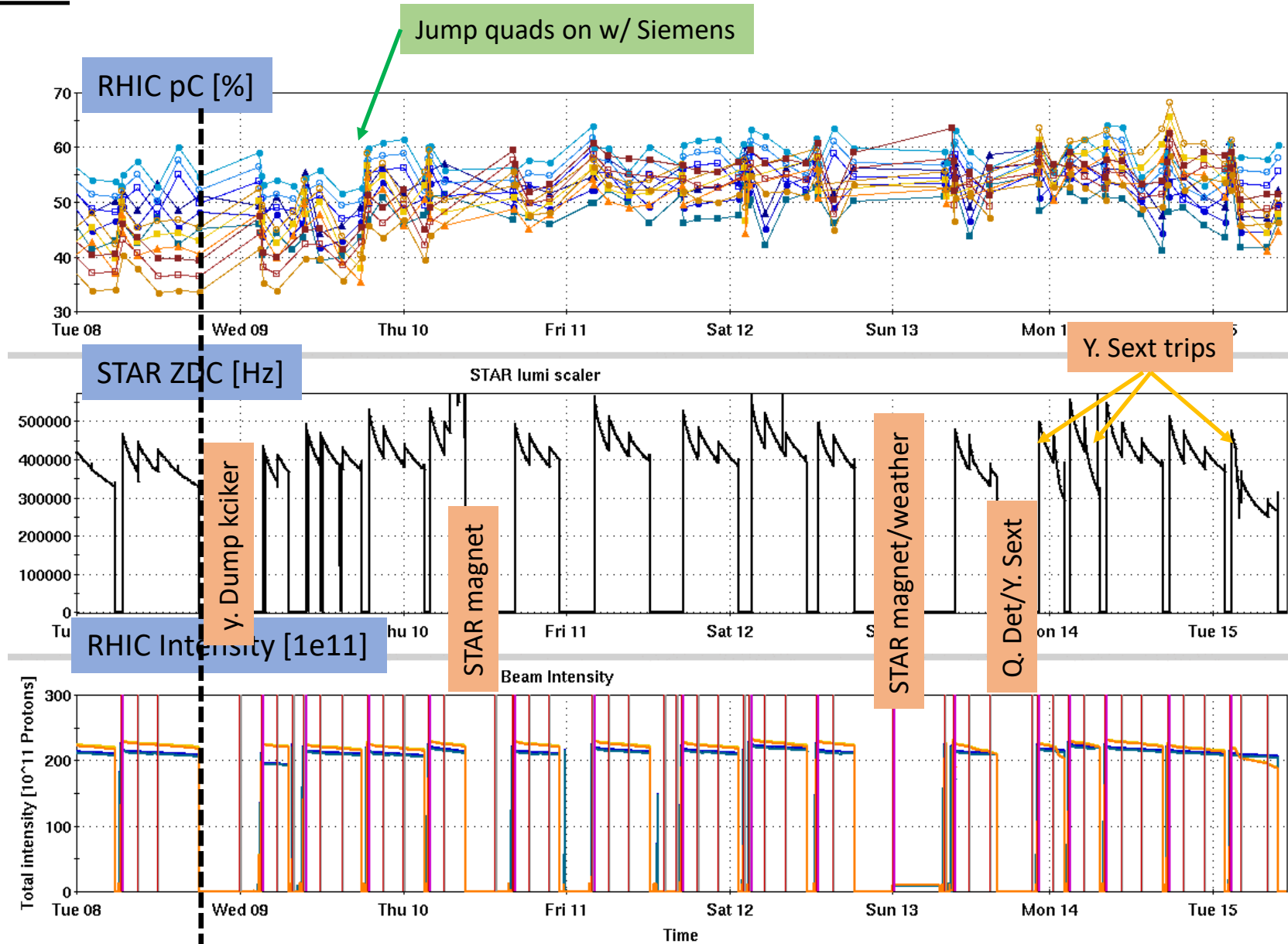


RHIC Run 22 Run Status

3/15/2022, V. Schoefer

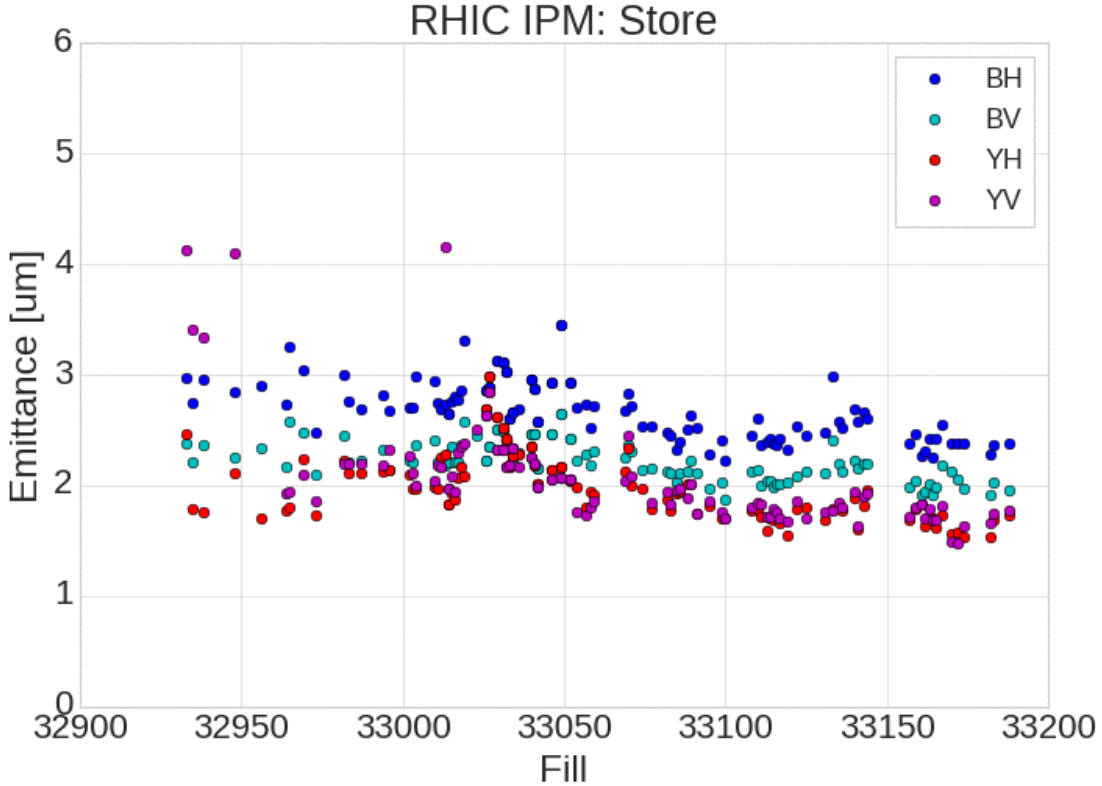
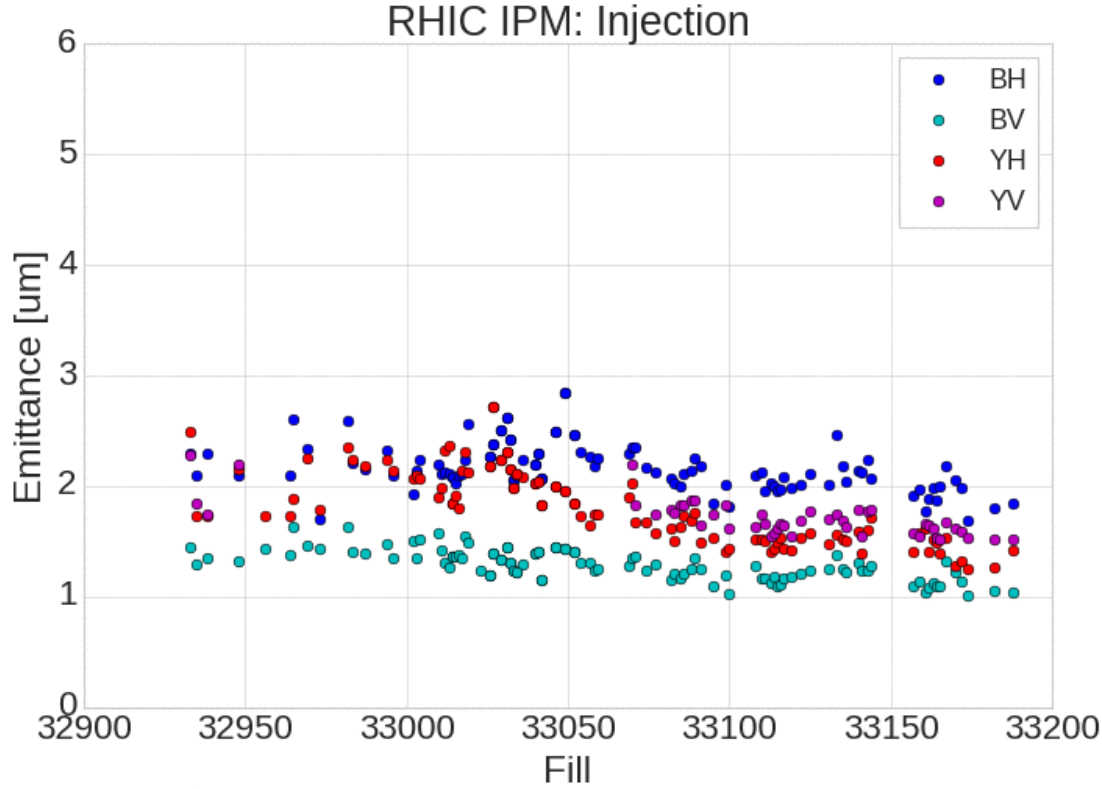
- Switch to Siemens, from Westinghouse was extremely smooth: no RHIC downtime
 - Polarization immediately after switch comparable to WH
 - With jump quads:
 - Polarization in both rings ~55% at store
- Recent yellow sextupole trips ($\gamma 09\text{-sxd2}$) affecting both luminosity and polarization (via beam loss and emittance growth)
- STAR magnet trips due to power distribution problem: multi-hour downtime
 - Plan to address behind APEX tomorrow



Siemens->

RHIC Emittance

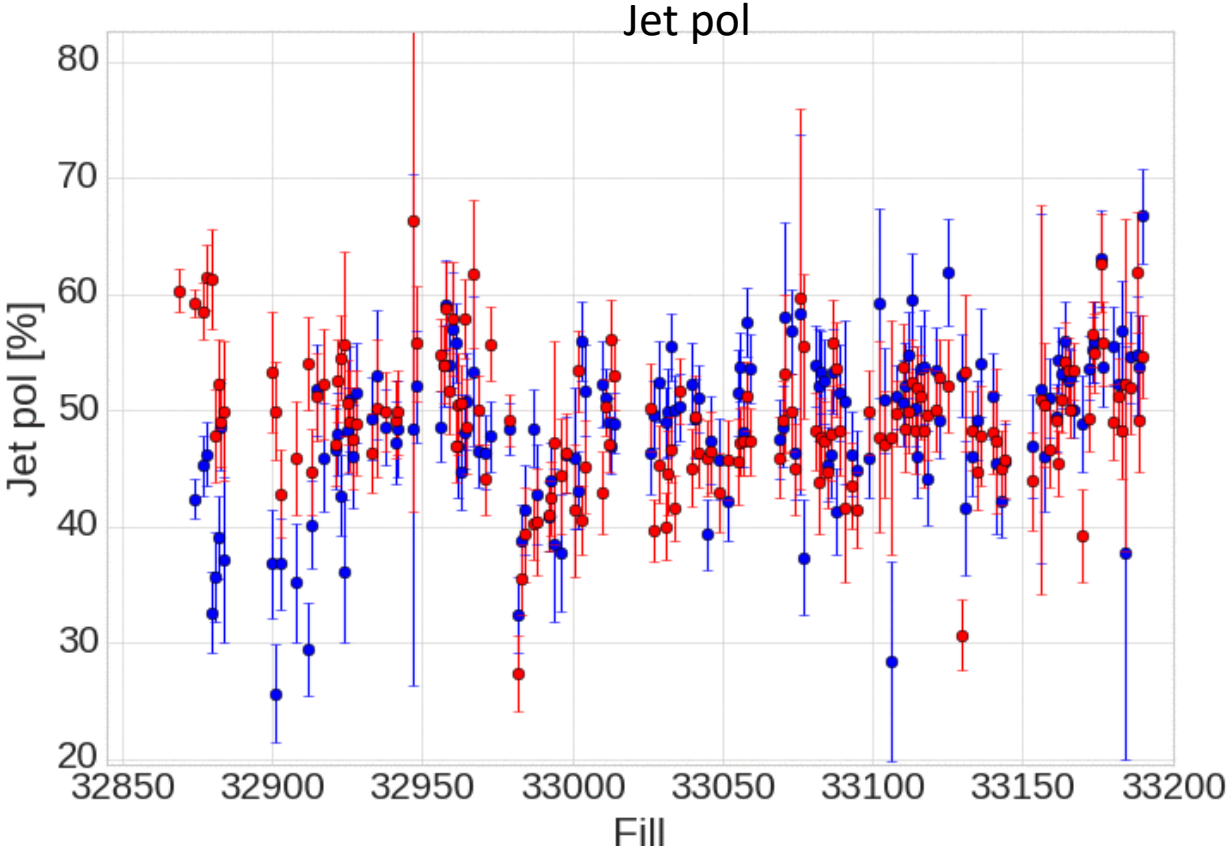
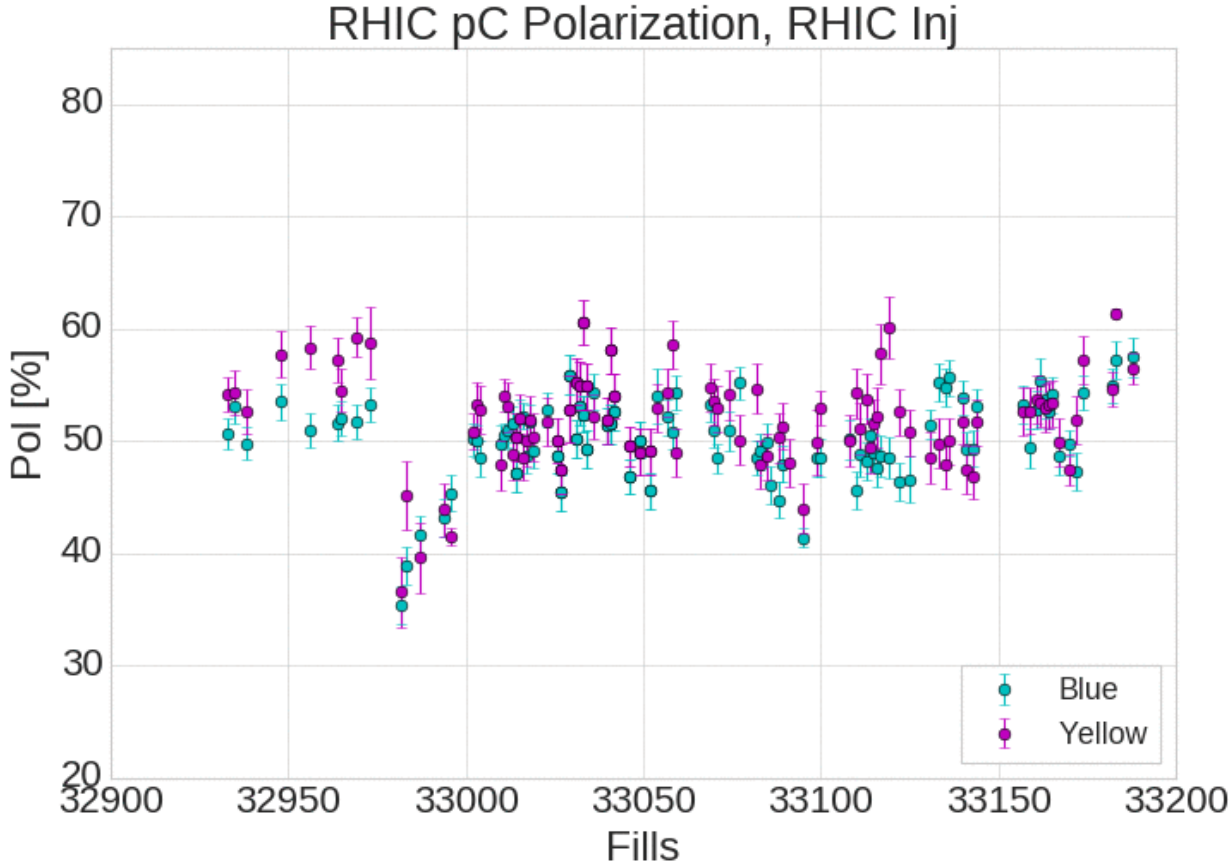
- RHIC emittance consistently low for fills in Siemens
 - More apparent at injection than store



RHIC Polarization

- Benefit of the Siemens from both higher average and more consistent polarization

Jet avgs since Siemens switch: (B,Y) = 55,54%
Jet avgs on Westinghouse: (B,Y) = 49,48%



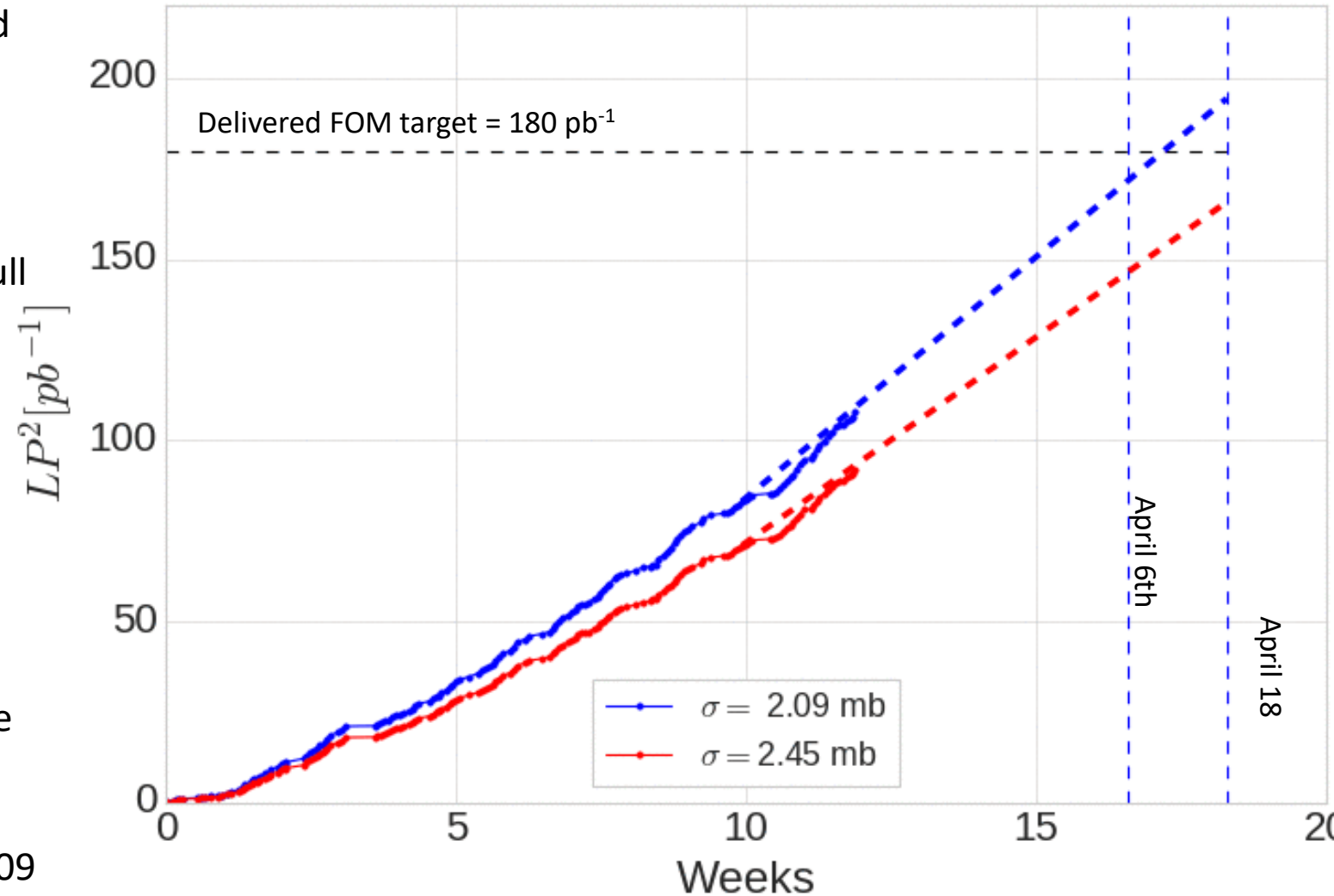
Run extension

- New run end data Apr 18th (instead of Apr 4th)
- Previous schedule: Apr 4th end, 4 days of CeC → 16 remaining days for physics
- Extension schedule: Apr 18th end, 12 days of CeC → 22 remaining days for physics

- Two week extension is a 6 day extension for the RHIC colliding beam physics program – Not enough to substantially alter plans for the remainder of the run.

Projections for delivered Figure of Merit

- Delivered target based on 120 pb-1 sampled target and factor of 0.7 between delivered and sampled (as defined by CAD and STAR respectively)
- Fit projection based on last **2 weeks** which includes: one week on Westinghouse with 2 full days of failure and last week on Siemens with no interruptions for APEX/Maintenance/Development
 - (Difficult to project when there are no normal weeks!)
- April 18th is nominal end, April 6th is nominal end minus 12 days
- Goal is *barely* achievable in the remaining time
 - Two week projection is extremely imprecise
 - Become likelier if the cross section is < 2.09 mb



Plans for the week

- Characterize stable spin direction at the pC polarimeter
 - Create largest allowable orbital angle at local of pC target (limited by aperture)
 - Scan angle and measure spin direction
 - Infer longitudinal component from projections with additional precession