

SeaQuest AEM Report

Paul E. Reimer

30 April 2012

Successful Commissioning Run

- Demonstrated stability of spectrometer at $9e11$ protons/spill
- Measured rates and backgrounds
- Understood performance and characteristics of chambers
- Obtained data to measure performance of trigger roads in FPGA
- Operated Cryogenic targets

- Thesis data for students— J/ψ nuclear dependence and hydrogen/deuterium ratio, hopefully—need improved tracking

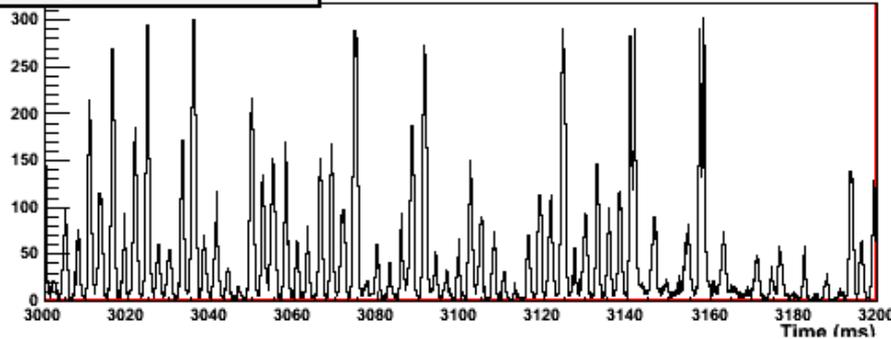
- Identified issues for post shutdown runs
 - Normalization with block on duty factor
 - DAQ speed/zero suppression
 - Background neutron suppression?
 - MI instantaneous duty factor



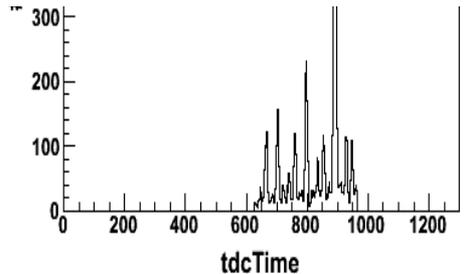
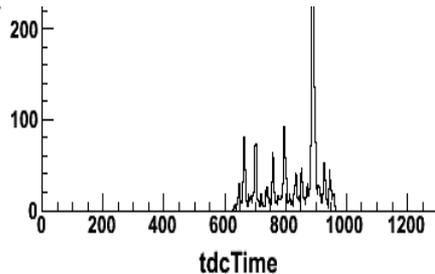
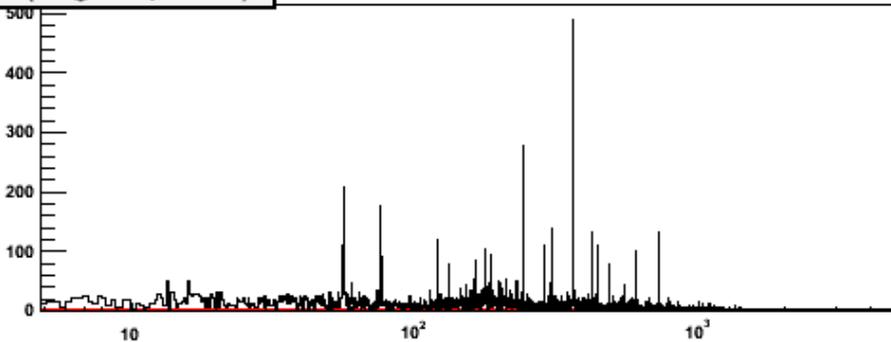
Macroscopic Beam Structure

~7kHz Sampling rate

E906 Spill 200ms Zoom

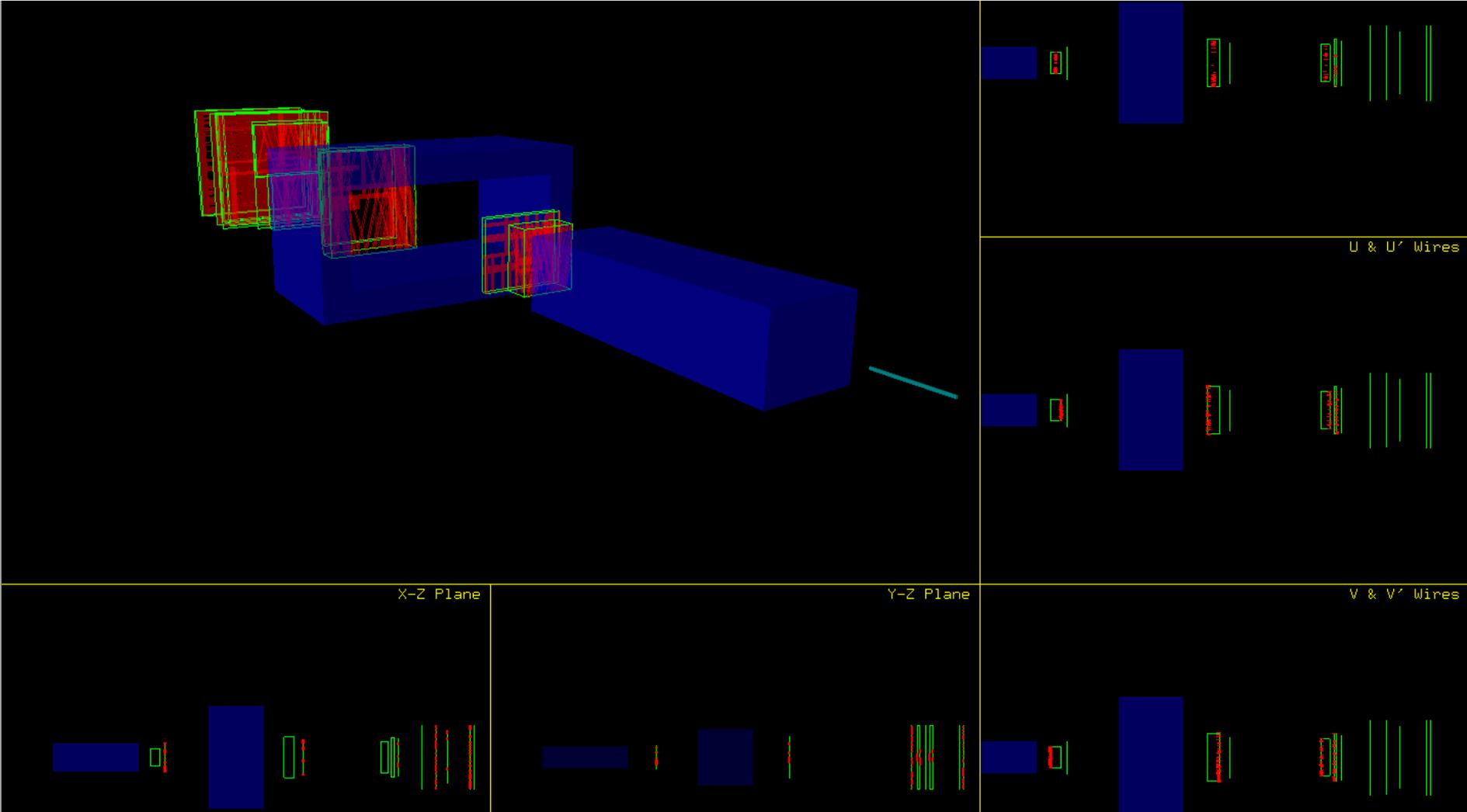


FFT (Log freq scale)



- Beam appears to come in “super buckets” lasting many 19 ns buckets
- Major frequency components are 360 Hz and (sub)harmonics
- AD
 - did a great job of trying to understand this in a small amount of time (after we understood where the problem was).
 - Clearly still more work to be done and thought needed over shutdown
- Quarknet splat block
 - Turn off trigger during high intensity periods.
 - Count in 1st level trigger number hits in each 19 ns bucket (in St. 2 top)
 - Keep running count over 5 buckets before and after trigger bucket and turn off triggers if over threshold (13 hits?)

Last Event



Go to "Insert (View) | Header and Footer" to add your organization, sponsor, meeting name here; then, click "Apply to All"

