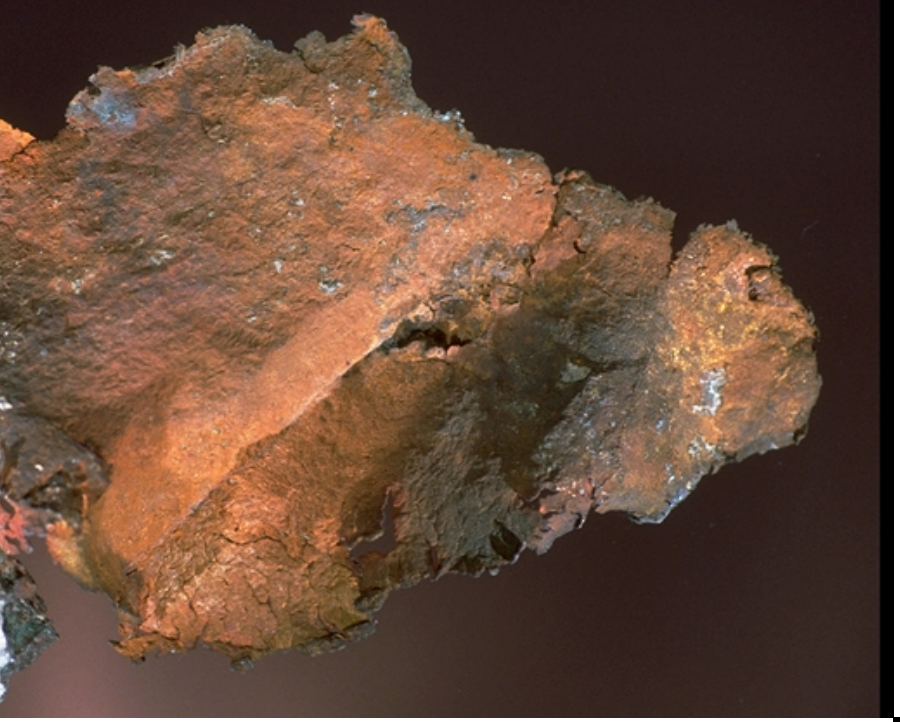
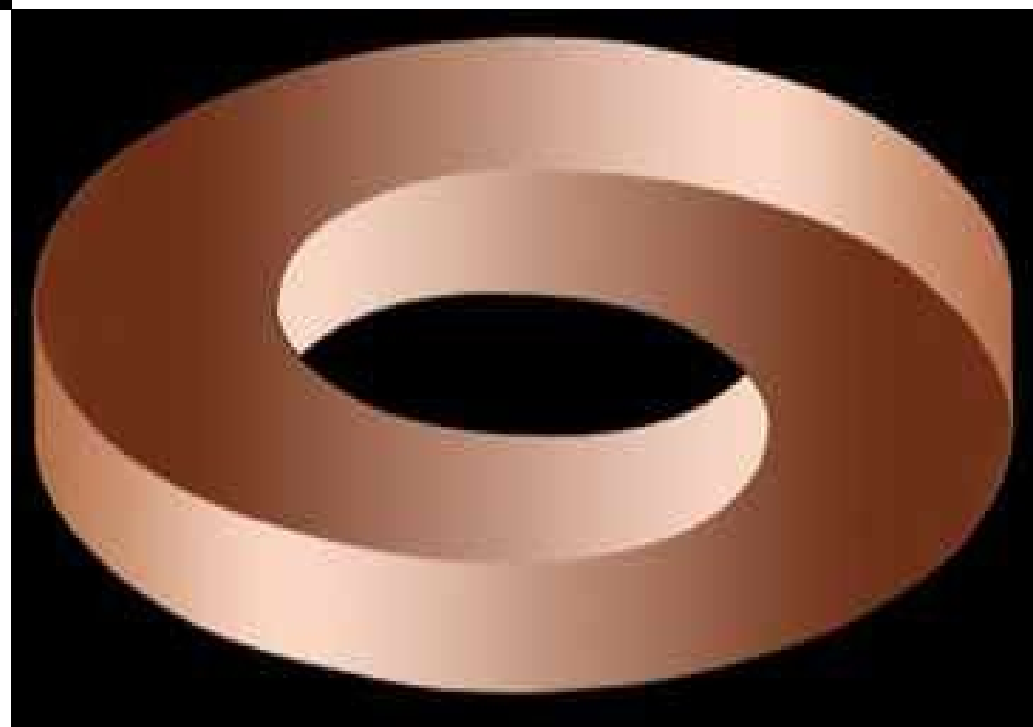


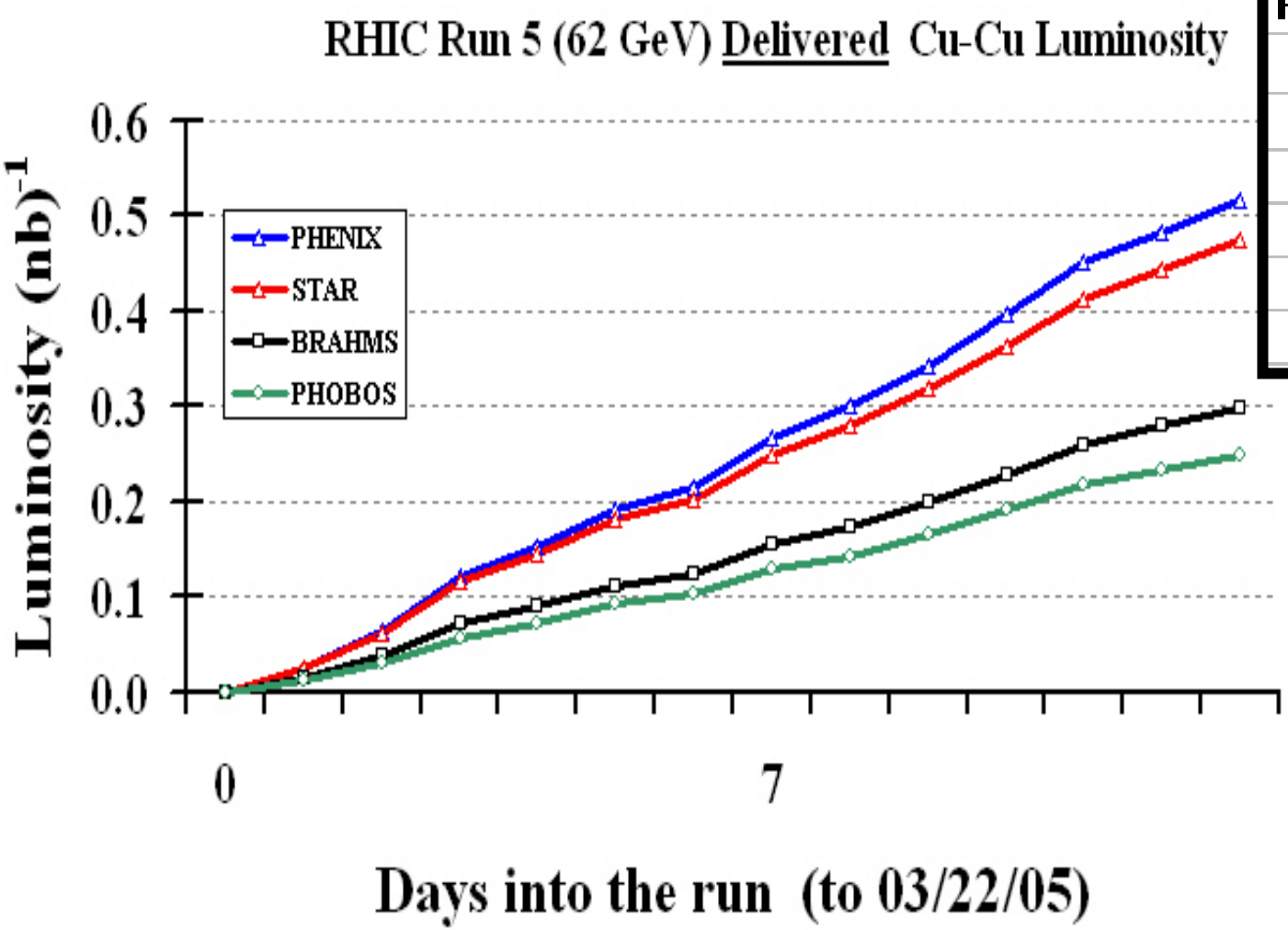
Run-5 Update

BROOKHAVEN
NATIONAL LABORATORY

Machine-Experiments
Planning Meeting
March 23th, 2005



End of Cu-LE run



	31GeV
PHYSICS	<Lint>
	[nb^-1]
brahms	0.30
phenix	0.52
phobos	0.25
star	0.47

Week 2 - summary

collisions @injection (Tue Mar 15)

Set-up work, Tue Mar 15 (OK, vertex, backgrounds, lifetime…)

Set-up + run, Tue Mar 22 - running

Phobos zero field & polarity change (Thu Mar 17)

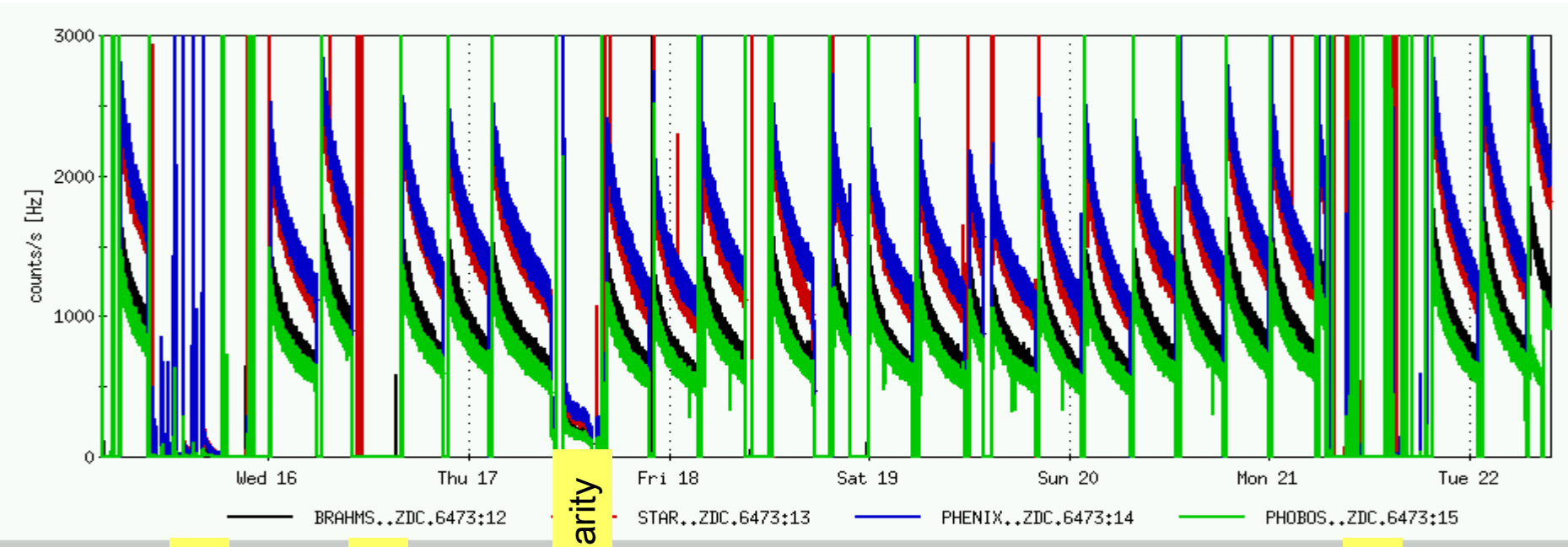
Vernier scans→ **Cu-Cu X-section** @31.2 GeV

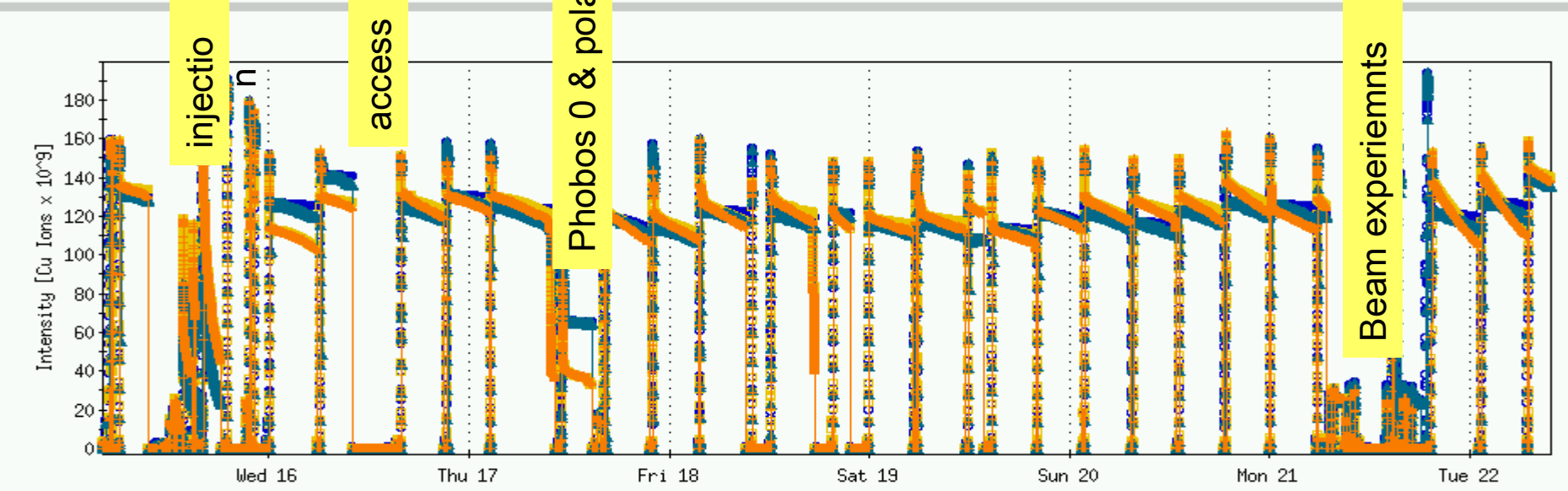
2.3 barn (redone today, Angelika will re-check x-section)

Overall, low-energy run:

- Low(ish) 80-85% transmission, 3.5-3.5 e9 bunch intensity
- Excellent **uptime, lumi lifetime** and **store-2-store** time
- Effect of ramp losses on electronics,PS supplies, crygenics to be factored in

LE week 2 - stores



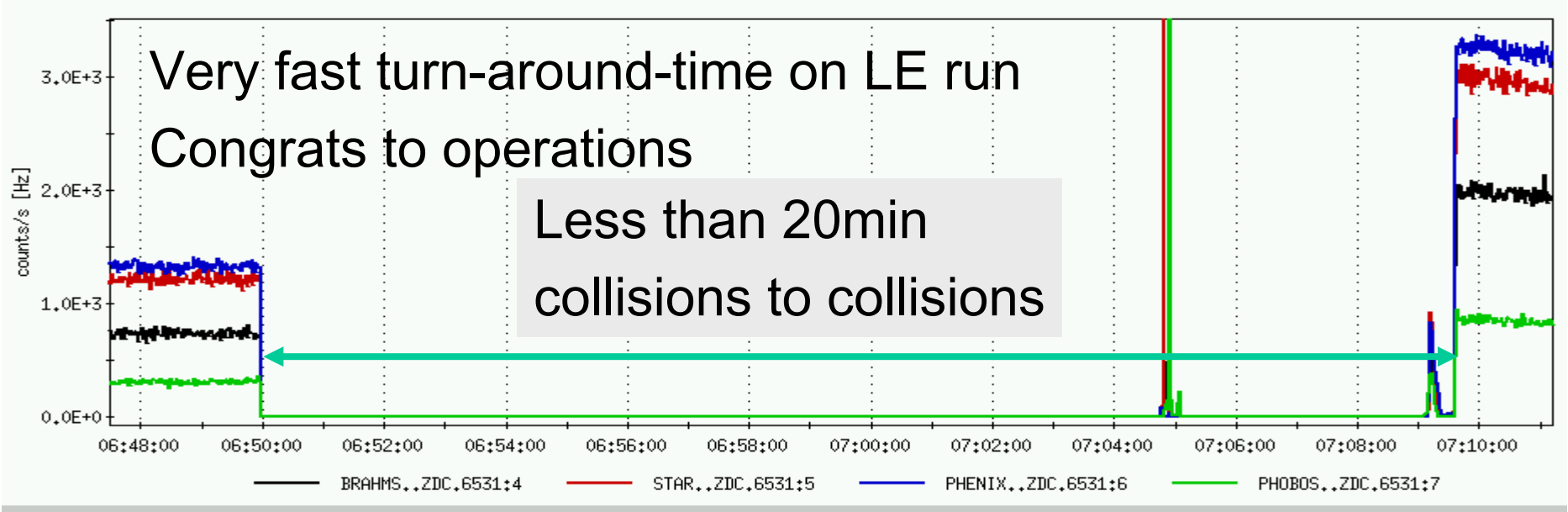


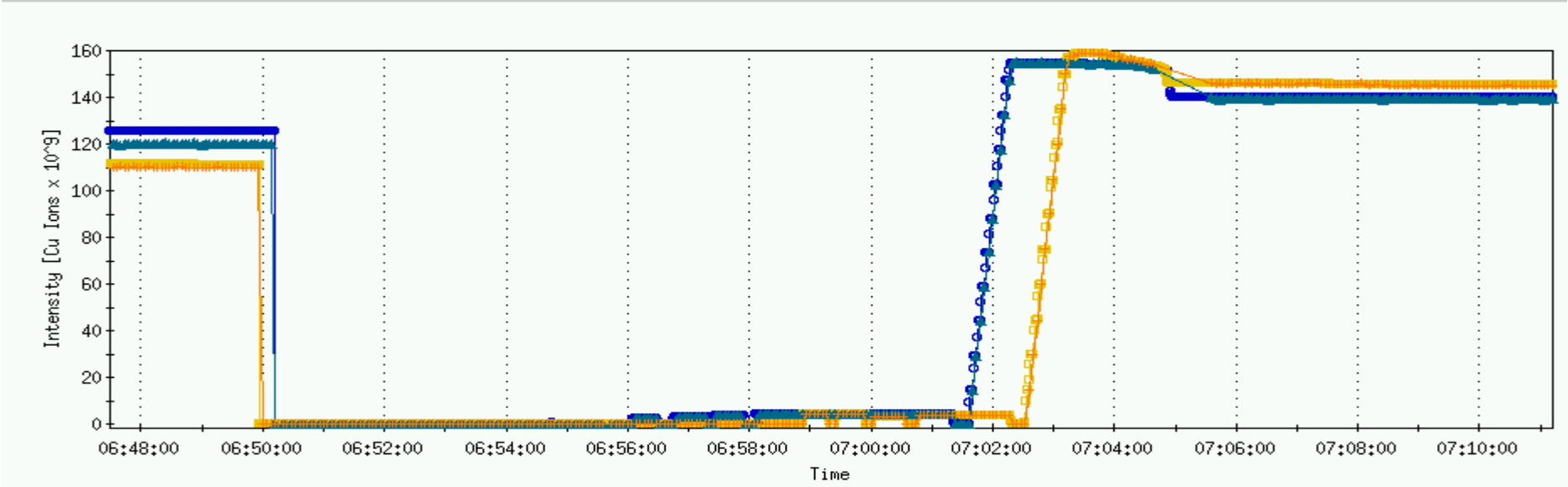
Store-to-store time

Very fast turn-around-time on LE run

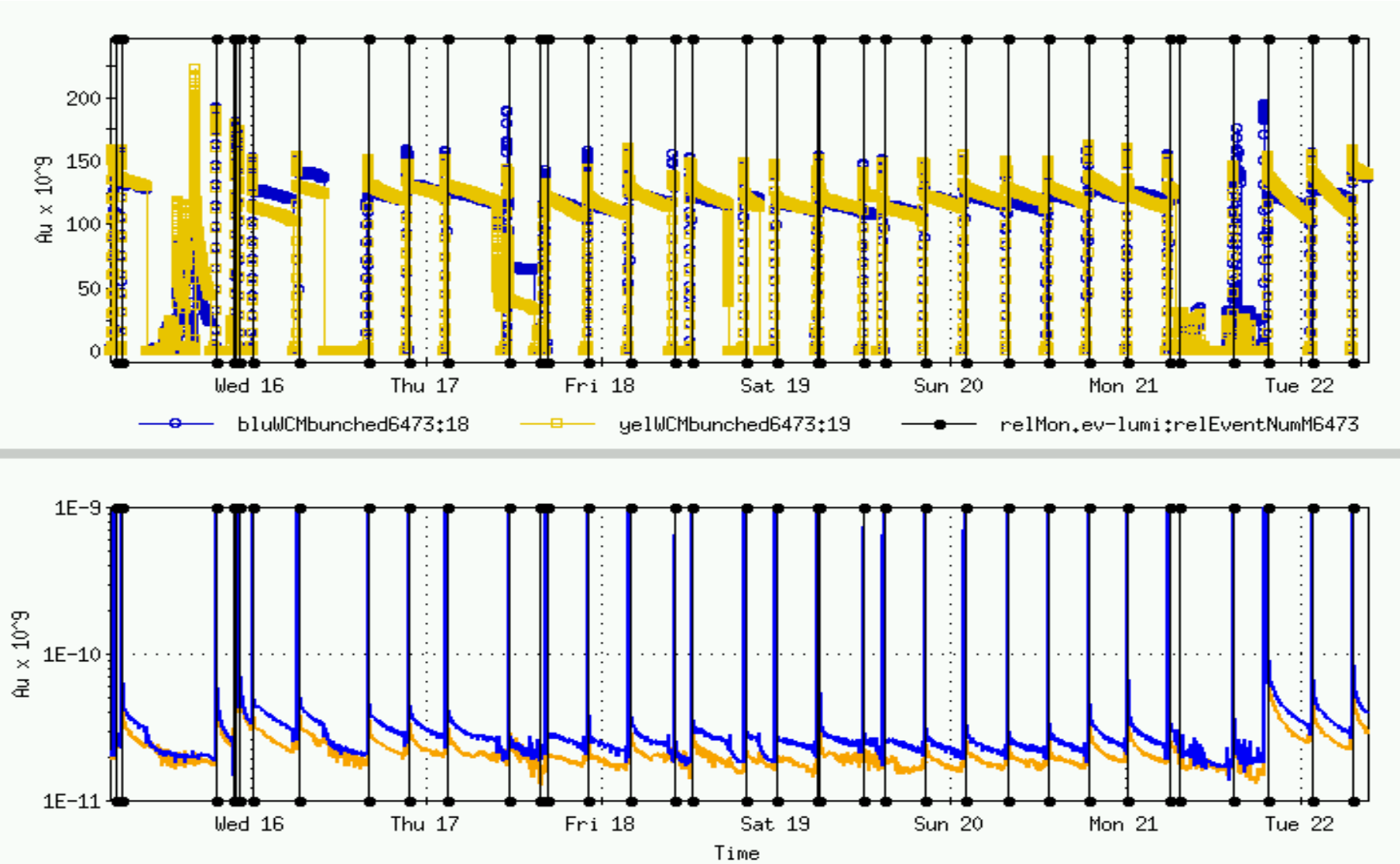
Congrats to operations

Less than 20min collisions to collisions



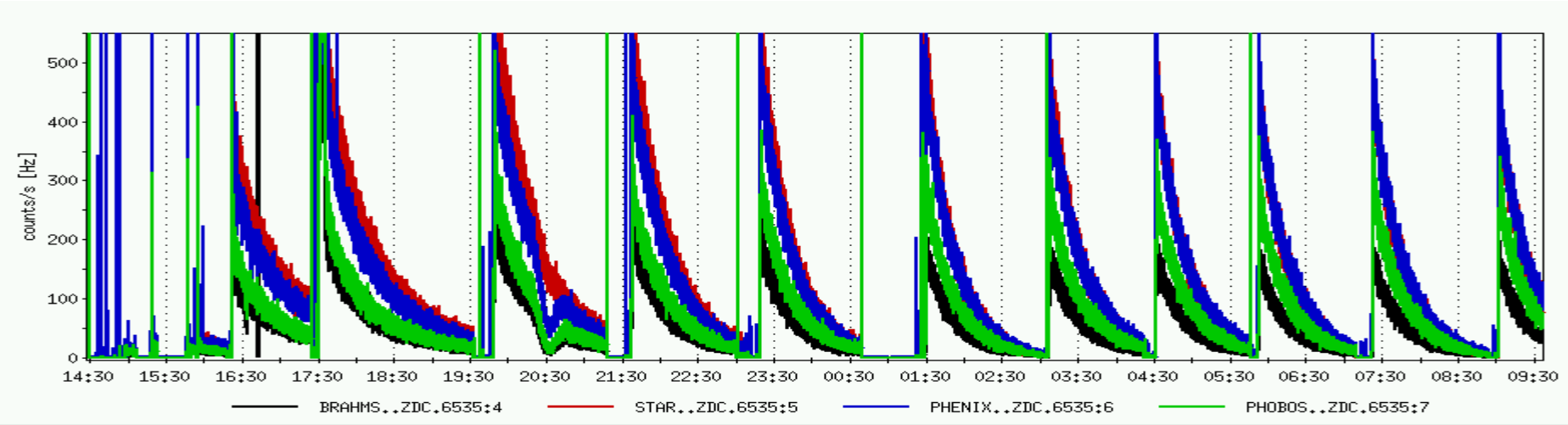


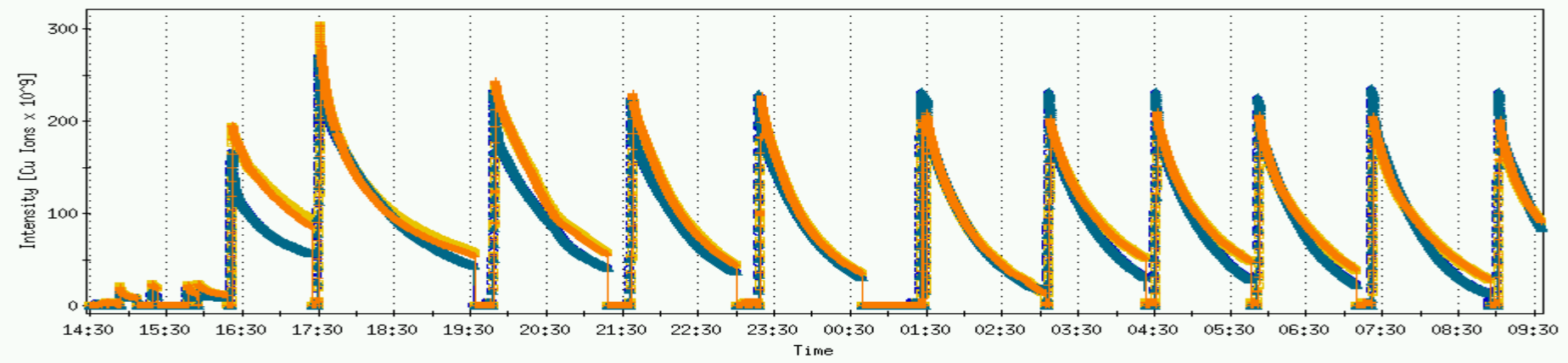
LE week 2 - Phobos



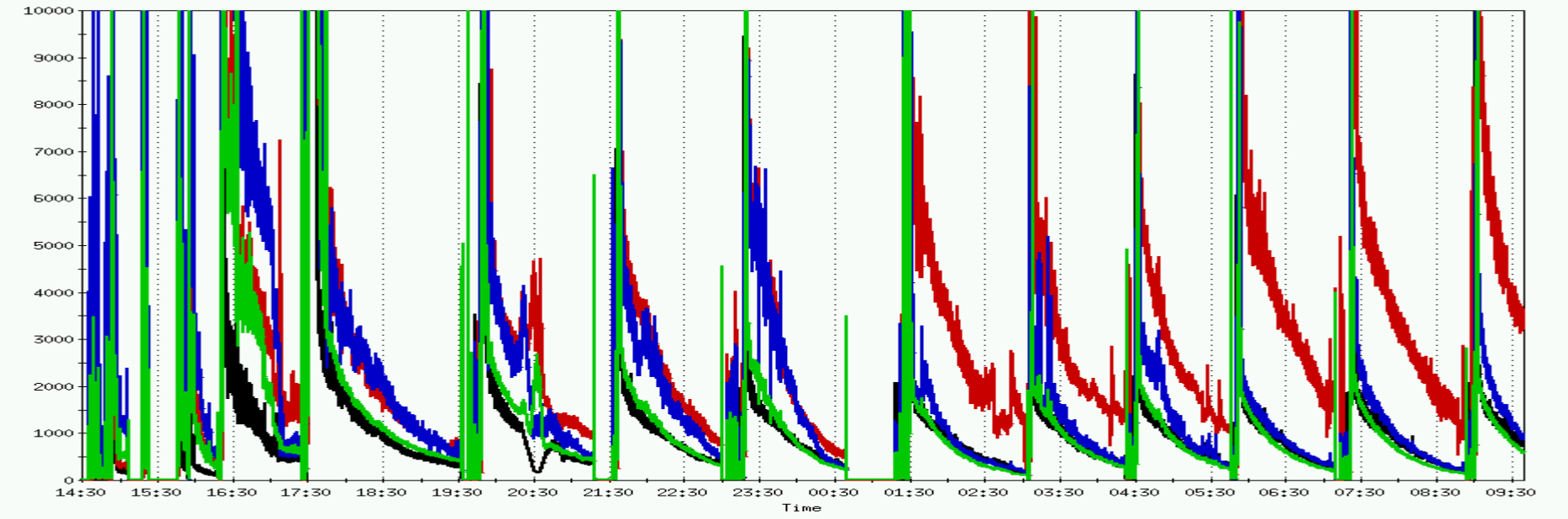
Injection run

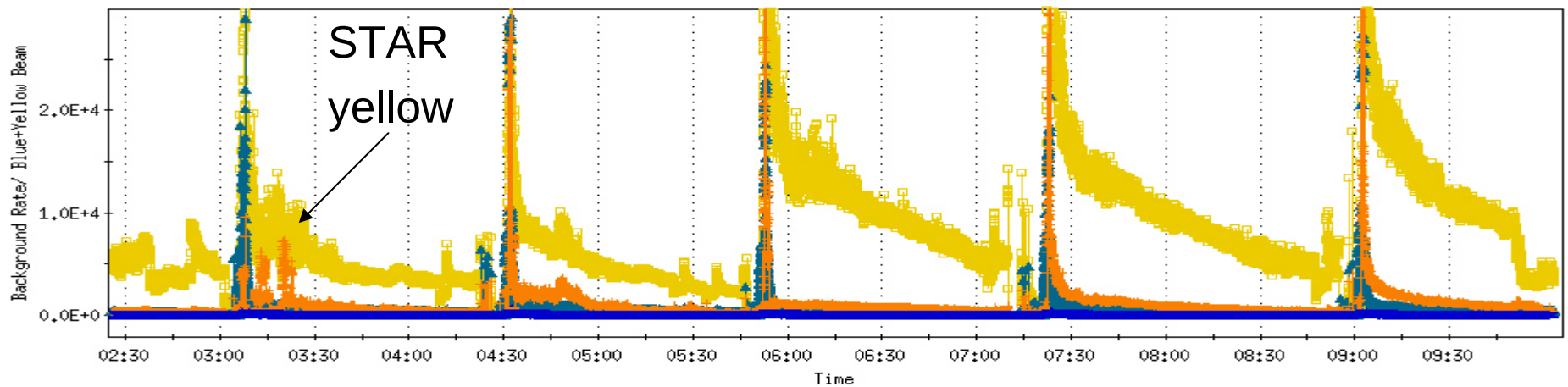
- Lumi lifetime ~1/2h → store length ~1:15min
- 55 x 4.0e^9 → initial rates ~500Hz
- Vertex OK now, backgrounds (next slide)



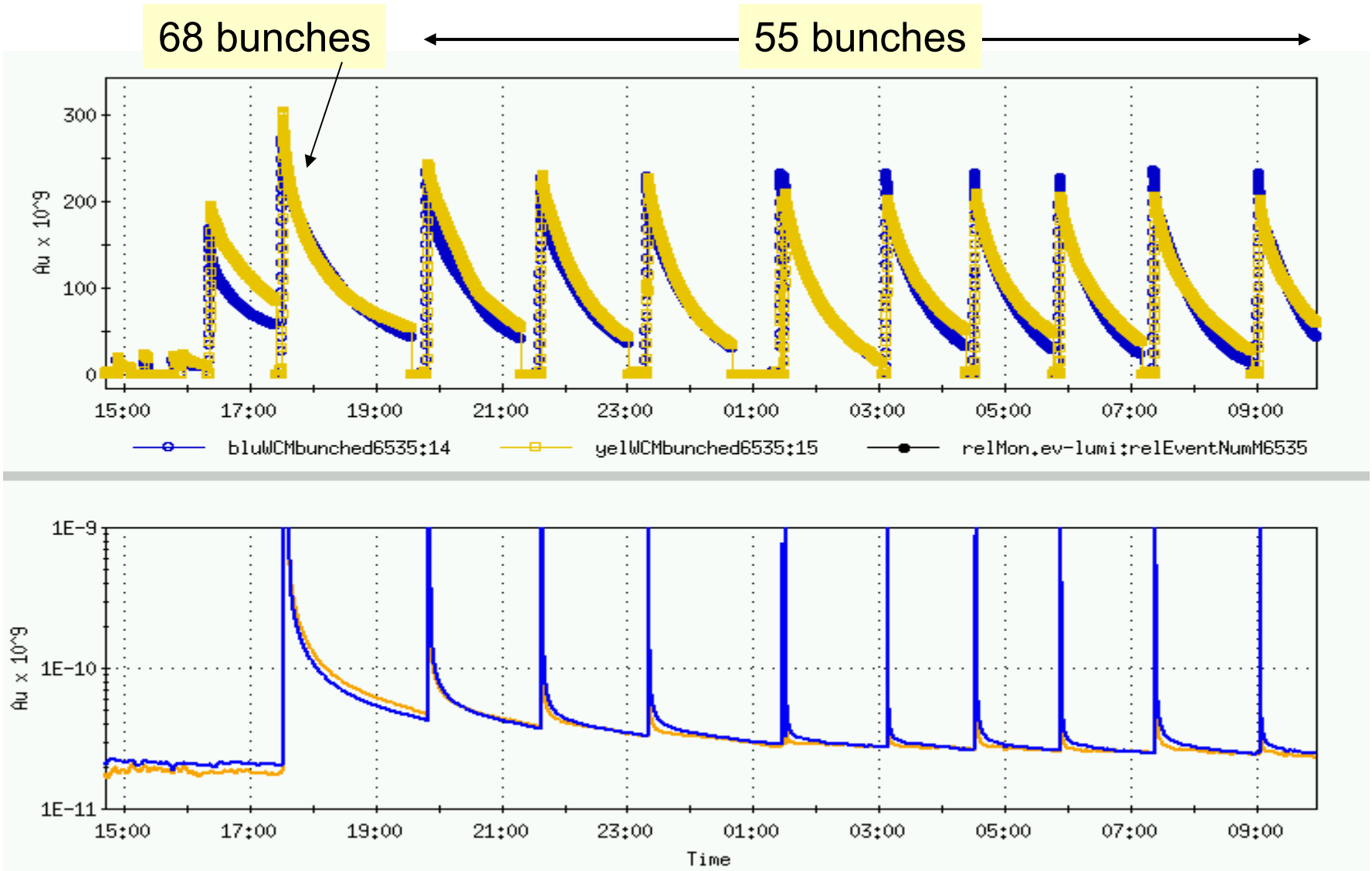


Injection run - backgrounds





Injection run – Phobos

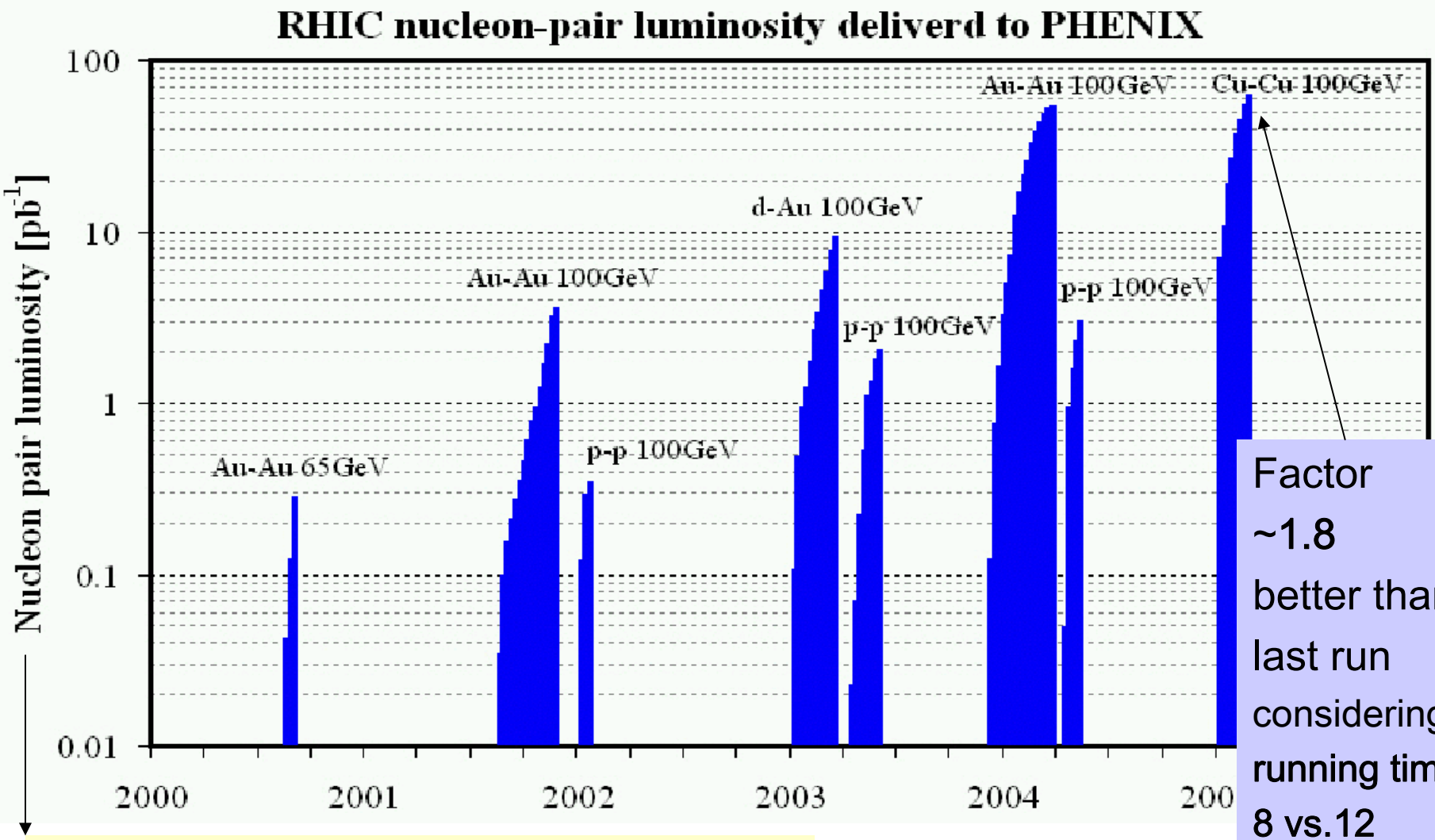


Run-5 integrated lumi (nb-1)

experiment	HE Run-5	HE Run-4	LE Run-5	LE Run-4
Phenix	15.16	1.37	0.50	0.022
Star	14.99	1.27	0.46	0.021
Brahms	6.15	0.56	0.29	0.012
Phobos	5.67	0.54	0.24	0.012

Total experiments events to be tabulated

(preliminary) run5 overview



$A_1\ A_2\ L$ (A's number of nucleons in ion)

Factor ~1.8 better than last run considering running time 8 vs.12 weeks

RHIC Retreat 2005

- Runs analysis (Cu, PP)
- Optimization machine-experiments output (projections, “tomatoes”, rates vs. uptime, etc...)
- Plans for shutdown, next run

→ RHIC Retreat, June 15-17, 2005

Following e-RHIC MAC June 13-14