CS-1 developments: 9 - 23 May 2007

- **General**

- Menno Norden modified CS001 antennas (5,6,7 and 8) on May 10 with various rainprotection plastic coatings. Relevant observations on May 11/12 still need to be analyzed

John Romein: tests with an increase in the total number of subbands processed at CEP to 32 and 36 (now 6 subbands per MS)

Ruud Overeem /Tony Foley: first SAS scheduled station scheduling

Calibration Advisory Committee (Brouw, Hamaker, Bregman, vanderVeen) installed.

First meeting on May 31.

2) Rollout status

HBA installation activities: 6 tiles were deployed in the field (Menno Norden report)

Outstanding / new / solved 'technical' issues:

3) Stations

- 200 MHz mode problems: '4-antenna' rotation tests on May 18 ? (Menno)
- 'autocorrelation' dips in LBA/160 data: localized in station beamformer module
- antenna malfunctioning (ANTENNA CS016, dipole 8, X): fixed (cable/mice !)
- Y-polarization RFI problem at low frequencies (see May 9 meeting) : no progress
- 8ch-periodicity in RFI signals at low frequencies (intermodulation?): no progress

4) CEP (SAS/MAC/OLAP)

- storage nodes crashes !

STATION or CEP problem

- variable delay error (few to 12 6 microsec samples! (large phase gradient across subband)

Progress reports on observations and data analysis

5) New observations

- weekend 11-14 May --> 24h (CasA L2219

- weekend 18-22 May --> 16h on transient (L2333), 22h on CasA (L2339), 24h on CygA (L2340) , 16 h on transient (L2343)

6) Calibration:

- New images of L2219 (CasA) and L2339 (Sun)

7) Imaging

- position issue still not laid to rest

8) Noise / RFI analysis

- peculiar RFI patterns (8ch periodicity and Y-polarization) needs to be taken up with RFI team

Progress reports on modeling and simulation activities

§ **Beam modeling**

§ **Ionospheric modeling:**

- Jim Anderson to report

11) Source models (LSM, GSM, fluxscale)

12) Processing issues (convergence, speed)

13) Data quality & DR

Solar flare provides some interesting opportunities (see later)

14) RFI and intermodulation

Observing schedule and planning (23 - 31 May 2007)

SAS scheduling for Exloo

Currently waiting in queue:

‘Astronomical’ commisioning:

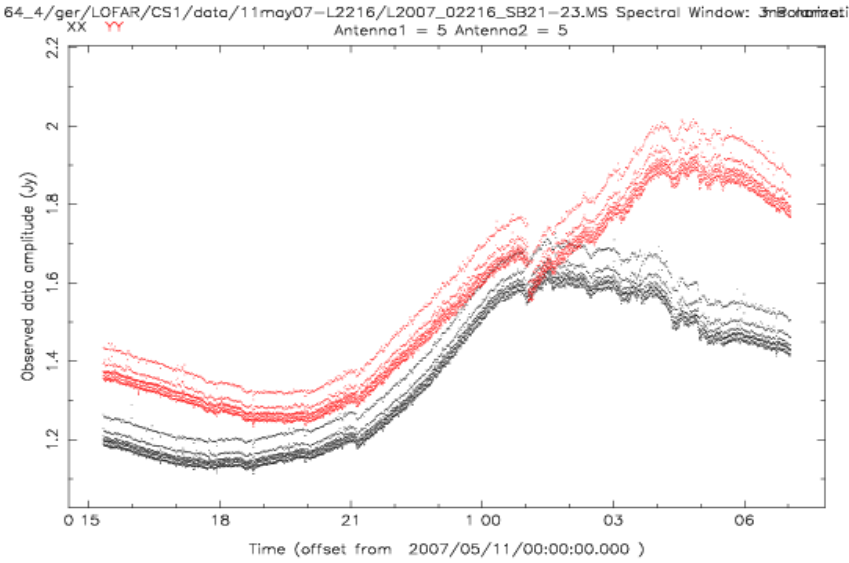
- Pulsars with HBA/160 to allow high frequencies up to 230 MHz (Stappers)
- Transient area (Law, Miller-Jones) : 3x12h done

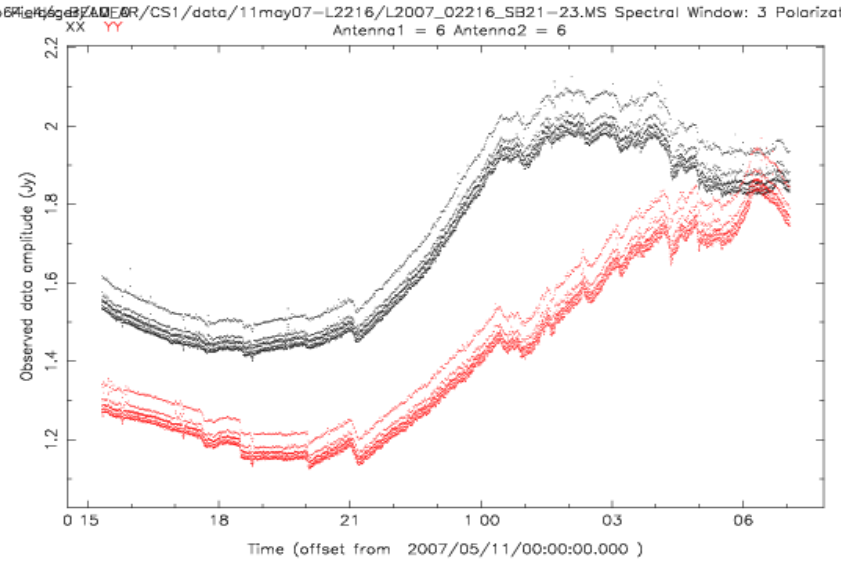
‘Technical’ commissioning HBA:

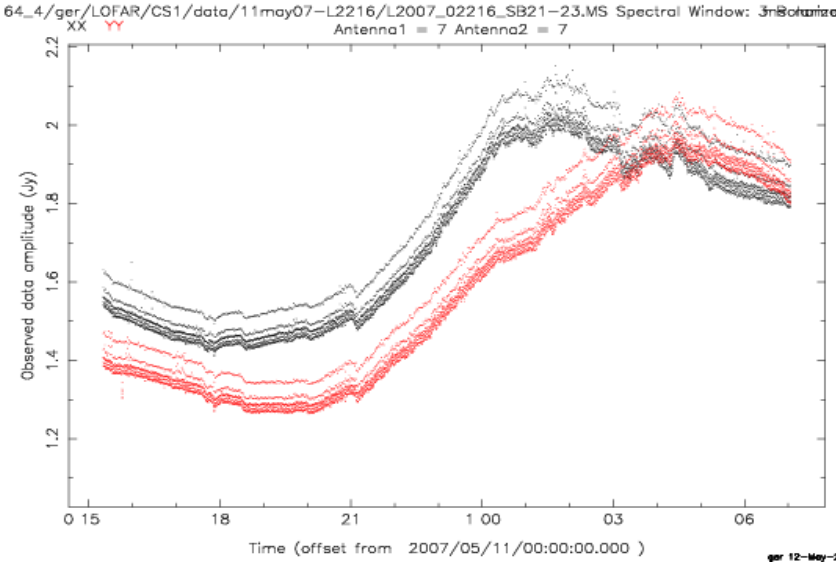
- HBA dipole/tile/station tests
- HBA beamformer studies

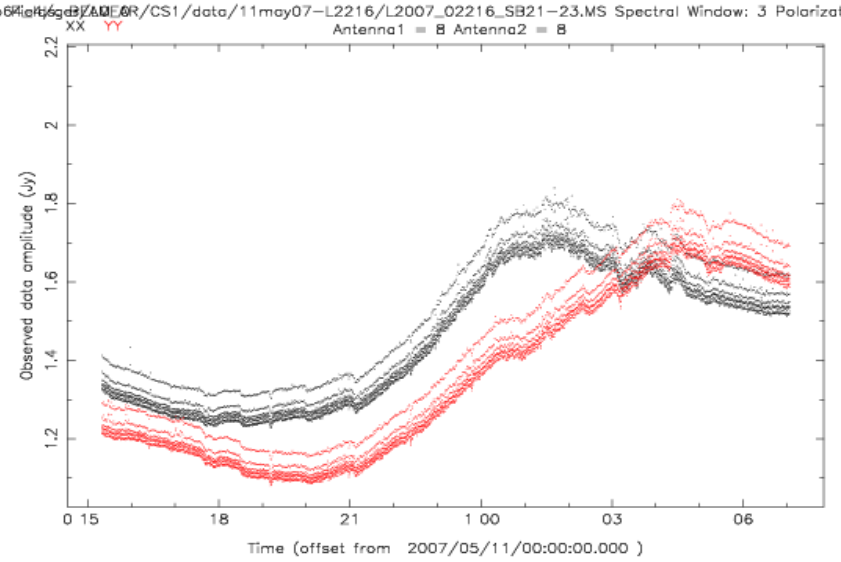
LBA 160/200 MHz further ‘dip’ tests

Rainy weekend: effects of ‘sleeves’
CS001 antennas 11May-07, L2216, 60MHz

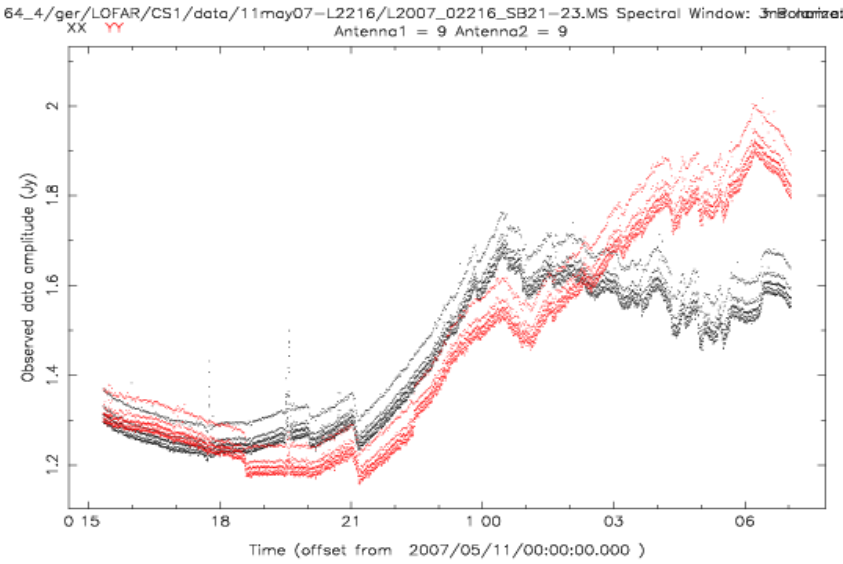


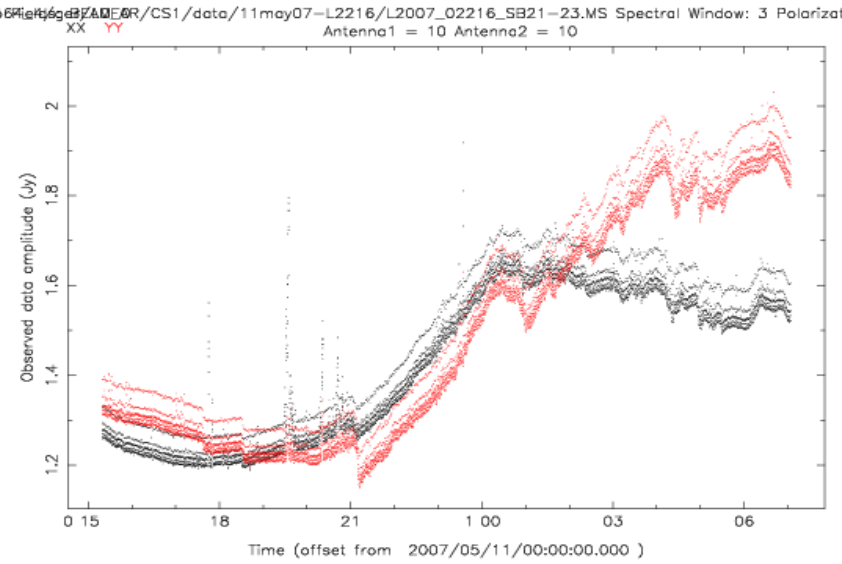


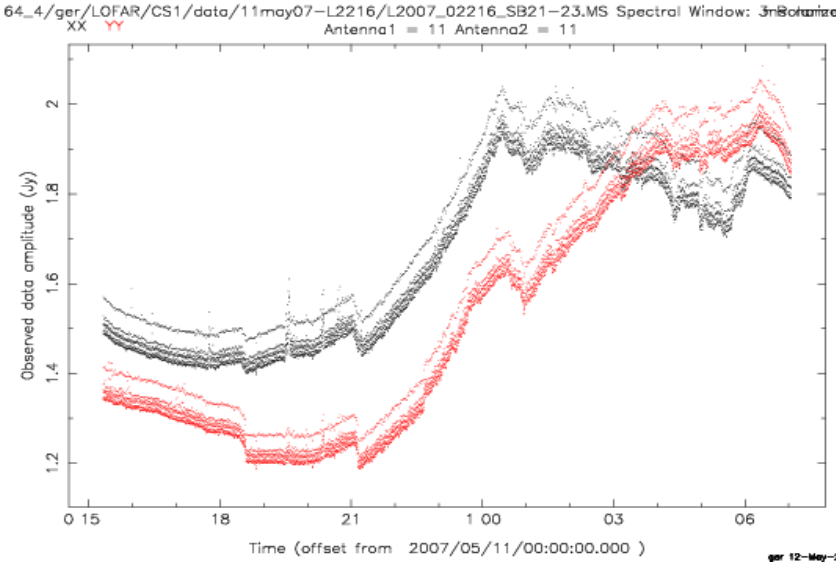


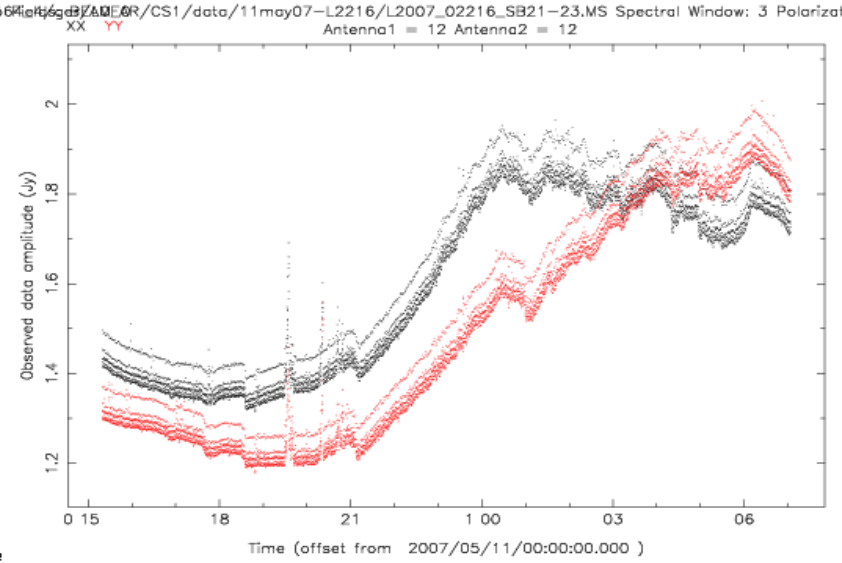


Rainy weekend: effects of ‘sleeves’
CS008 antennas 11May-07, L2216, 60MHz

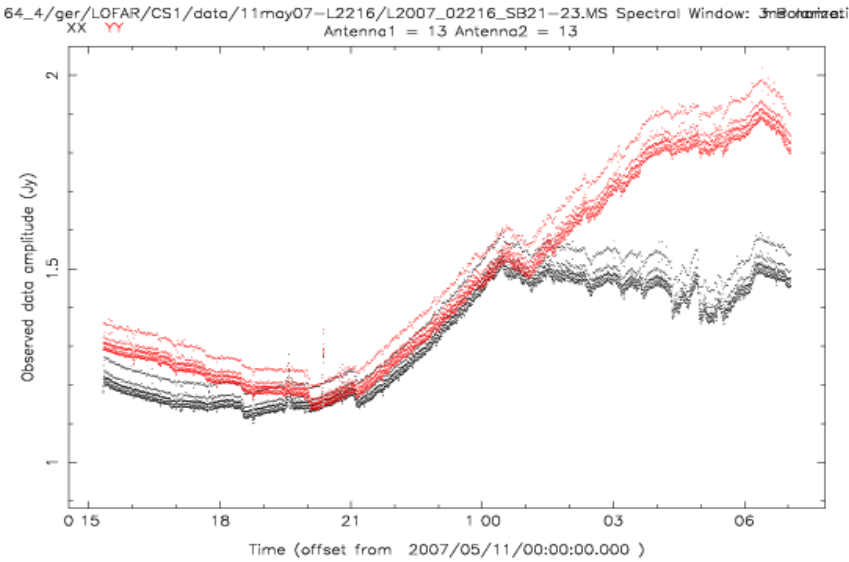


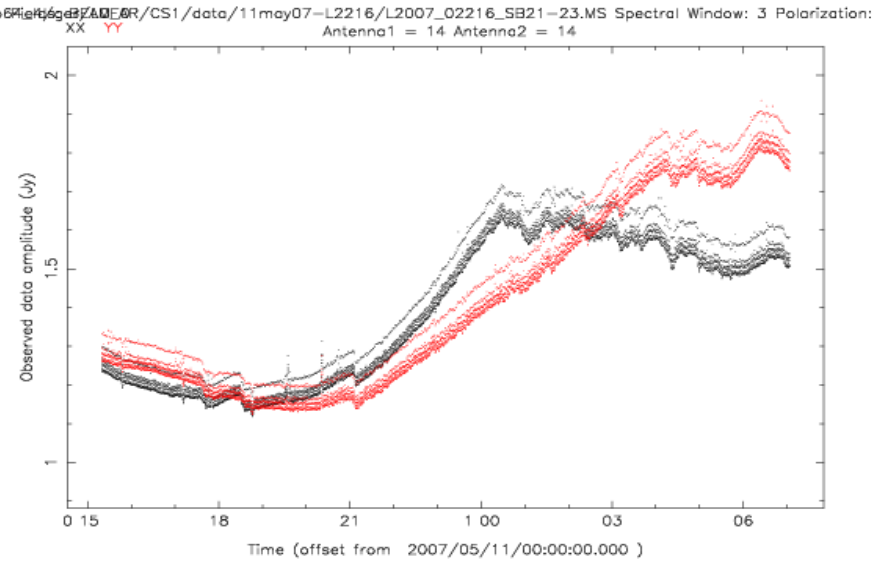


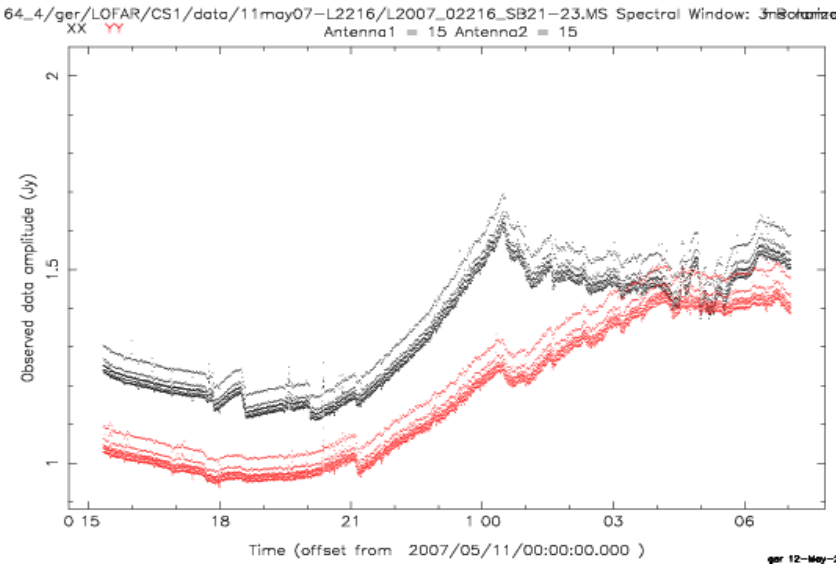


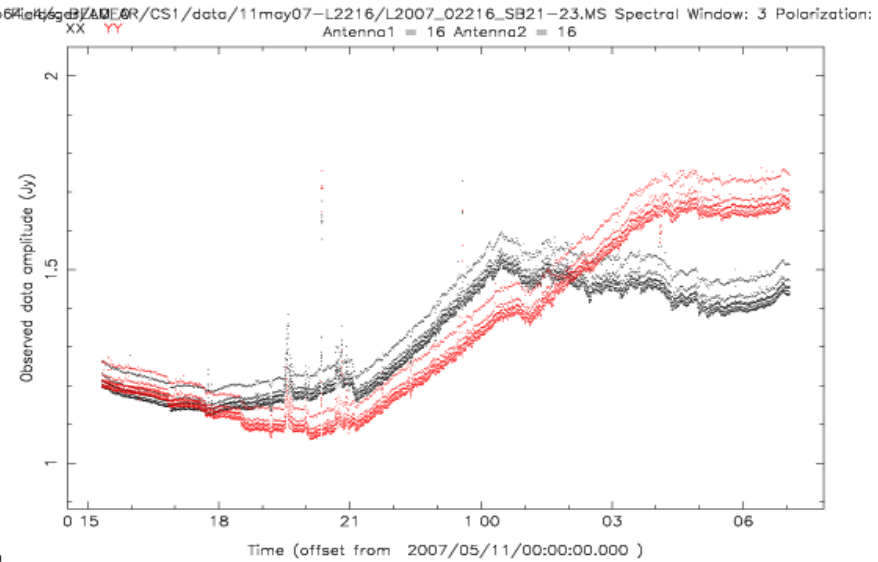


Rainy weekend: effects of ‘sleeves’
CS016 antennas 11May-07, L2216, 60MHz

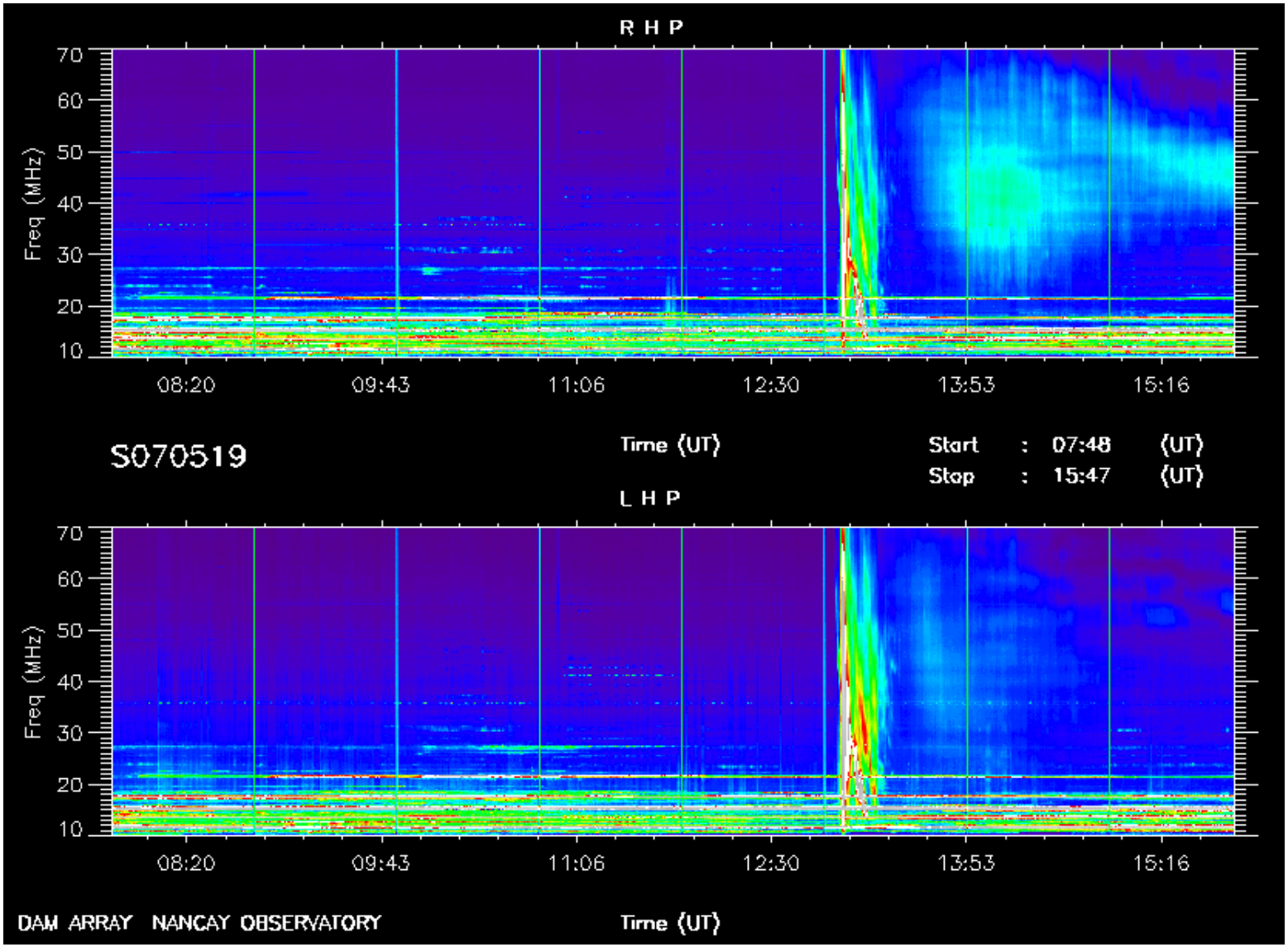




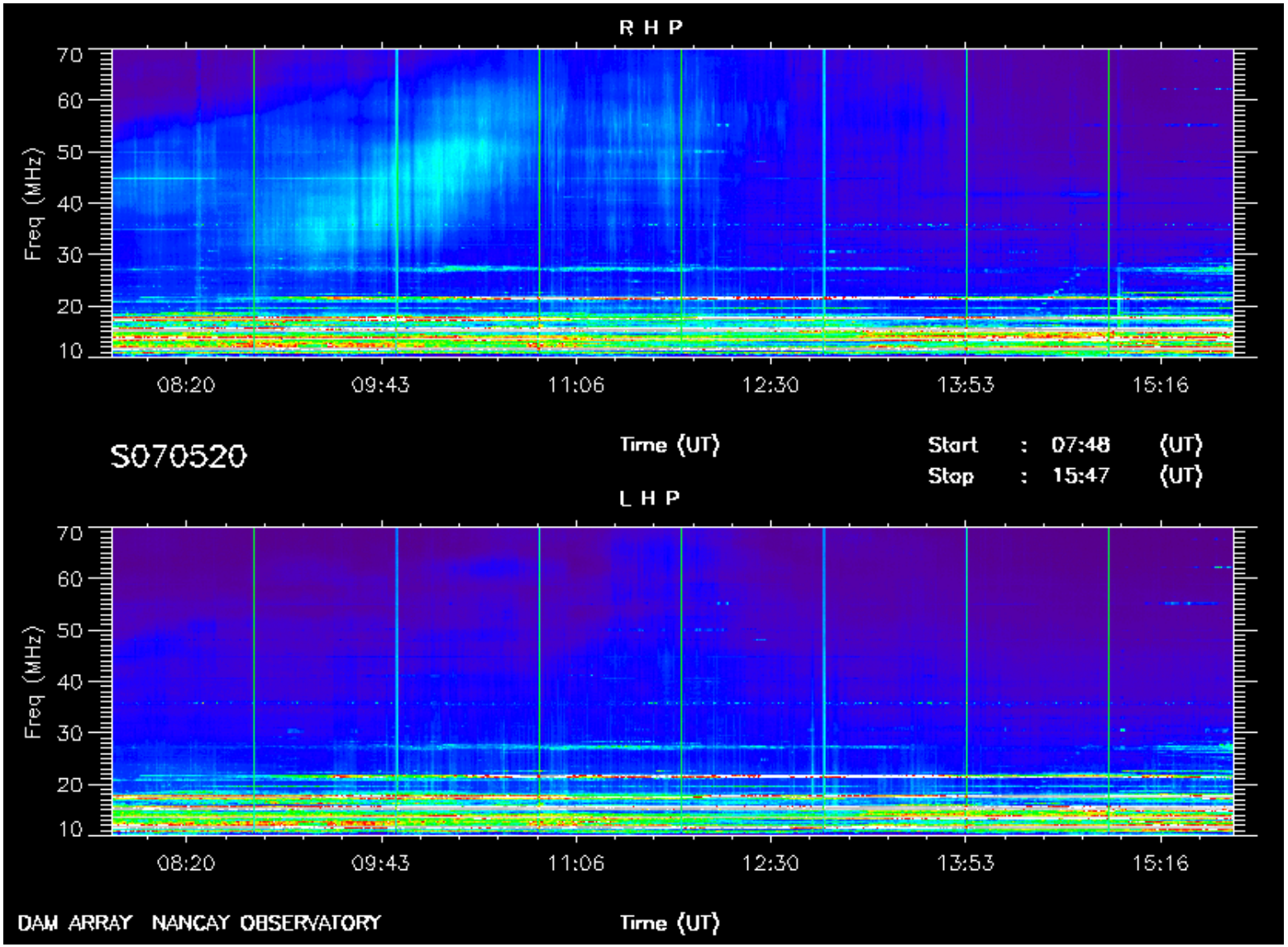




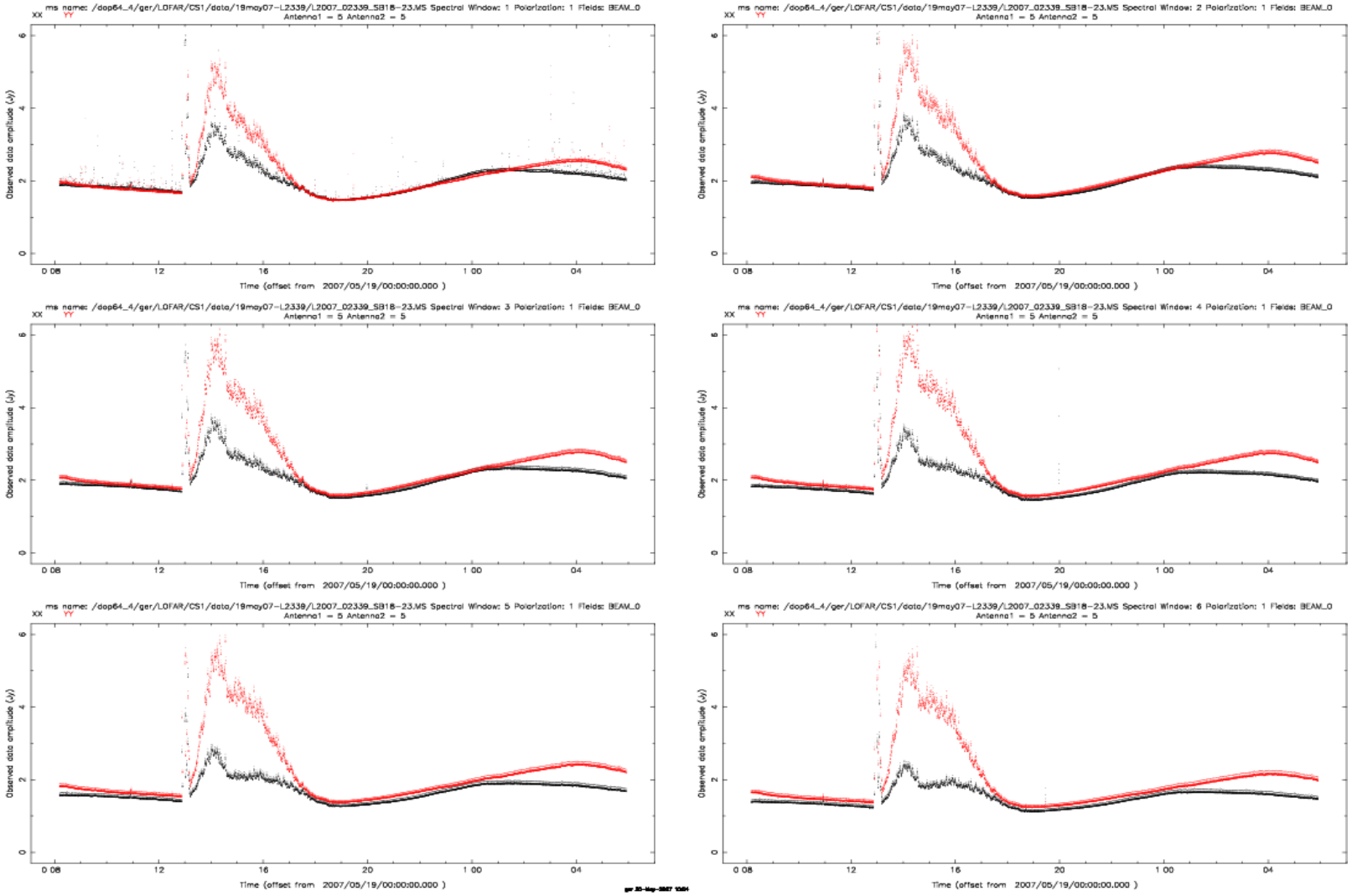
Nancay DAM data 19 May 2007



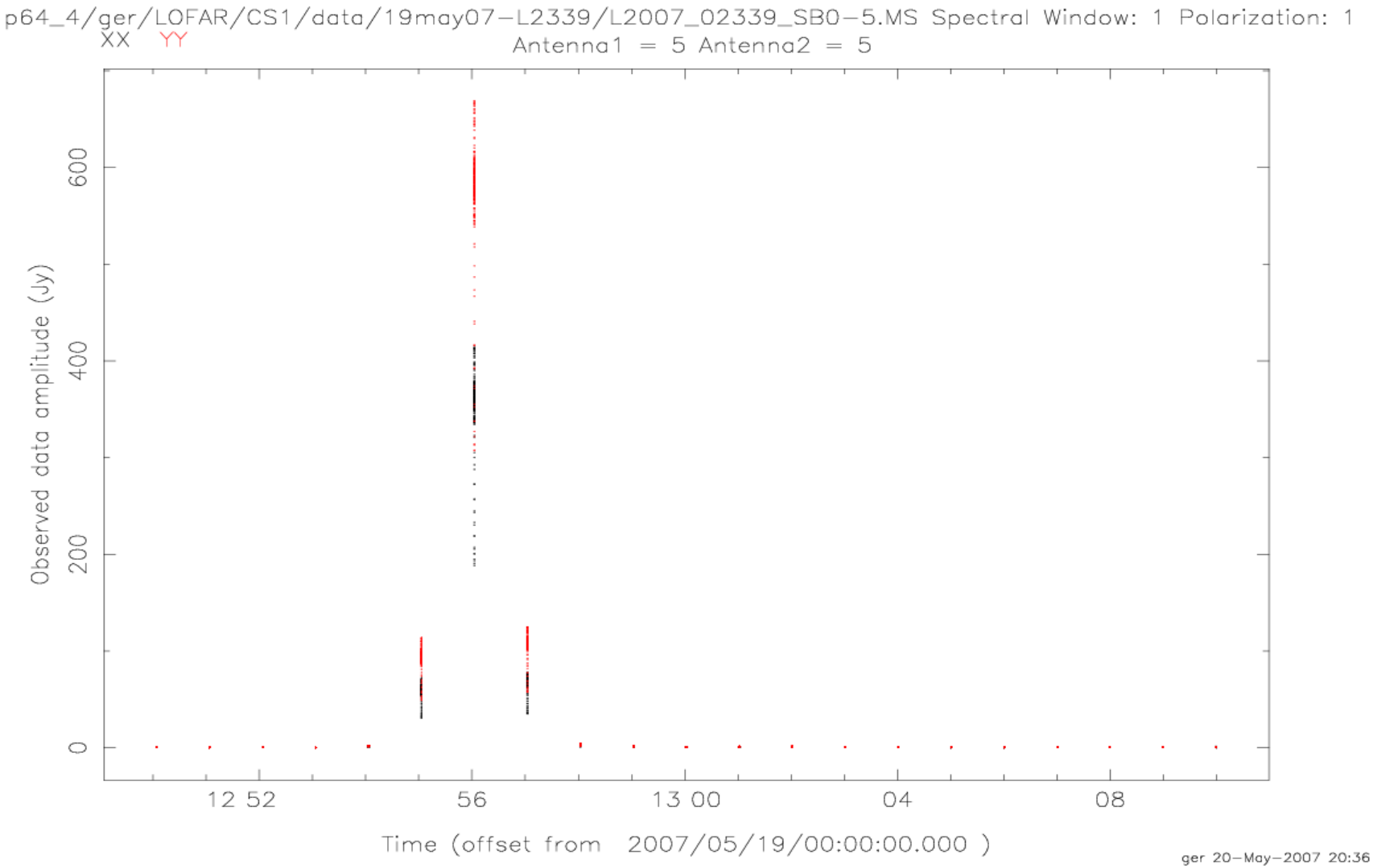
Nancay DAM data 20 May 2007



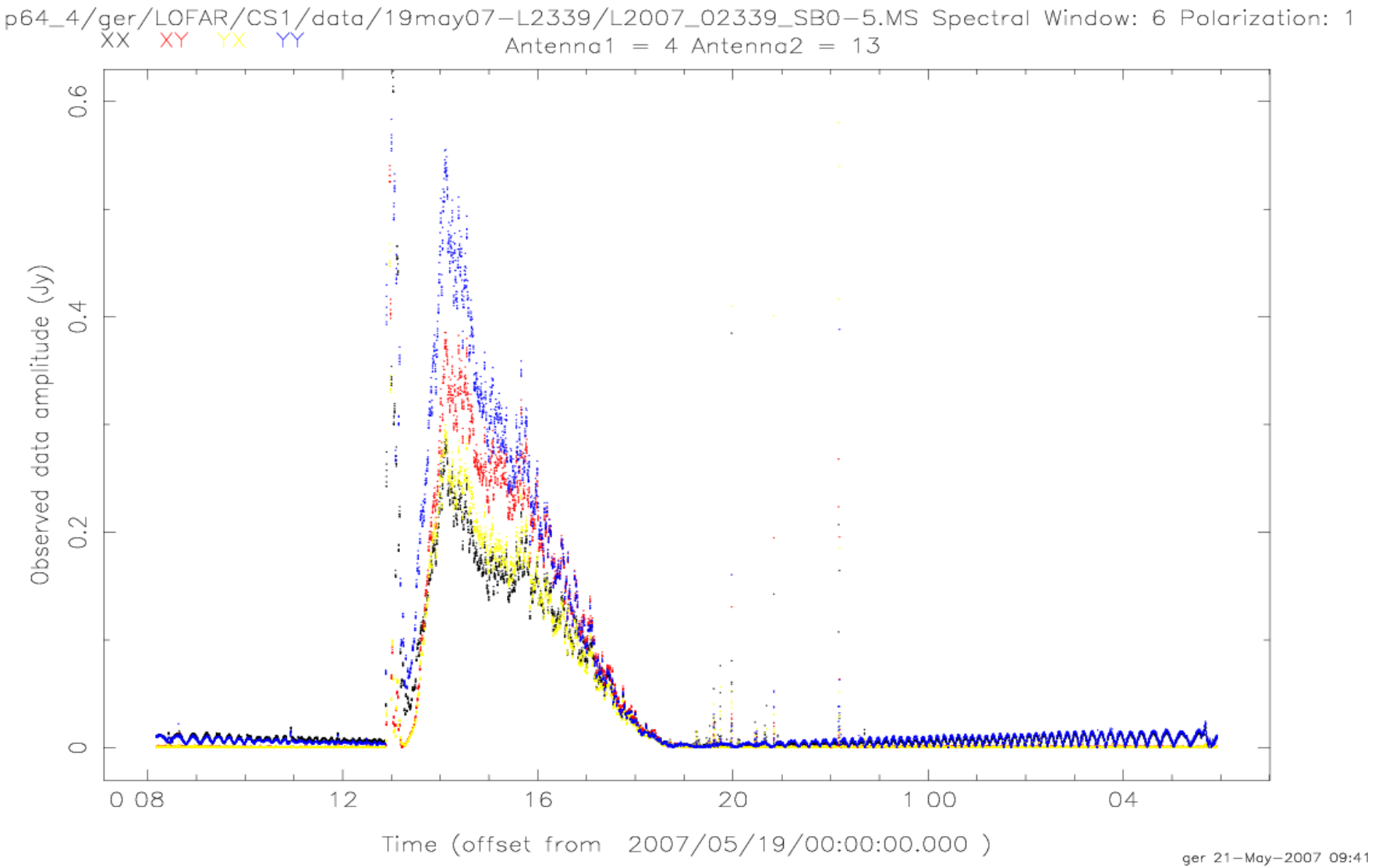
Solar flare ANT5 6 subbands
19 May 2007



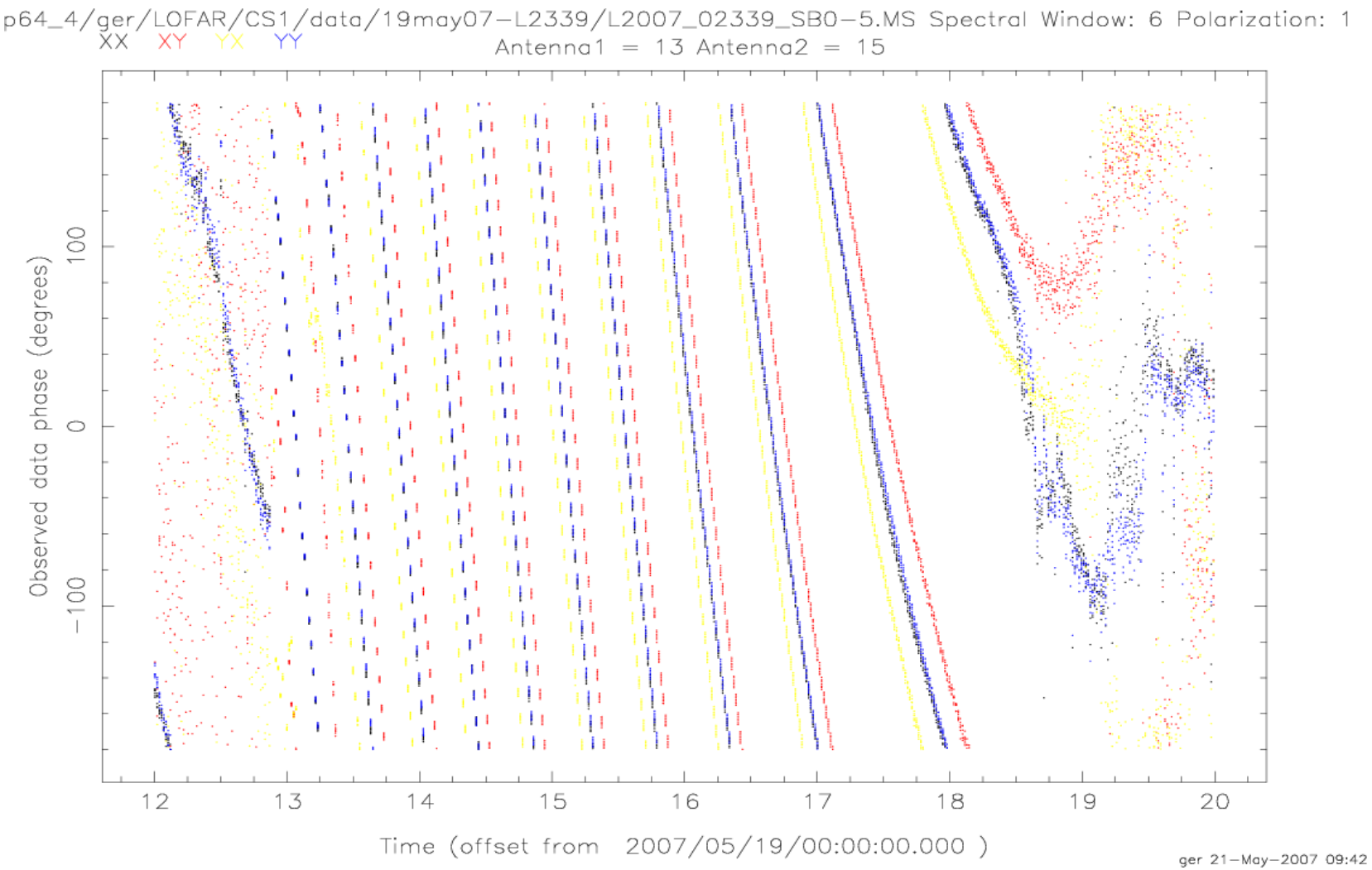
Solar flare on 19 May 2007
~1 GJy at 50 MHz for ~ 60s



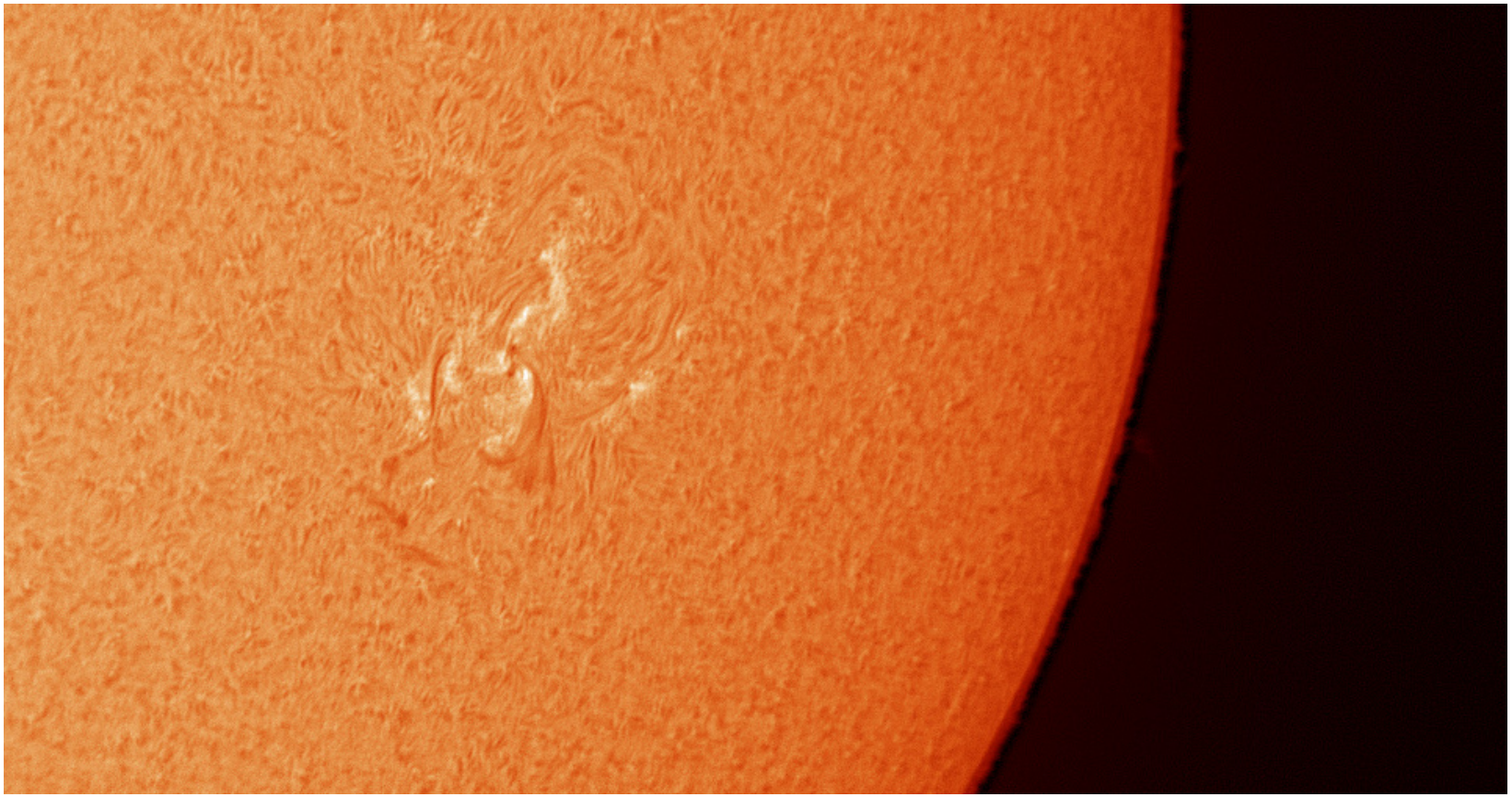
Solar flare 19 May 2007
ANT4-13 ~ 300m baseline



Solar flare 19 May 2007
all polarizations, phase ANT13-15



Solar flare sunspot 956 19 May 2007



Nancay Radio Heliograph 151 MHz images
sunspot 956 18-21 May 2007