

# STAR Weekly Time Report

Period Coordinator

Zhangbu Xu (KSU)

05/07--05/14/2024

Incoming Period Coordinator

Zilong Chang (IU)

05/14—06/04/2024

# Weekly Summary

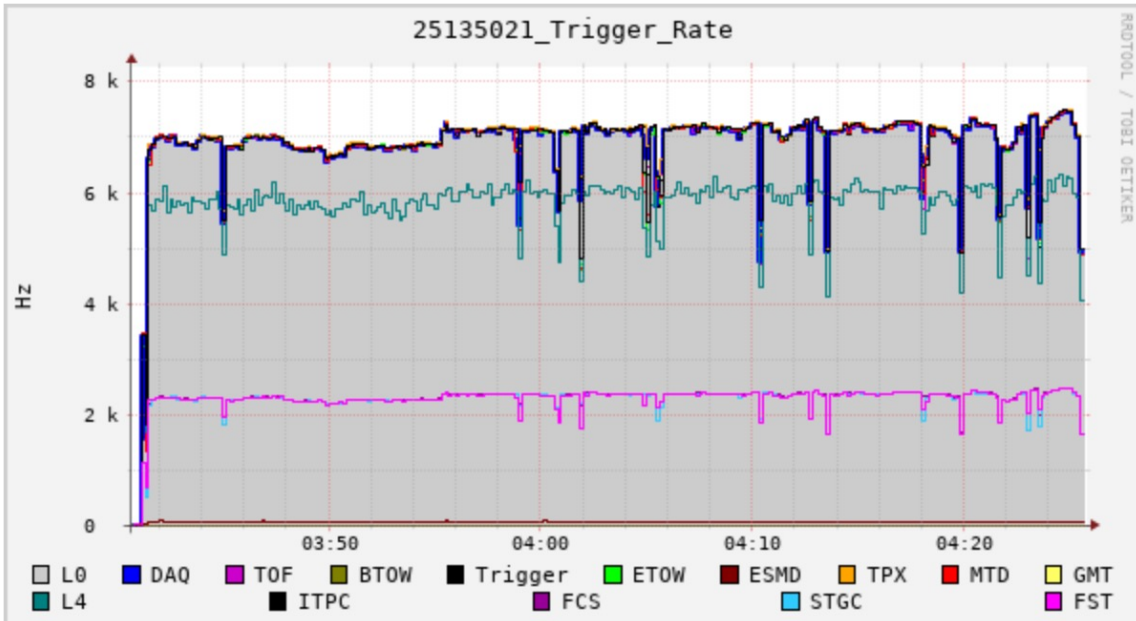
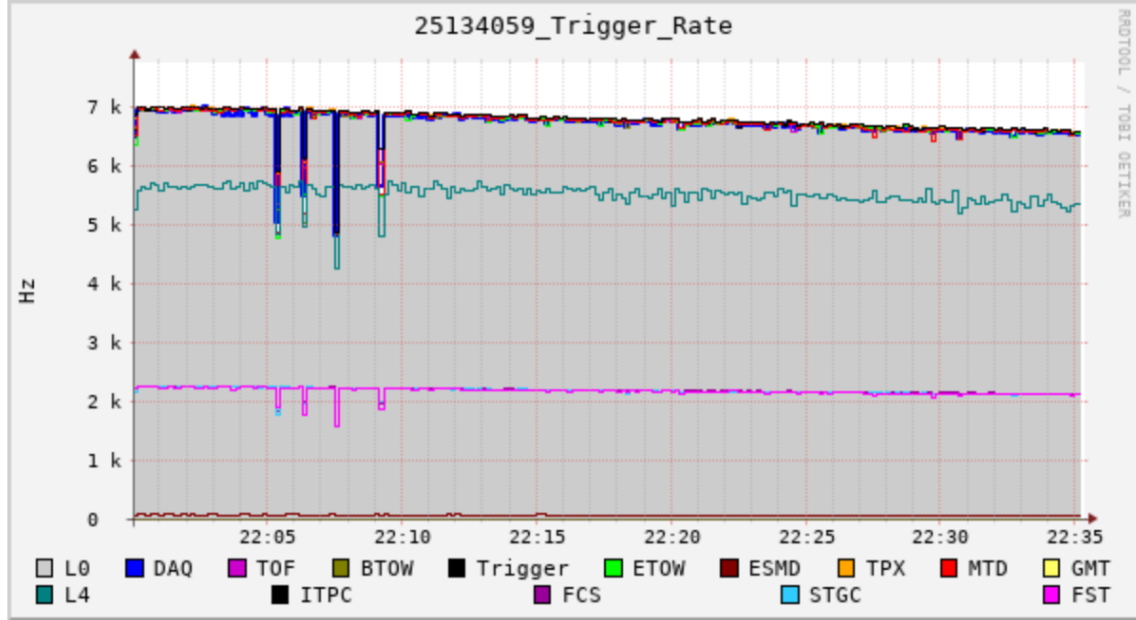
- Physics Data  
05/01 5:22PM  
EPD Physics Trigger: 5.8KHz  
05/13 10PM  
EPD Physics Trigger: 7KHz
- Luminosity leveling  
20KHz BBKA (05/01,05/14)  
40KHz BBKA (05/02—05/13)
- Accumulate datasets:  
Minbias: 1.4B evts  
High-Multiplicity: 1.55B evts  
(goal 1.5B)

- Optimizing run conditions
- Timed in polarimetry scaler  
(DONE)
- Commissioning forward detectors  
DONE and Vernier Scans
- Commissioning high-lumi spin  
trigger configuration  
optimizing
- Blue Background High
- STAR Control Room AC Unit  
Temporary unit works

# Data-taking at high rate (7KHz)

STAR Data-Taking Rate

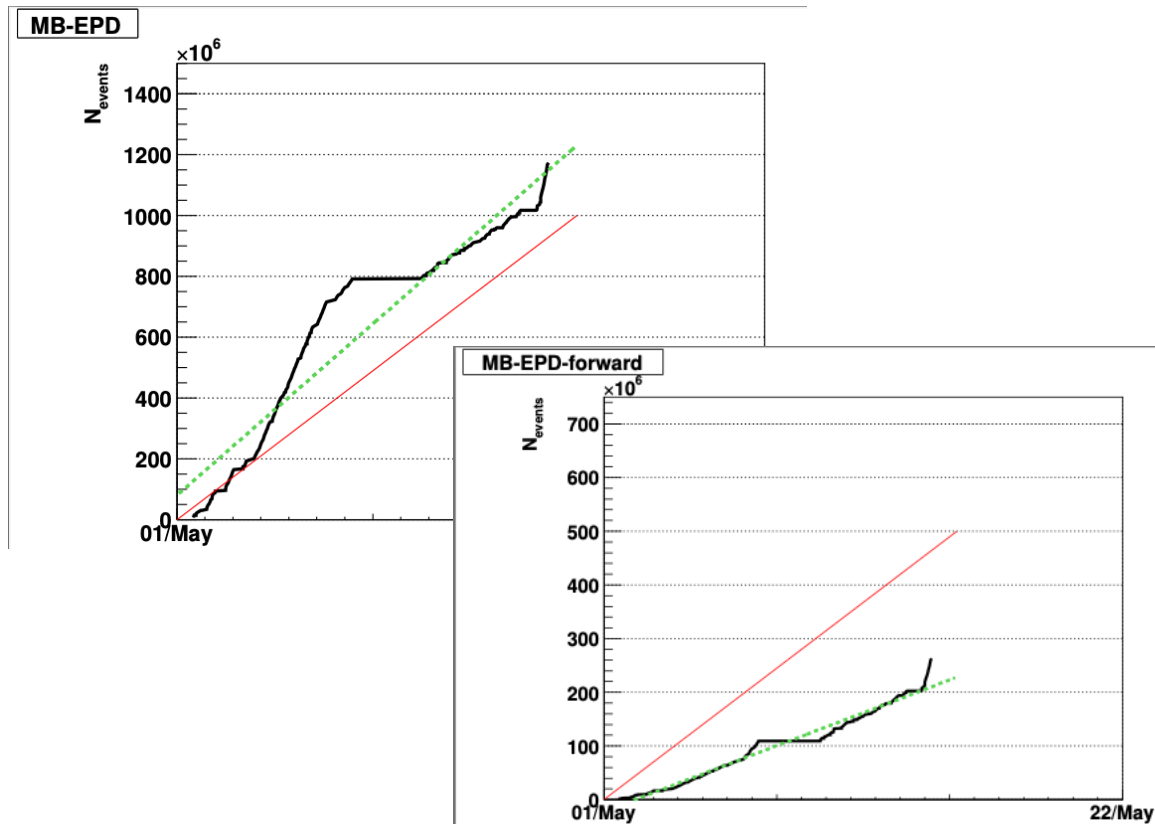
- 2000: 5 Hz
- 2003: 50Hz
- 2005: 100Hz
- 2009: 1000Hz
- 2015: 1500Hz
- 2020: 2000Hz
- 2022: 3000Hz
- 2023: 4000Hz
- 2024: 5800Hz
- 2024: 7KHz



# Low Luminosity Physics Goals

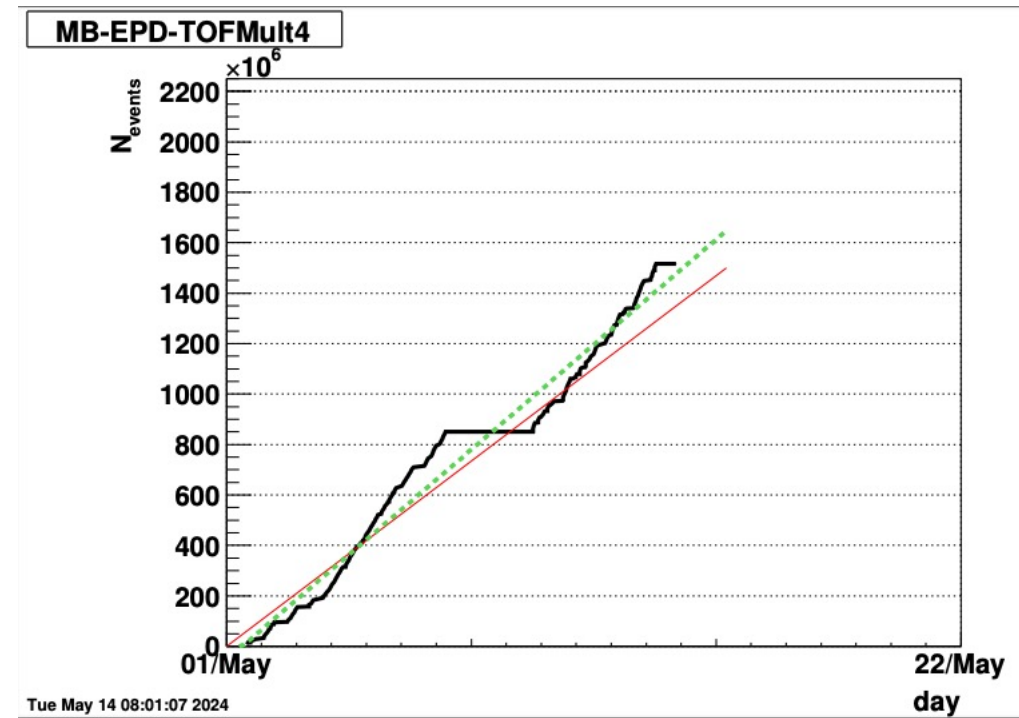
pp Minbias 1.5B evts goal

now 1.45B events, a few % overlap



pp High Multiplicity 1.5B evts goal

**1.55B events**

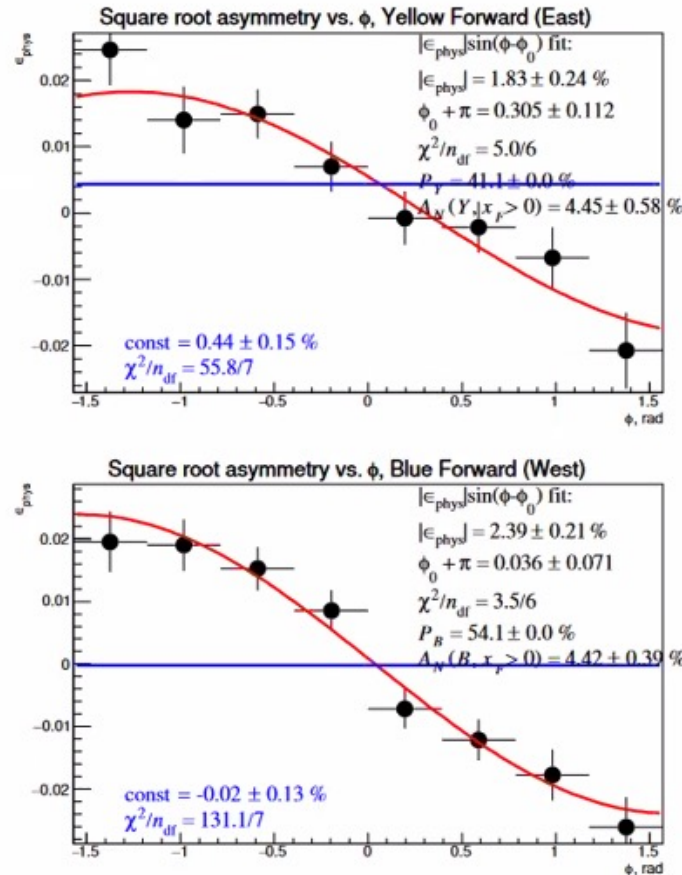
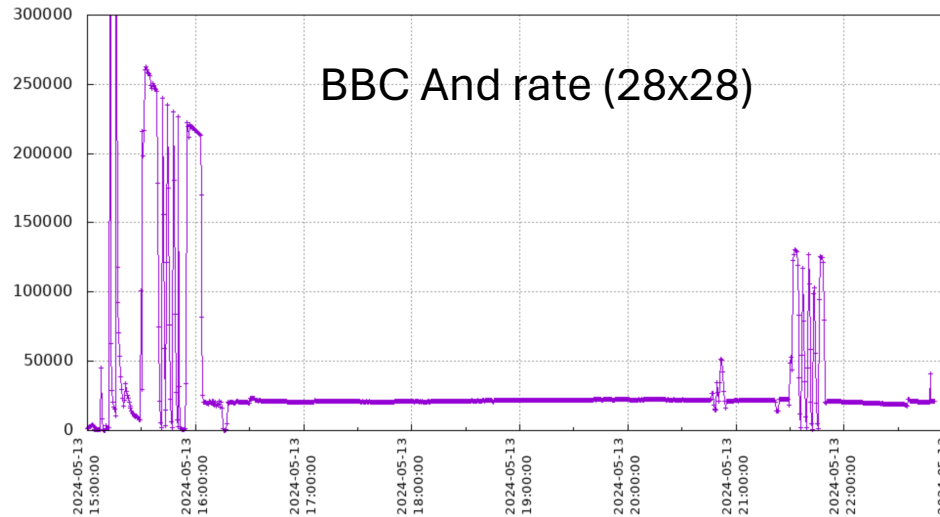


# Vernier Scan for forward cross section

## High-Luminosity Trigger configuration

## Polarimetry Scaler commissioning

Prepare to switch to spin program  
**READY**



ZDC Single Spin Asymmetry (run 25134033)





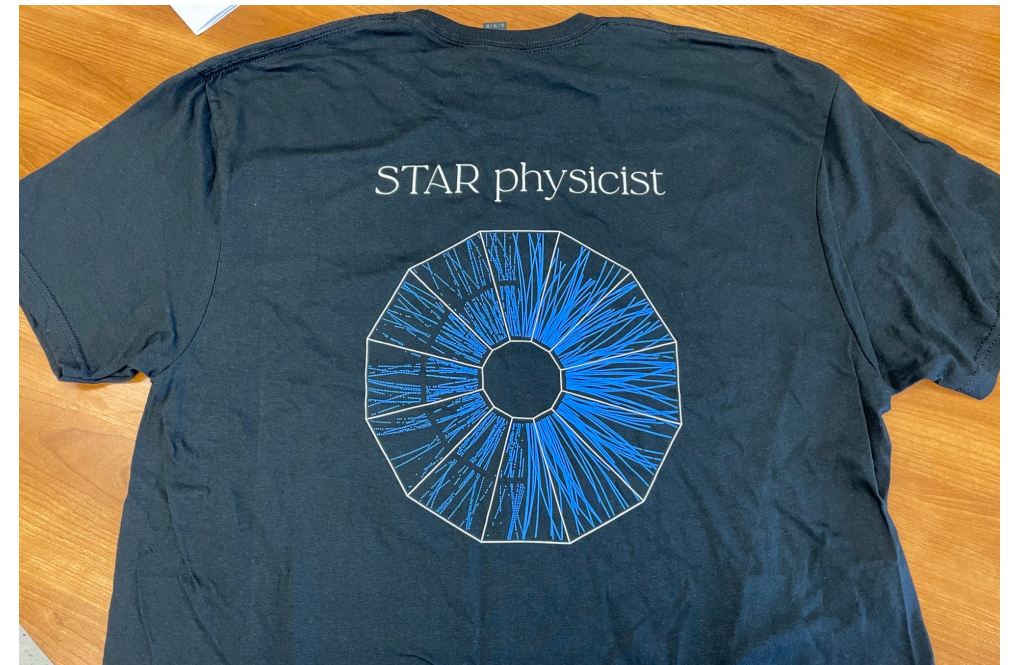
# Summary of past week and Plan

## Beam Use Request for Run24

- Smooth data-taking
- Accumulate physics data  
2.9B physics evts
- commission scalers and  
triggers for spin physics with  
high luminosity and  
polarization
- Next is taking high-lumi radially  
polarized spin dataset

$\sqrt{s_{NN}}$ (GeV)	Species	Number Events/ Sampled Luminosity	Year
200	$p+p$	142 pb <sup>-1</sup> /12w	2024
<del>200</del>	<del><math>p+Au</math></del>	<del>0.69 pb<sup>-1</sup>/10.5w</del>	<del>2024</del>
200	Au+Au	18B / 32.7 nb <sup>-1</sup> /40w	2023+2025

Assuming 24 physics weeks / year



This year's STAR t-shirt designed and sold by junior members