Running Mode

- Au-Au (100 GeV beam energy)  
  - 20 weeks

- STAR (IR6) operating with 1 mrad DX angle

- sPHENIX (IR8) operating with variable DX angle
Injectors

- Upgrade of EBIS (+40% Au output) prevented its use for RHIC Au, Tandem came back in service for that purpose
- Tandem allows for faster fill times at intensities of less than $2 \times 10^9$/bunch because it allows for 4 extractions/cycle
Challenges going in

- The last time we ran 2 experiments with high intensity beam at full energy was 2016 – only 6 of 18 shift operators were here then.
- 4 sections of the RHIC ring were brought up to air for various work during the shutdown, so vacuum would be an issue.
- Summer operations (heat, power dips, personnel)
Unusually large number of failures this run

- Operations group almost never had a ‘normal ramp’ through the first seven weeks
- Experimental magnet configurations kept changing
Then the heat hit...
Using the beam time well

- Even with all these failures we made good progress
  - sPHENIX commissioning was on schedule
  - STAR was on track to hit their goals
  - Beam intensity limits were being pushed and we had a path forward for getting to intensity goals – highest intensity ramps of the run did not suffer from emittance blowups that were plaguing us
Quench event

- 20 minutes into a nice store Tuesday we had a spontaneous quench link interlock that caused all the DX heaters to fire.
- As part of a normal response to a QLI MCR called the Cryo control room who informed us that 1004B valve box was venting helium.
FY23 Uncertainty

- As of the writing of this presentation it is uncertain if we will be able to repair the valve box in time to continue this run or the effort/money would be better spent shutting down now and starting the FY24 run early.