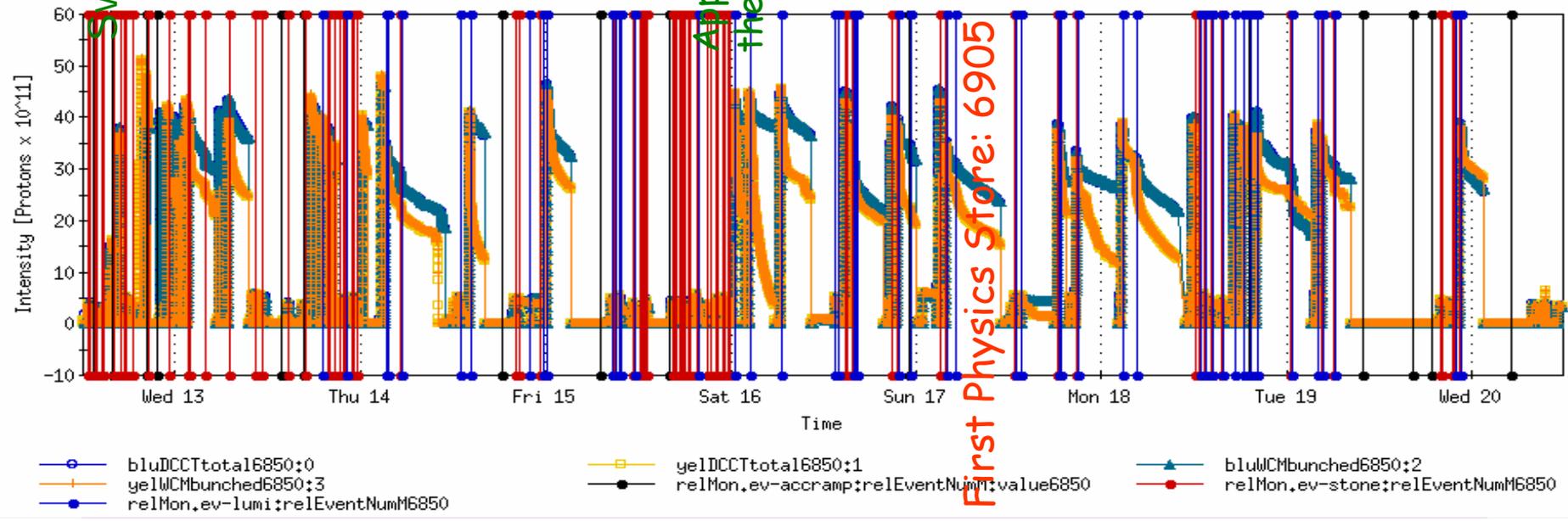
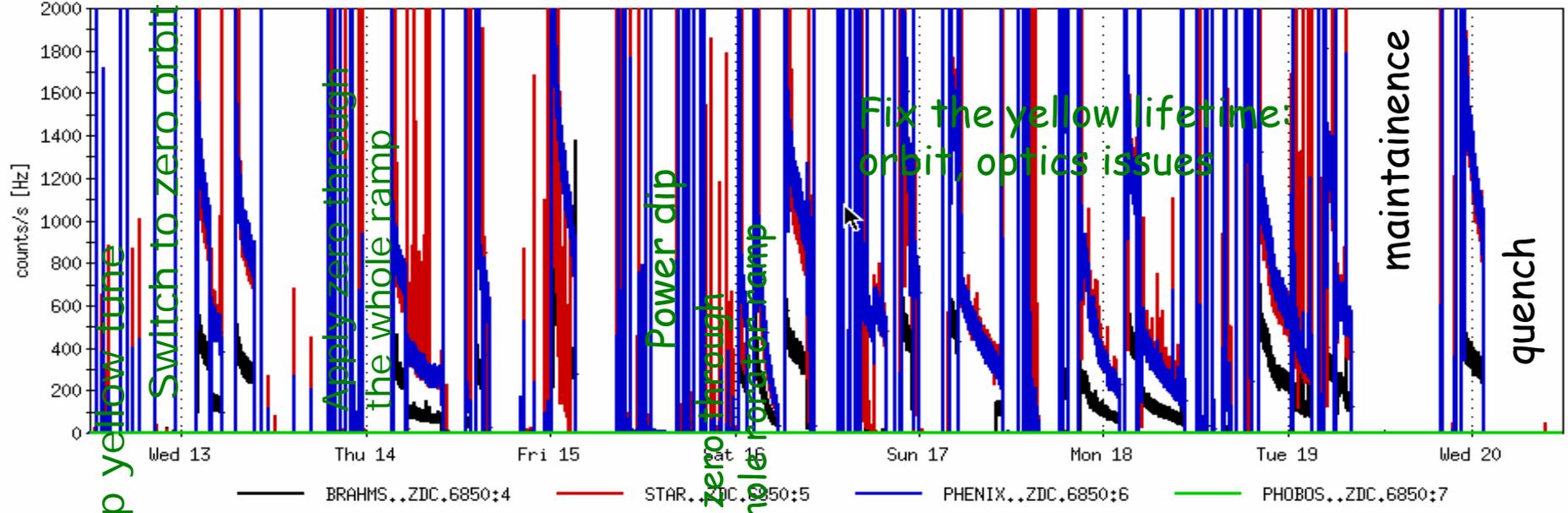


RHIC pp Status

<http://www.agrhichome.bnl.gov/AP/Spin2005/>



April 20, 2005

RHIC Weekly Meeting
BNL, Upton

Status

- Energy ramp: pp21
 - Luminosity achieved: 56 bunches, $0.7\sim 0.9 \times 10^{11}$ protons per bunch
 - Polarization achieved at store
 - Blue: ~42%
 - Yellow: ~45%
- Rotator ramp: rot3
 - good transmission efficiency
 - 100% polarization transmission efficiency
- [Start to provide stores for Physics from midnight of April 19](#): fill # 6905
 - 1~2 hours no rotator collisions for local polarimeter data taking followed by store with rotator on
 - Jet setup
- CNI polarimeter
 - [Problem with maximum energy cut was fixed](#)
 - Damaged detectors in Yellow were replaced during the maintainenc

Remaining Issues

- Orbit variation at IP6 and IP8
 - difficulty on controlling the separation bumps
 - Reproducibility of ramp efficiency
 - Reproducibility of lifetime at store
 - Go to higher bunch intensities/more than 60 bunches
- Yellow snake current scans at injection

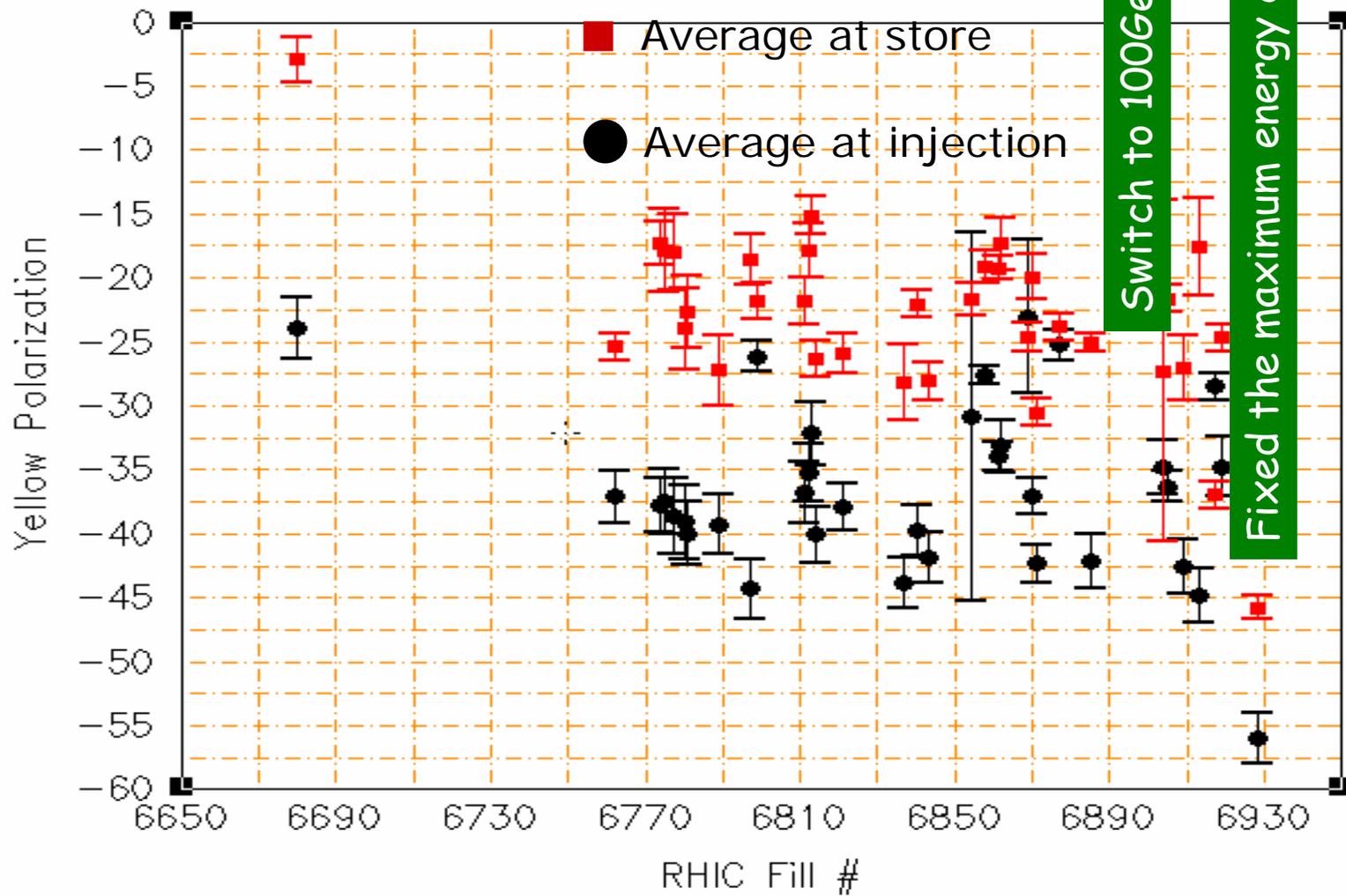
Plan

- Provide Physics Run
 - Provide production stores for Physics data taking
 - Luminosity: 6×10^{30} peak luminosity
 - Polarization: ~45% at RHIC injection
>35% average at store
 - Collision pattern: abort gap @ IP4&10
 - Collisions only with rotators on
 - Monitor polarization every two hours during the store. Each measurement will be broadcasted Through BURT
 - Store time: 8 hours for now, re-evaluate next week

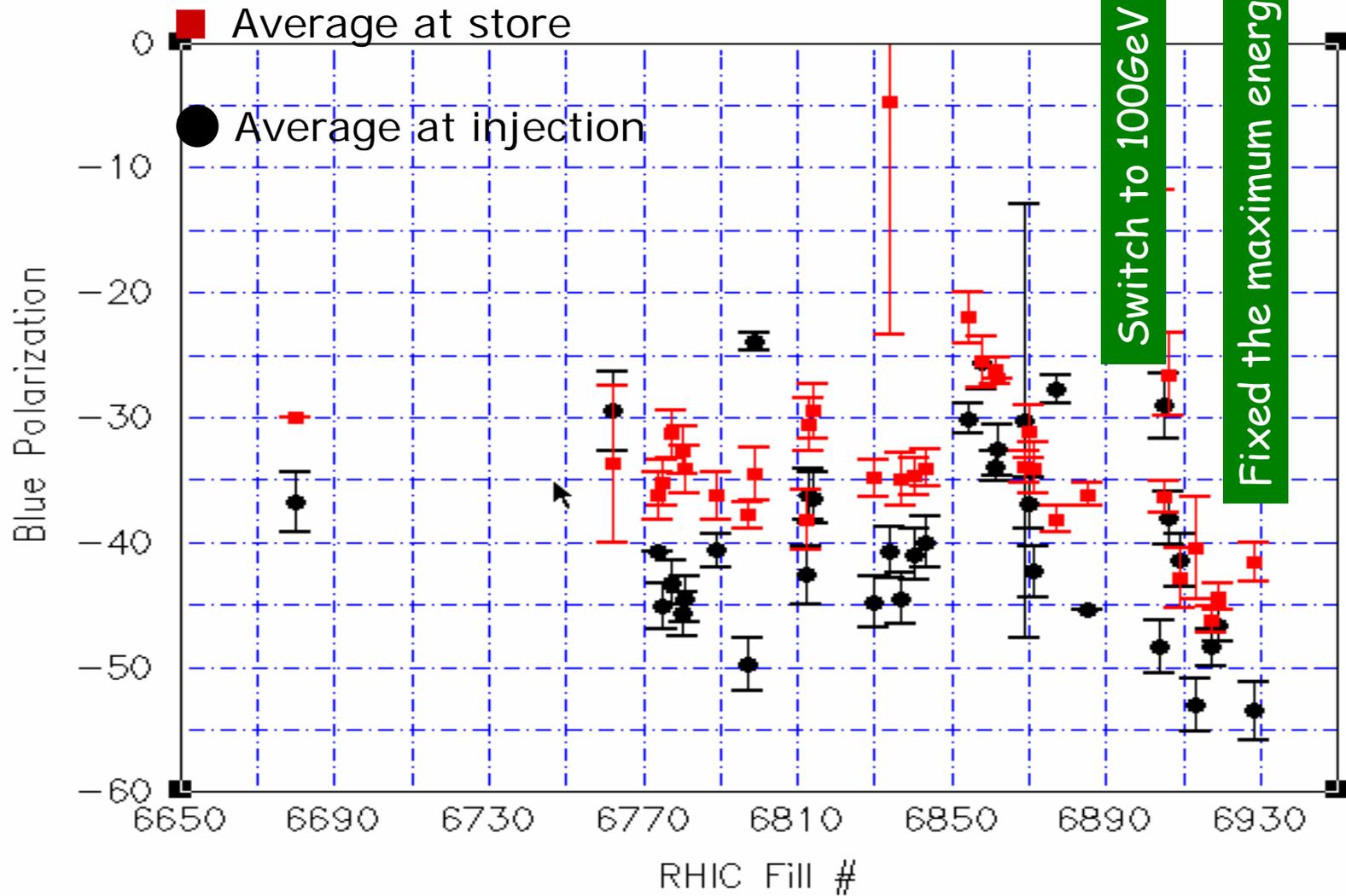
Plan

- Machine development to improve the performance
 - For this week: focus on re-reproducibility and robustness
 - Luminosity:
 - Investigate the orbit variation
 - Bunch intensity
 - 1×10^{11} with $> 40\%$ polarization at RHIC injection
 - Incrementally Increase the total bunch number
 - > 56 as many as possible
 - Ramp up storage cavity voltage to have more efficient vertex cut
 - Polarization:
 - polarization ramp measurement
 - Yellow 9' clk snake outter current scans at injection
 - Keep reducing orbit rms along the ramp

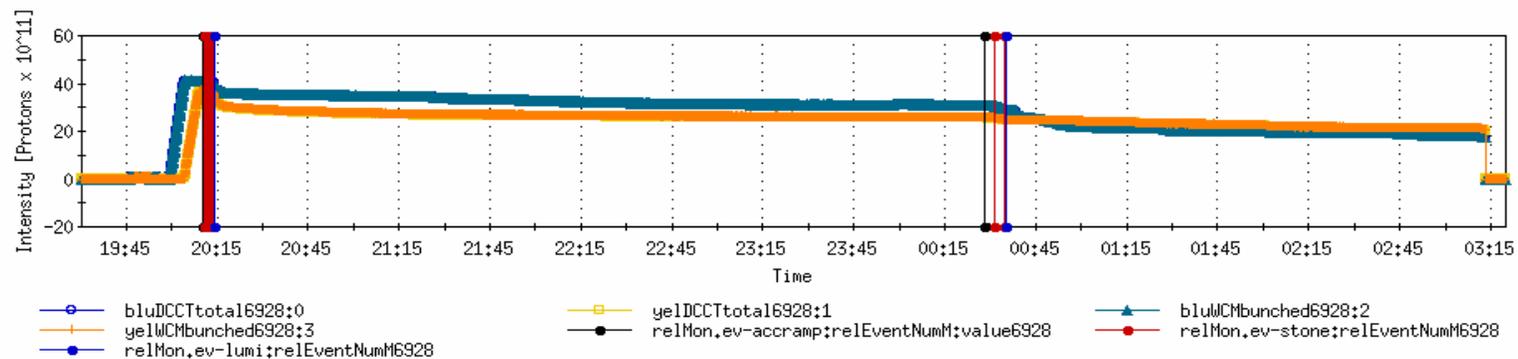
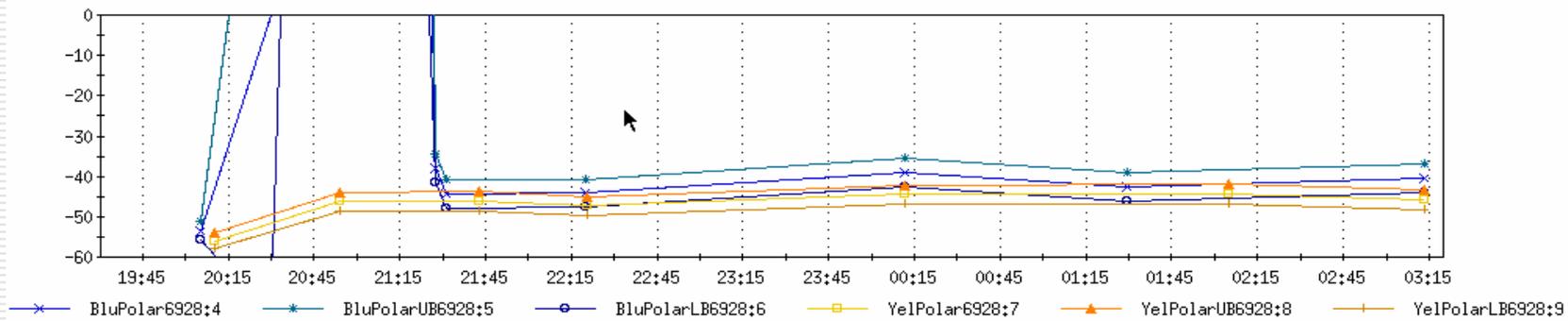
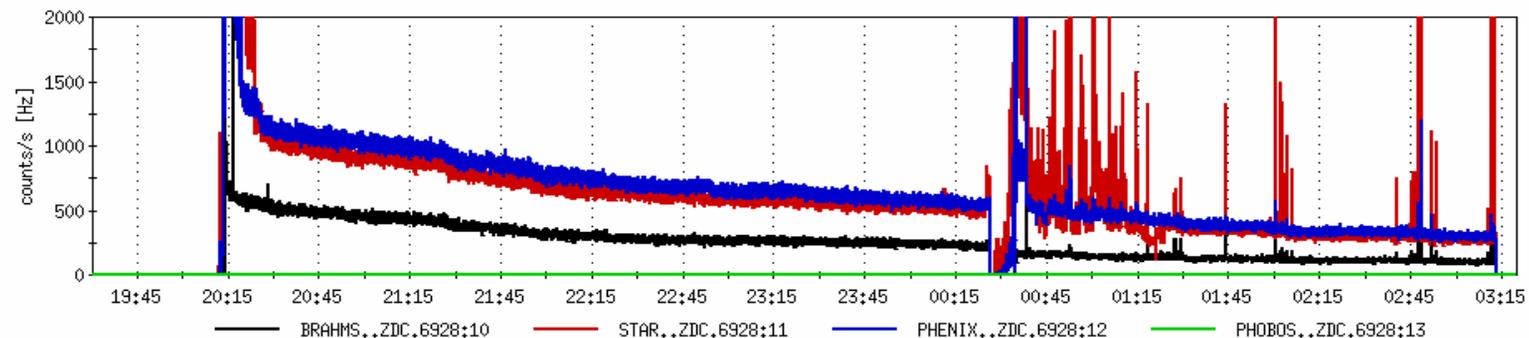
Yellow Polarization



Blue Polarization



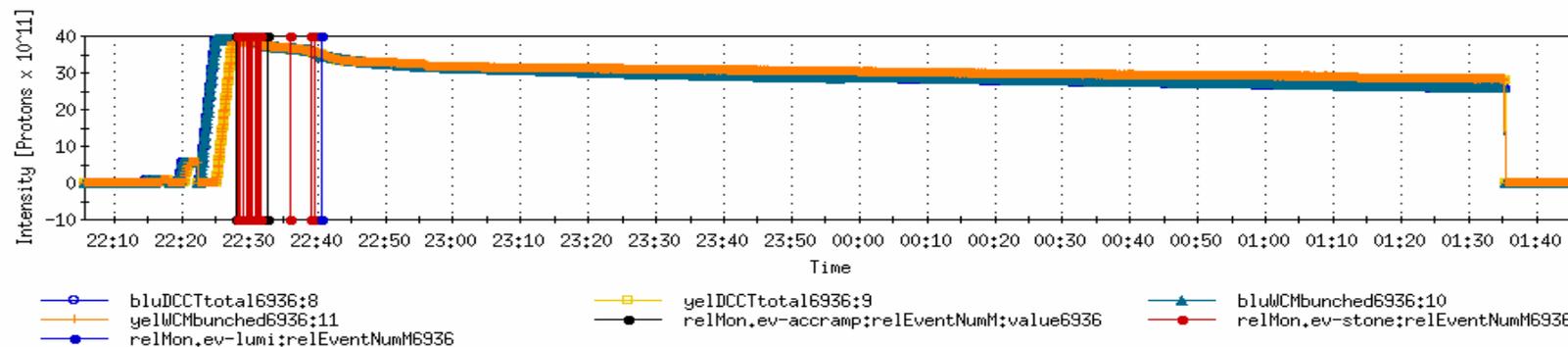
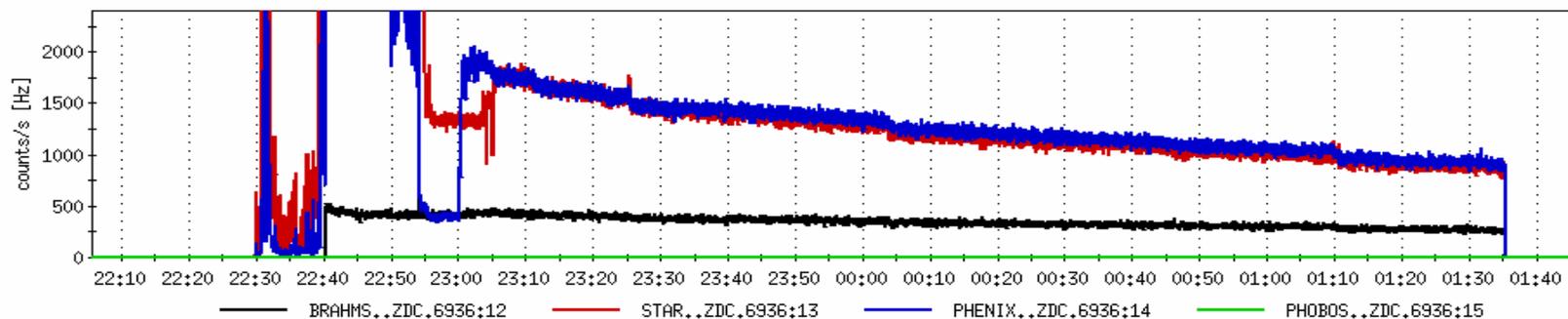
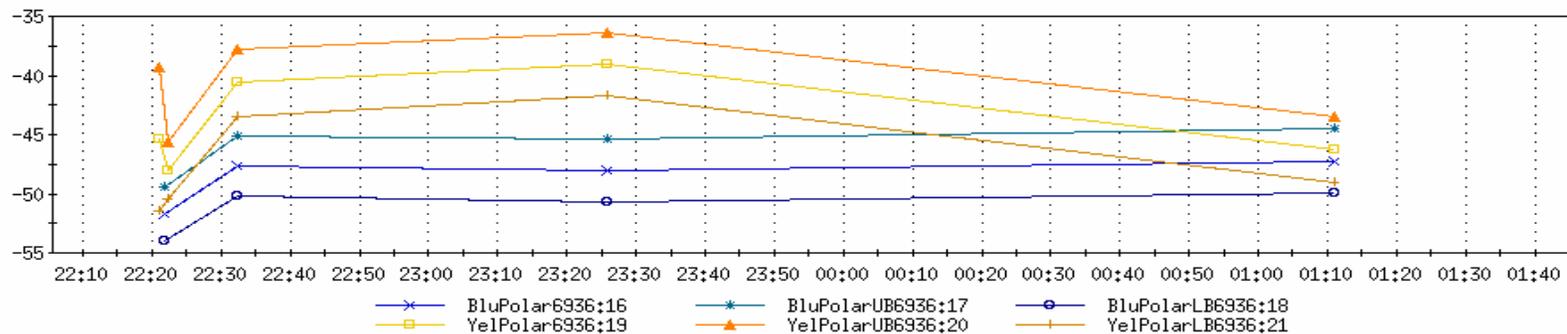
Store: 6928



April 20, 2005

RHIC Weekly Meeting
BNL, Upton

Store: 6936



April 20, 2005

RHIC Weekly Meeting
BNL, Upton

Orbit Variation: Vadim

