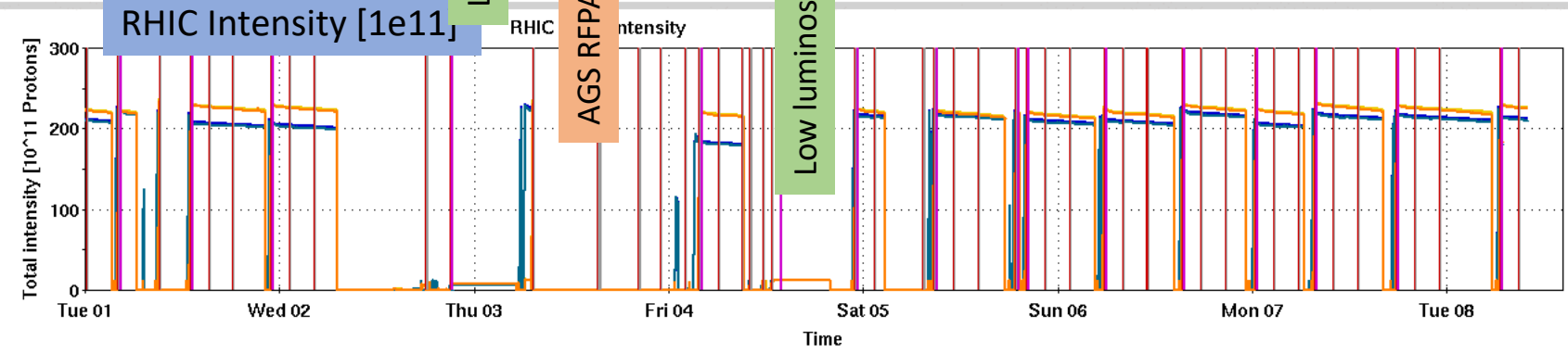
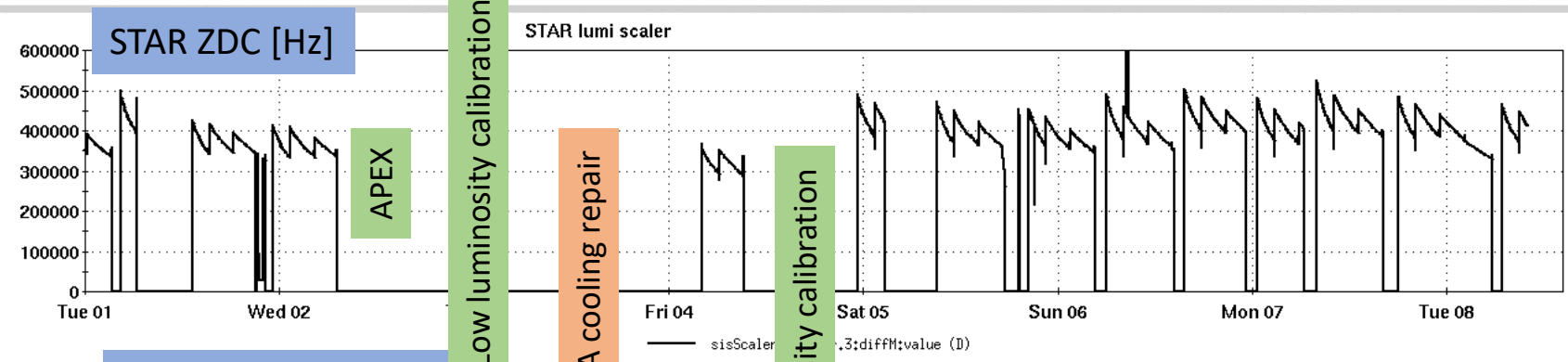
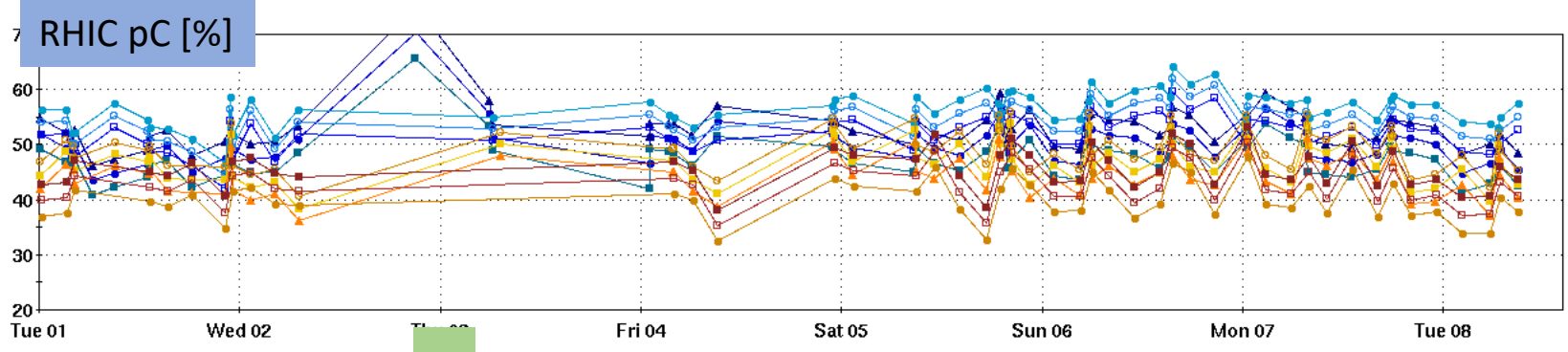


# RHIC Run 22 Run Status

3/08/2022, V. Schoefer

- Wed-Fri: low uptime
  - AGS RF amplifier cooling failure and repair
  - Repaired over two days 2/3 - 2/4
- Injection main dipole adjustment 2/3
  - Injection conditions esp. blue have been very stable since then (fixed a large source of variation in store quality)
  - Peak lumi
- Blue yellow polarization gap persists

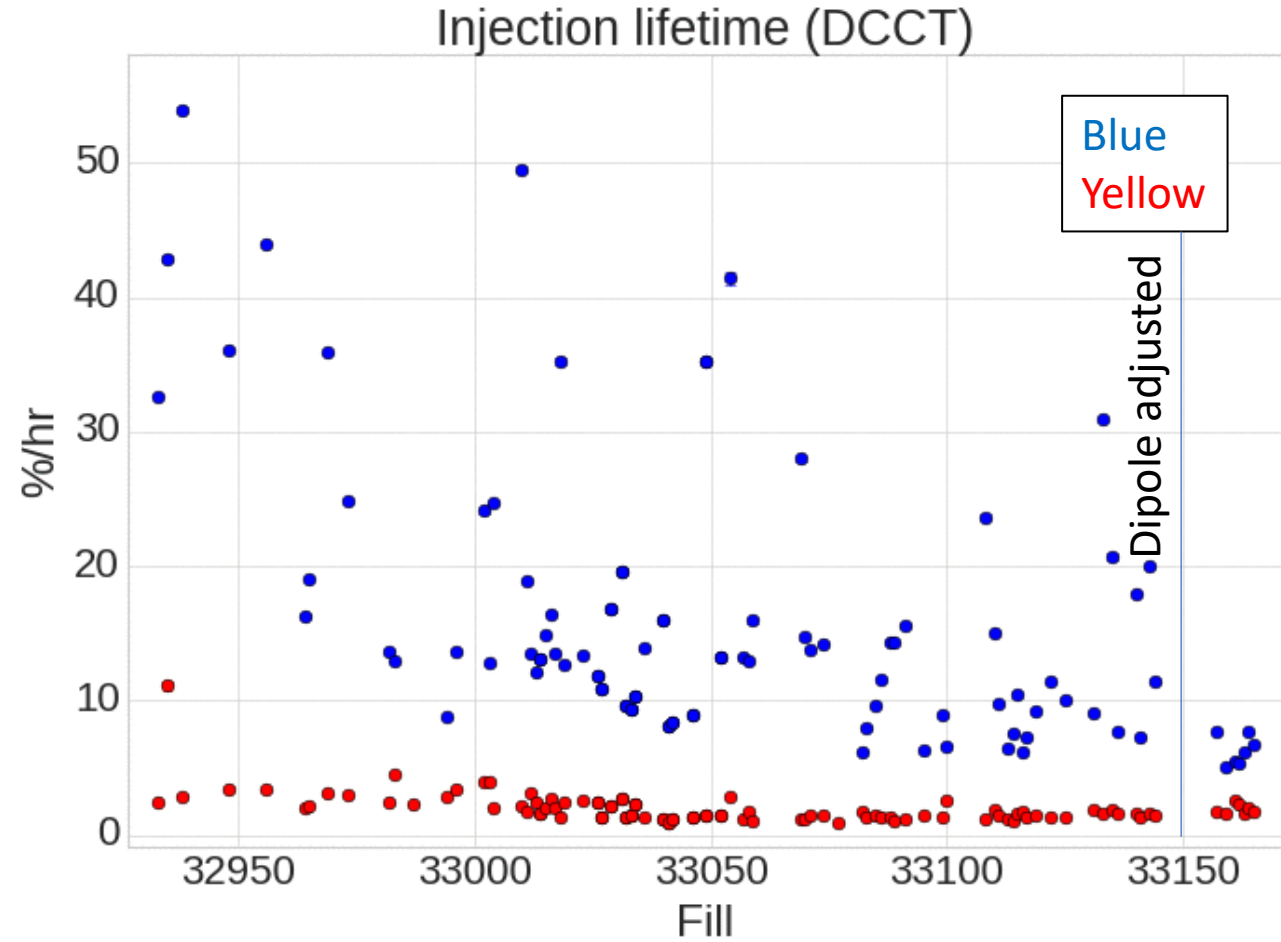


# Injection lifetime

Improvement since dipole adjustment

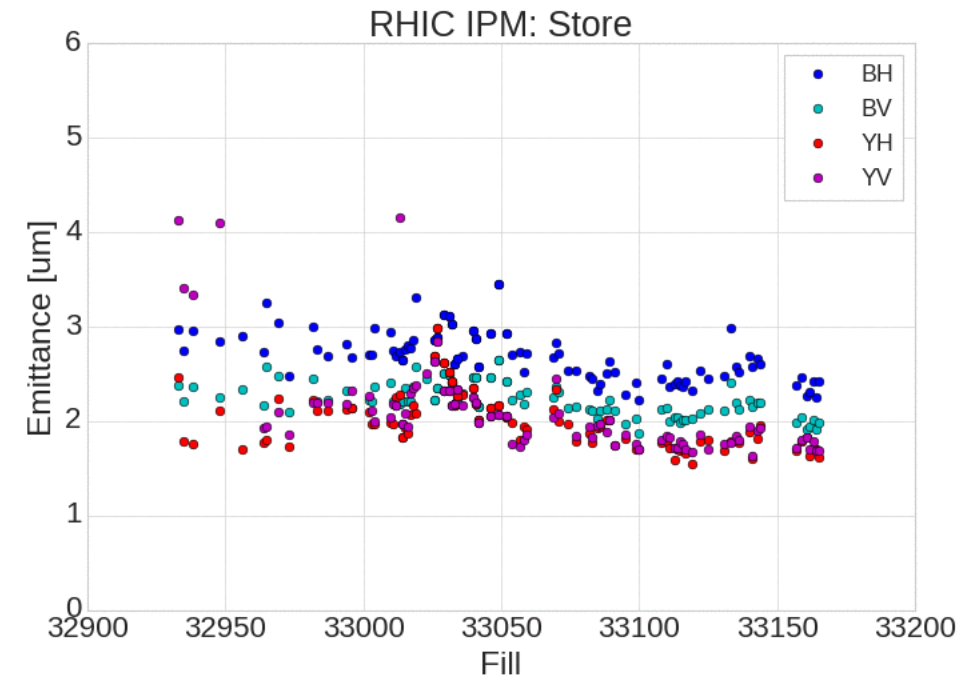
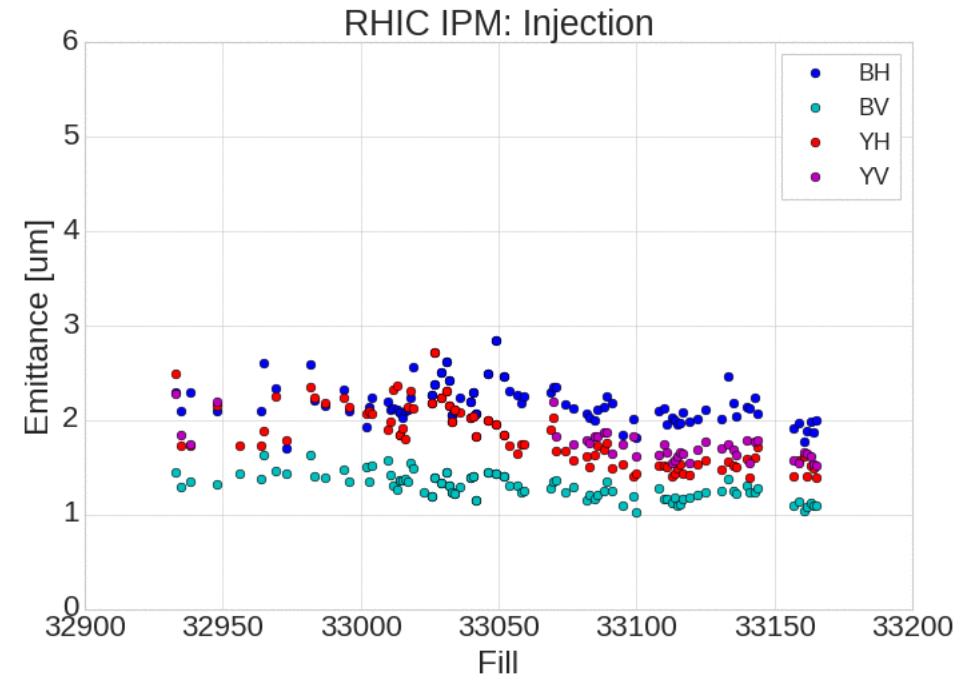
Lifetime both better on average and far more stable fill to fill

Contributes to more consistent target average luminosity



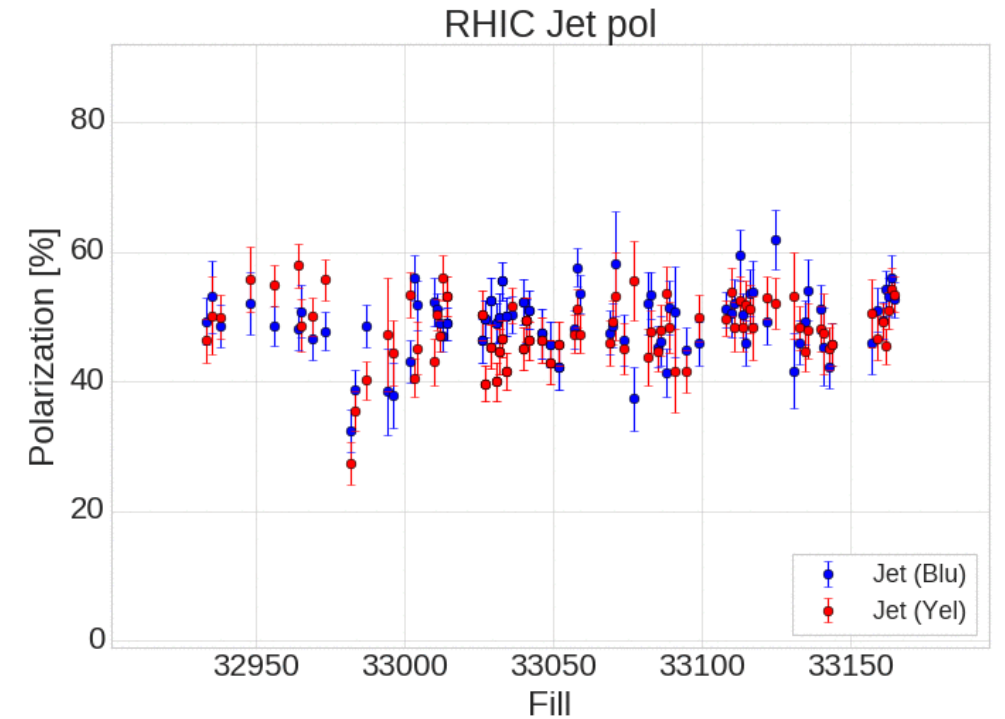
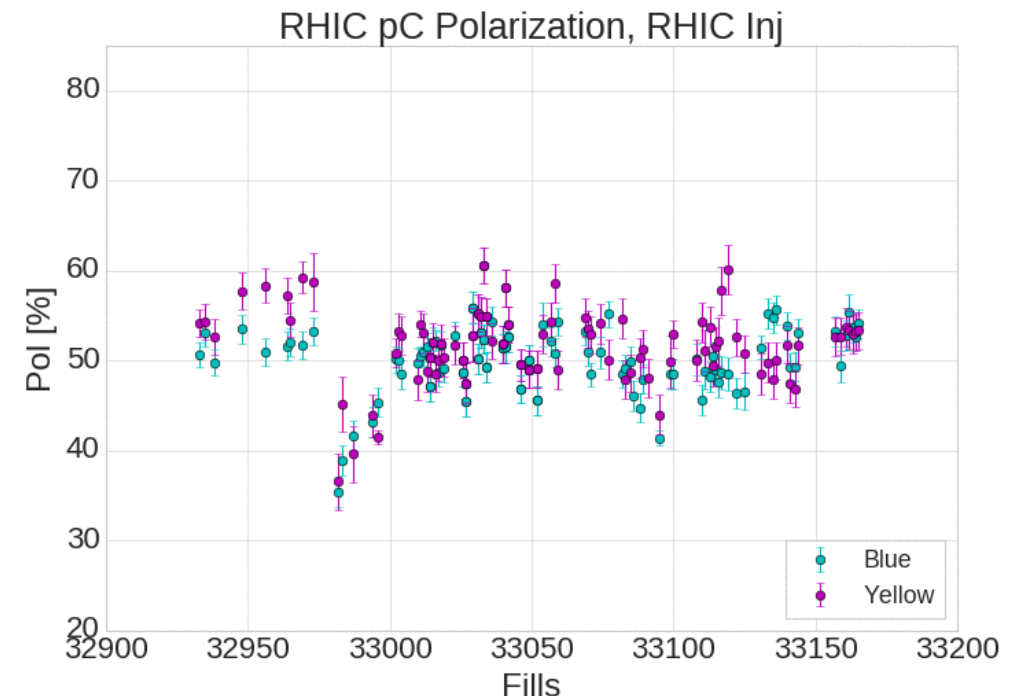
# RHIC Emittance

- Transverse emittances improved ~10% all planes for recent fills
  - Coincident with injection radius change (and the attention to injection that went with it).



# RHIC Polarization

- Polarization for last few fills more consistent at injection, slightly higher average
- Store jet polarization also higher on average
  - Jet hold field coil off, possibility of increased systematic error in recent measurements.



# End of run priorities

- Optimization of standard AGS setup for emittance and polarization (using Siemens)
  - *Still* taking 20% more intensity for RHIC fills relative to Run 17
- Characterization of spin direction at pC/Jet
  - Necessary for assessment of overall run performance
- Resolution of luminosity cross section
- Blue,yellow polarization: including B-Y gap (if it persists on Siemens)
  
- Chopping block (personal assessment, absolutely up for discussion)
  - Correction of STAR spin direction:
    - marginal benefit at this point?
    - Worth: limited focused attempts based on in-hand data (e.g. another attempt at a yellow snake fix)
    - Not worth: more shift+ measurements (except to verify vital data) or attempts at new techniques.
    - STAR can set priority.
  - Split/merge injector setup:
    - the cost to establishing and maintain top level basic setup performance?
    - What has the benefit been?
    - We have not been at Run 17 performance consistently on the basic setup.
  - Imperfection correction: small effect, possible to revisit as APEX during p-Au