

RHIC Operation Status

Yun Luo, yluo@bnl.gov

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Operation Updates

In the early part of this week machine continued recovering from power dip. In the second half week, we pushed bunch intensities, maximized the integrated luminosity, improved the blue beam ramp efficiency. Currently both beam ramp efficiencies are around 90%. The maximum bunch intensities at store are 3.75×10^9 / 1.19×10^9 . The peak Phenix ZDC rate is 52.5kHz.

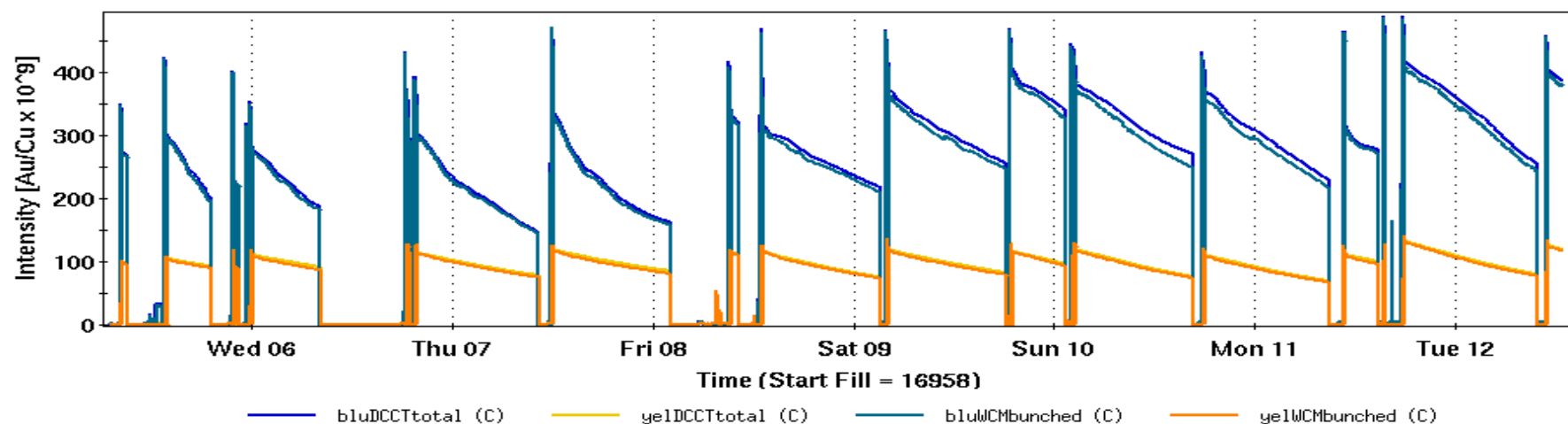
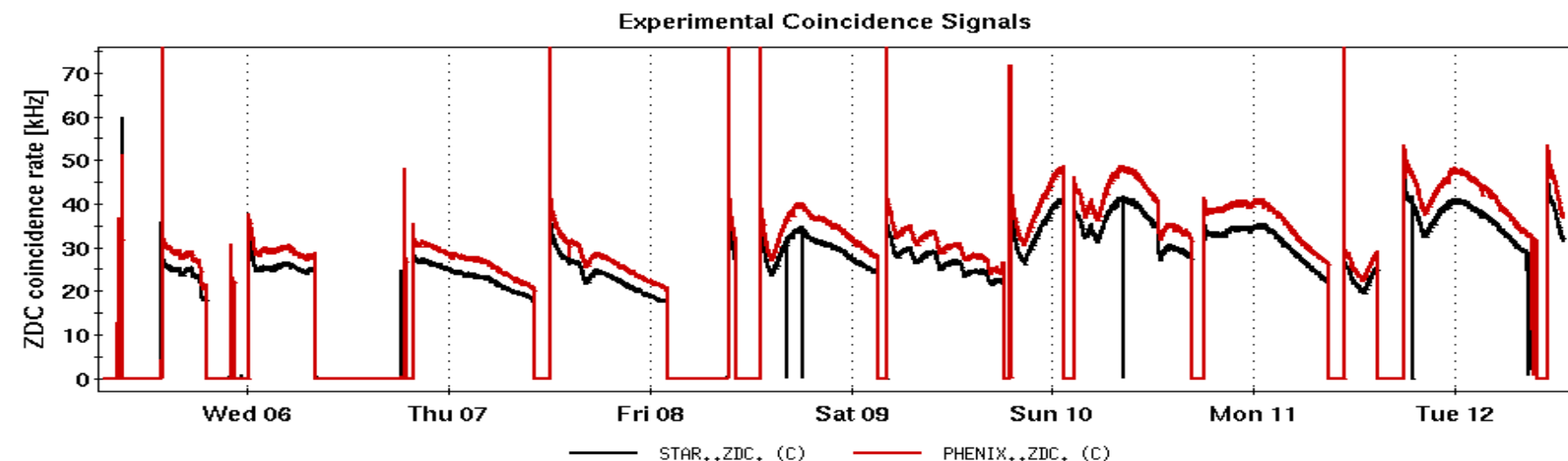
Major Machine Failures:

Tue: 3 stores aborted in a row by a same PS node card

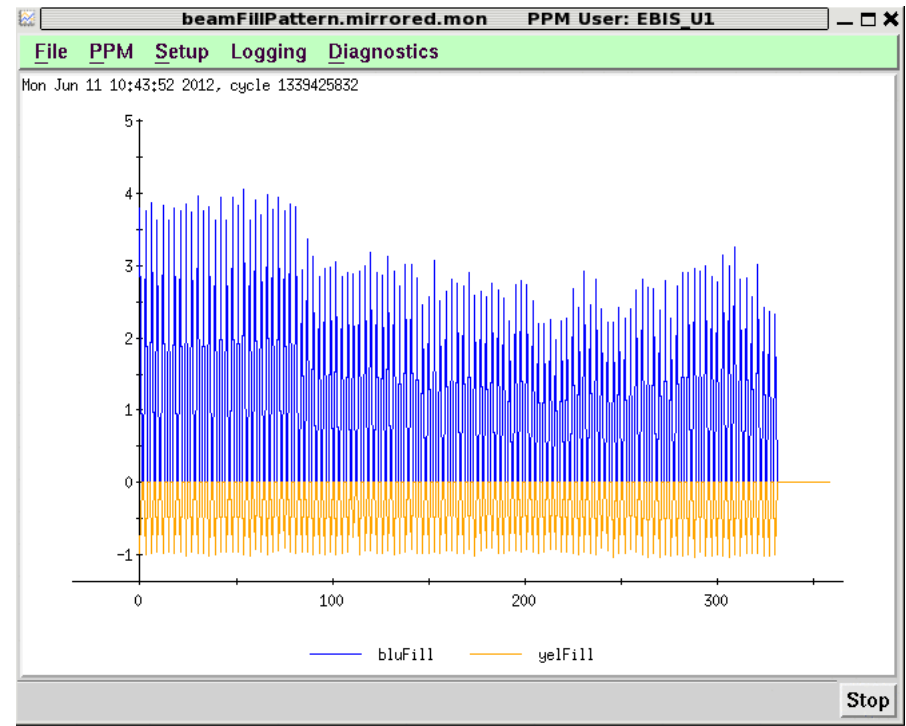
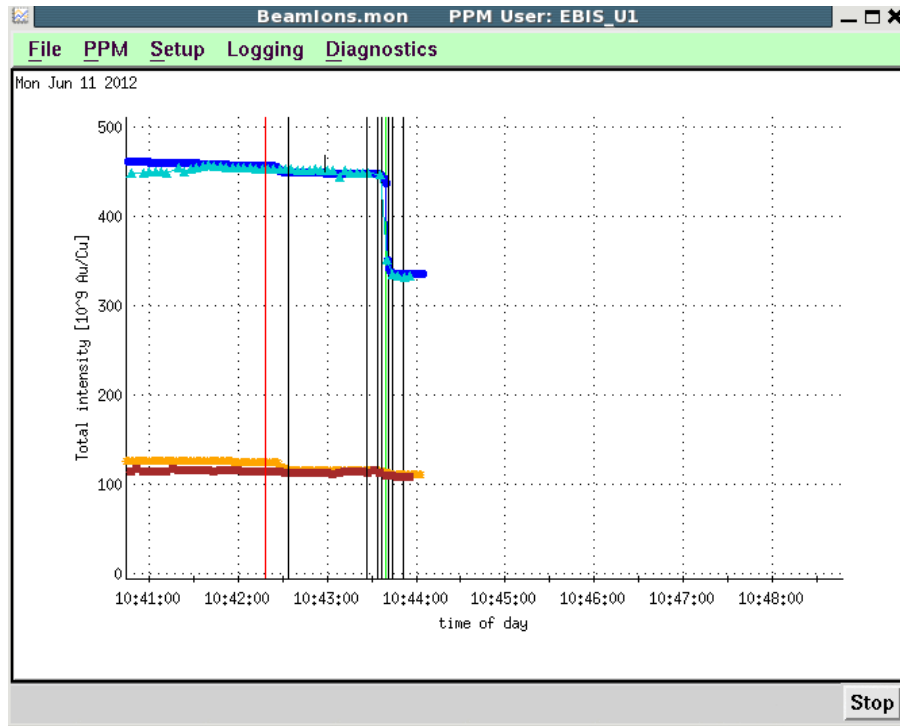
Fri: G10 timing failure caused about 6 hours down time

Sat: 2 stores aborted in a row by YI10-TQ4 PS tripping-off,
maybe related to A/C failure in Building 1010A

Beam Intensities & Experiment Rates



Bunch Intensity Limit at Transition

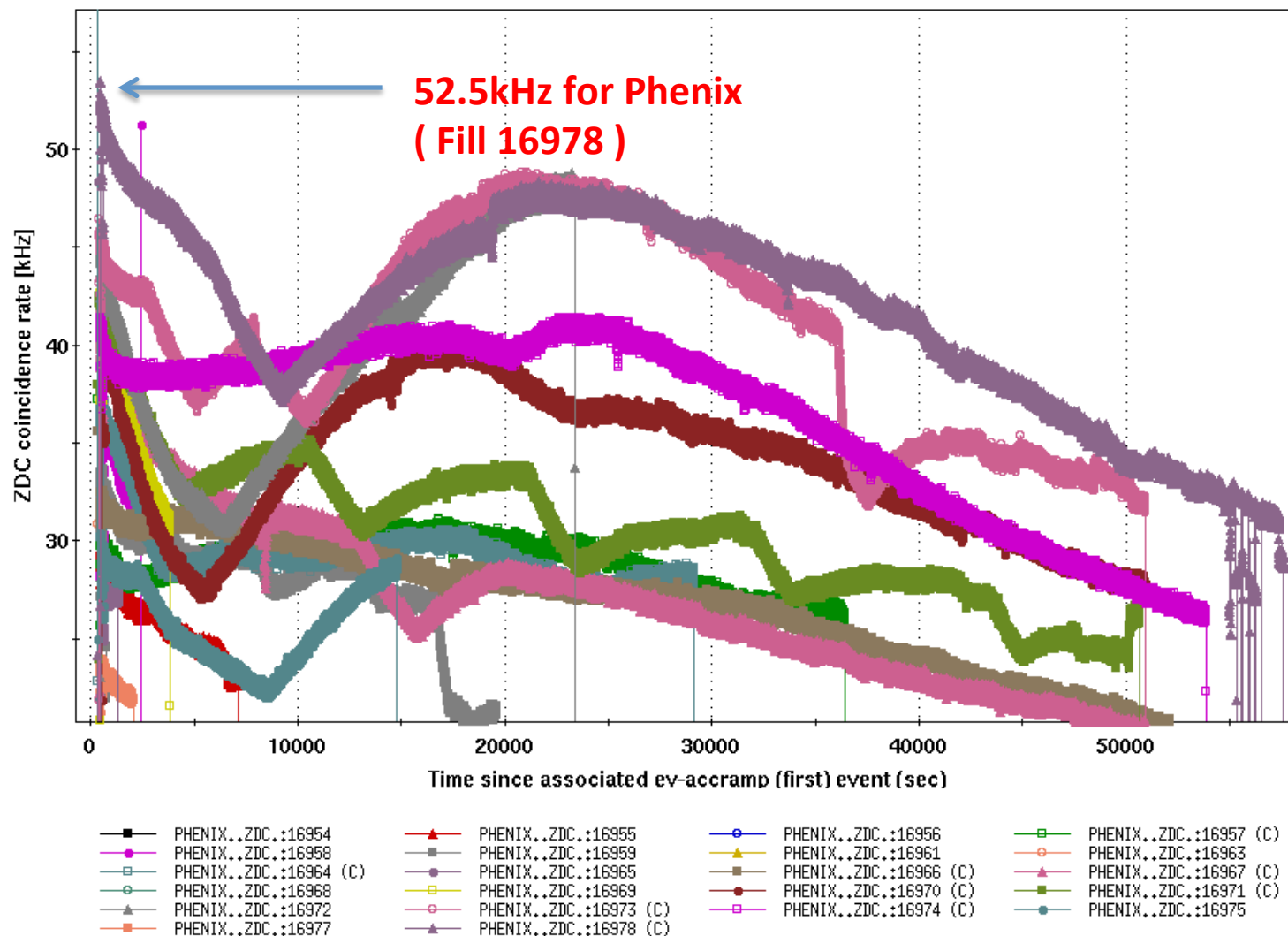


For fill 16975 we filled Au beam first and the Cu beam later. The averaged Blue bunch intensity is $4.3e9$ and $4.0e9$ at transition. We observed intensity loss for tailing bunches which may be an indication of e-cloud instability.

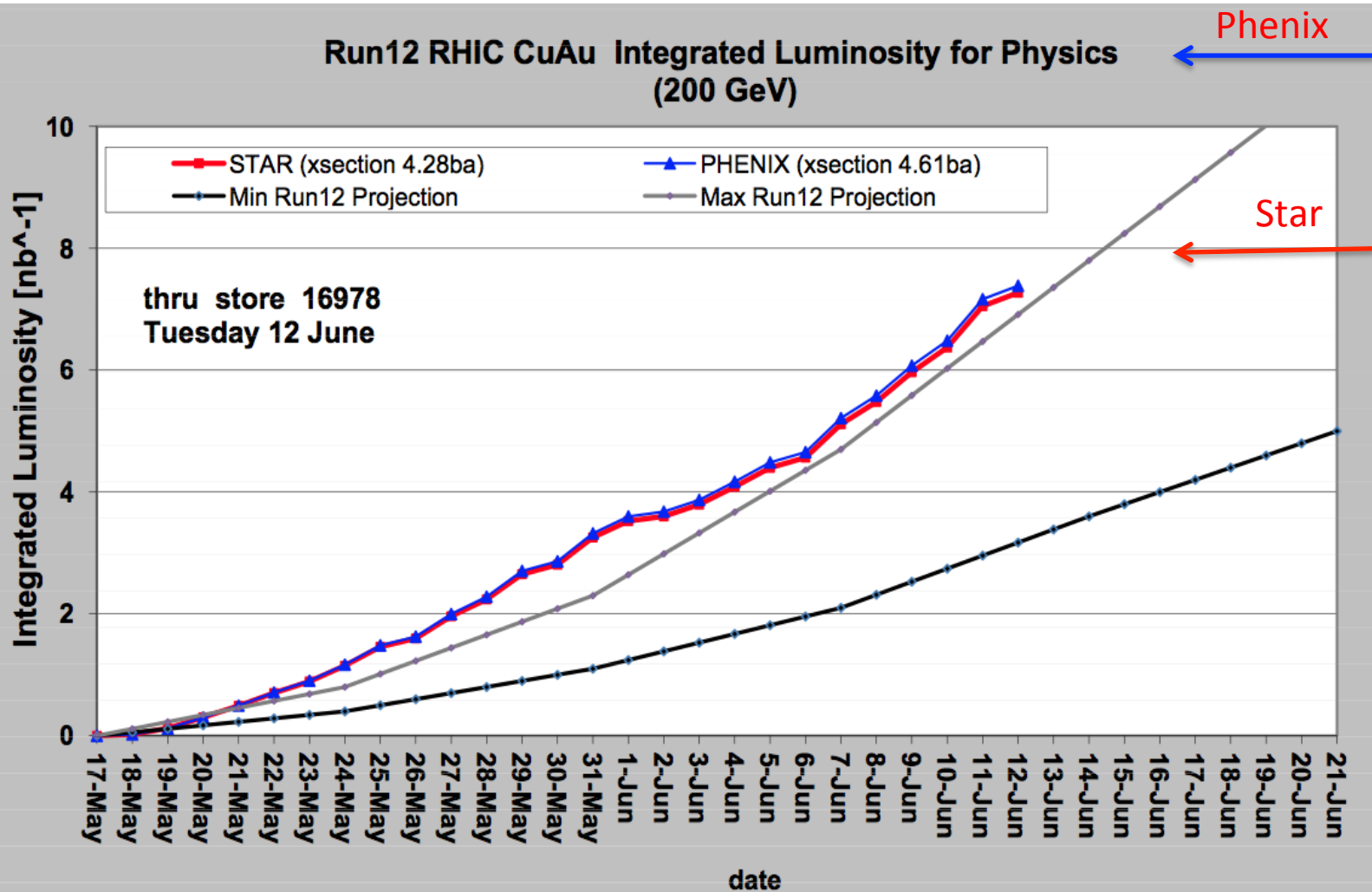
Wolfram: “With $450e9$ Cu ions at transition we have about 10% more charges per bunch than we had with the best Au-Au ramps in Run-11”.

The Best Store So Far

Experimental Coincidence Signals



Integrated Luminosity (C-AD)



Plan of the Week

- Steady **BACK-TO-BACK** Physics stores
reduce machine down time
- Push RHIC bunch intensities at injection
Bunch intensity goal at store: Cu → $4.0e9$, Au → $1.3e9$
Currently max. averaged at injection: **$4.51e9$ Cu, $1.26e9$ Au**
Currently max. averaged at store: **$3.75e9$ Cu, $1.19e9$ Au**
- Improve RHIC ramp efficiency