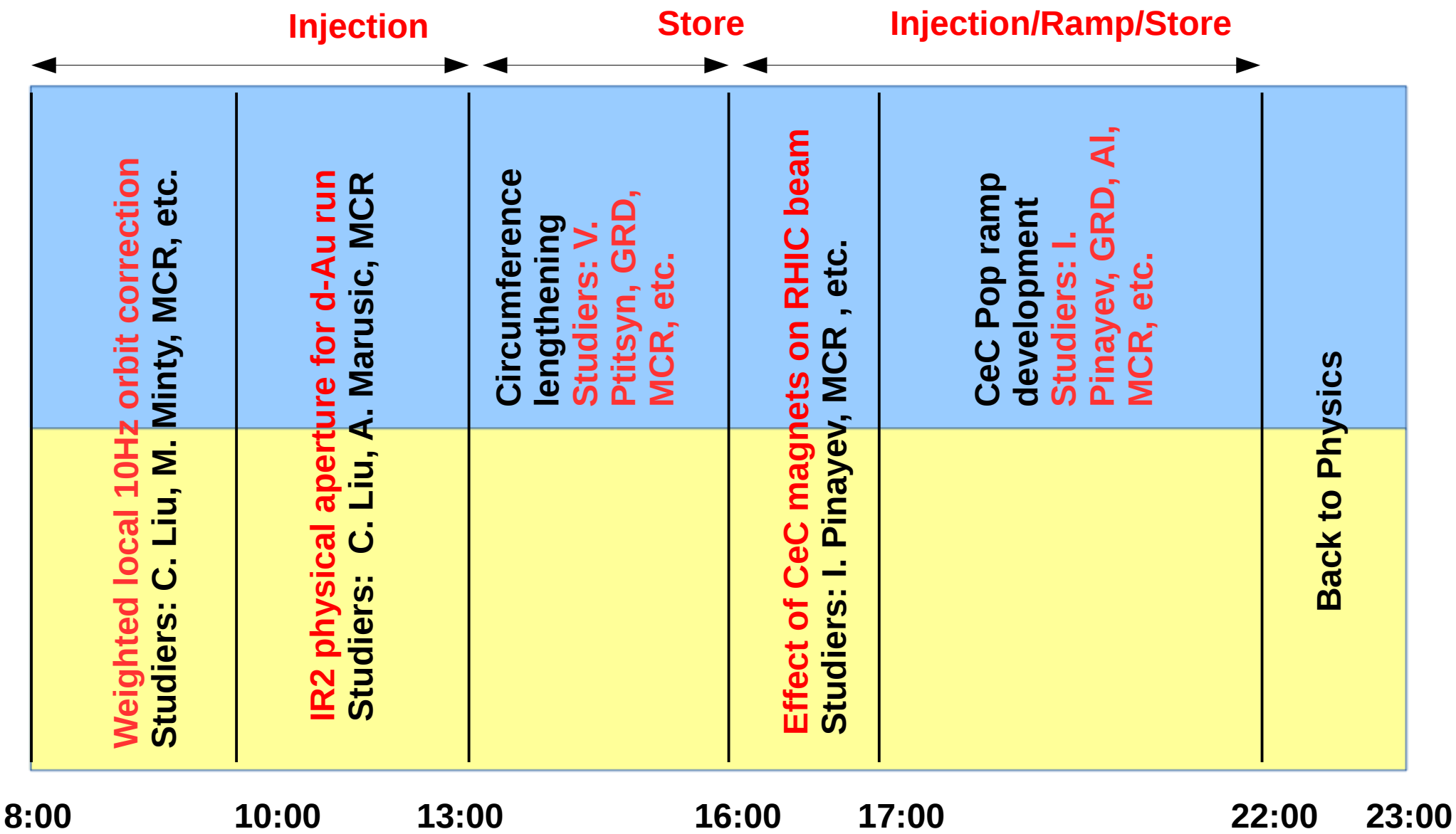
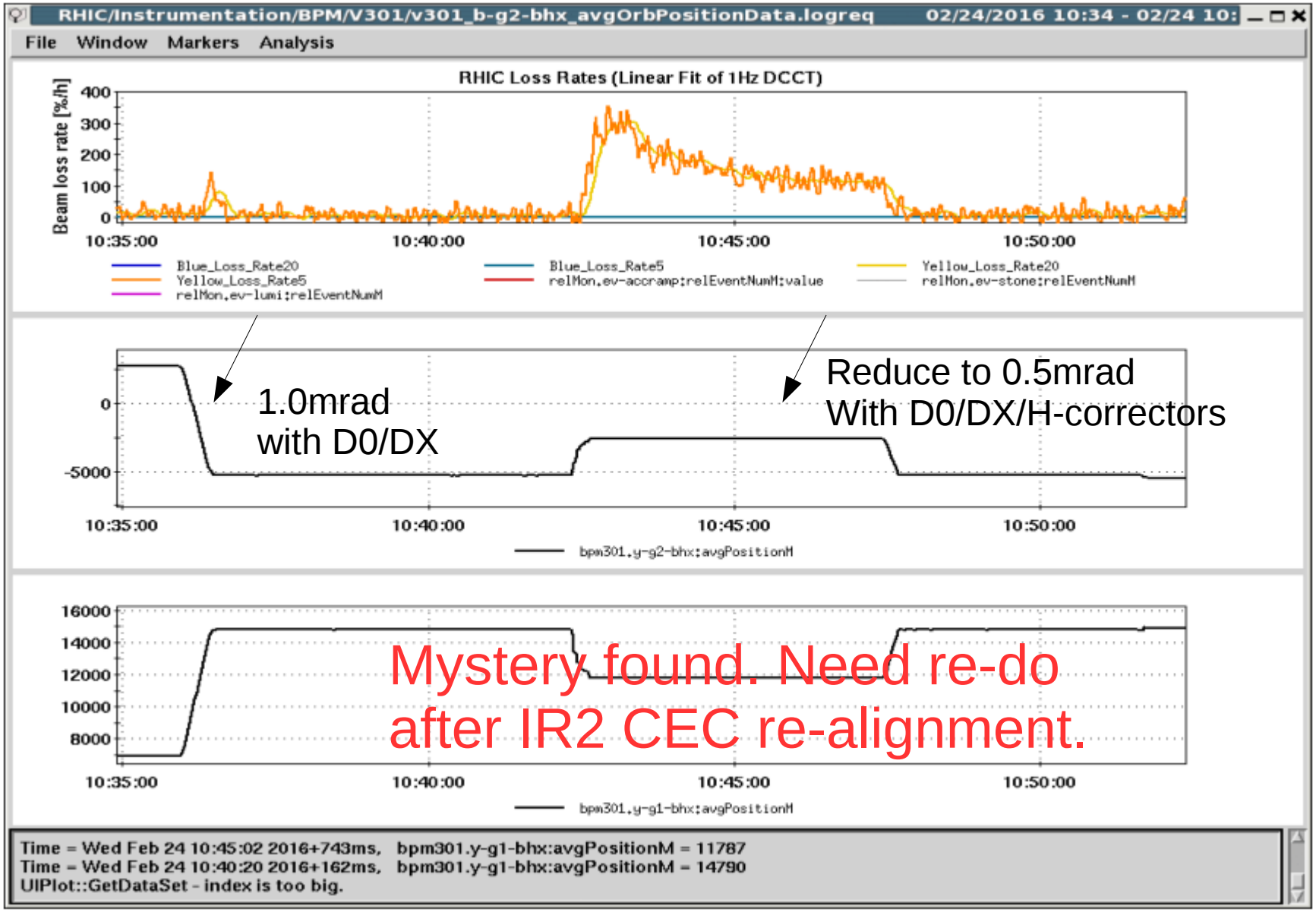
RHIC APEX Report

Time Meeting March 1, 2016

APEX Schedule for Feb. 24, 2016



IR2 Physical Aperture for d-Au: Chuyu



Circumference Lengthening: Vadim

February 24 session

- Special acceleration ramp ending with the store without separation and protection orbit bumps.
  Only Blue beam (12 bunches) was accelerated.
- Optics measurement at the store.
- Chromaticity measurement at the store.
- 2nd order chromaticity correction at the store.

All this work was on shoulders of Guillaume and Al .

Guillaume's 2nd order chrom correction using all 24 sextupole PS independently

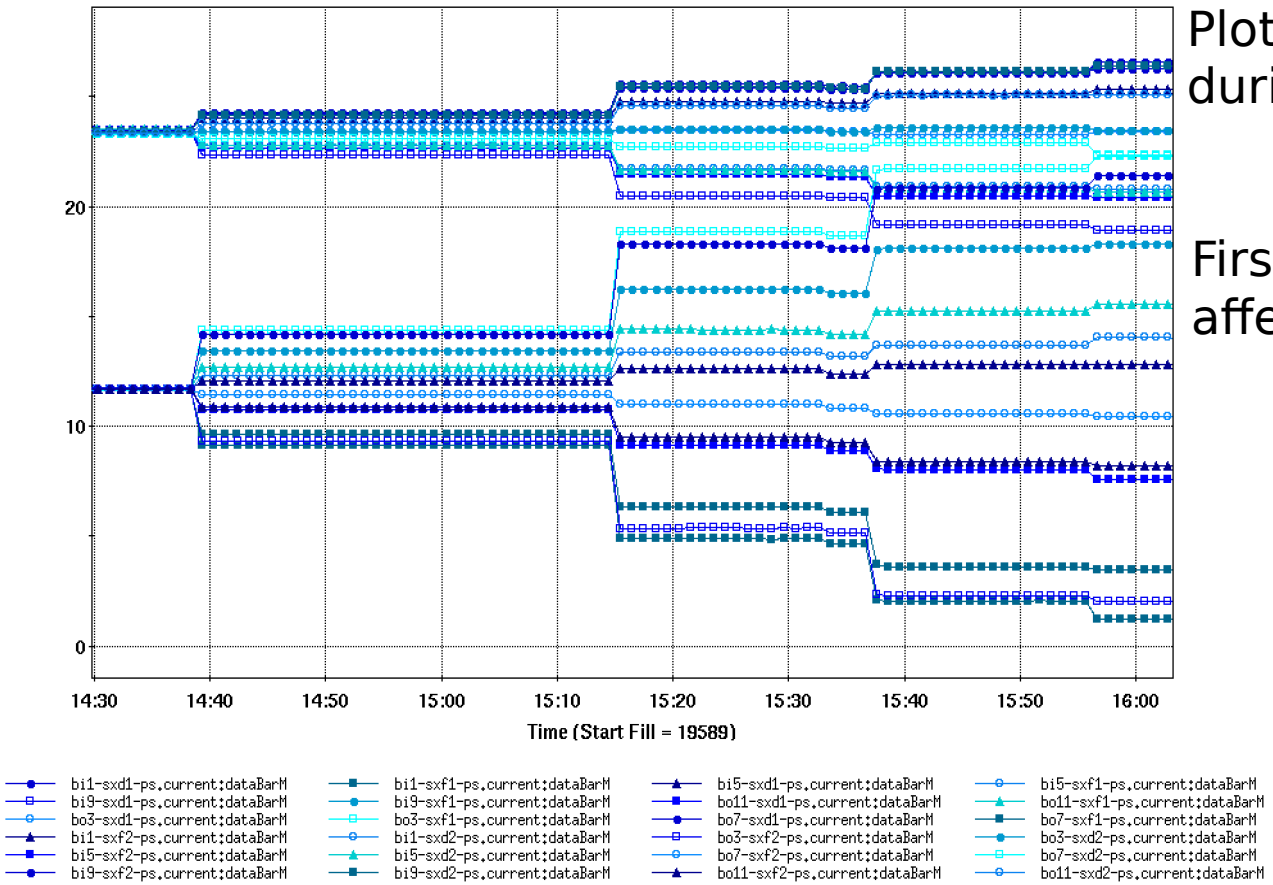
ξ_{2x}~3800
ξ_{2y}~-700

ξ_{2x}~3800
ξ_{2y}~-500

ξ_{2x}~2200
ξ_{2y}~-300

ξ_{2x}~2400
ξ_{2y}~-800

ξ_{2x}~2000
ξ_{2y}~-900



Plot shows 24 sextupole PS currents during 2nd order chrom corrections

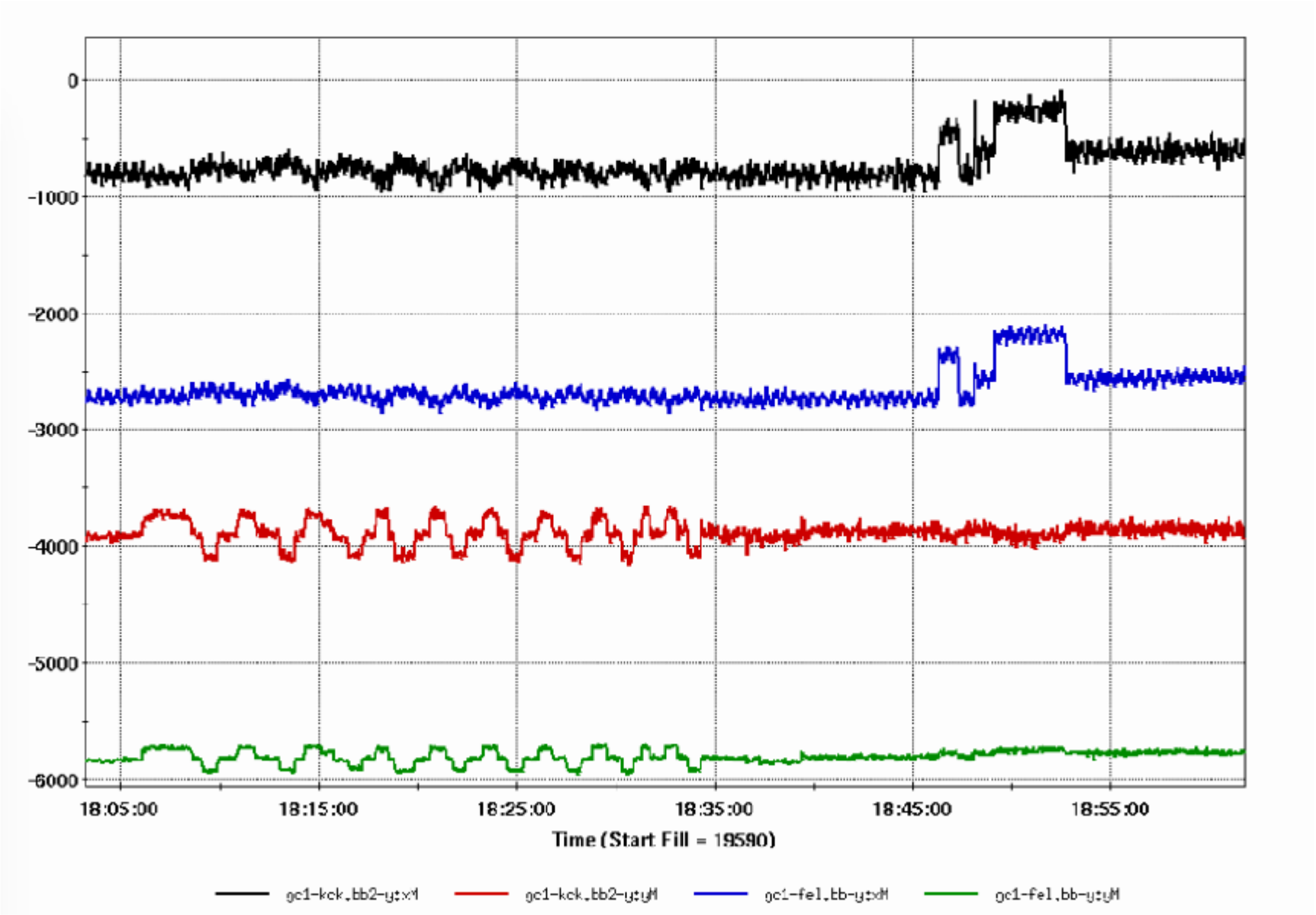
First order chromaticities were not affected much by this knob.

Effects of CEC Magnets on RHIC: Igor

Experiment Set-up

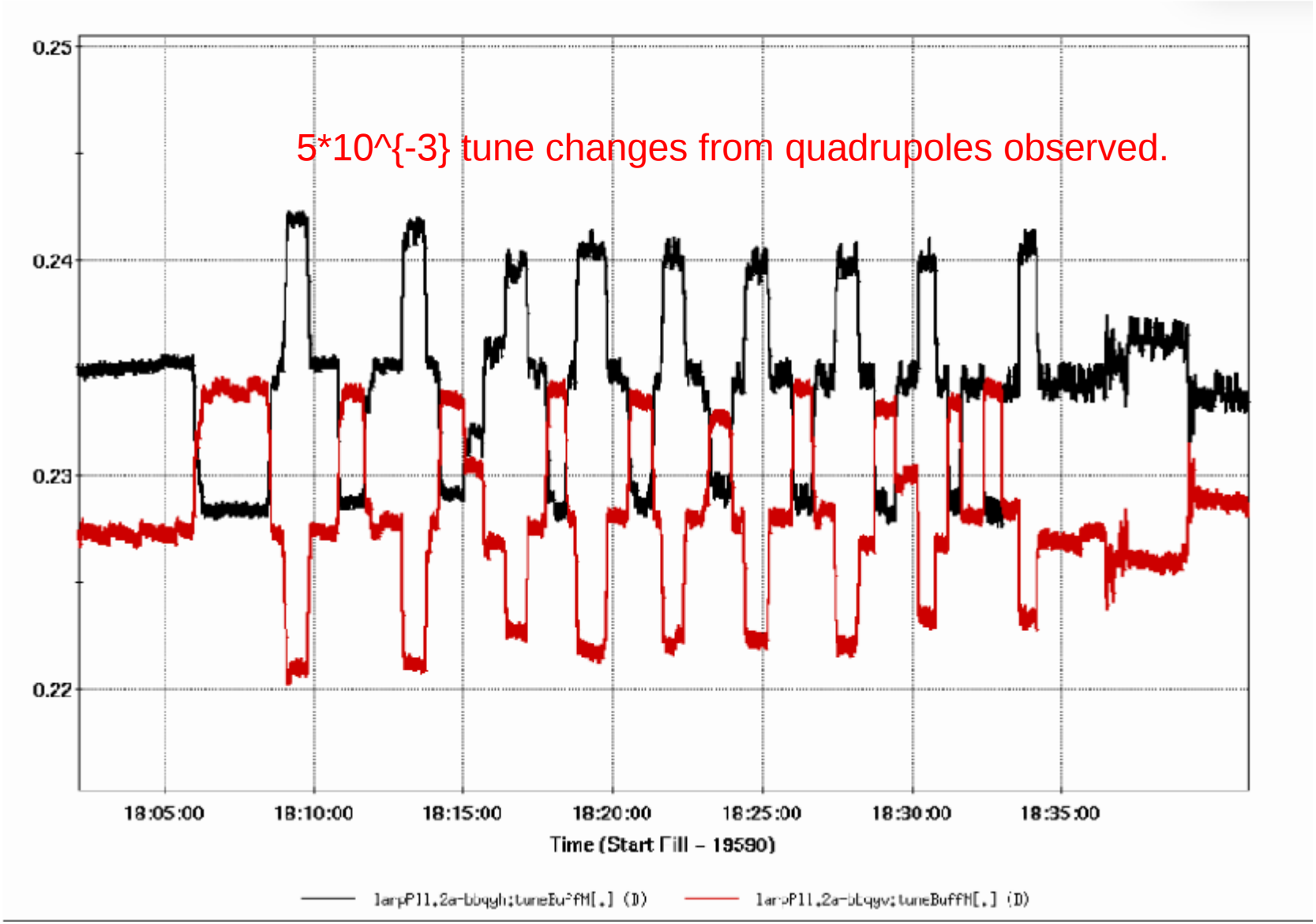
- 12 bunches in the yellow ring
- Gold ions at injection energy (γ=10.52, Br=81.13 T m)
- Eight quadrupoles were energized from -6 to 6 Amperes (gradient integral 0.45 T at 5.8 A)
- Dipole was energized to 85 A
- Orbit was monitored using two BPMs in the common section with Libera Single Pass

Orbit Variation



Orbit distortion seen in horizontal planes from dipole magnets

Tunes Variation



Further data analysis in progress