

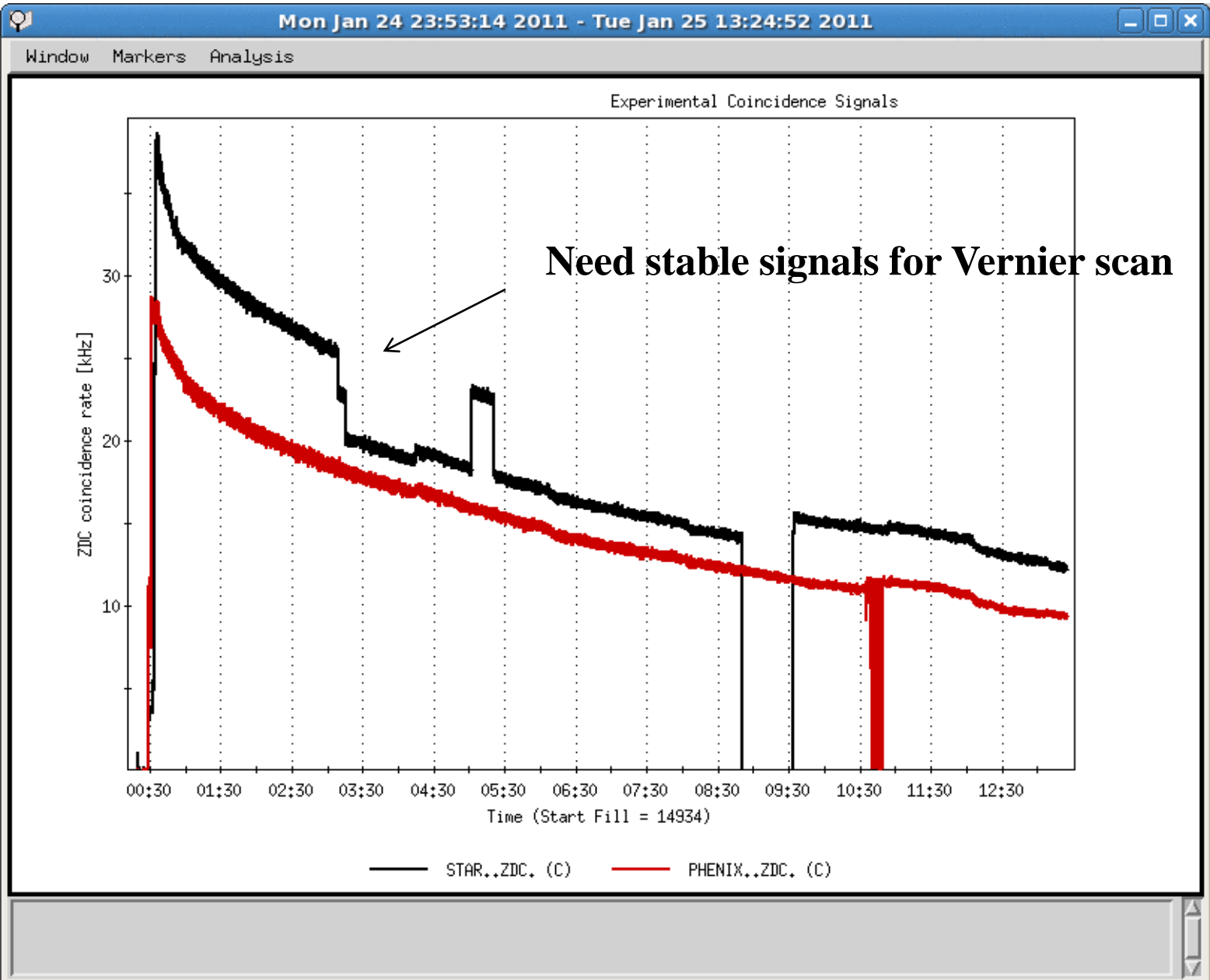
# **RHIC Status**

**Haixin Huang**

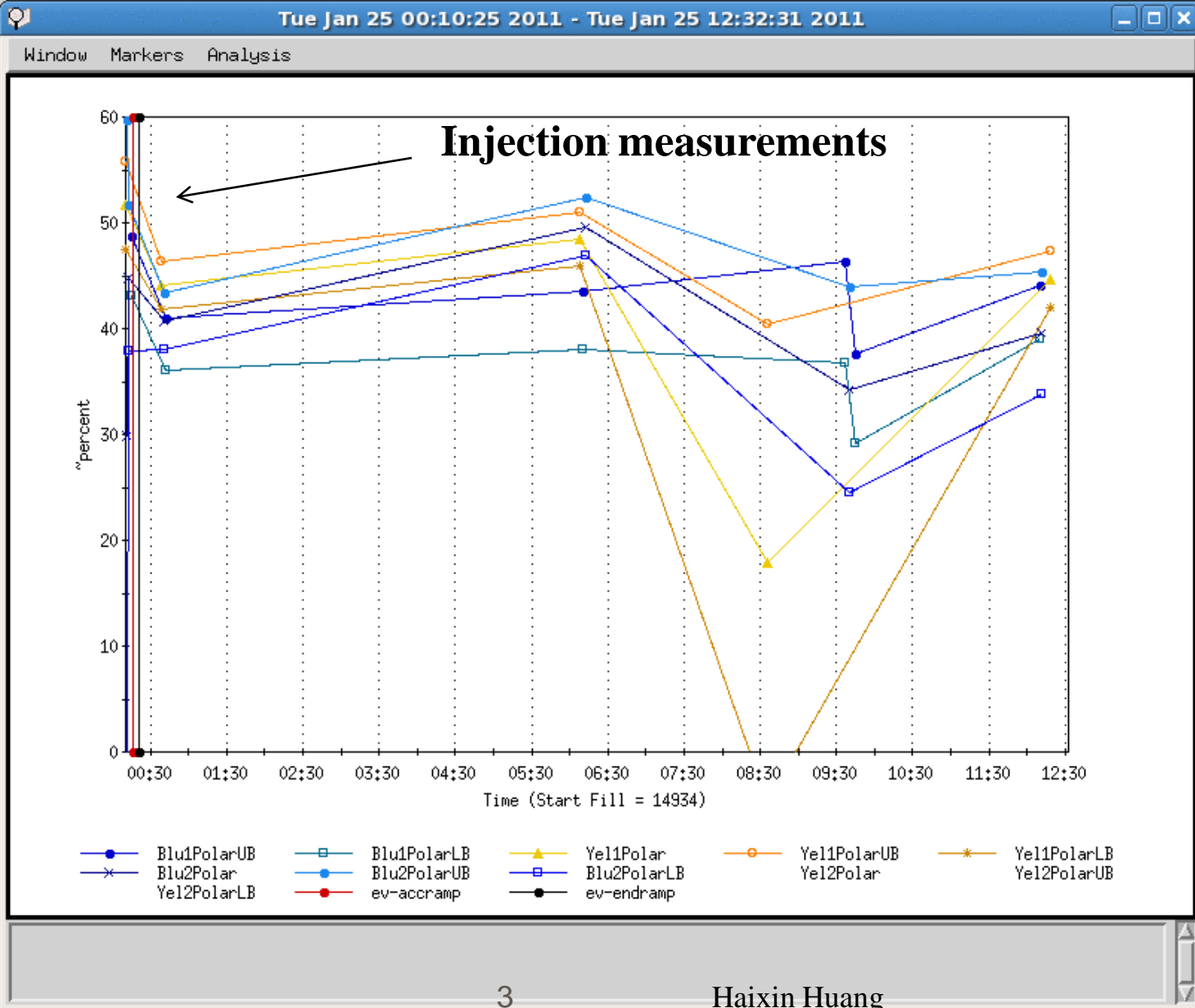
**Time Meeting**

**01/25/2011**

# ZDC Collision Signals

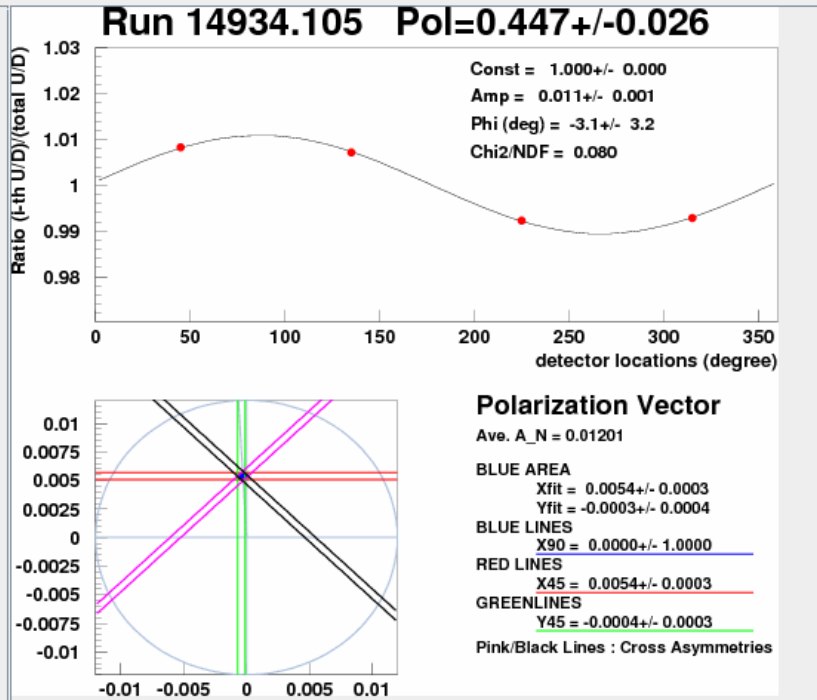
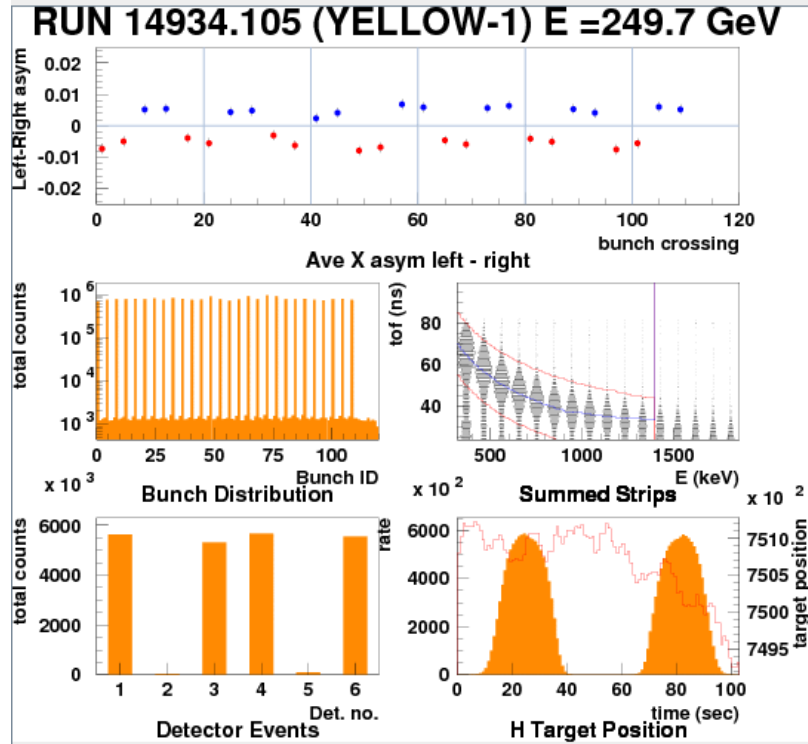


# Polarization over Last Store



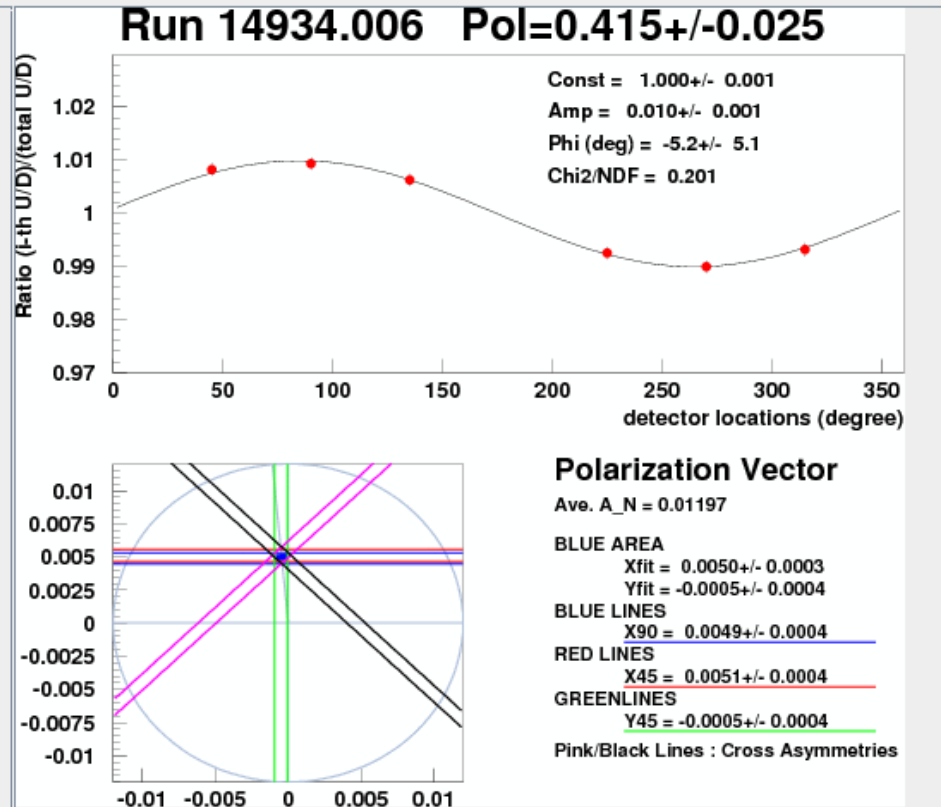
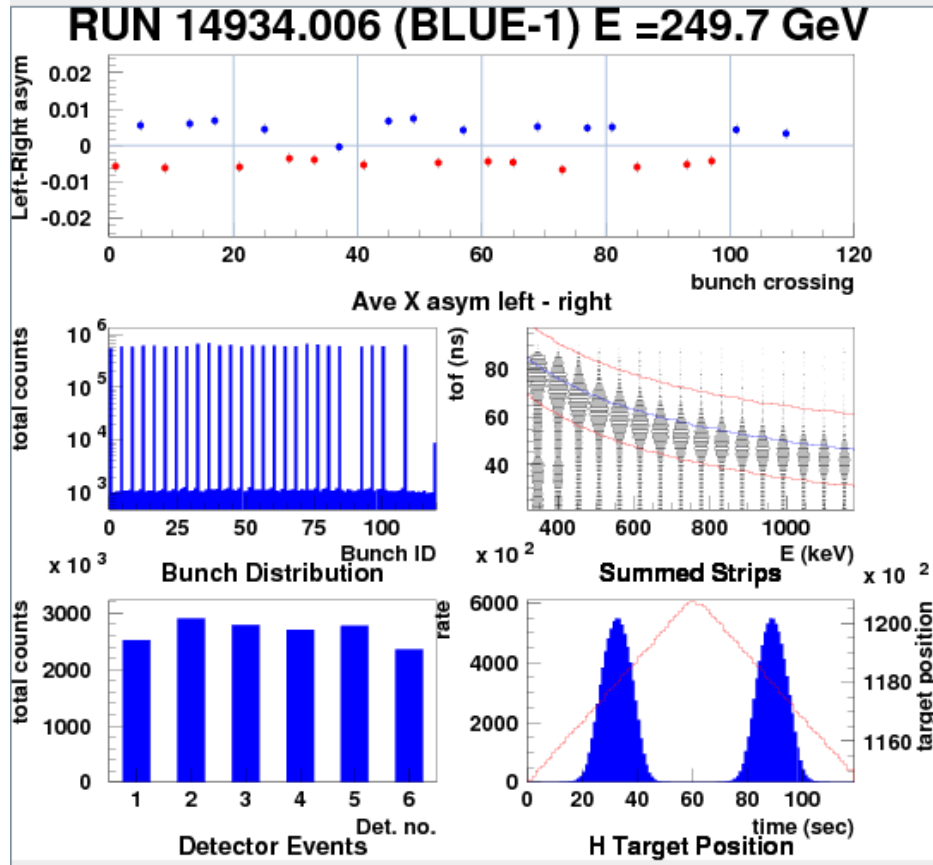
# Yellow Polarization at End of Store

Jan 25, 2011 12:18:12 PM



# Blue Polarization at End of Store

Jan 25, 2011 12:10:16 PM



# A Few Issues with Long Term Impact

- Need to address which rf cavity to use.
  - 9MHz cavity development with higher bunch intensity, and rebucketing with 28MHz.
- Need to check if we need the slower ramp or not (test with higher bunch number and higher bunch intensity).
- Collimation on the ramp: contain beam loss at collimator to avoid permit pulling. This requires orbit feedback on every ramp.

# Status as of 1/25/2011

- Provide 28X28 stores overnight for past two days.
- Successful 9MHz cavity ramps with 6x6. Longitudinal emittance is preserved.
- Polarization measurements show ~45-50% polarization at store (using analyzing power at 100GeV).
- Instrumentation not in operation mode yet: IPM blue horizontal, yellow2 polarimeter and jet.
- Relaxed gamma\_tr quads off by ten seconds, which improved the beam loss in the early part.
- Tune/coupling/orbit feedback works, waiting for chromaticity feedback.
- We have seen sextupoles ramp speed reached limits. We have a slower ramp ready for test (developed by Steve over weekend), but we have not done it yet.
- We want to remove separation bumps in a different ramp (before rotator ramp turning on). It's ready but not commissioned yet.
- Vernier scans are done at IP8, IP6 and IP2.
- Several attempts to ramp with 56x56 failed due to beam loss (chromaticity) near the end of ramp.

# Plan for next A Few Days

- Pseudo-rotator ramp development.
- Set up collimation on ramp.
- Rotator ramp development.
- 9MHz cavity development with higher bunch intensity.
- Working on chromaticity. Increase bunch number and intensity.
- Check polarization at AGS extraction, RHIC injection and store.
- We need to evaluate the polarization transmission efficiency on the ramp, and ramp measurements.
- Take polarization profile measurements (at fixed target locations) at store and injection.



# Overall Schedule

- Cool-Down Mode : one week (01/03-01/09)
- Injection setup (6 days: first 4 days are blue only) (01/10-01/15).
- Ramp development (6 days) (01/16-01/21)
- Commissioning 9MHz at injection and on the ramp (5 days) (01/19-01/23)
- Store development (6 days) (01/22-01/27)
- Ramp development with intense beam (7 days) (01/28-02/03).