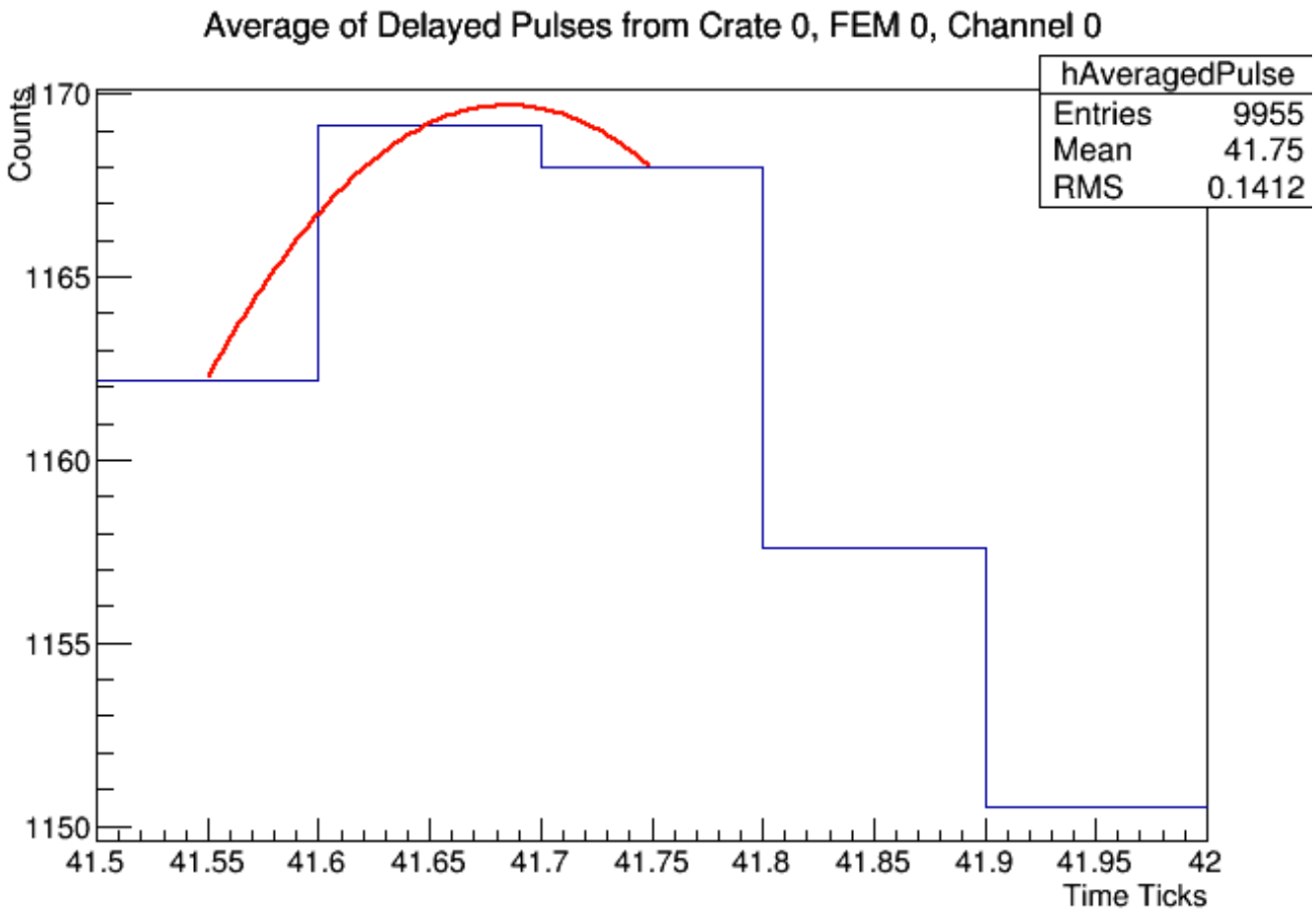
Ex: Measuring Shaping Time



Measuring Shaping Time (cont)



Measuring Shaping Time (cont)




END