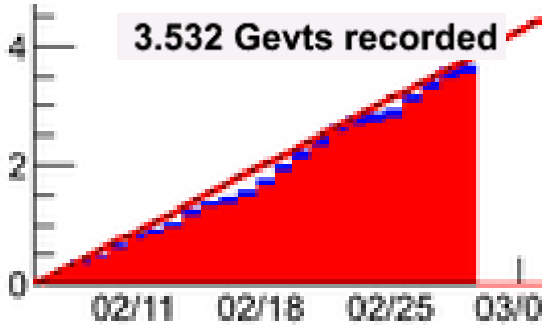
# **PHENIX Run16 status**
# time meeting 02/23/2016

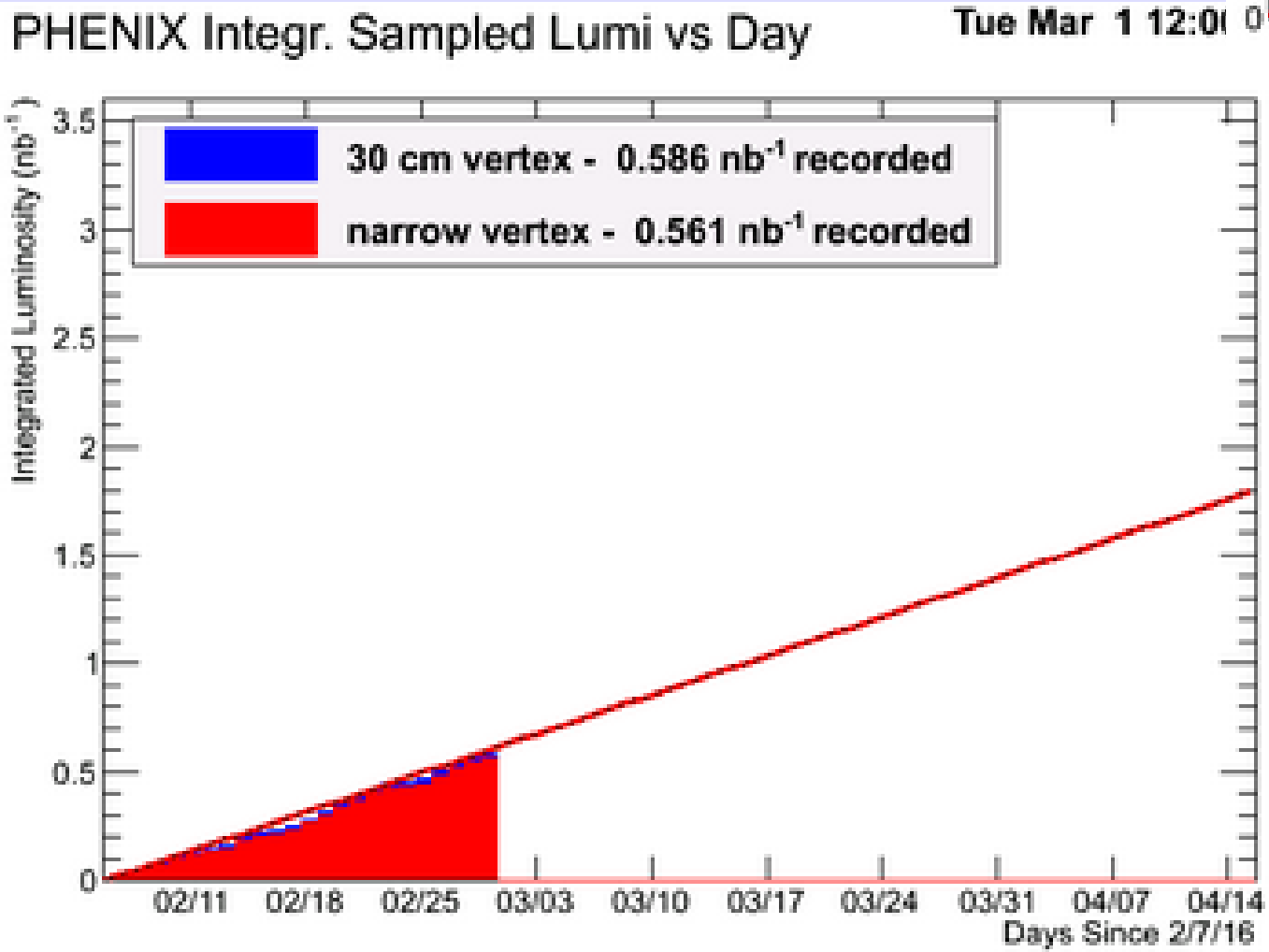
Denis Jouan

PHENIX Run 16 Coordinator

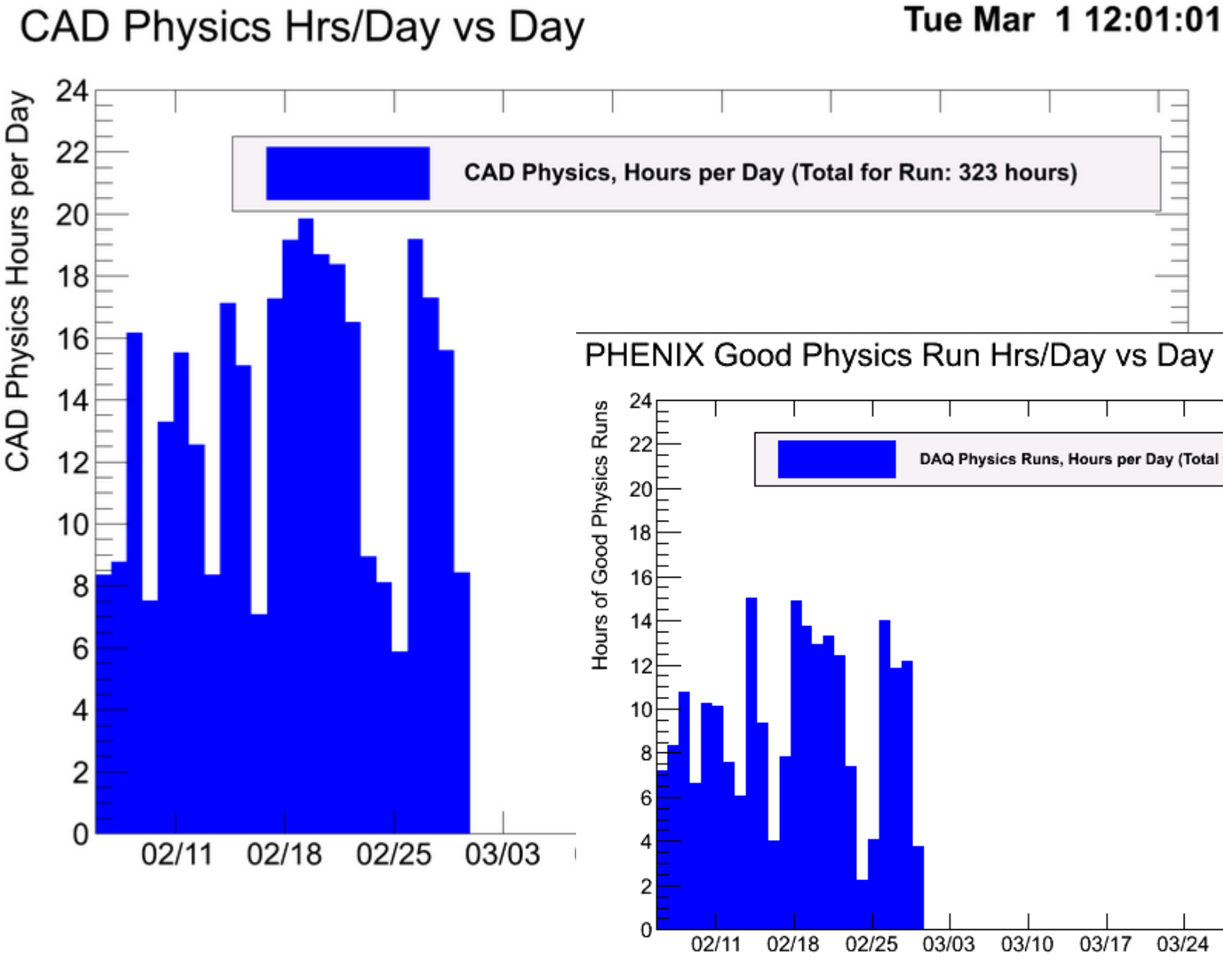
Institut de Physique Nucléaire Orsay,
CNRS/IN2P3, université Paris sud, Université Paris Saclay

# luminosity

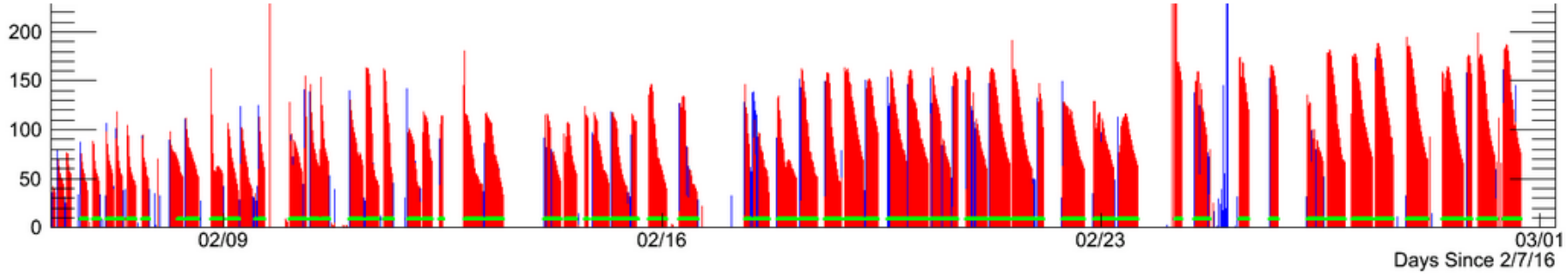


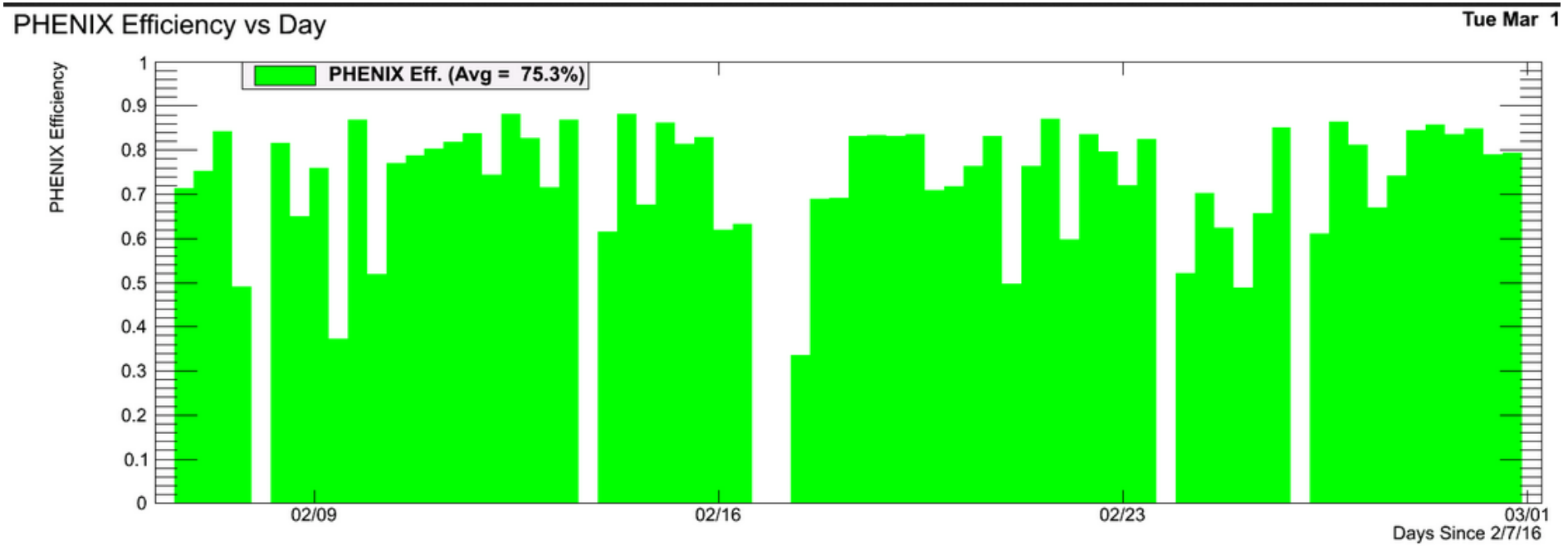




Actual recorded number in agreement with BUP goal 1.8nb-1
« narrow vertex »

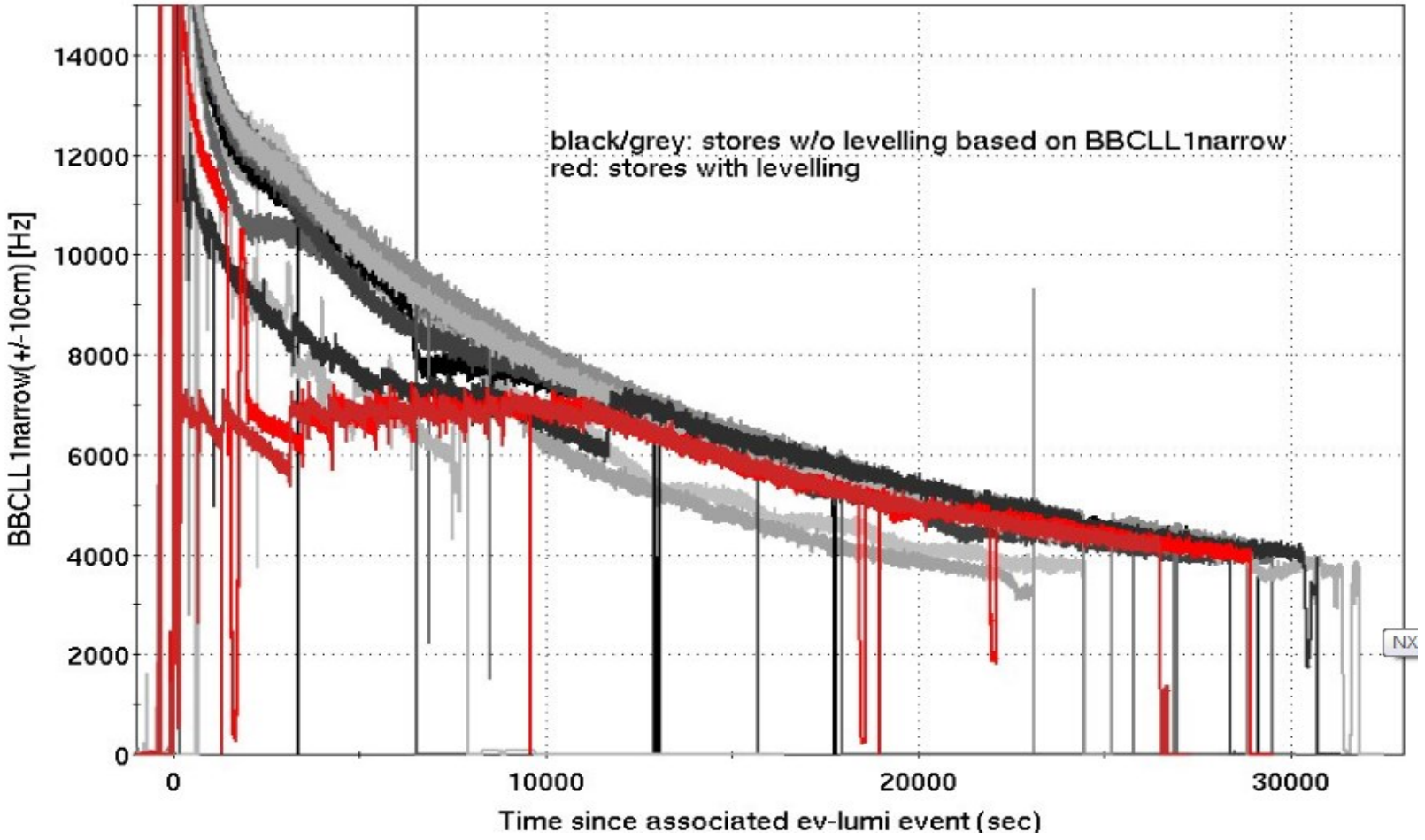

CAD Physics Hrs/Day vs Day
Tue Mar 1 12:01:01
CAD Physics Hours per Day
CAD Physics, Hours per Day (Total for Run: 323 hours)
0
2
4
6
8
10
12
14
16
18
20
22
24
02/11
02/18
02/25
03/03


PHENIX Good Physics Run Hrs/Day vs Day
ue Mar 1 12:00:28
Hours of Good Physics Runs
DAQ Physics Runs, Hours per Day (Total for Run: 225 hours)
0
2
4
6
8
10
12
14
16
18
20
22
24
02/11
02/18
02/25
03/03
03/10
03/17
03/24
03/31
04/07
04/14
Days Since 2/7/16

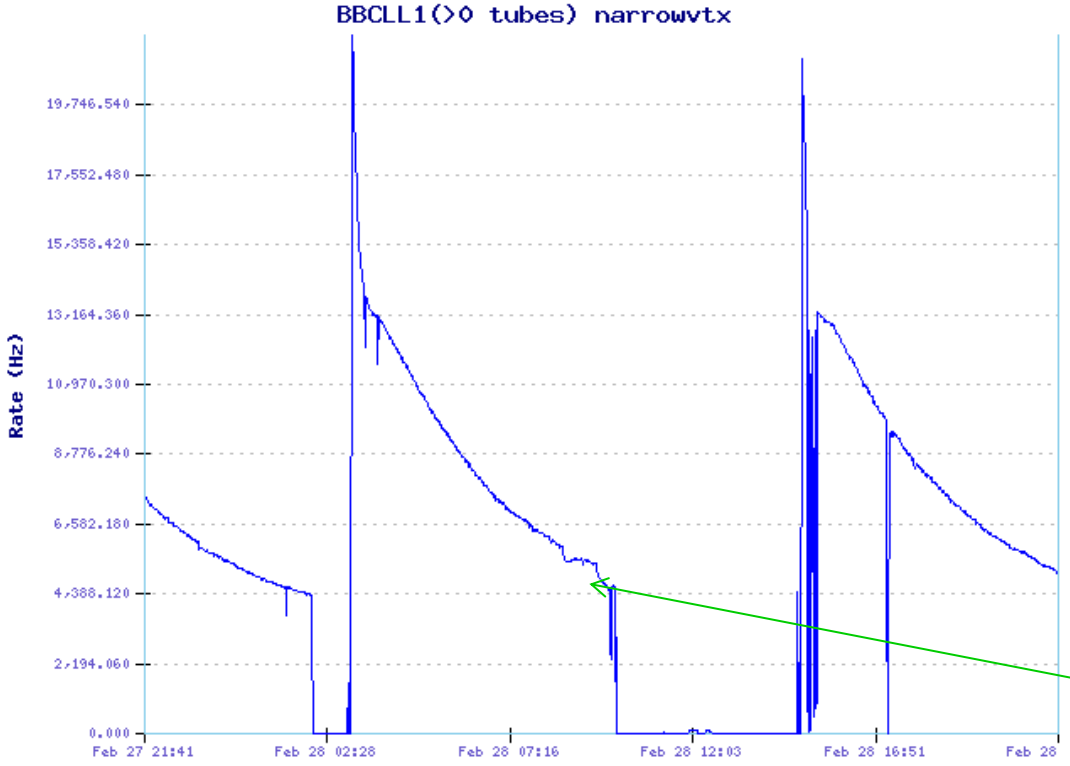

200
150
100
50
0
02/09
02/16
02/23
03/01
Days Since 2/7/16


PHENIX Efficiency vs Day
Tue Mar 1
PHENIX Eff. (Avg = 75.3%)
PHENIX Efficiency
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
02/09
02/16
02/23
03/01
Days Since 2/7/16

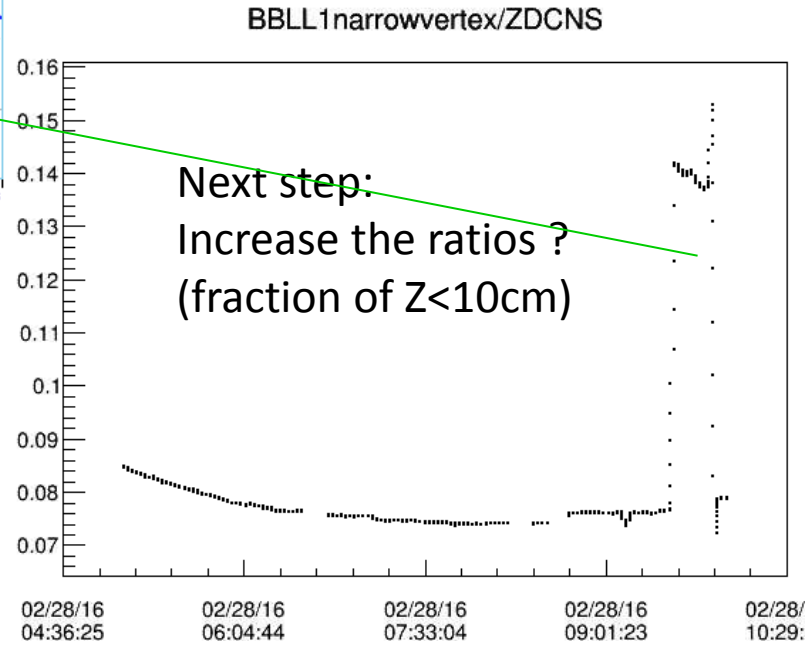
# Leveling: has been tried



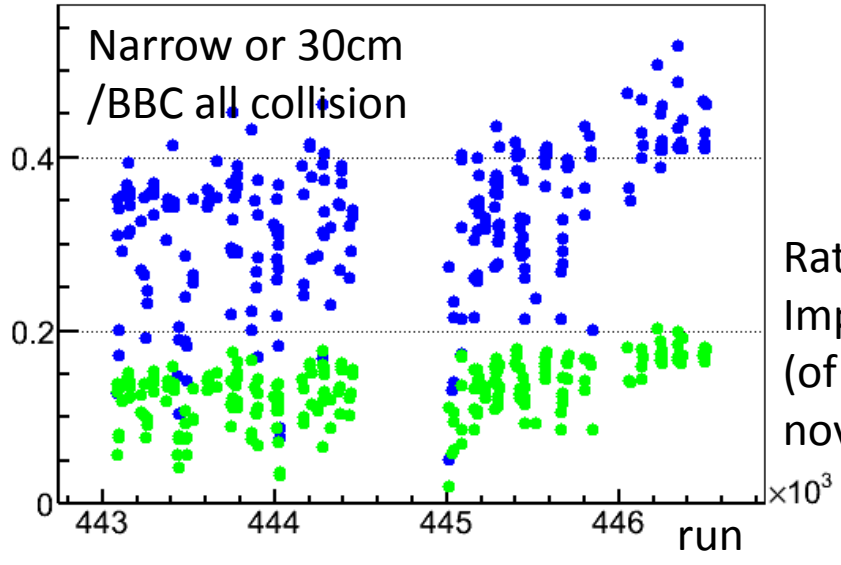

(From A.Drees)




**Some room for more, but already 4300Hz after 8 hours**

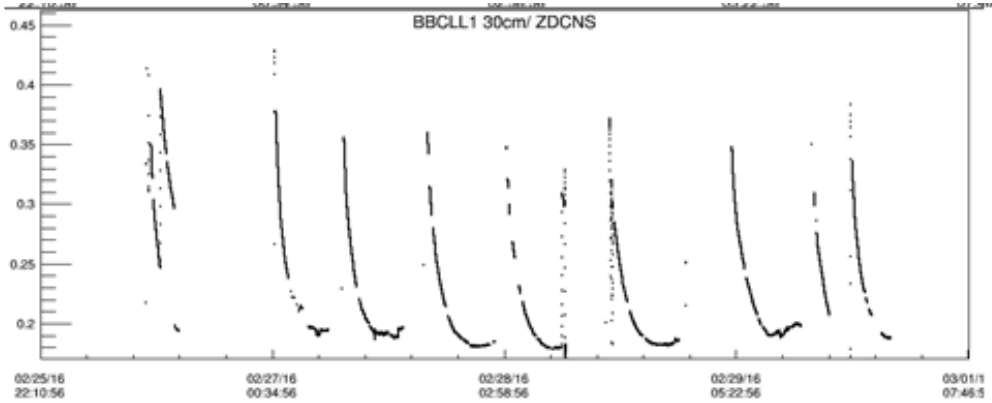



Next step:
Increase the ratios ?
(fraction of Z<10cm)

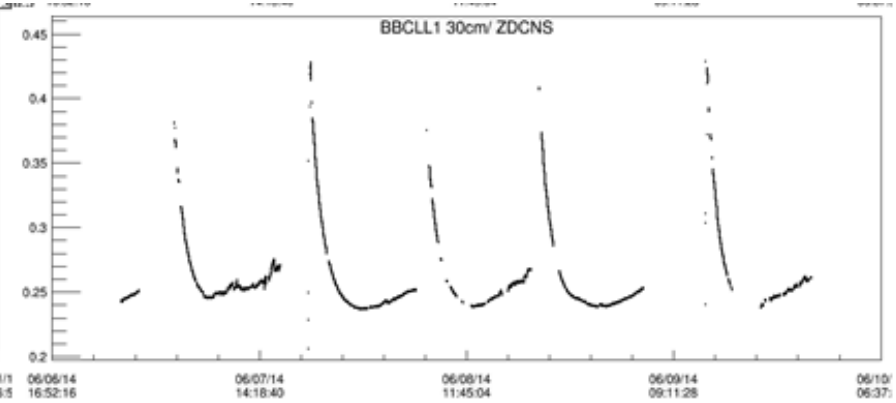


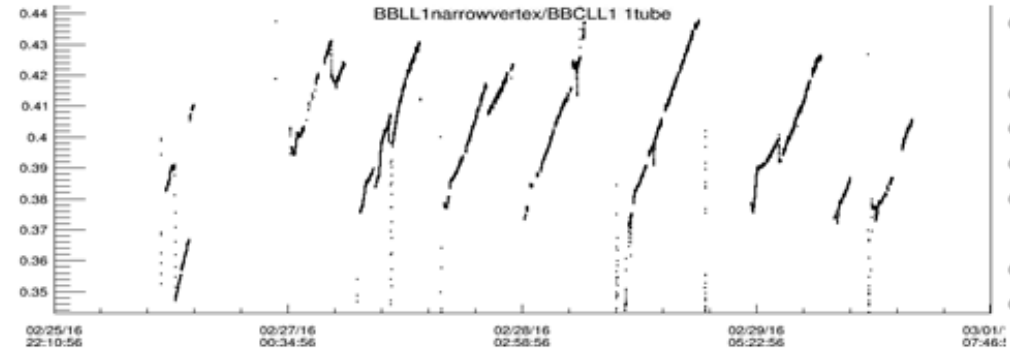

Ratio Improvement (of BBC novertex ?)

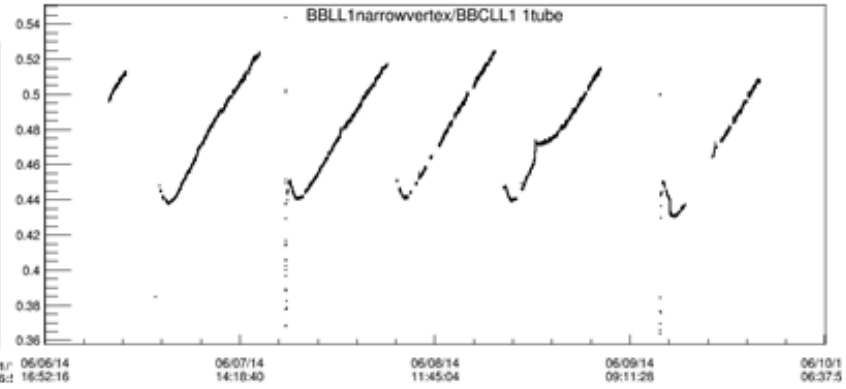
2016

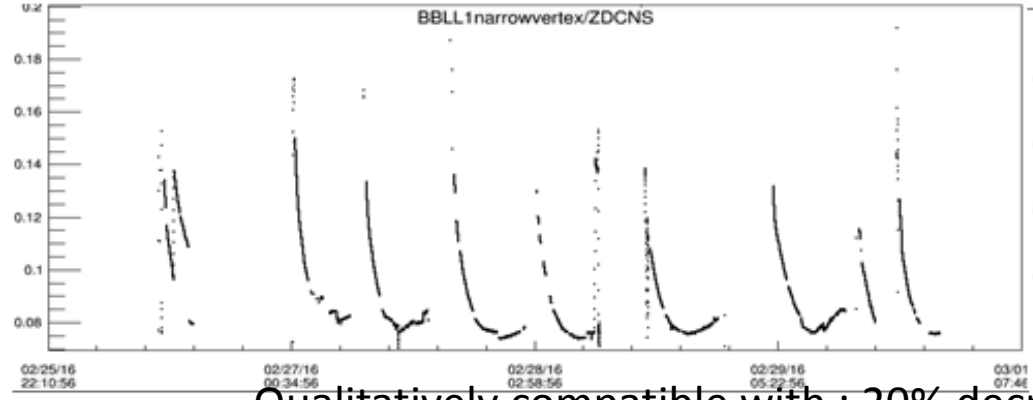


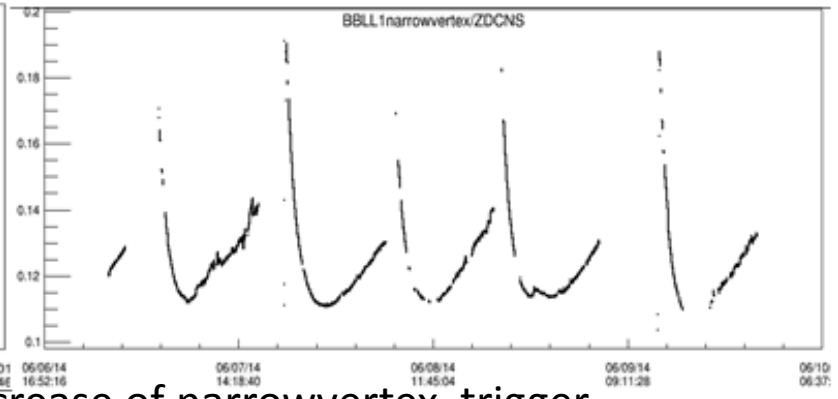

2014



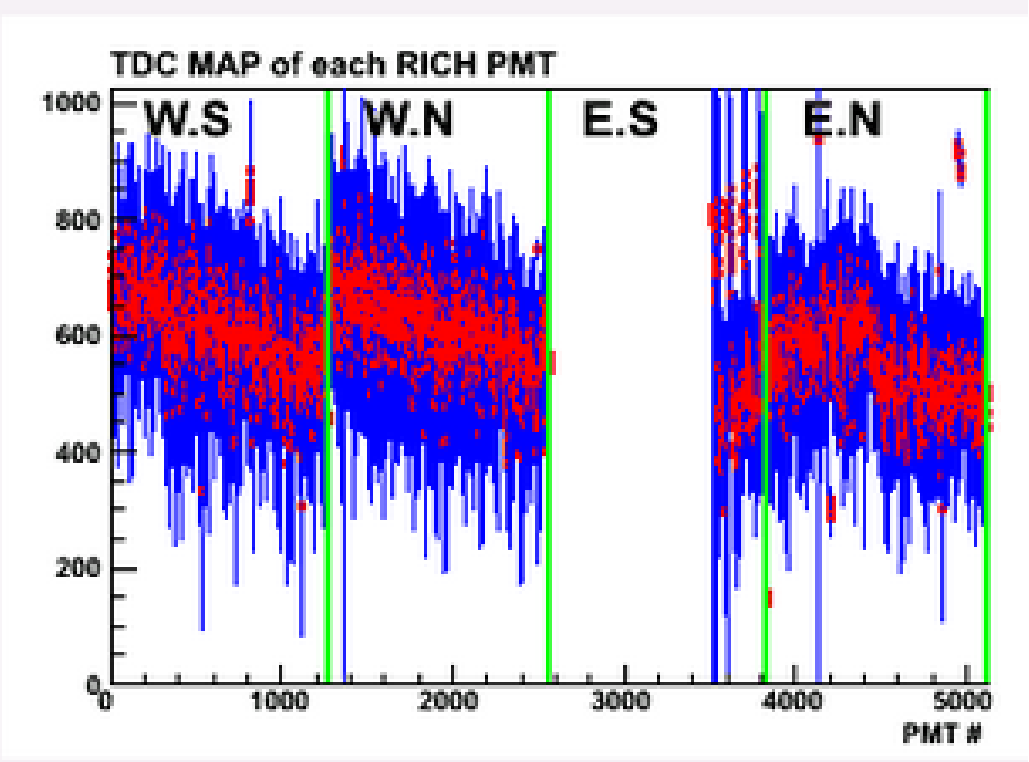




Qualitatively compatible with : 20% decrease of narrowvertex trigger selectivity (12->10cm), and increase of 30% of collisions >30cm ?

# Electron identification: repair needed

- HV trip associated to LV power supply problem
- Needs access, opening the central magnet




Done today 11AM CeC access:
finished at 11:30 !
thanks to the Phenix technical team ! No lost time !

# Summary

- Integrated luminosity rate stay close to the BUP goal…
  - Good at this early stage ！
- Could accept more luminosity at the end of store. (s*, beta*, ?)
- Try to Restrict access to opportunistic ones

But some partial problem can make the data quite useless for the analysis (S.Bathe)

# Backup

# Calendar

- Watch shifts started 12 January
- Detector closed 29 January
- timing with collisions started 5 february,
- Recording physics run since 6 february midnight Efficiency improving. Still 10% to gain in data flow.
- Maintenance day: drift chamber (noise), VTXSP..
- AuAu: goal >7KHz “narrowvertex” at end of store
- End of 10 weeks AuAu **to be precised**
- Then **5 weeks** d-Au,
- (then CeC)

# d-Au : 5 weeks, 4 energies

- **"Five to seven weeks** of running to perform a small system beam energy scan (PAC) »

Our optimized choice for **5 weeks**:

- 20 GeV 1.5 week 9M (BUP: 7M)
- 39 GeV 1.5 week 110M (110M)
- 62 GeV 1. week 160M (230M)
- 200 GeV 1. week 1.6 B (2.4B)

Allowing a complete energy scan in the same detection conditions, and keeping BUP and PAC goals of measuring the **excitation function** of 2-particle **correlations** and **V2**, and possibly - the first **BES** measurement of **V3 in small systems** at RHIC.

# D-Au BES: some extracts from the PAC June 2015:

**In "2.2 Discussion of run 16 priorities:"**

**"2.2.2 Five to seven weeks** of running to perform a small system beam energy scan: »

- ….« These measurements capitalize on the **unique and impressive versatility of the RHIC accelerator in providing a variety of collisions systems and energies."**
- … "**One of the hottest topics** in heavy ion physics in the past few years is the observed similarity between the behavior of many observables for p+p, p+A, d+A, 3He+A, and A+A, which poses the fundamental question of how small a system can exhibit thermalized QCD behavior. What is the smallest possible droplet of QGP, and how does the answer to this question depend on the collision energy and event multiplicity, which is to say on the temperature of the QGP in question? Addressing this newly opened, and challenging, question promises to deepen our understanding of, for example, which requirements have to be fulfilled for hydrodynamics to be applicable. »