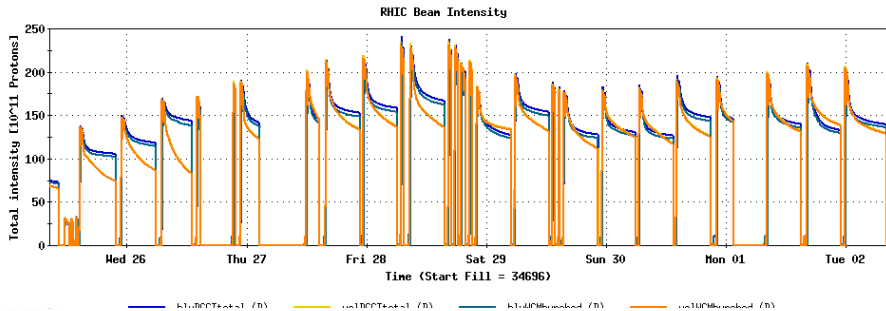
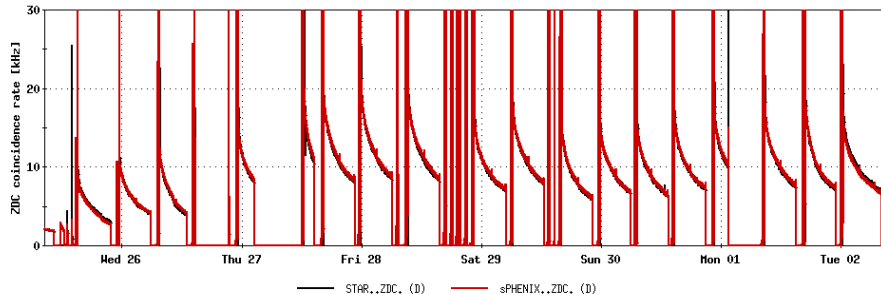


RHIC Status

Kiel Hock

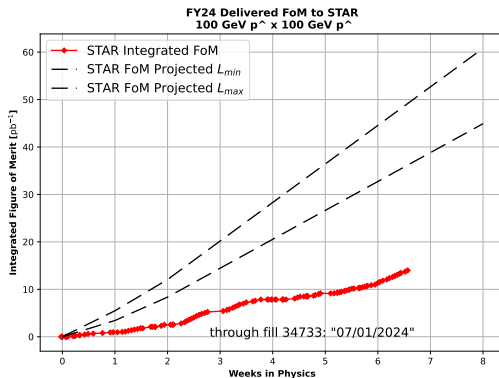
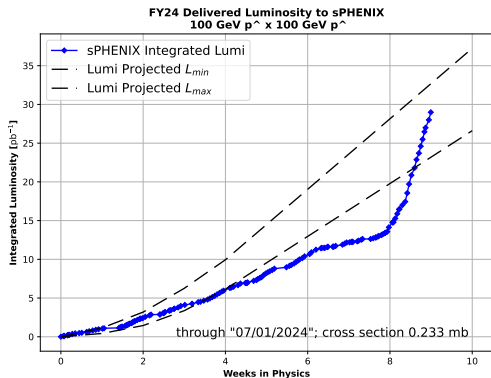
July 2, 2024

Last Week at RHIC



RHIC status and Lumi Projections

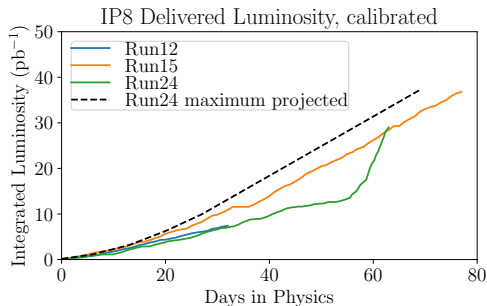
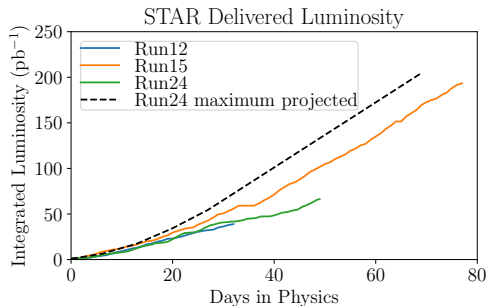
111x111 physics running since 4/30. Preliminary luminosity accounting



RHIC Status

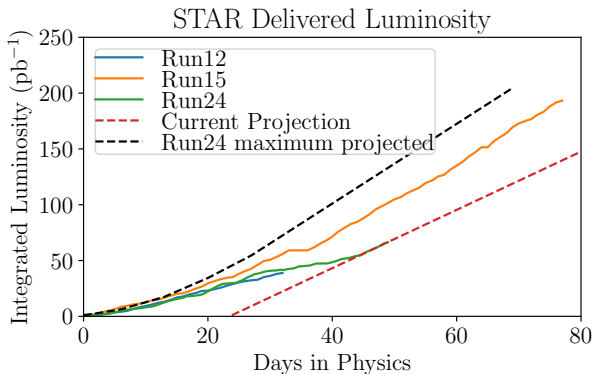
- STAR and sPHENIX operating with 0 mrad crossing angles
- Intensity up to 2.0×10^{11} at store, currently operating with $1.7-1.8 \times 10^{11}$ at injection
- Delivered polarization is 50-60% with improvements made to yellow polarization lifetime (reported last week) by separating Qv from 7/10 snake resonance.
- June 25 Machine Development successfully tested a separate storage ramp to collapse IP6 and IP8 independently. Machinery has been further refined with additional MD tomorrow
- Power dip on June 27
- 2x lead flow trips in alcove 10c due to bad current driver board on June 26+27

Comparison with previous runs



- Run15 and Run12 scaled based off of nominal emittances and calculated crossing angle
- IP8 goal scaled based off expectation of a crossing angle. Current increase from head-on is skews the current performance

RHIC Performance Outlook



- Current projection corresponds to 18.3 pb^{-1} delivered/week where $L_{max}, L_{min} = 25, 17.0 \text{ pb}^{-1}/\text{week}$
- Exceeding $18.3 \text{ pb}^{-1}/\text{week}$ will require one IR operating with a crossing angle, beta-squeezing, or the implementation of Lumi sharing