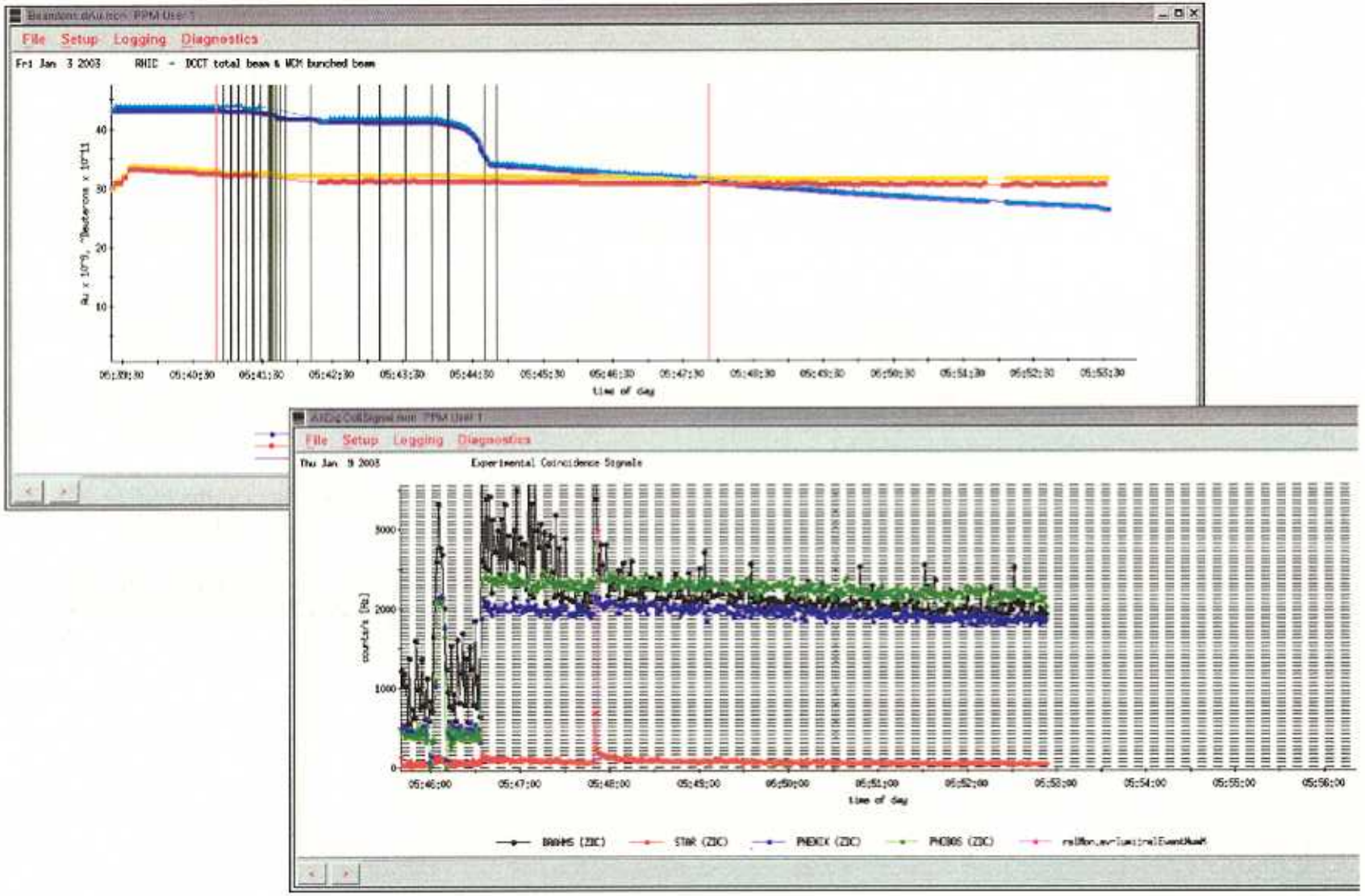
110 bunch operation

- History:
  - 1st 110 bunch ramp on 10/17/2001
  - 1st 112 bunch store on 01/10/2003
  - 1st 110 bunch physics store on 01/12/2003
- Since then routine operation for dAu
  - About 40 production stores so far
- Usable for pp operation

1st 112 bunch store – 01/10/2003



Improvements made

- Injection kicker hardware (H. Hahn et al.)
  - Decrease in injection kicker risetime
  - Reduction of
    - timing jitter (during filling)
    - and timing drift (from fill to fill)
- Diagnostic Hard and Software
  - More timing diagnostics (AGS and RHIC)
  - Easy drift correction
- People involved:

  J. Addessi, M. Brennan, W. Fischer, H. Hahn, K. Hartman, T. Hayes, T. Le, R. Lee, J. Morris, B. Oerter, F. Severino, R. Spitz, K. Unger, B. Venegas, D. Warburton

Open issues

- Experimental backgrounds
- Aborted ramps due to beam loss
  - Halo scraping sufficient in some places
  - Increased beam-beam interaction during ramp
- Pressure rise with intense beams
  - No problem so far
  - Observed pressure rises indicate problems with design intensities
- Instabilities
  - Intensities are at levels when instabilities became an issue during last run