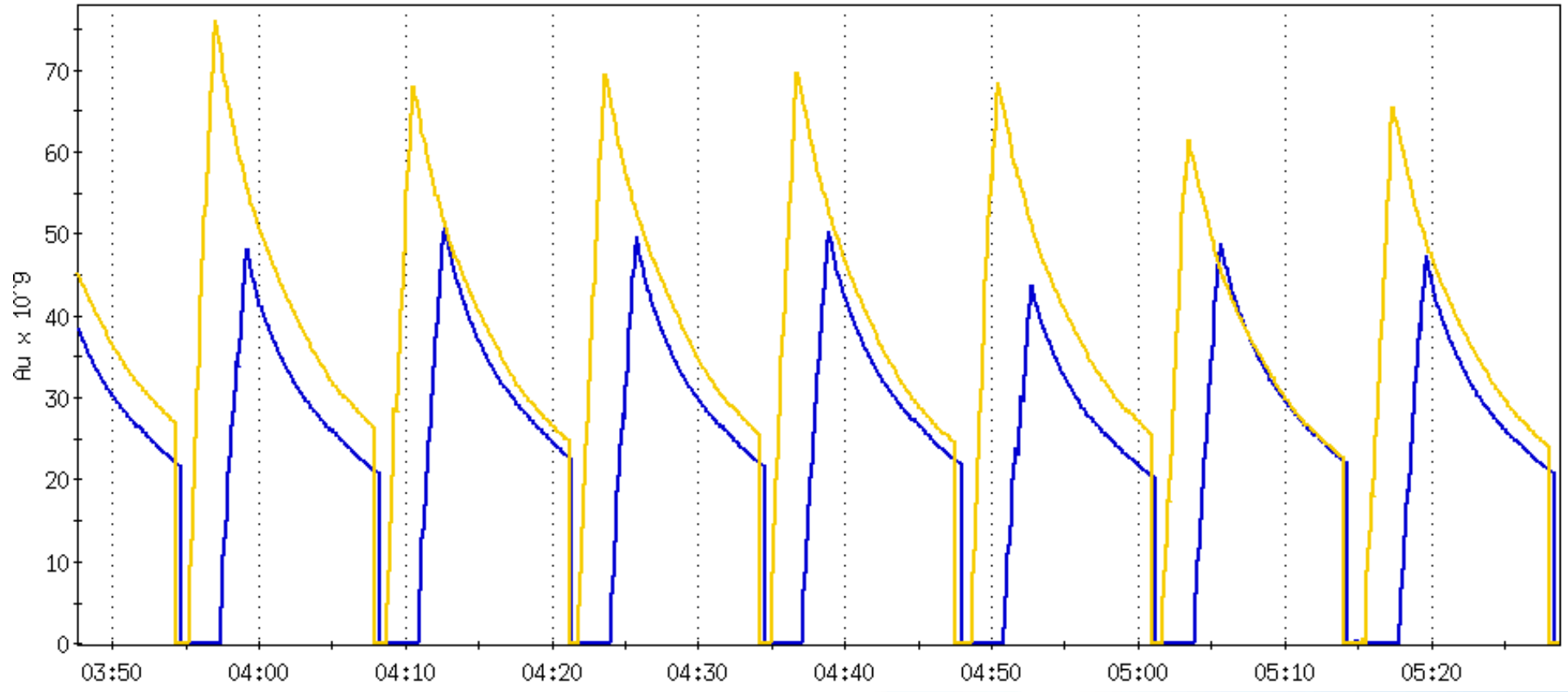
7.7 GeV Low Energy Program

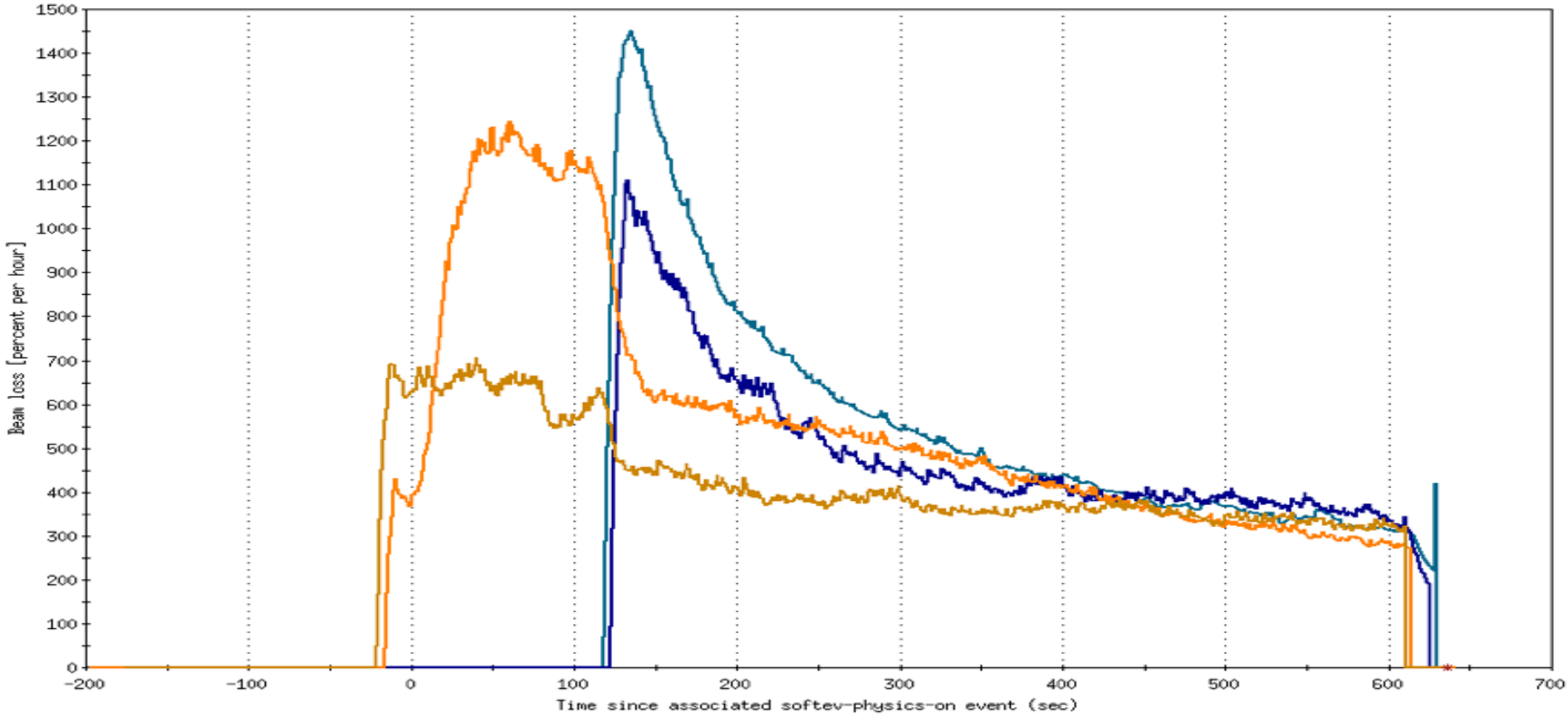
- Into the home stretch of four-week scheduled run
  - 10 minute stores, with APEX and beam development
  - Turnaround times about 2 minutes to second beam
    - Still in physics 75-80% of wall clock time
    - Operations have continued to excel at turnaround
    - Gap cleaning, improvements in injection matching…
  - Yellow injection kicker vacuum failure
    - Understood as unusual corrector failure
    - Integrated beam loss permits in place
    - Continuing to monitor facility-wide losses, chipmunks
  - Sextupole polarity reconfiguration
    - Half of sextupoles at defocusing quads were reversed
    - Demonstrated additional ability to set chromaticities
    - Modest improvement to beam lifetime
    - Important for E=2.5 GeV/u test on Monday

Store Turnaround



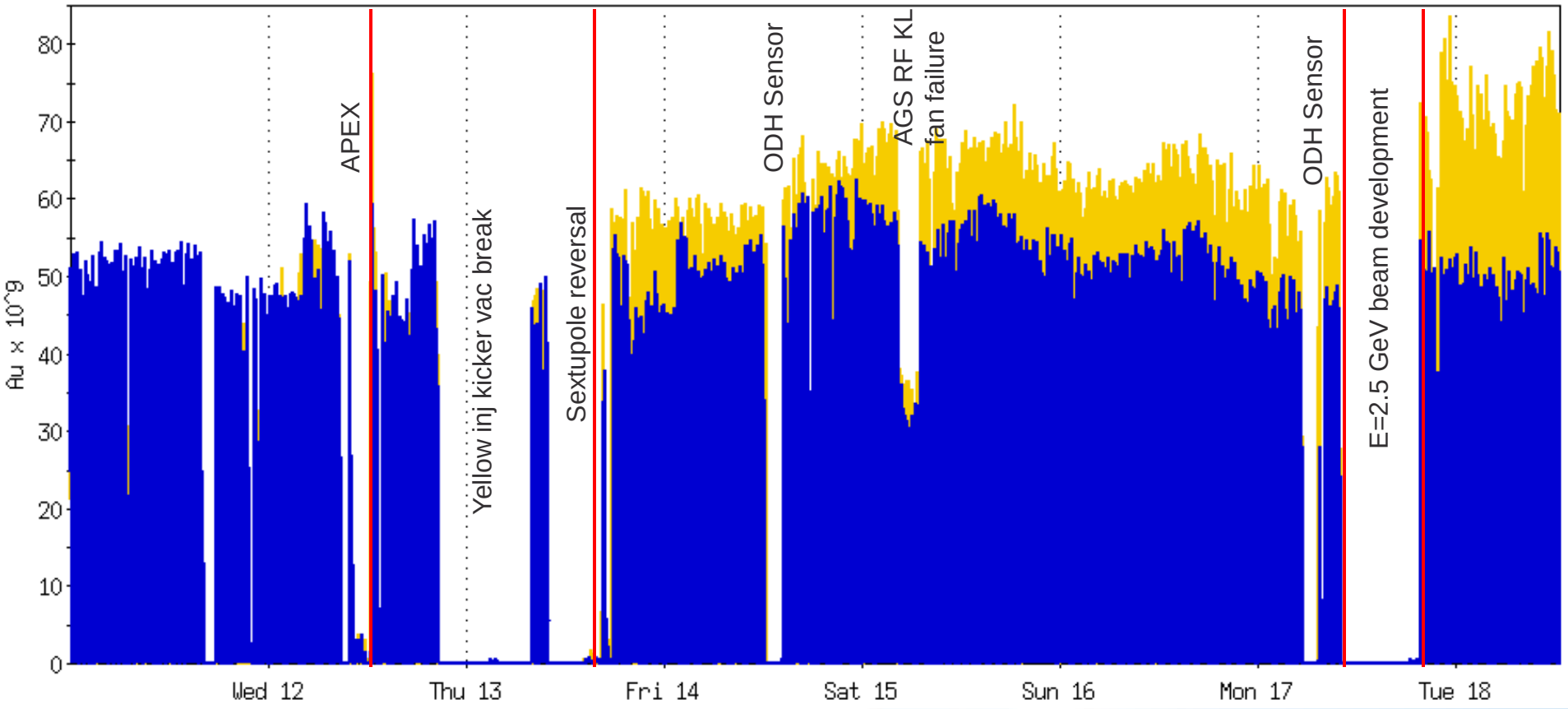
- Very regular stores:
  - 800s cycle time, ~180s between stores = 78% physics time
  - 10 minute stores significantly improve integrated lumi

Sextupole Reversal



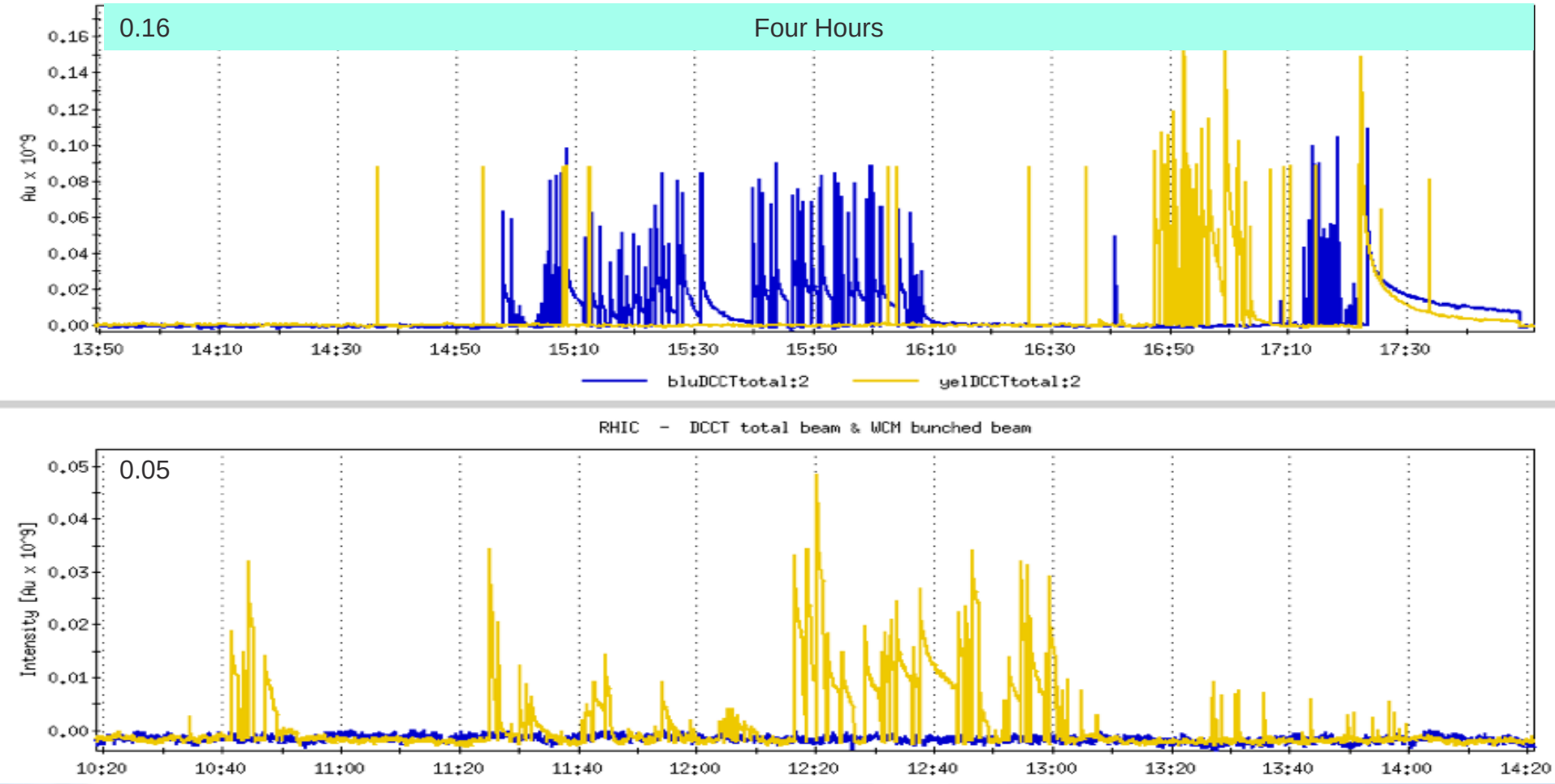
- Sextupole reversal results
  - Beam decay significantly improved by adjusting chroms
  - Leads to higher initial intensities and integrated luminosities

7.7 GeV Beam Intensity



- Fairly steady improvement over past week
  - Blue injection intensity development work continues
  - More frequent orbit correction, collimator adjustments

2.5 GeV Beam Intensity



- Mon May 17: Established 2.5 GeV/u beam in both rings (8 hrs)
- A good place to start for RF capture next time…