

# REPORT OF 040816

last update on Wed Aug 18 14:59:31 GMT 2004

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## 1 - Introduction

This report is based on the analysis of wave mode level-1 cross spectra (ASA\_WVS\_1P), global monitoring products (ASA\_GM1\_1P), which are the available few hours after the acquisition, on the browse (BP) products and on the Module Stepping (MS) product.

## 2 - Summary

### 2.1 - Instrument Unavailability

No unavailabilities during the reported period.

### 2.2 - Browse Visual Inspection

-Power drop in Tx in H and V pol affecting the 8 first rows of the D1 tile.  
anomaly starts on 14-AUG-2004 04:36 stop on 17-AUG-2004 10:57 UTC.

The effect of the Tx power loss is mainly visible on scansar products on the subswath boundaries.

## 2.3 - Data Analysis

- Power drop in Tx (P1 and P1a pulses) in H and V pol affecting the 8 first rows of the D1 tile. anomaly starts on 14-AUG-2004 04:36 stop on 17-AUG-2004 10:57 UTC.
- Stable raw data statistics.
- Nominal Doppler behavior.

## 3 - Module Stepping Mode

The MS product acquired on 15-AUG-2004 in H polarisation, shows that the rows sharing the PSUs 1 and 2 of tile D1 are affected by a Tx power loss.

Polarisation	Start Time
V	20040815 023111
H	20040814 030248

### MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

### MSM in H/H polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

## 4 - Internal calibration Results

- Power drop in Tx in H and V pol affecting the 8 first rows of the D1 tile. anomaly starts on 14-AUG-2004 04:36 stop on 17-AUG-2004 10:57 UTC.

## 4.1 - Daily statistics

### 4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS

### 4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1

## 4.2 - Cyclic statistics

### 4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS



### P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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### P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.482617	0.053575	0.017756
7	P1	-3.324492	0.052993	0.055257
11	P1	-4.645571	0.117409	-0.094818
15	P1	-5.751061	0.127632	-0.088047
19	P1	-3.455229	0.005165	0.001257
22	P1	-4.555640	0.011106	0.056063

24	P1	-4.958457	0.018878	0.016915
30	P1	-6.914861	0.024930	-0.081486
3	P1	-16.073437	1.102383	1.024964
7	P1	-14.010589	0.166754	-0.209242
11	P1	-20.084719	0.400085	-0.248271
15	P1	-11.791250	0.176462	-0.098522
19	P1	-13.868515	0.033760	-0.010254
22	P1	-16.273504	0.341397	0.204257
24	P1	-14.582548	0.284340	0.187936
30	P1	-17.713085	0.431936	-0.256116

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.310263	0.079312	0.053090
7	P2	-22.663906	0.126555	0.118685
11	P2	-15.396141	0.156093	0.114812
15	P2	-7.083041	0.091898	0.104473
19	P2	-9.559674	0.174068	0.111043
22	P2	-17.381355	0.109527	0.142908
24	P2	-20.750185	0.084129	0.004240
30	P2	-19.306454	0.079070	0.149116

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.140976	0.002404	0.016027
7	P3	-8.140979	0.002405	0.016080
11	P3	-8.140983	0.002405	0.016100
15	P3	-8.140981	0.002404	0.016055
19	P3	-8.140978	0.002404	0.016010
22	P3	-8.140968	0.002404	0.015966
24	P3	-8.140965	0.002404	0.015931
30	P3	-8.141055	0.002409	0.014884

**4.2.2 - Evolution for GM1**

**Evolution of cal pulses for GM1**



**P1a Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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**P1 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-2.775704	0.247155	0.477164
7	P1	-2.999732	0.262670	0.220264
11	P1	-3.866181	0.187037	-0.054439
15	P1	-3.563617	0.224590	0.182231
19	P1	-3.470713	0.020204	-0.029134
22	P1	-5.664859	0.046694	-0.052098
24	P1	-3.874363	0.028734	-0.014155
30	P1	-6.176727	0.074318	0.058889
3	P1	-10.493996	0.899217	0.944680
7	P1	-10.091088	0.238858	0.075624
11	P1	-12.074499	0.193607	-0.138557
15	P1	-11.643765	0.192163	0.053090
19	P1	-15.593677	0.132907	-0.159606
22	P1	-23.215136	1.709026	-0.737336
24	P1	-17.731787	0.261015	-0.480965
30	P1	-20.386459	1.542714	-0.051507

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.978794	0.087716	0.040621
7	P2	-22.772793	0.260293	0.017460
11	P2	-11.031577	0.113337	0.058901
15	P2	-4.950947	0.041690	0.030768
19	P2	-6.775757	0.061680	0.103486
22	P2	-7.474162	0.111013	0.138472
24	P2	-11.042806	0.145211	0.069768
30	P2	-22.233330	0.113704	0.062988

## P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.984132	0.003919	0.003344
7	P3	-7.984144	0.003921	0.003680
11	P3	-7.984208	0.003912	0.003126
15	P3	-7.984075	0.003922	0.003176
19	P3	-7.984133	0.003921	0.003240
22	P3	-7.984202	0.003913	0.003649
24	P3	-7.984179	0.003936	0.003568
30	P3	-7.984212	0.003909	0.003732

## 4.3 - cal pulses monitoring (all rows)

### 4.3.1 - Evolution for WVS



### 4.3.2 - Evolution for GM1



## 5 - RAW data statistics

No anomalies observed.

### 5.1 - Input mean I/Q

channel	stat	DSS-B
MEAN I	mean	0.000496140
	stdev	2.12622e-07
MEAN Q	mean	0.000539563
	stdev	2.43383e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129377
	stdev	0.00102912
STDEV Q	mean	0.129622
	stdev	0.00104136





### 5.3 - Gain imbalance I/Q





## 6 - Doppler Analysis

Preliminary report. The data is not yet controlled

### 6.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)	
	
	Ascending
	
	Descending

### 6.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler	
	
	Ascending
	
	Descending

### 6.3 - Doppler evolution versus ANX for WVS

**Evolution Doppler error versus ANX****6.4 - Unbiased Doppler Error for GM1****Evolution of unbiased Doppler error (Real - Expected)**

Acsending

Descending

**6.5 - Absolute Doppler for GM1****Evolution of Absolute Doppler**

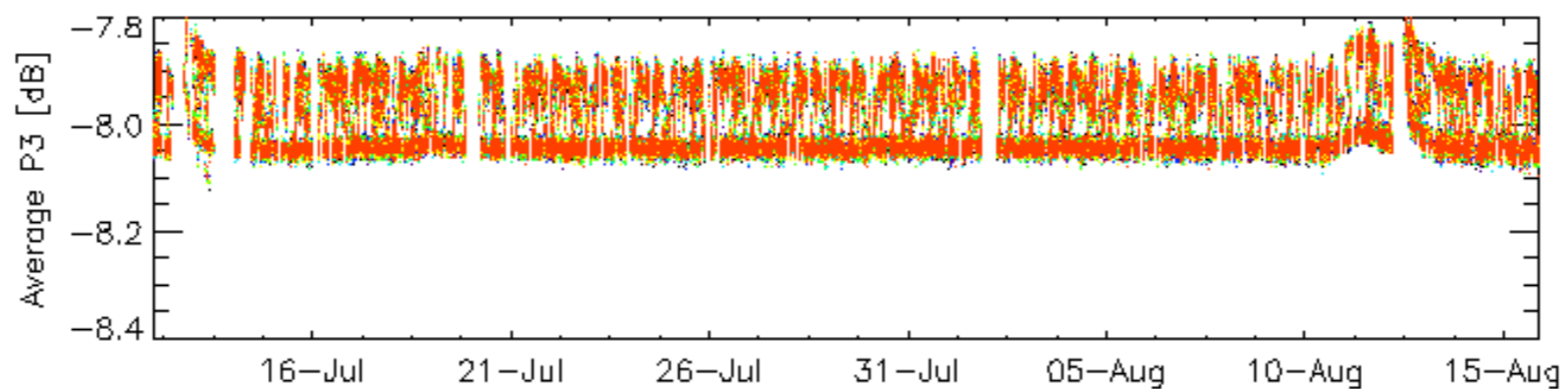
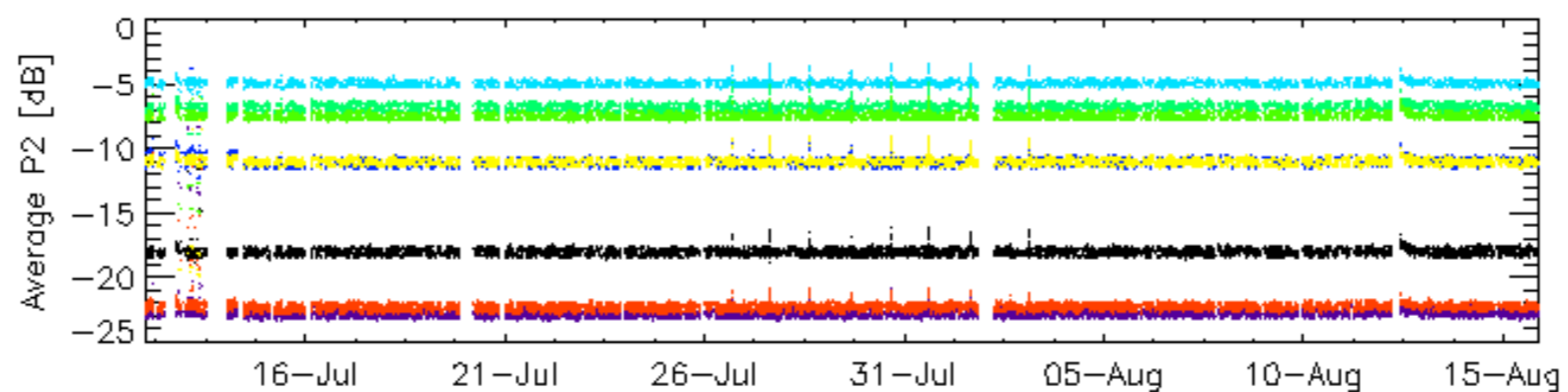
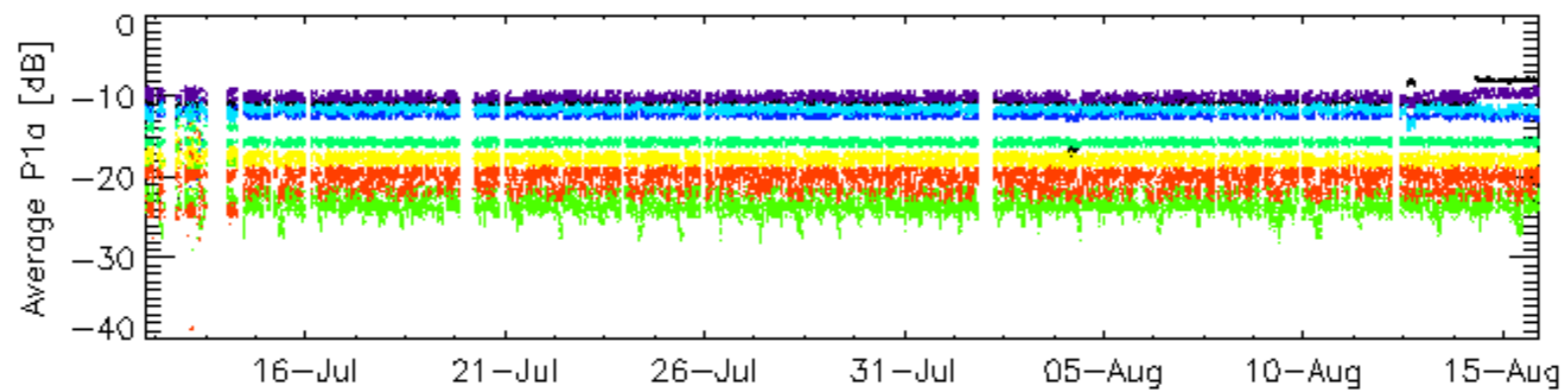
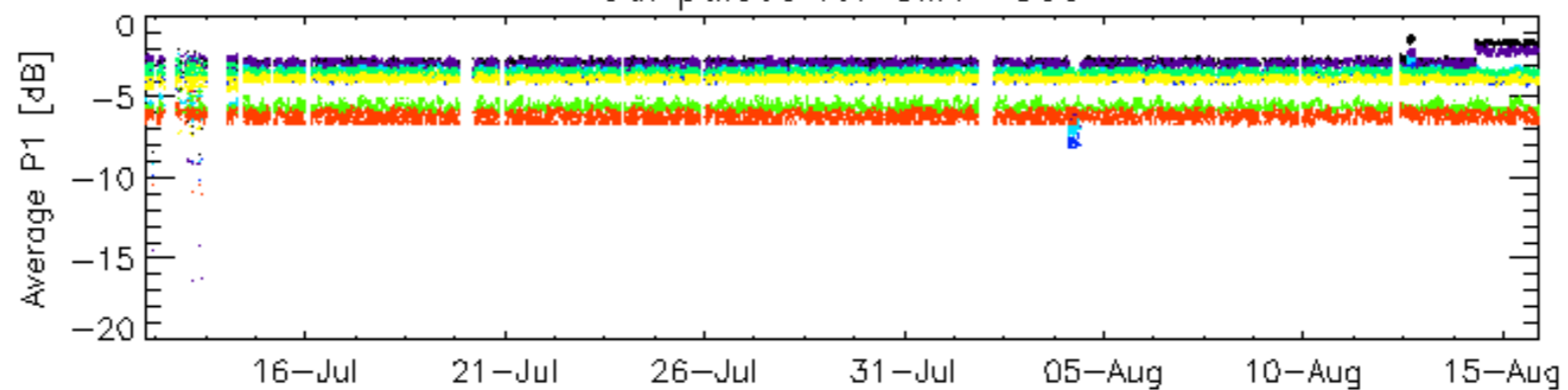
Acsending

Descending

**6.6 - Doppler evolution versus ANX for GM1****Evolution Doppler error versus ANX**

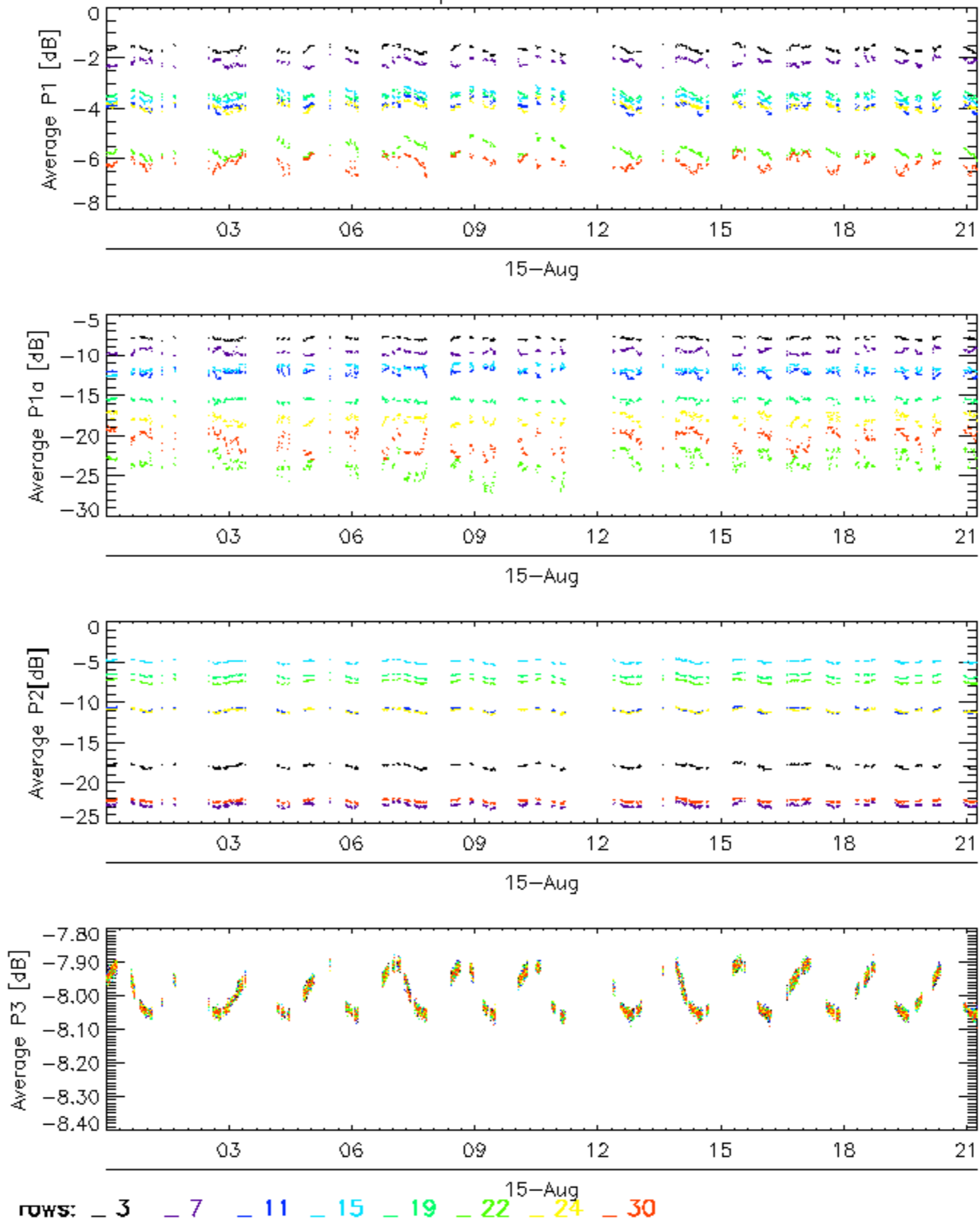


Cal pulses for GM1 SS3

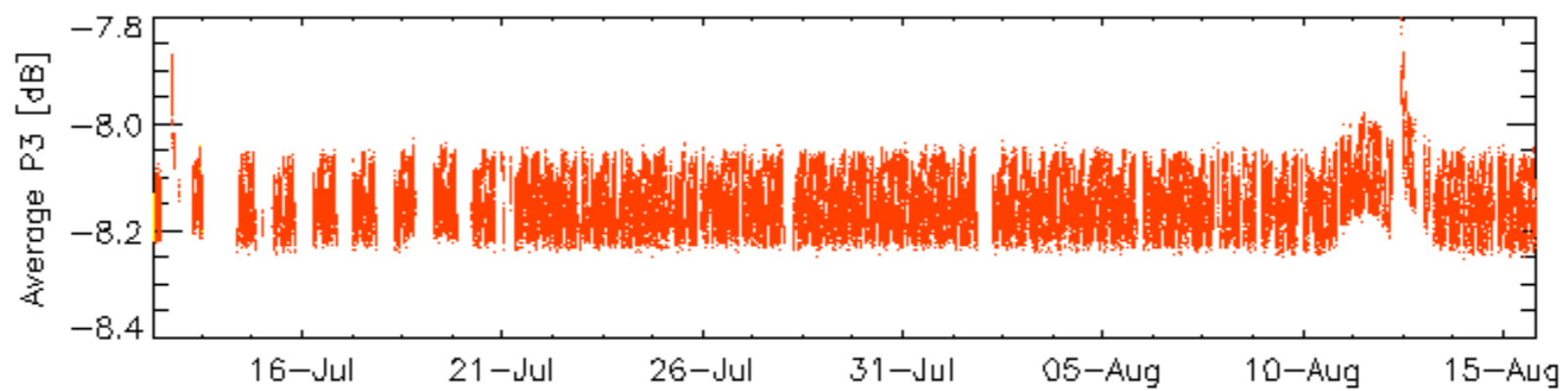
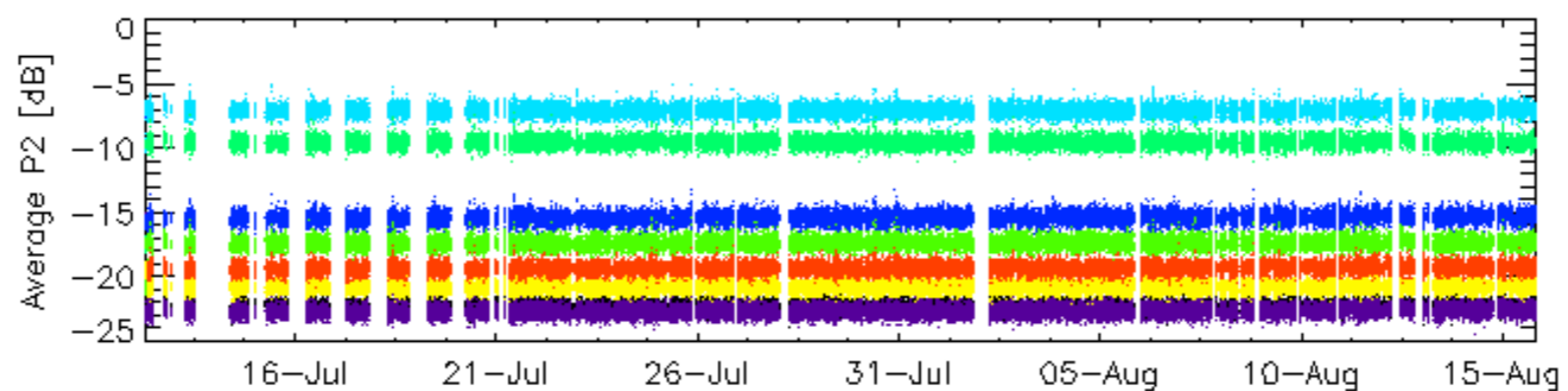
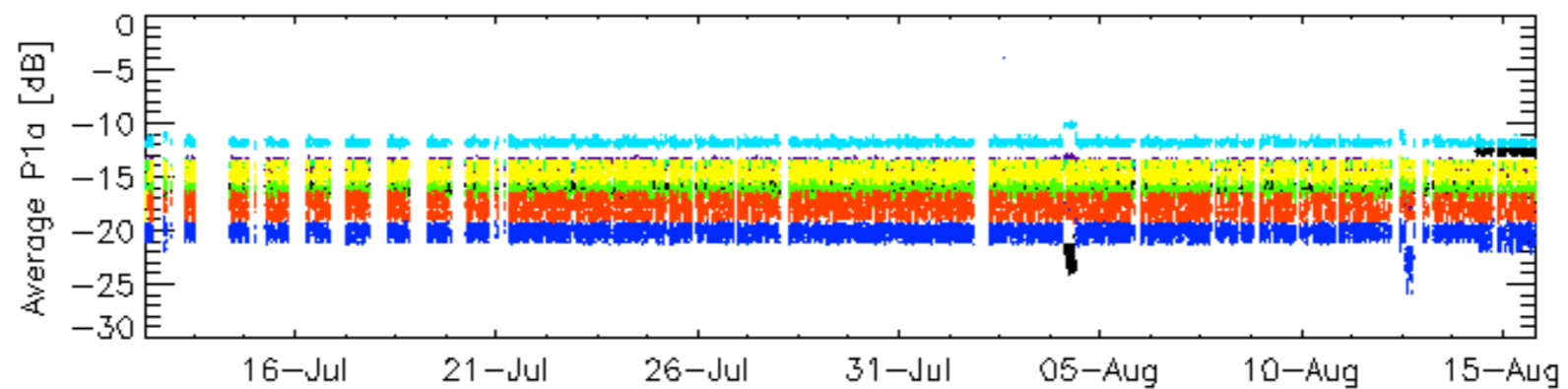
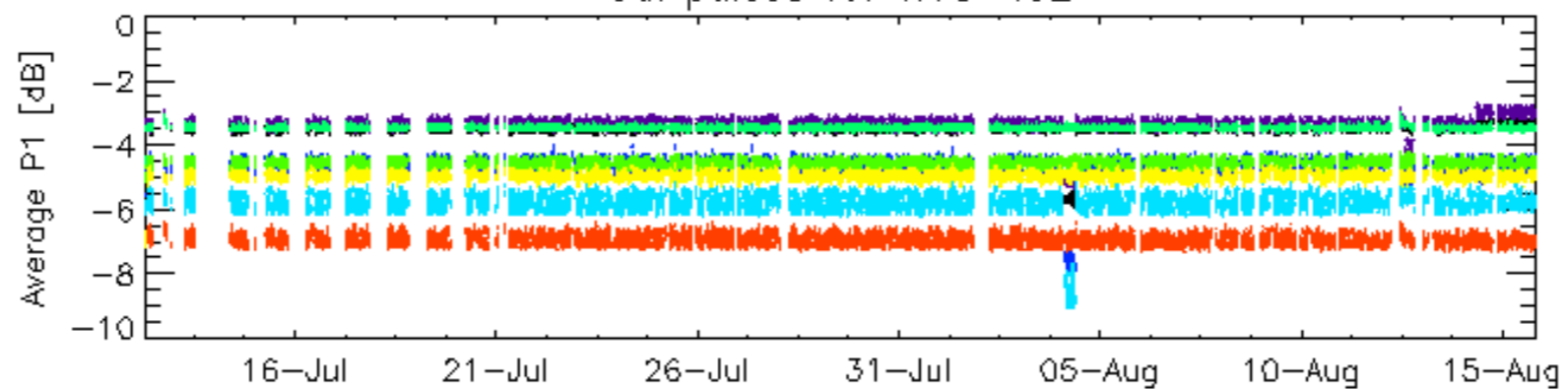


rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 24 \_ 30

Cal pulses for GM1 SS3

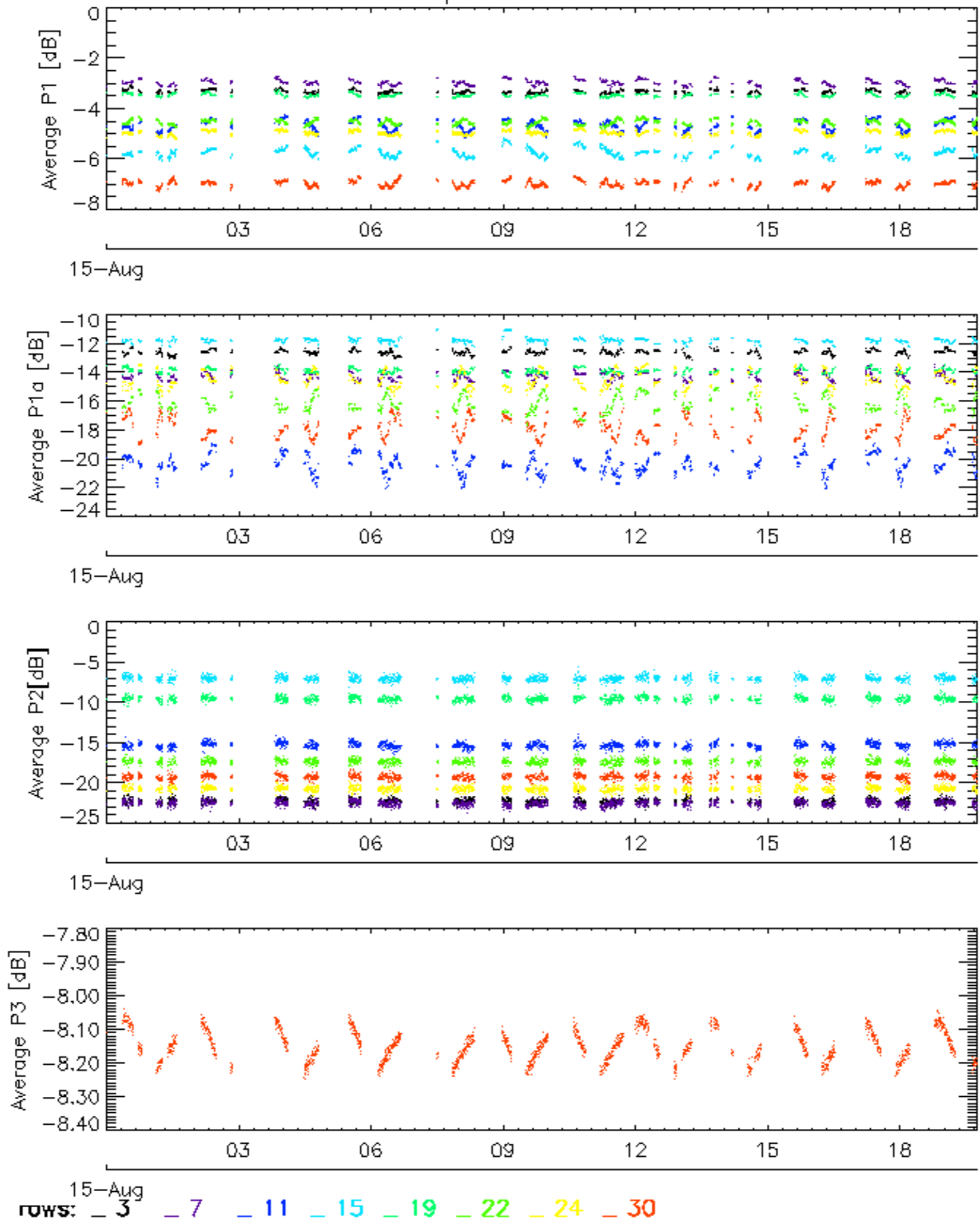


Cal pulses for WVS IS2



rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 24 \_ 30

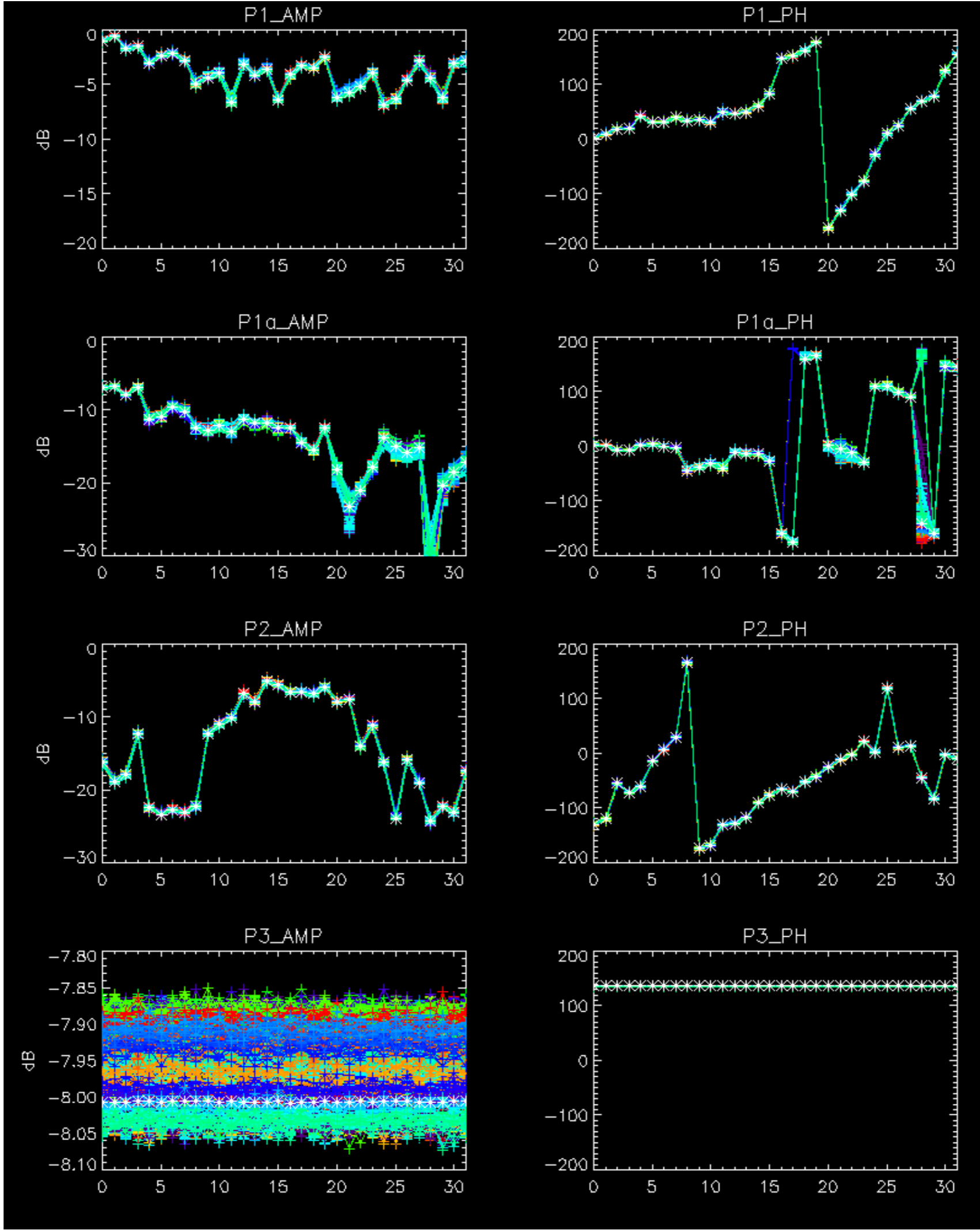
Cal pulses for WVS IS2



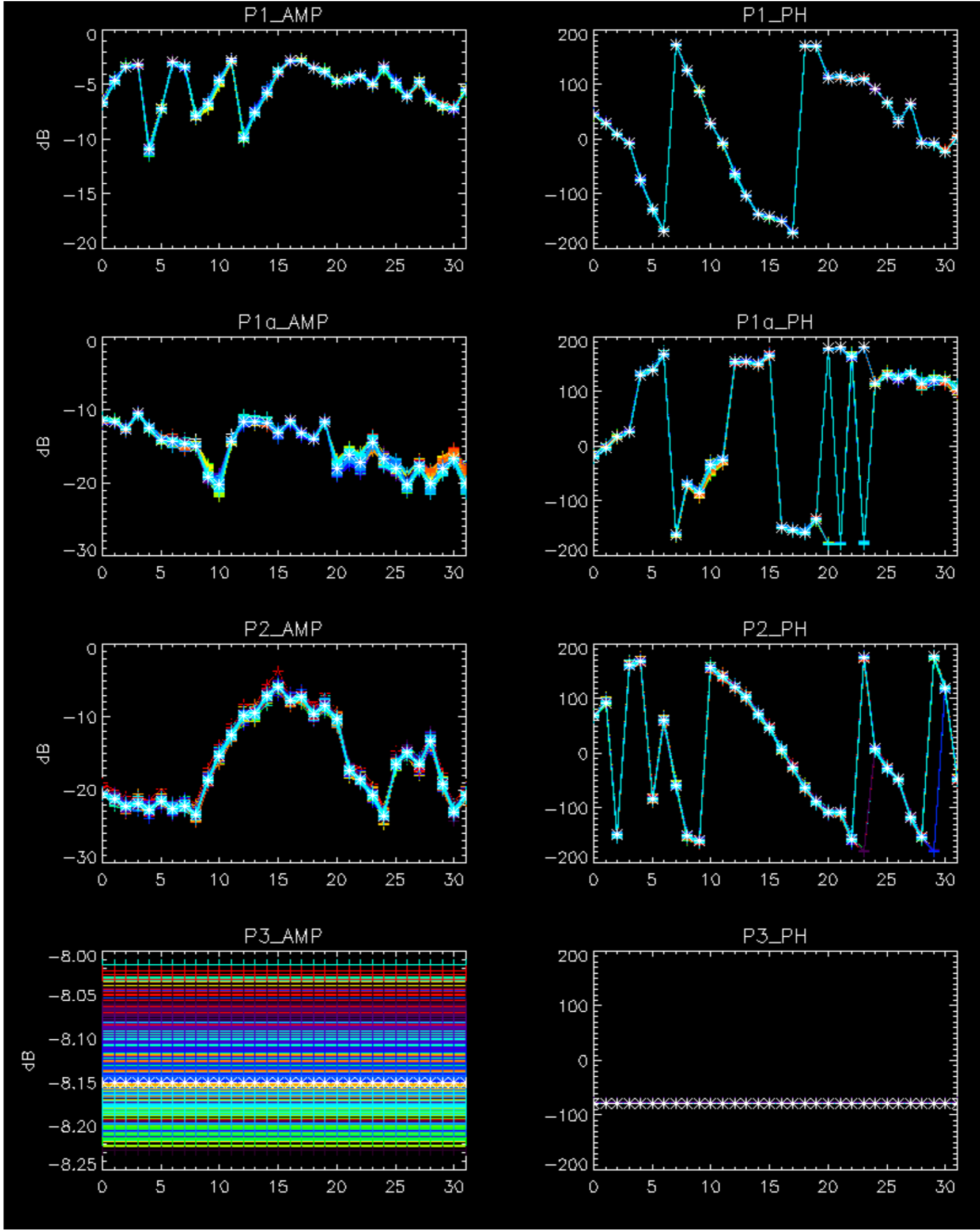
-Power drop in Tx in H and V pol affecting the 8 first rows of the D1 tile.  
anomaly starts on 14-AUG-2004 04:36 stop on 17-AUG-2004 10:57 UTC.

The effect of the Tx power loss is mainly visible on scansar products on the subswath boundaries.

-Power drop in Tx in H and V pol affecting the 8 first rows of the D1 tile.  
anomaly starts on 14-AUG-2004 04:36 stop on 17-AUG-2004 10:57 UTC.





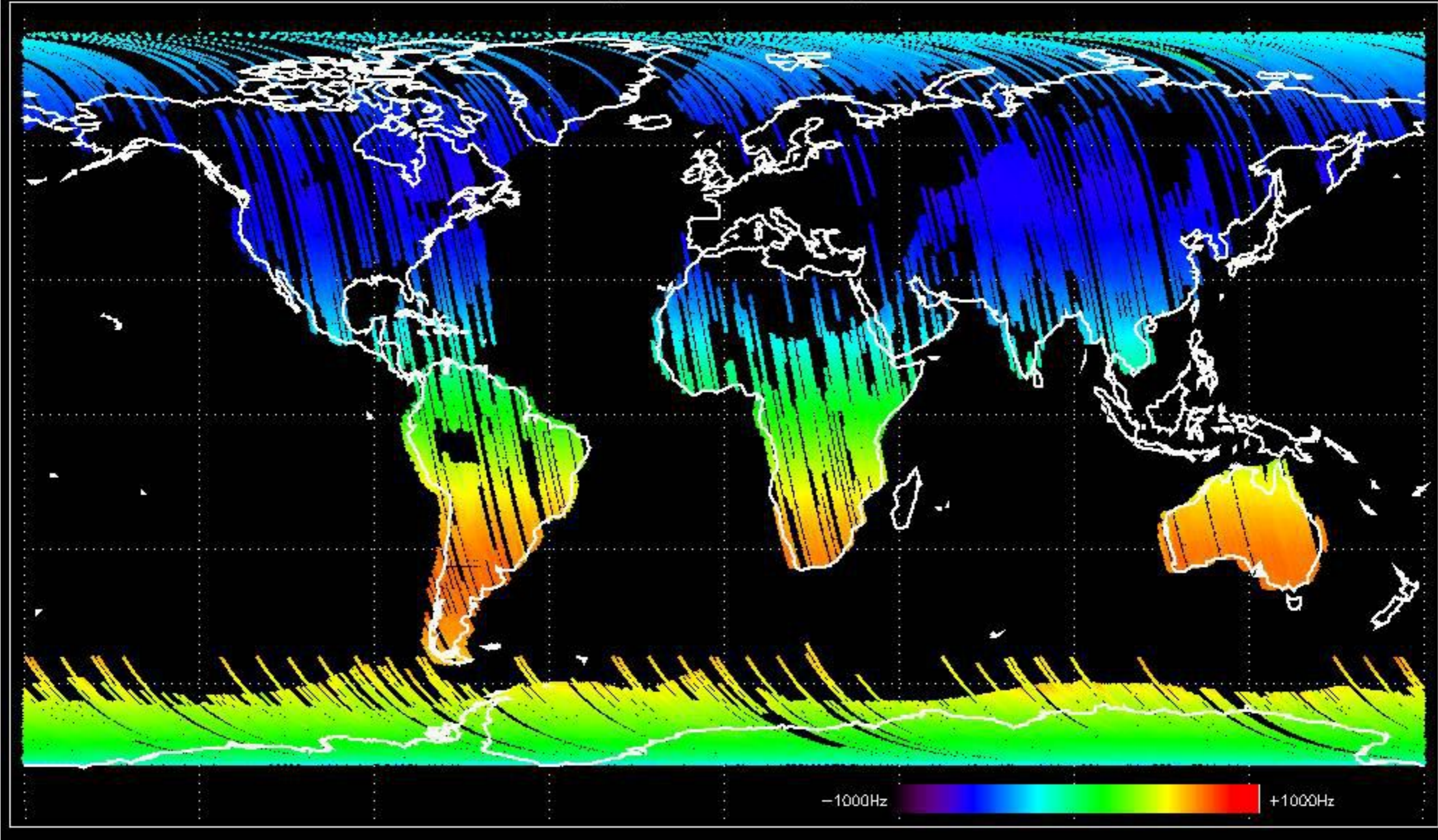




-Power drop in Tx (P1 and P1a pulses) in H and V pol affecting the 8 first rows of the D1 tile.  
anomaly starts on 14-AUG-2004 04:36 stop on 17-AUG-2004 10:57 UTC.  
-Stable raw data statistics.  
-Nominal Doppler behavior.

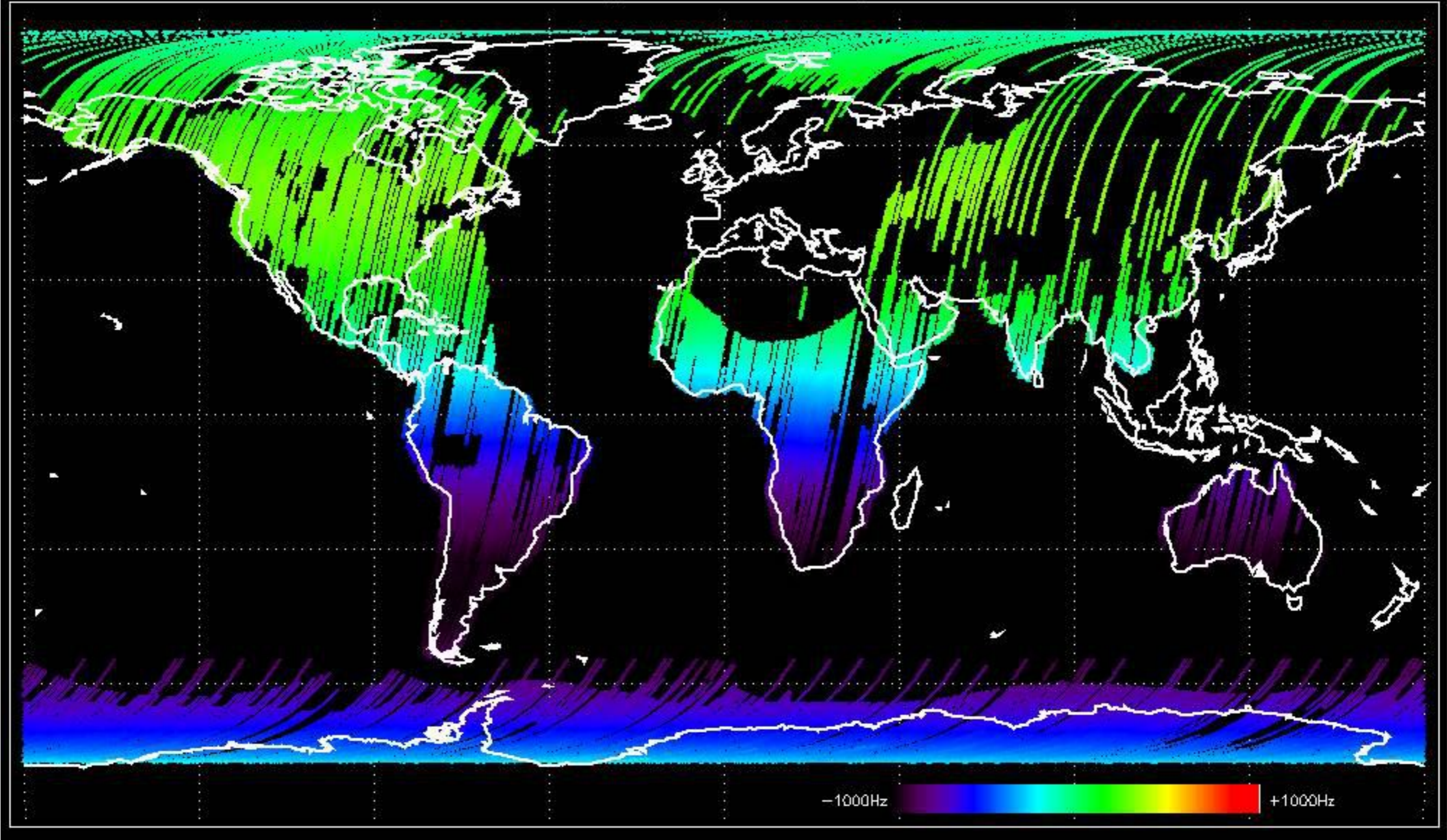


Doppler 'GM1' 'SS1' ascending



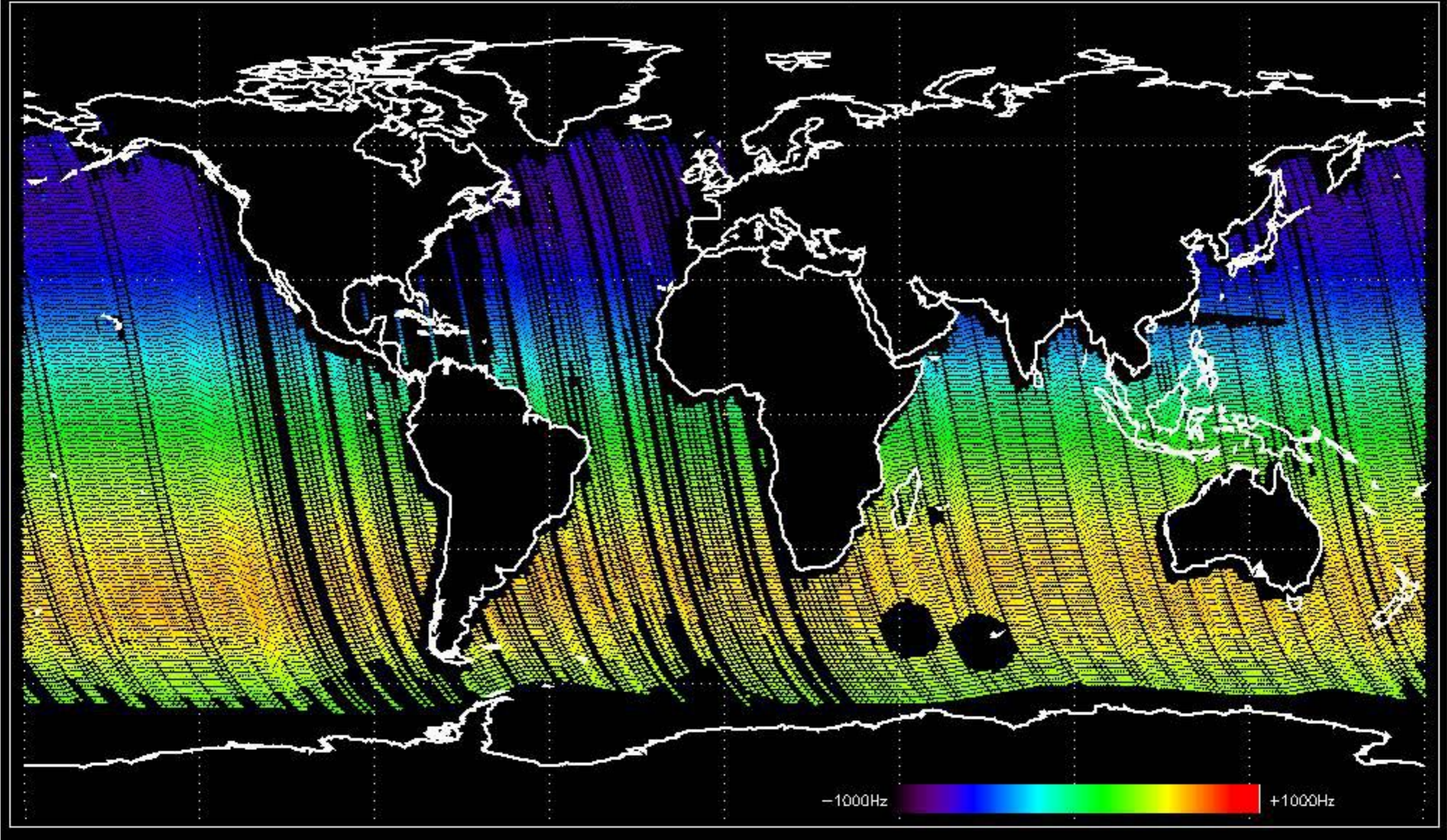


Doppler 'GM1' 'SS1' descending



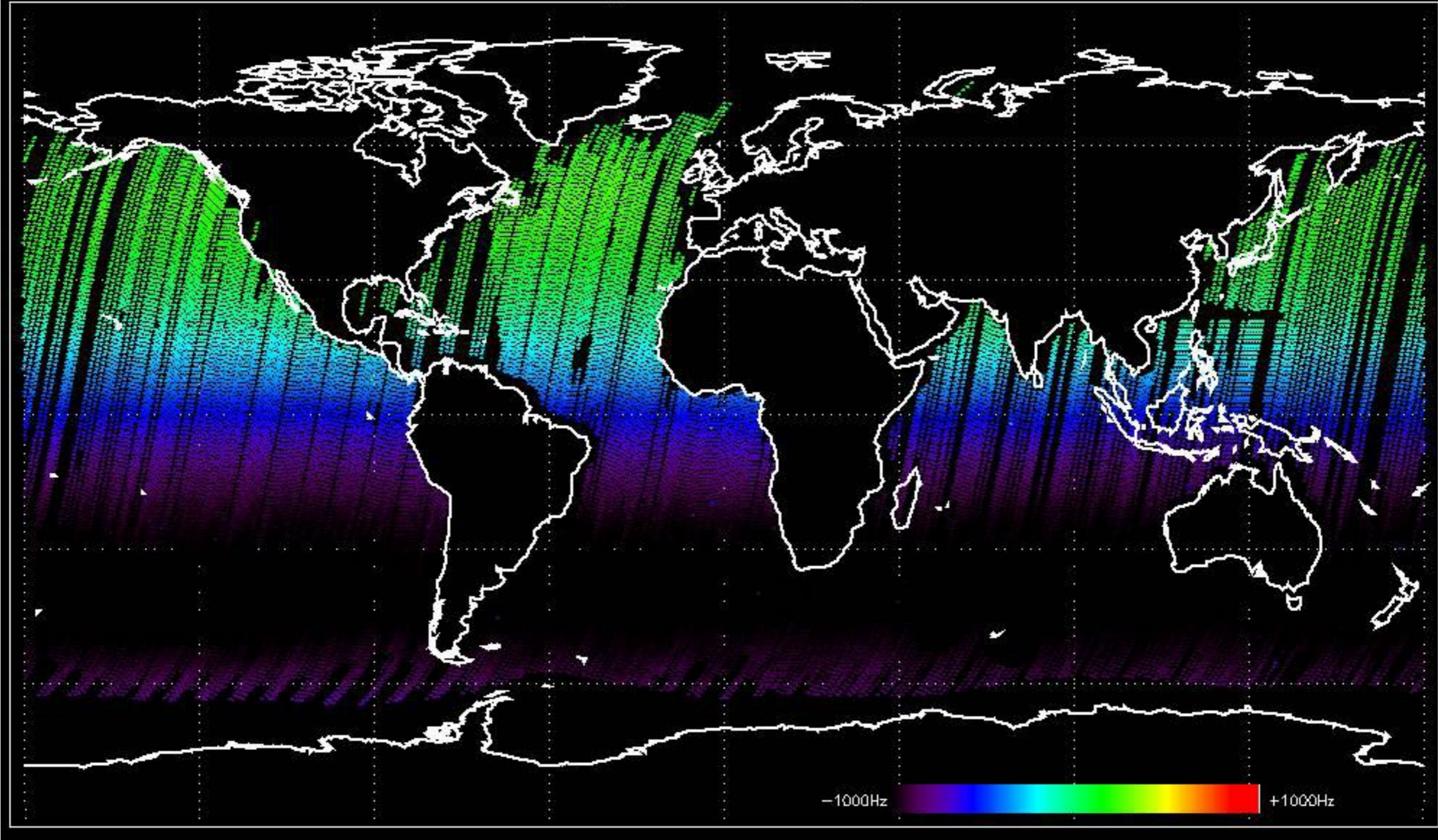


Doppler 'WVS' 'IS2' ascending

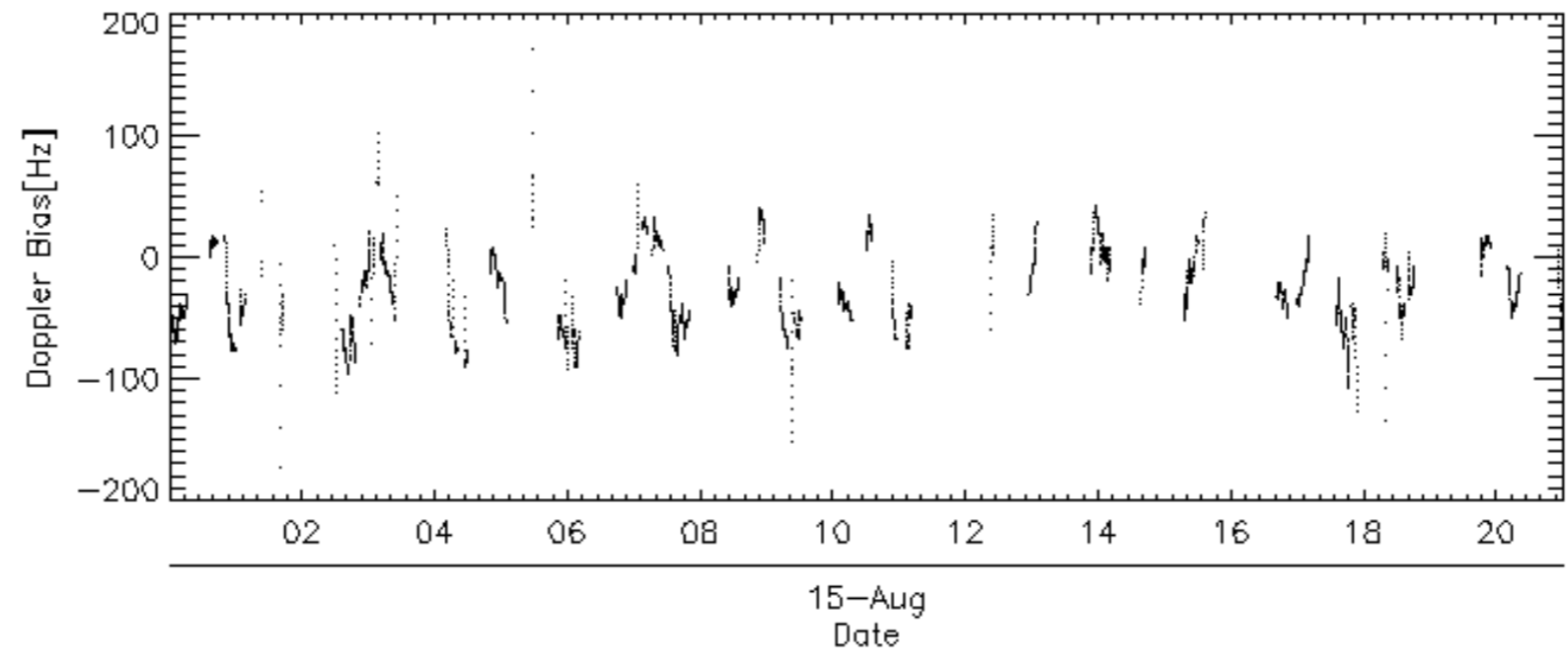
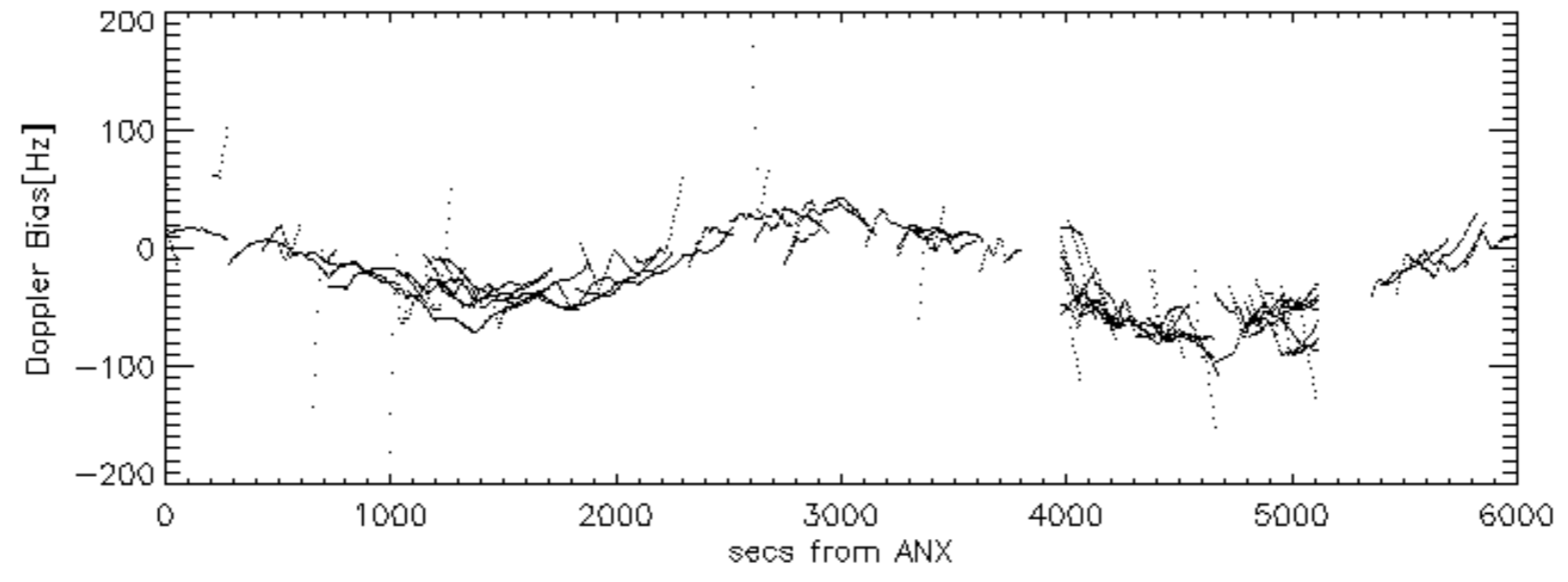
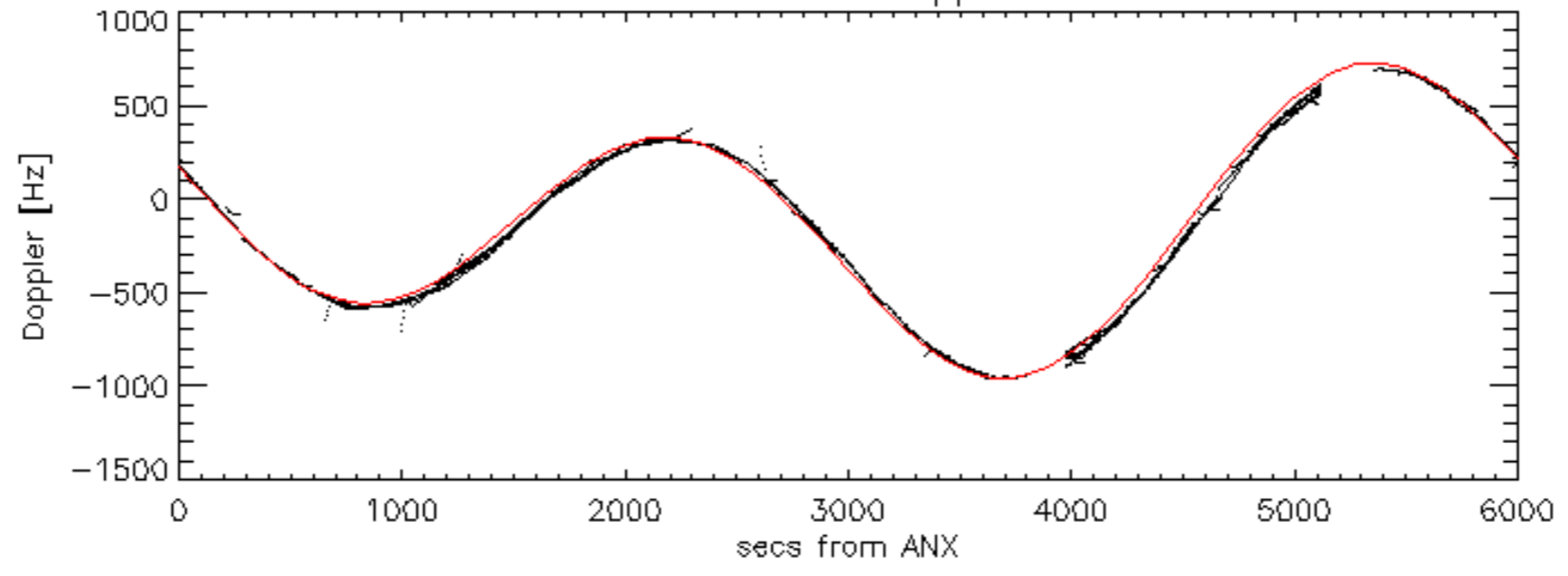




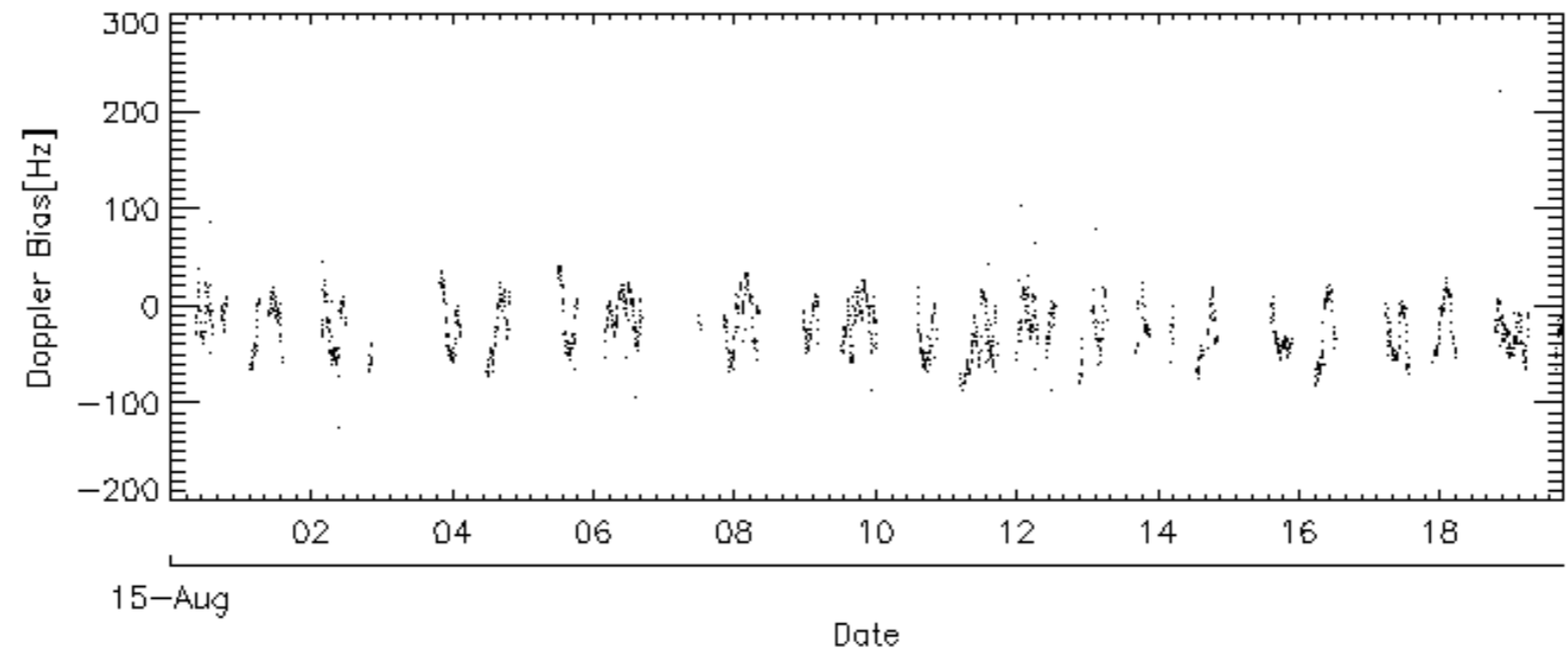
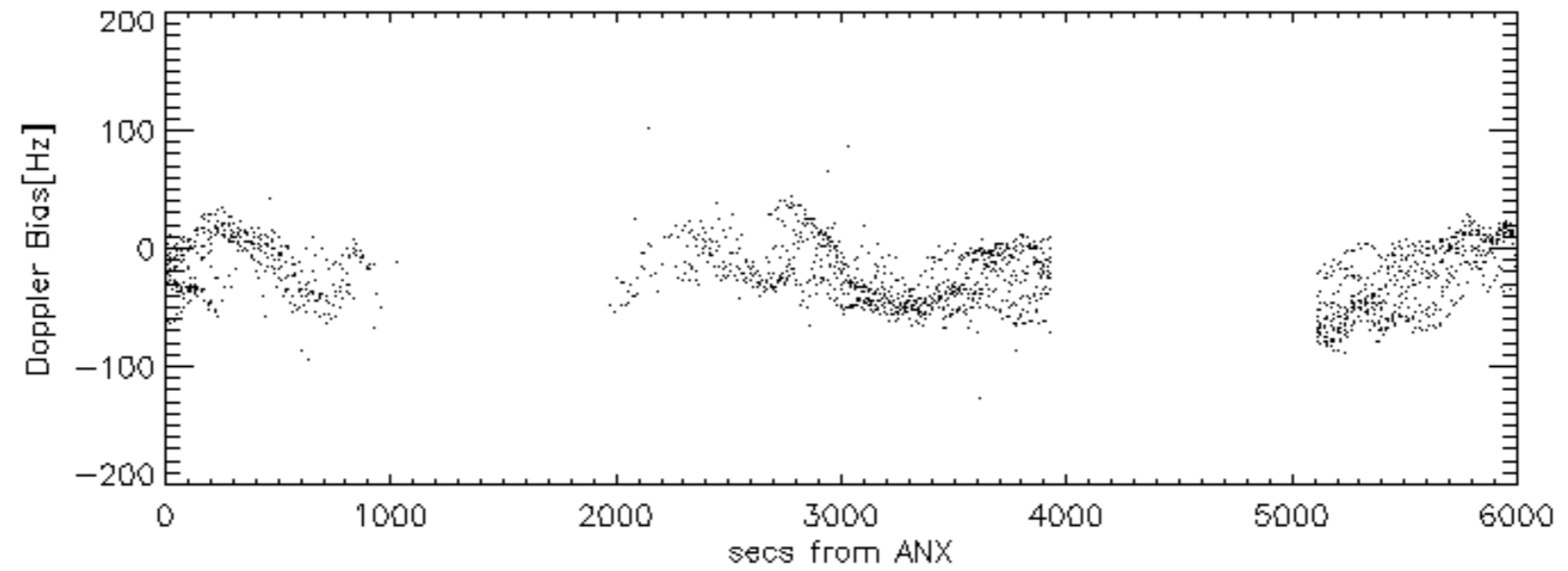
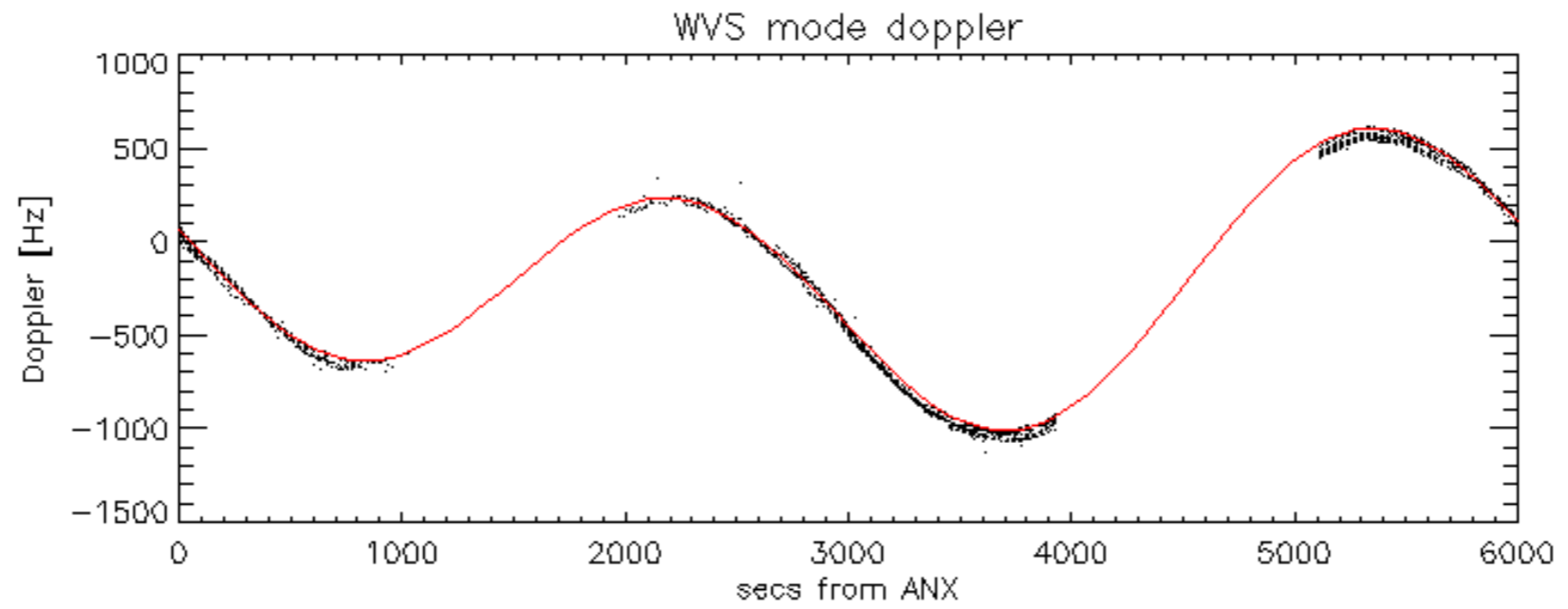
Doppler 'WVS' 'IS2' descending



GM1 mode doppler

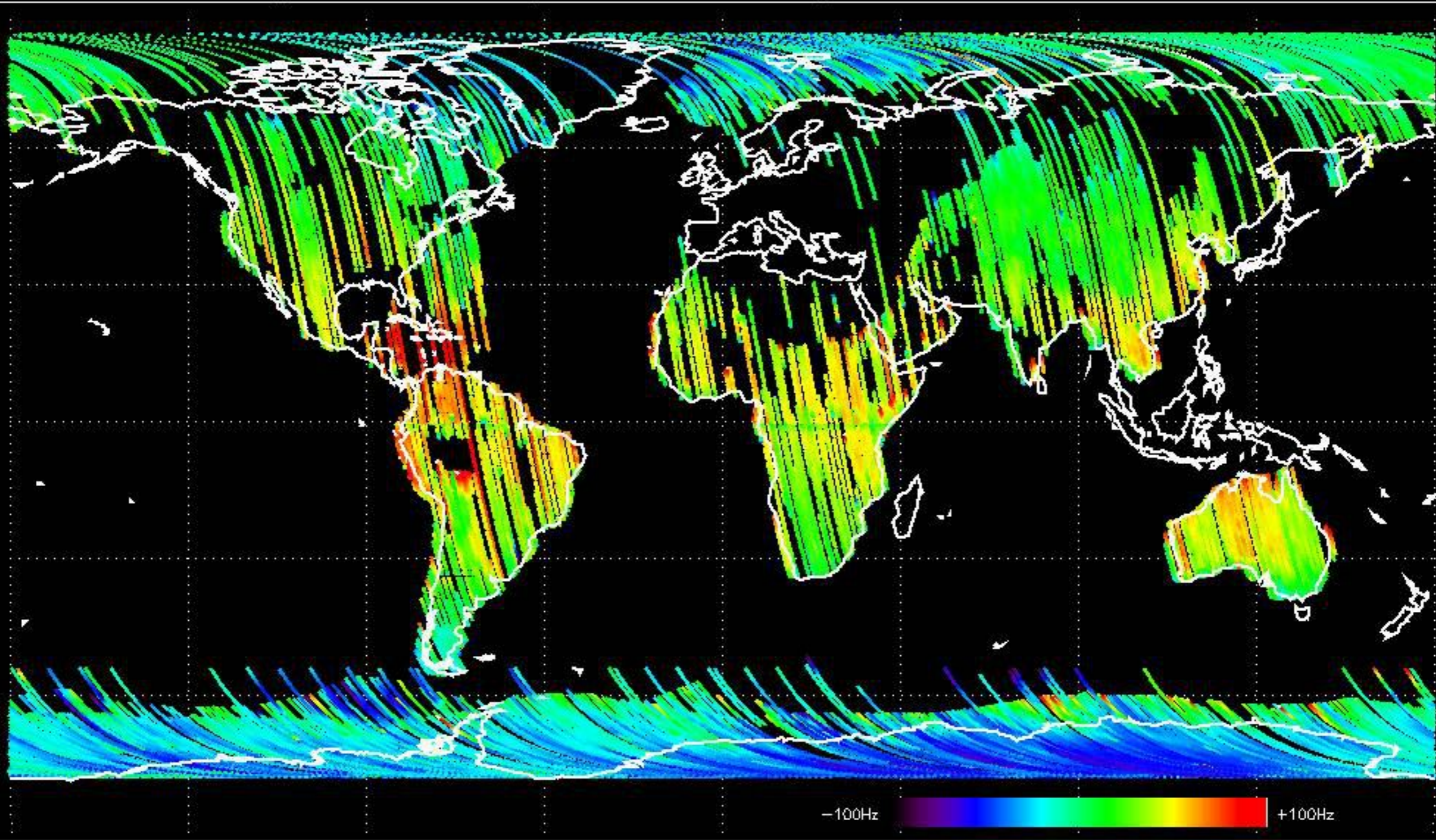






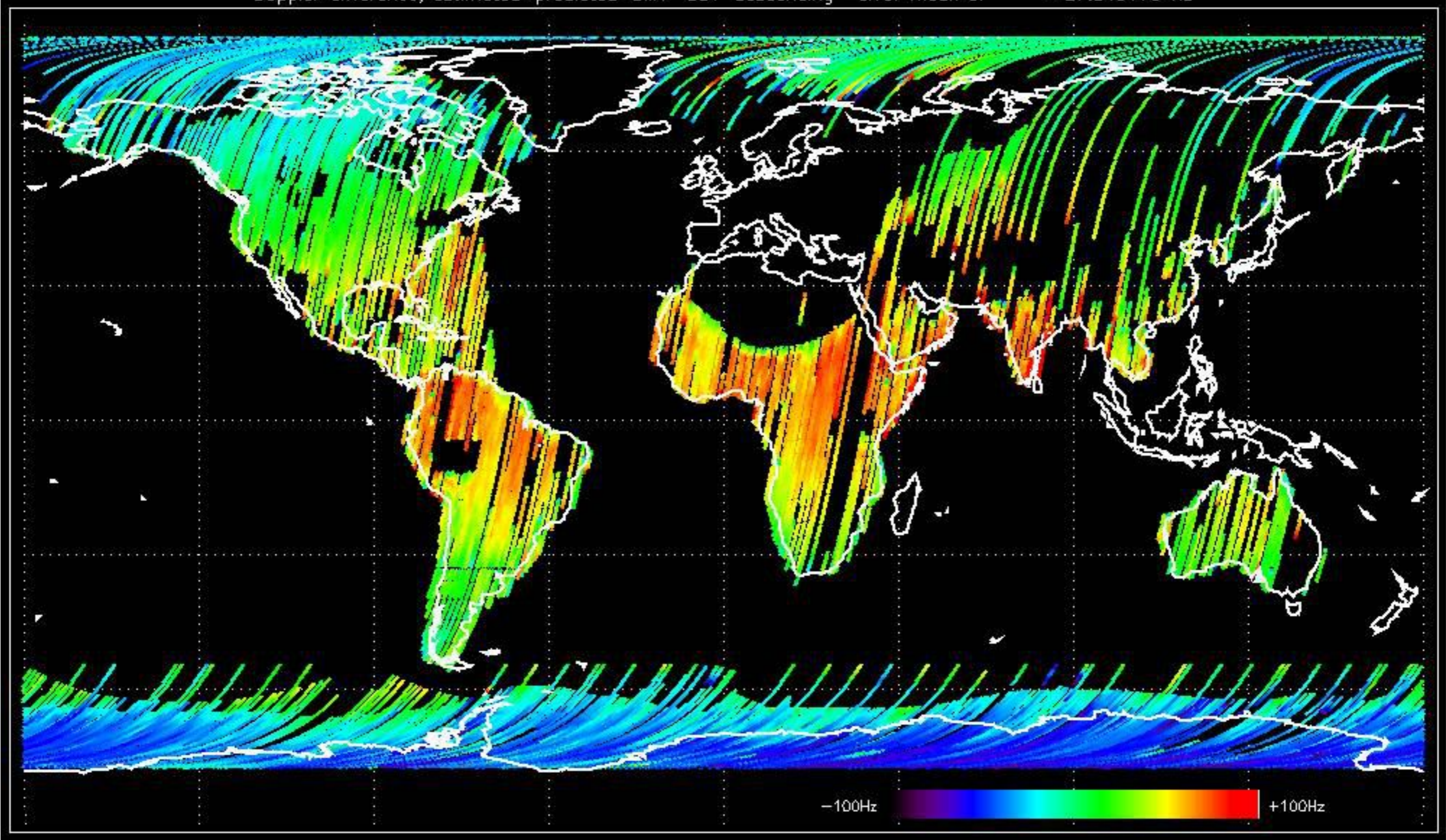


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -38.740712 Hz



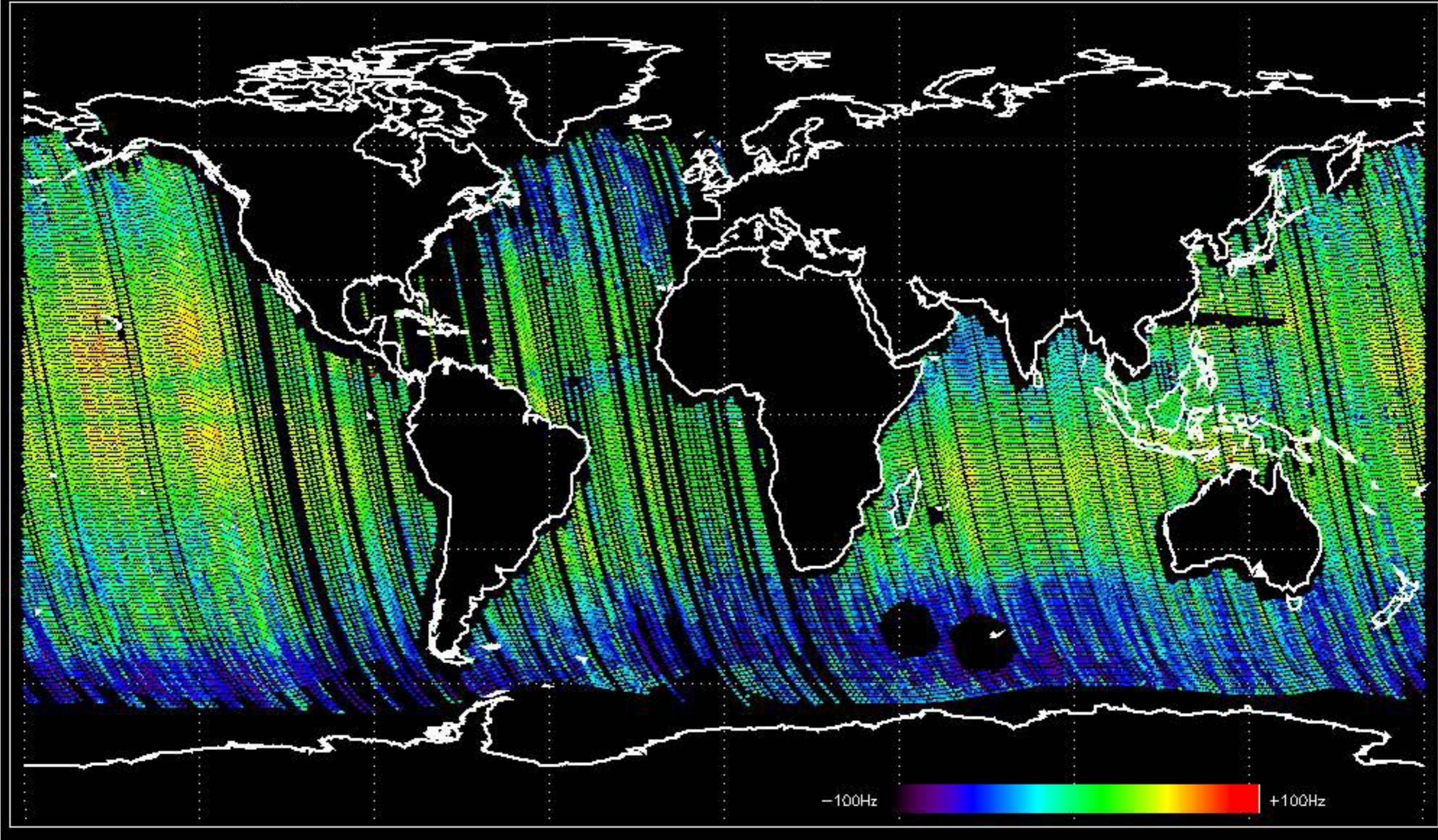


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -27.349175 Hz



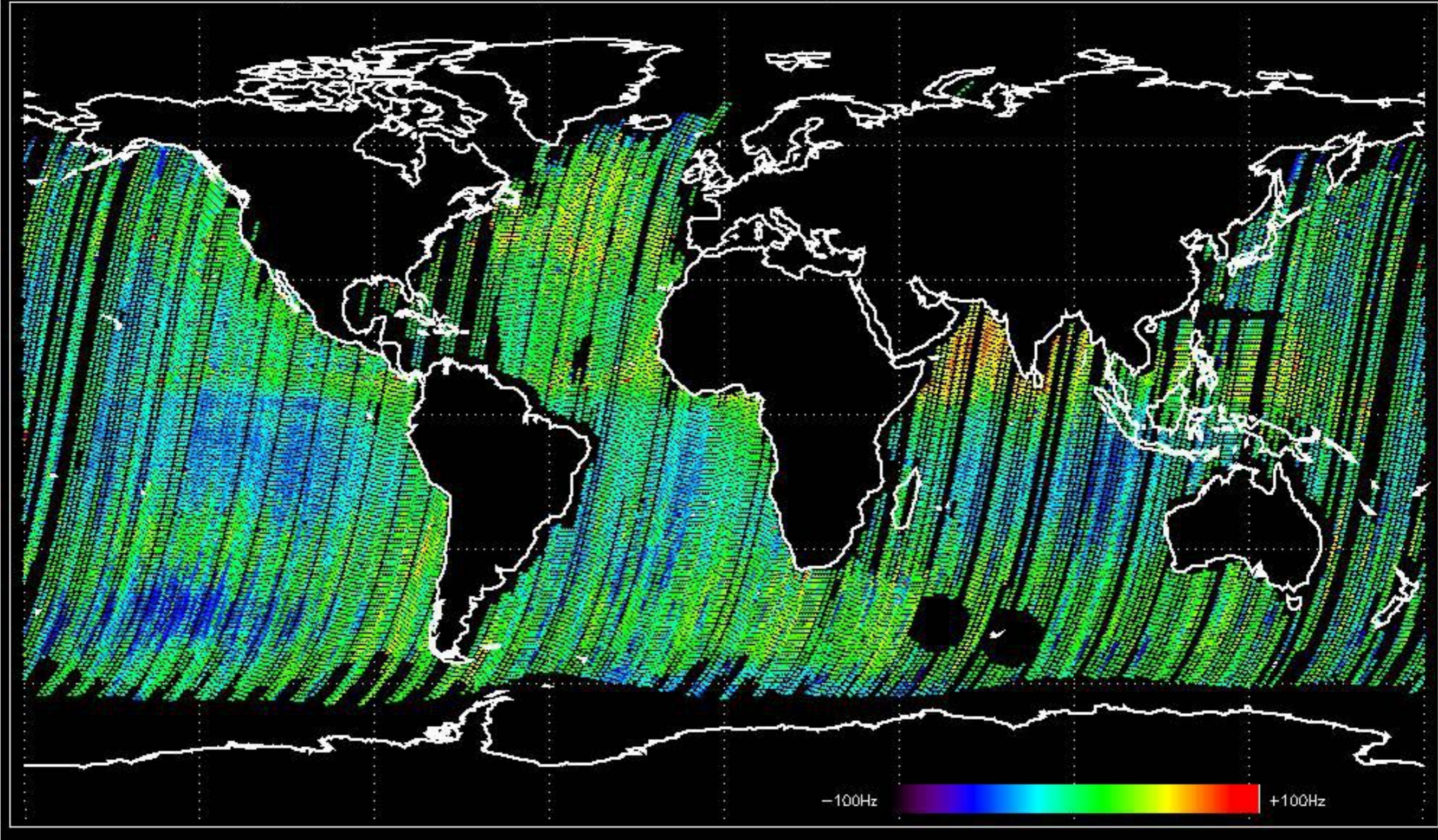


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -28.704919 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -29.377587 Hz

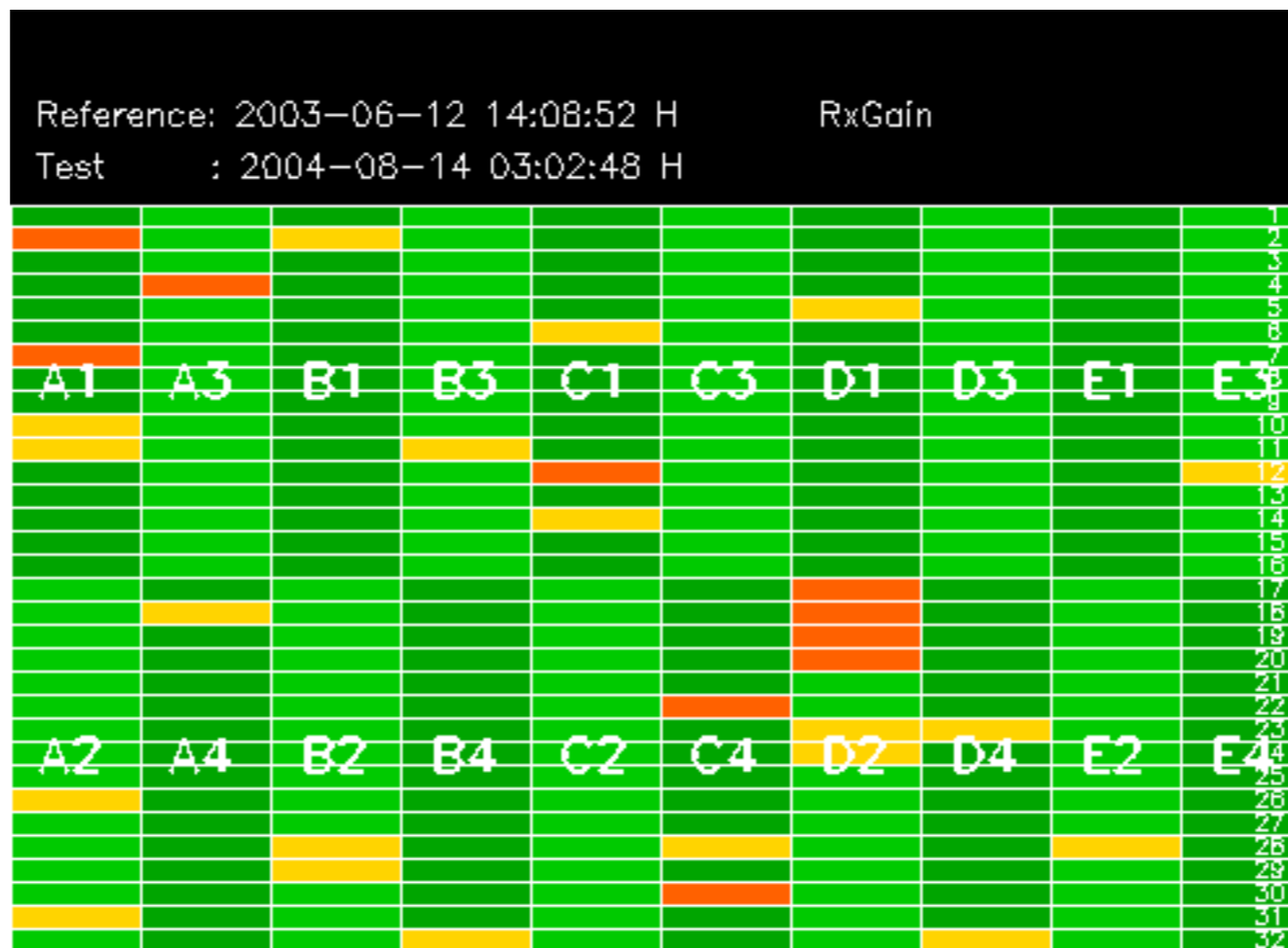




The MS product acquired on 15-AUG-2004 in H polarisation, shows that the rows sharing the PSUs 1 and 2 of tile D1 are affected by a Tx power loss.

No anomalies observed.









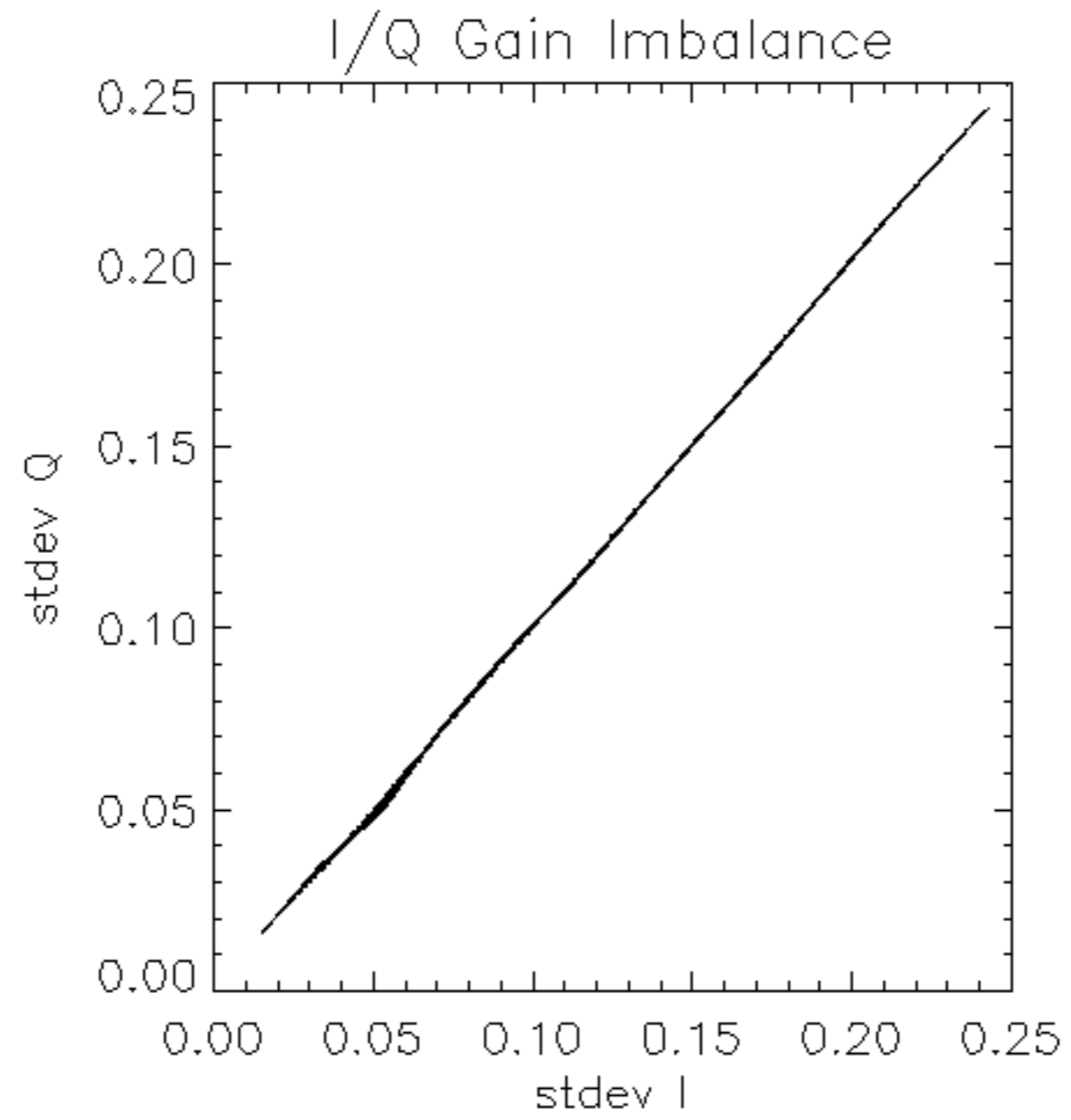


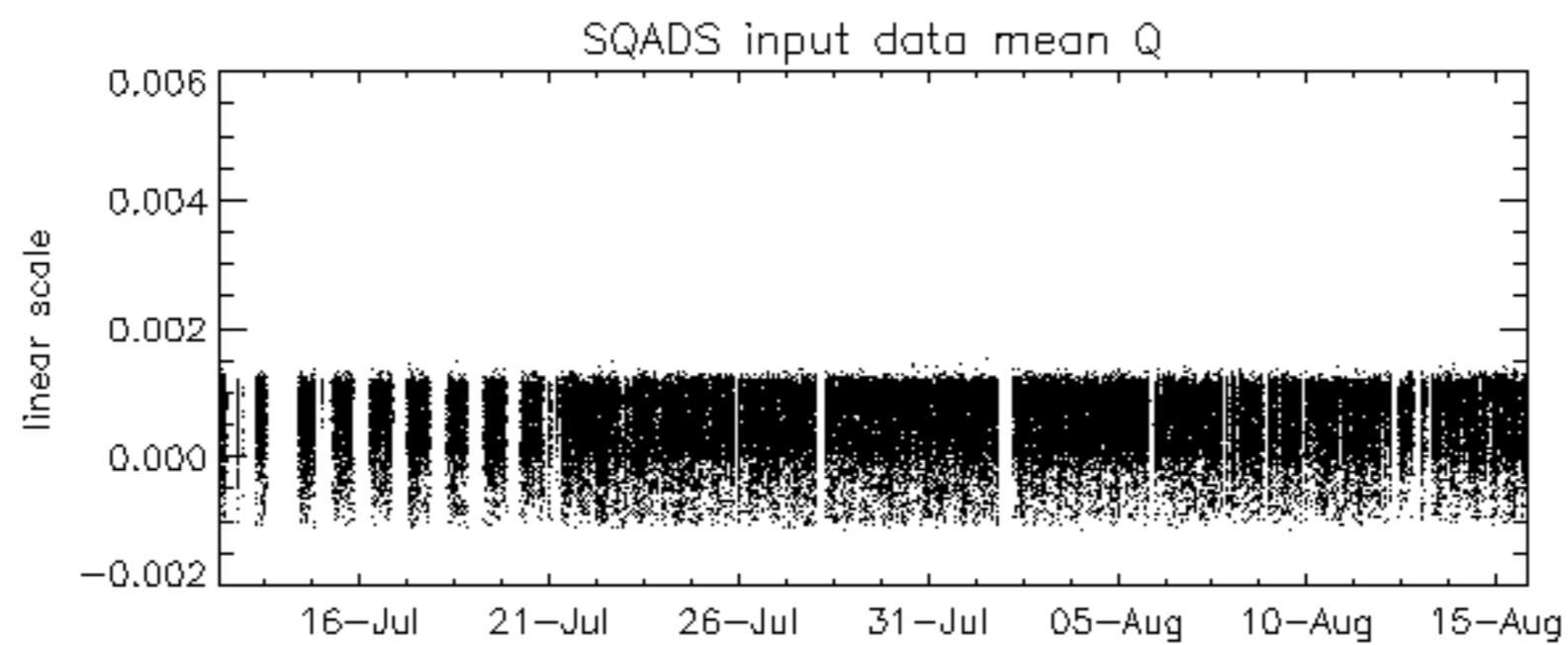
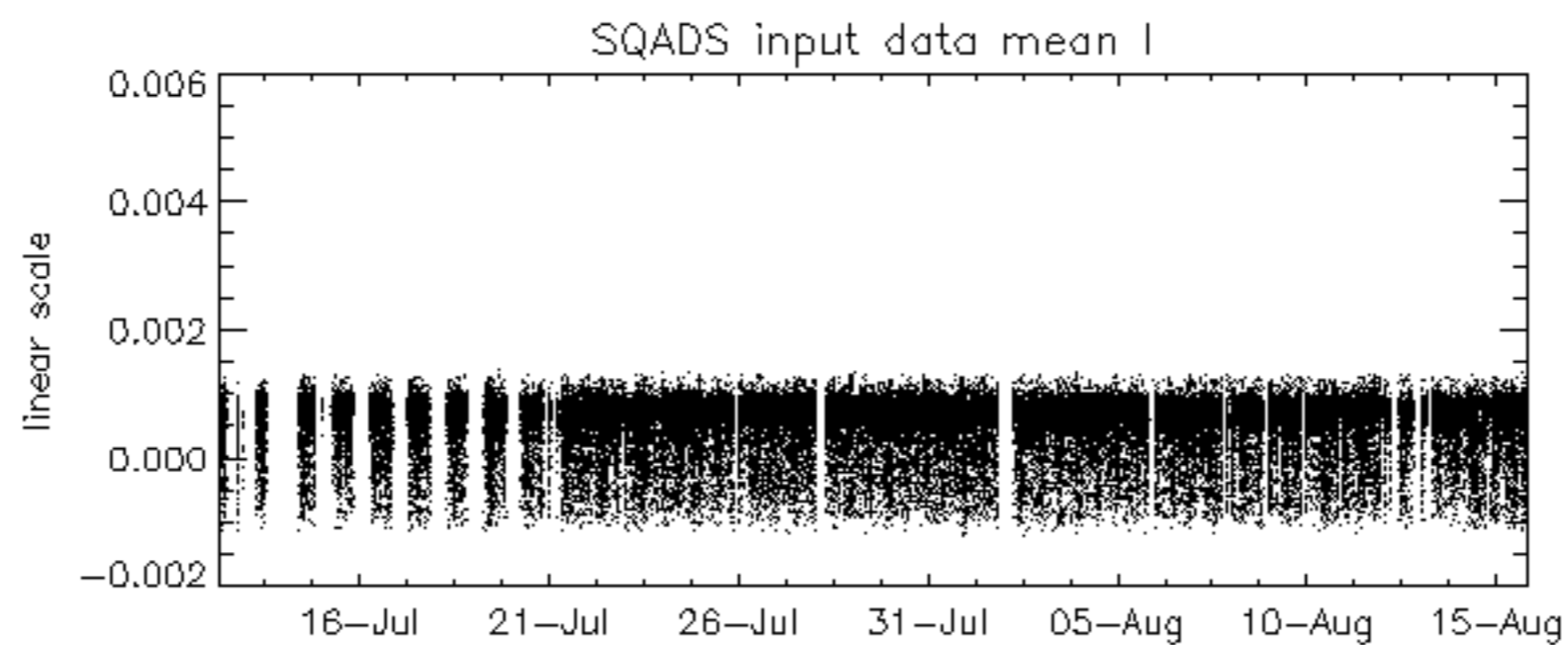
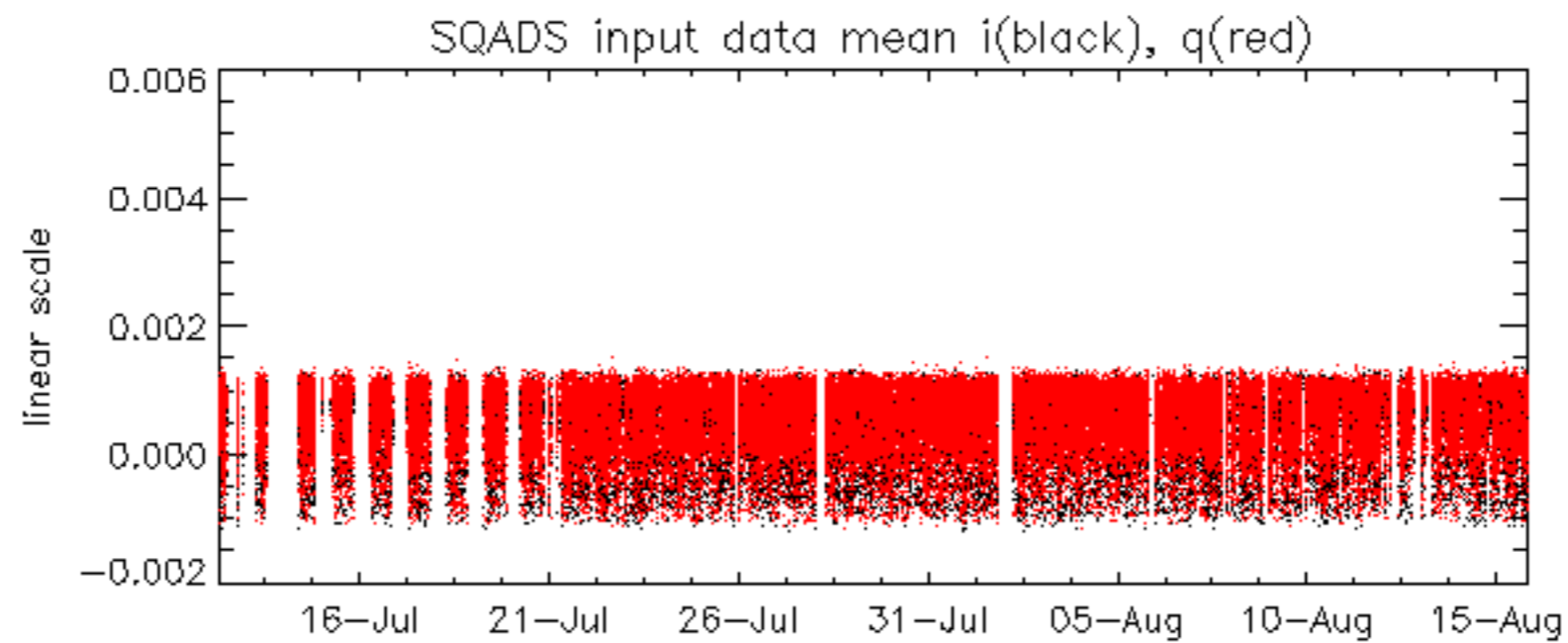




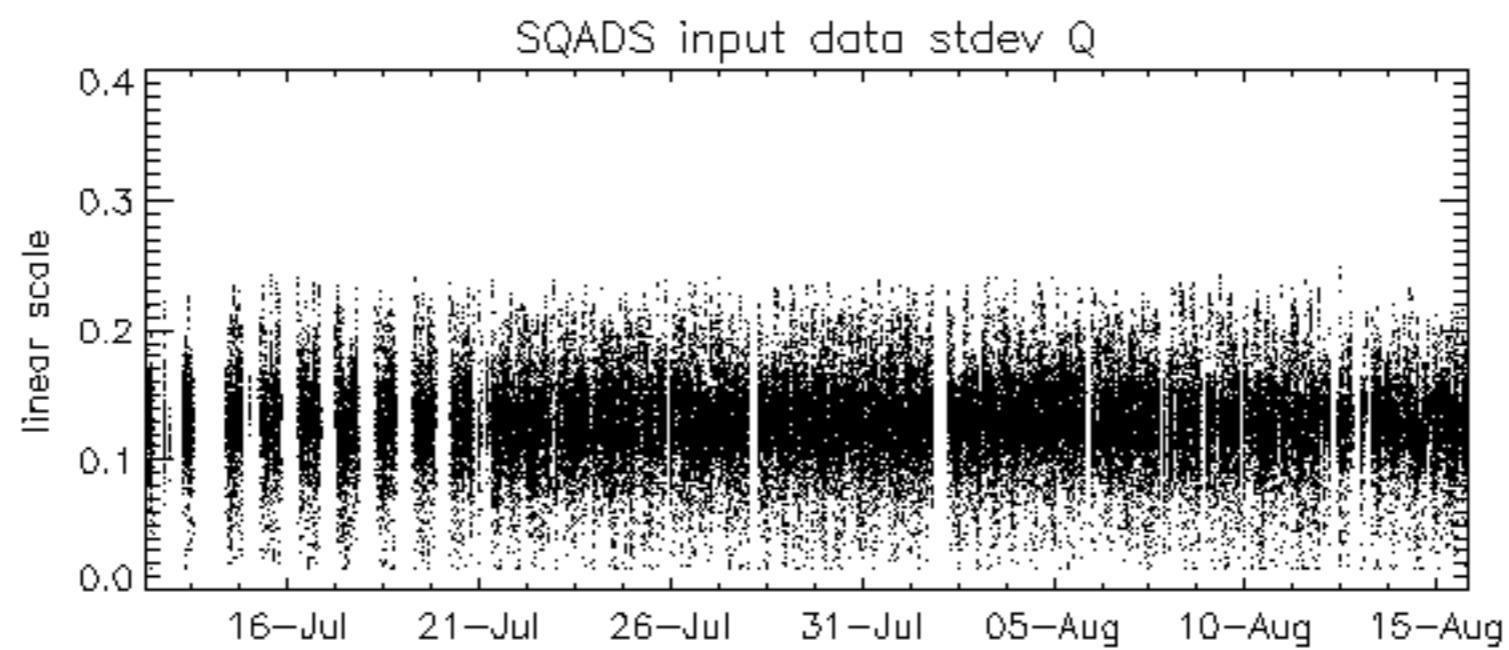
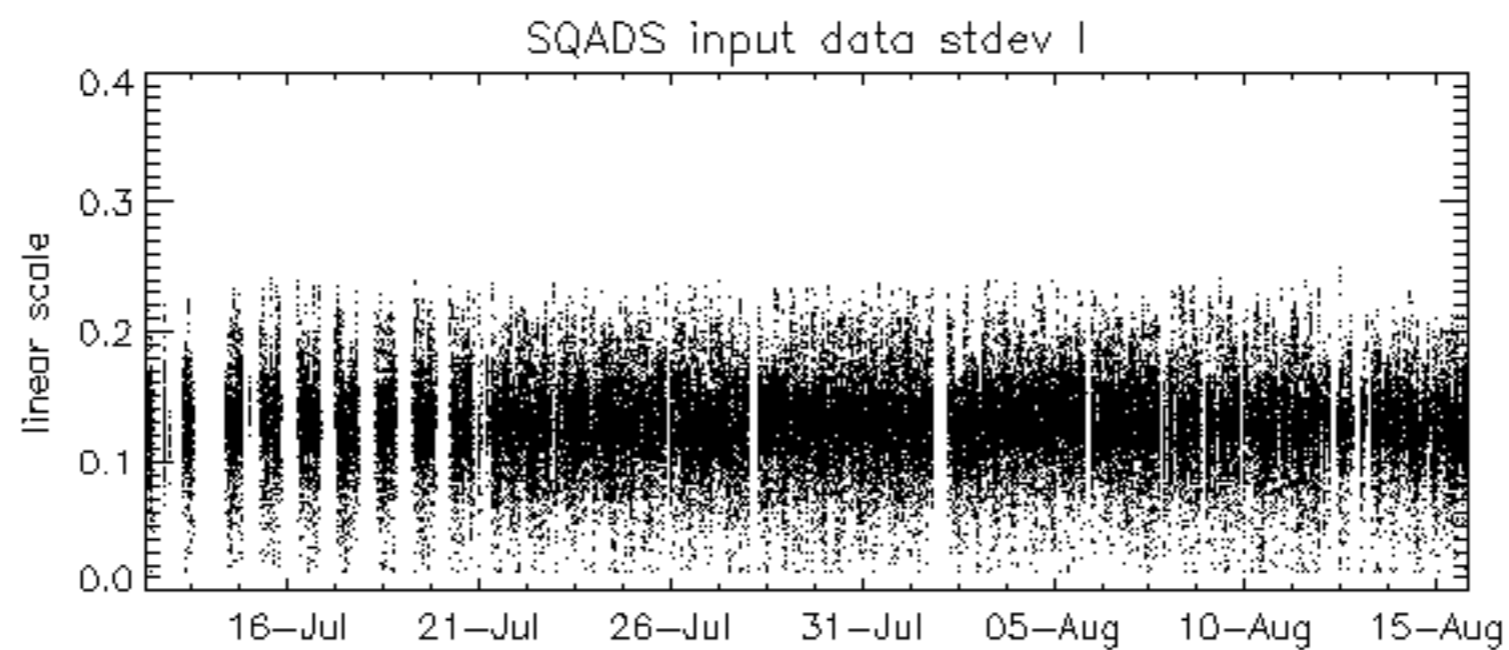
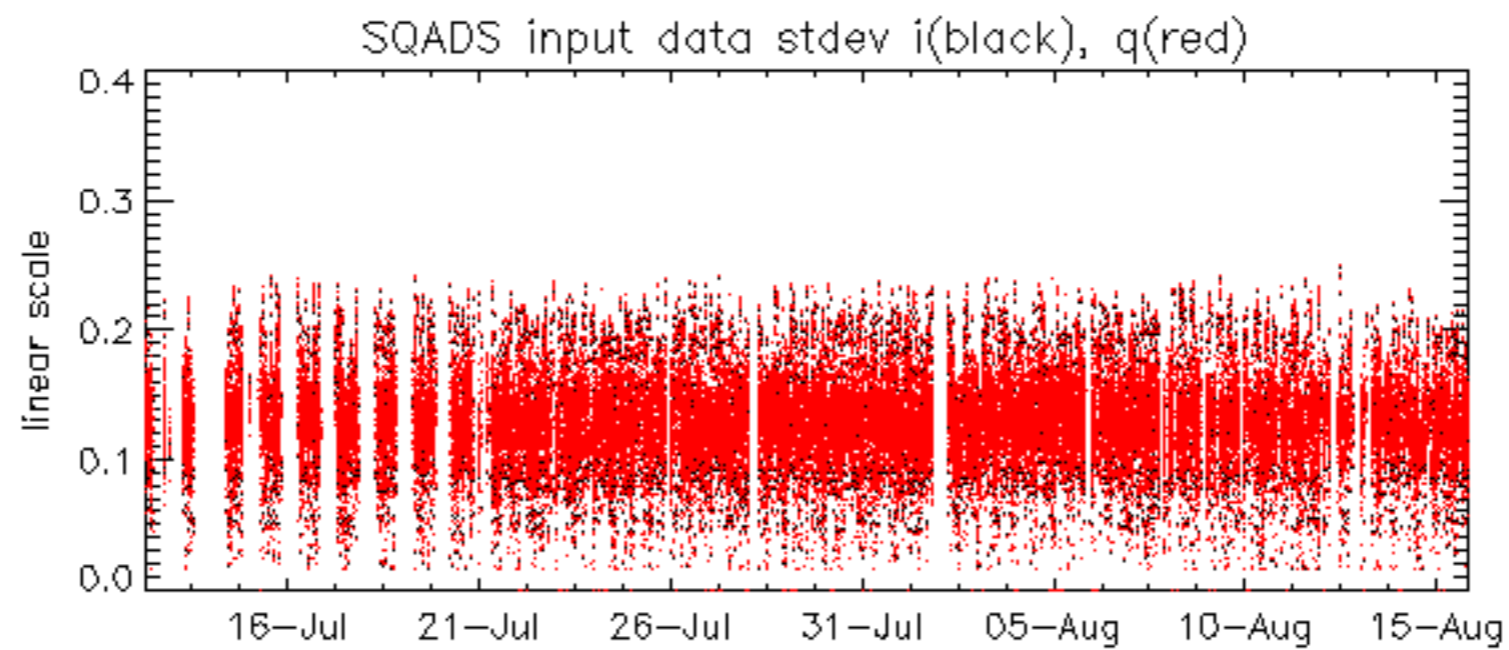
















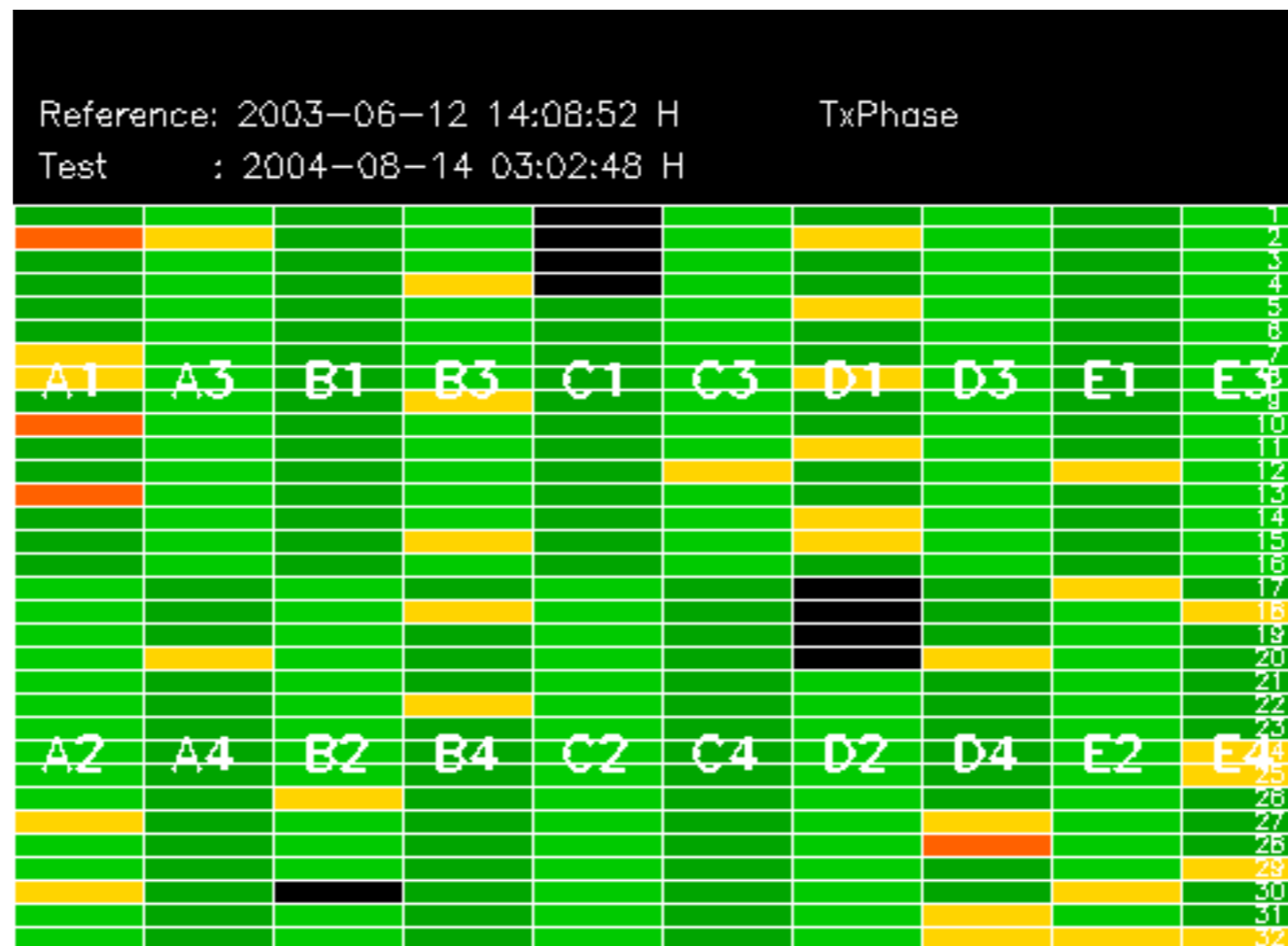








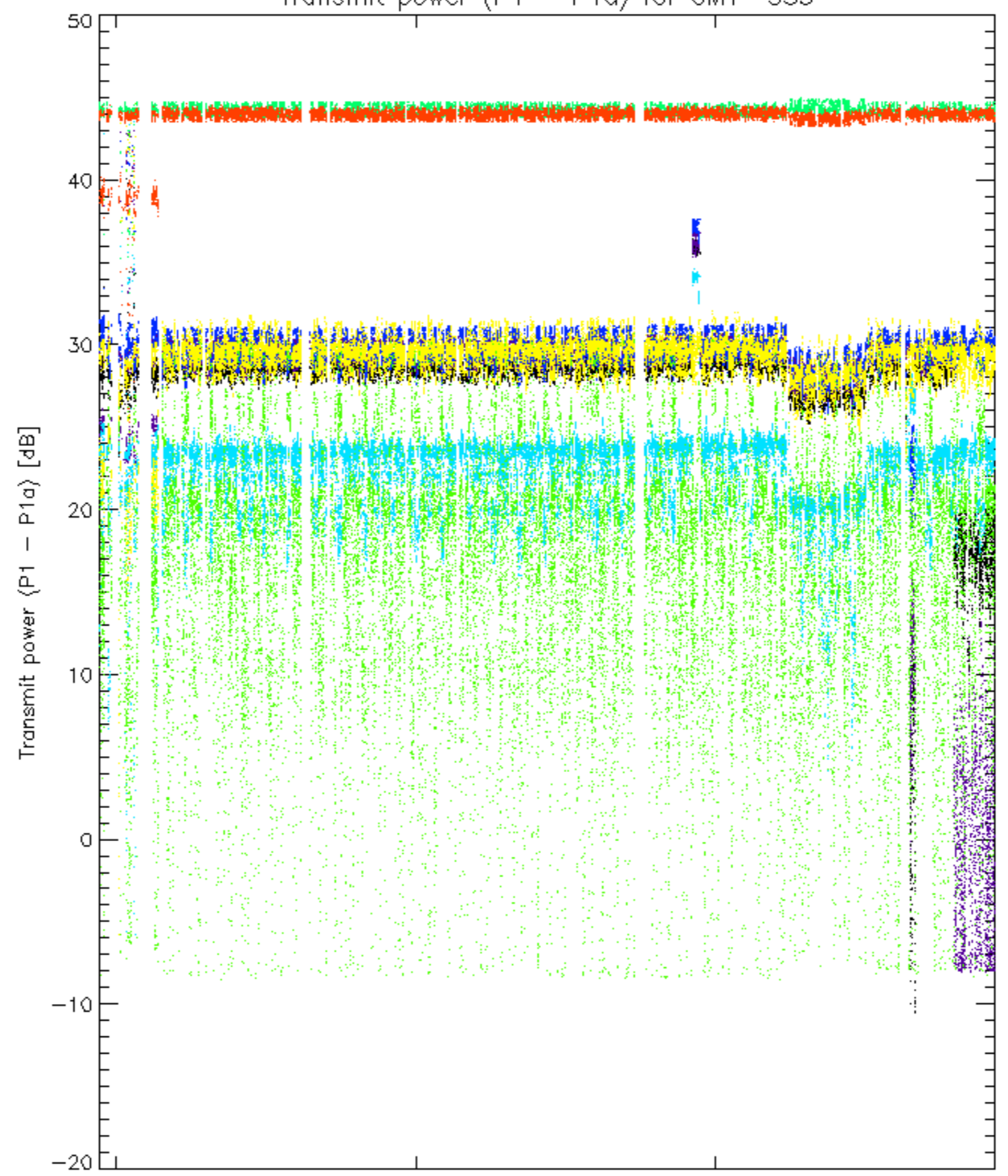






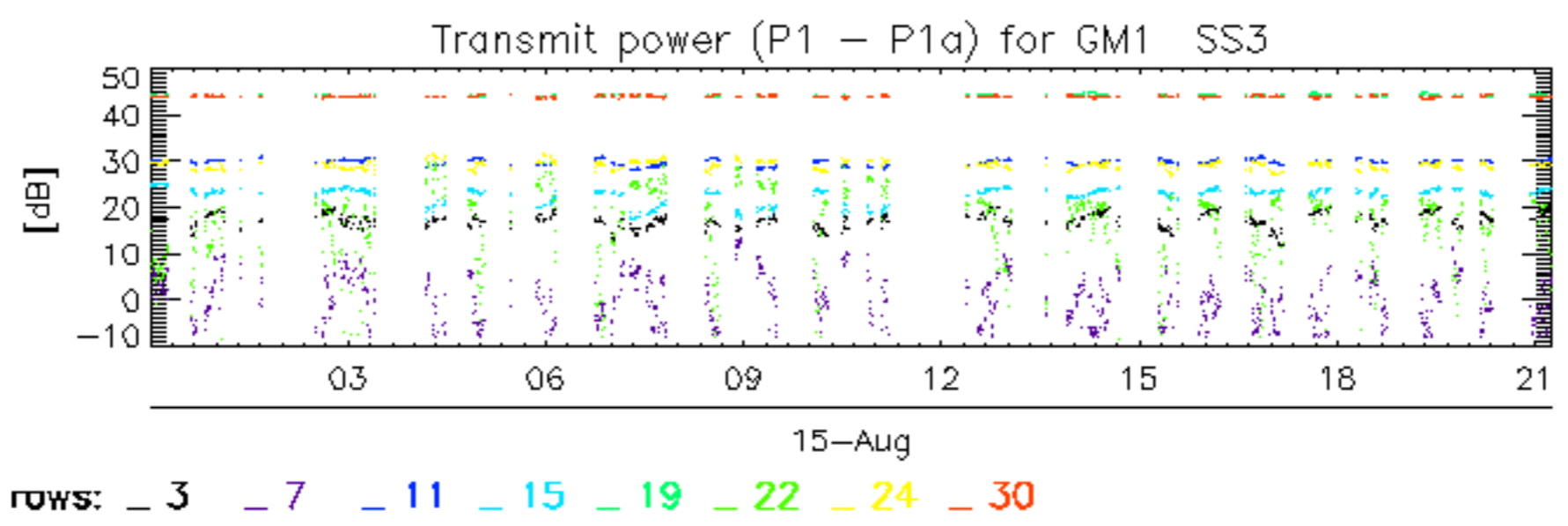


Transmit power (P1 - P1a) for GM1 SS3

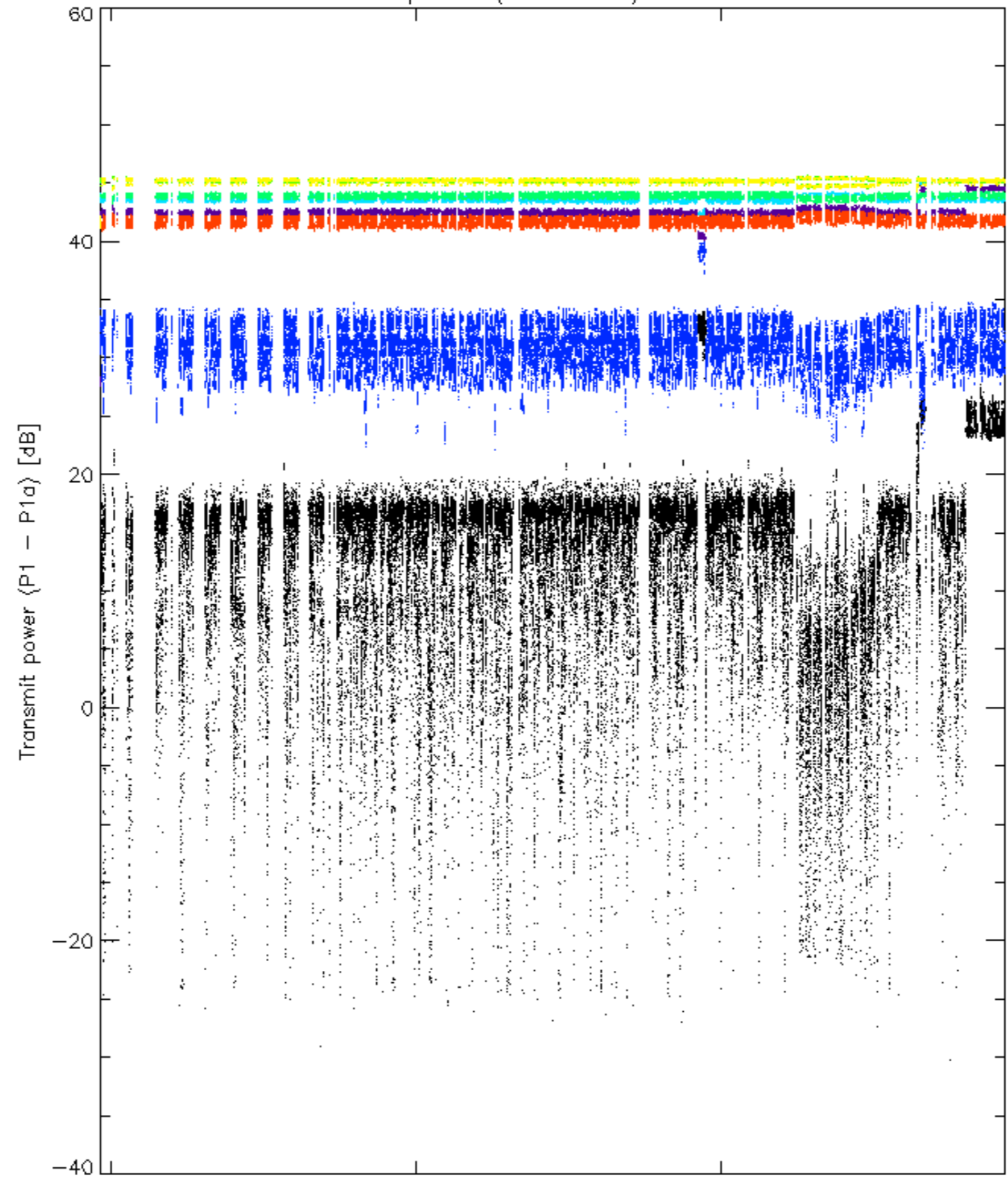


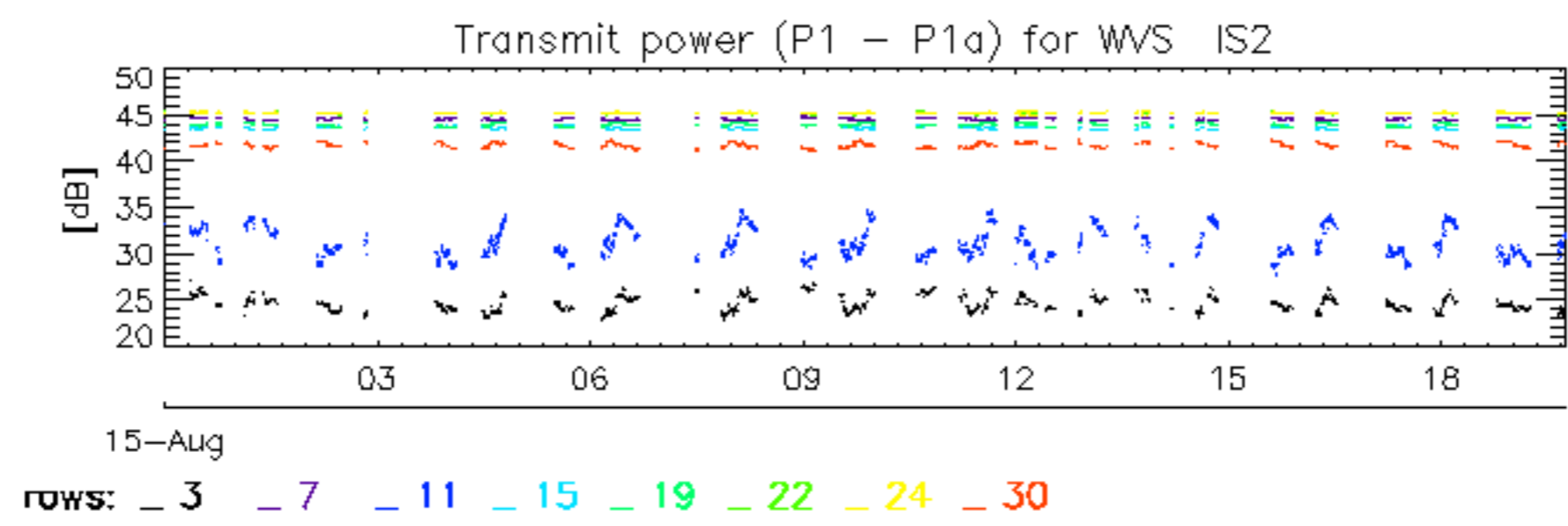
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 24 \_ 30





Transmit power (P1 - P1a) for WVS IS2





No unavailabilities during the reported period.