

PRELIMINARY REPORT OF 060609

last update on Fri Jun 9 16:44:16 GMT 2006

1. [Introduction](#)
2. [Summary](#)
 - [Instrument Unavailability](#)
 - [Auxiliary files used](#)
 - [Browse Visual Inspection](#)
 - [Module Stepping Results](#)
 - [Data Analysis](#)
3. [Module Stepping](#)
4. [Internal Calibration pulses](#)
 - [Daily statistics](#)
 - [Cyclic statistics](#)
 - [cal pulses monitoring \(all rows\)](#)
5. [Raw Data Statistics](#)
 - [raw data mean I and Q](#)
 - [raw data stdev I and Q](#)
 - [raw gain imbalance](#)
6. [TLM analysis](#)
7. [Wave Doppler analysis](#)
 - [Unbiased Doppler Error for WVS](#)
 - [Absolute Doppler for WVS](#)
 - [Doppler evolution versus ANX for WVS](#)
 - [Unbiased Doppler Error for GM1](#)
 - [Absolute Doppler for GM1](#)
 - [Doppler evolution versus ANX for GM1](#)

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 - Auxiliary files

Summary of the auxiliary files used from 2006-06-08 00:00:00 to 2006-06-09 16:44:16

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	40	75	8	0	0
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	40	75	8	0	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	40	75	8	0	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	40	75	8	0	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	37	44	28	23	58
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	37	44	28	23	58
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	37	44	28	23	58
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	37	44	28	23	58

2.3 - Browse Visual Inspection

No anomalies observed on available browse products

2.4 - Data Analysis

- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

3 - Module Stepping Mode

No anomalies observed on available MS products:

Polarisation	Start Time
V	20060607 043734
H	20060608 040557

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
☒	☒
☒	☒
☒	☒
☒	☒

4 - Internal calibration Results

No anomalies observed.

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)
-----	-------	-----------	------------	-----------------

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.948097	0.017743	0.055090
7	P1	-3.118846	0.016736	-0.049214
11	P1	-4.108227	0.018540	0.010763
15	P1	-6.138366	0.019914	-0.012005
19	P1	-3.331012	0.008368	-0.046754
22	P1	-4.515564	0.011480	0.018540
26	P1	-3.980124	0.017769	0.036029
30	P1	-5.747705	0.008571	0.007057
3	P1	-16.542458	0.261741	0.113461
7	P1	-17.181391	0.149275	-0.147281
11	P1	-16.934925	0.309563	-0.049076
15	P1	-13.209295	0.214970	0.024371
19	P1	-14.285634	0.049297	-0.115211
22	P1	-16.166645	0.377121	-0.014924
26	P1	-15.252108	0.239098	0.107146
30	P1	-17.058981	0.386688	-0.232638

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.184551	0.079996	0.130404
7	P2	-22.064789	0.096029	0.128757
11	P2	-15.914604	0.109860	0.132864
15	P2	-7.161082	0.091756	0.019616
19	P2	-9.167365	0.084257	-0.014343
22	P2	-18.136698	0.082443	-0.074995
26	P2	-16.380268	0.087082	-0.053997
30	P2	-19.569427	0.085128	0.058152

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.185328	0.003961	0.014165
7	P3	-8.185328	0.003961	0.014165
11	P3	-8.185328	0.003961	0.014165
15	P3	-8.185328	0.003961	0.014165
19	P3	-8.185328	0.003961	0.014165
22	P3	-8.185328	0.003961	0.014165
26	P3	-8.185328	0.003961	0.014165
30	P3	-8.185328	0.003961	0.014165

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1

✕

P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
-----	-------	-----------	------------	-----------------

P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.783461	0.064269	-0.064180
7	P1	-2.599423	0.031636	0.028338
11	P1	-2.864026	0.023510	0.003812
15	P1	-3.500889	0.049389	-0.031023
19	P1	-3.399683	0.014222	-0.017572
22	P1	-5.083998	0.019846	0.005251
26	P1	-5.842637	0.015496	-0.017454
30	P1	-5.187626	0.026637	0.012873
3	P1	-11.613790	0.081703	-0.019590
7	P1	-9.967245	0.053602	-0.010864
11	P1	-10.207308	0.086242	-0.064107
15	P1	-10.633321	0.149775	-0.127900
19	P1	-15.516684	0.075958	-0.044975
22	P1	-20.899271	1.213760	-0.078969

26	P1	-16.481234	0.345571	0.032379
30	P1	-17.973557	0.386015	0.249401

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.873451	0.067984	0.113296
7	P2	-22.505249	0.126133	0.042948
11	P2	-11.172580	0.045772	0.058518
15	P2	-4.908686	0.046835	-0.016937
19	P2	-6.877665	0.051034	-0.010365
22	P2	-8.198830	0.041736	-0.026447
26	P2	-24.115250	0.065621	-0.072310
30	P2	-22.063845	0.053742	-0.000752

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.018553	0.004673	0.008321
7	P3	-8.018695	0.004673	0.008392
11	P3	-8.018602	0.004666	0.008914
15	P3	-8.018497	0.004672	0.008239
19	P3	-8.018644	0.004673	0.008612
22	P3	-8.018687	0.004662	0.008347
26	P3	-8.018613	0.004660	0.007977
30	P3	-8.018612	0.004657	0.008196

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	0.000529742
	stdev	1.91731e-07
MEAN Q	mean	0.000508478
	stdev	2.30298e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.133976
	stdev	0.00119238
STDEV Q	mean	0.134316
	stdev	0.00120903



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006060[789]

The assumptions is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20060609_004236_000001742048_00245_22343_6867.N1	1	0
ASA_GM1_1PNPDK20060607_102902_000006702048_00223_22321_4703.N1	0	6
ASA_WSM_1PNPDE20060607_015506_000000852048_00218_22316_3054.N1	0	54
ASA_WSM_1PNPDE20060607_141813_000000972048_00225_22323_3144.N1	0	2
ASA_WSM_1PNPDE20060607_183929_000002072048_00228_22326_3160.N1	0	13



ASA_WSM_1PNPDE20060608_230846_000001032048_00245_22343_3362.N1	0	60
ASA_WSM_1PNPDE20060609_041103_000001702048_00248_22346_3394.N1	0	65





7 - Doppler Analysis

Preliminary report. The data is not yet controlled

7.1 - Unbiased Doppler Error for WVS

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

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler	
	
	Ascending
	
	Descending

7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX	
	

7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

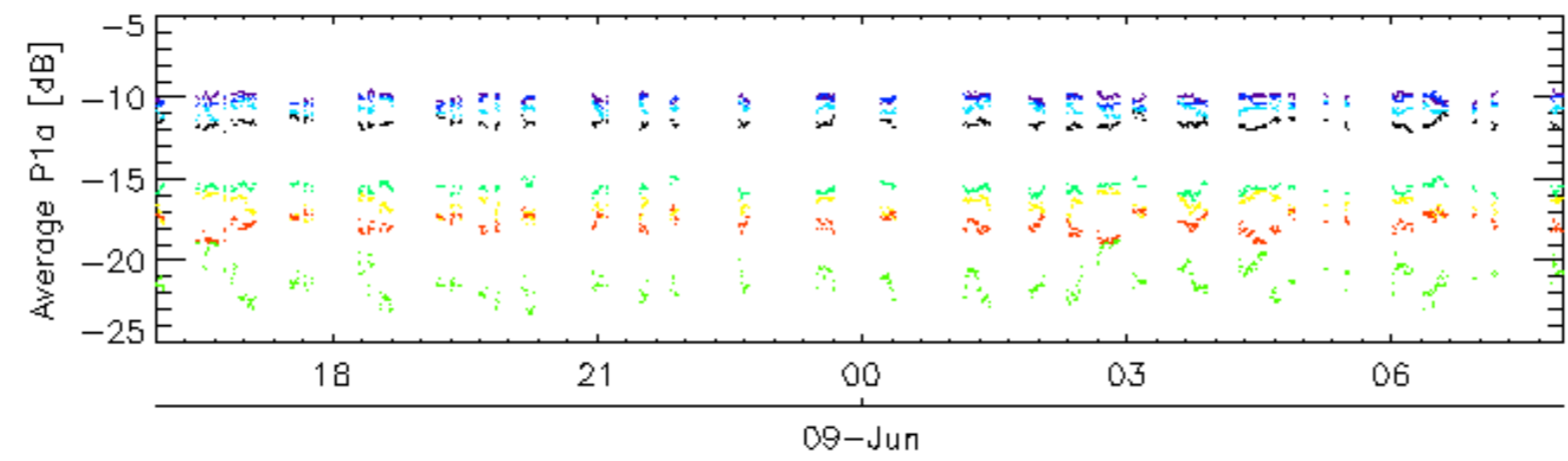
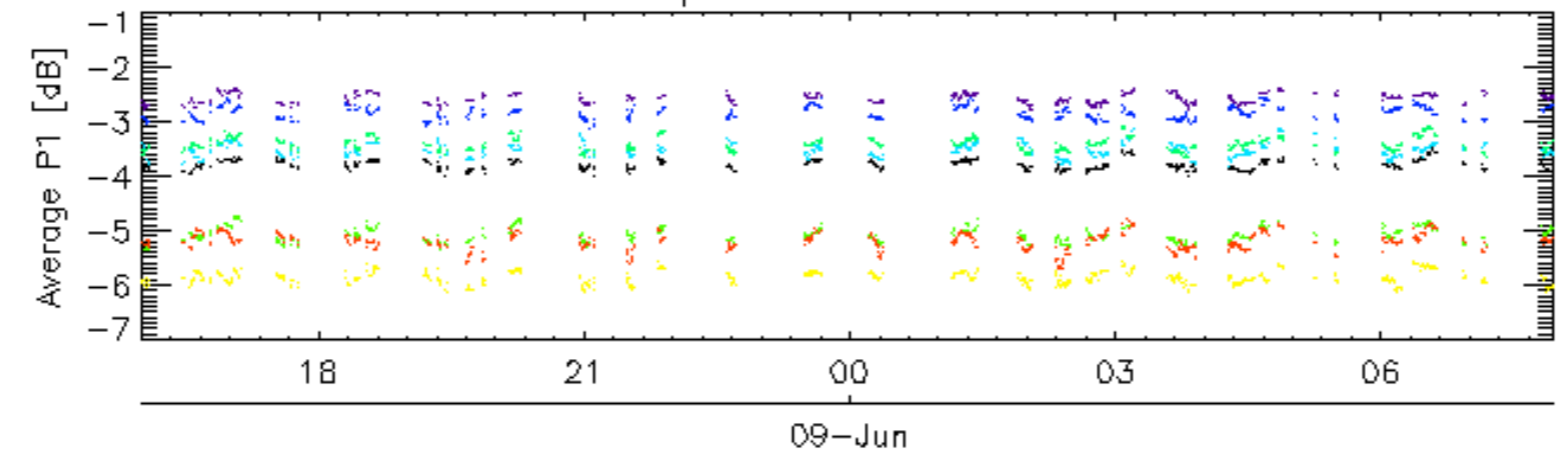
7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

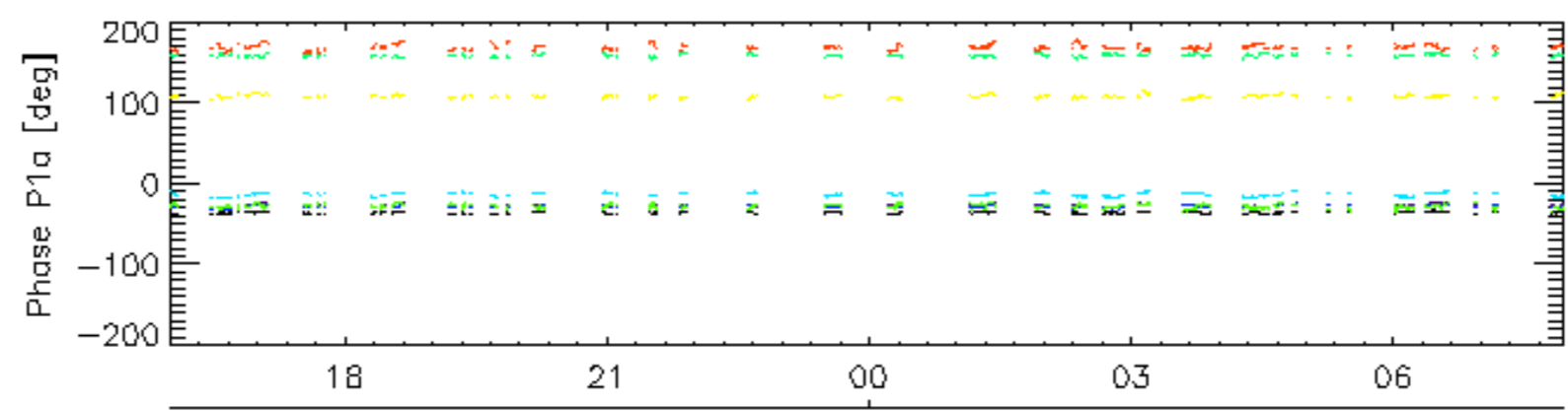
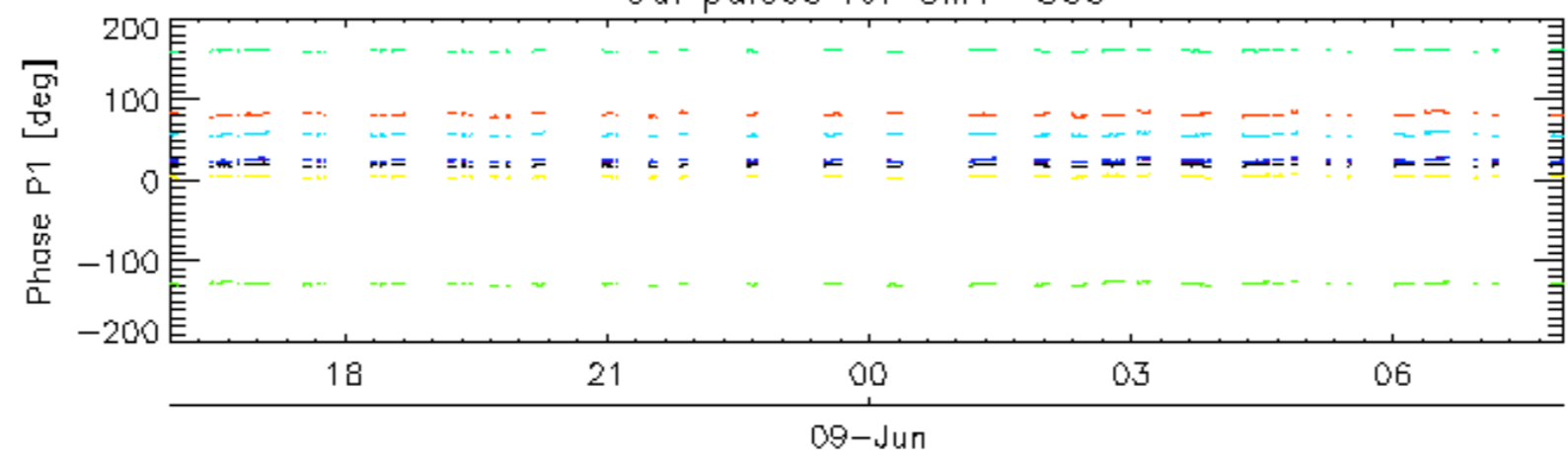
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX
<input type="checkbox"/>

Cal pulses for GM1 SS3

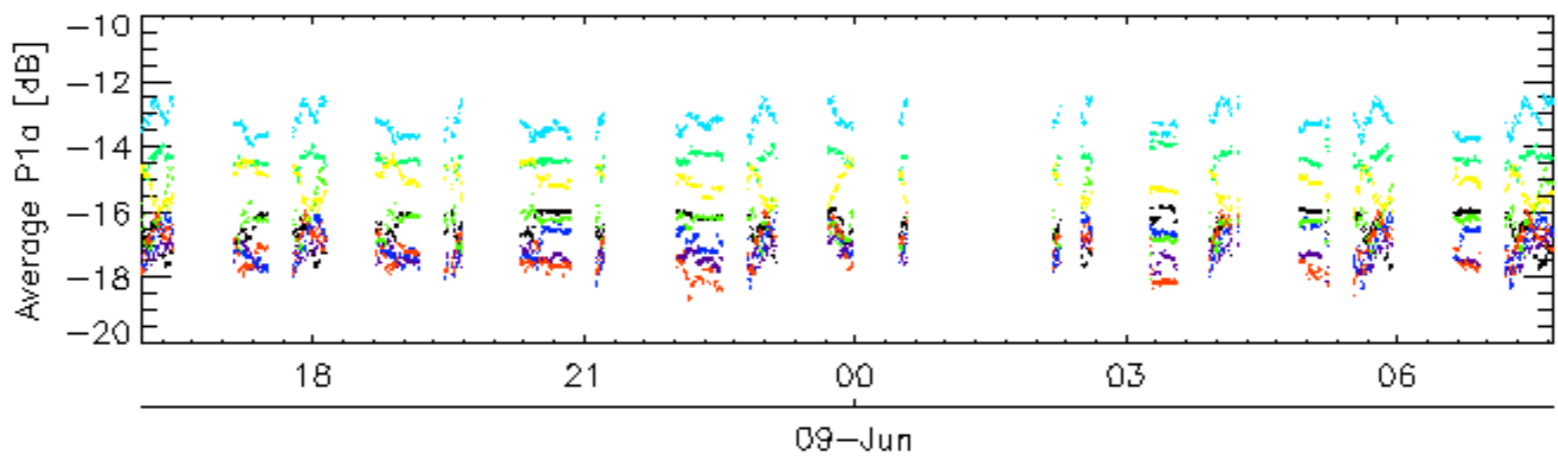
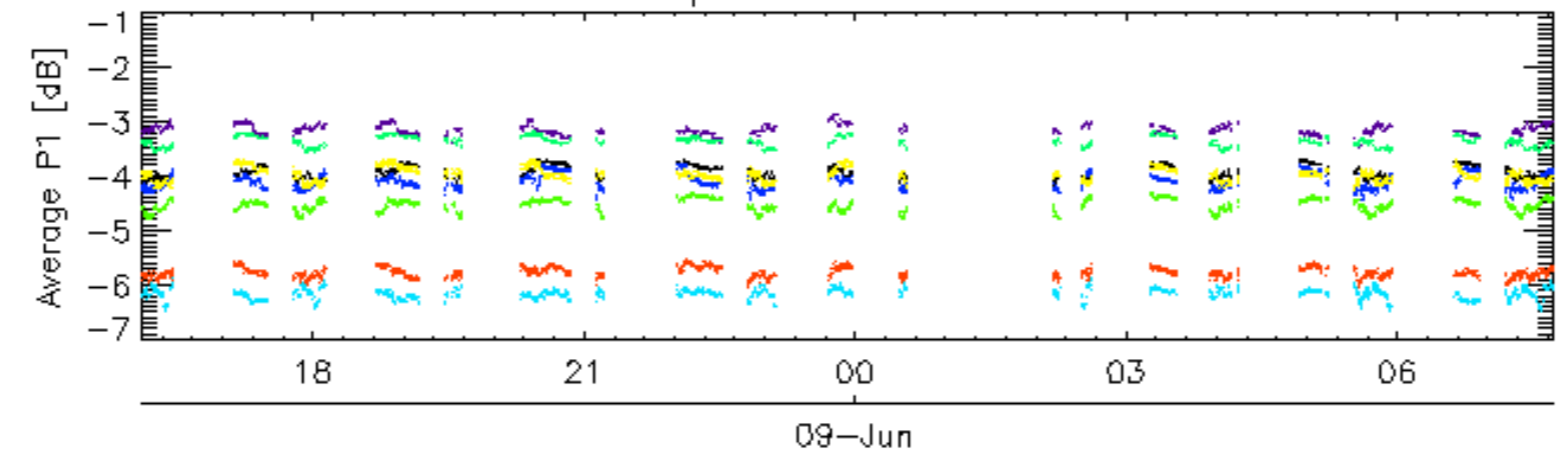


Cal pulses for GM1 SS3

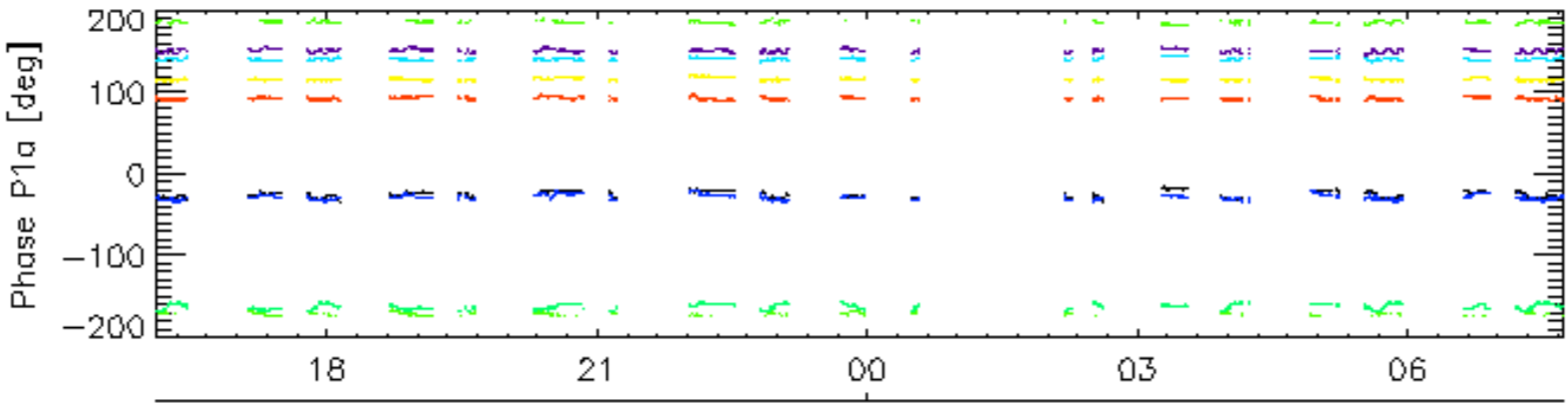
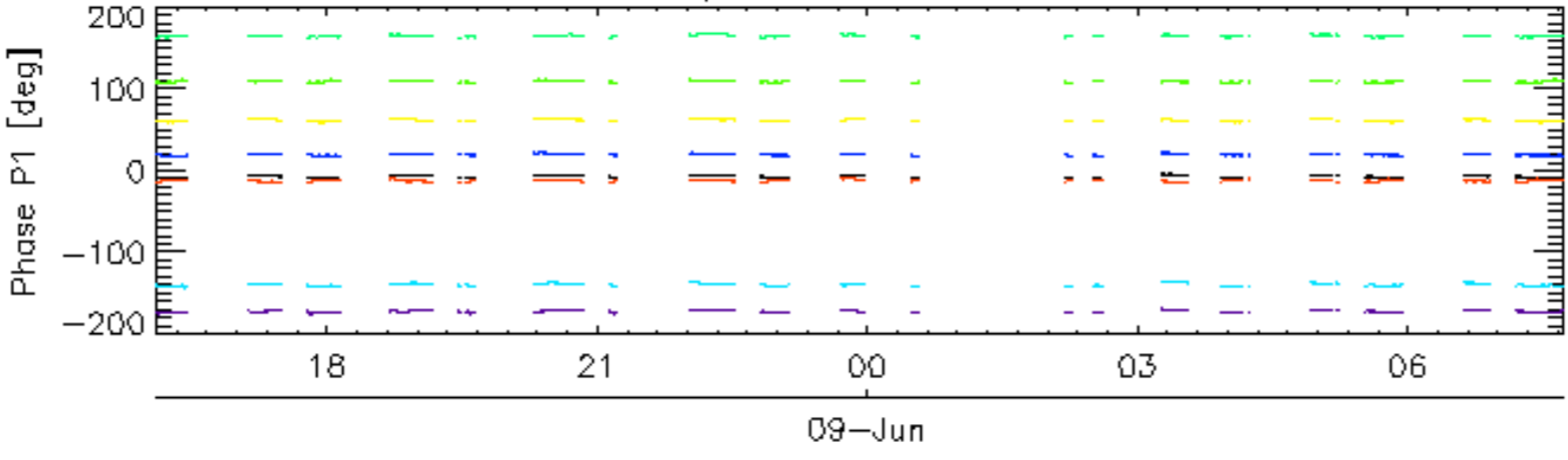


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

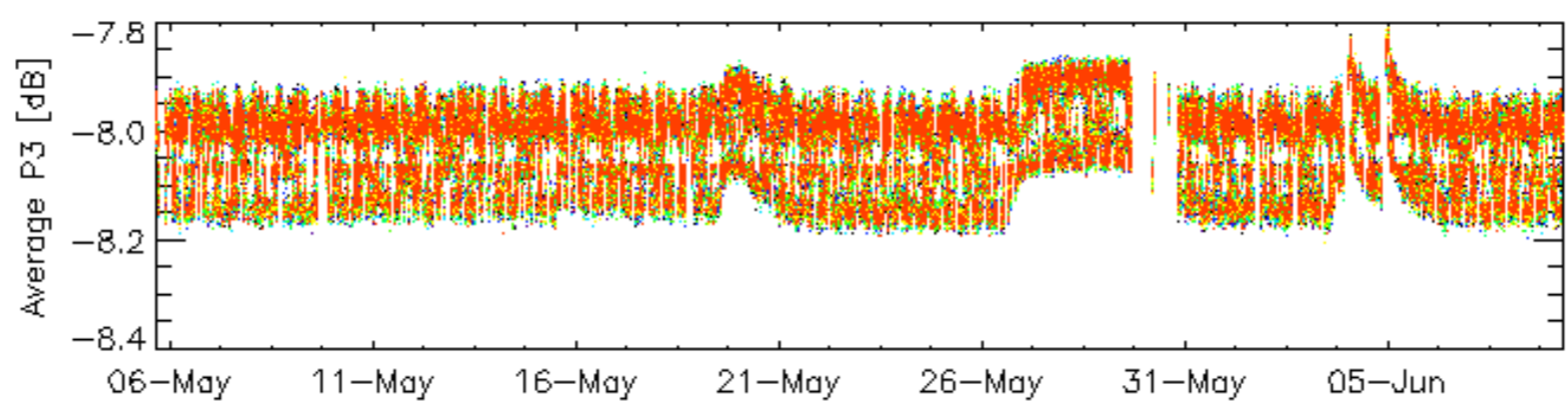
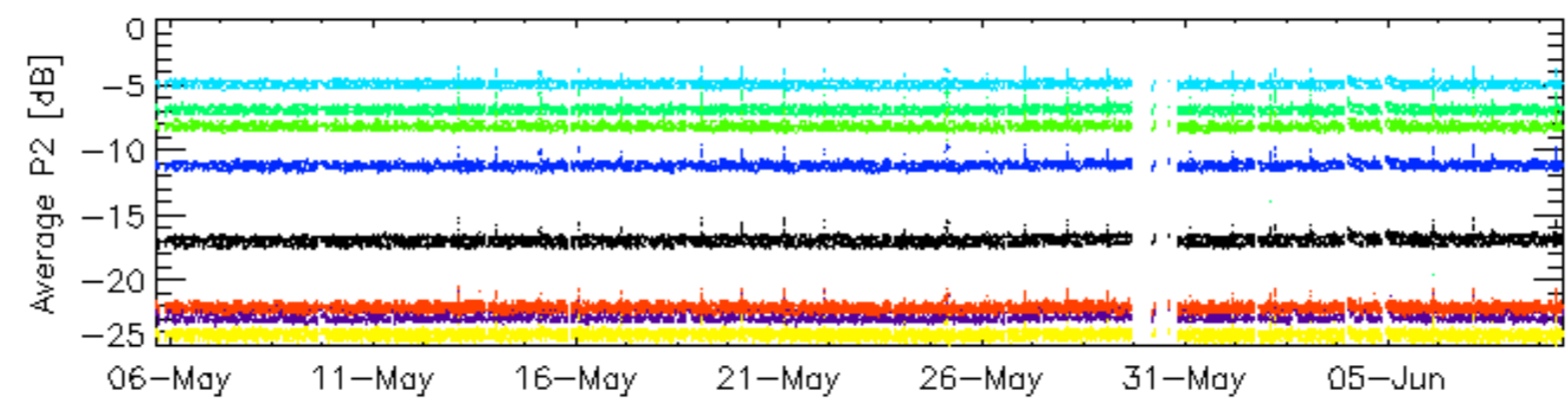
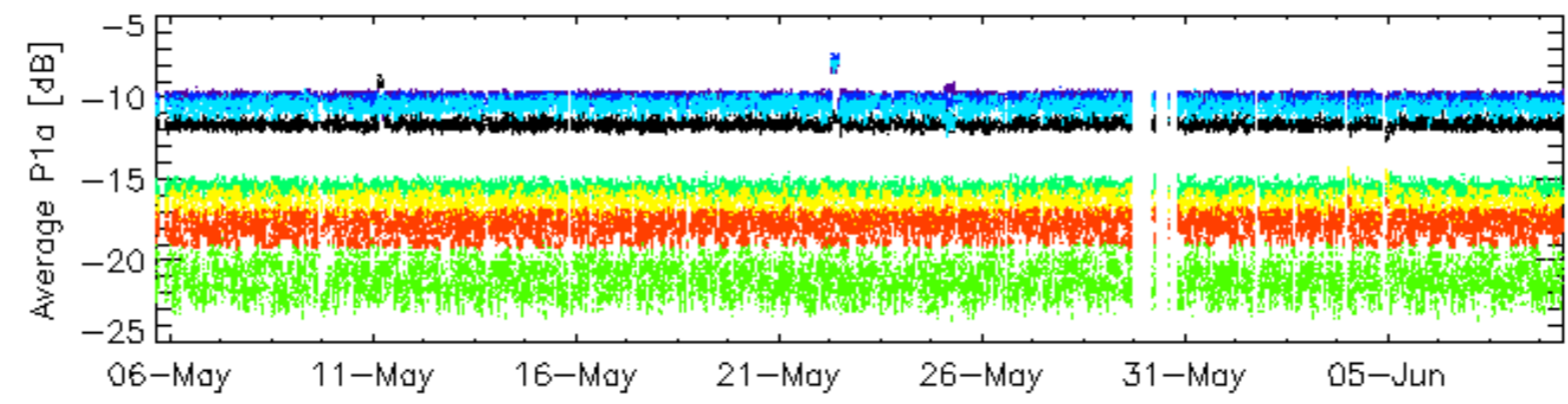
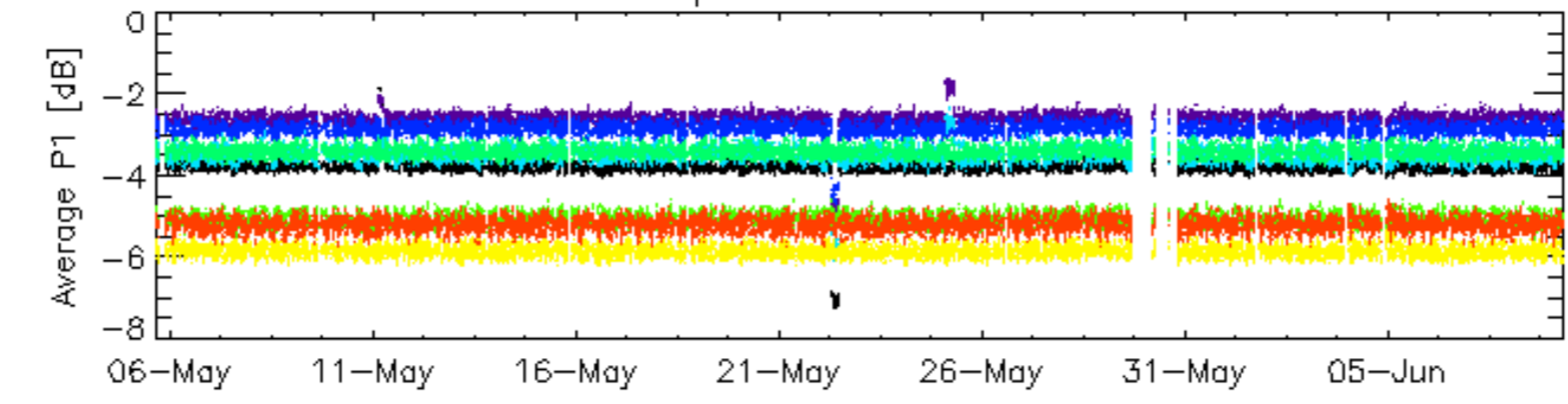


Cal pulses for WVS IS2



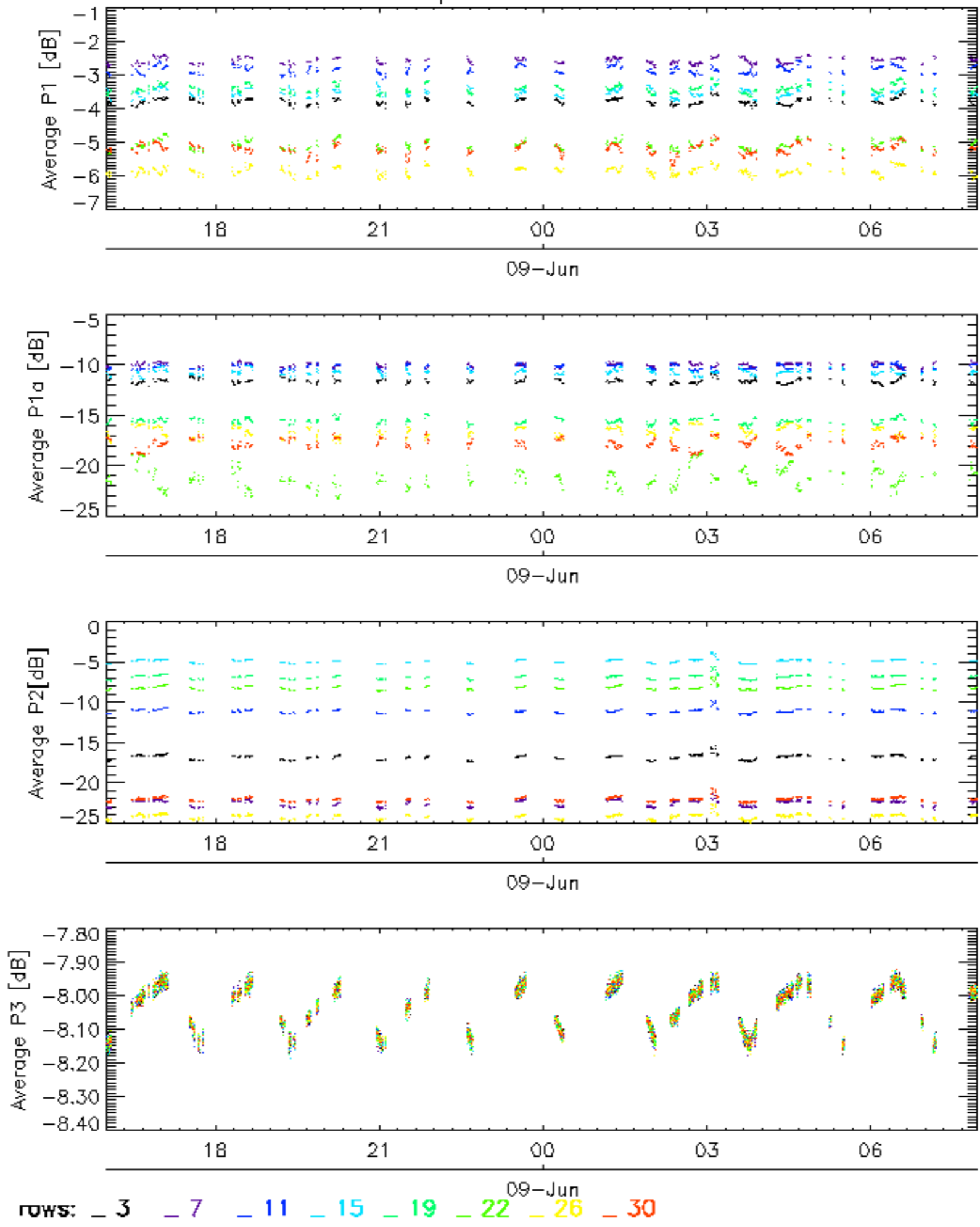
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3



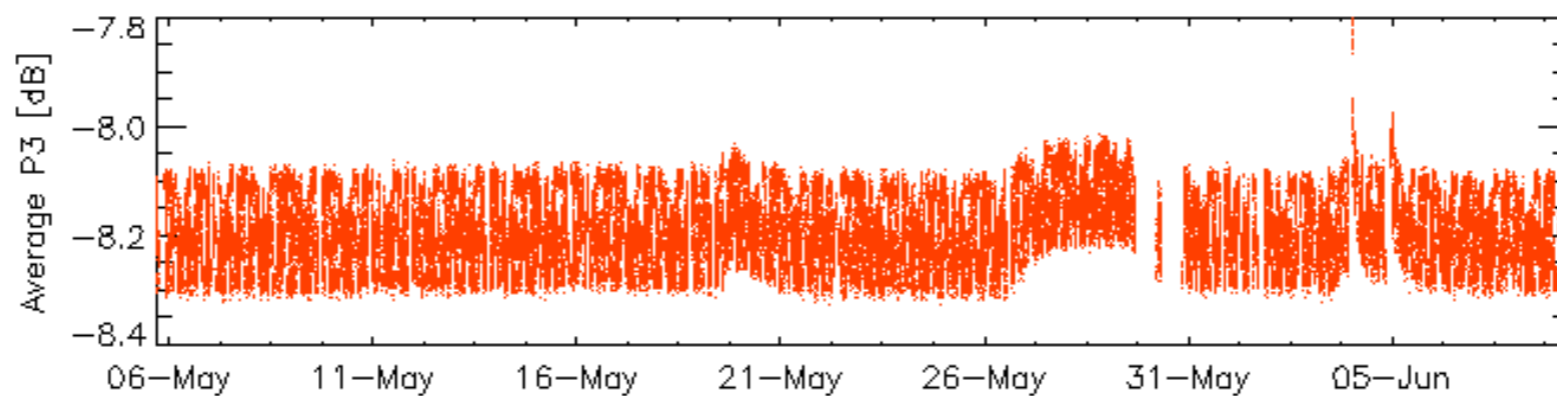
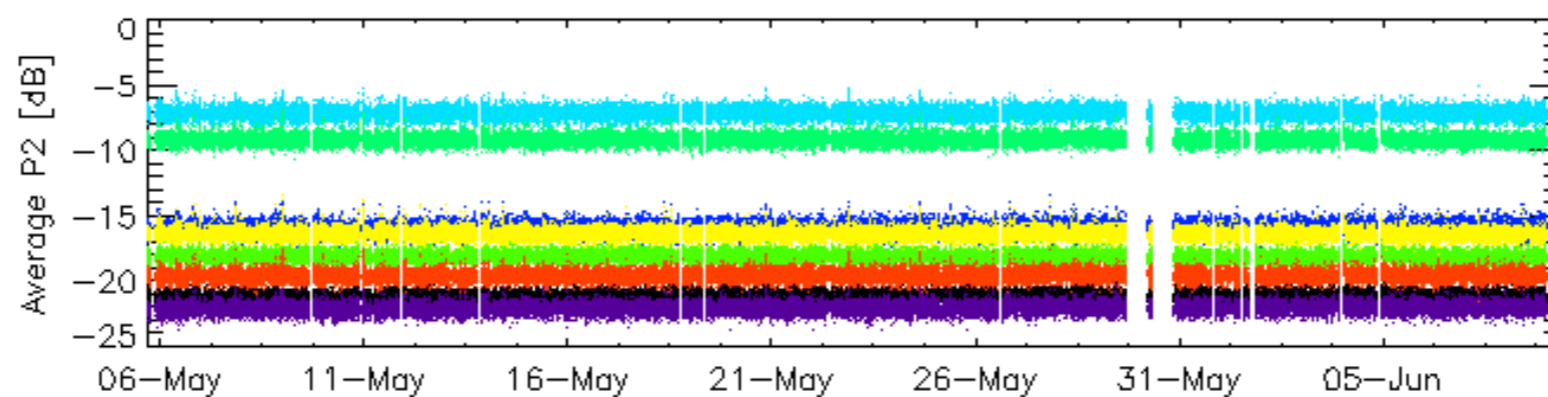
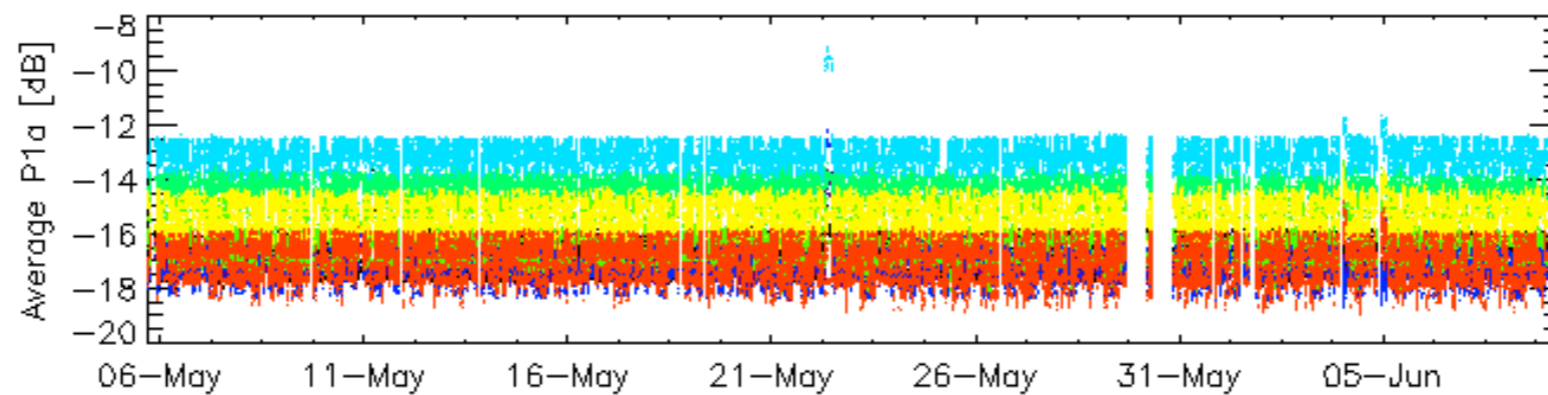
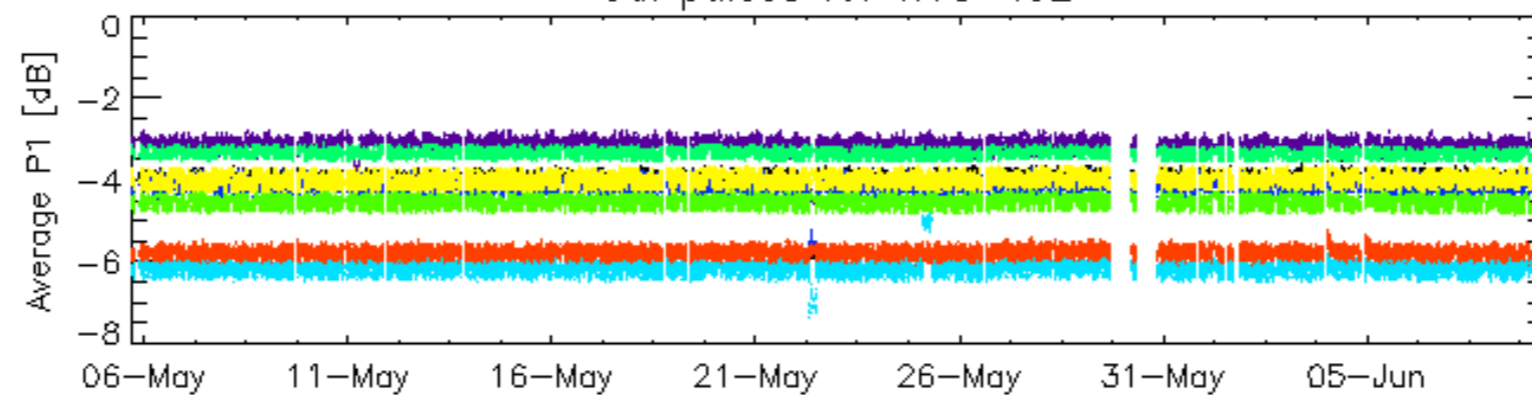
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3



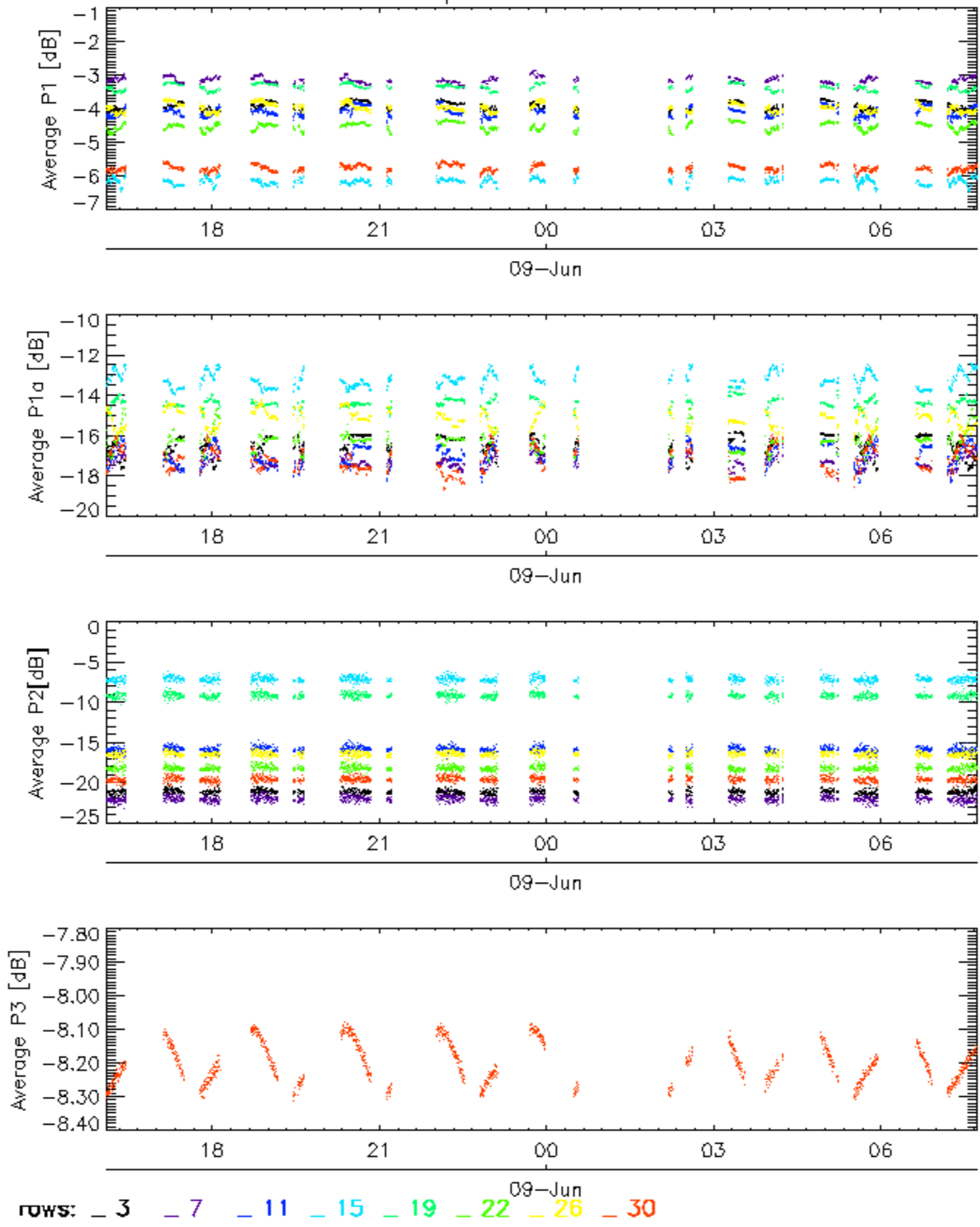
rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2



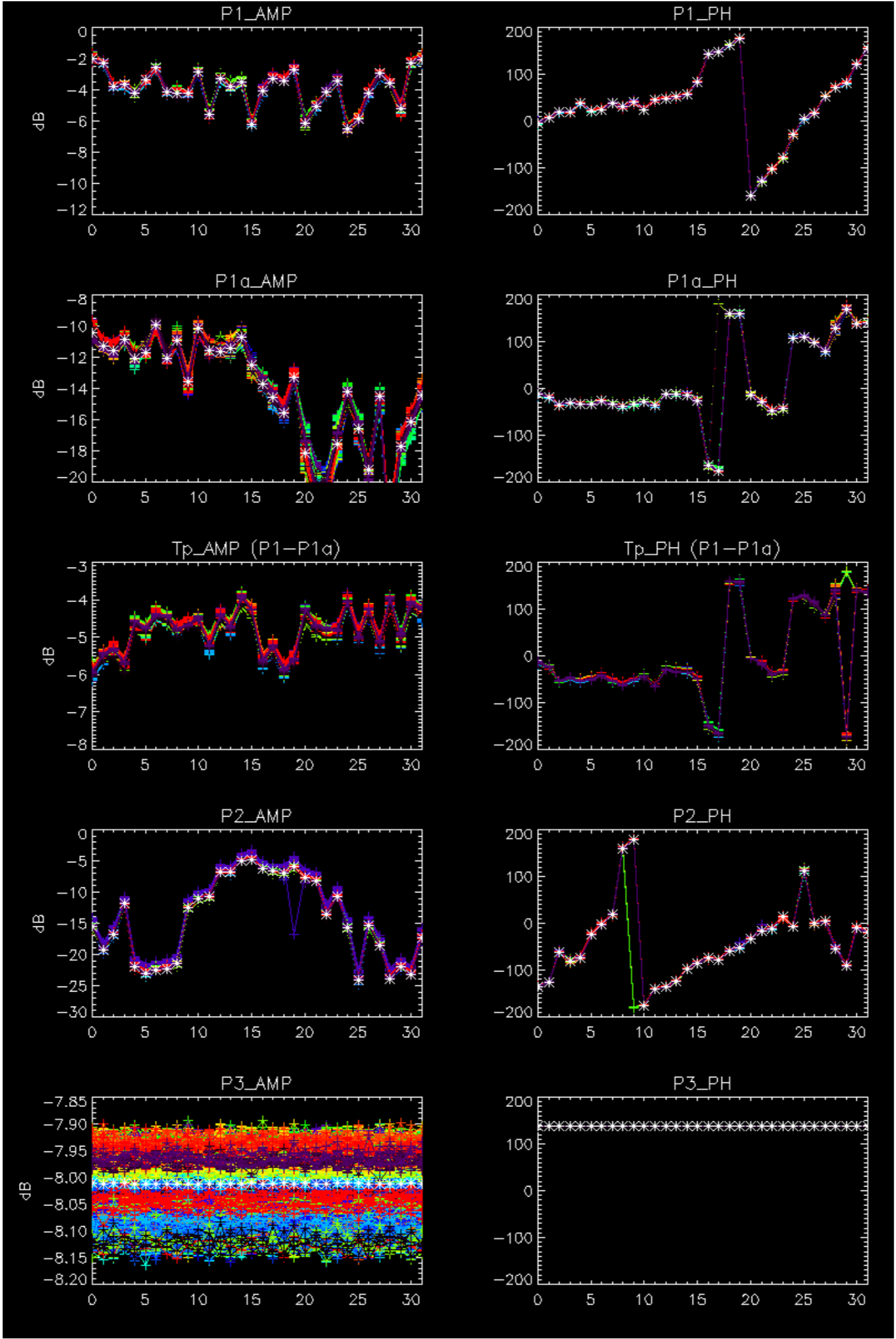
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

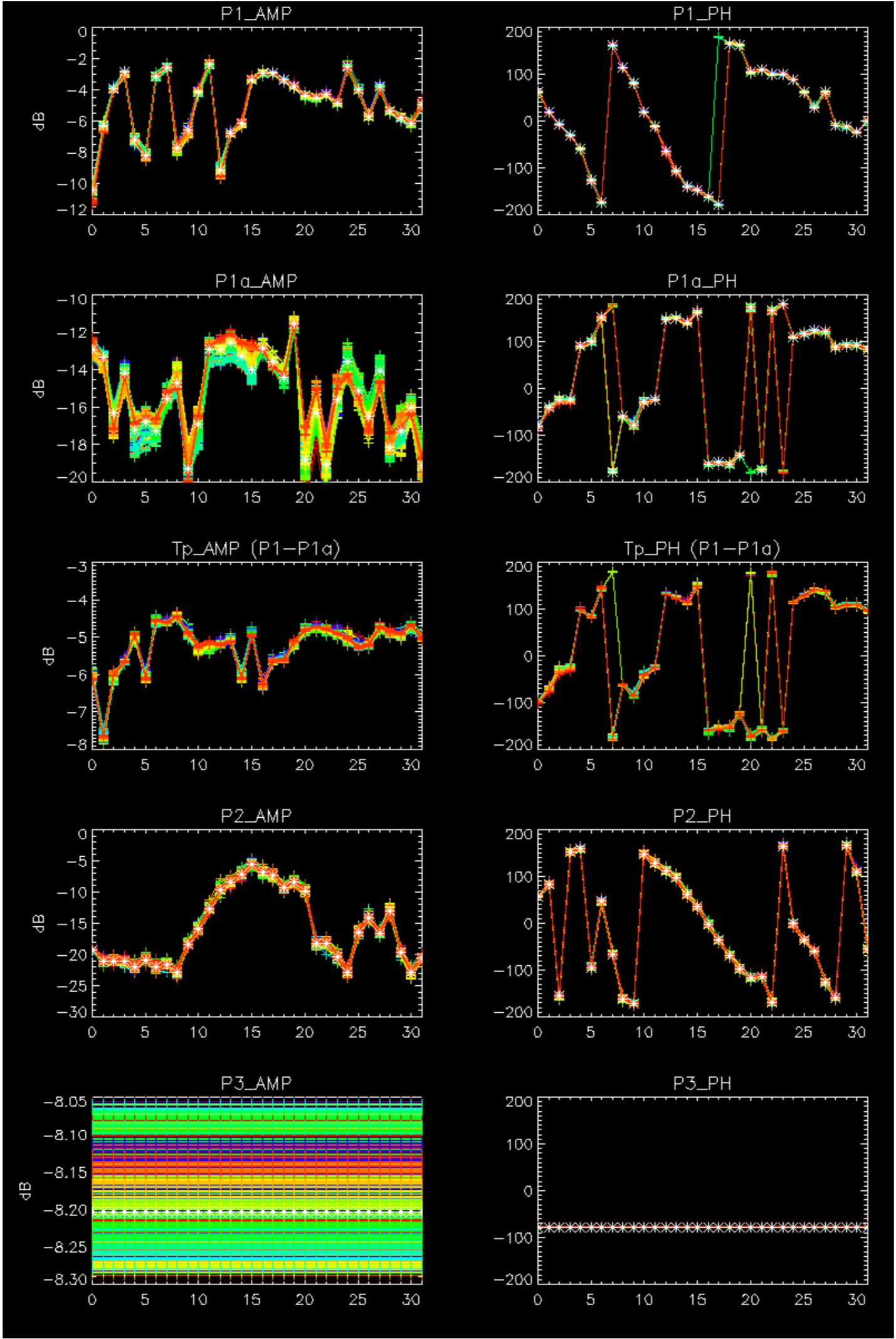
Cal pulses for WVS IS2



No anomalies observed on available browse products

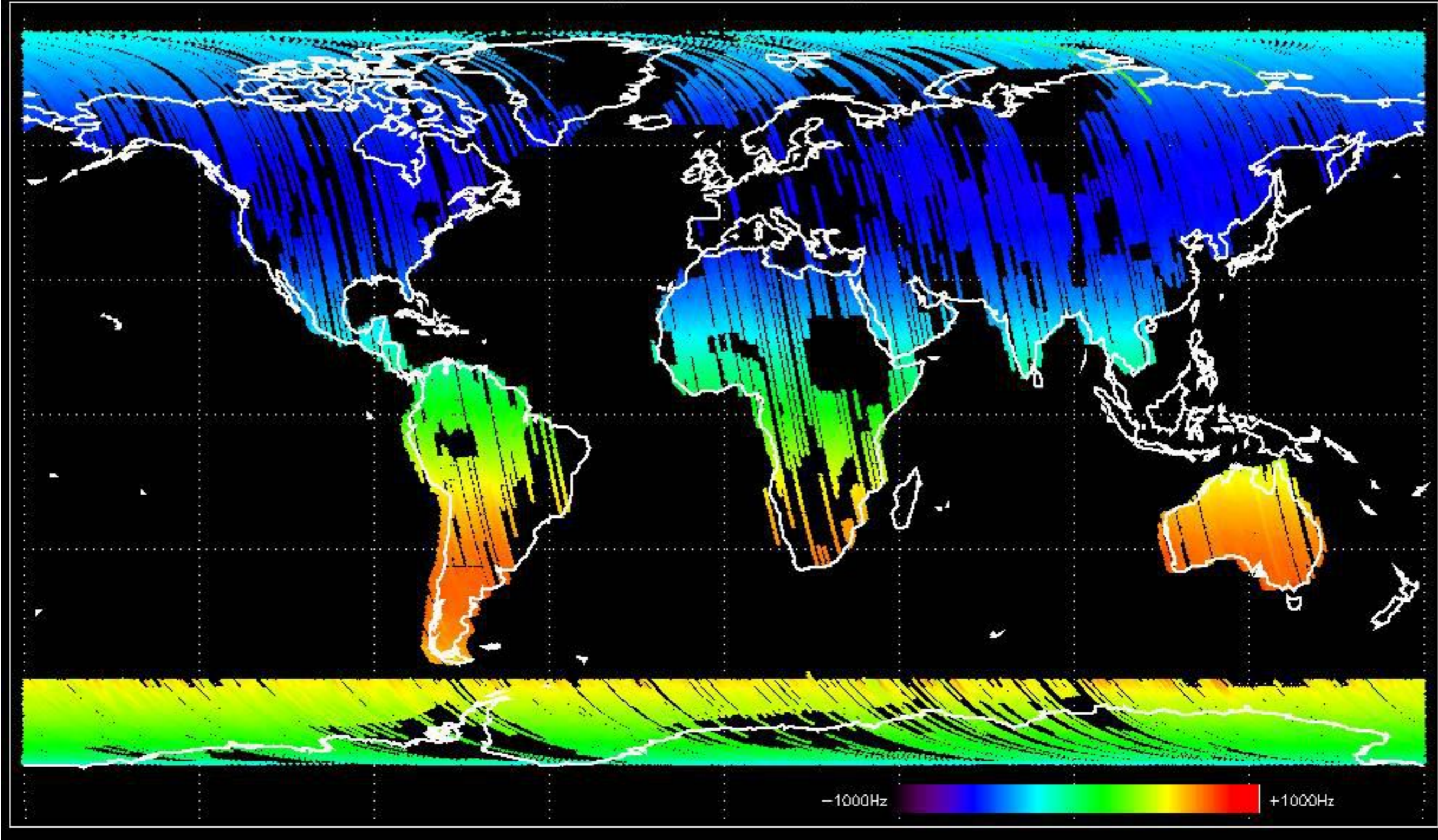
No anomalies observed.



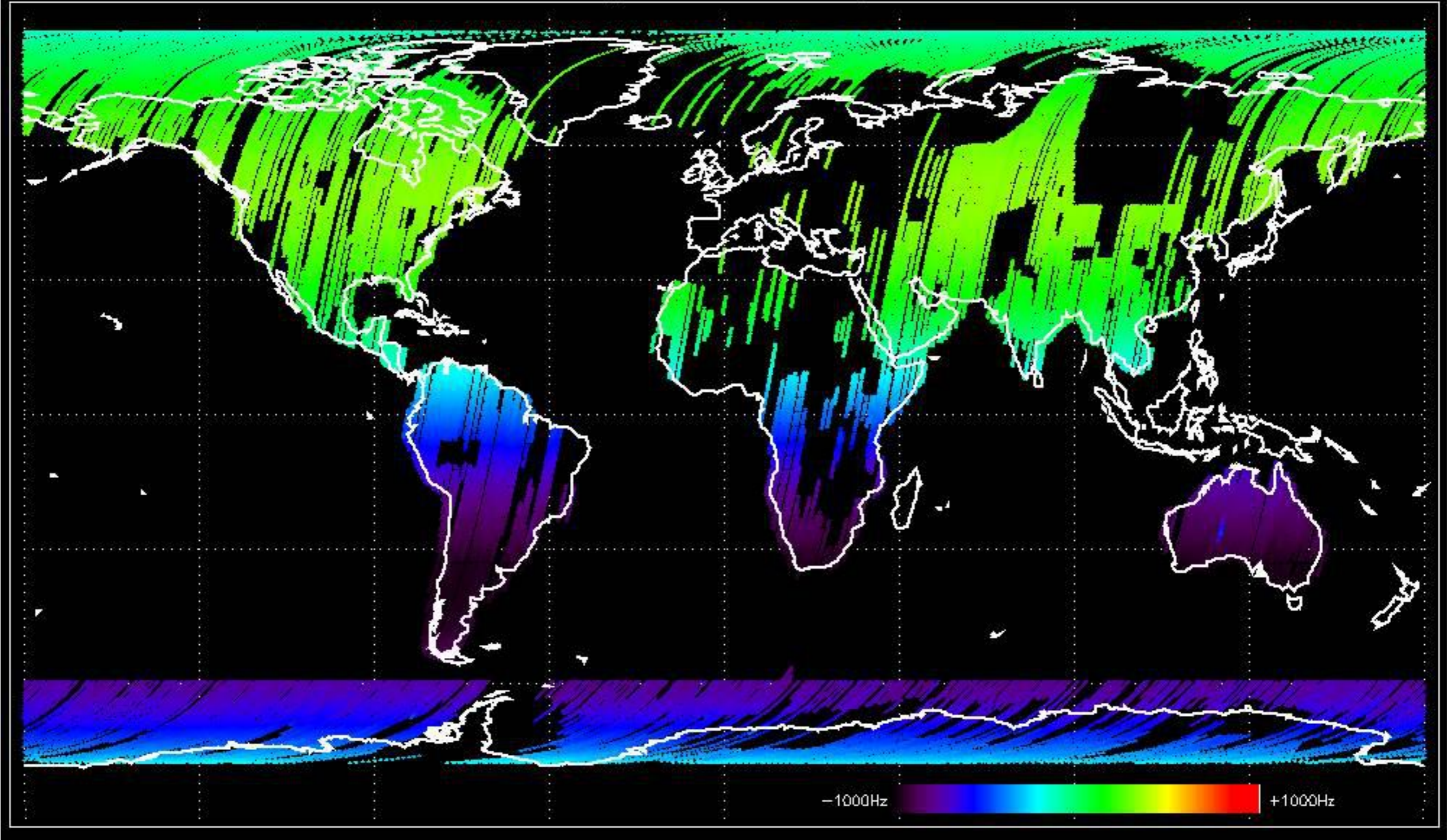


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

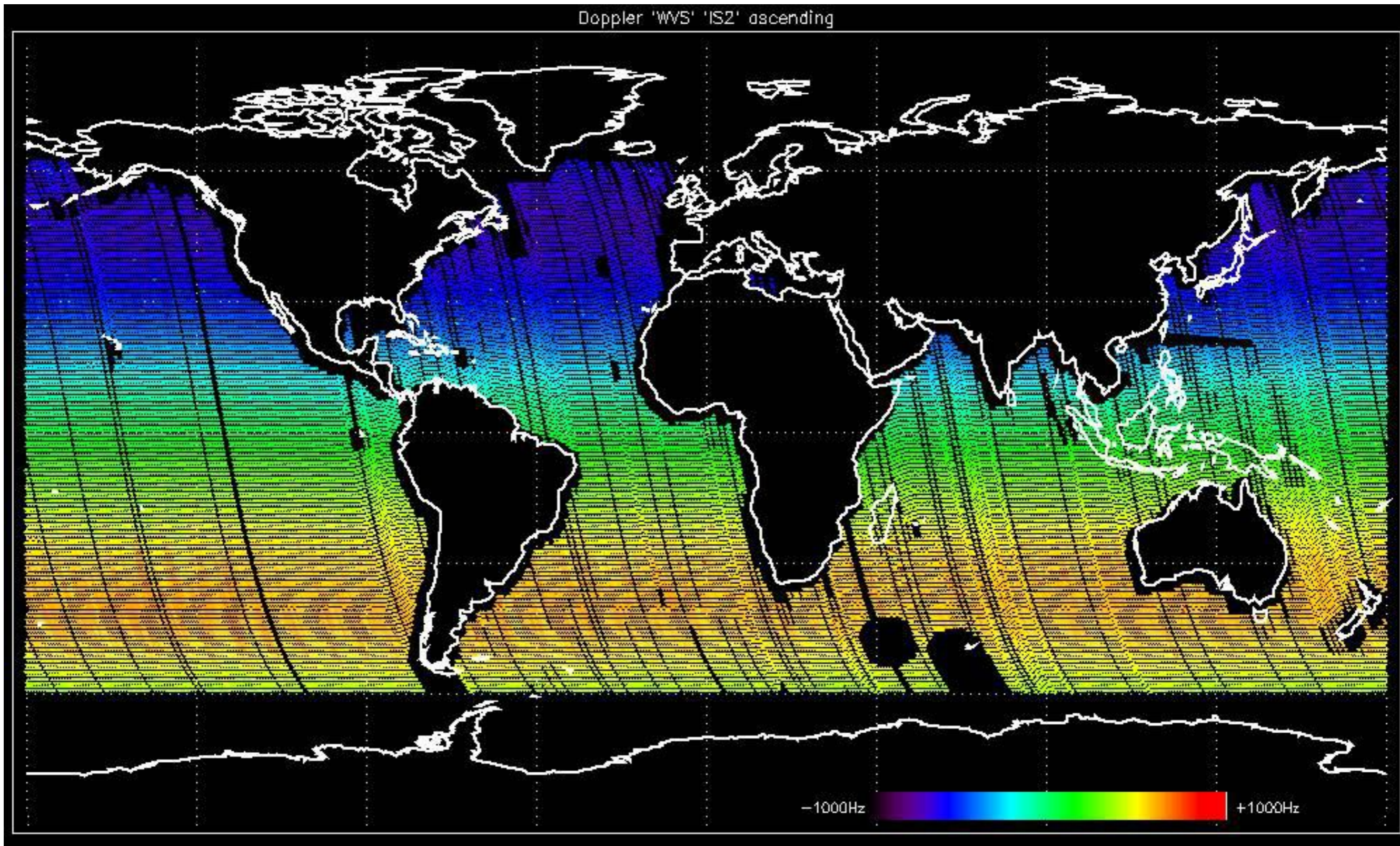
Doppler 'GM1' 'SS1' ascending



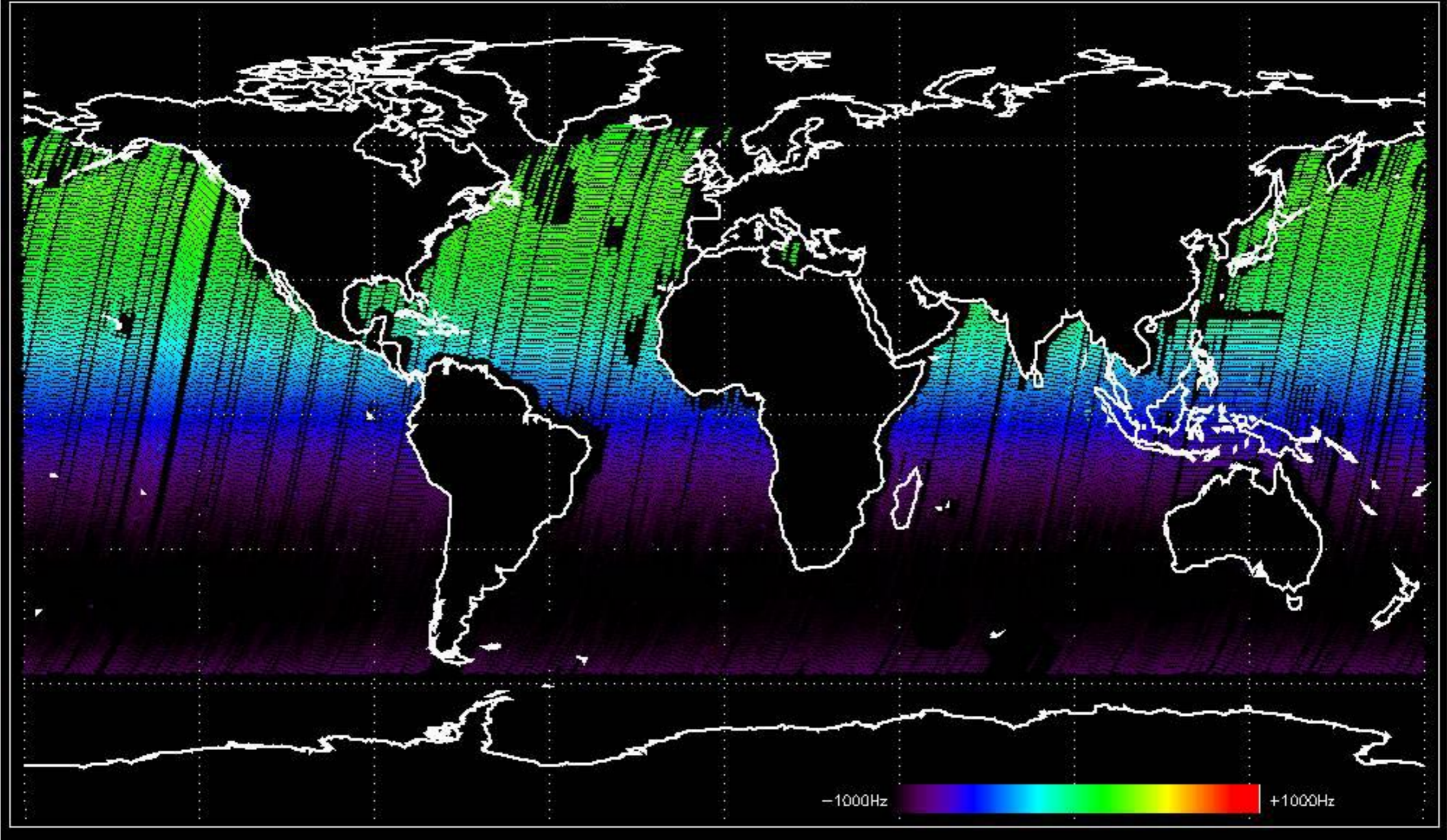
Doppler 'GM1' 'SS1' descending



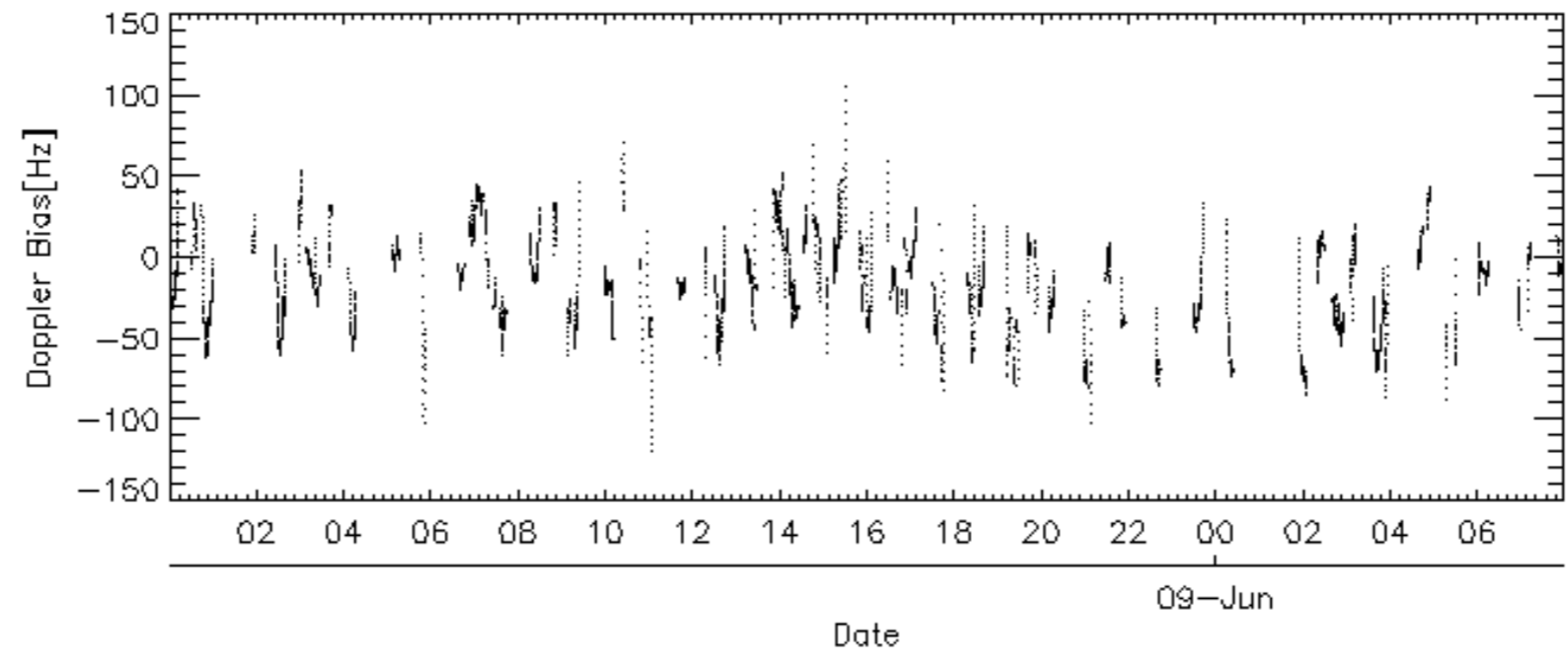
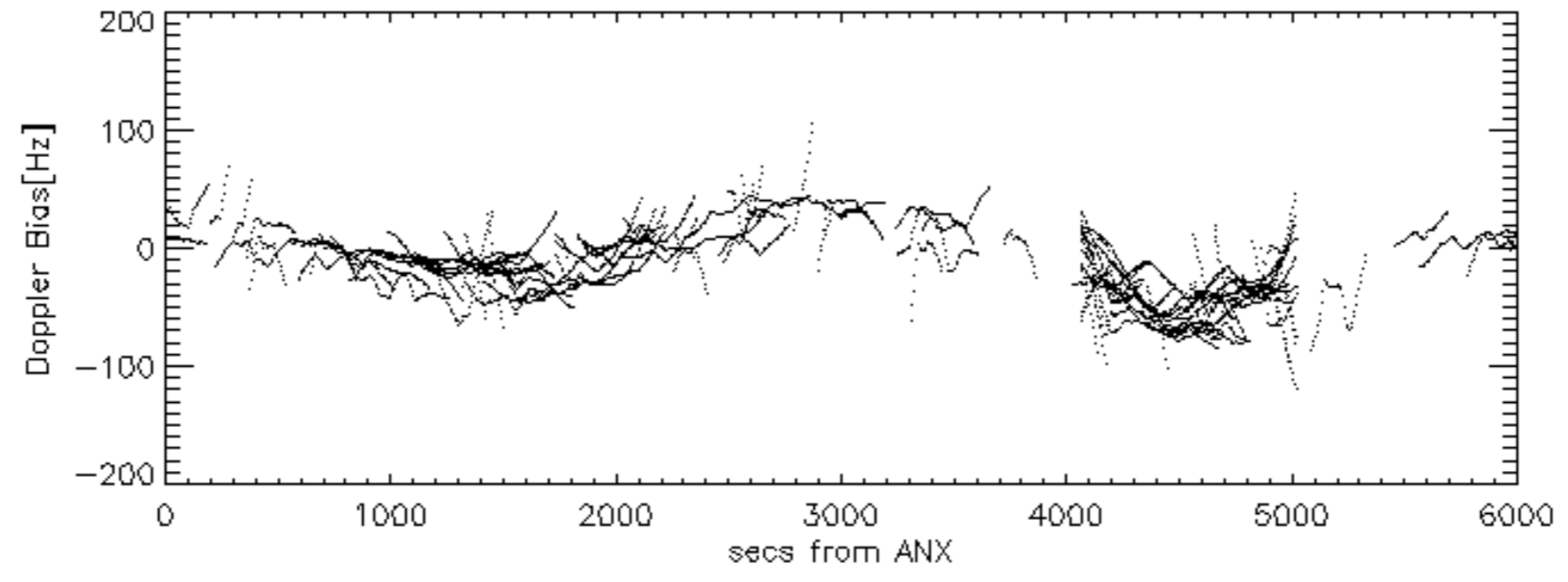
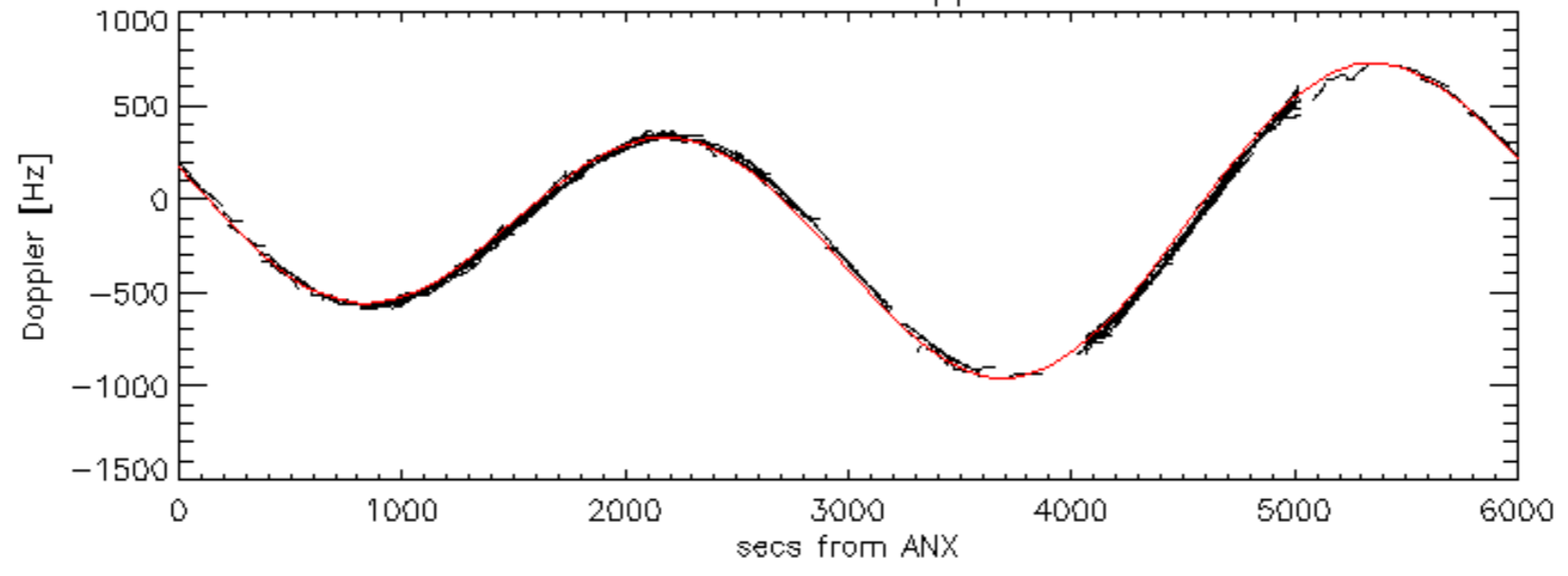
Doppler 'WVS' 'IS2' ascending

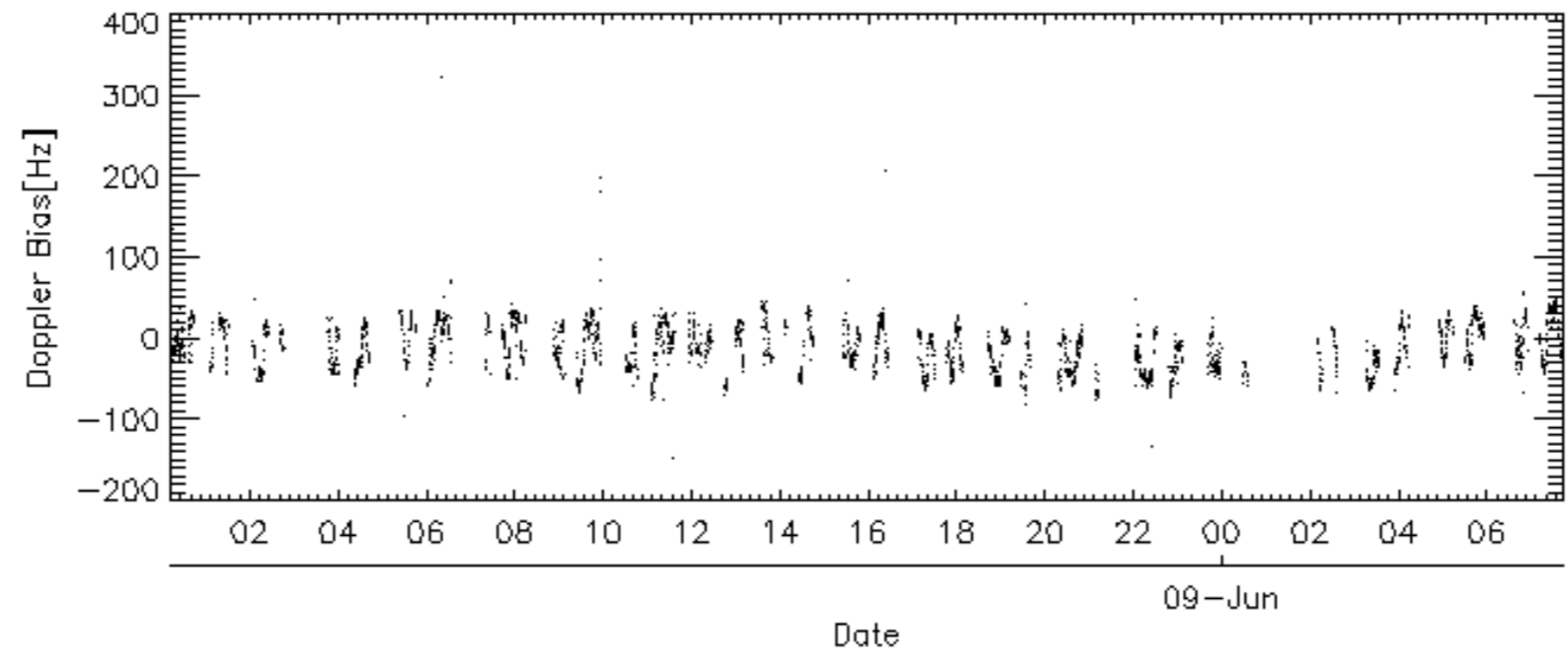
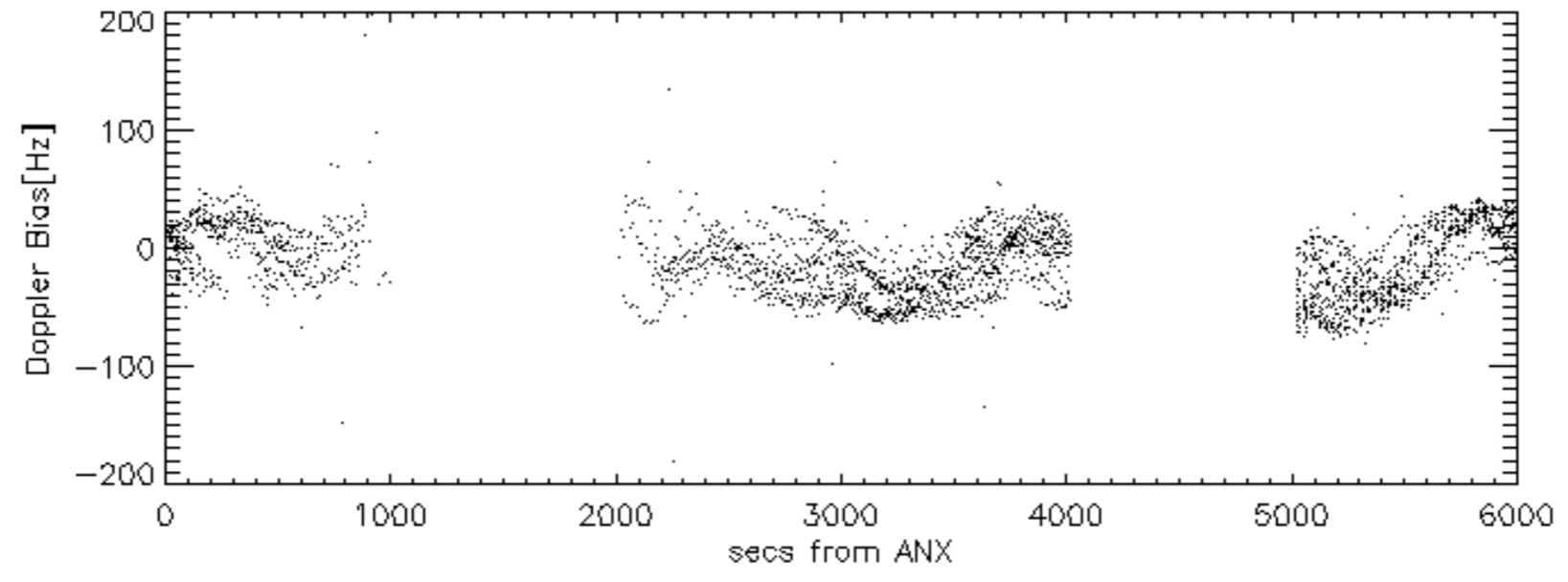
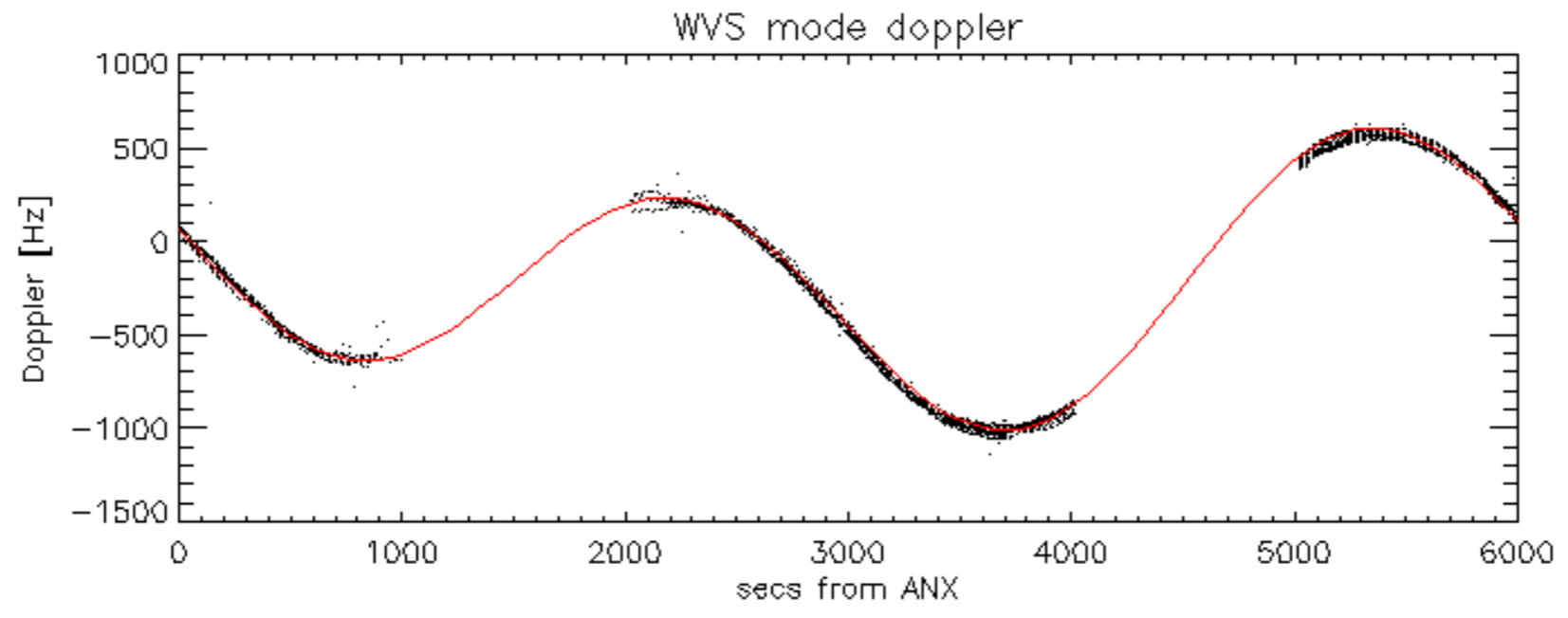


Doppler 'WVS' 'IS2' descending

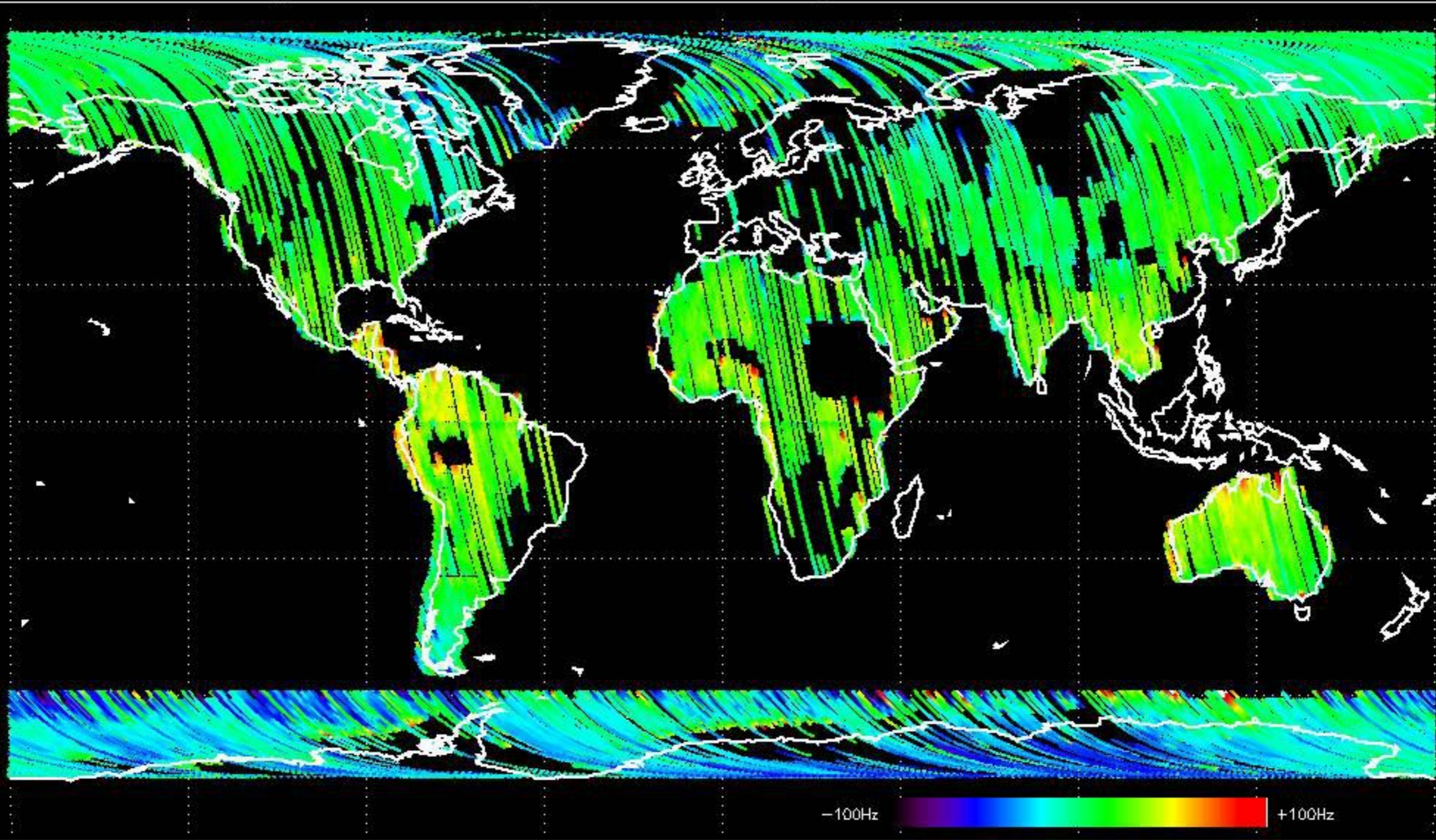


GM1 mode doppler

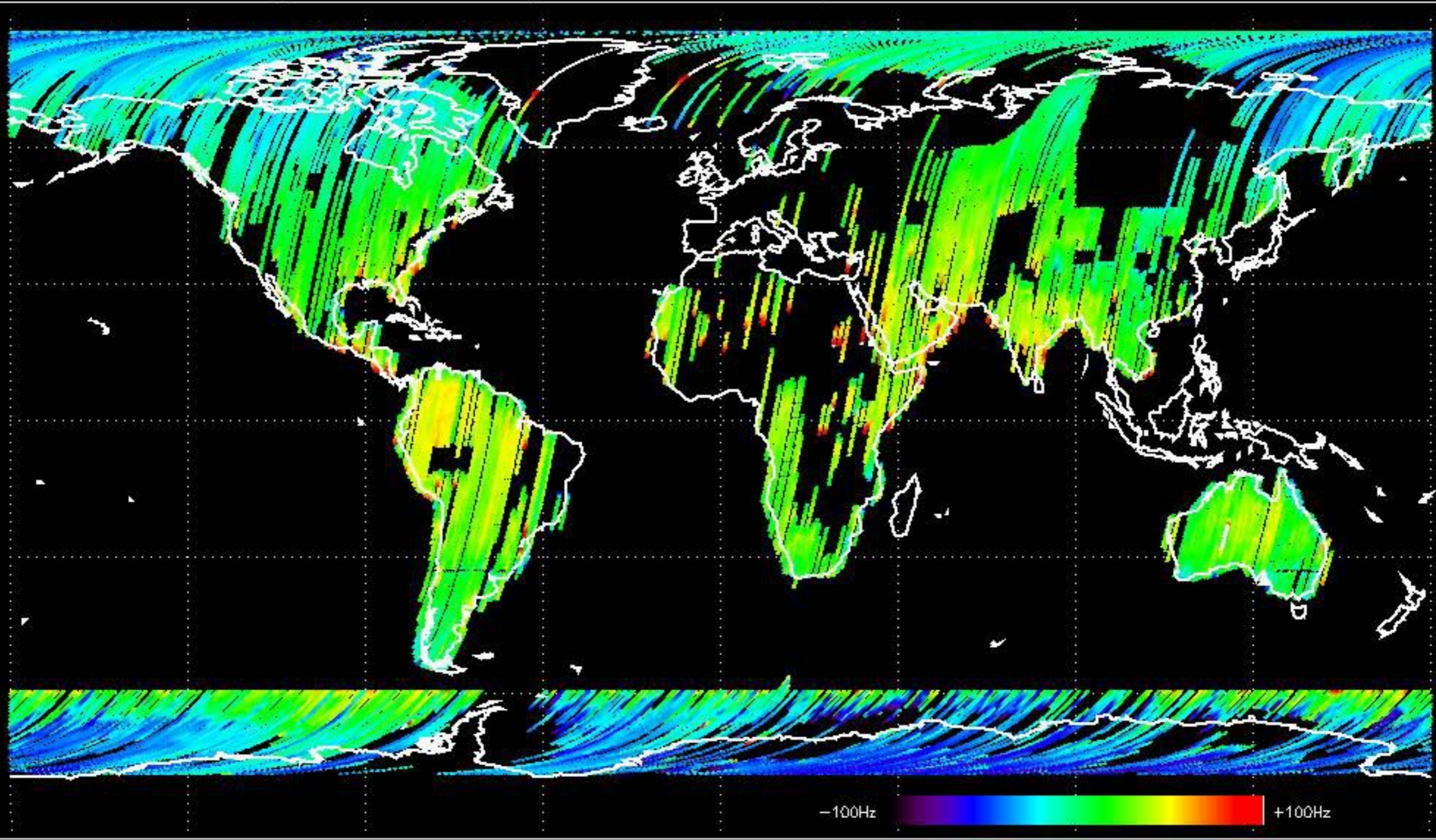




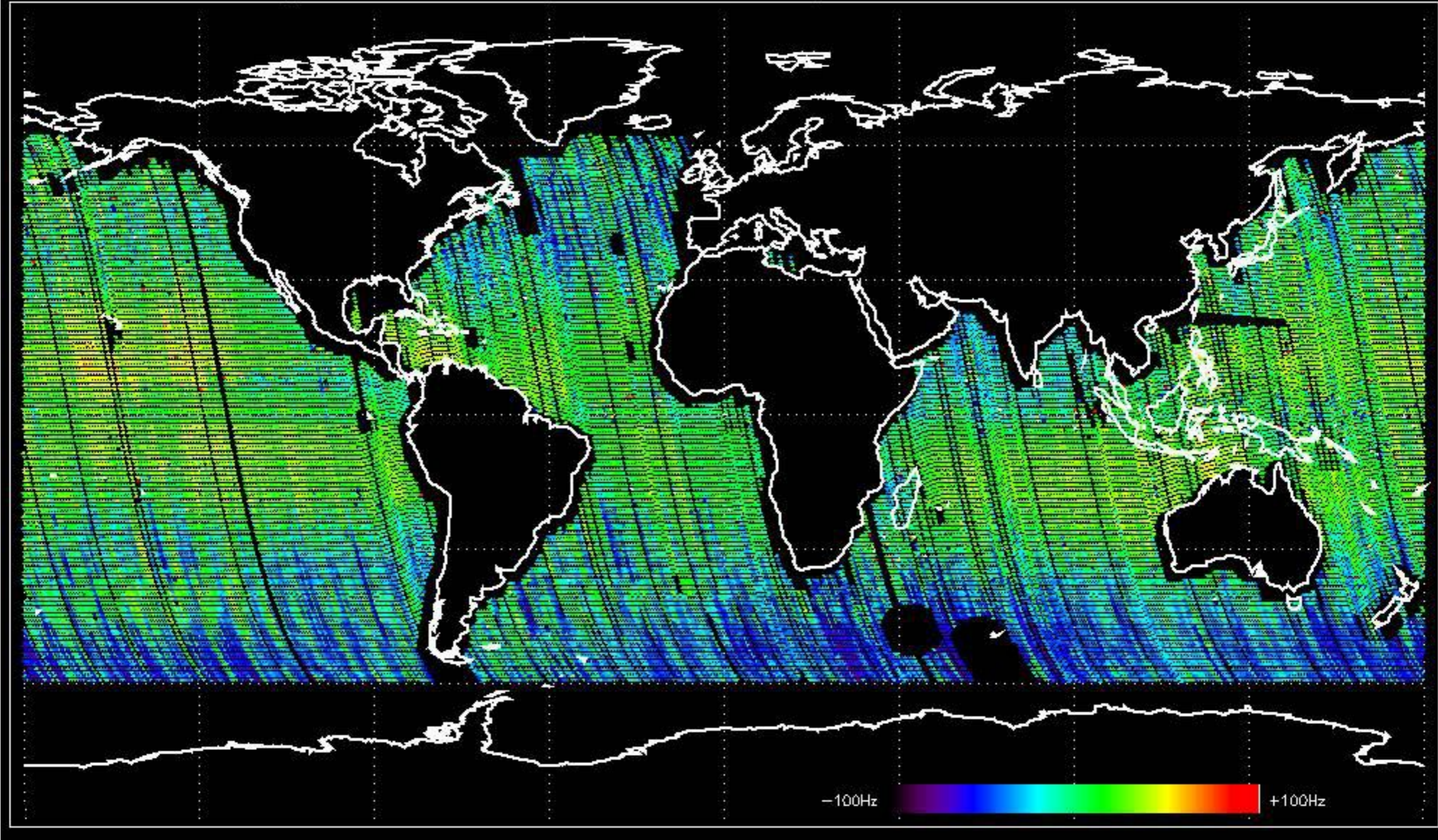
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -16.746714 Hz



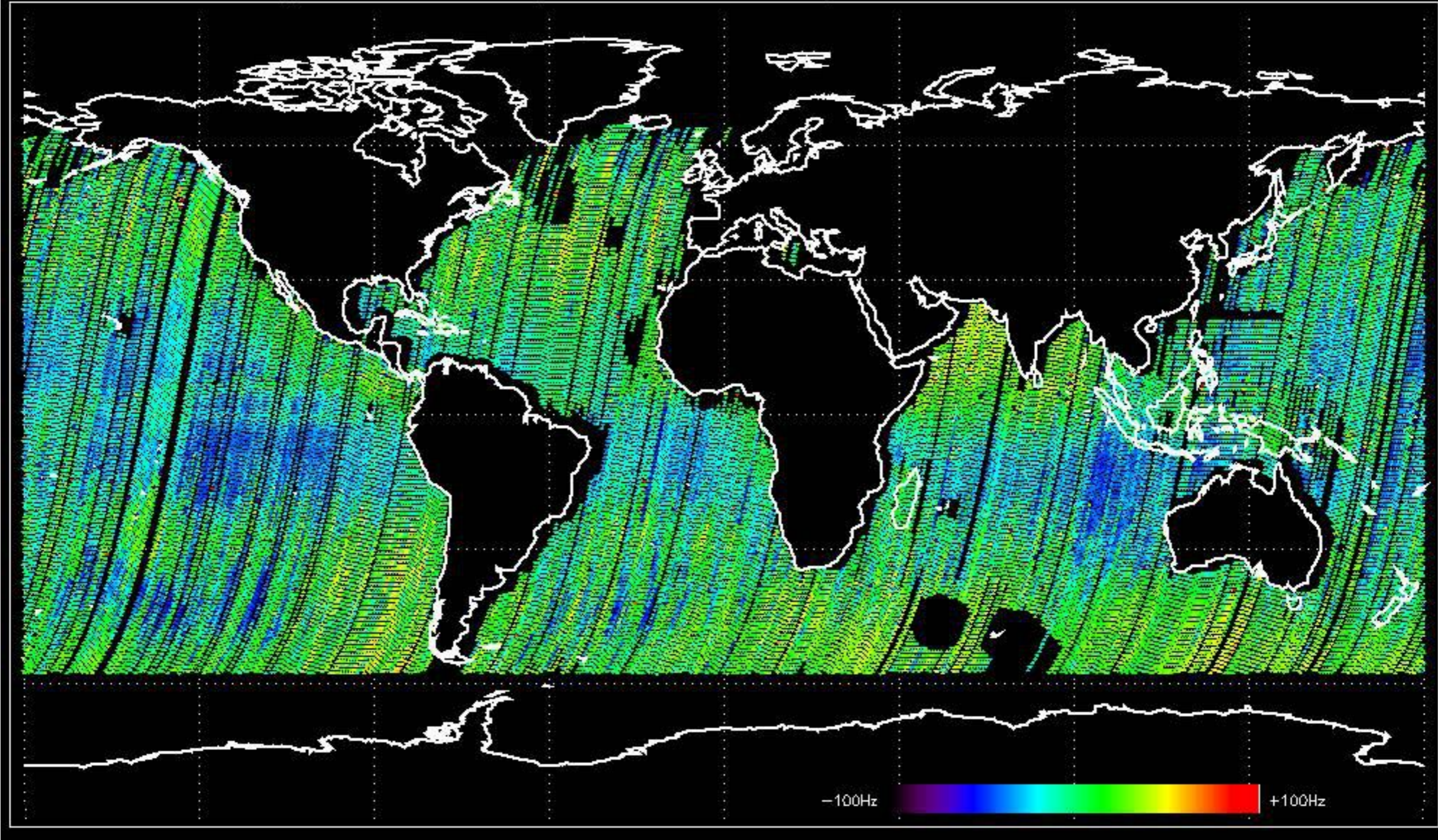
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -5.4283305 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -8.3466340 Hz

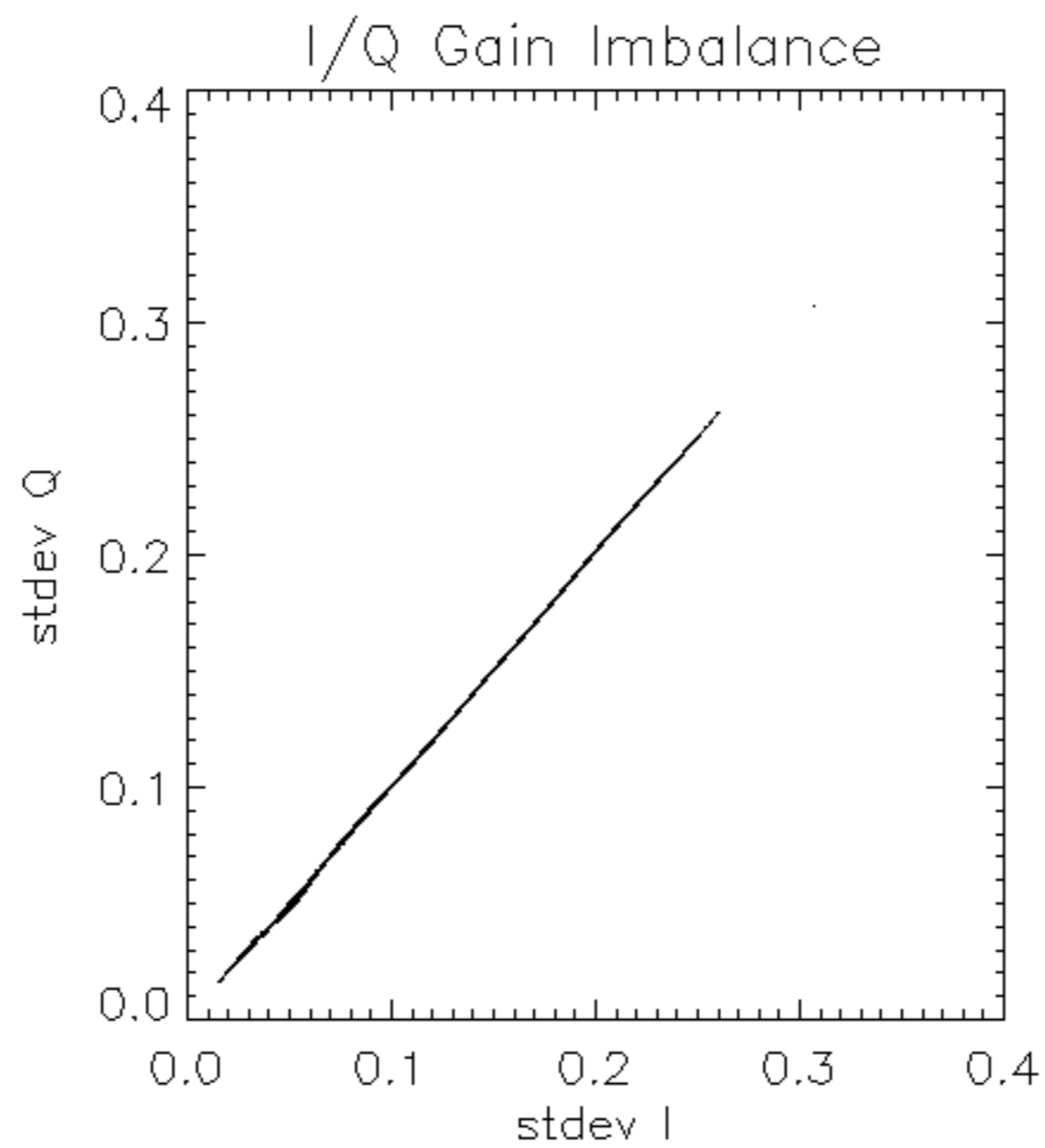


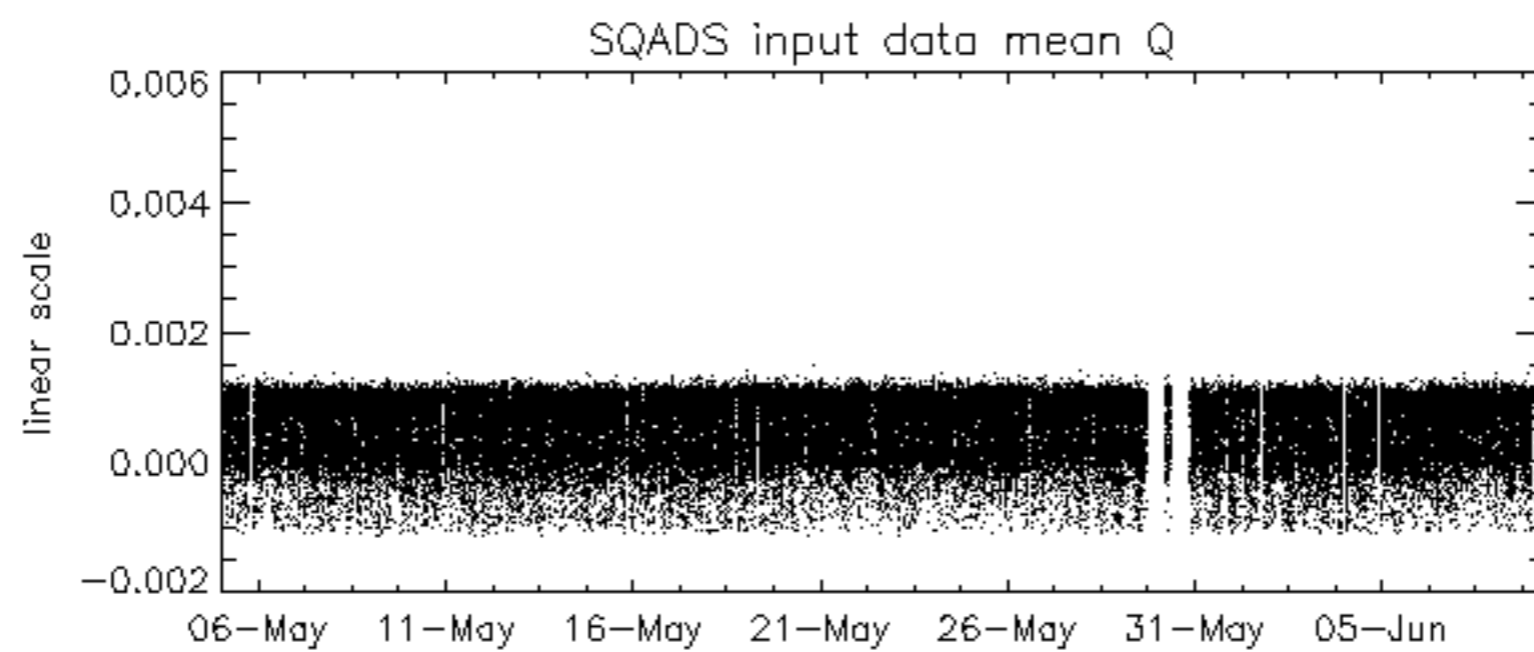
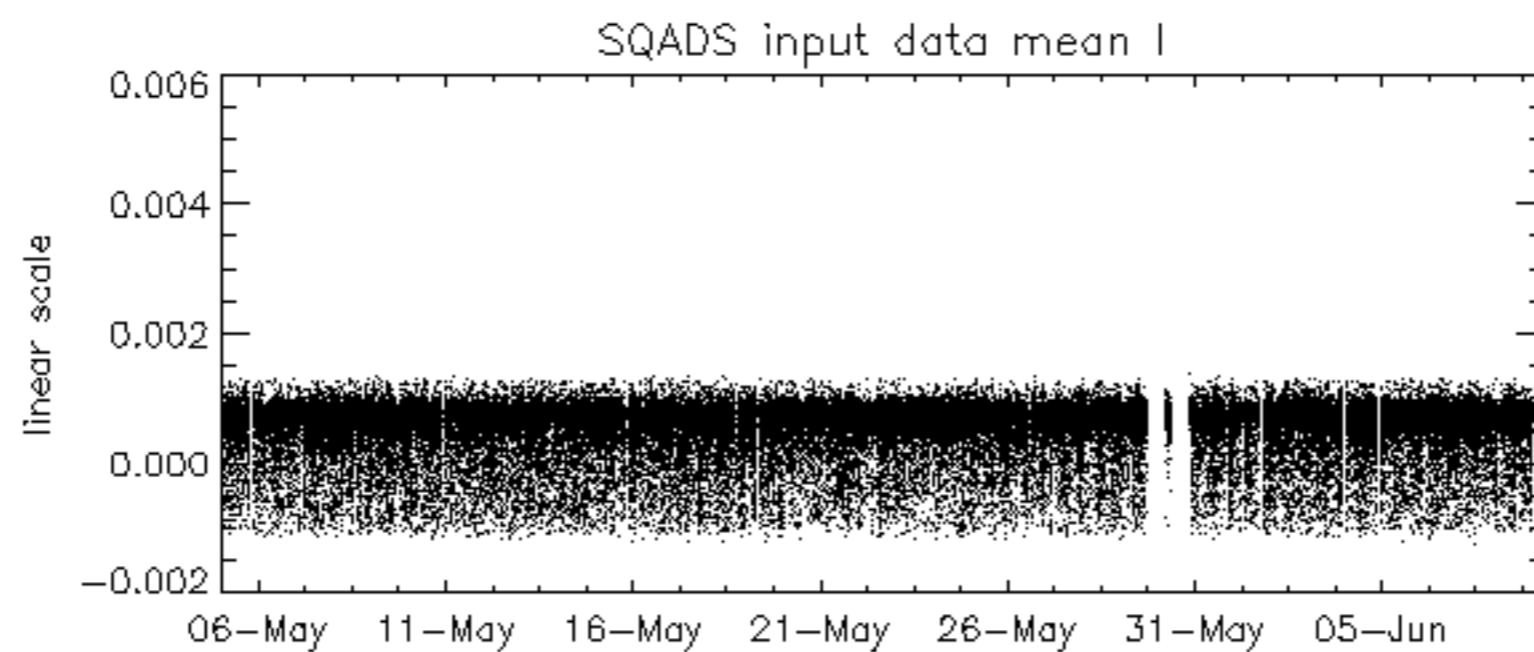
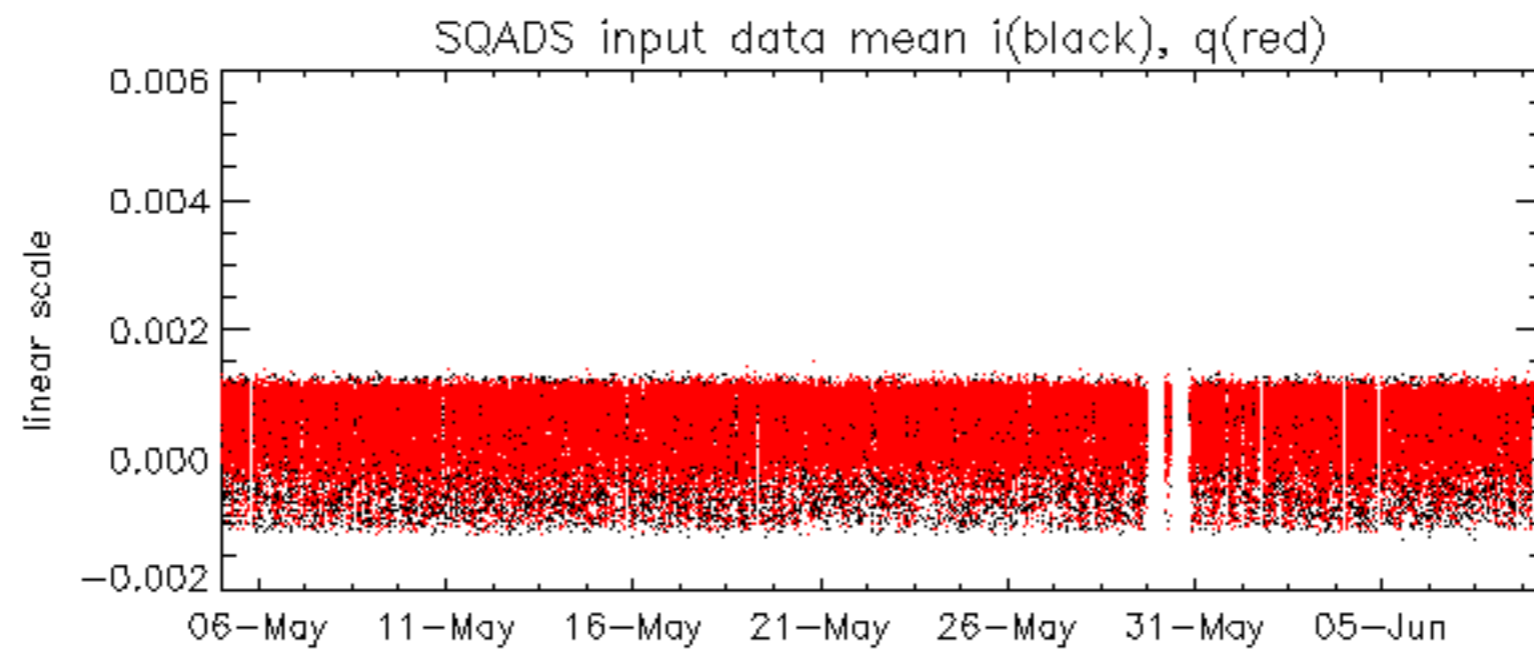
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -10.851880 Hz

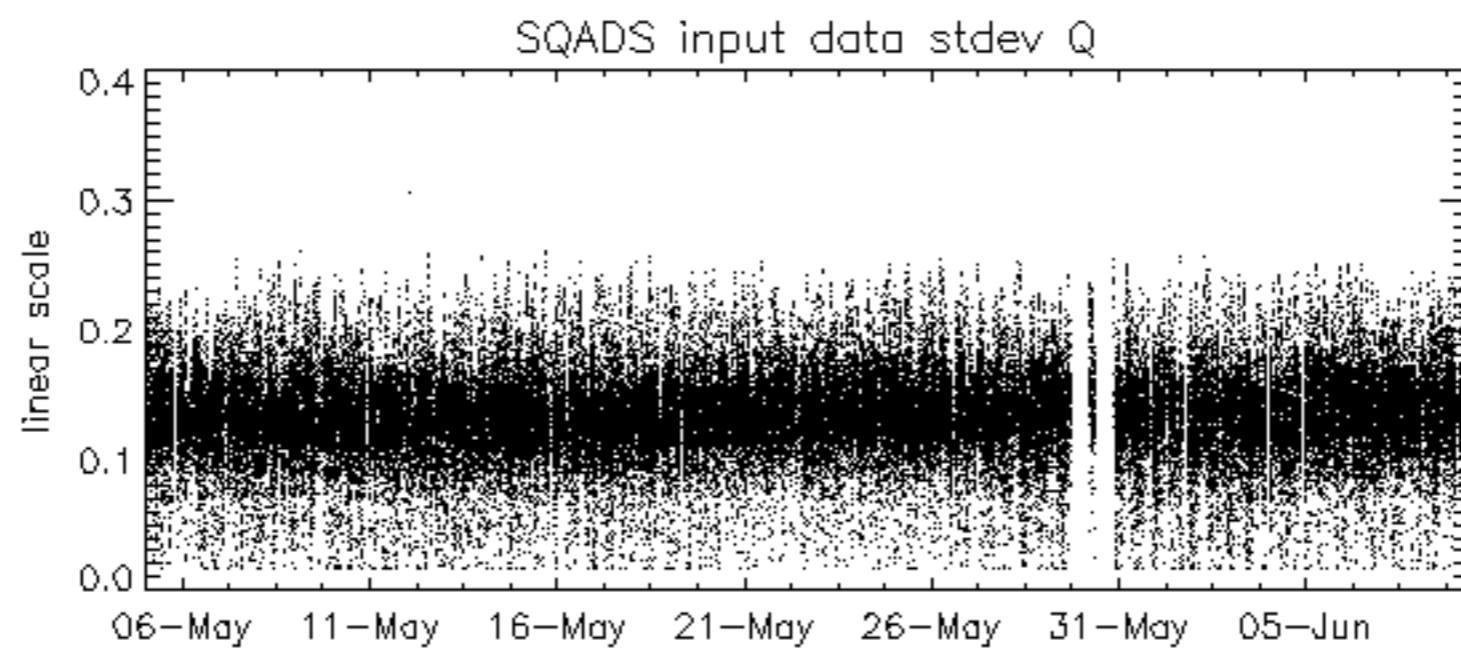
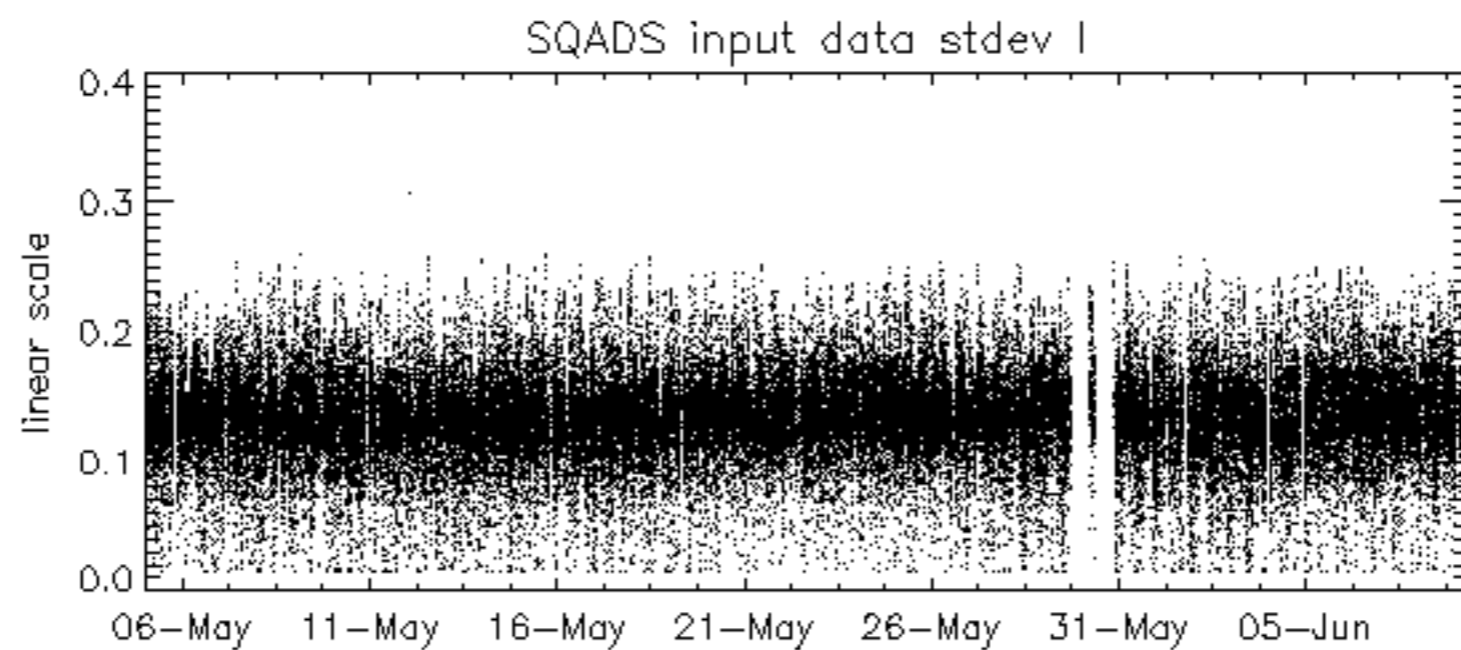
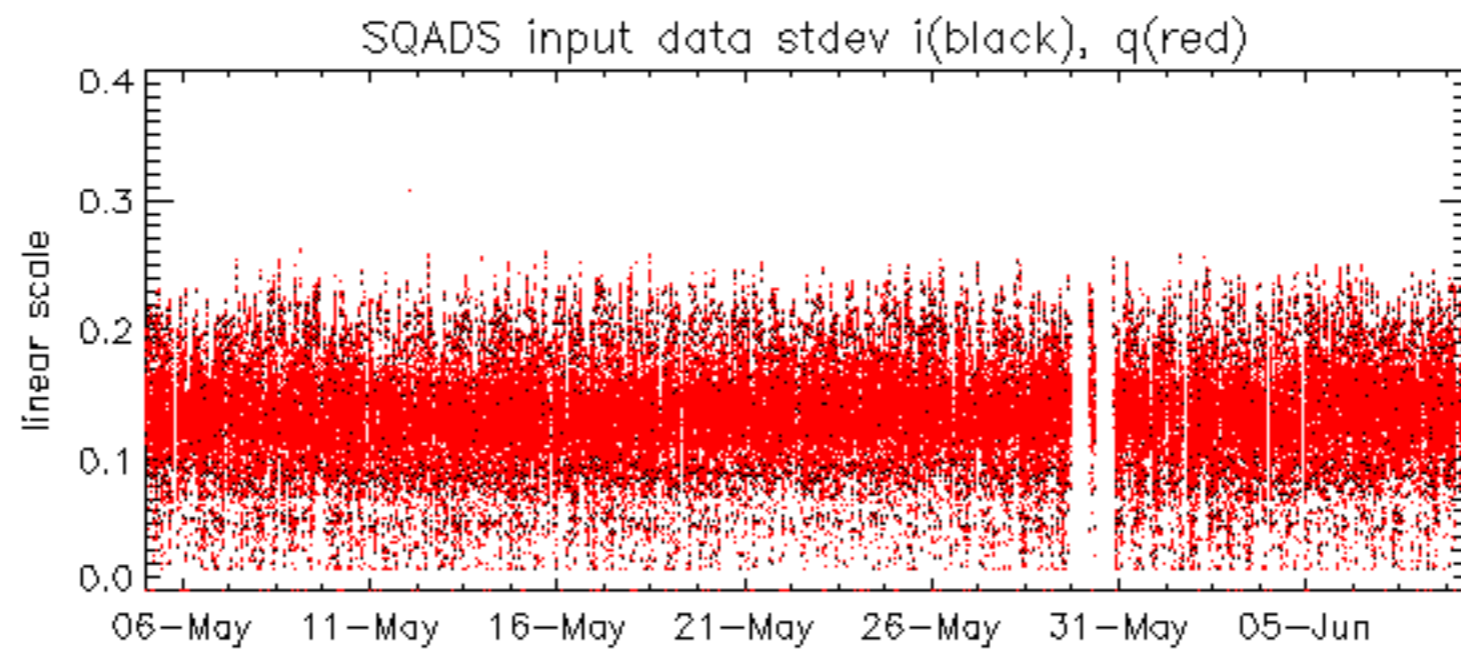


No anomalies observed on available MS products:

No anomalies observed.



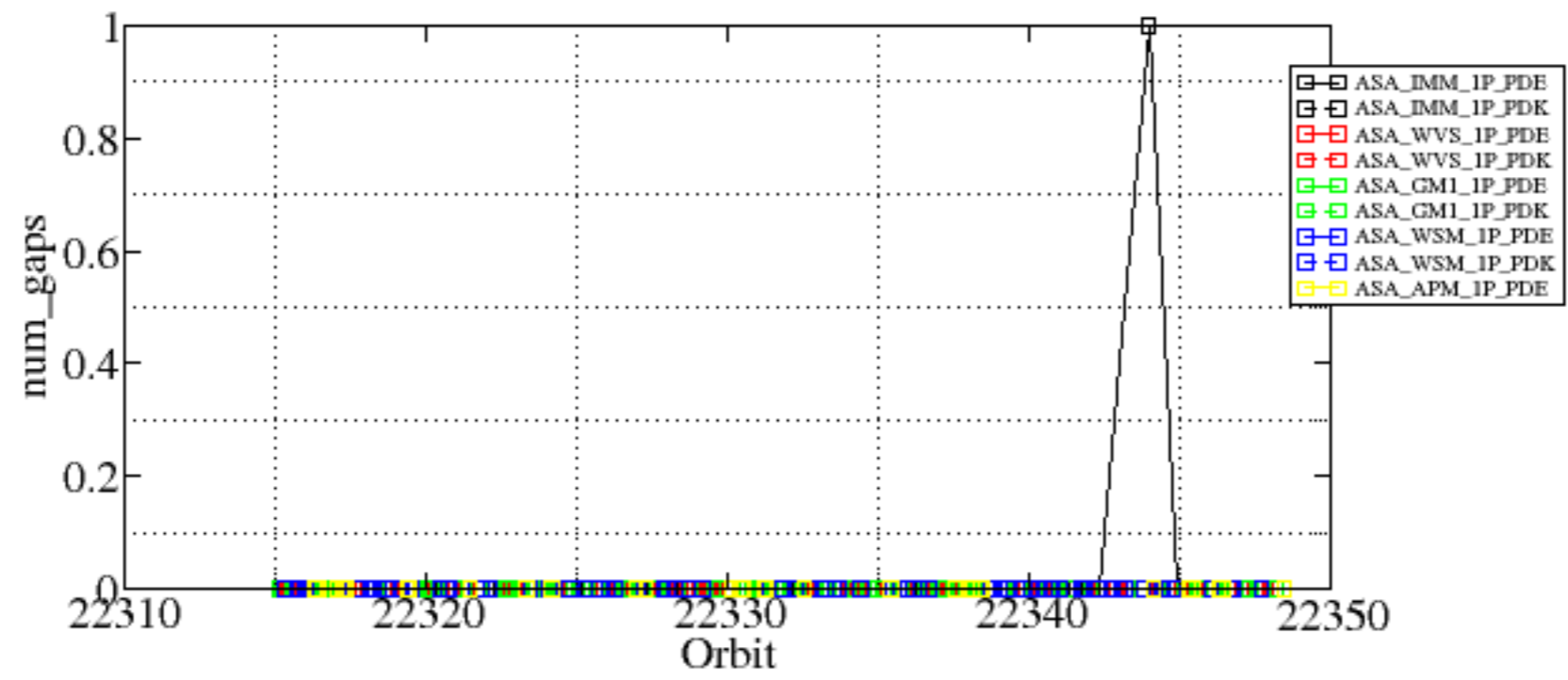


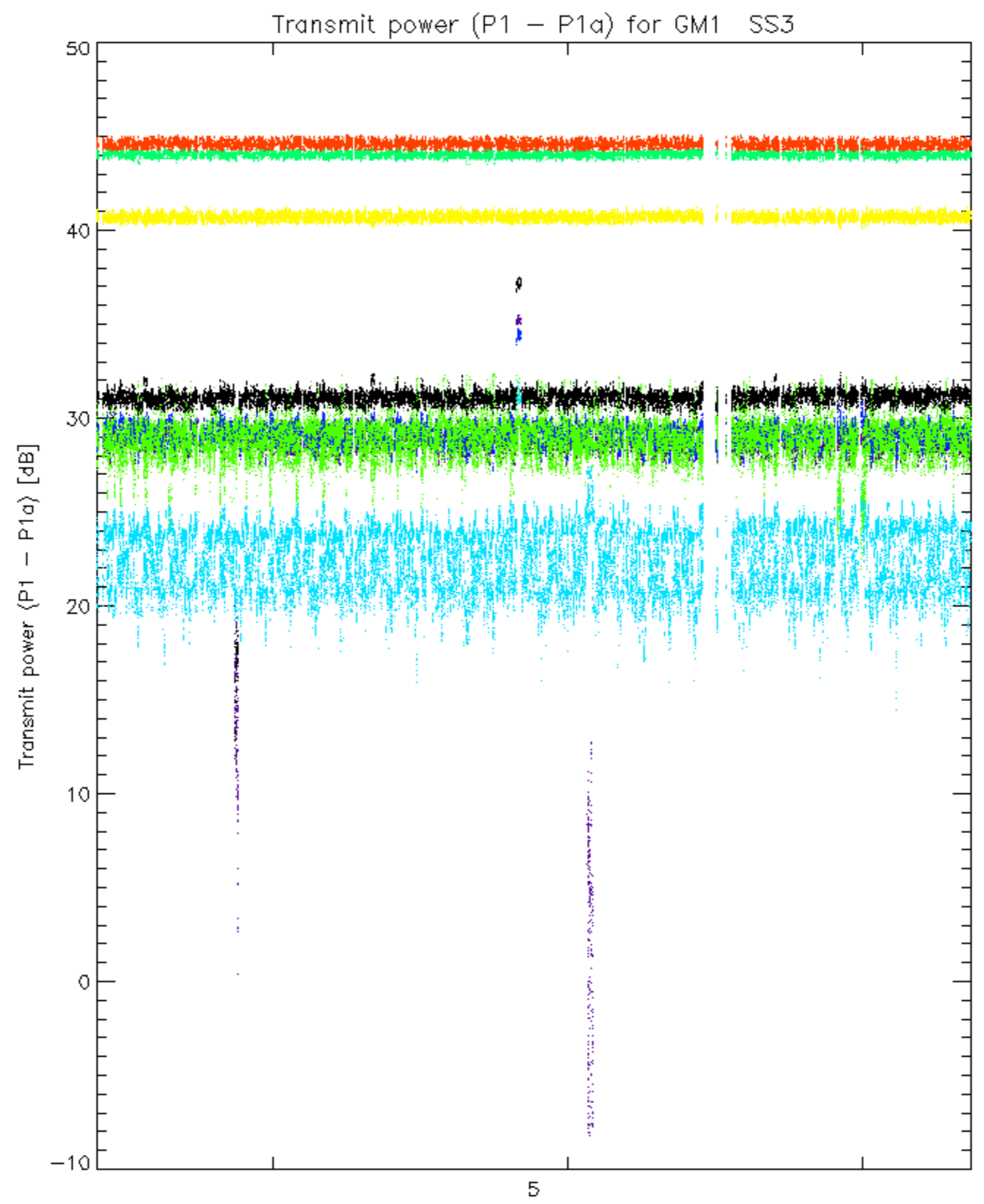


Summary of analysis for the last 3 days 2006060[789]

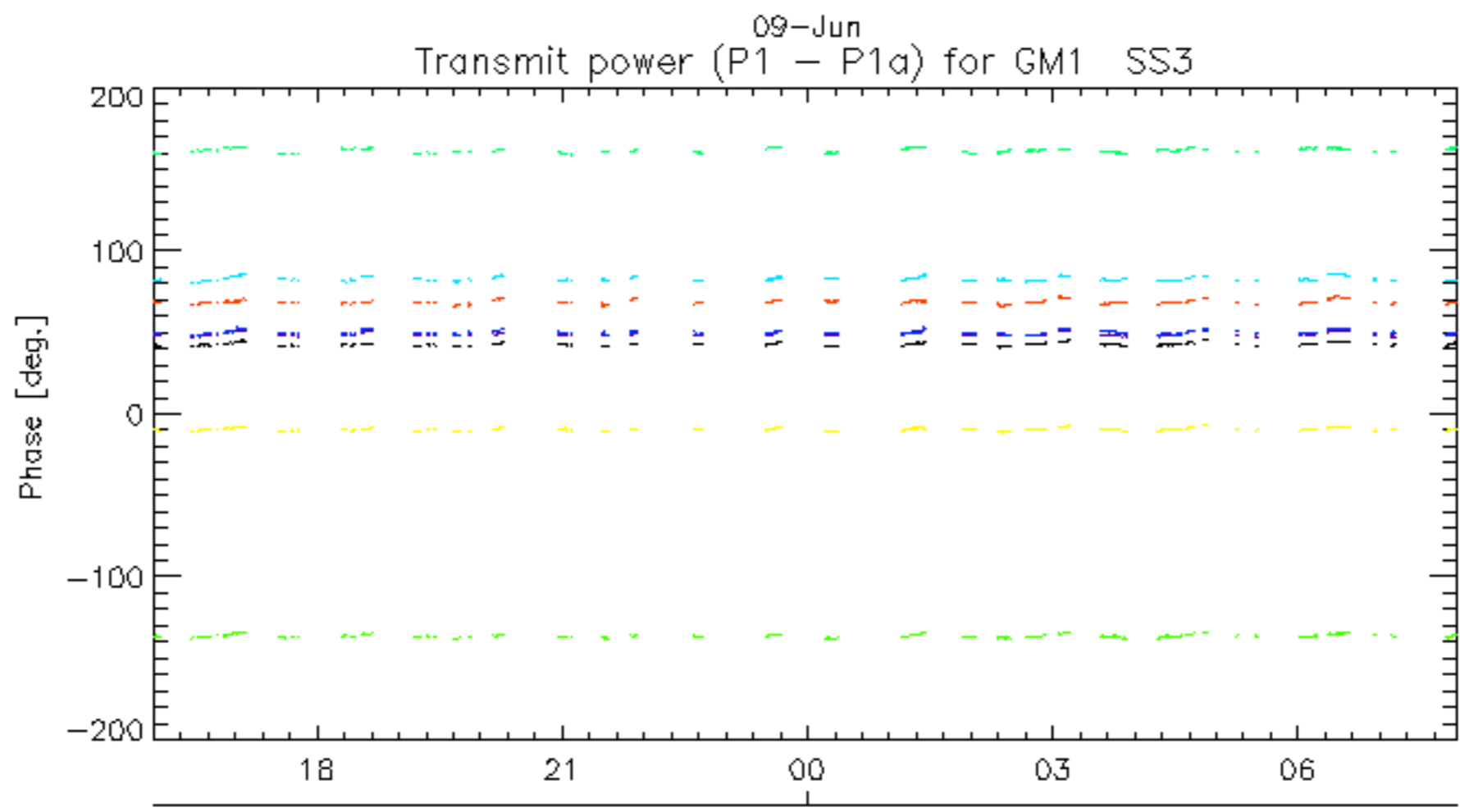
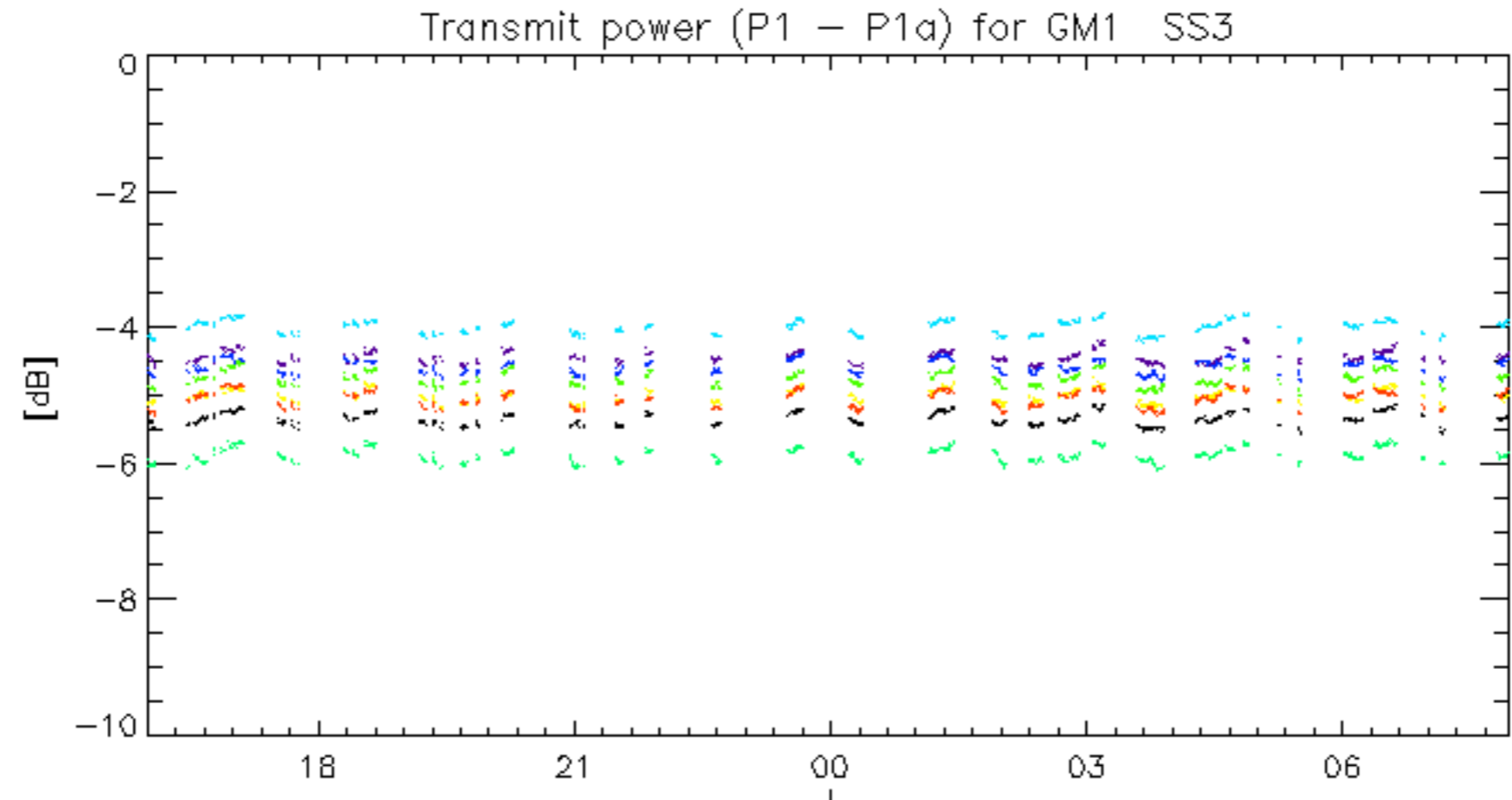
The assumption is taken that the SQUADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20060609_004236_000001742048_00245_22343_6867.N1	1	0
ASA_GM1_1PNPDK20060607_102902_000006702048_00223_22321_4703.N1	0	6
ASA_WSM_1PNPDE20060607_015506_000000852048_00218_22316_3054.N1	0	54
ASA_WSM_1PNPDE20060607_141813_000000972048_00225_22323_3144.N1	0	2
ASA_WSM_1PNPDE20060607_183929_000002072048_00228_22326_3160.N1	0	13
ASA_WSM_1PNPDE20060608_230846_000001032048_00245_22343_3362.N1	0	60
ASA_WSM_1PNPDE20060609_041103_000001702048_00248_22346_3394.N1	0	65

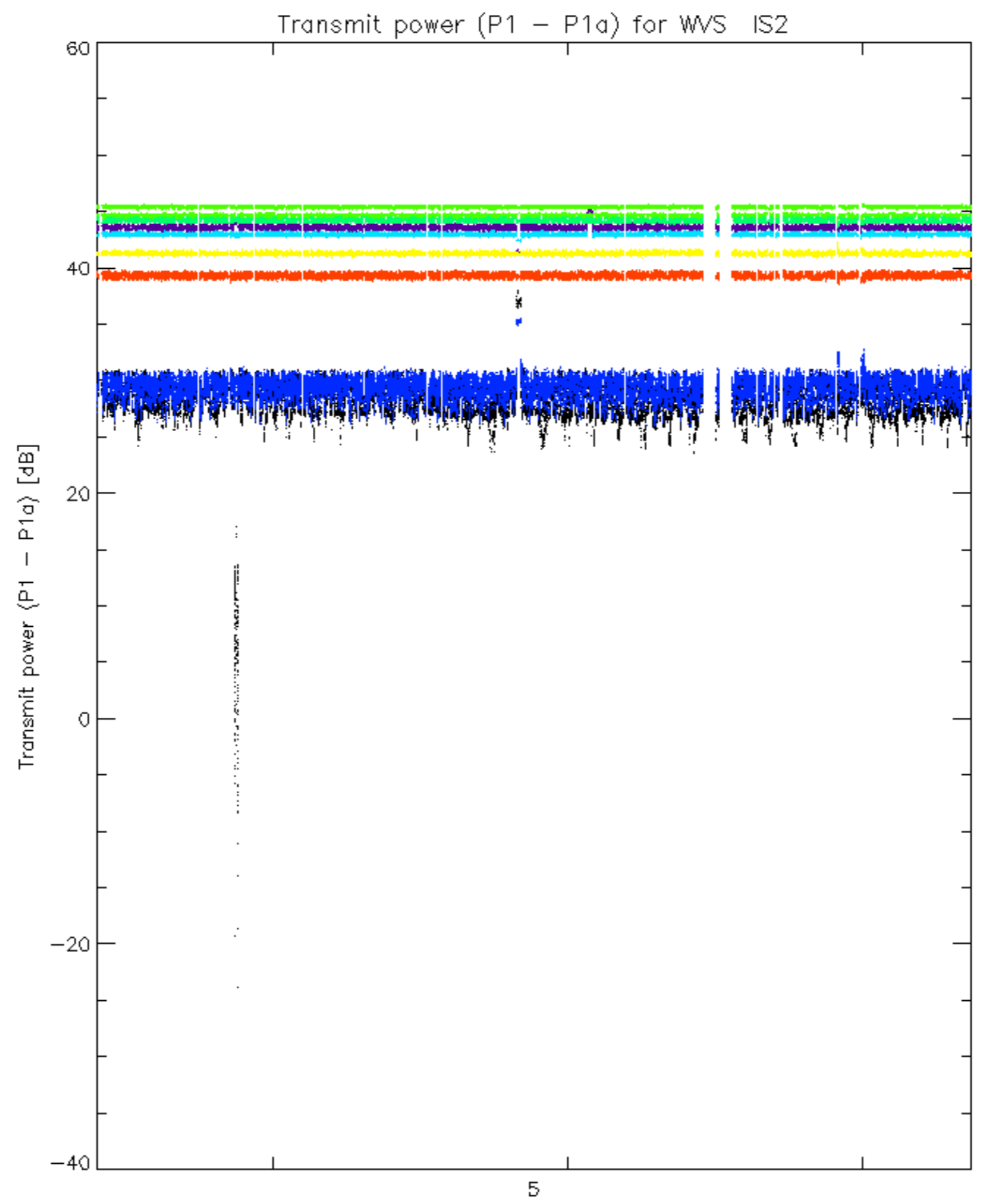


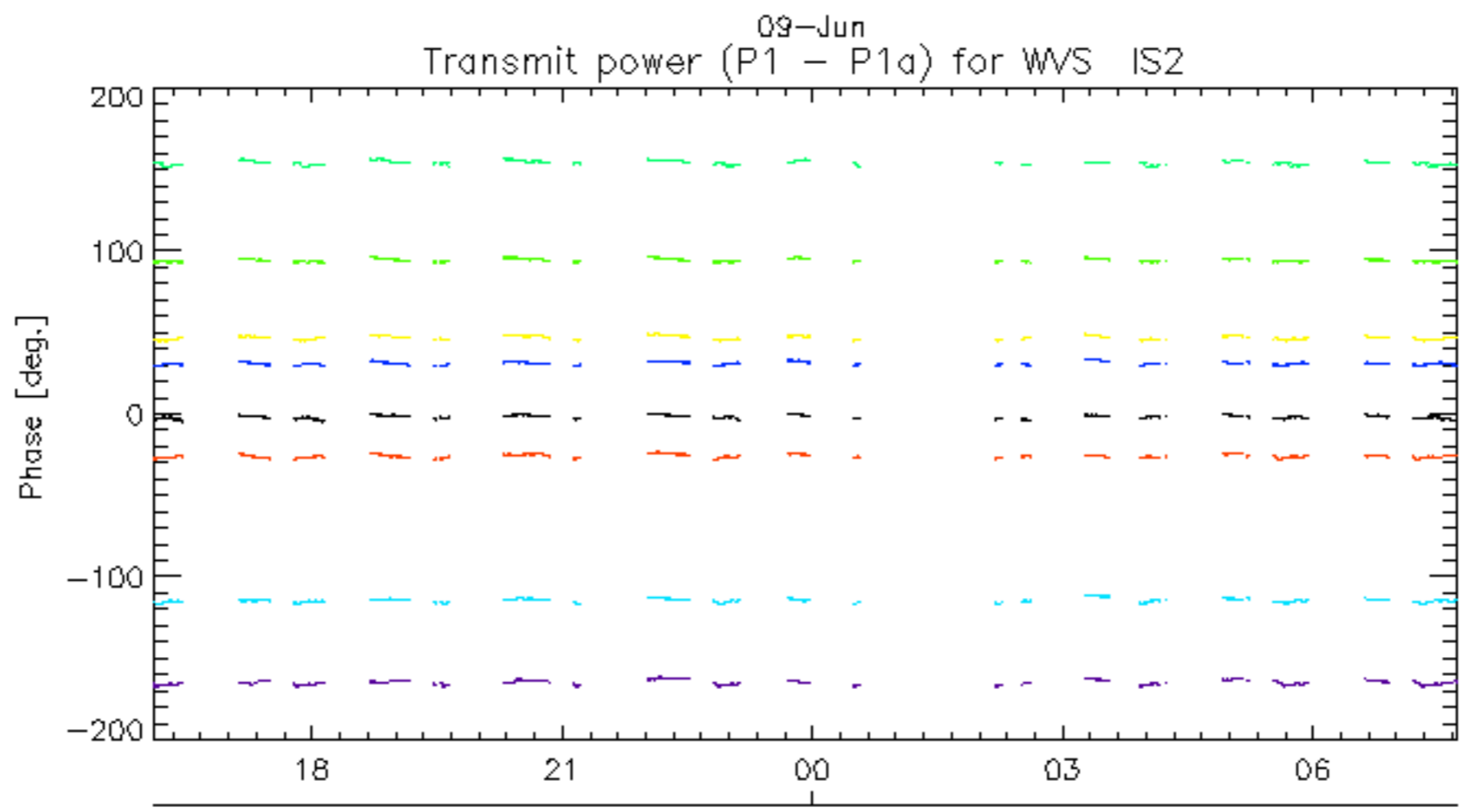
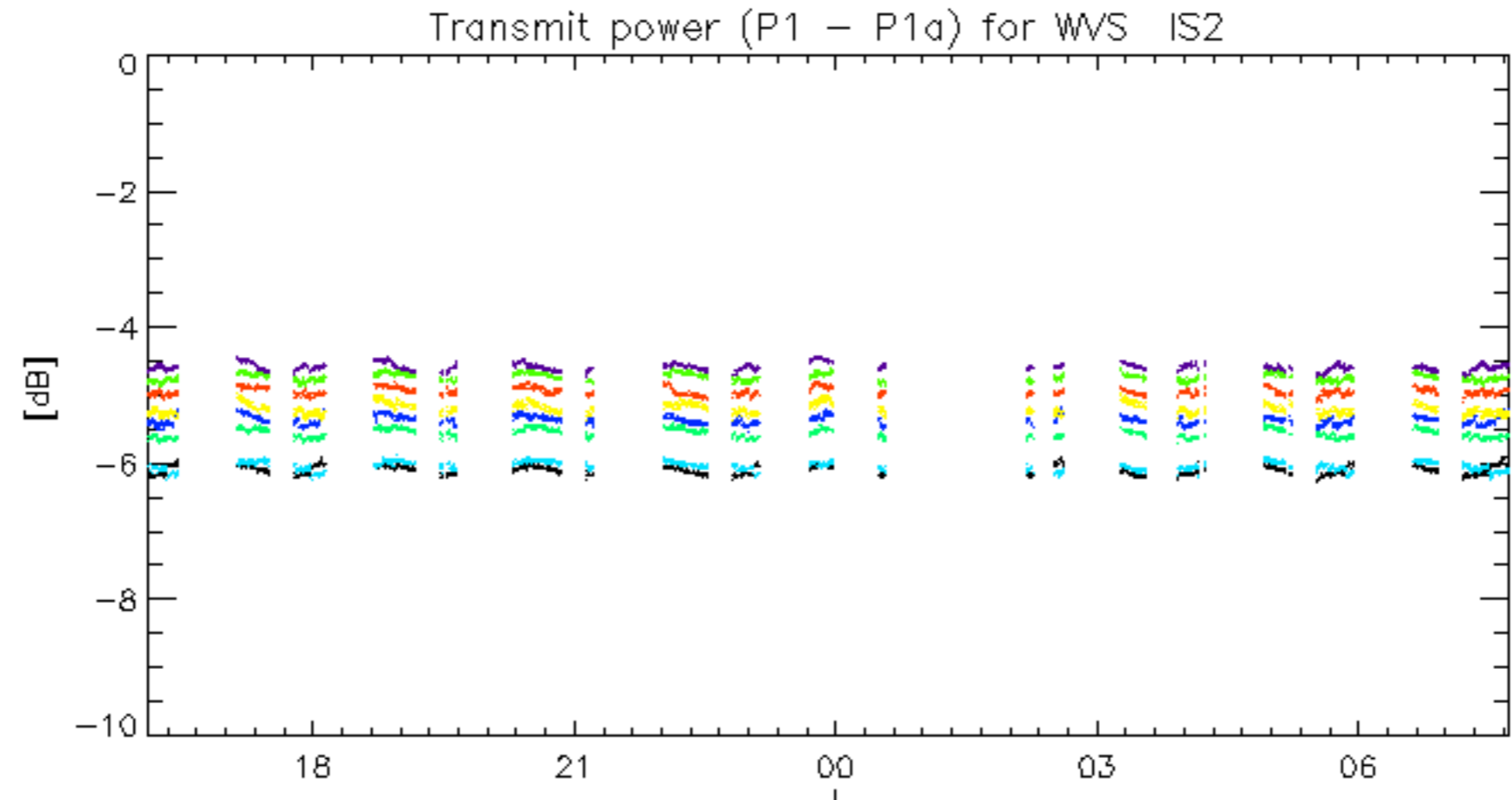


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



09-Jun
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30





rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

No unavailabilities during the reported period.