



# COBALT

ASTRON

LSM Update 2014/05/14



H.A. Holties for the COBALT team



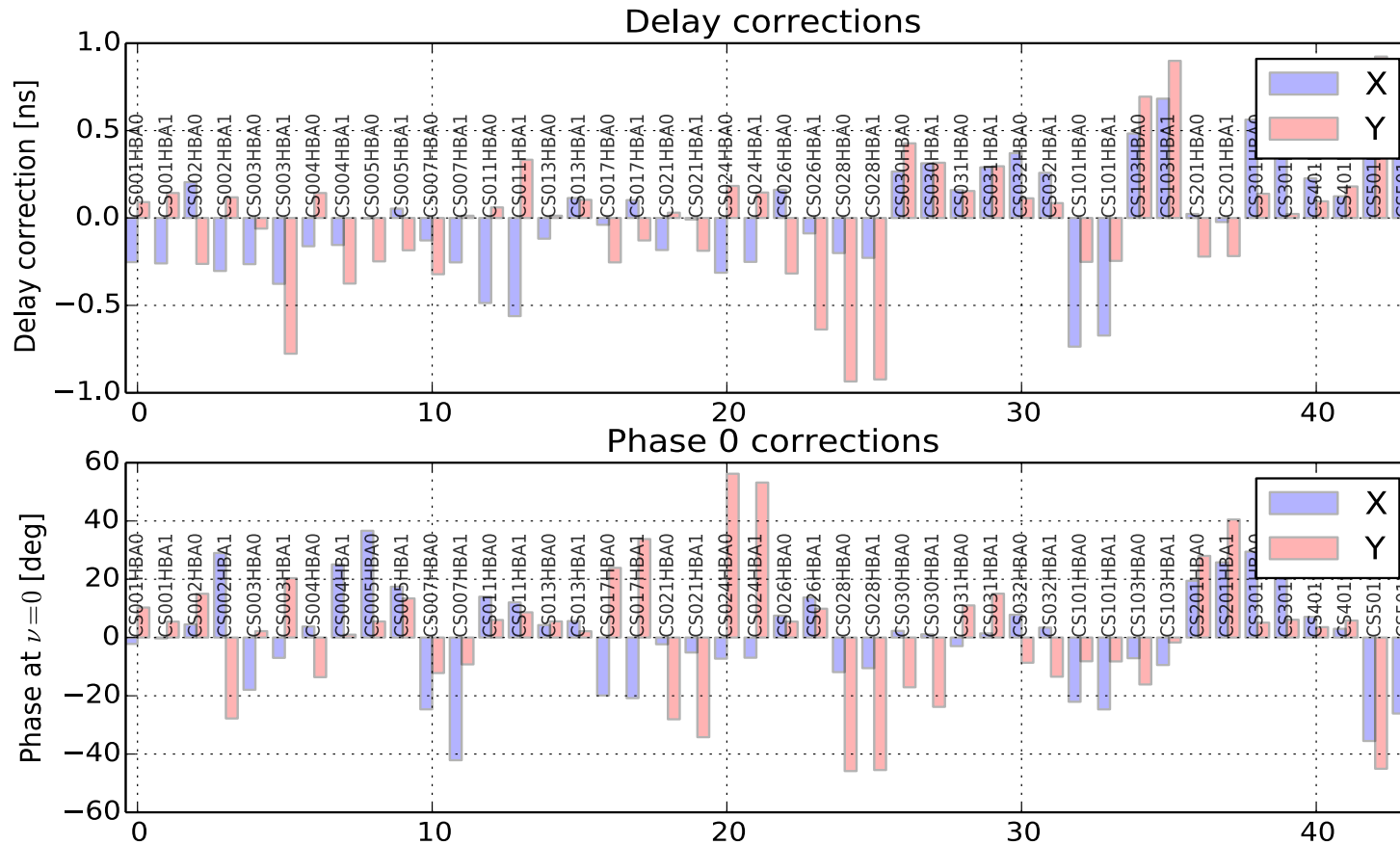
# Achieved

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- COBALT used for all LOFAR observations
  - Main known limitation: observations that depend on accurate LBA delay corrections of core stations
- 4 TAB-ring LOTAAS observations (37 Gbps)
  - No CEP2 processing:  $< 1\%$  loss
  - IO-intensive processing  $\sim < 1.5\%$  loss
- Delays HBA calibration table updated
- 21, 22, 23 station performance degradation fix available
- S/N comparison for pulsars BG/P –COBALT



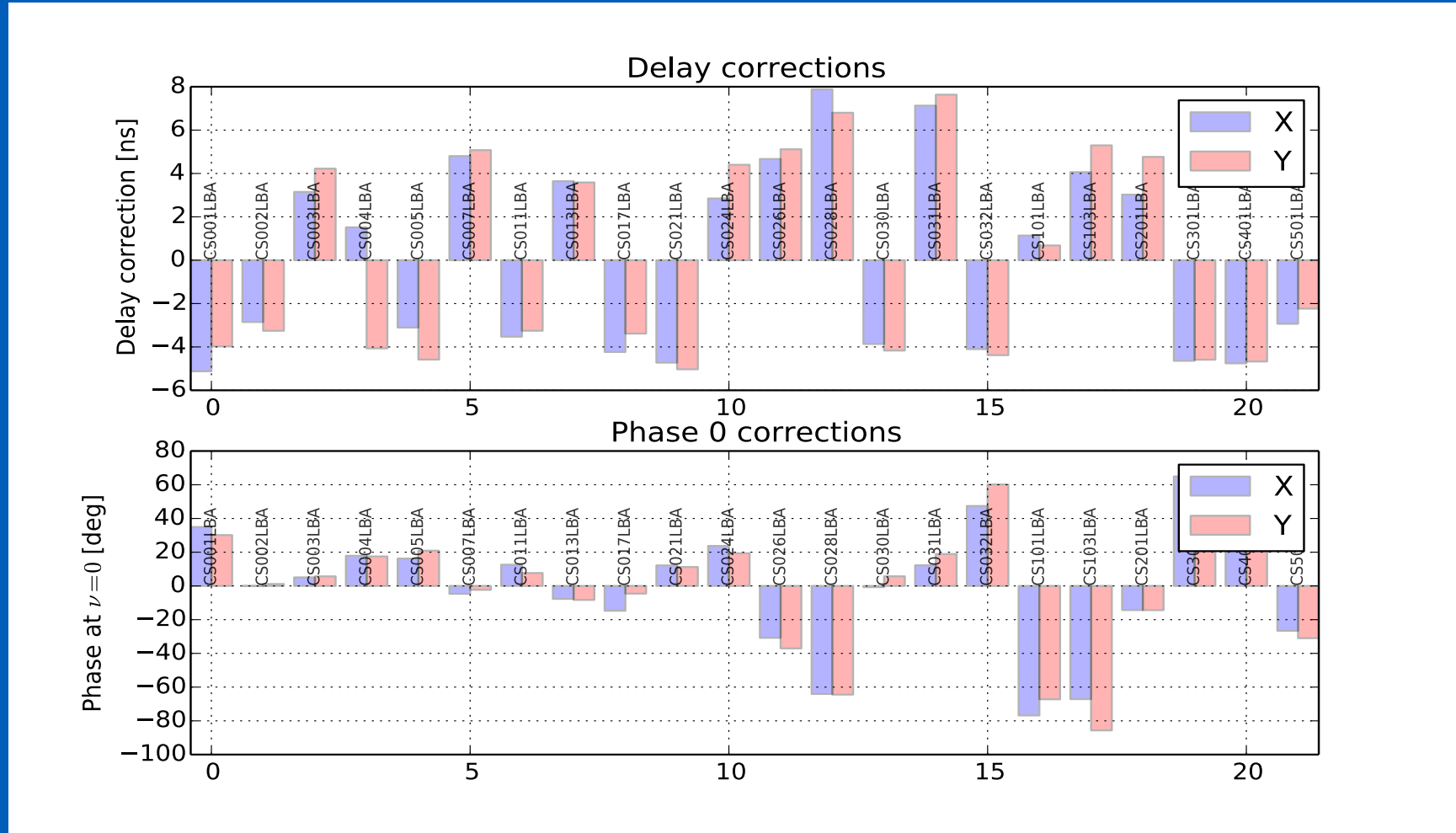
# HBA Corrections



Michiel Brentjens; HBA delay corrections applied



# LBA Corrections

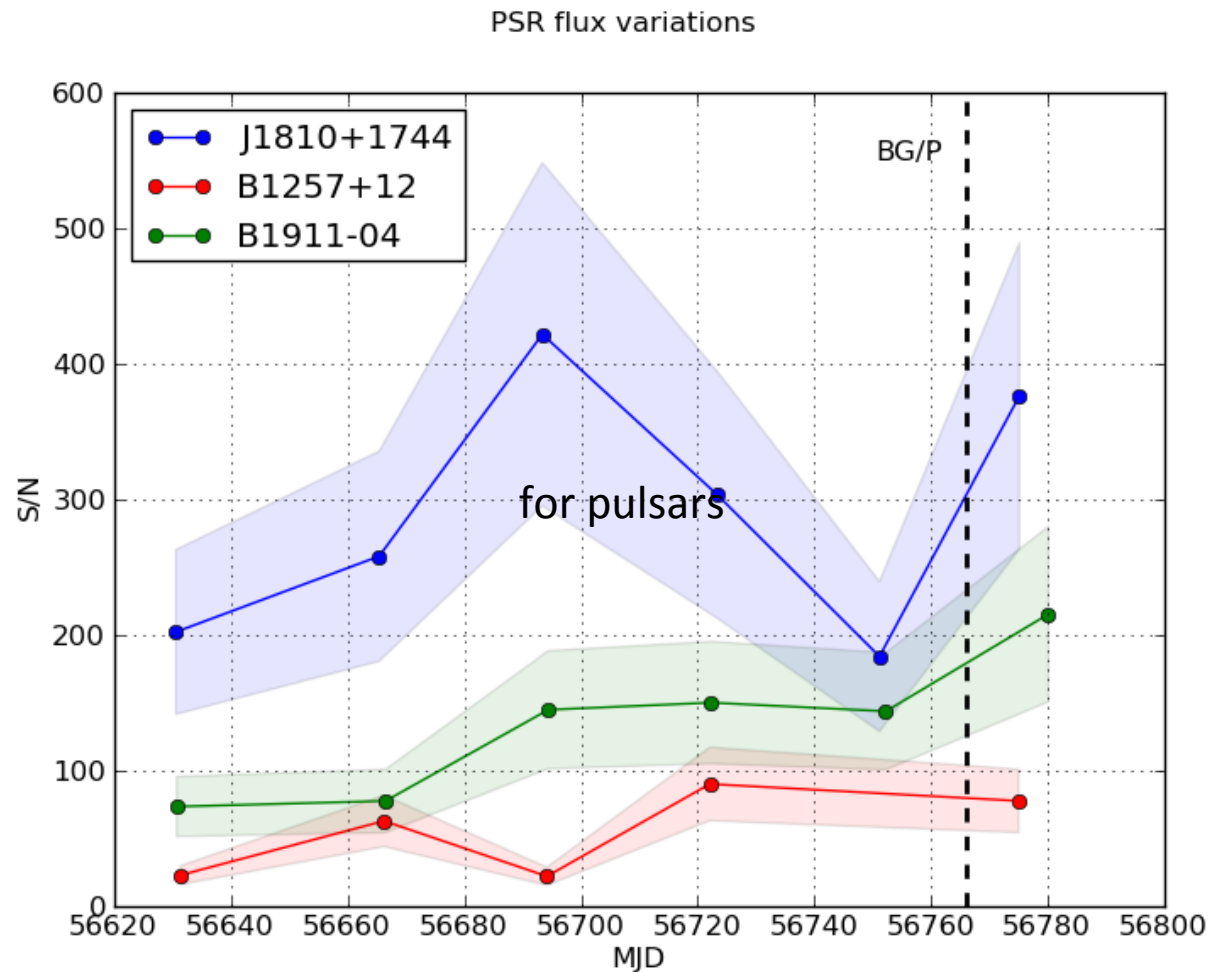


Michiel Brentjens; Ionospheric delay corrections TBD



# Flux comparison BG/P - COBALT

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# COBALT System Issues

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- Network/bandwidth limitations
  - Still bandwidth limitations COBALT – CEP2
    - Limited to connections via router node 3 (?)
    - No longer critical
  - Simultaneous IO intensive processing
    - Can increase level of lost data/maximum throughput
  - Communication issues (under investigation)
- NVIDIA driver instability
  - Vulnerable until update can be rolled out



# Next steps 1

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- Commissioning of pulsar observations
  - Determine absolute time reference
  - Determine SNR scaling CS/IS with #stations
  - Pulsar survey observation of weak source
- LBA delays
  - Include estimate of ionospheric corrections





## Next steps 2

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- Main concern: System installation
  - Procedure System rollout/rollback (CIT)
  - Procedure post-install (ASTRON)
  - Test & validate rollout procedures
  - Plan for COBALT system update
- Finish – last development sprint (!)
  - Enhance operational interfaces (PVSS)
  - ‘Official’ commissioning report
  - Documentation
  - Code clean up