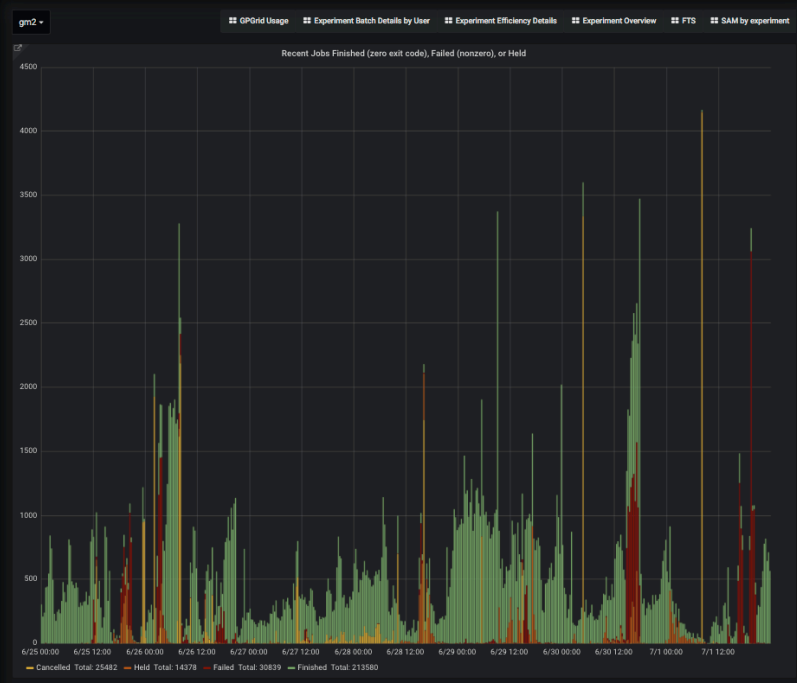
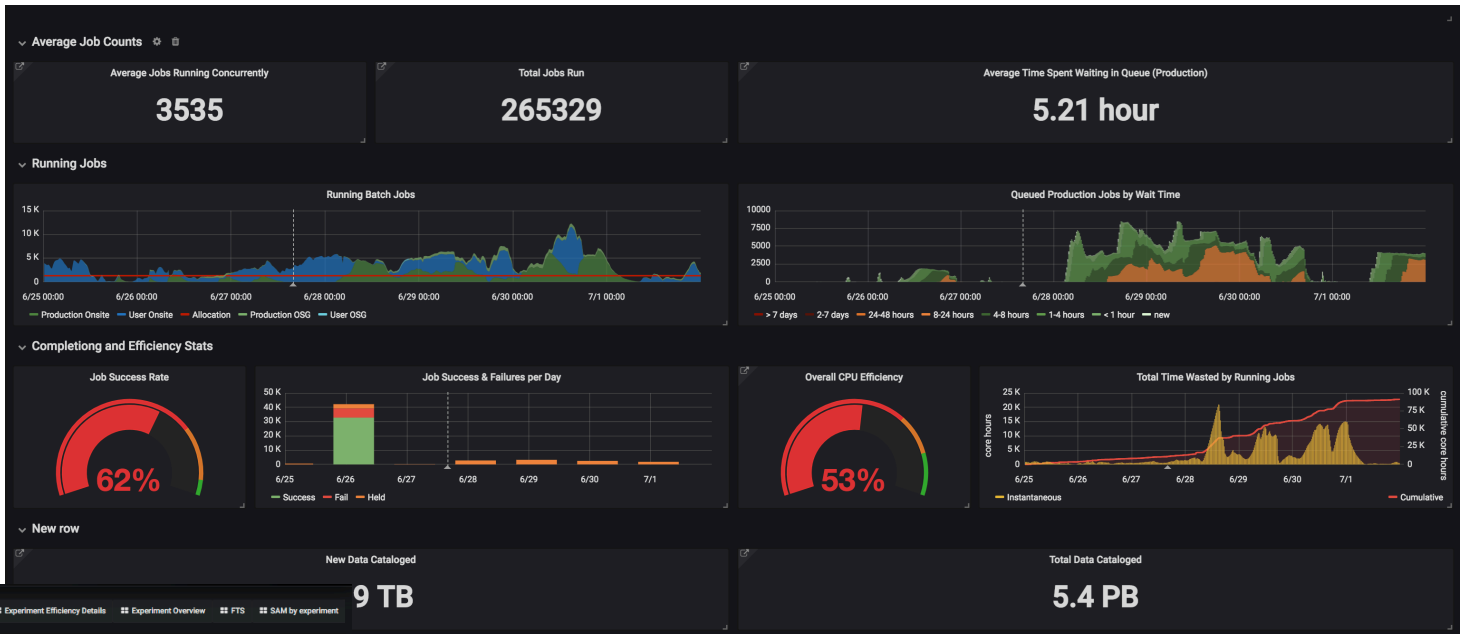


Muon $g-2$ AEM Update

Brendan Kiburg, Jarek Kaspar

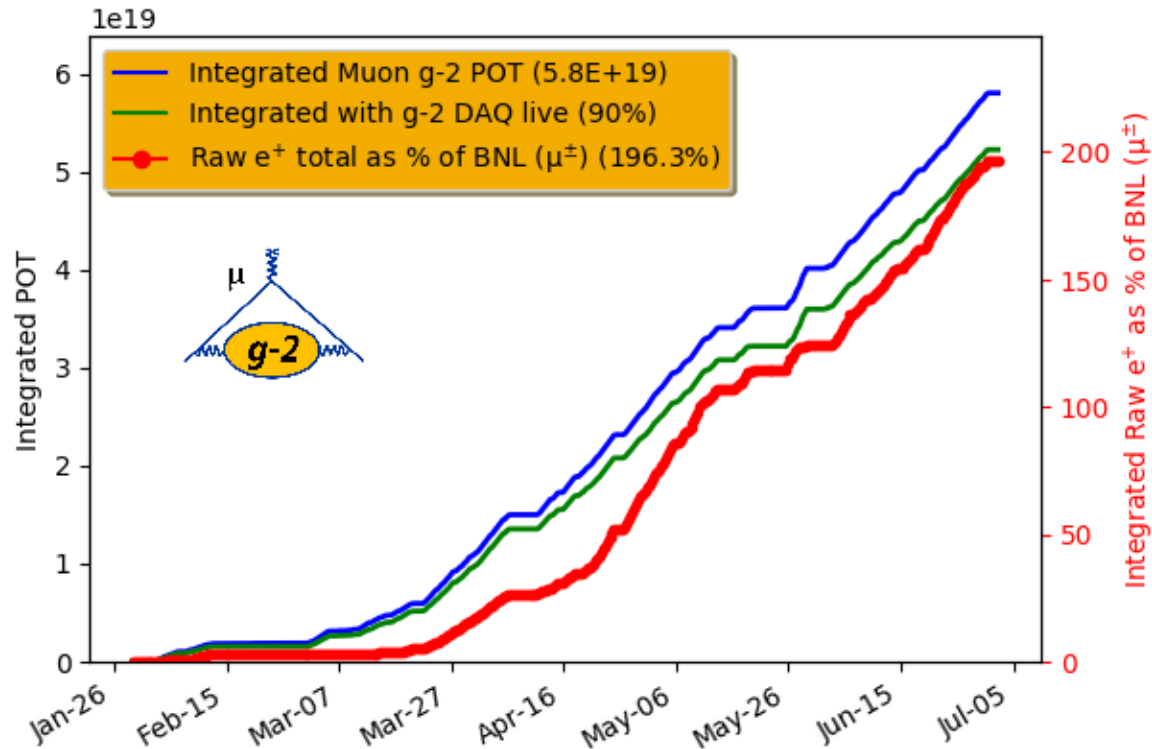
July 2, 2018



Details
iG-10-5-79-9 & CRUSH-OSG-10-5-4-196
Approximately 3000 jobs failed on SU nodes CRUSH-OSG-10-5-79-9 & CRUSH-OSG-10-5-4-196 due to CVMFS errors. The nodes were blacklisted and ticket opened with site admins.

- Numbers are incorrectly calculated after 6/27

Mostly Stable, 0.12xBNL added since last AEM



- Good systematics studies first half of week (AD Beam studies plus kicker strength scans). Nearly done with planned systematic studies

Cryo Issues Sat

- We have been addressing increased contamination levels by
 - Ramping down
 - Flushing the magnet
 - Utilizing the mobile purifier
- On Saturday, we ramped down for preventative flushing due to increases in the magnet differential pressure
- The system stabilized, we started ramping up
 - We reached 4200 Amps out of 5200 Amps
 - At that point we lost a cryo permit due to elevated temperature in the inner upper ring (5.6K)
 - Started slow dump to remove energy over ~40 minutes
 - At 2500 Amps (1/4 of full power), quenched

Quench Response

- Engineering stabilized ring cryo within a few hours
- Turned Purifier ON to try to clean contamination
- Held a quench meeting to understand issues Sun pm
- Performed a test to 1000 Amps on Mon am
 - All looks ok

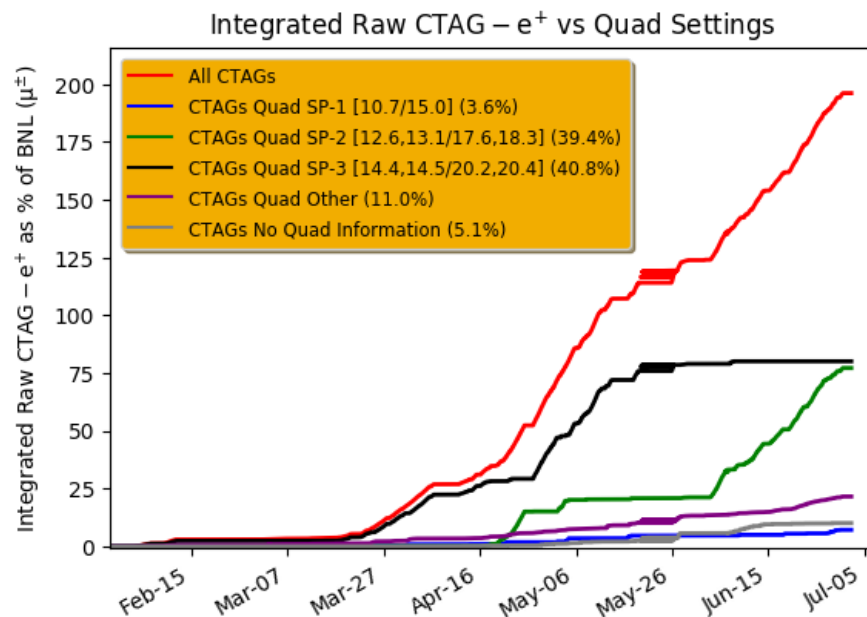
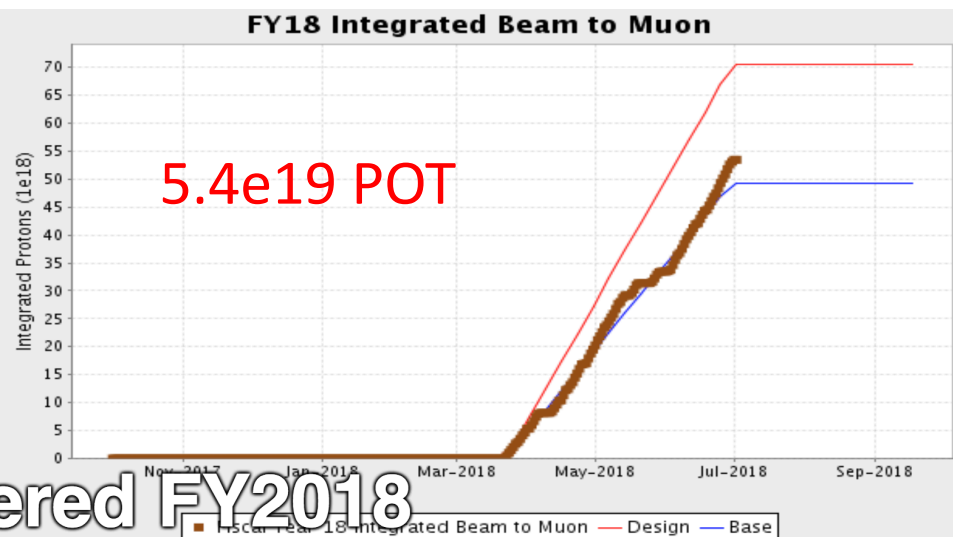
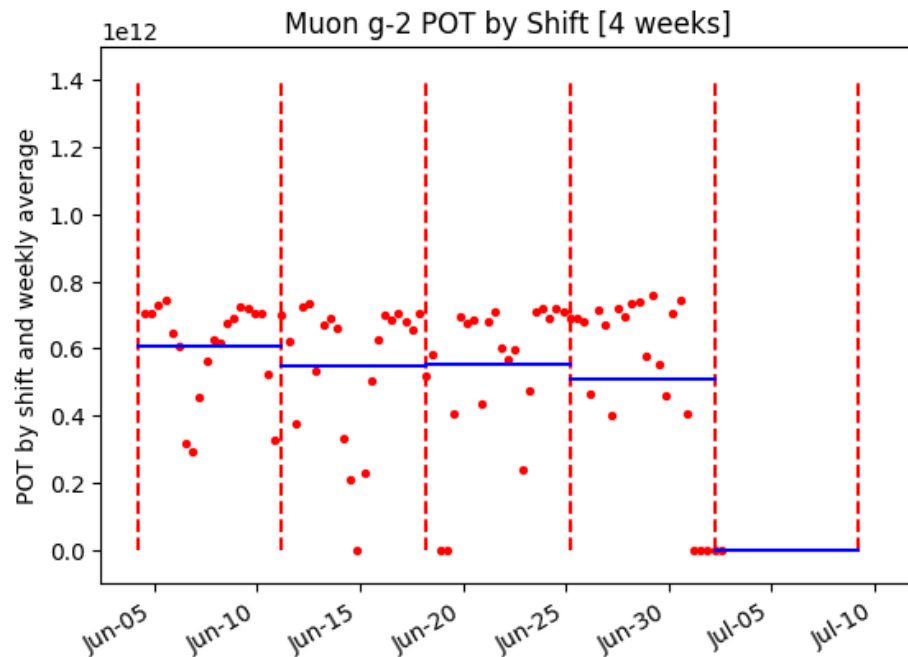
Purification

- Purity improved Sat pm → Sun am, however by Sun pm, the impurities on the output of the purifier were higher than on the input
- Took purifier offline, warmed it up to start deriming process
- Should be able to pump and backfill 5x on Tuesday
- Should be able to start helium purification Tuesday pm. Need at least 24 hours for 3 volume exchanges. Will continue all day Wed

- If cryo checks out, will do supervised ramp to full current Thursday
 - Complete beam systematics would be nice
 - Complete field systematics critical for the physics

Summary

- Mostly completed our physics goals
- Need to perform critical field measurements
- Prioritizing the magnet safety
 - Good plan in place for end of week



Muon g-2

July 1, 2018

Update for AEM