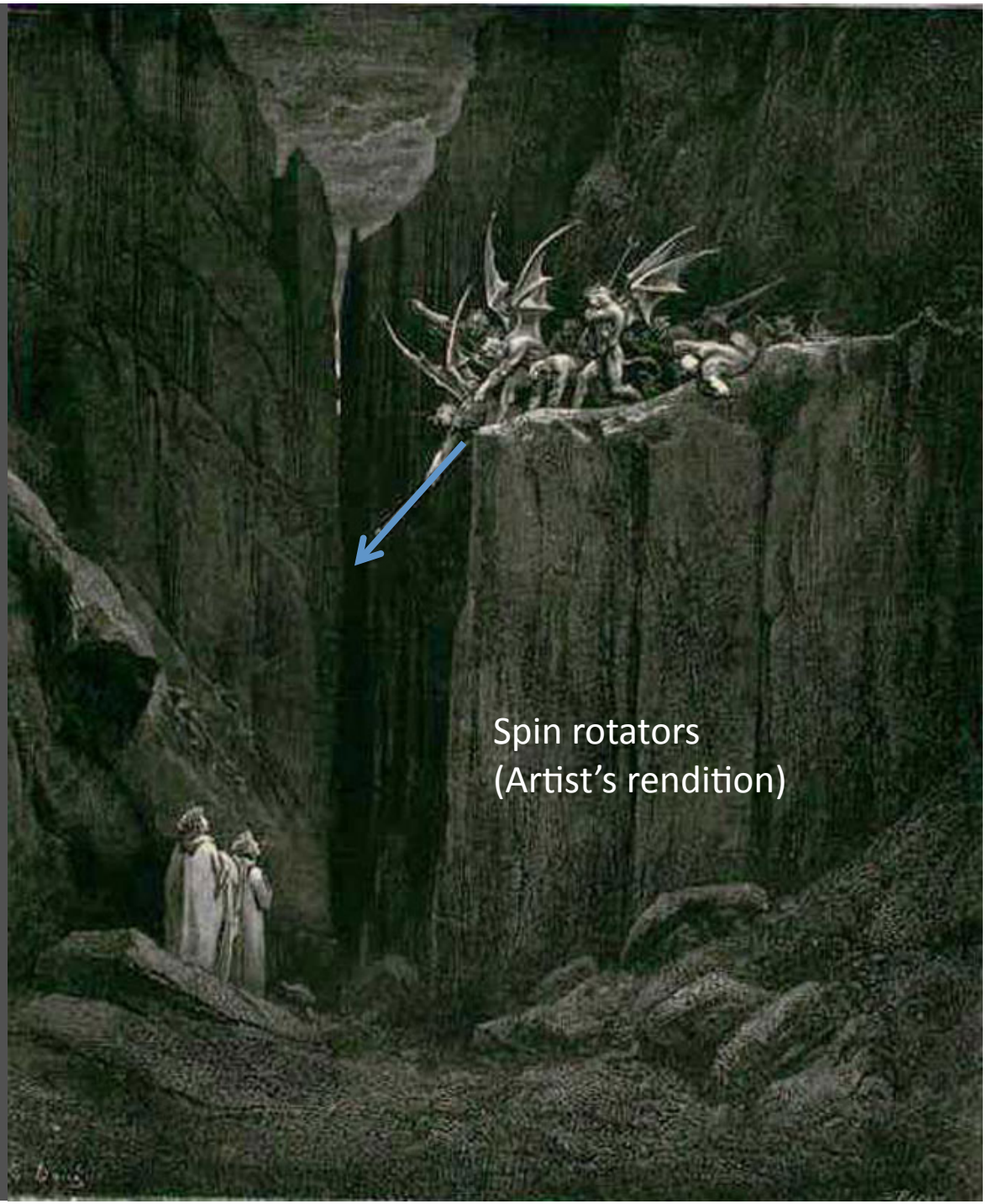
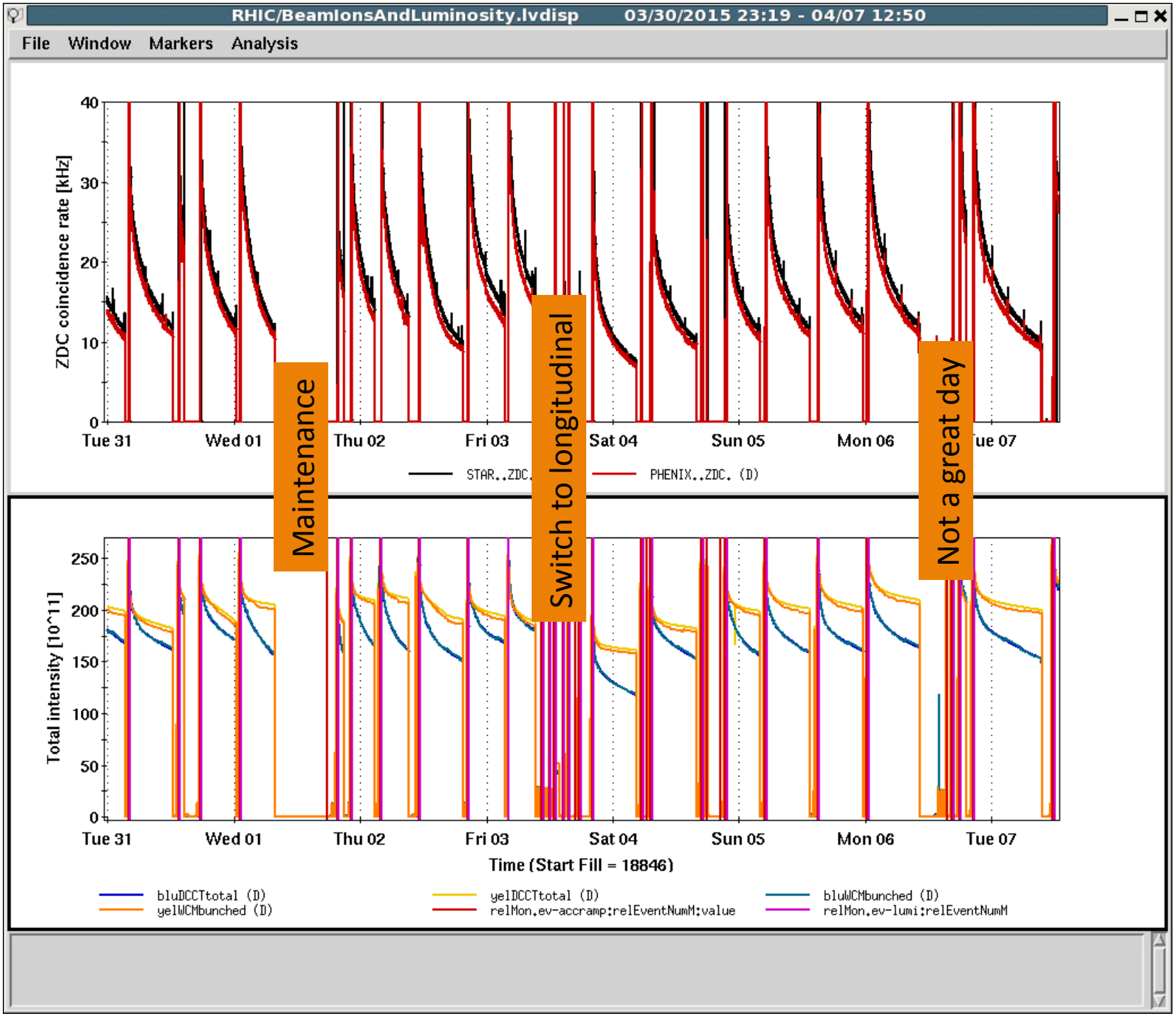
RHIC Status Update



Time Meeting 4/7/15

RHIC Status

- Switched to longitudinal polarization at STAR
  - Fri Apr 3rd (late one day due to Linac ground fault)
- Luminosity limited by blue beam lifetime
  - longstanding problem, same as transverse
- FOM suffering from blue polarization decay
  - New since longitudinal
  - Can try changes to STAR orbit, snak currents


RHIC/BeamIonsAndLuminosity.lvdisp 03/30/2015 23:19 - 04/07 12:50
File Window Markers Analysis
ZDC coincidence rate [kHz]
Tue 31
Wed 01
Thu 02
Fri 03
Sat 04
Sun 05
Mon 06
Tue 07
STAR..ZDC.
PHENIX..ZDC. (D)
Maintenance
Switch to longitudinal
Not a great day
Total intensity [10^11]
Time (Start Fill = 18846)
bluDCCTtotal (D)
yelWCMbunched (D)
yelDCCTtotal (D)
relMon.ev-accramp:relEventNumM:value
bluWCMbunched (D)
relMon.ev-lumi:relEventNumM

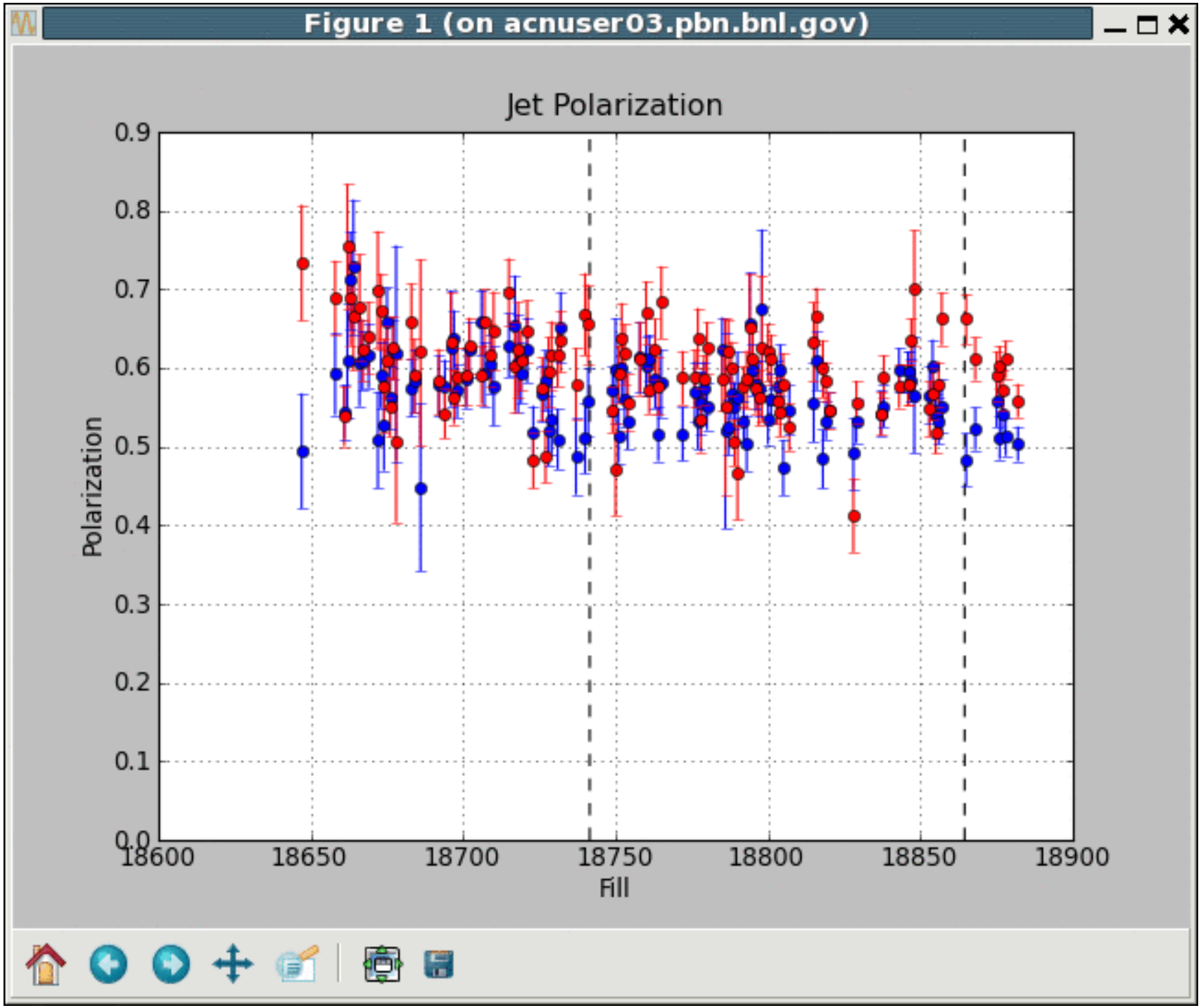
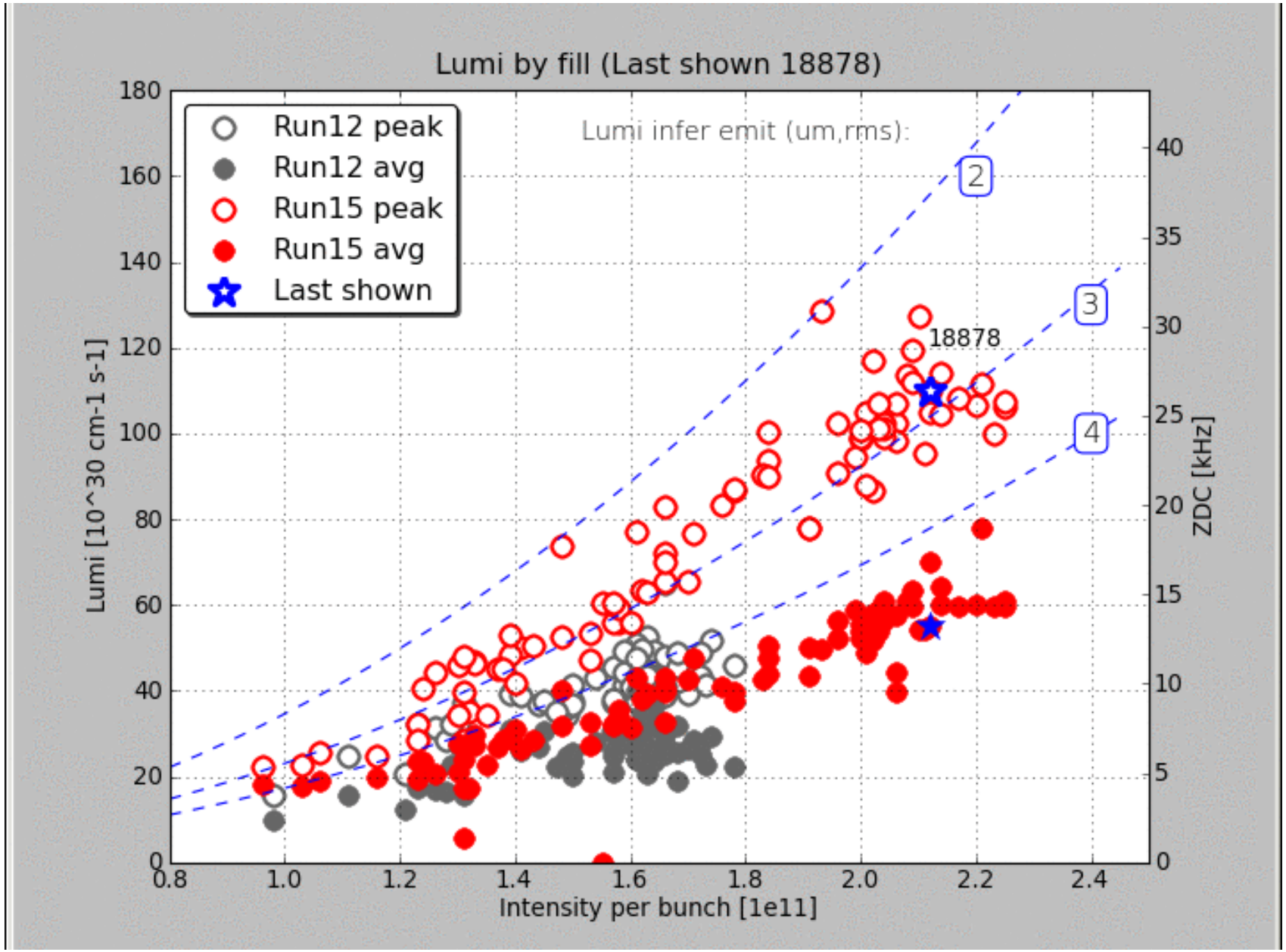


Figure 1 (on acnuser03.pbn.bnl.gov)
Jet Polarization
Polarization
Fill
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
18600
18650
18700
18750
18800
18850
18900


Lumi by fill (Last shown 18878)
Run12 peak
Run12 avg
Run15 peak
Run15 avg
Last shown
Lumi infer emit (um,rms):
2
3
4
18878
Lumi [10^30 cm-1 s-1]
ZDC [kHz]
Intensity per bunch [1e11]
0
20
40
60
80
100
120
140
160
180
0
5
10
15
20
25
30
35
40
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4

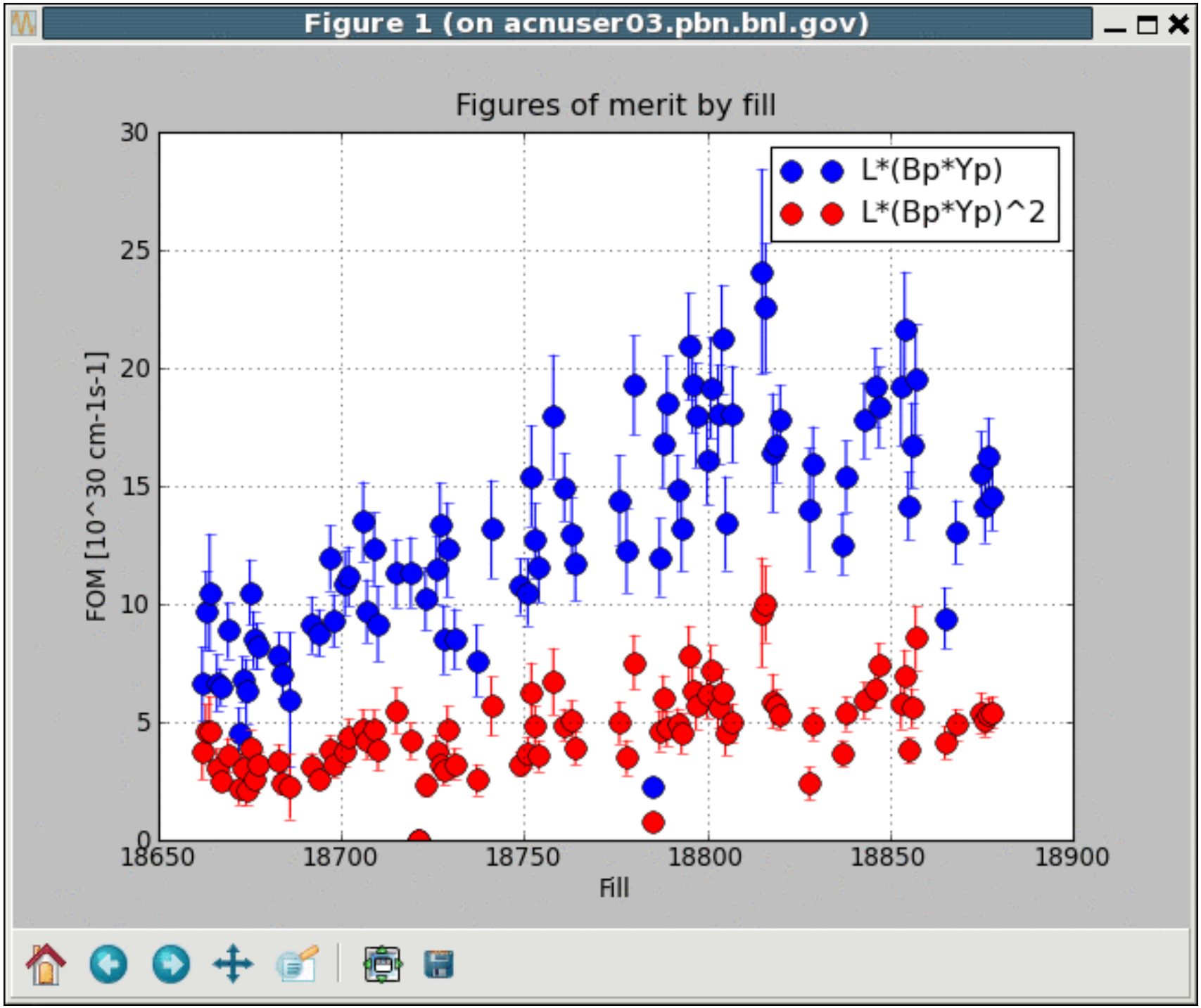


Figure 1 (on acnuser03.pbn.bnl.gov)
Figures of merit by fill
L*(Bp*Yp)
L*(Bp*Yp)^2
FOM [10^30 cm-1s-1]
Fill
0
5
10
15
20
25
30
18650
18700
18750
18800
18850
18900