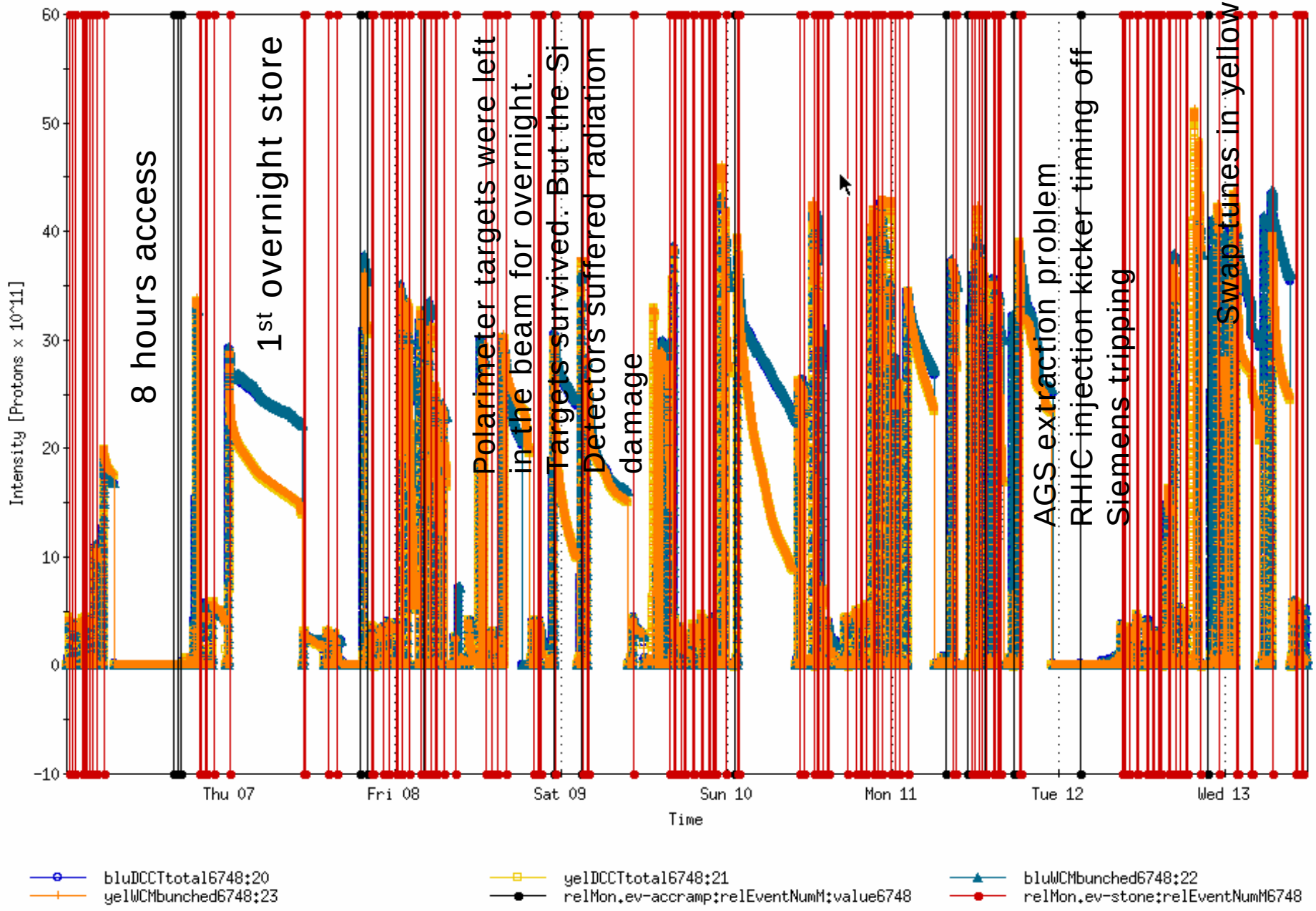
RHIC pp Status

http://www.agsrhichome.bnl.gov/AP/Spin2005/


8 hours access
1st overnight store
Polarimeter targets were left in the beam for overnight.
Targets survived. But the Si Detectors suffered radiation damage
AGS extraction problem
RHIC injection kicker timing off
Siemens tripping
Swap tunes in yellow
Intensity [Protons x 10^11]
60
50
40
30
20
10
0
-10
Thu 07
Fri 08
Sat 09
Sun 10
Mon 11
Tue 12
Wed 13
Time
bluDCCTtotal6748:20
yelWCMbunched6748:23
yelDCCTtotal6748:21
relMon.ev-accramp:relEventNumM:value6748
bluWCMbunched6748:22
relMon.ev-stone:relEventNumM6748

Progress and Status

- Energy ramp: pp21
  - Beam transmission efficiency: >90% both rings
  - Polarization transmission efficiency: based on FY04 calibration
    - Blue: ~85%
    - Yellow: polarization ramp measurement
      - ~50% before tune swapping
      - ~65% after tune swapping. This is still under development
- Rotator ramp: rot3
  - Beam transmission efficiency: ~85%
  - Polarization efficiency: ~100%
- Snake current scans at injection confirmed that the current snake currents in both blue and yellow are optimized
- Started to provide overnight stores from April 7
  - Local polarimeters are ready
  - Jet setup
- Replaced yellow CNI polarimeter targets on April 6

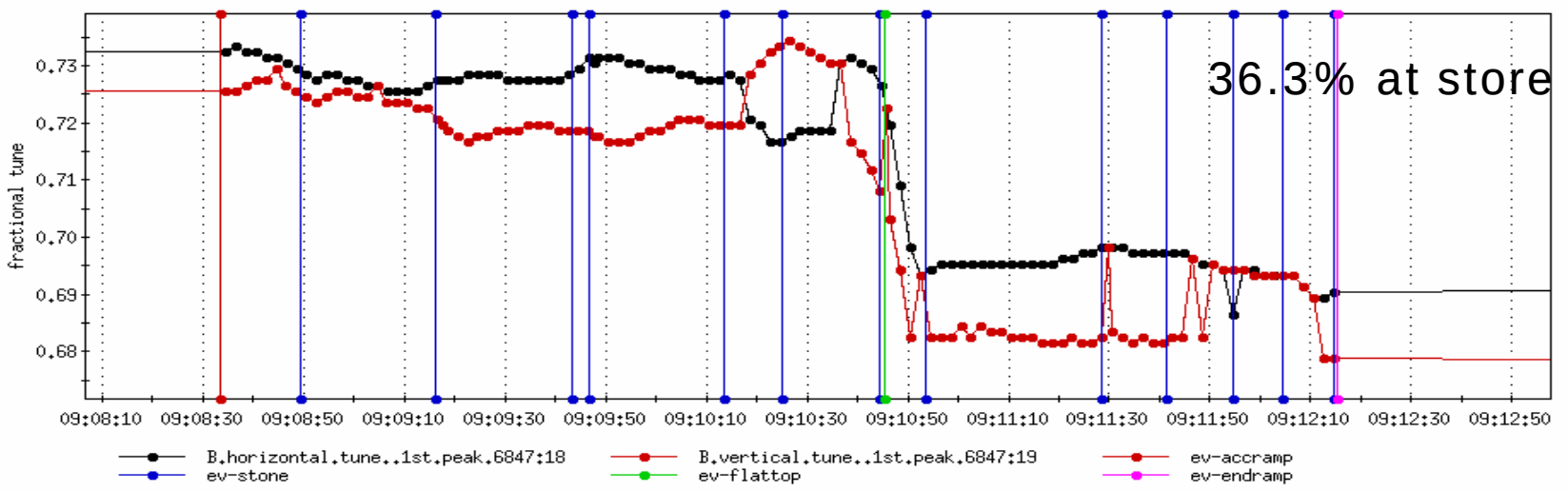
Plan

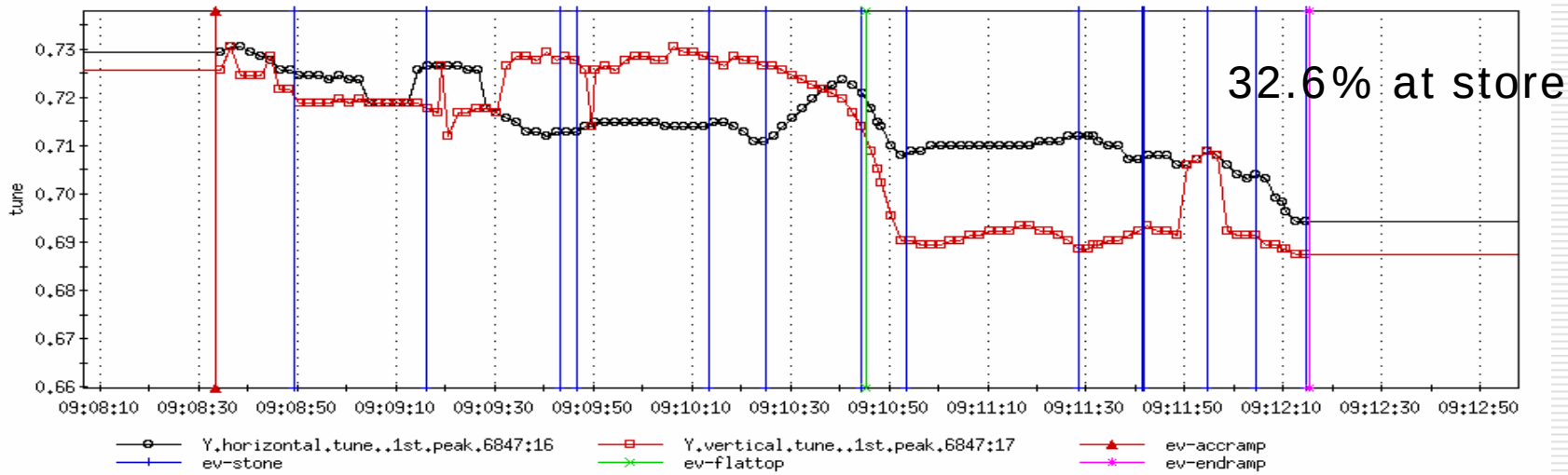
- Continue improving the ramps
  - pp21: the polarization transmission efficiency
    - revert the target back to zero orbit in yellow on the basis of our development of tune swapping
  - Rot3: the beam transmission efficiency
    - orbit corrections and tune adjustments
- Measure polarization direction at STAR and PHENIX with local polarimeters after the rotator ramp
  - Done last night. Close to zero vertical asymmetry with rotator on

Plan

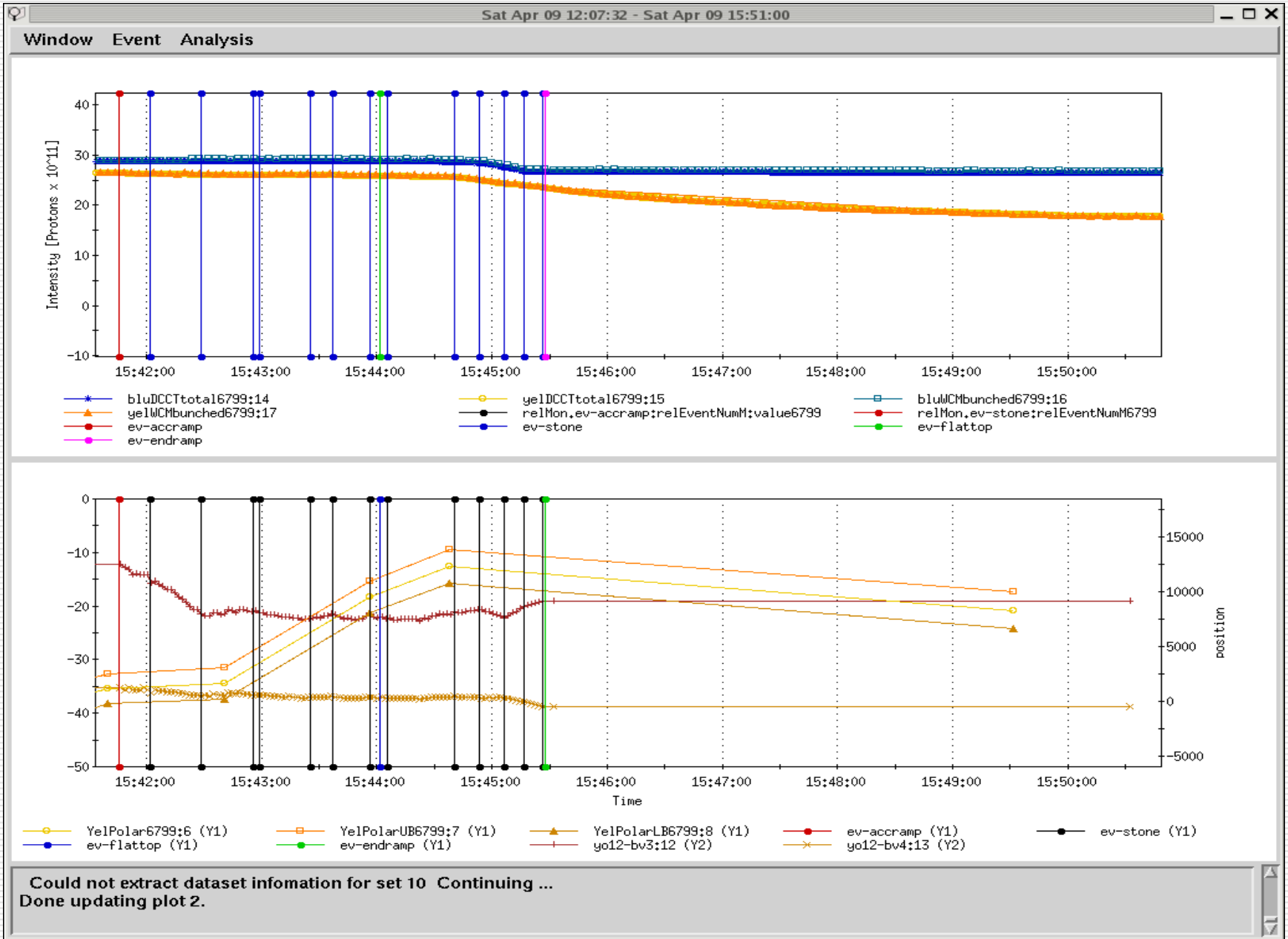
- Revert ideal orbit to zero orbit: in progress
- Prepare to move to Physics run
  - When we should announce Physics
  - Automate the cogging procedure
  - Automate the steering procedure
  - Automate the polarization measurement procedure
- Keep providing overnight collisions
  - Experiment detector timing setup
  - Local polarimeter setup using transverse polarization
  - Jet setup

Artus measurements along the ramp

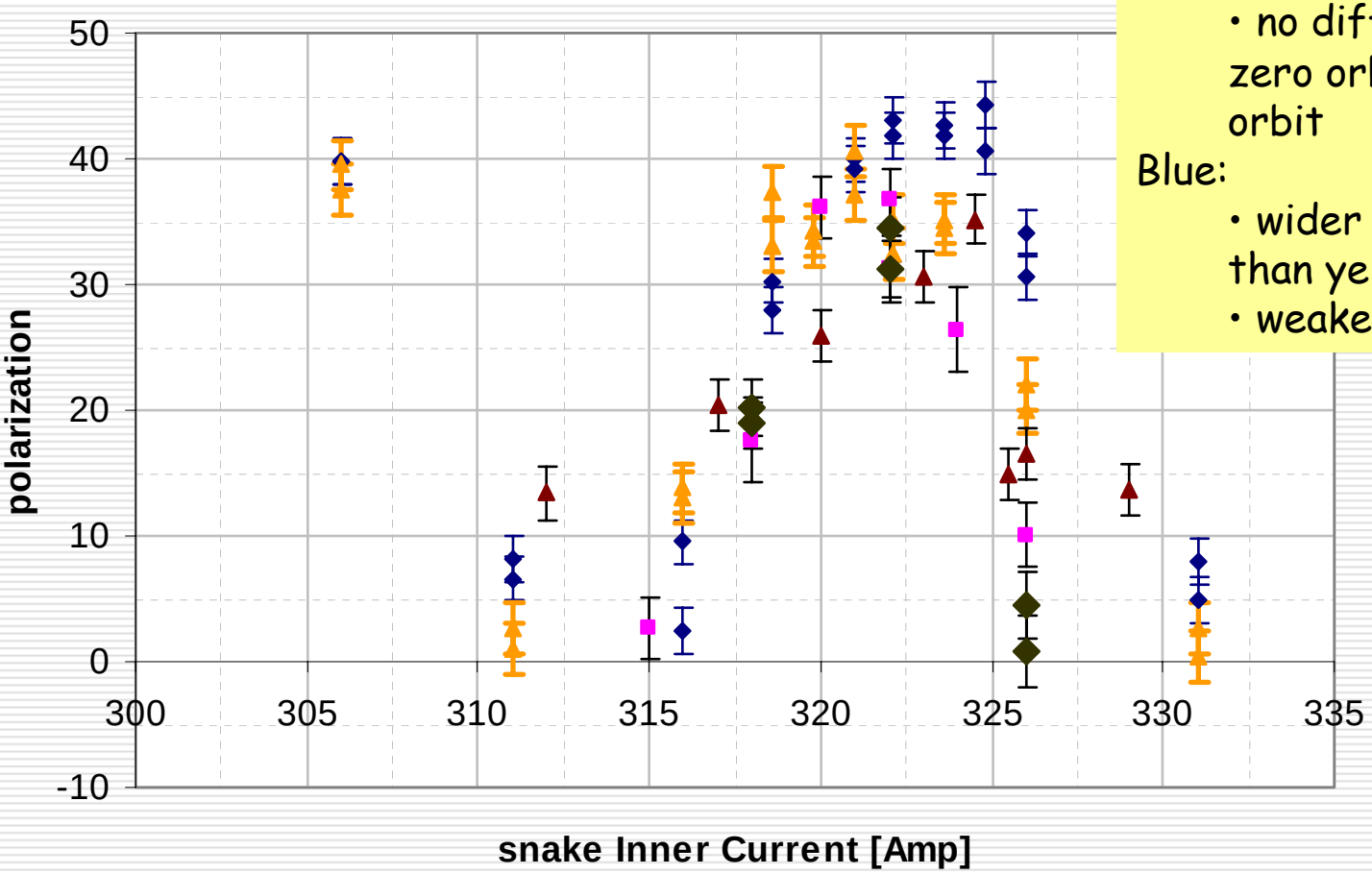




1st yellow polarization measured along the ramp



Snake scans at injection



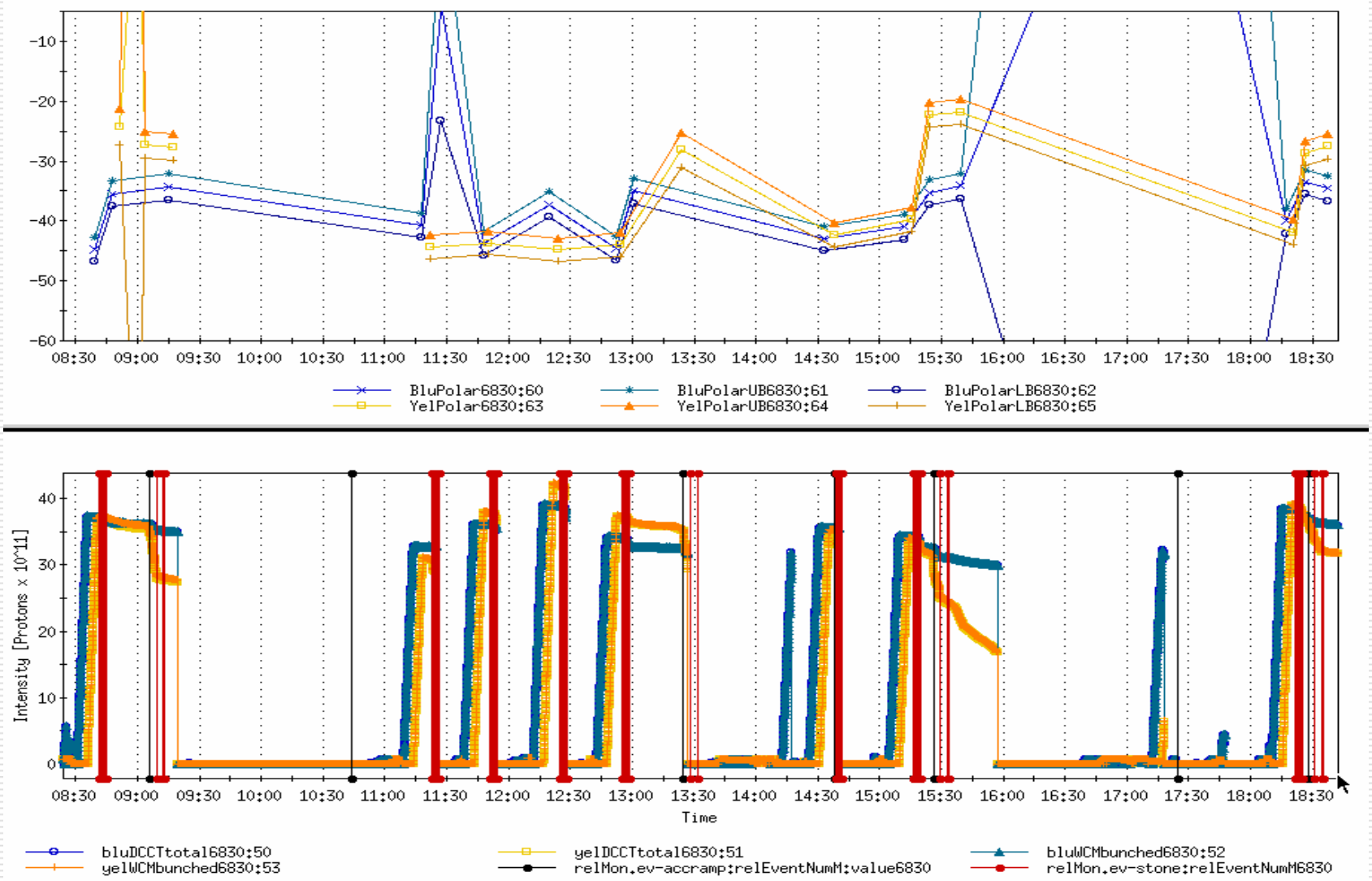
Yellow:

- no difference between zero orbit and flatten orbit

Blue:

- wider than FY04 and than yellow
- weaker resonance?

No polarization loss through Rotator ramp



Overnight store: 6861, 6862