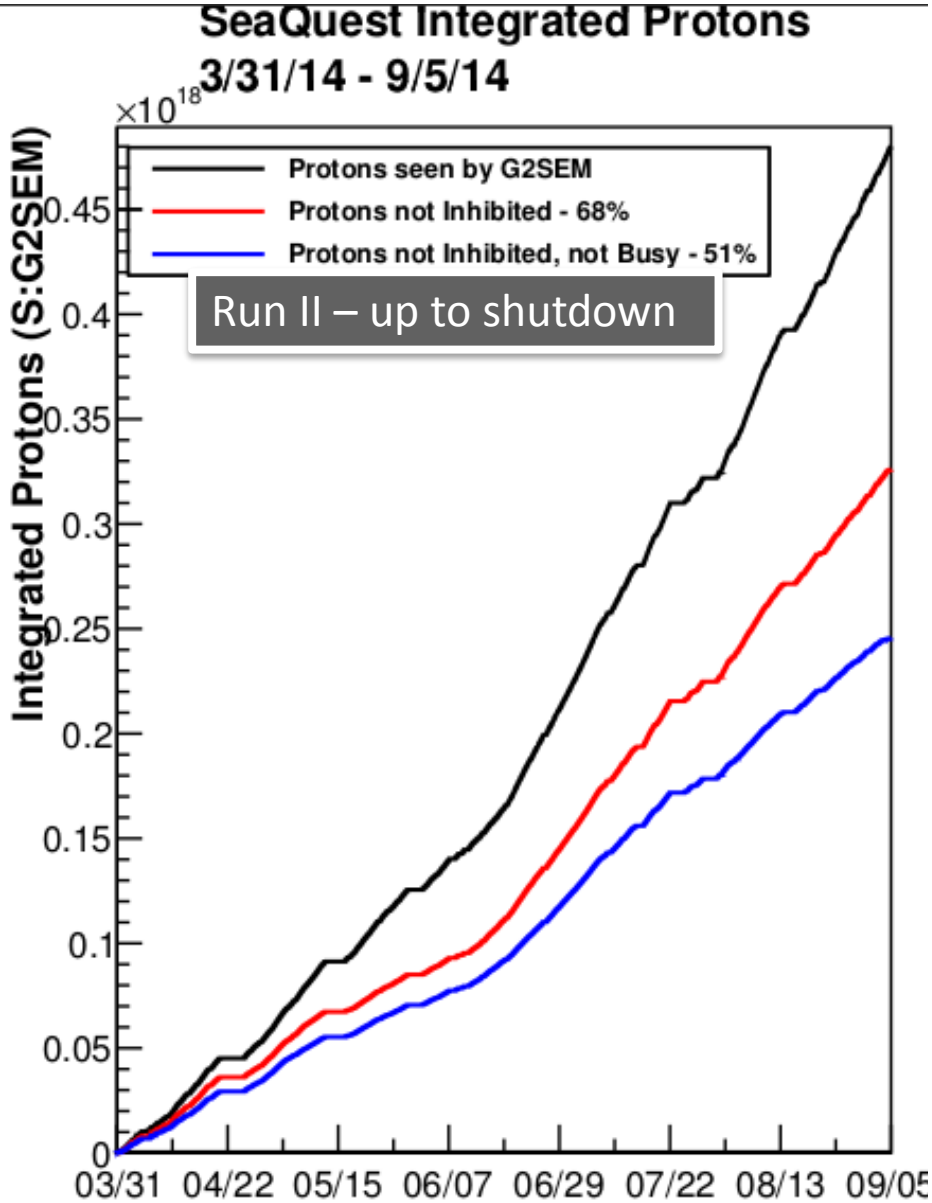
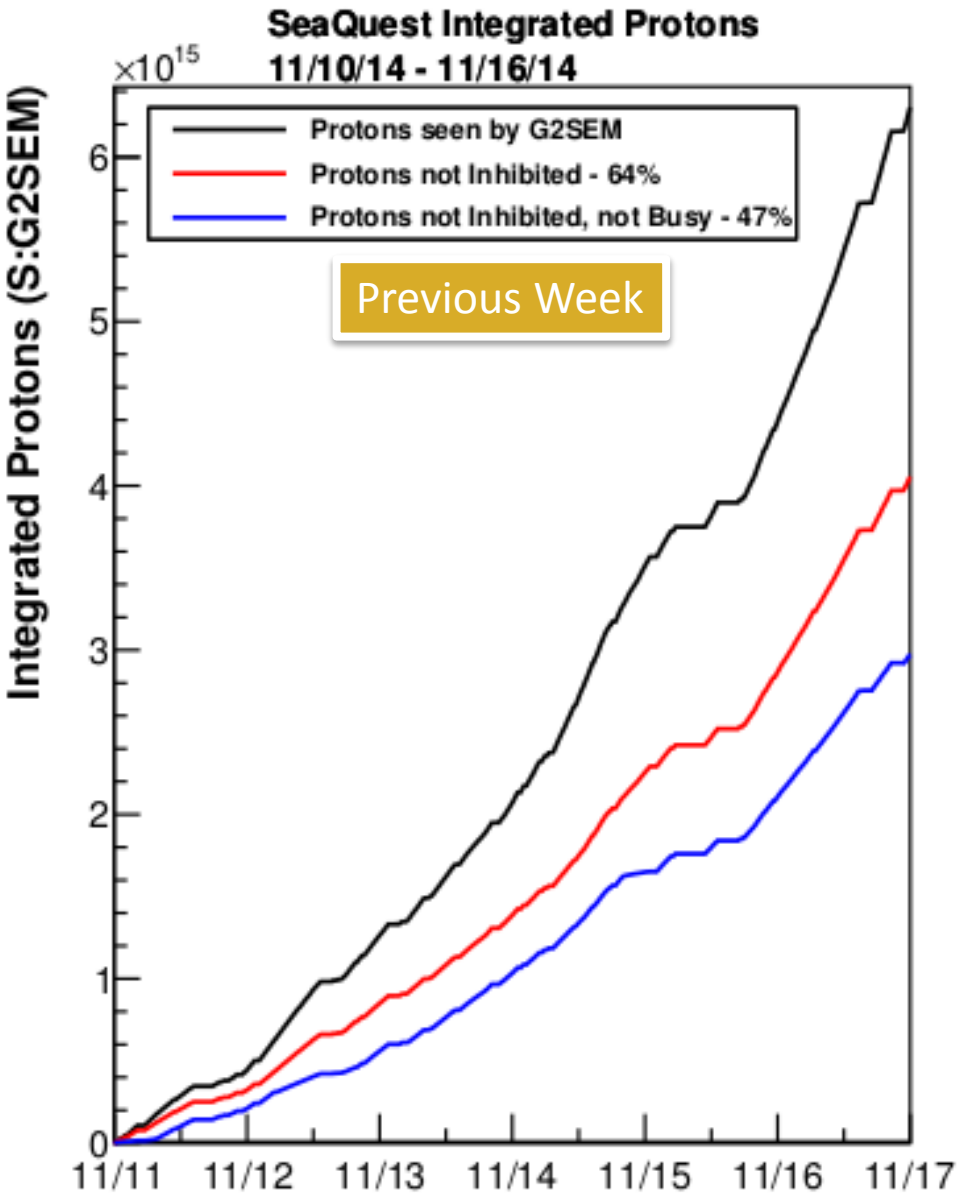
SeaQuest Status
Nov 10-16, 2014

Brian Tice

Nov 17, 2014


SeaQuest Integrated Protons
3/31/14 - 9/5/14
×10^18
Integrated Protons (S:G2SEM)
Protons seen by G2SEM
Protons not Inhibited - 68%
Protons not Inhibited, not Busy - 51%
Run II – up to shutdown
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
03/31
04/22
05/15
06/07
06/29
07/22
08/13
09/05


SeaQuest Integrated Protons
11/10/14 - 11/16/14
×10^15
Integrated Protons (S:G2SEM)
Protons seen by G2SEM
Protons not Inhibited - 64%
Protons not Inhibited, not Busy - 47%
Previous Week
0
1
2
3
4
5
6
11/11
11/12
11/13
11/14
11/15
11/16
11/17

Beam Status

Tuning continues

- Beam centered on (0,0) using SWIC in NM3TGT
  - Will do autoradiograph on targets to verify beam location
- Intensity up to 2.5E12 from 6E11 (at G2SEM)
  - We are ready for higher intensity as beam tuning allows

- Cerenkov monitor
  - Neutral density filter changed to accommodate higher reflectivity of new mirror
  - 10% filter replaced with 5% (blocking twice the light)

Trigger Timing Upgrade Status

Improved, nearing completion

- Trigger clocks synced with RF signal during shutdown
  - Eliminates a jitter in timing
  - **Introduces a ~100ns delay in trigger**
- All detectors timed in to accommodate 100ns delay
  - Adjusted TDC time windows verified to be correct
  - Cerenkov timing verified to be correct, with improved precision compared to Run II
- Some timing adjustments iterative, will fine tune this week

Detector Status

Good, with few exceptions

- One drift chamber (station 3+) has 2 noisy views
  - Can fix or mitigate by tuning HV and ASDQ threshold
- One dead hodoscope channel
  - PMT is fine, but need replacement discriminator
- All other detector subsystems performing well
- New station 1 drift chamber begins gas box tests this week
  - This improved chamber will replace current St1 to increase high Bjorken x acceptance

Target Status

No issues!

- Target system performing well
- Both cryotargets are cold and filled with H2
  - D2 target filled with H2 to minimize possible loss during power outage

Other

- Replaced HV cables in 3 of 4 PMTs of beam monitor in NM4
  - Observes splatter from beam impinging instrumentation
- KMag tripped due to power supply failure on Wednesday