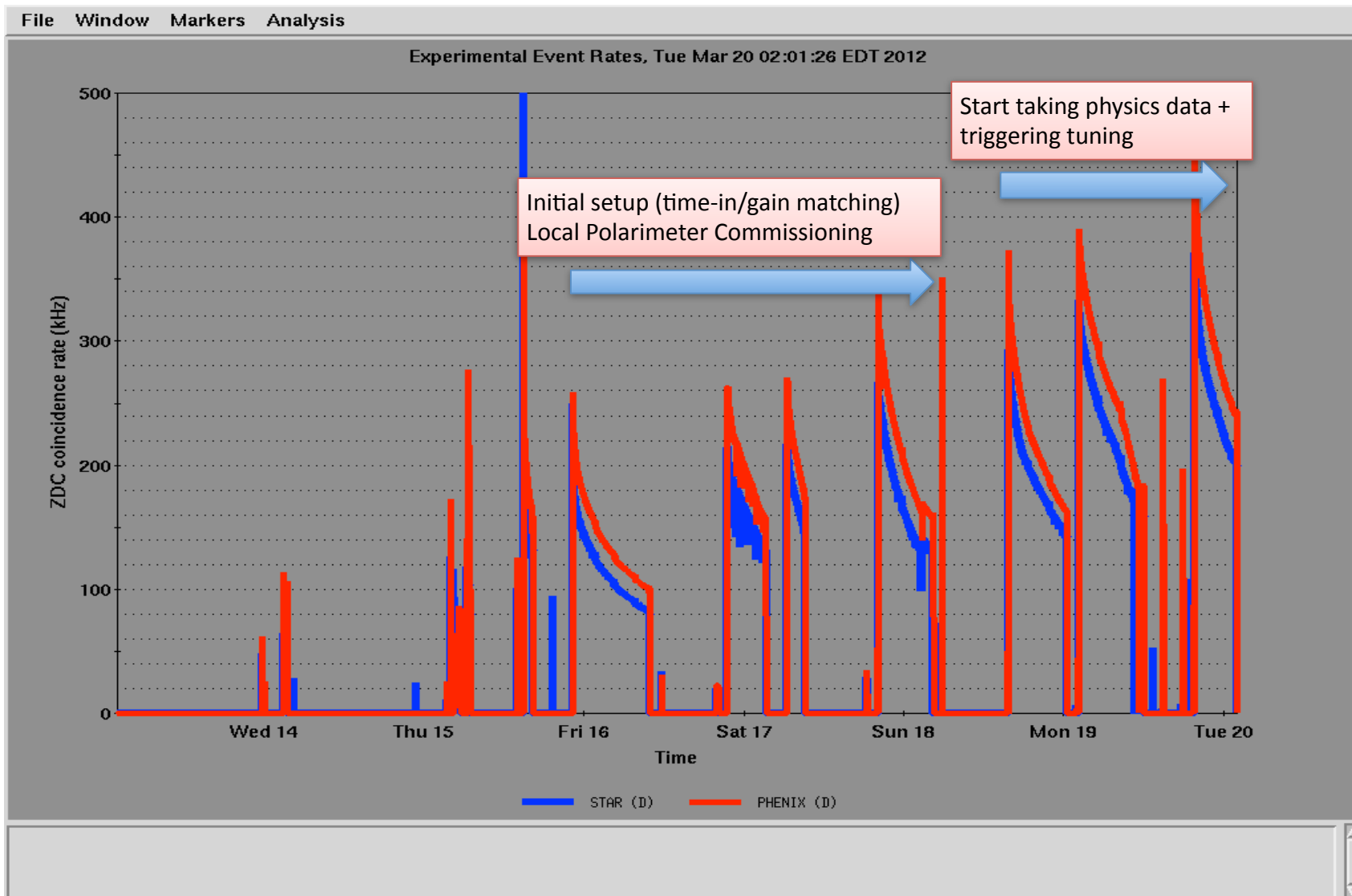


Run-12 510 GeV pp Physics Run (PHENIX Beam Use)

Xiaochun He
Georgia State University

Goal: If we scale to 5-week running time, we expect to have 30 pb^{-1} for $|z| < 30\text{cm}$ and 10 pb^{-1} for $|z| < 10\text{cm}$, with polarization $>48\%$

PHENIX Beam Use



Local Polarimeter Commissioning (Summary)

iFill	Pol. Direction	Description
Assuming PHENIX is already timed in, backgrounds under control, etc.		
1	Any	4-5 hours gain matching and producing slewing corrections
2	Transverse	Calibrate our offline analysis (2-hour short stores).
3	Transverse (start) tune to longitudinal	Two PHENIX LPOL experts worked in MCR and one guarded the PHENIX daq.
4	Longitudinal	Measure residual transverse polarization (potentially return to CAD for more tuning of spin rotator)

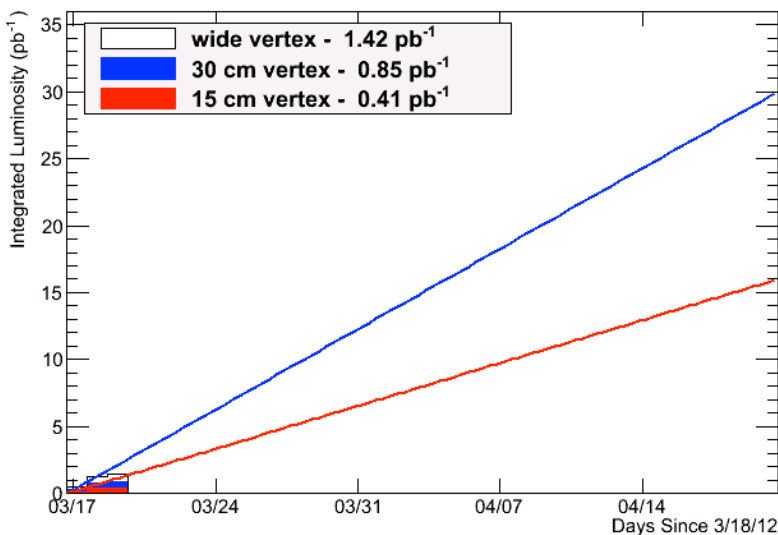
The goal is to study the residual transverse polarization and to tune rotator setting for longitudinal polarized beam. Successfully done!

Physics Data Taking Goals



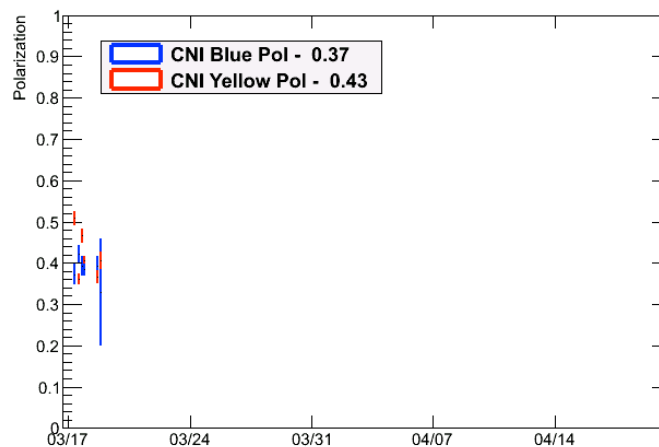
PHENIX Integr. Sampled Lumi vs Day

Tue Mar 20 12:00:23 2012



CNI Polarization vs Time

Tue Mar 20 12:00:23 2012



PHENIX Hope

- 3 back-to-back stores without large downtime periods between stores (average downtime less than 2 hours)
- On track for initial luminosity goals (10 pb^{-1} delivered / week*)
 - Projected delivered luminosity goes up with time.
- Longitudinal beam polarization: polarization $>48\%^*$
- Collimators and backgrounds under control
 - At the beginning of run11, high backgrounds forced us to leave off the RPC's at the beginning of stores.

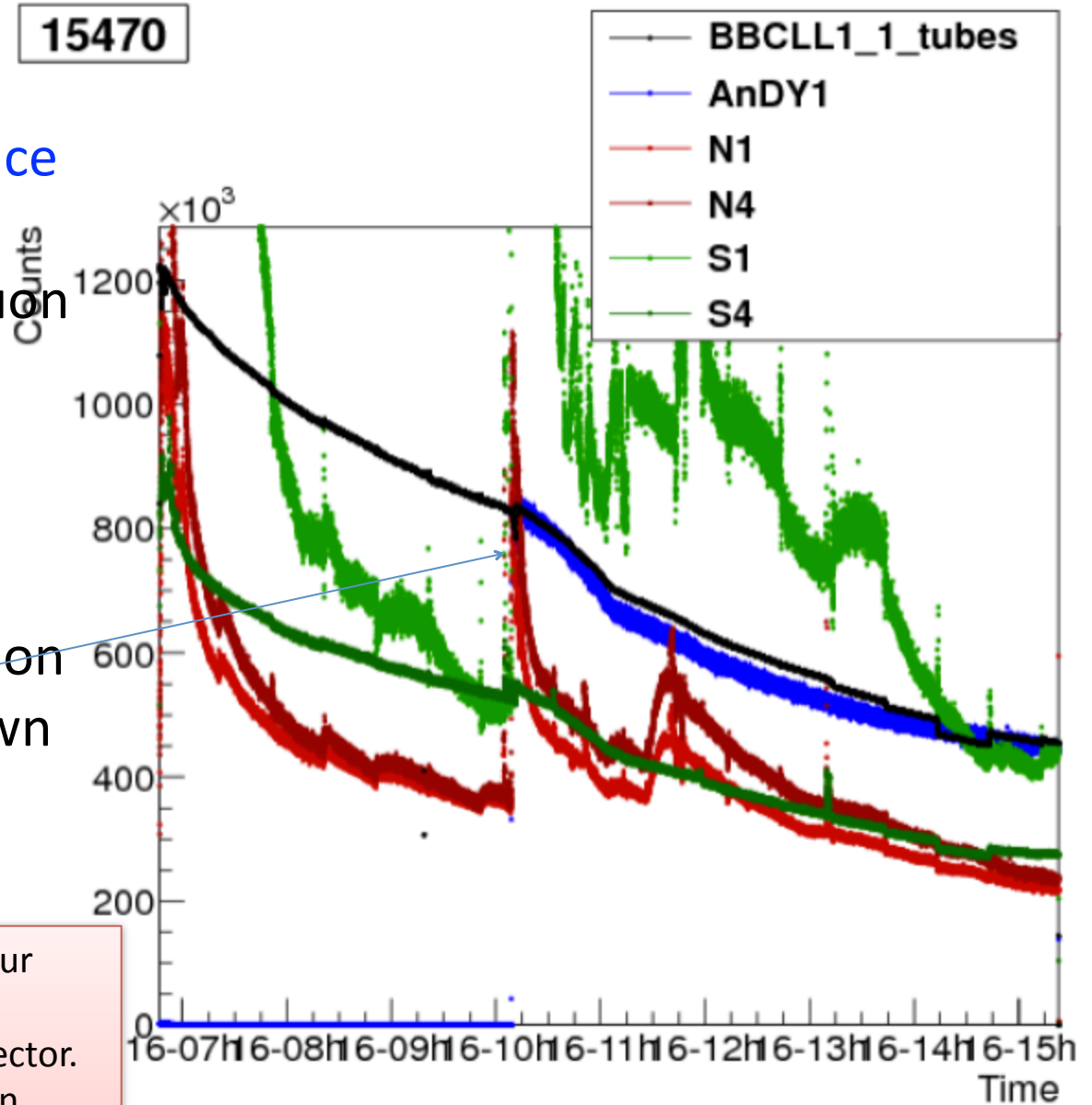
* Figures taken from "RHIC Collider Projections (FY 2012 – FY 2016)"

Background Concerns When AnDY is ON

- PHENIX BBC Rate
- AnDY ZDC Coincidence x 50
- North and South Muon arm background counters x varying scale factors

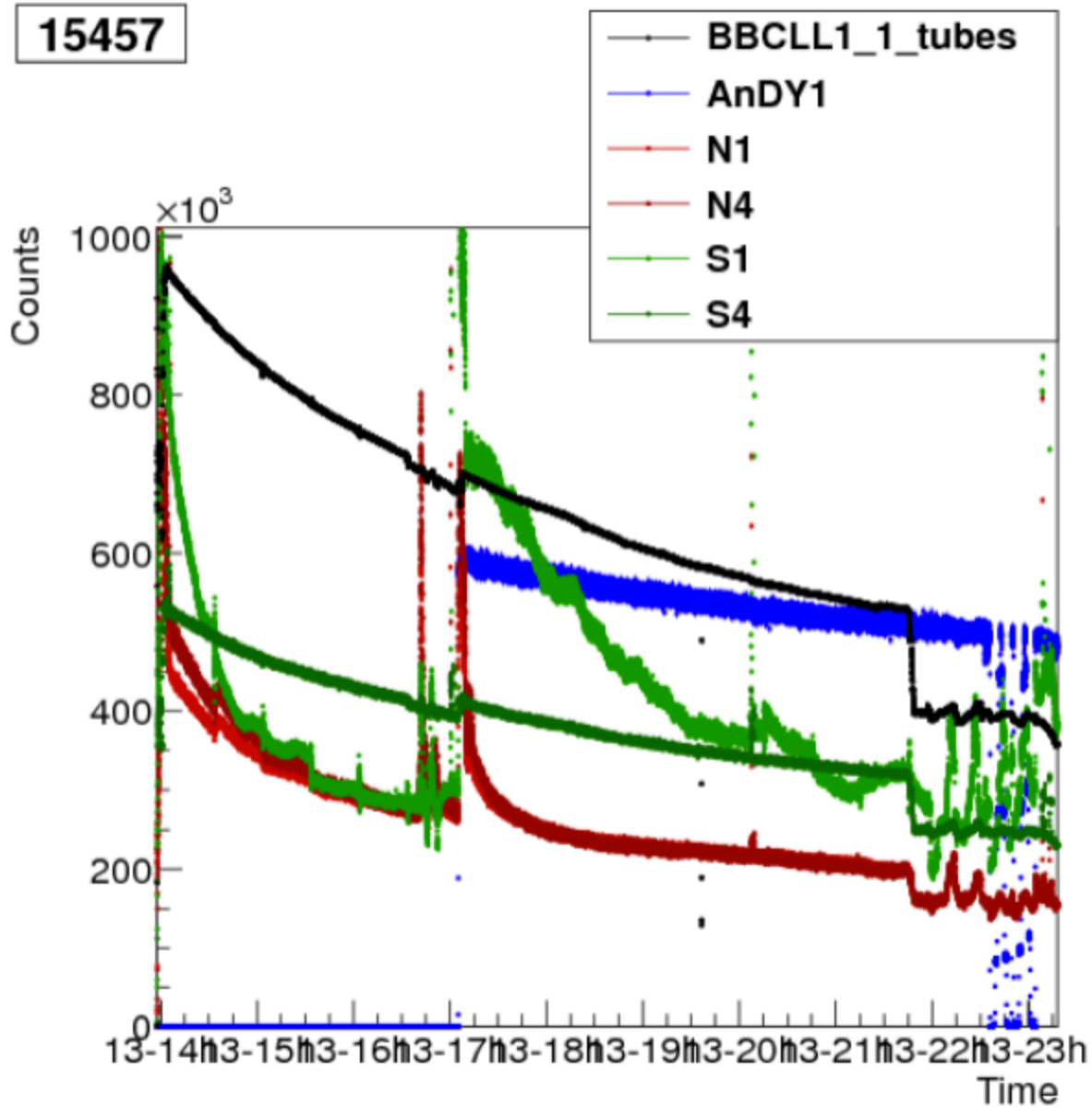
AnDY brought to collision
→ Luminosity goes down
→ Backgrounds go up

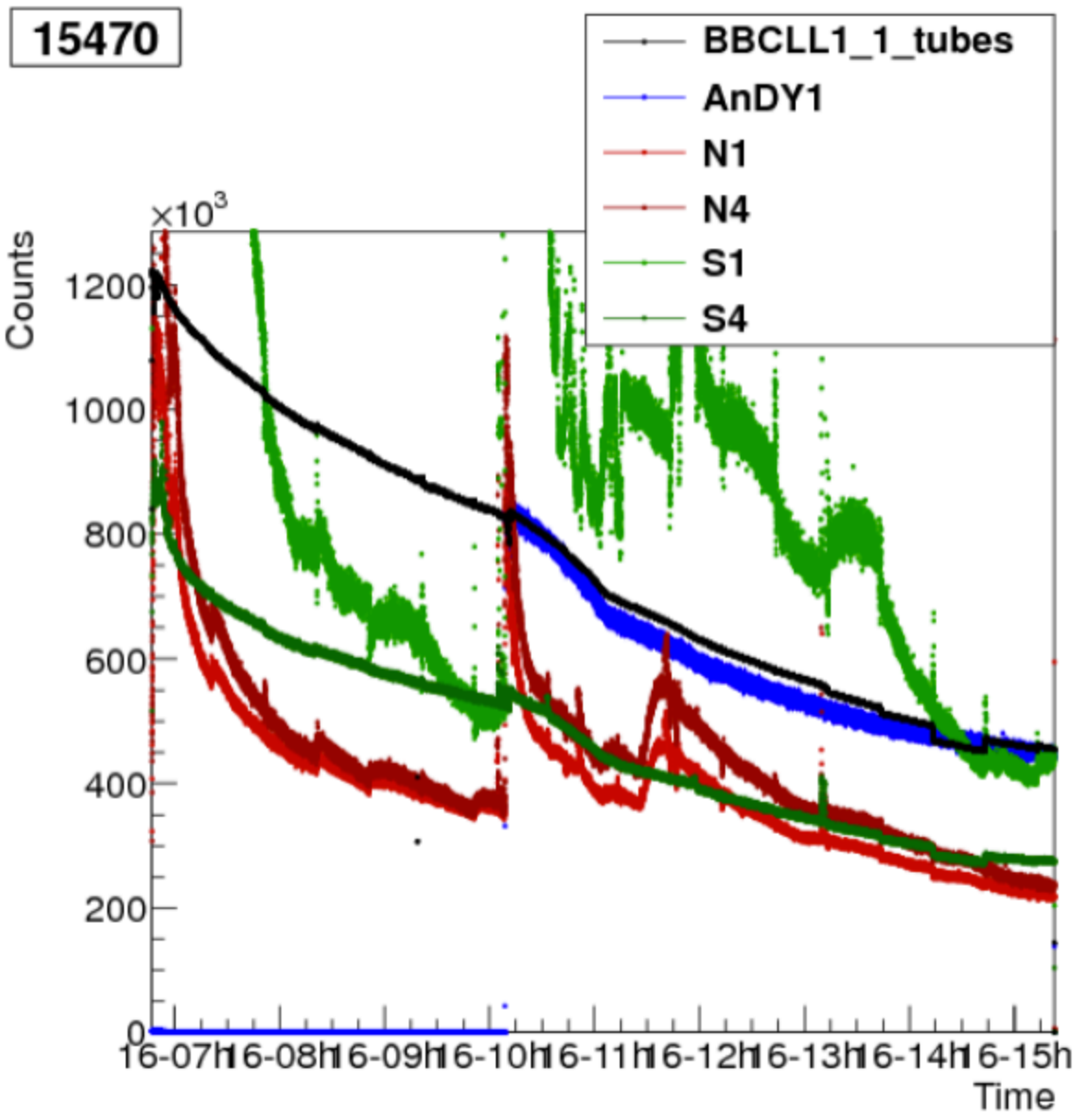
Increased background degrades our ability to analyze muon data and decreases the lifetime of RPC detector. It may also increase extra radiation effects to VTX/FVTX detectors.



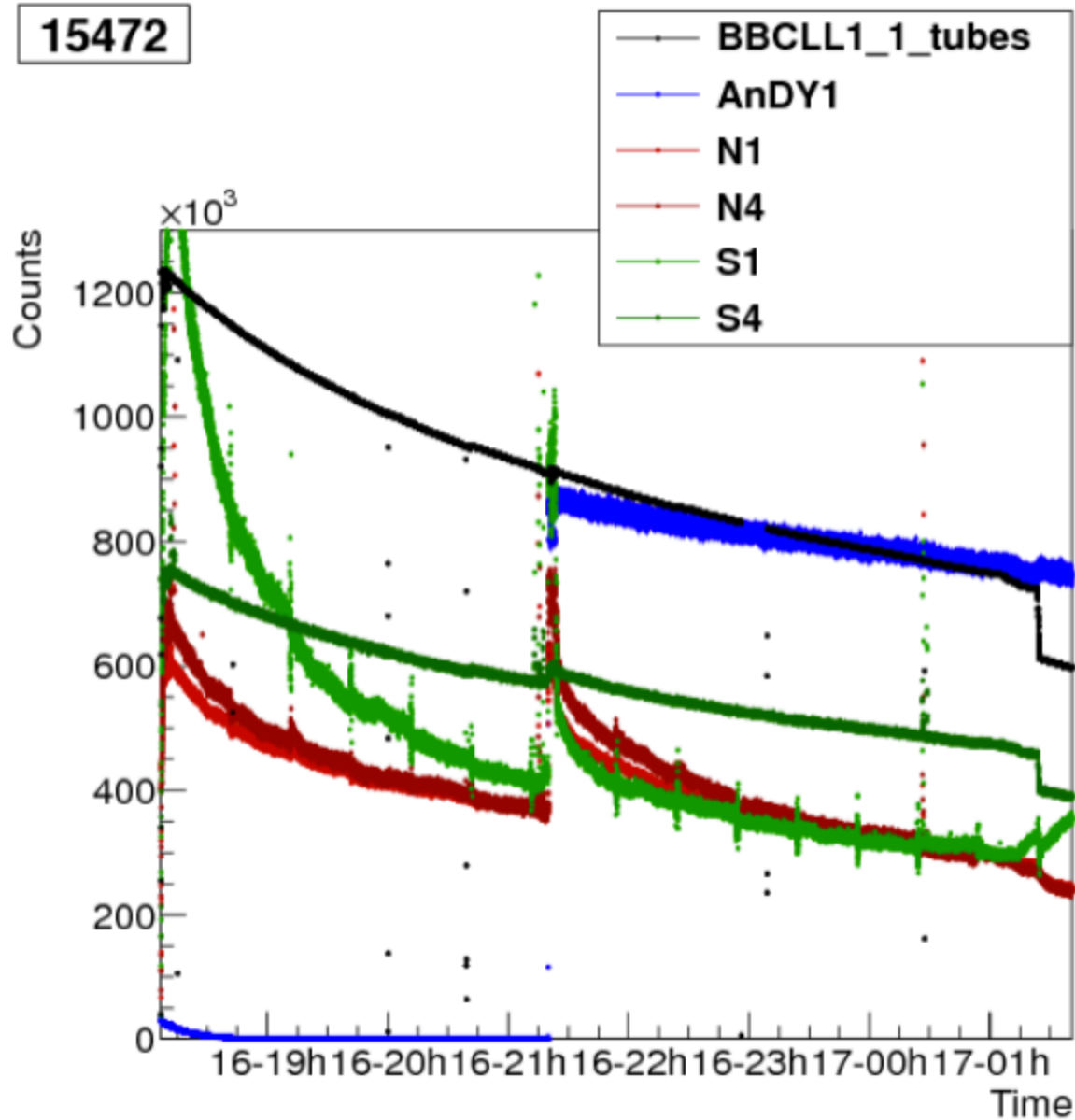
BACKUPS

15457





15472



15444

