CS-1 developments: 4 -11 apr 2007

General

- just finished writing documentation for CDR

Rollout status

- HBA antenna configuration: 16 (tile) + 8 dipoles NW-SE arm + 8 dipoles still due
- 6 tile delivery in early May ? (picture on AJPD)

-Technical commissioning issues

- Stations

- 200 MHz works well with single dipoles in HBA as well as LBA
- 4 HBA antennas deliver good data to CEP in subbands from 118-232 MHz.
- 'autocorrelation' dips still very prominent in LBA/160 data

- CEP

- no news

Progress reports on data analysis

Calibration:

- MeqTrees
- BBS

Imaging

- positions

Noise/RFI analysis

Progress reports on modelling and simulations

Beam modelling

Ionospheric modelling

Observing schedule and planning (11-18 April)

- Pulsars with HBA/160 to allow high frequencies up to 230 MHz
- HBA tile + beamformer studies of dipole/tile beams and grating lobe issues

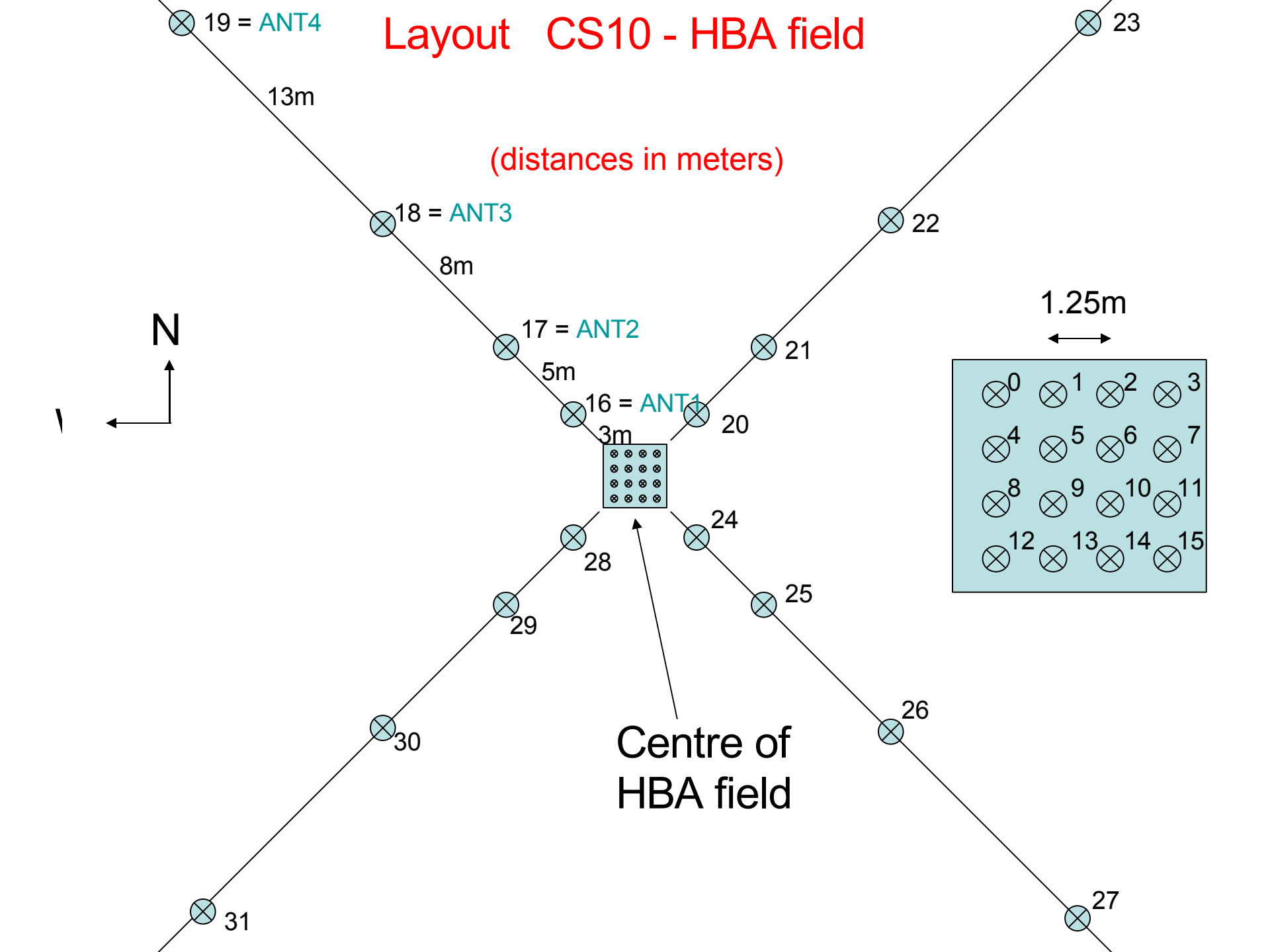
  Cas A 160 MHz clock 170-230 MHz 24h

  Cas A 200 MHz clock 120-190 MHz 24h

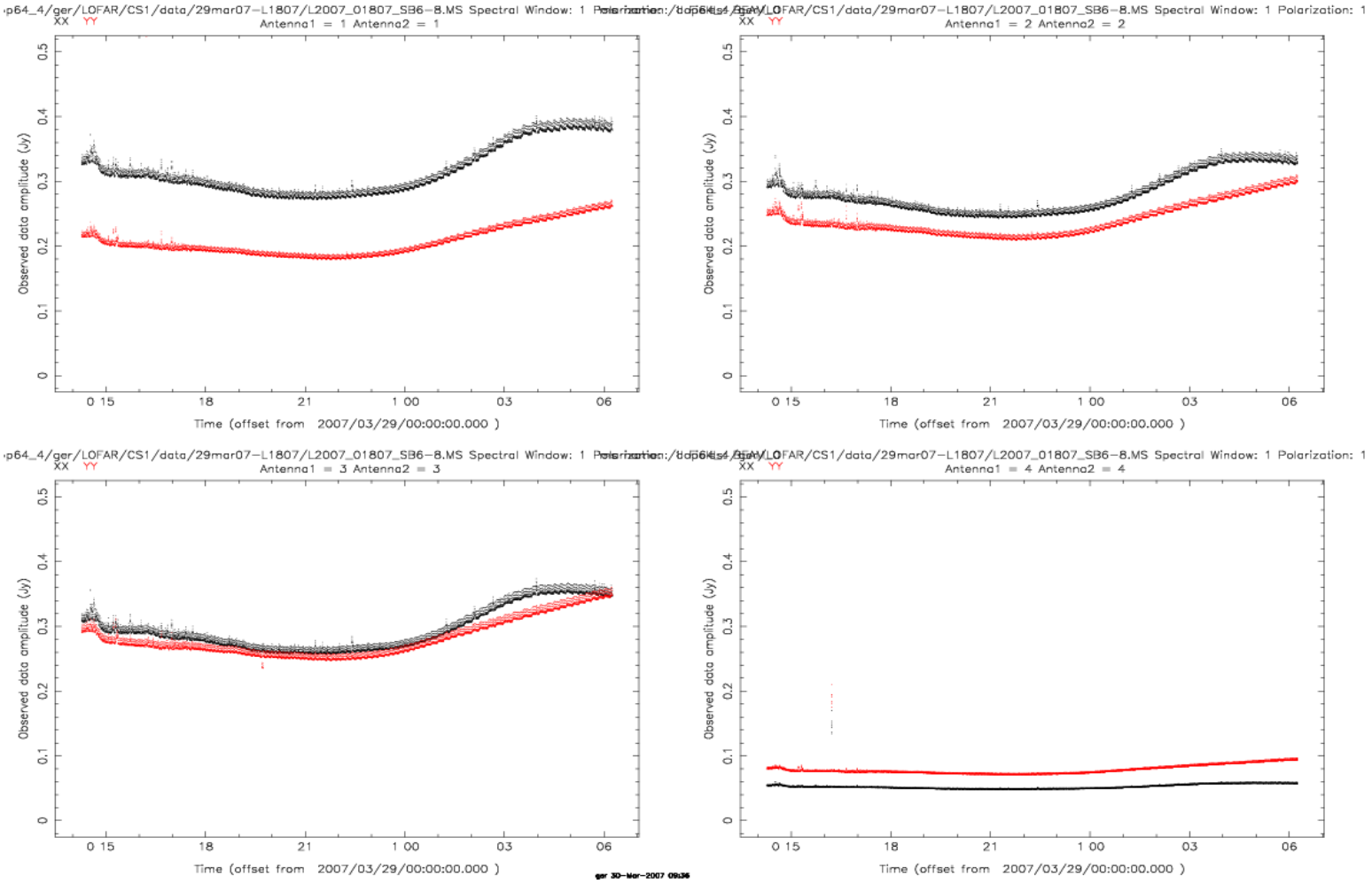
  (and then later for CygA as well)

Observations from Wednesday 4-11 april 2007:

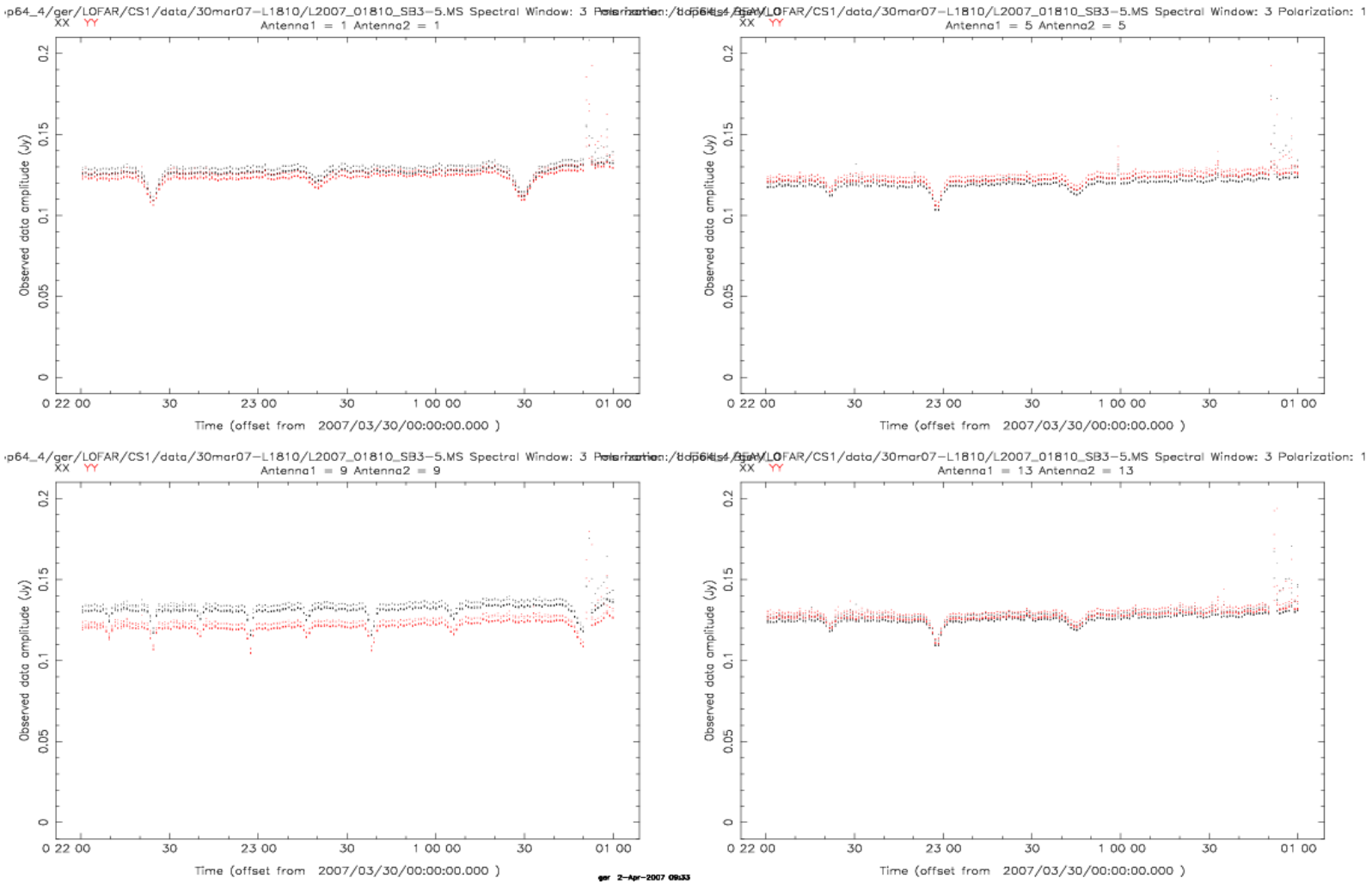
- *Thursday L1852 16h test with HBA/160 (4 dip) + LBA/160 (12 dip)*
- *Friday L1855 2h test with HBA/160*
- *Saturday L1888 16h with LBA/160 16 dipoles*
- *Sunday L1891 Jupiter LBA /160 (48-dipole) pulsar format*
- *Sunday L1893 24h with HBA/160 4 antennas*
  + CS010 calibration/imaging (Stefan)
- *Monday L1895 24h with HBA/200 4 dipoles*
  + CS010 calibration/imaging (Stefan)
- *Tuesday L1908. 16h with LBA/200 16 dipoles*


Layout CS10 - HBA field
(distances in meters)
19 = ANT4
13m
18 = ANT3
8m
17 = ANT2
5m
16 = ANT1
3m
20
21
22
23
24
25
26
27
28
29
30
31
N
1.25m
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Centre of
HBA field

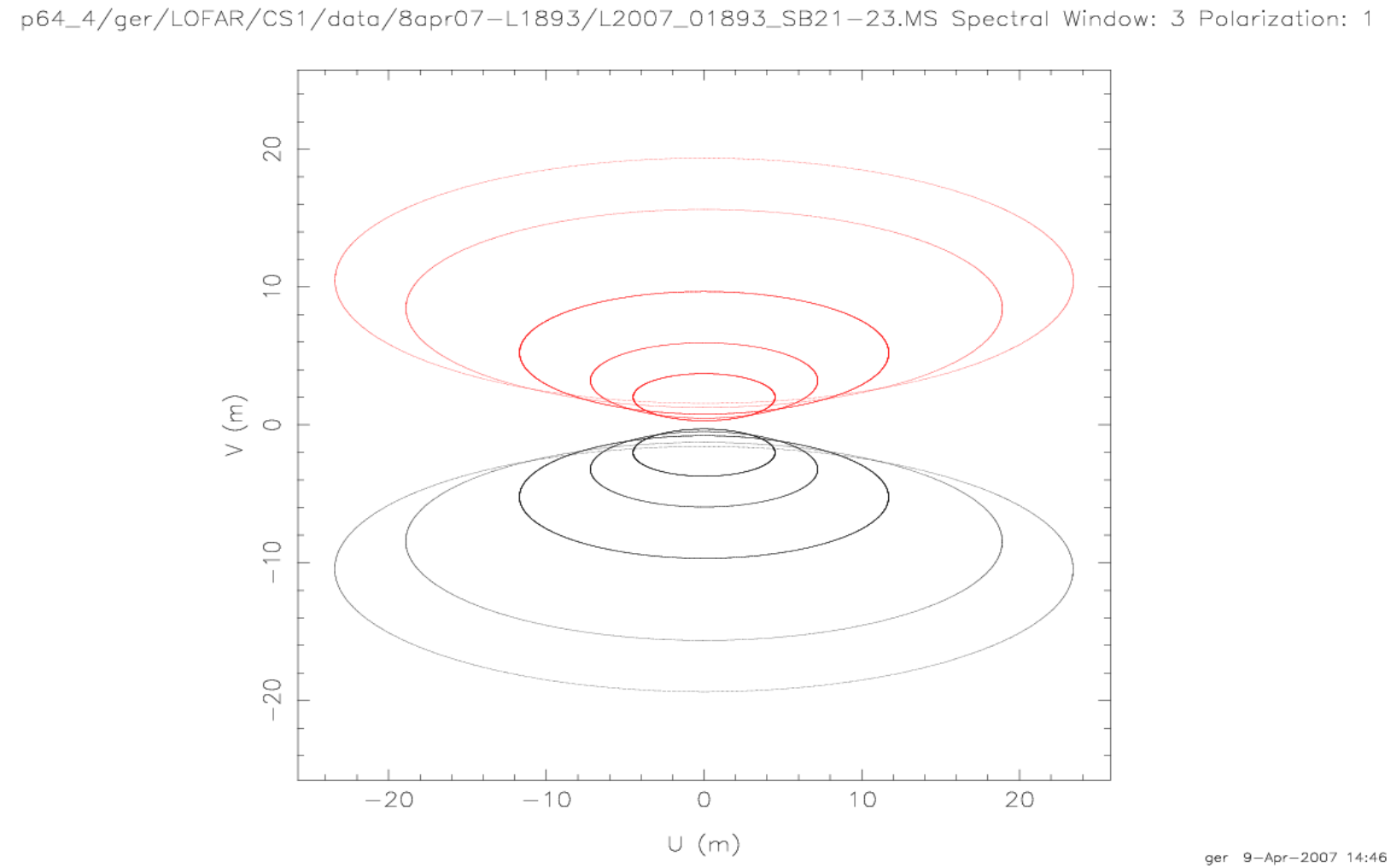
TP/AC tracks for 4 HBA antennas
29 March 2007 L1807 225 MHz



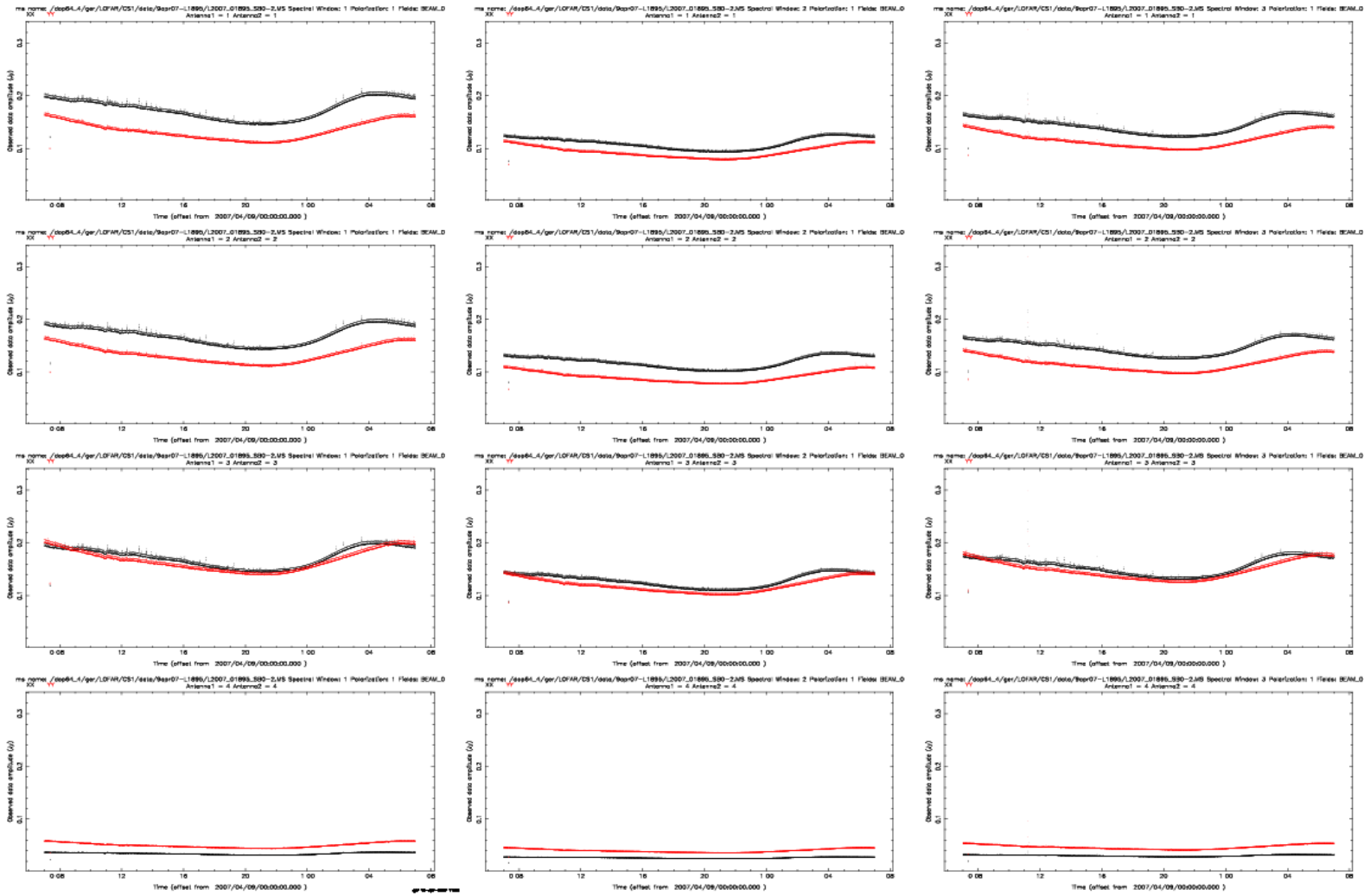
Symmetric ‘dips’ in LBA TP/AC amplitudes 30/31 March 2007 L1810



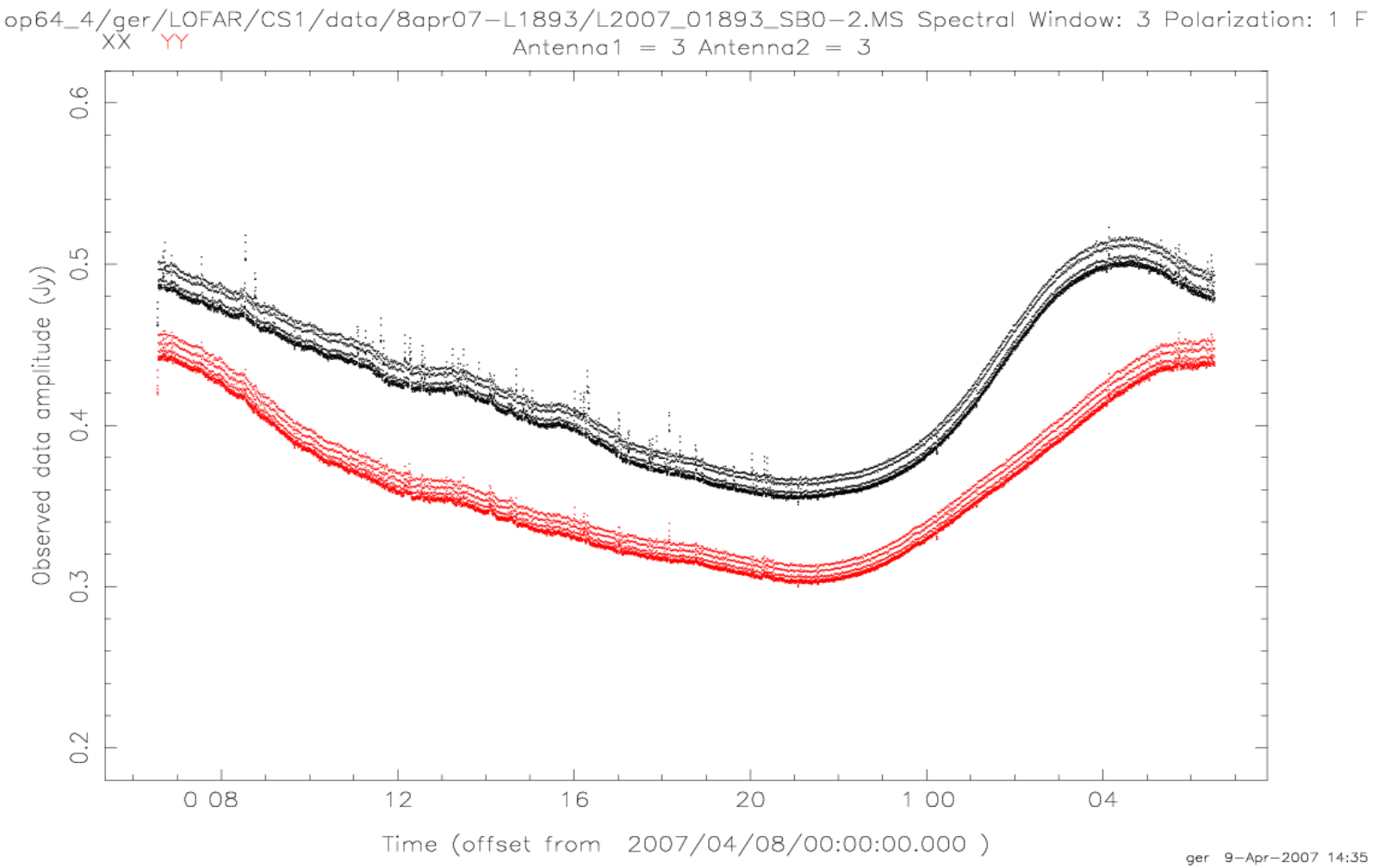
uv-coverage corresponding to 24h on Jupiter (dec= -22^{o})
8 April 2007 L1893



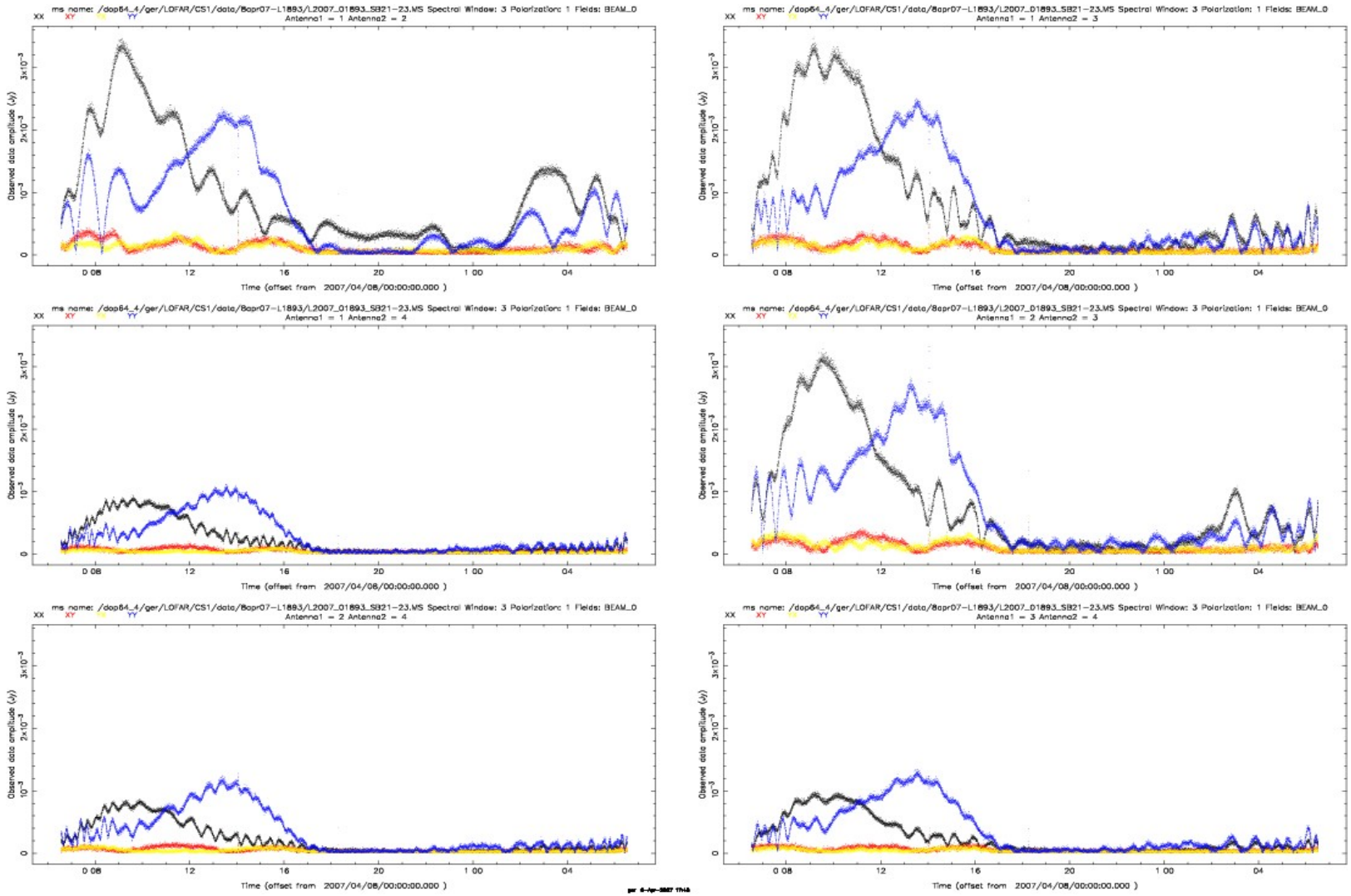
HBA ANT1-2-3-4 119-122-125 MHz
9 April 2007 L1895



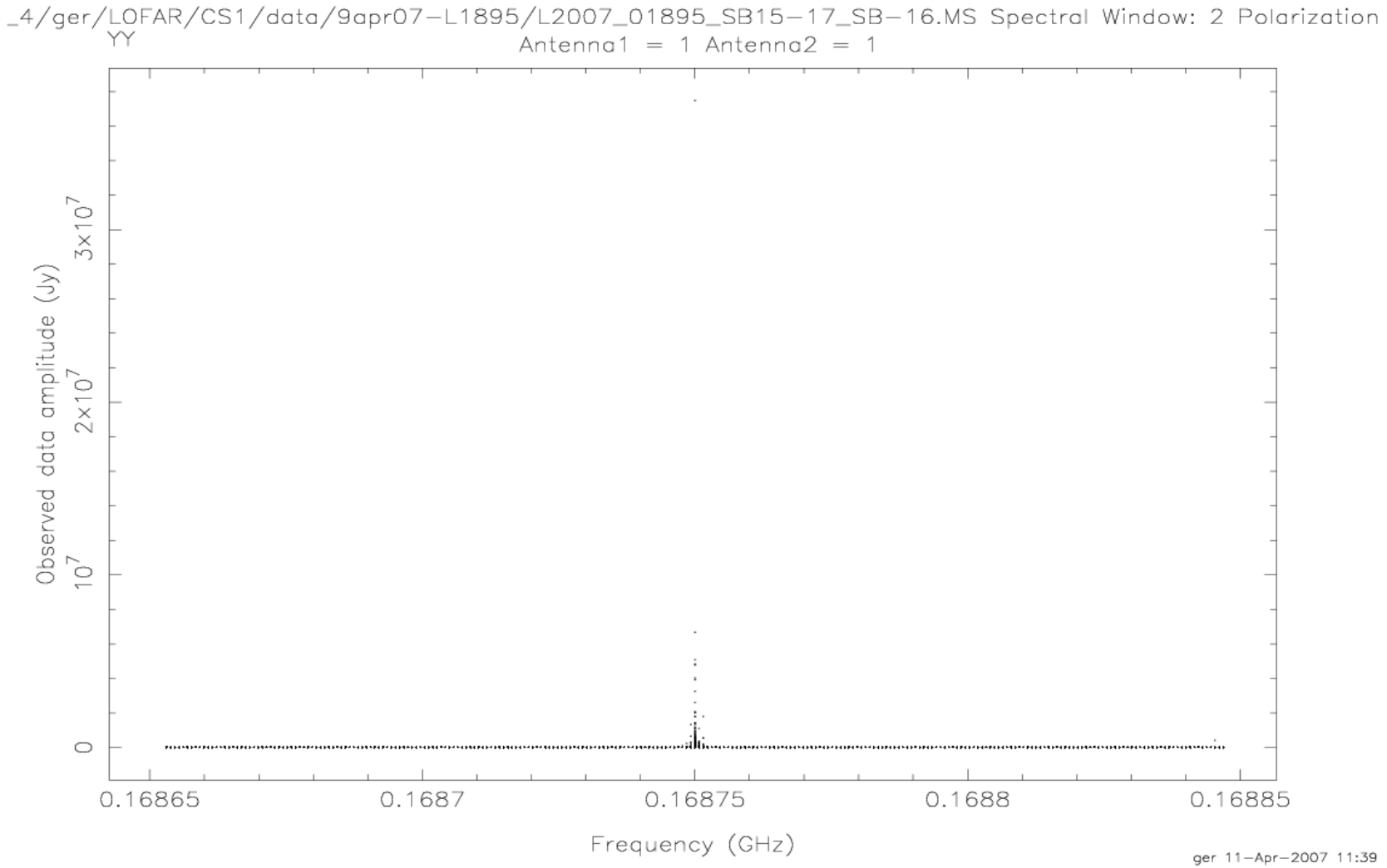
Autocorrelation with HBA at 125 MHz
9 April 2007 L1893
sawtooth-ripple went away....!?



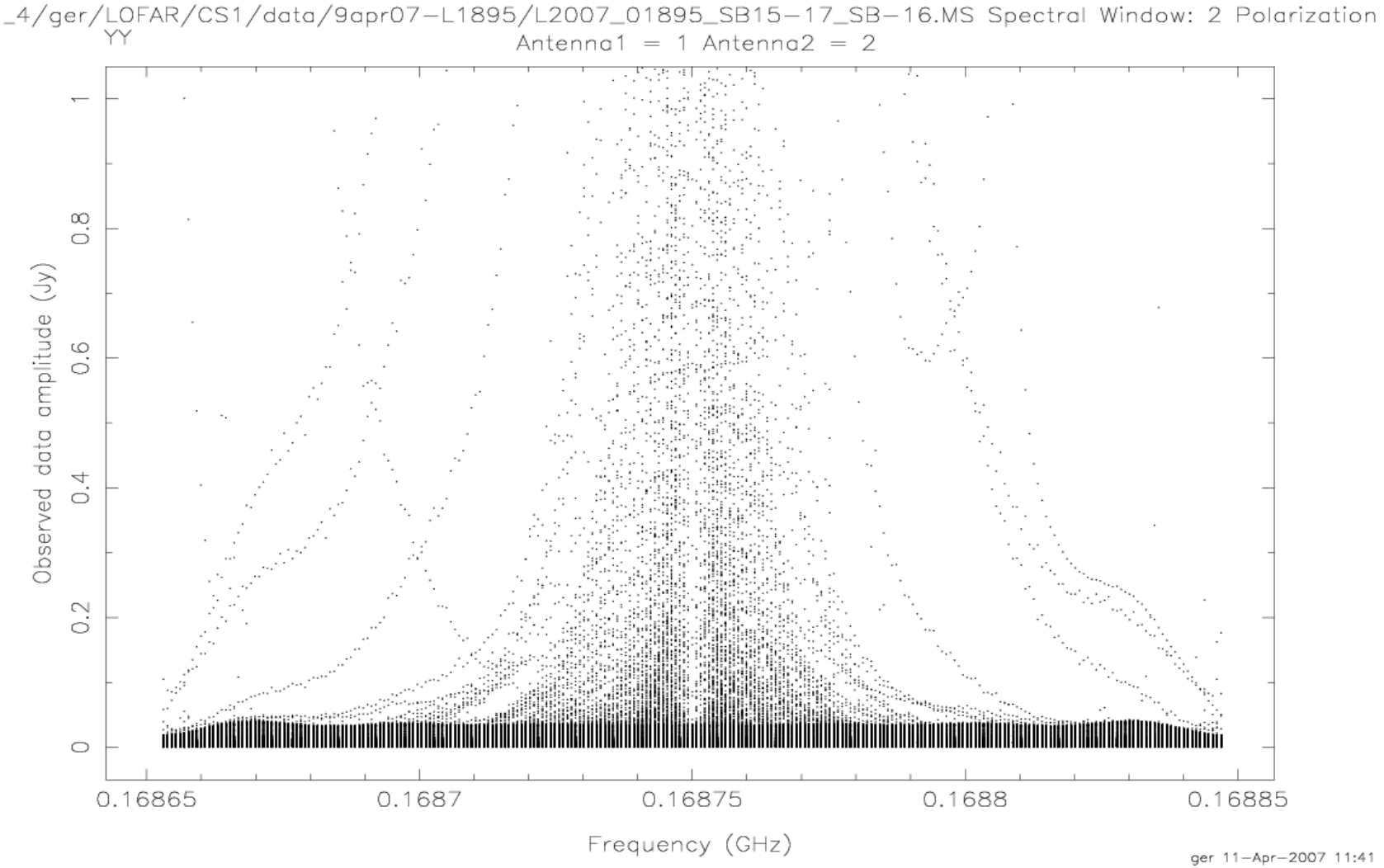
HBA 6-interferometers 24h at 232.5 MHz !!
8 April 2007 L1893



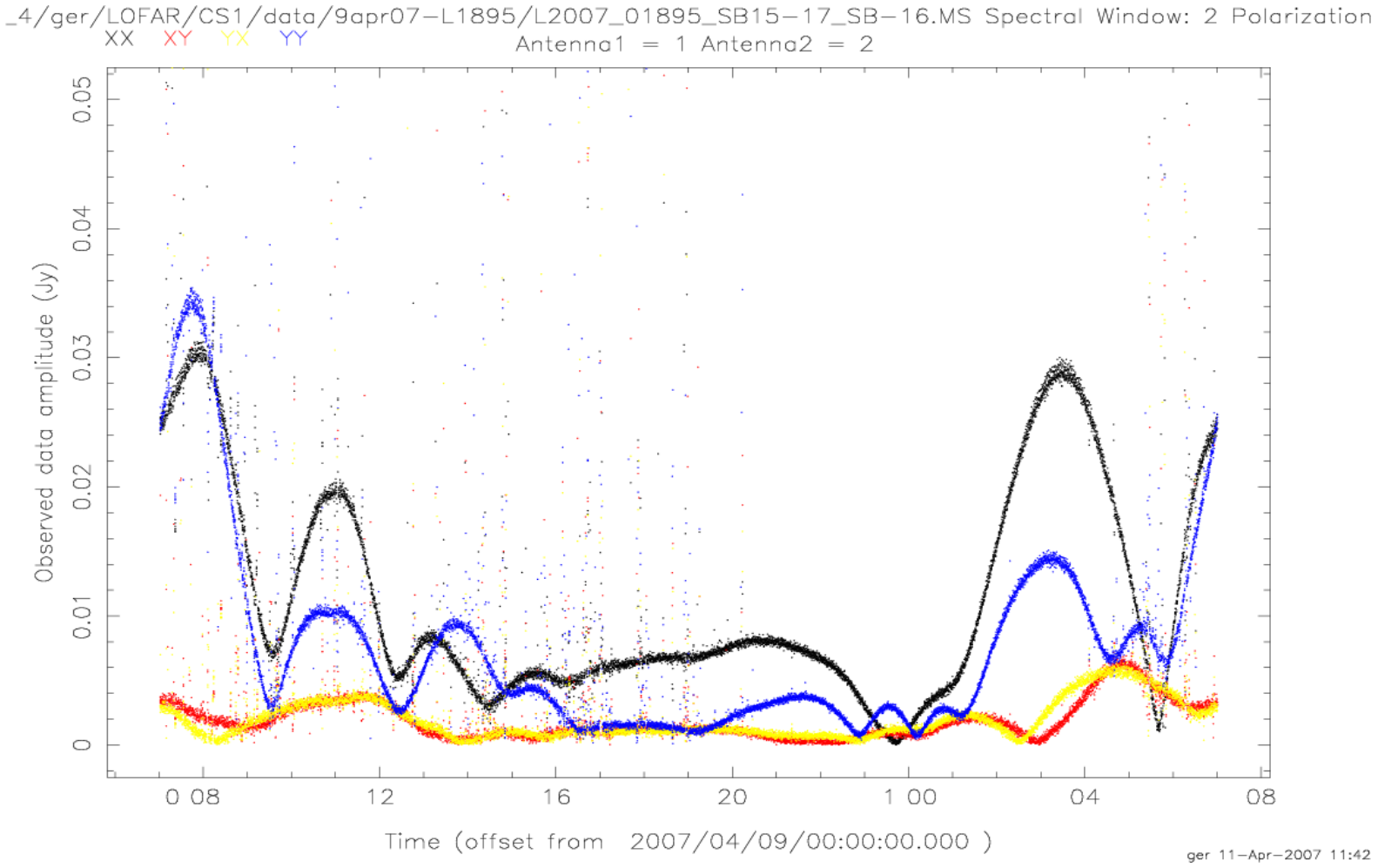
HBA spectrum around 168.75 MHz (very bright pager!)
9 April 2007 L1895



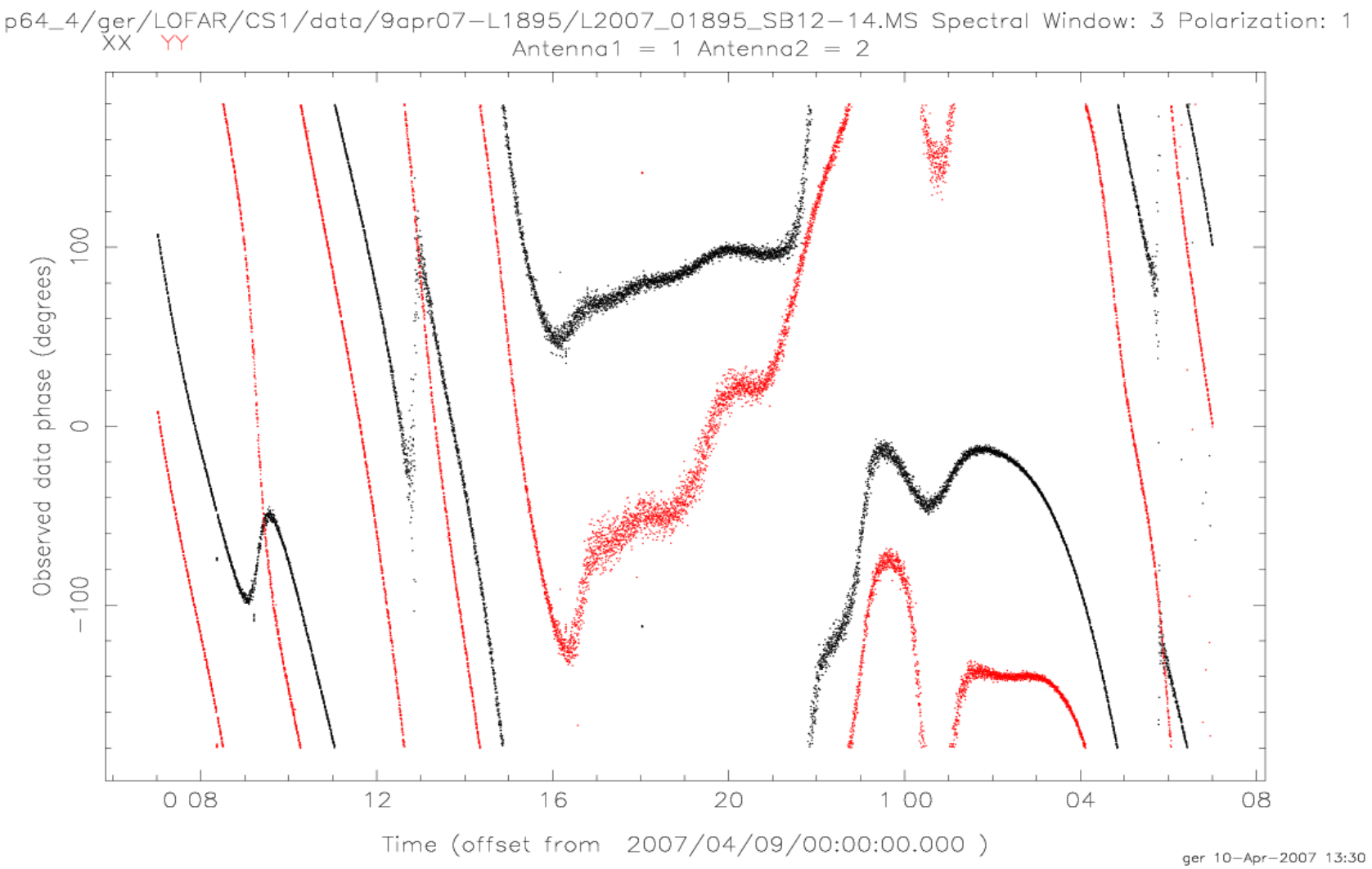
HBA spectrum around 168.75 MHz (note scale change!)
9 April 2007 L1895



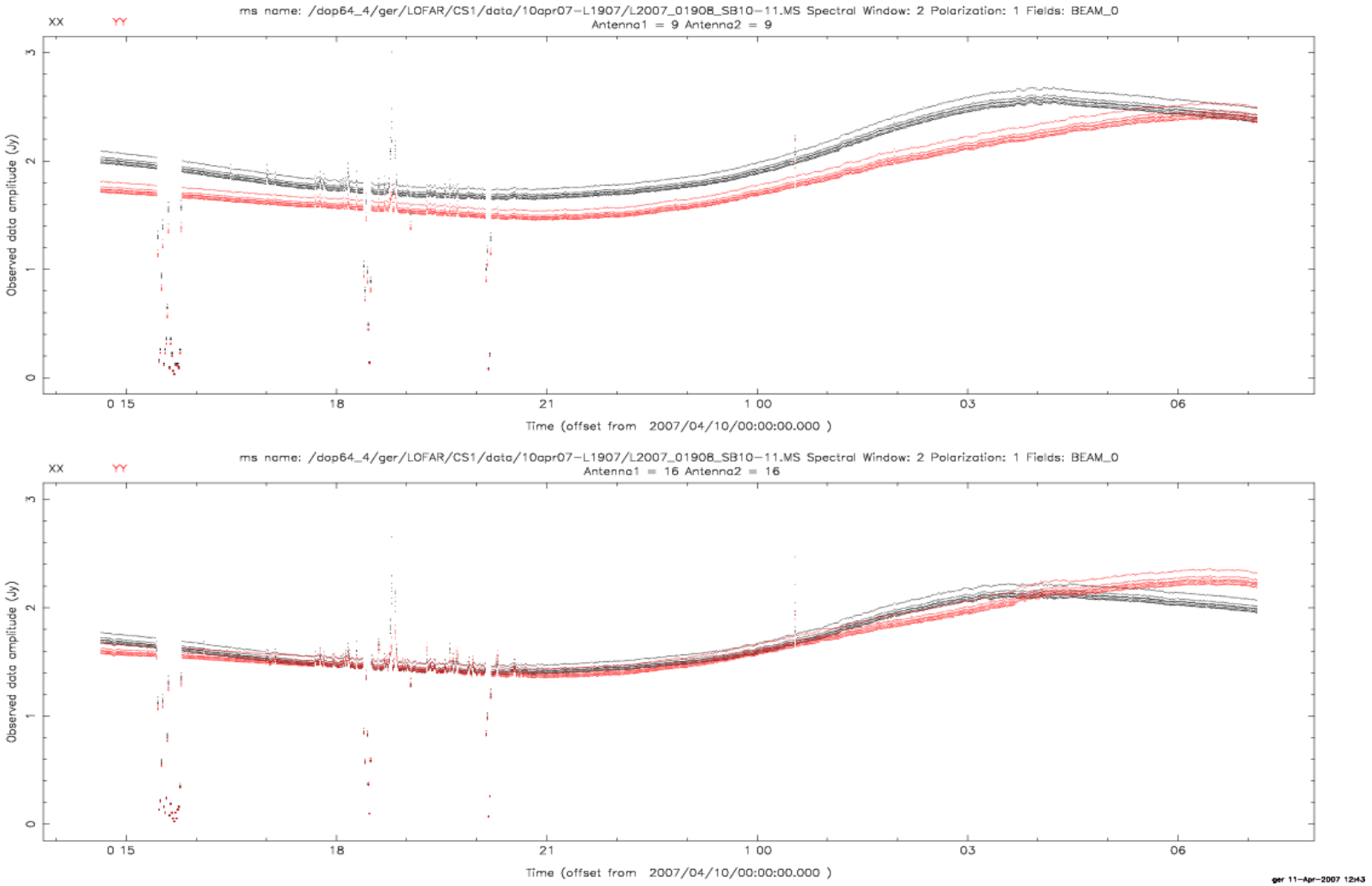
HBA ANT1-2 = 5m 168.75 MHz (pager!)
9 April 2007 L1895



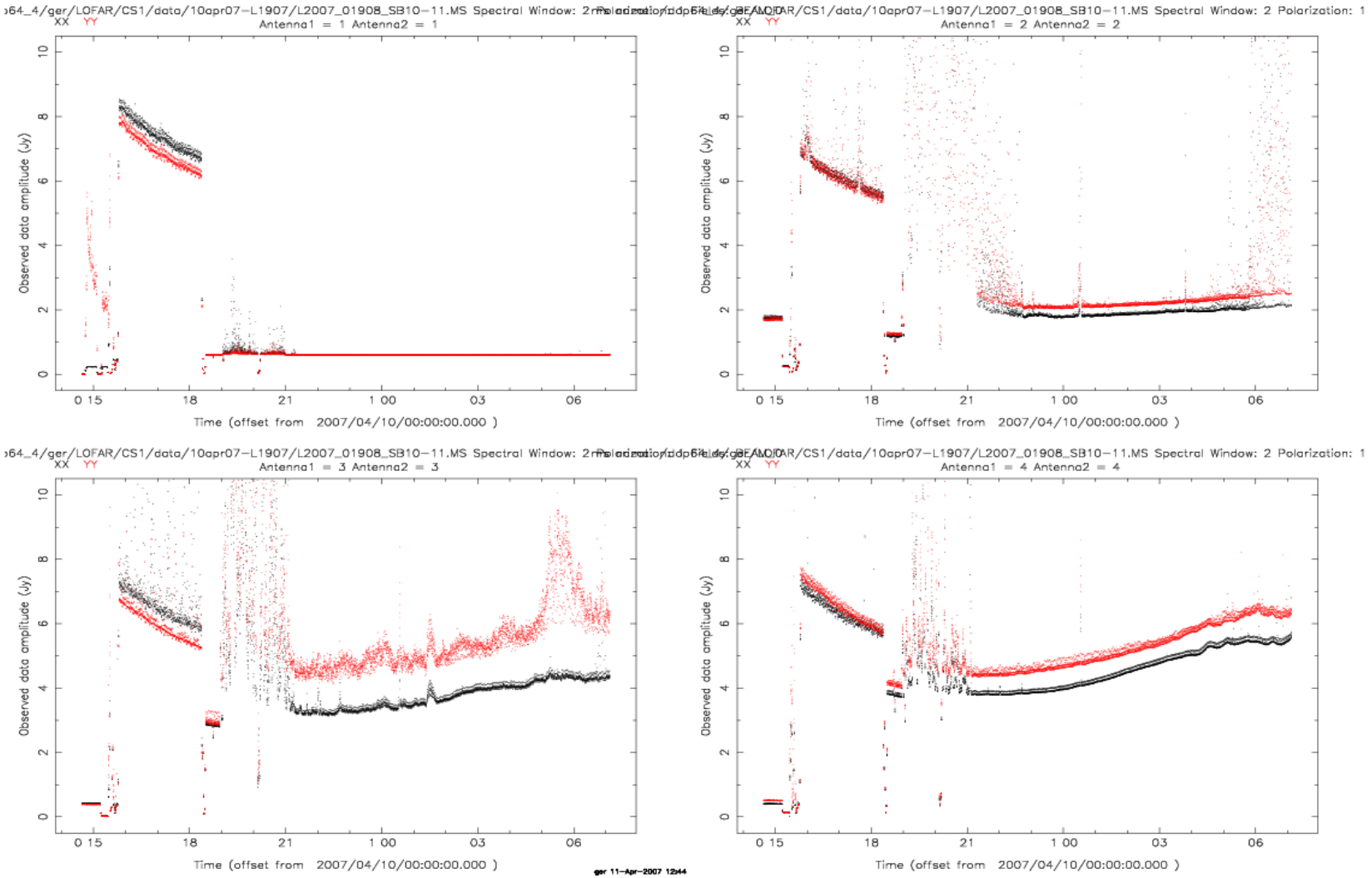
HBA at 162.50 MHz
a beautiful, artistic, phase on a 5m baseline (ANT1-ANT2)
9 April 2007 L1895



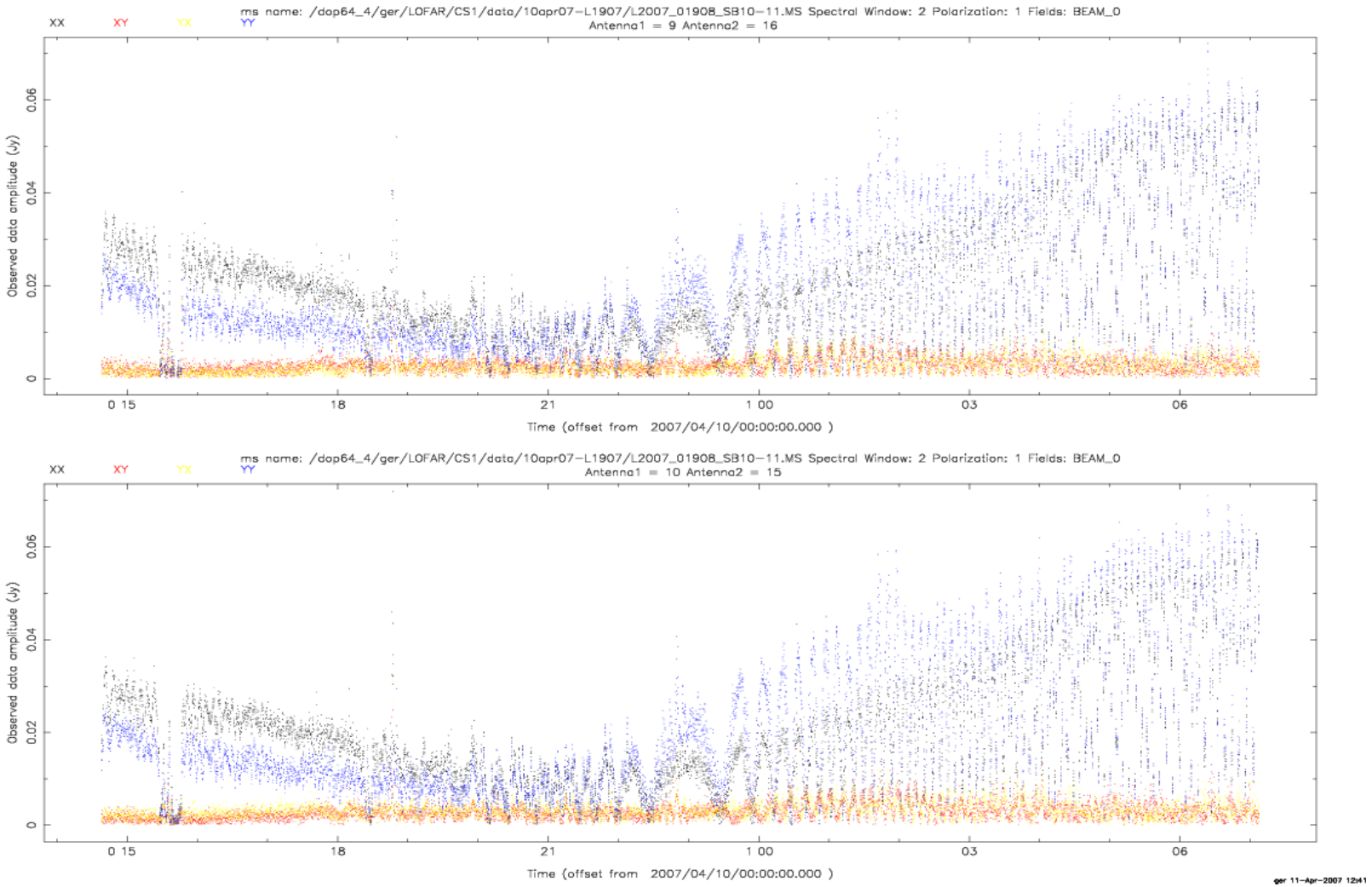
LBA 200 MHz 16 dipoles
10 April 2007 L1908
dropouts, but no autocorrelation DIPS (see last week) !?



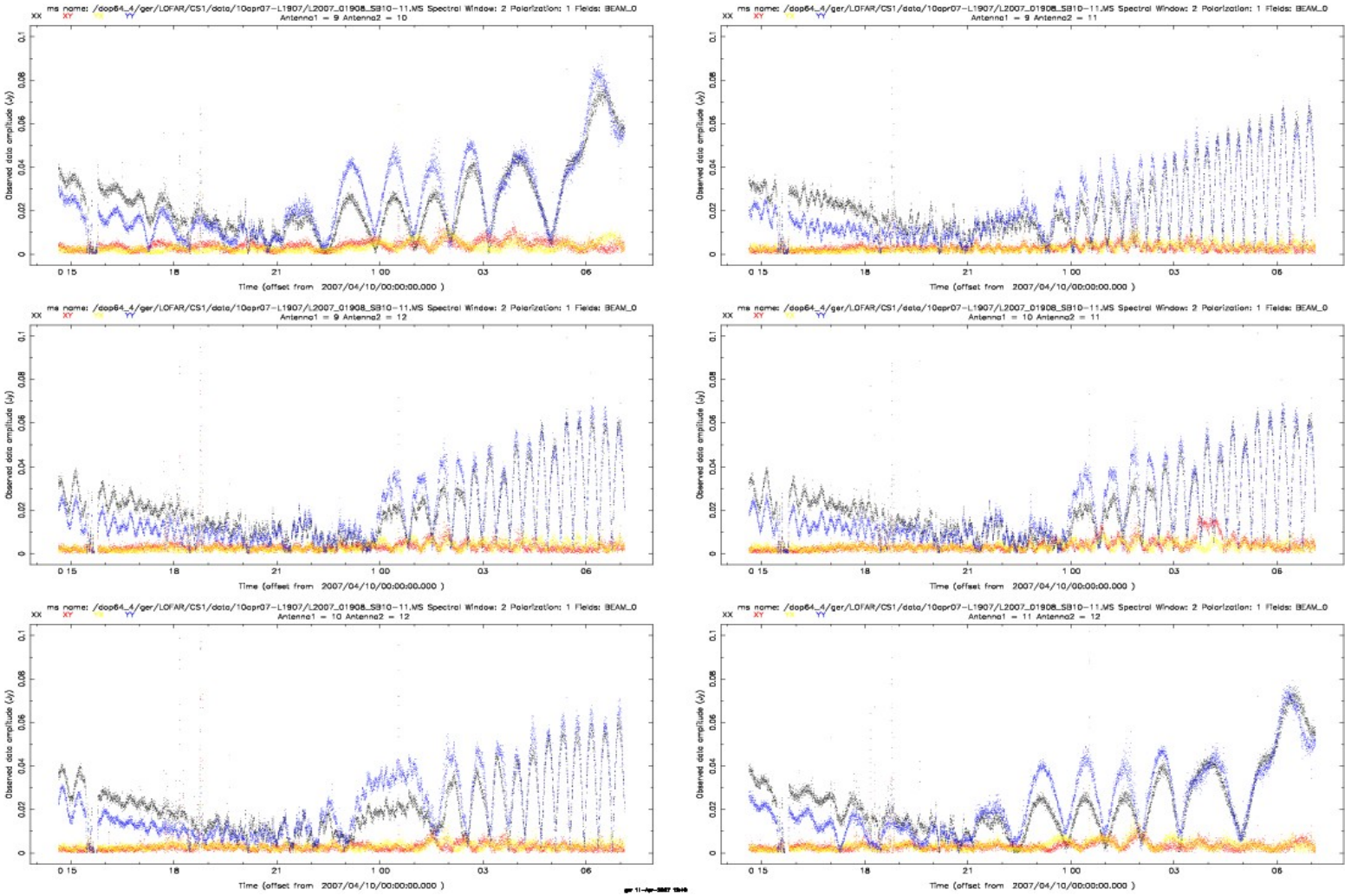
LBA 200 MHz 16 dipoles
10 April 2007 L1908
CS010 problems.....



LBA 200 MHz 16 dipoles
10 April 2007 L1908
redundant baselines (9-16 = 10-15) give identical signals....



LBA 200 MHz 16 dipoles
10 April 2007 L1908
2 redundant baselines in CS008 give identical signals....



And, finally, spot the antenna that was not affected by rain on Saturday morning (L1888, LBA), due to a plastic cover