

PRELIMINARY REPORT OF 050725

last update on Mon Jul 25 10:58:49 GMT 2005

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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 - Auxiliary files

Summary of the auxiliary files used from 2005-07-24 00:00:00 to 2005-07-25 10:58:49

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	27	56	13	6	0
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	27	56	13	6	0
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	27	56	13	6	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	27	56	13	6	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	40	52	25	9	46
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	40	52	25	9	46
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	40	52	25	9	46
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	40	52	25	9	46

2.3 - Browse Visual Inspection

Transition visible in WSM data

2.4 - Data Analysis

The cal. pulses analysis shows a drop of the Tx power (P1 and P1a) pulses of the rows of the second part of the antenna in both H and V polarisation
 A detailed data analysis shows that the anomaly starts after an AP cal pulse corruption on 24-Jul-2005 02:22:42.
 The anomaly has been stopped by the antenna reset described above.

3 - Module Stepping Mode

No anomalies observed on available MS products:

Polarisation	Start Time
V	20050723 064410
H	20050724 061233

MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
☒	☒
☒	☒
☒	☒
☒	☒

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)
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P1 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.319663	0.006557	0.023863
7	P1	-3.137342	0.015032	0.005829
11	P1	-4.683105	0.032402	-0.057235
15	P1	-5.551714	0.047157	-0.047884
19	P1	-3.789241	0.045741	-0.013710
22	P1	-4.634394	0.140997	-0.131361
26	P1	-4.868268	0.163504	-0.095953
30	P1	-7.235230	0.250346	-0.170191
3	P1	-15.571338	0.080056	0.006938
7	P1	-15.532049	0.106990	0.061058
11	P1	-21.614561	0.255203	-0.243333
15	P1	-11.292890	0.042766	0.003037
19	P1	-14.493547	0.260319	-0.007488
22	P1	-15.776140	0.359321	0.163743
26	P1	-17.468109	0.247605	0.276747
30	P1	-17.731514	0.491221	0.184819

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.872780	0.082841	0.098296
7	P2	-22.045015	0.105024	0.154884
11	P2	-13.699734	0.105919	0.253615
15	P2	-7.094531	0.093379	0.066639
19	P2	-9.596631	0.094345	0.027644
22	P2	-16.855961	0.095057	0.026694
26	P2	-16.506187	0.097443	0.016755
30	P2	-18.790369	0.084233	0.003371

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.157877	0.002740	0.012820
7	P3	-8.157877	0.002740	0.012820
11	P3	-8.157877	0.002740	0.012820
15	P3	-8.157877	0.002740	0.012820
19	P3	-8.157877	0.002740	0.012820
22	P3	-8.157877	0.002740	0.012820
26	P3	-8.157877	0.002740	0.012820
30	P3	-8.157877	0.002740	0.012820

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	-2.783385	0.013731	0.020760
7	P1	-2.951985	0.031601	0.015157
11	P1	-3.994409	0.016908	-0.024639
15	P1	-3.566576	0.023410	-0.048926
19	P1	-3.667843	0.116212	0.044673
22	P1	-5.692791	0.164336	-0.097700
26	P1	-7.410694	0.330147	-0.177463
30	P1	-6.334857	0.148165	-0.106588
3	P1	-10.824469	0.039311	0.015022
7	P1	-10.445059	0.155926	-0.011016
11	P1	-12.610454	0.110209	-0.071339
15	P1	-11.617349	0.073475	0.027101
19	P1	-15.660305	1.344271	0.199276
22	P1	-25.756834	3.913811	0.682673

26	P1	-15.399713	0.448988	0.256325
30	P1	-20.110622	1.327078	0.323441

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.618950	0.046548	0.117283
7	P2	-22.054564	0.040466	0.068813
11	P2	-9.709690	0.061736	0.181363
15	P2	-5.124719	0.046510	0.029070
19	P2	-6.903906	0.063394	0.021729
22	P2	-7.082968	0.039560	0.043211
26	P2	-23.967180	0.043474	-0.010589
30	P2	-21.955097	0.042842	0.027058

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-7.998011	0.004149	0.003472
7	P3	-7.997938	0.004142	0.003649
11	P3	-7.997932	0.004142	0.003917
15	P3	-7.998053	0.004147	0.003604
19	P3	-7.998030	0.004152	0.003572
22	P3	-7.998065	0.004132	0.003479
26	P3	-7.998027	0.004136	0.003728
30	P3	-7.997997	0.004138	0.003811

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	0.000472661
	stdev	2.13424e-07
MEAN Q	mean	0.000502951
	stdev	2.31605e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.128318
	stdev	0.000996558
STDEV Q	mean	0.128563
	stdev	0.00100752



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2005072[345]

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_1PNPDE20050724_004103_000000622039_00174_17763_0522.N1	1	0
ASA_WVS_1PNPDE20050723_221009_000000002039_00172_17761_0150.N1	1	0
ASA_WSM_1PNPDE20050723_012128_000000672039_00160_17749_0739.N1	0	69
ASA_WSM_1PNPDE20050724_023124_000000672039_00175_17764_0904.N1	0	8
ASA_WSM_1PNPDE20050724_023126_000001282039_00175_17764_0970.N1	0	8



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)	
<input type="checkbox"/>	
	Acsending
<input type="checkbox"/>	
	Descending

7.2 - Absolute Doppler for WVS

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

7.3 - Doppler evolution versus ANX for WVS

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

7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

Ascending

Descending

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

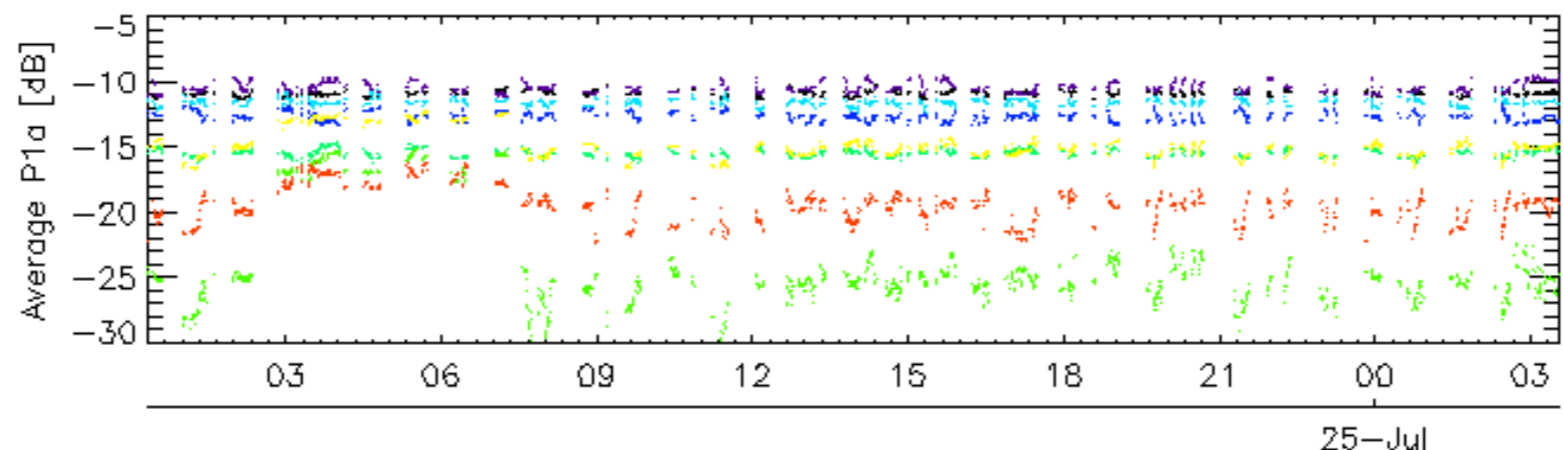
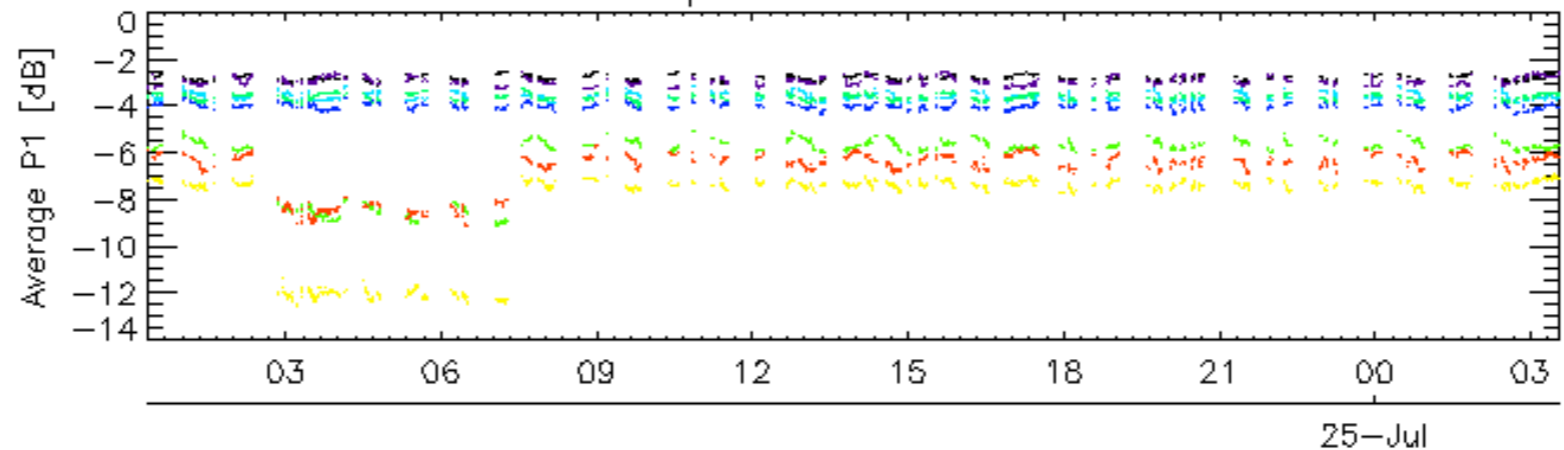
Ascending

Descending

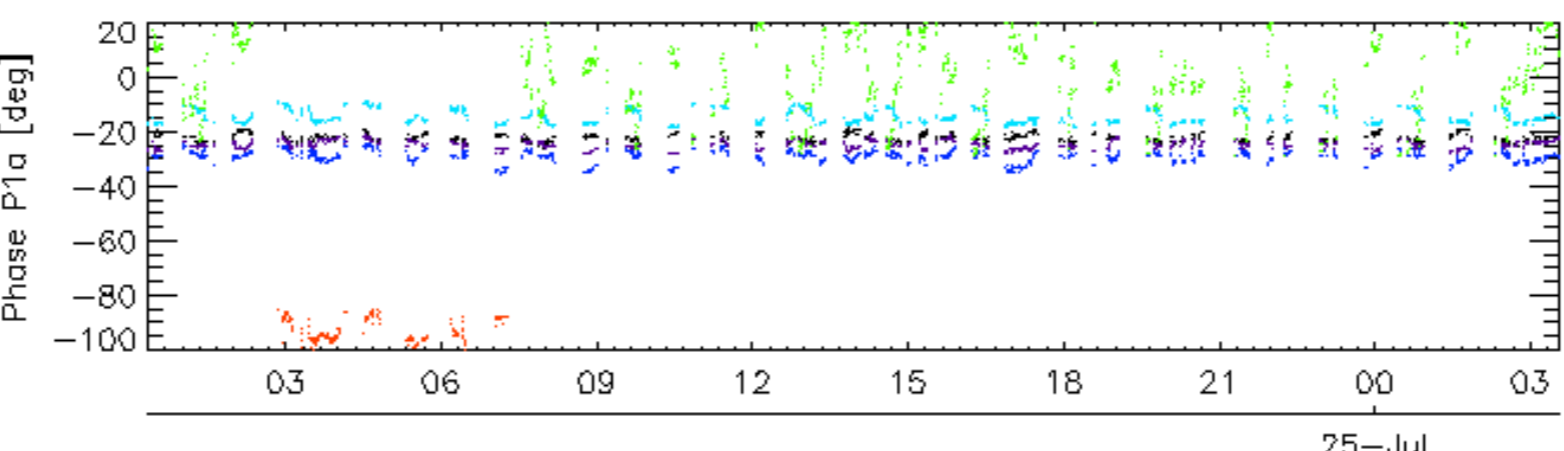
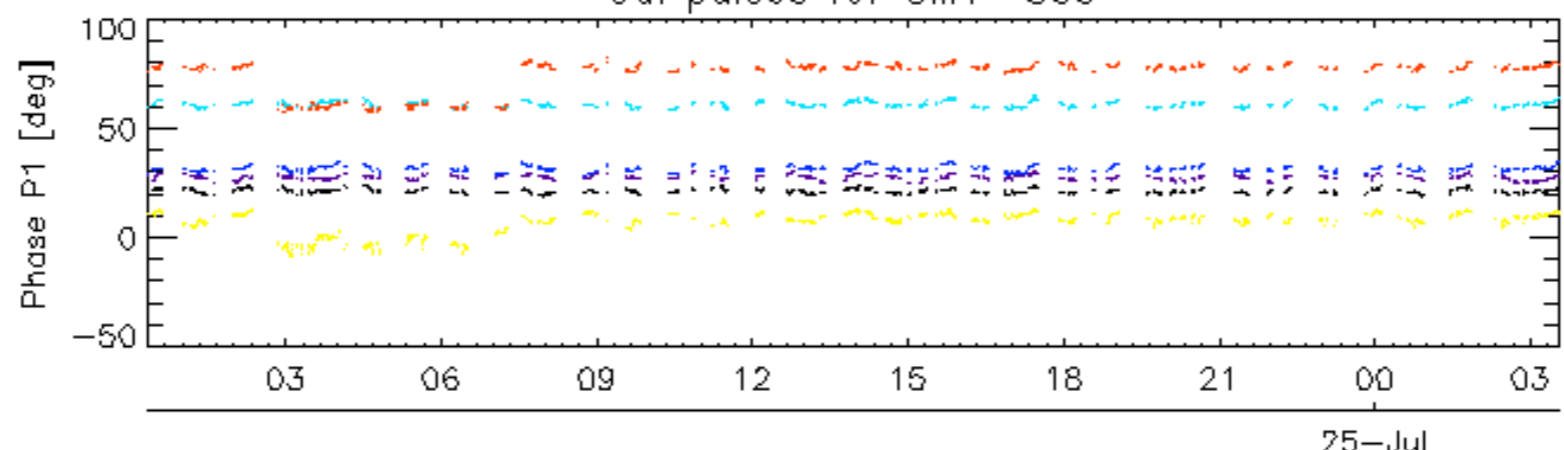
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

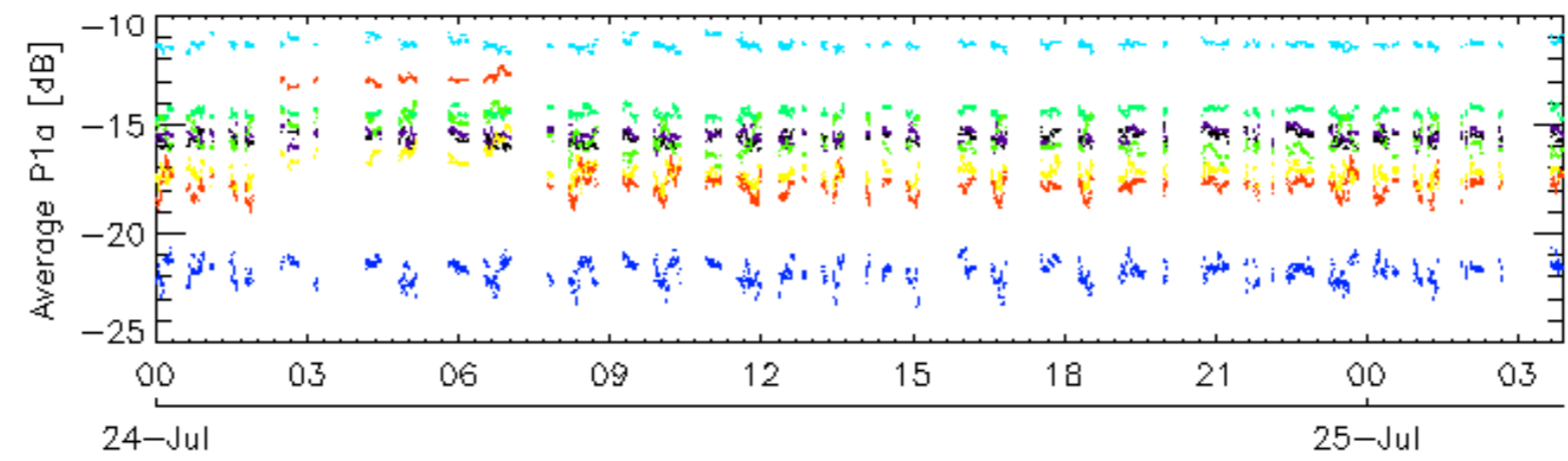
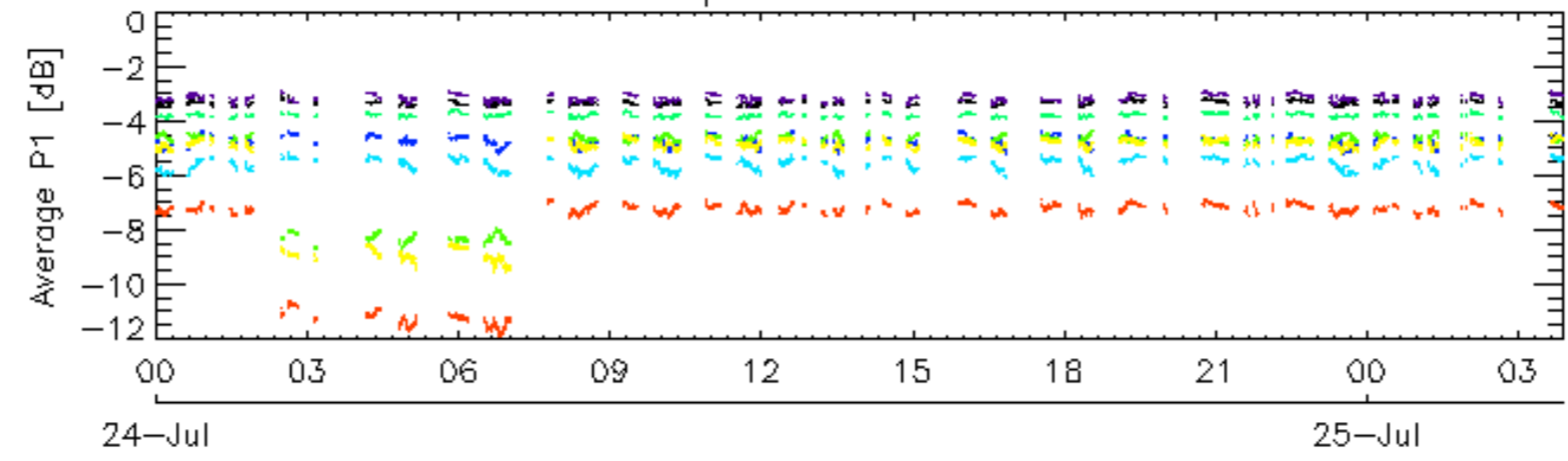


Cal pulses for GM1 SS3

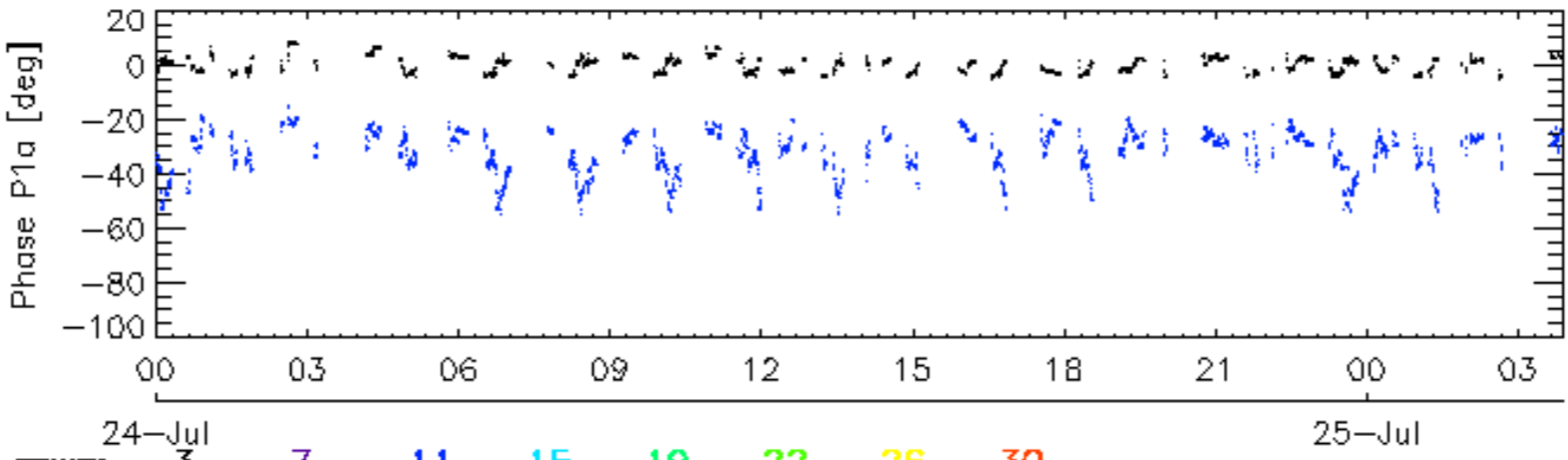
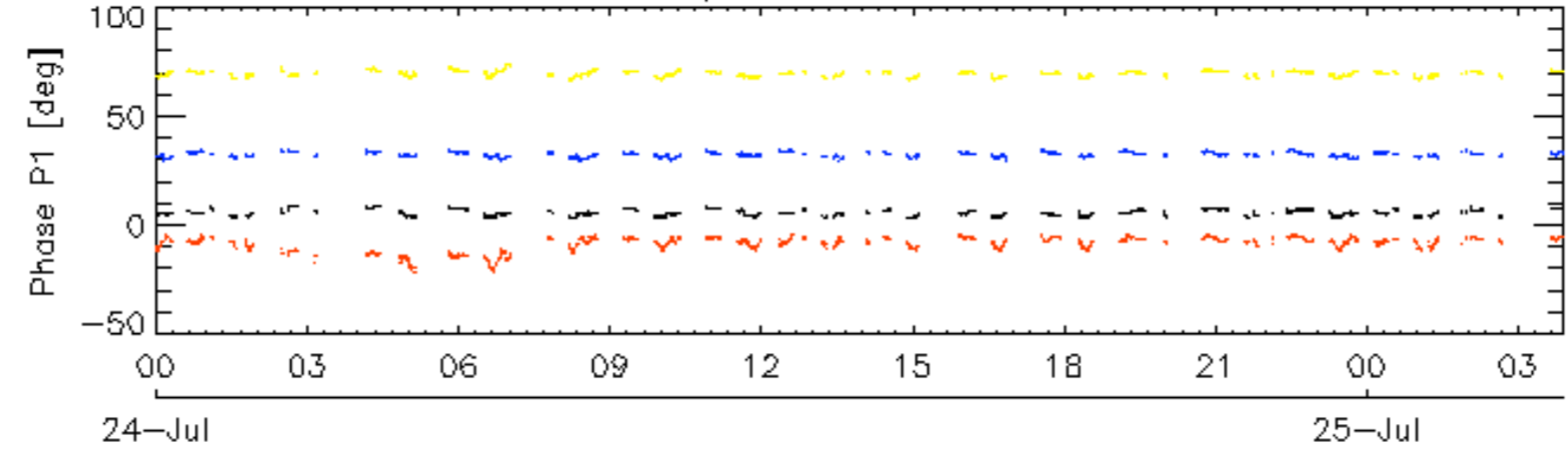


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

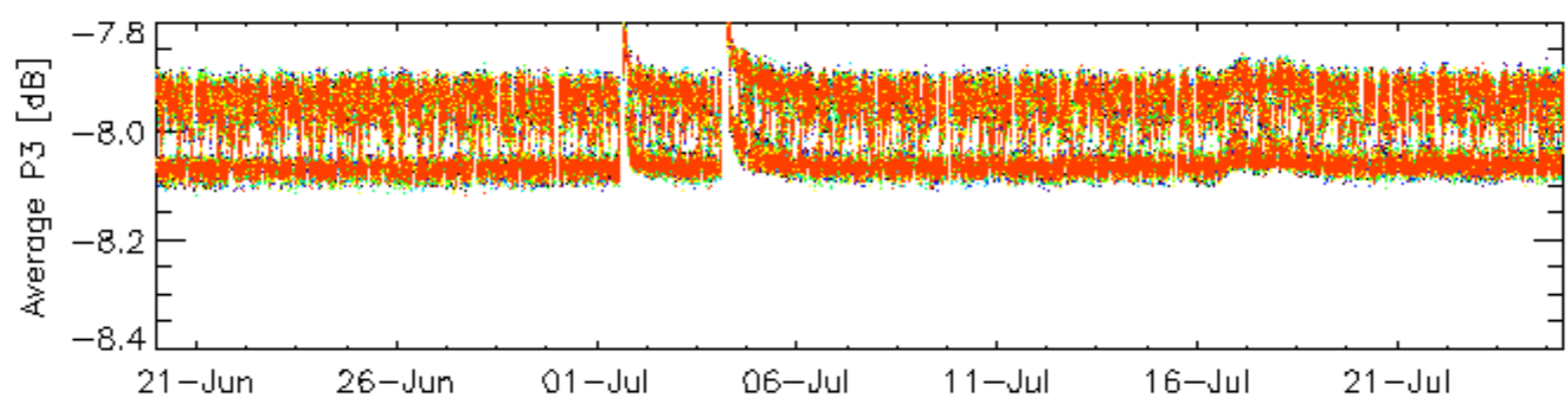
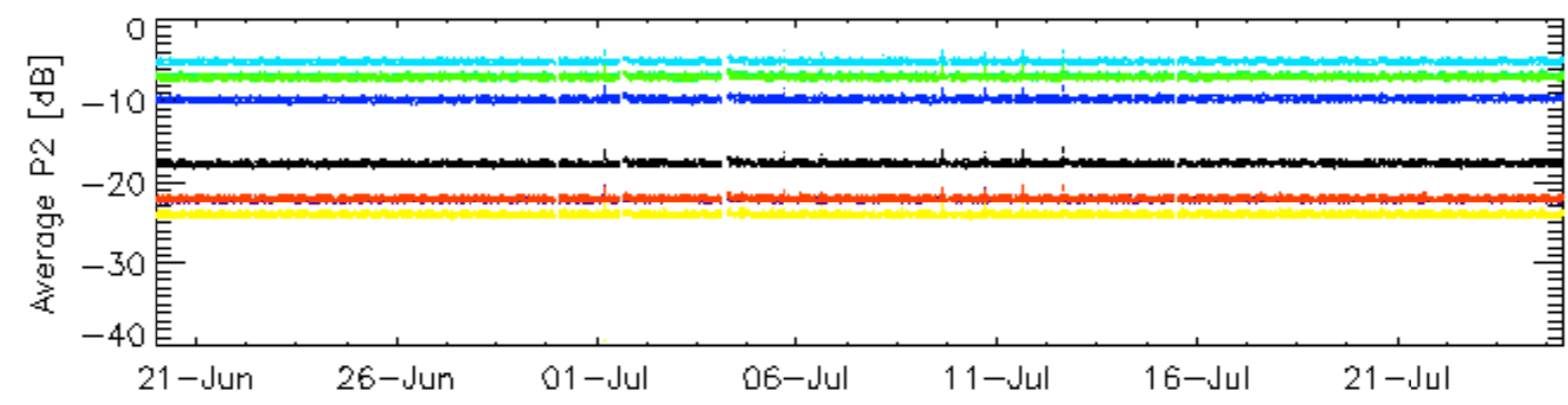
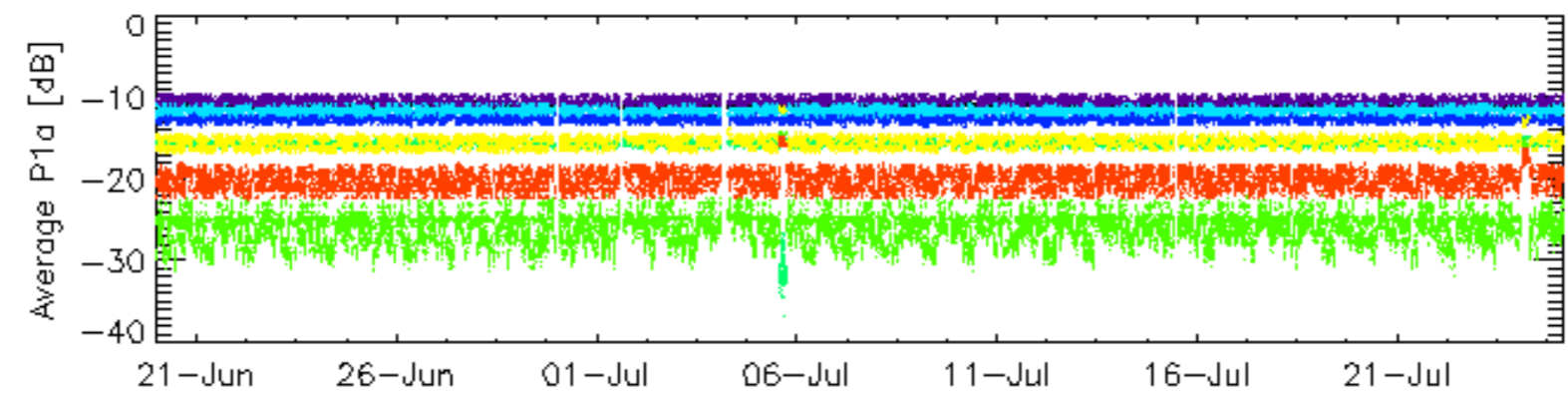
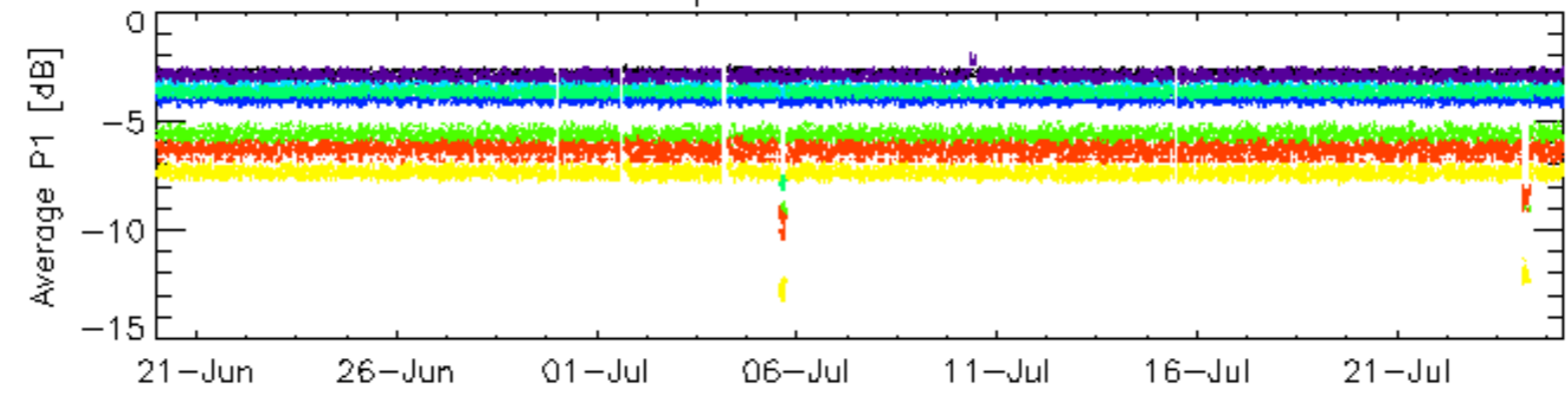


Cal pulses for WVS IS2



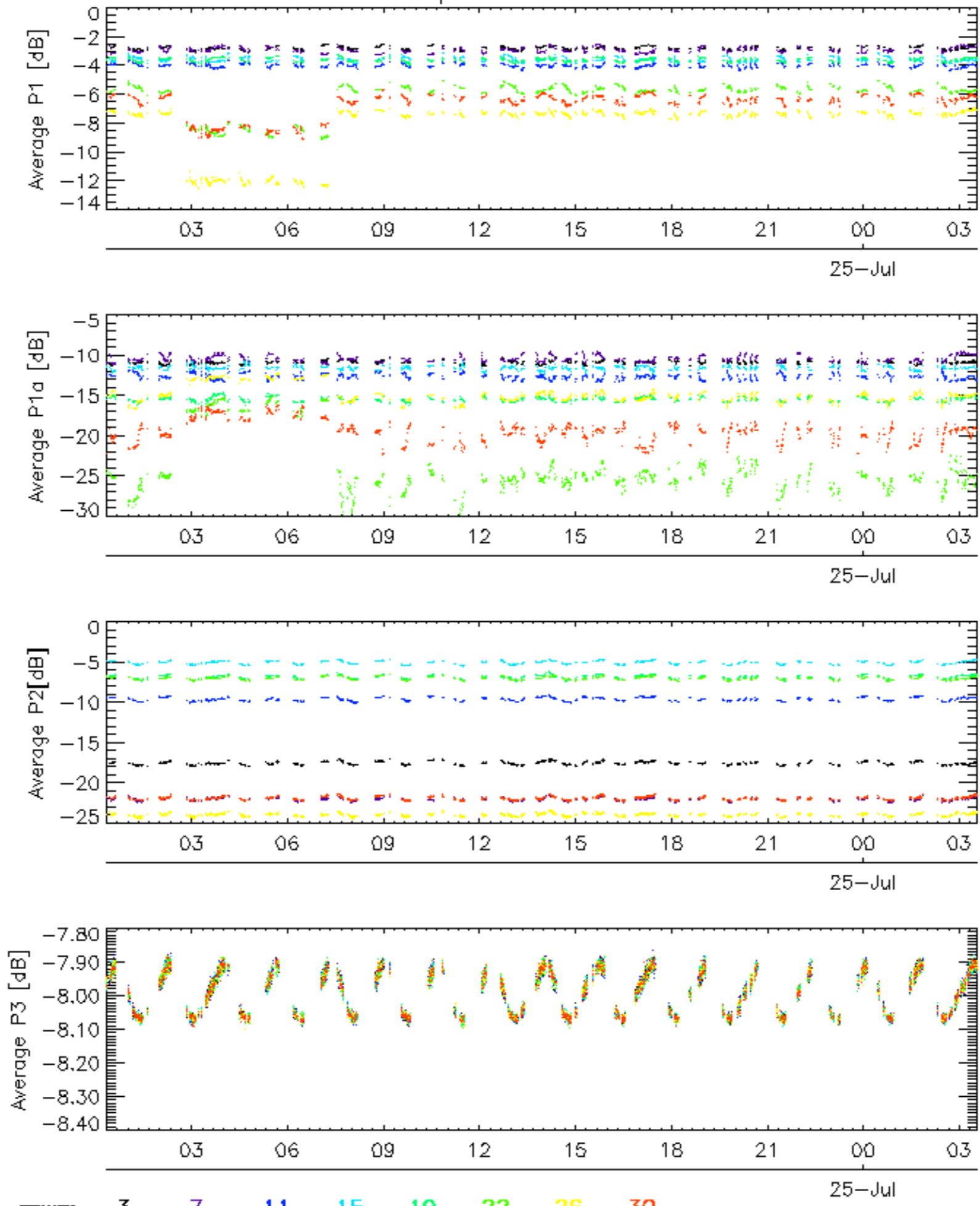
rows: - 3 - 7 - 11 - 15 - 19 - 22 - 26 - 30

Cal pulses for GM1 SS3



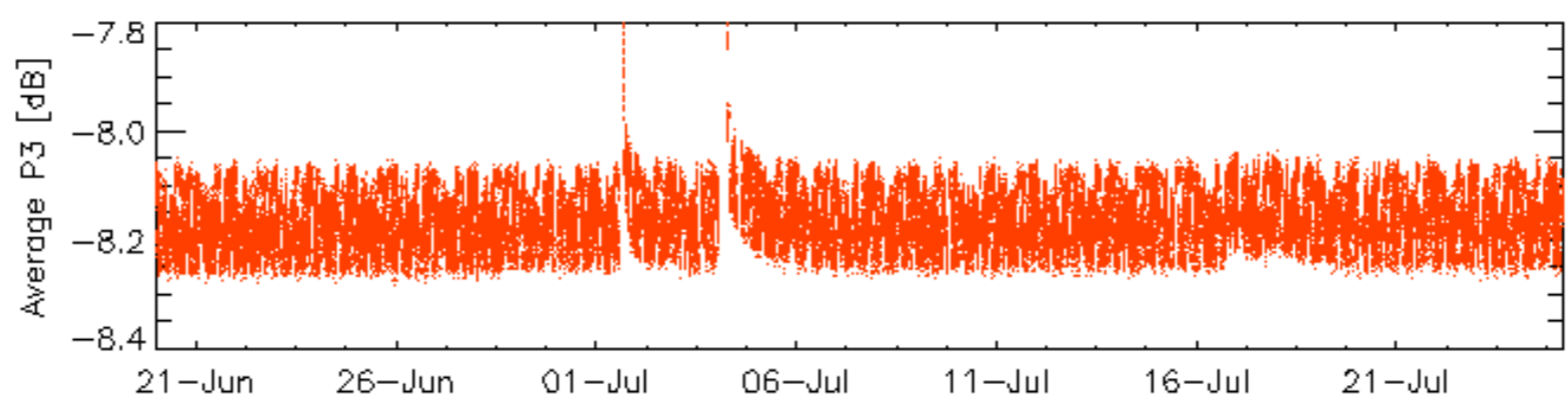
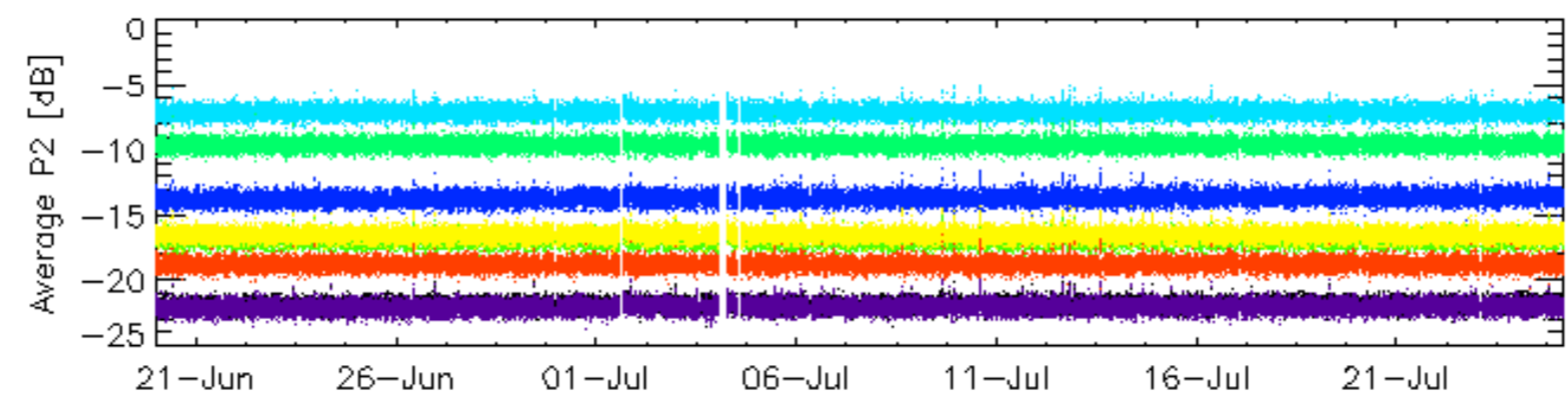
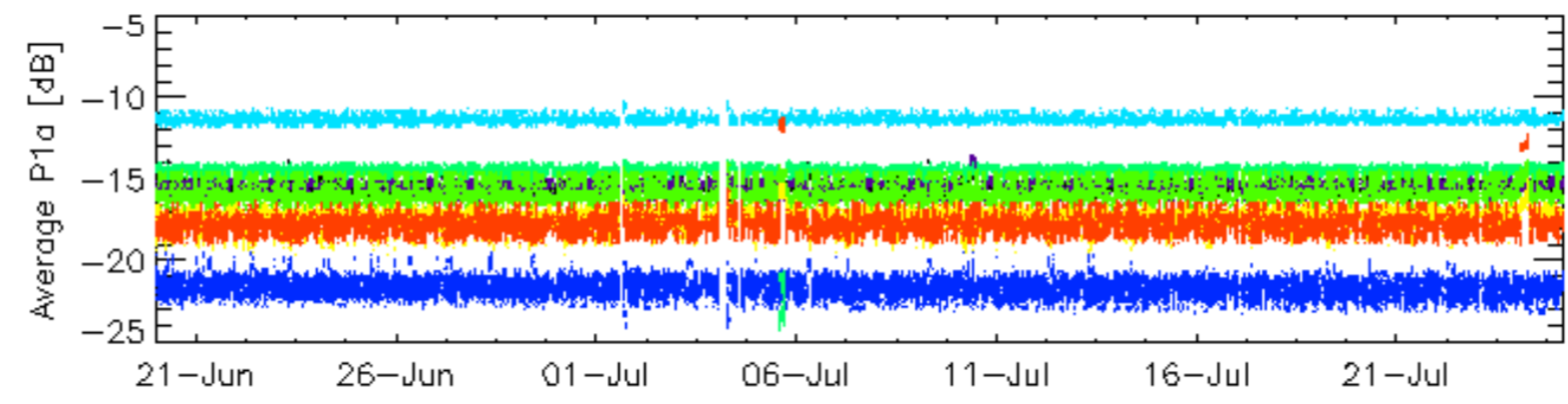
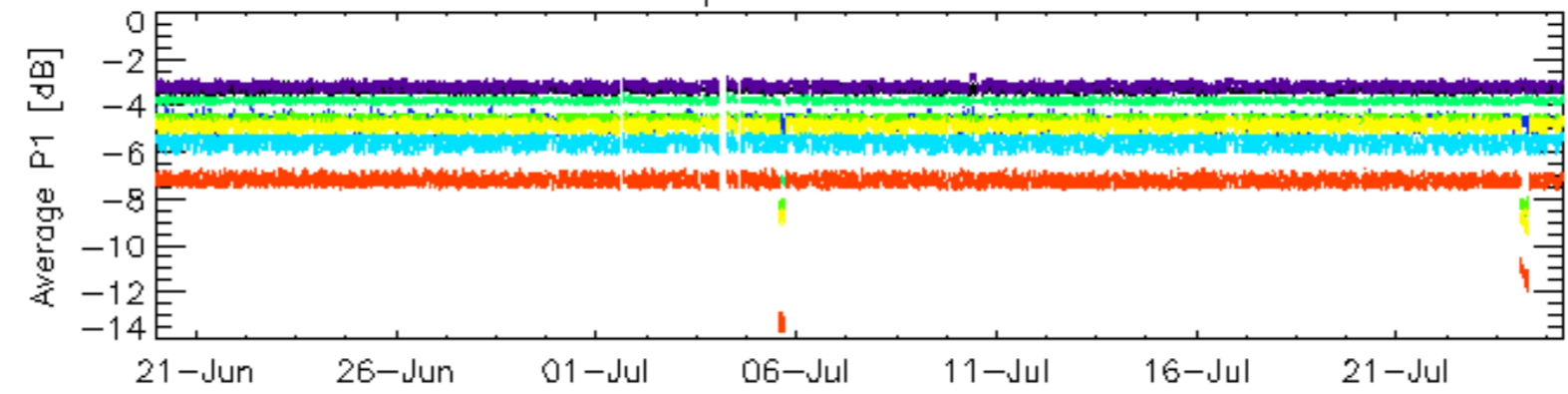
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3



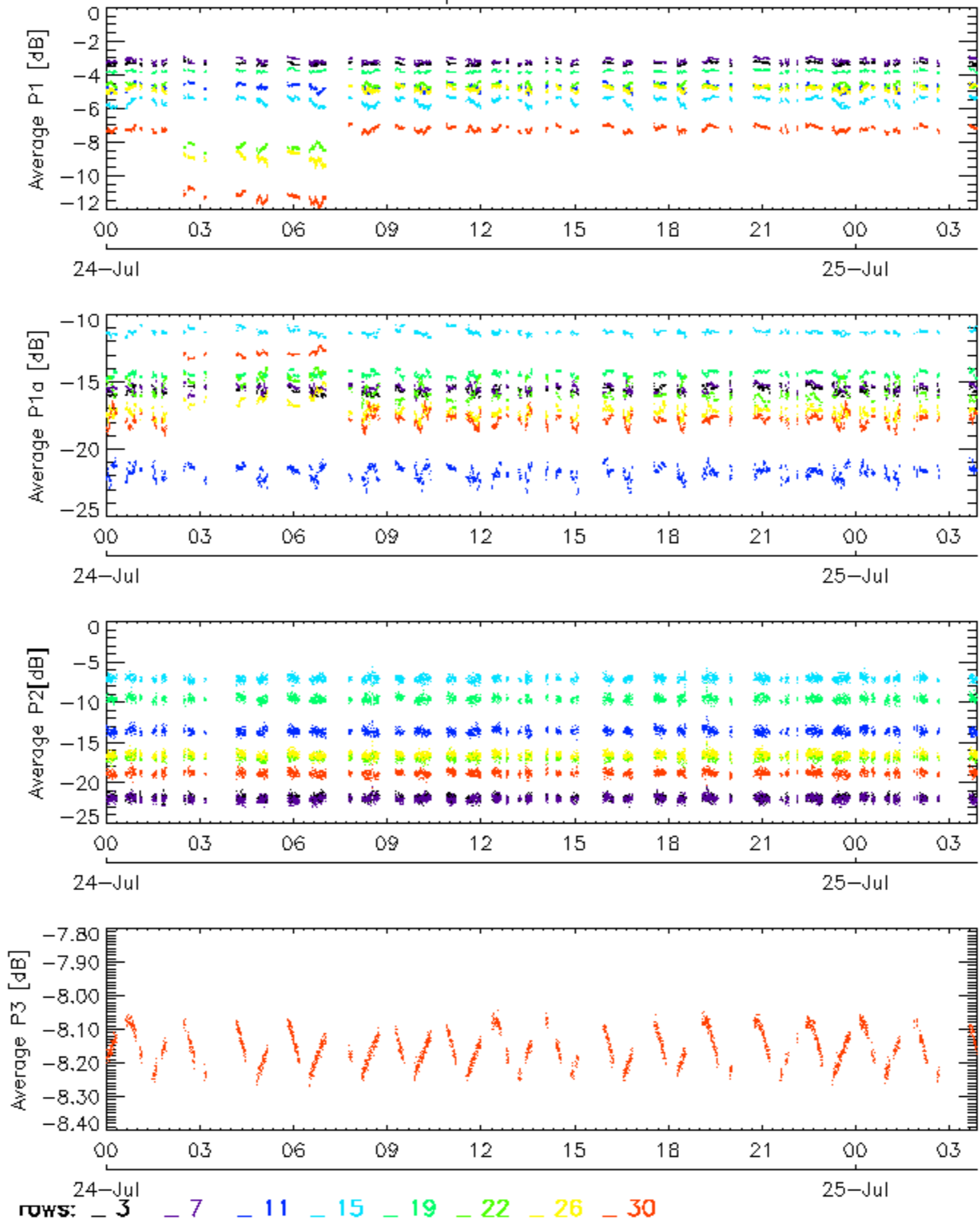
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

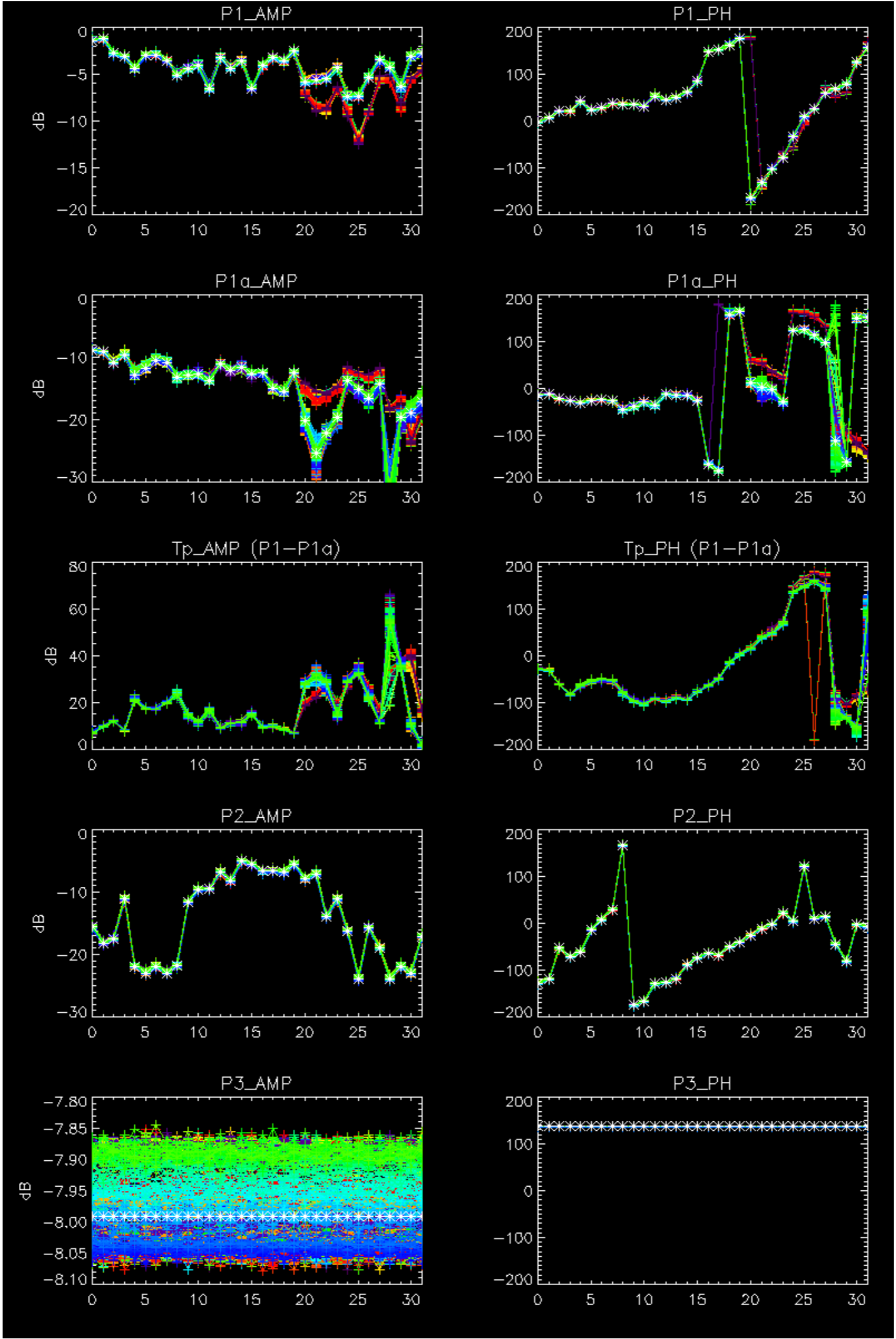


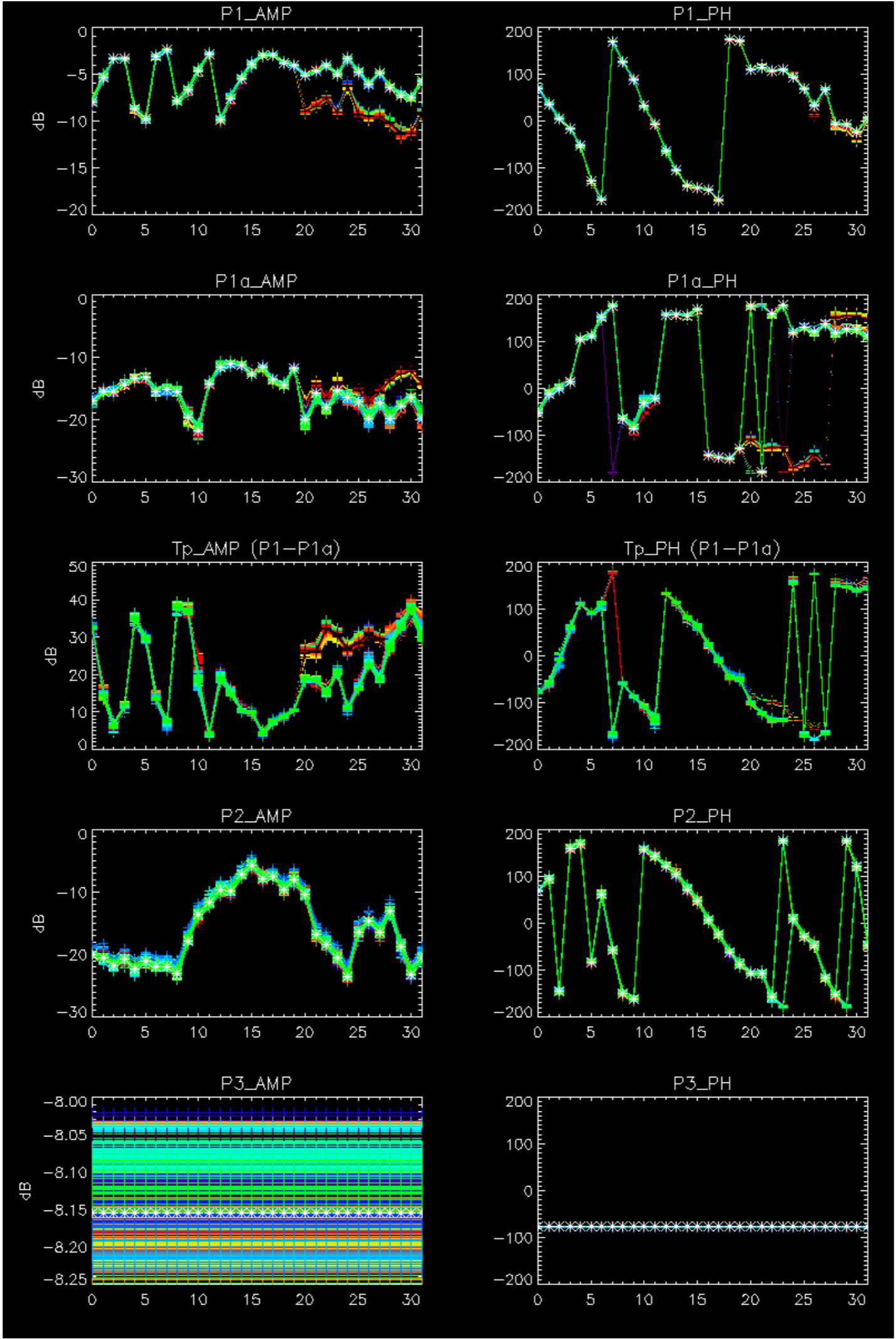
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



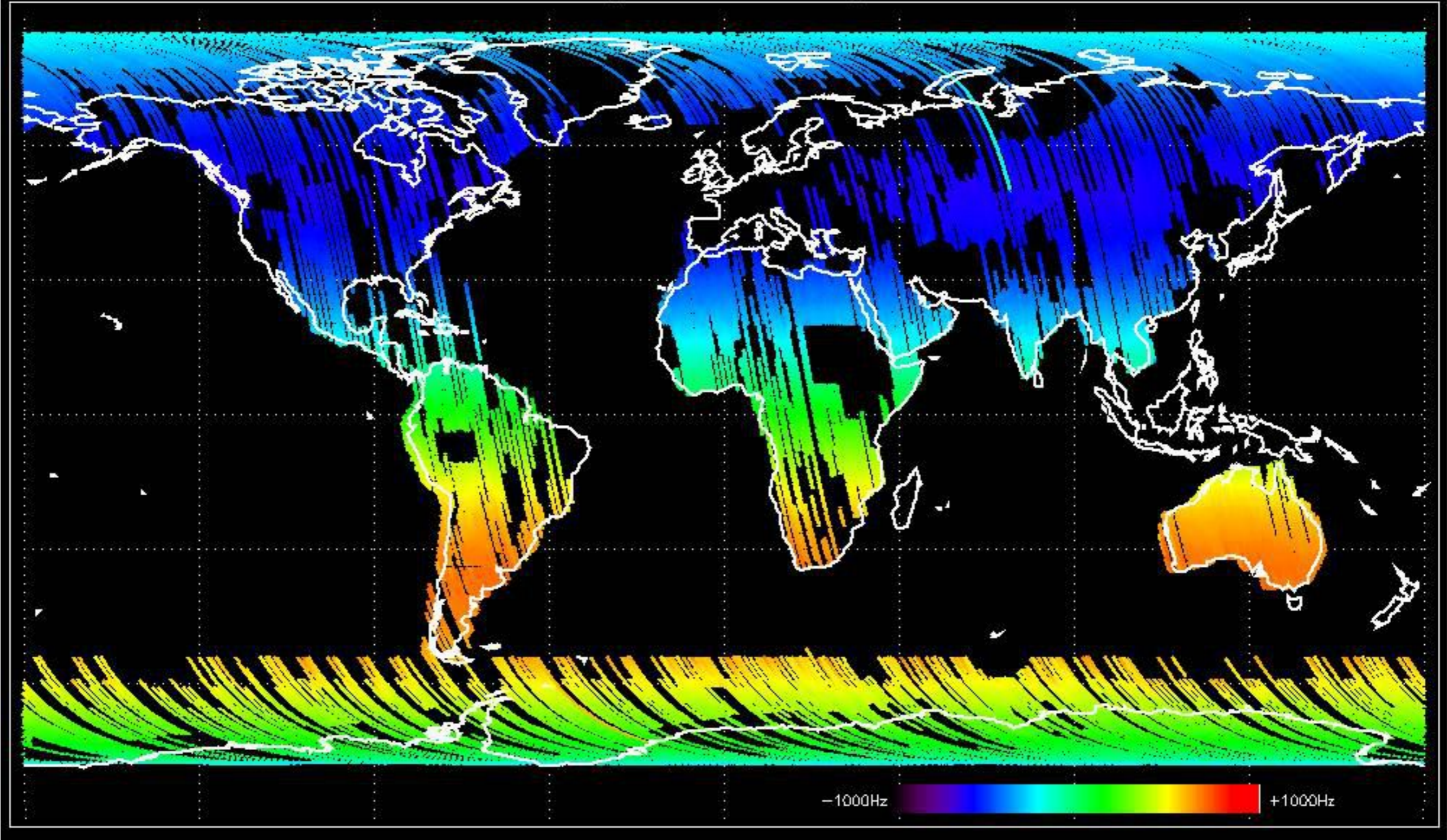
No anomalies observed.



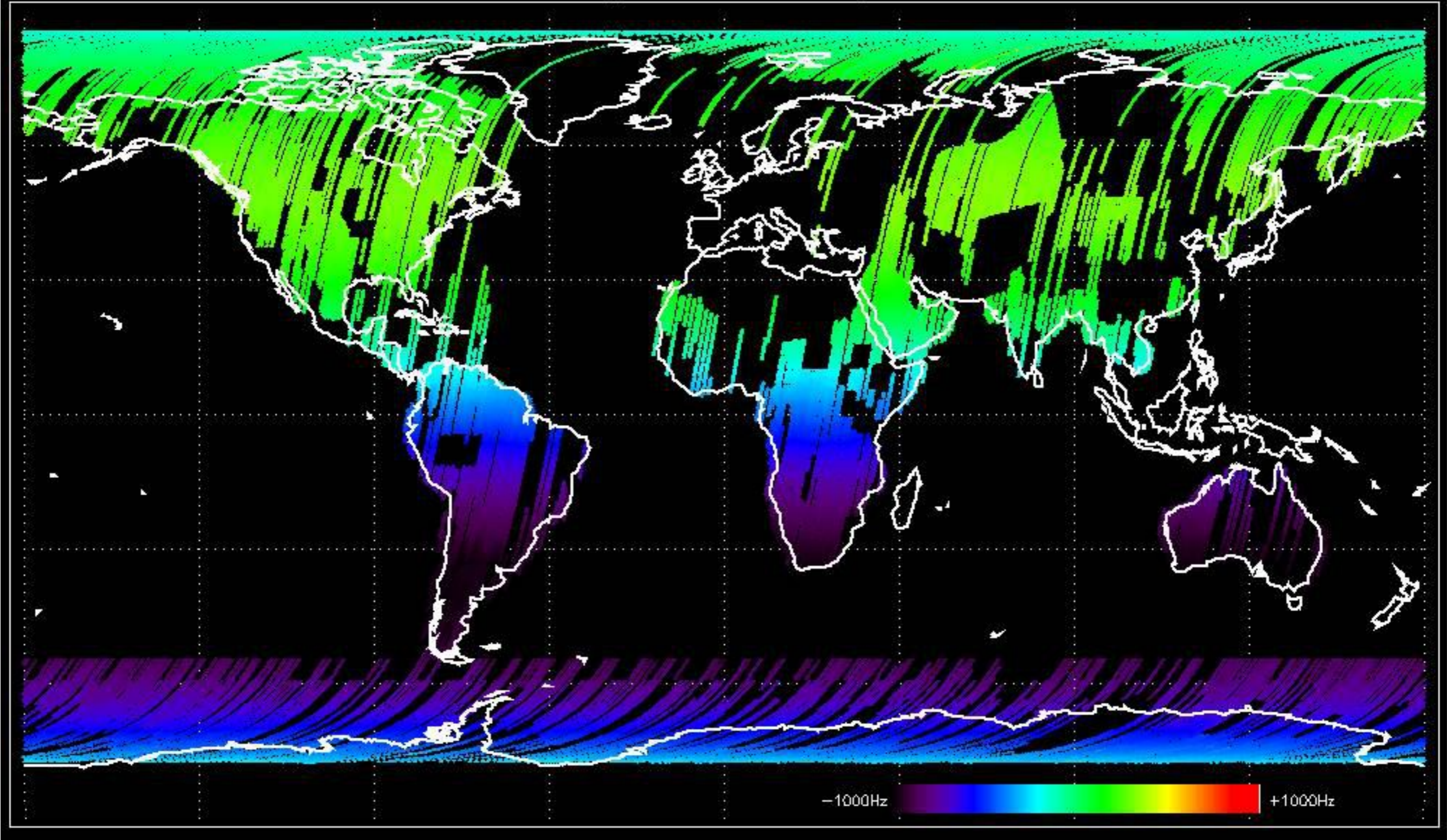


The cal. pulses analysis shows a drop of the Tx power (P1 and P1a) pulses of the rows of the second part of the antenna in both H and V polarisation
A detailed data analysis shows that the anomaly starts after an AP cal pulse corruption on 24-Jul-2005 02:22:42.
The anomaly has been stopped by the antenna reset described above.

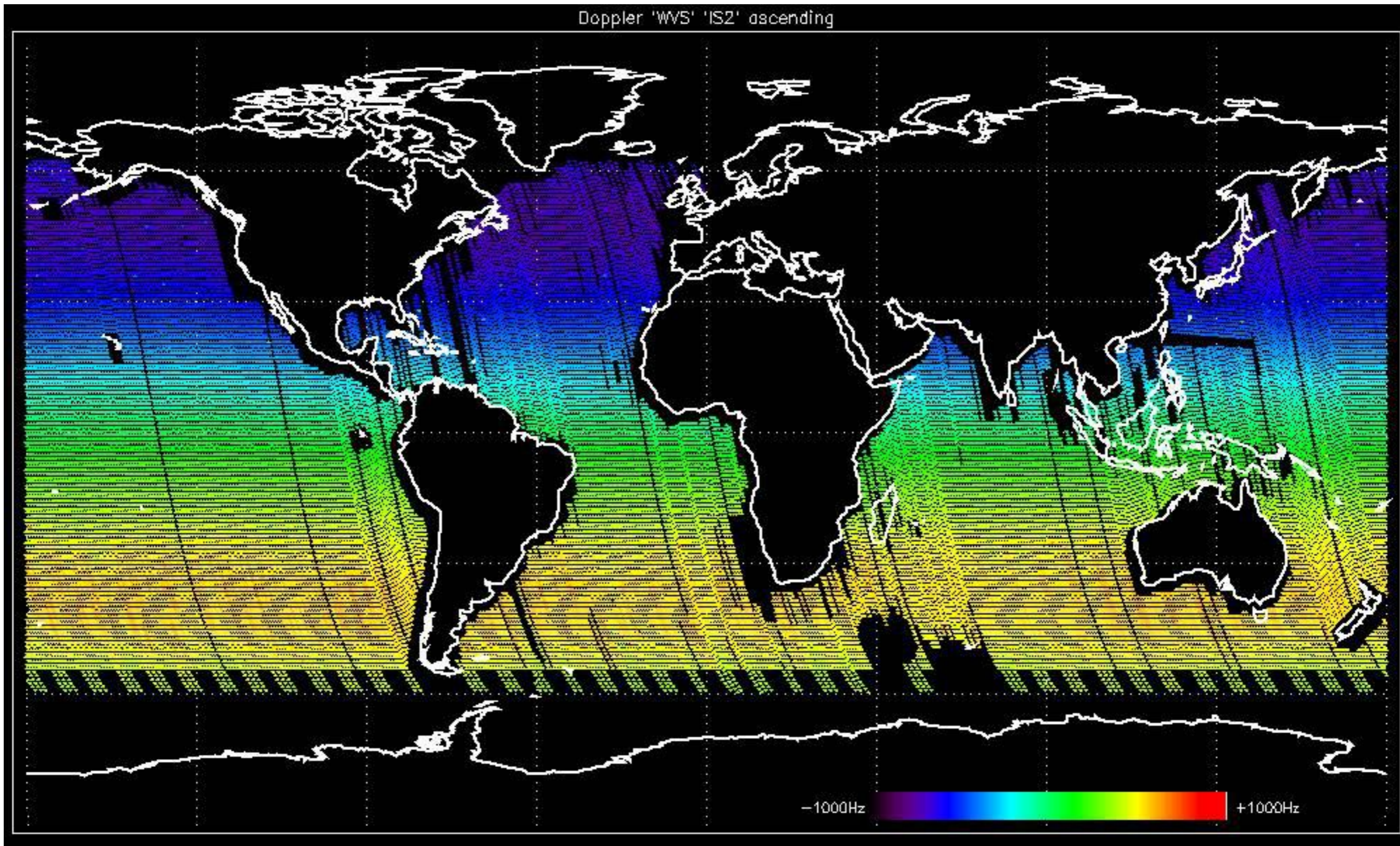
Doppler 'GM1' 'SS1' ascending



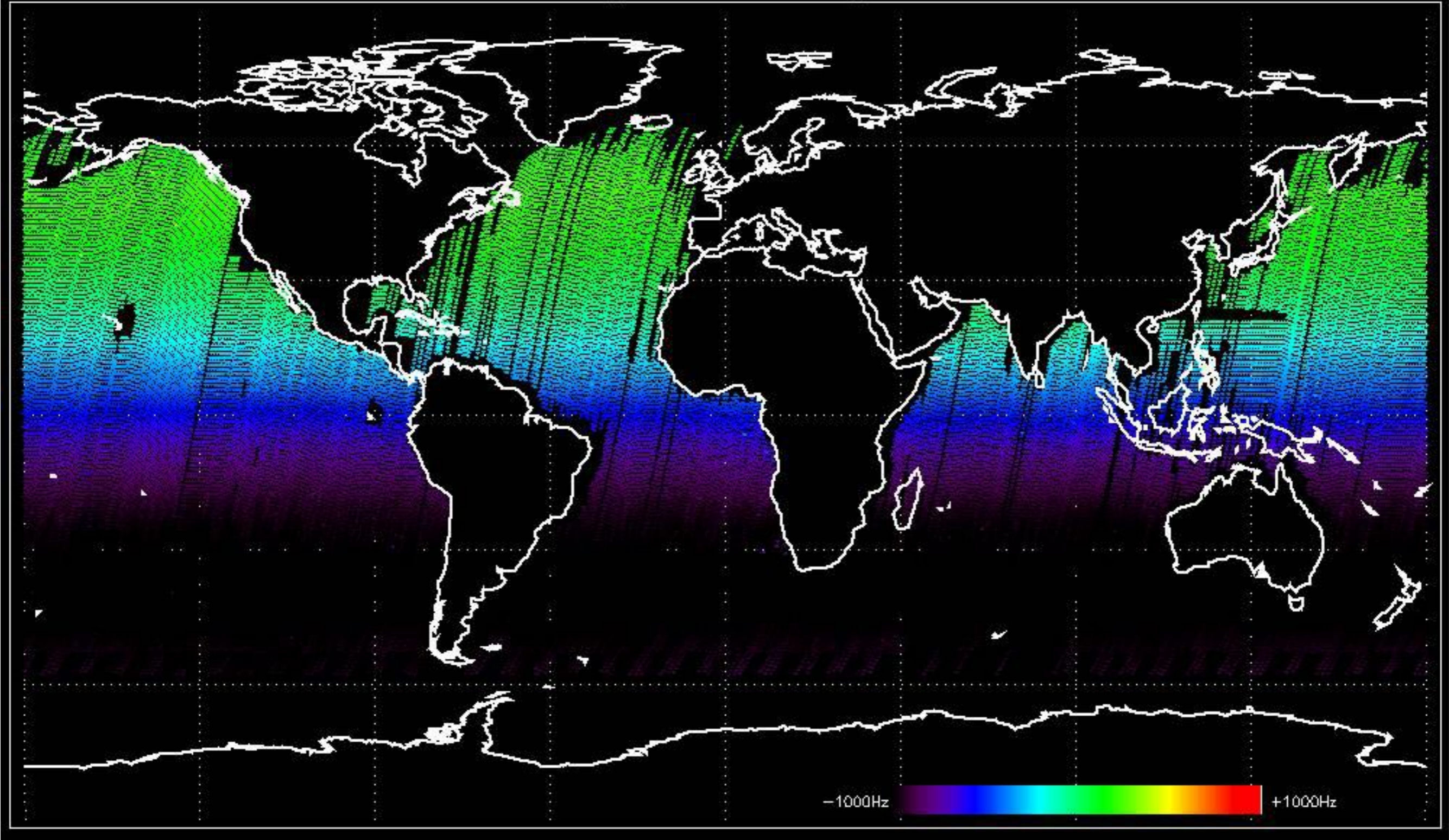
Doppler 'GM1' 'SS1' descending



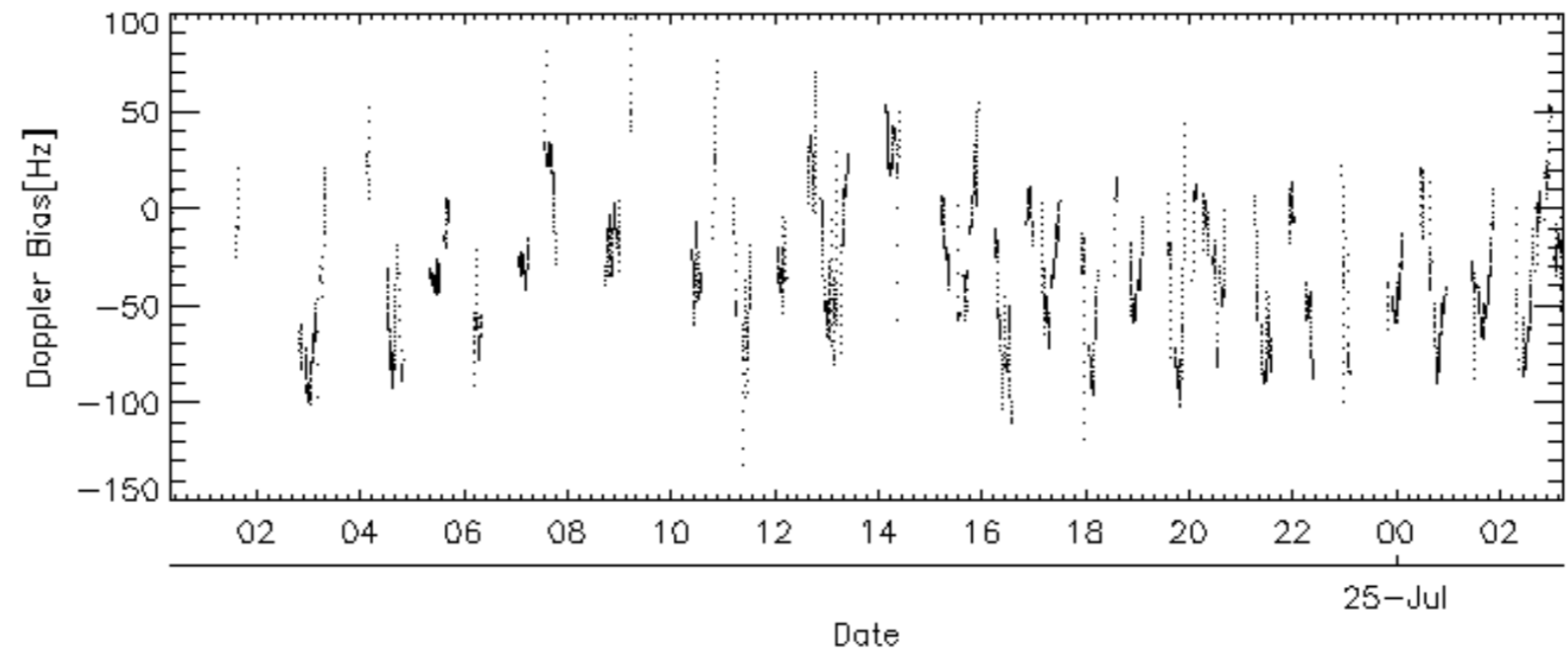
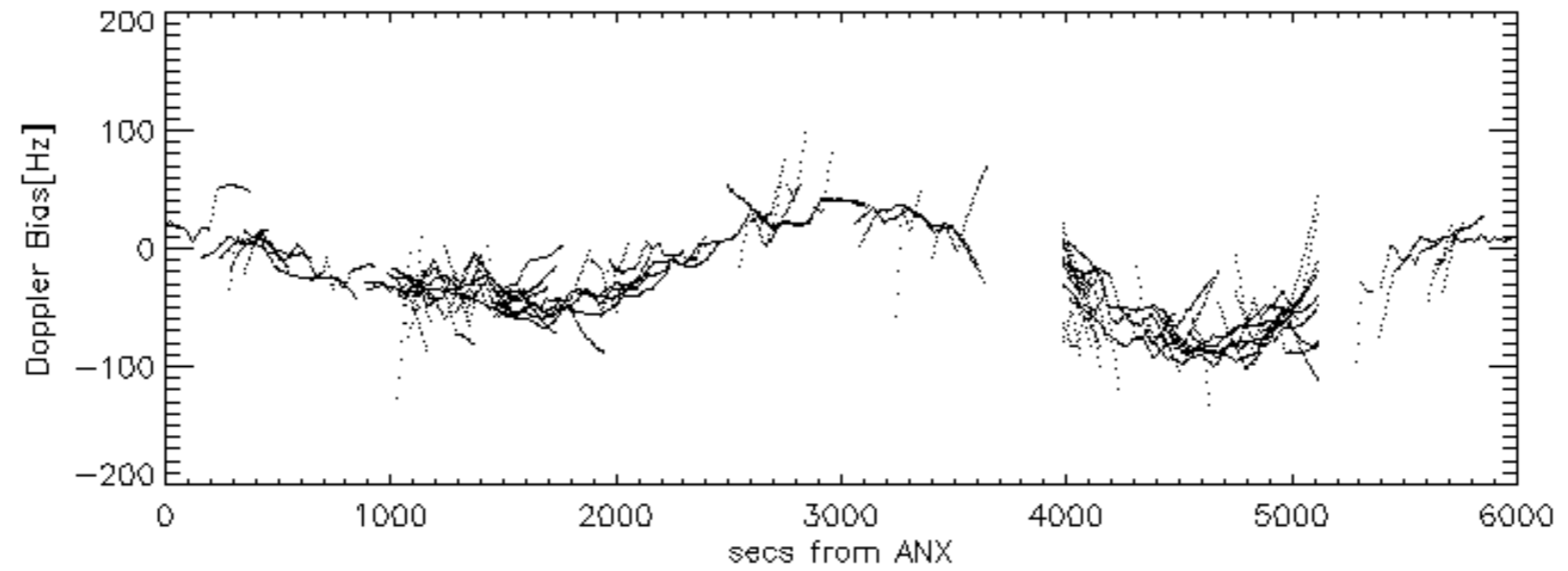
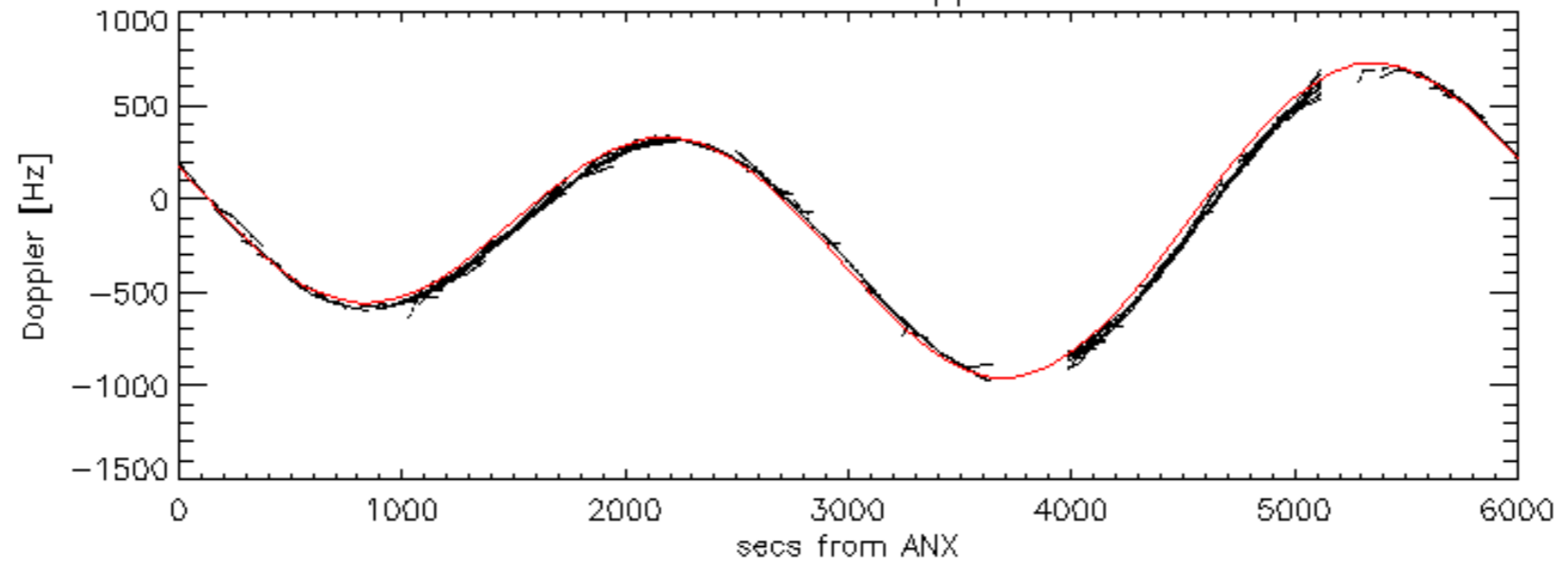
Doppler 'WVS' 'IS2' ascending

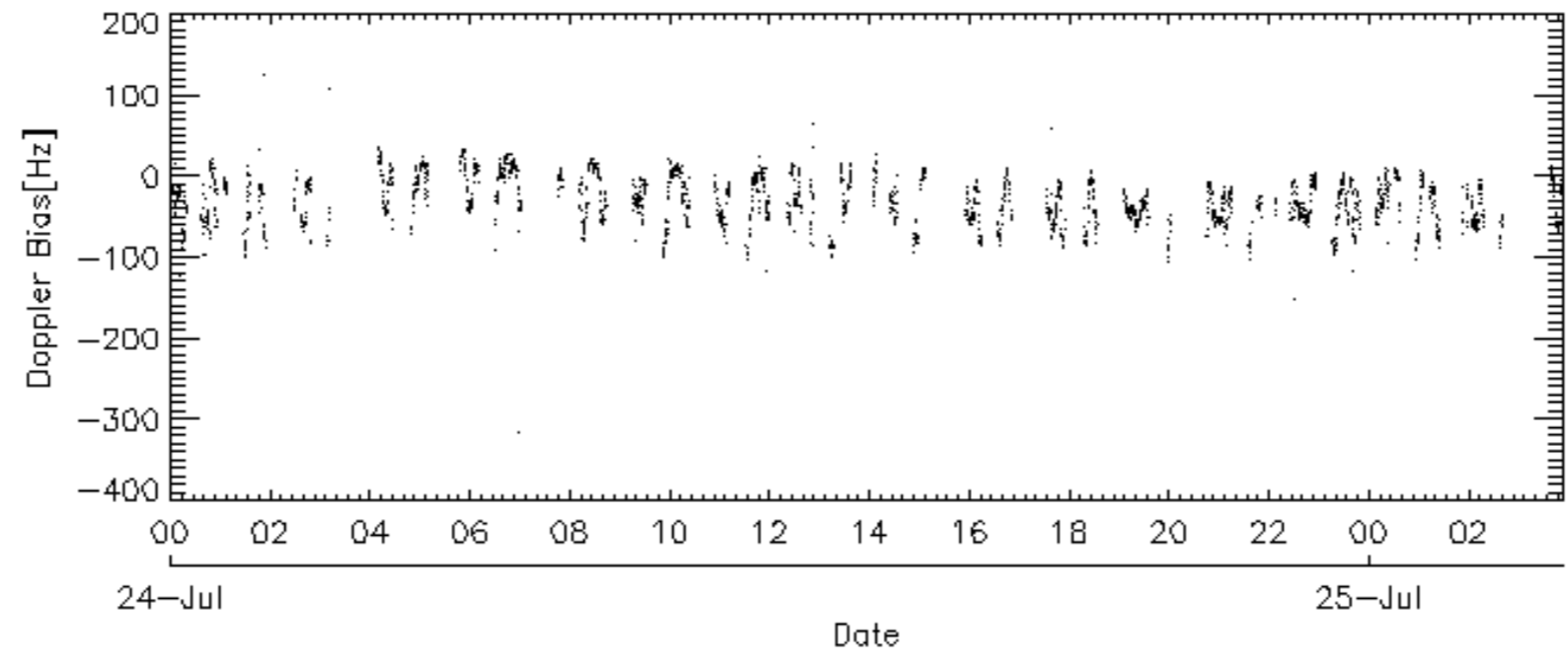
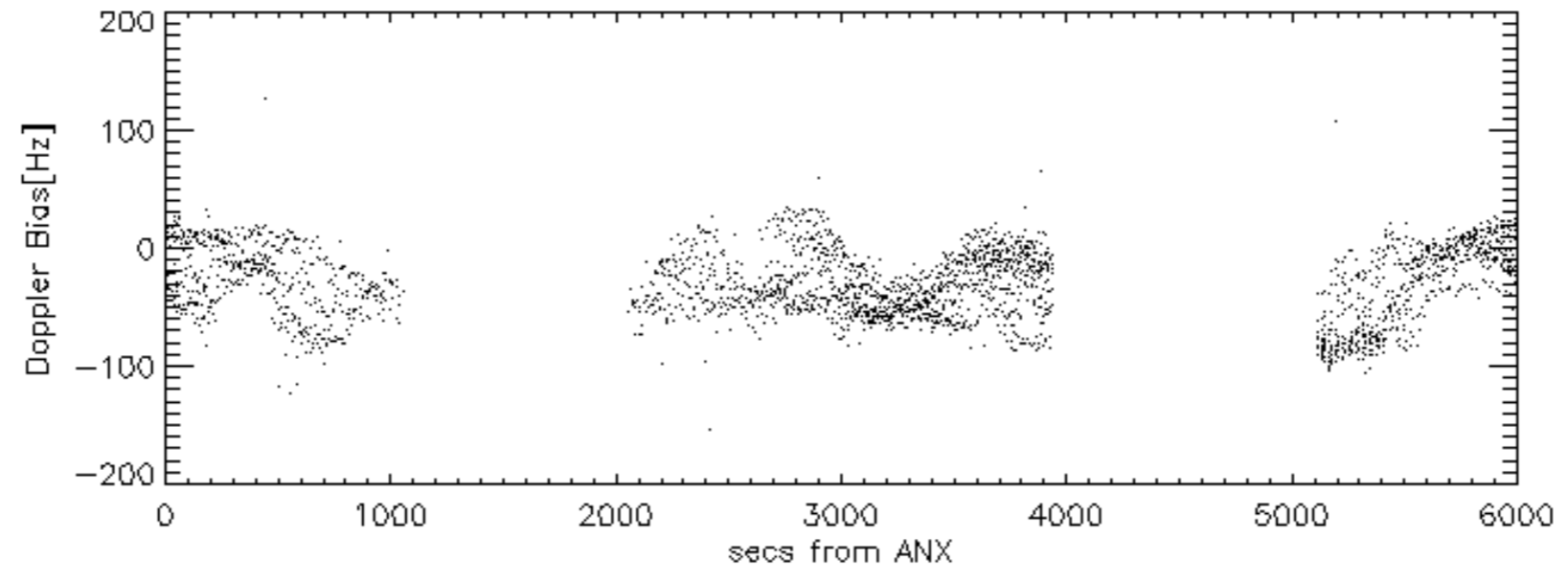
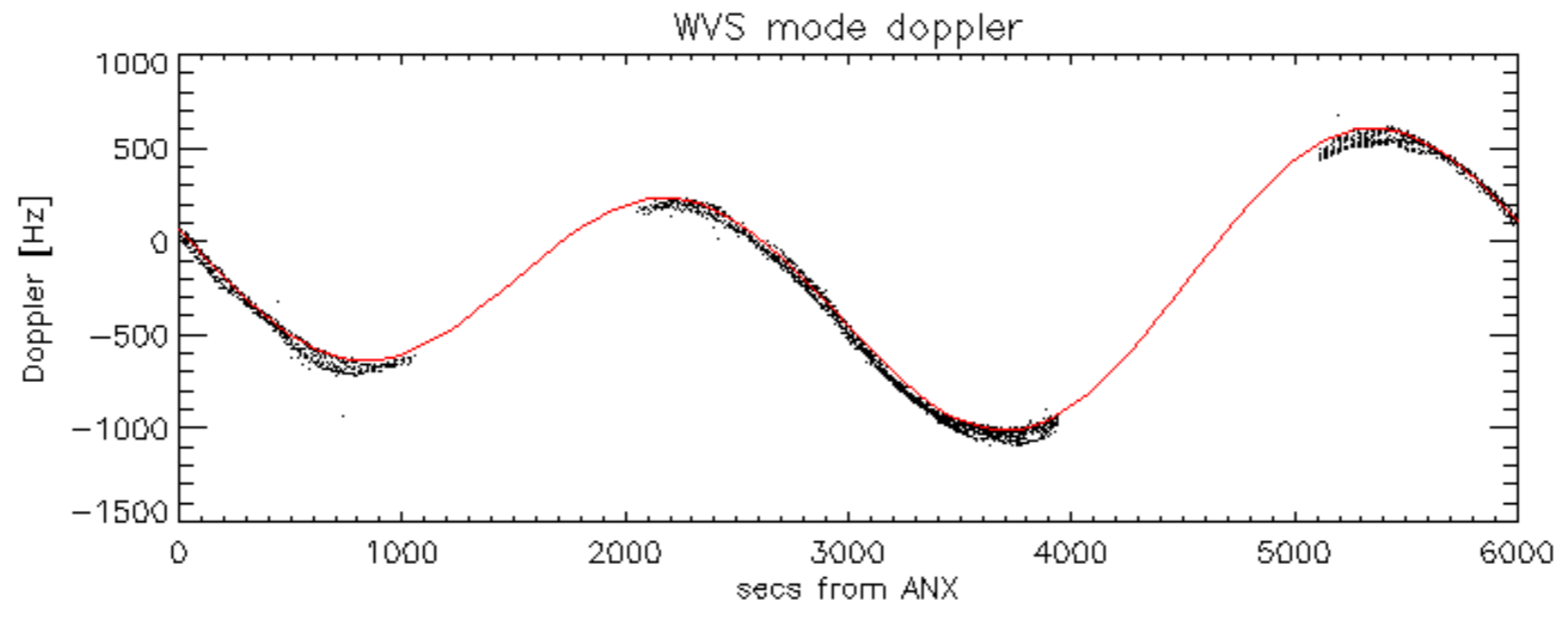


Doppler 'WVS' 'IS2' descending

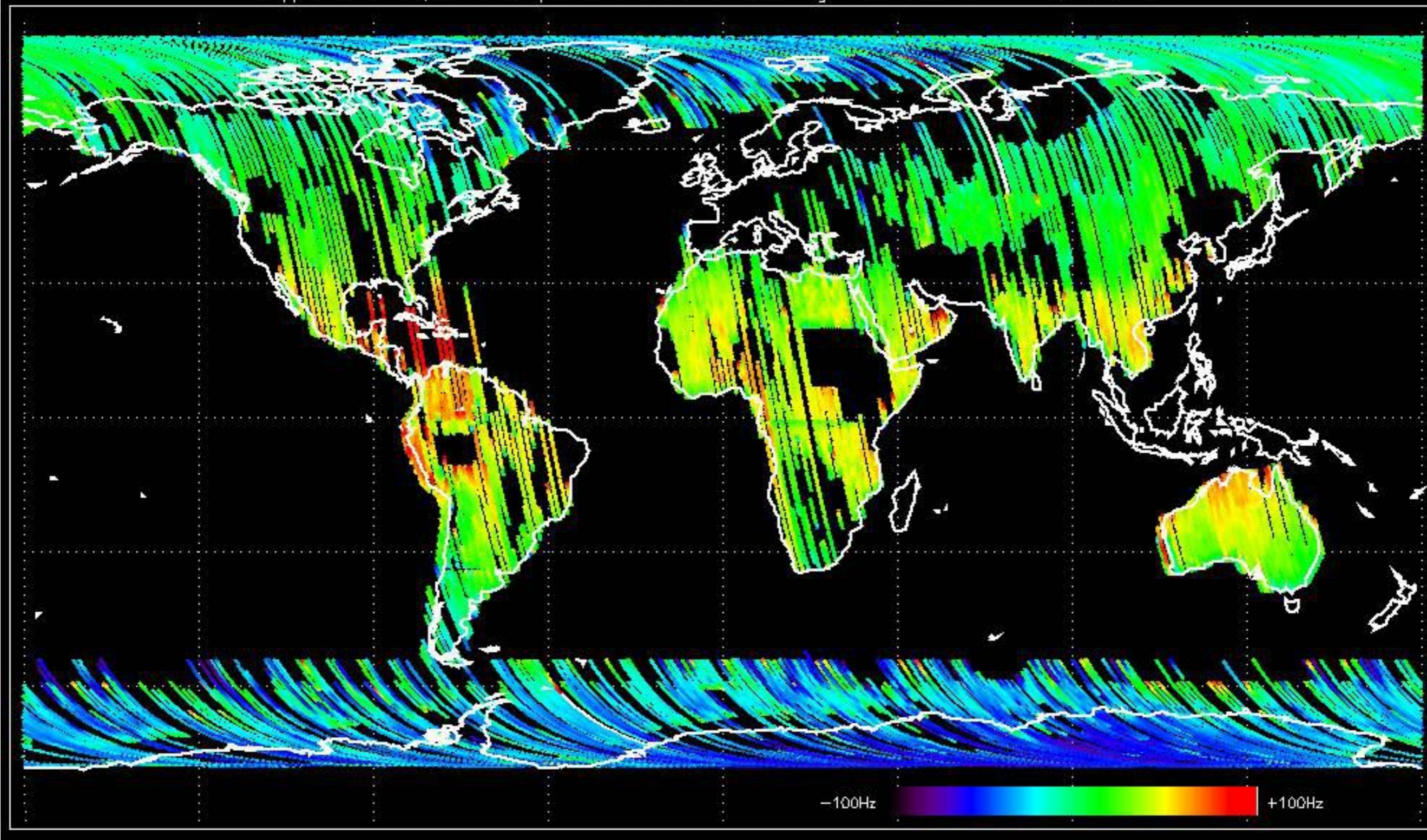


GM1 mode doppler

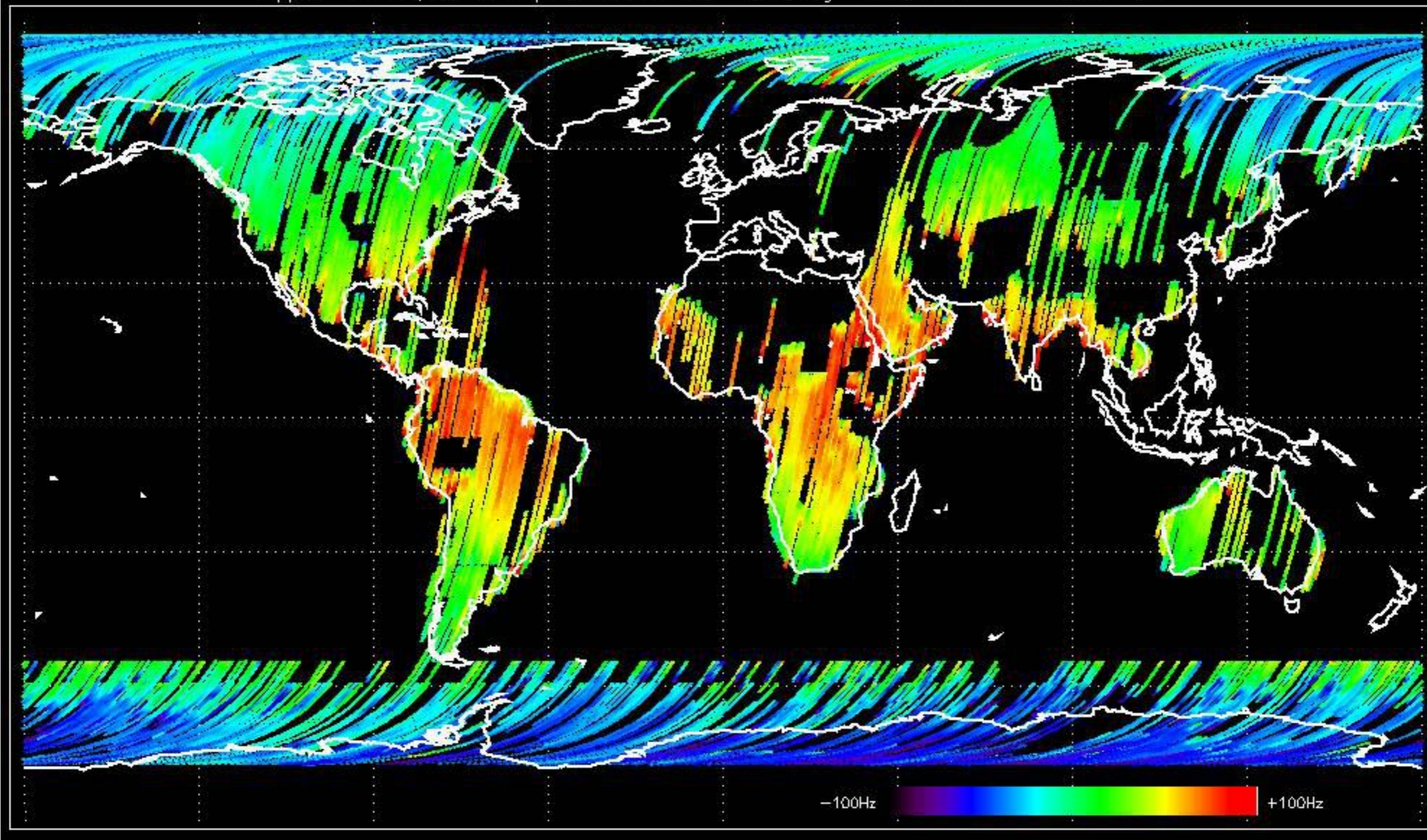




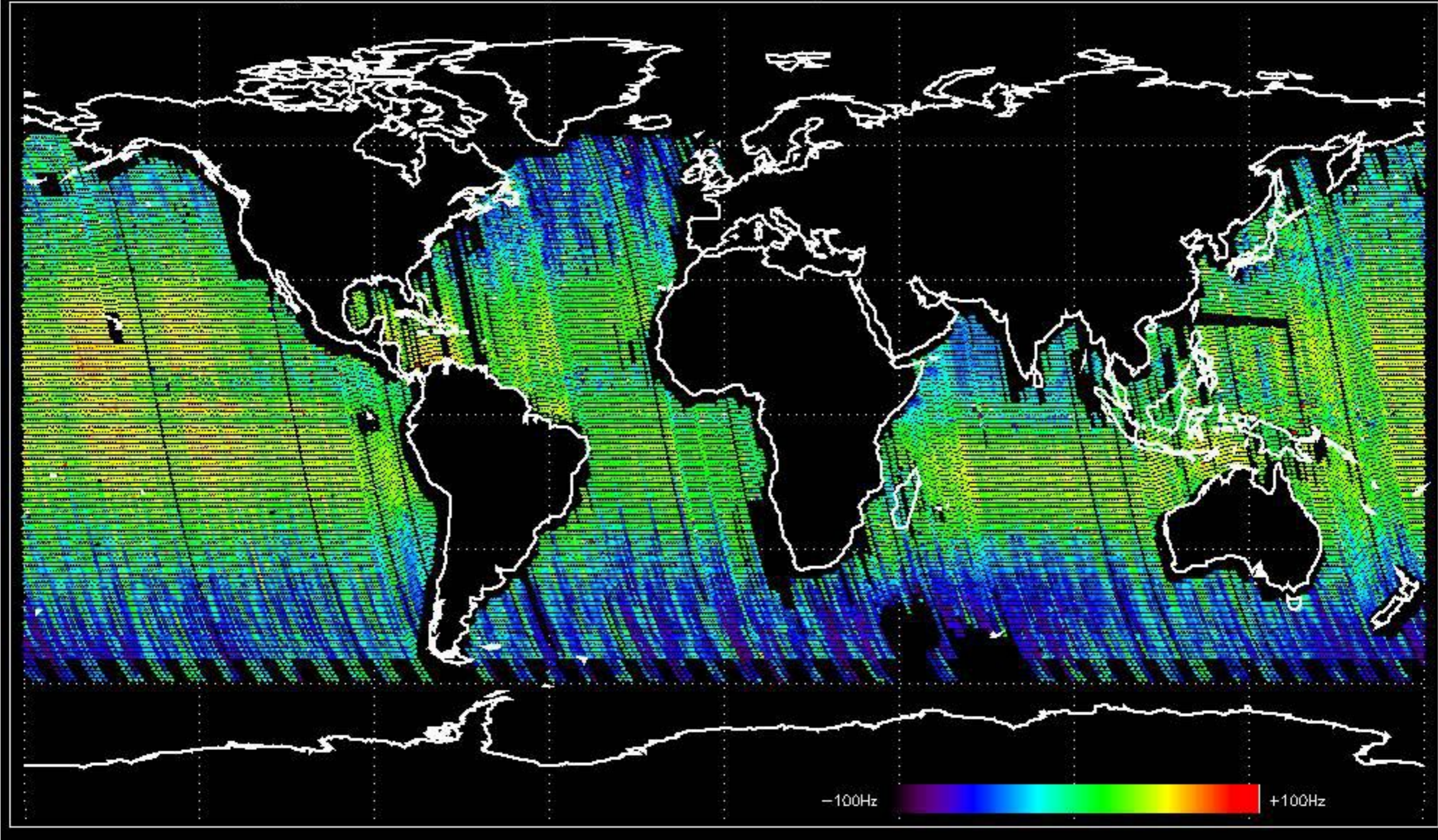
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -37.581785 Hz



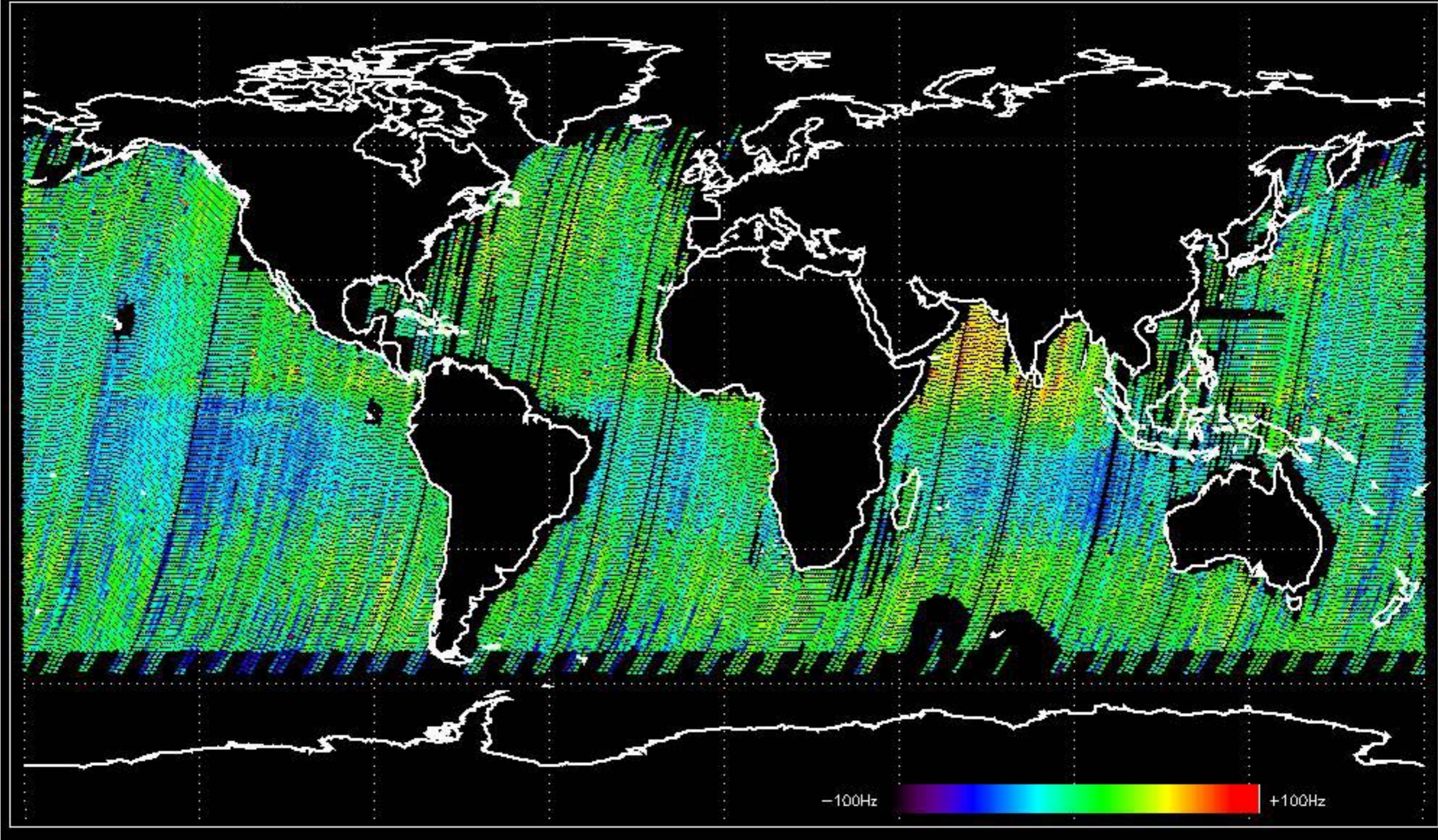
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -31.007806 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -32.845266 Hz

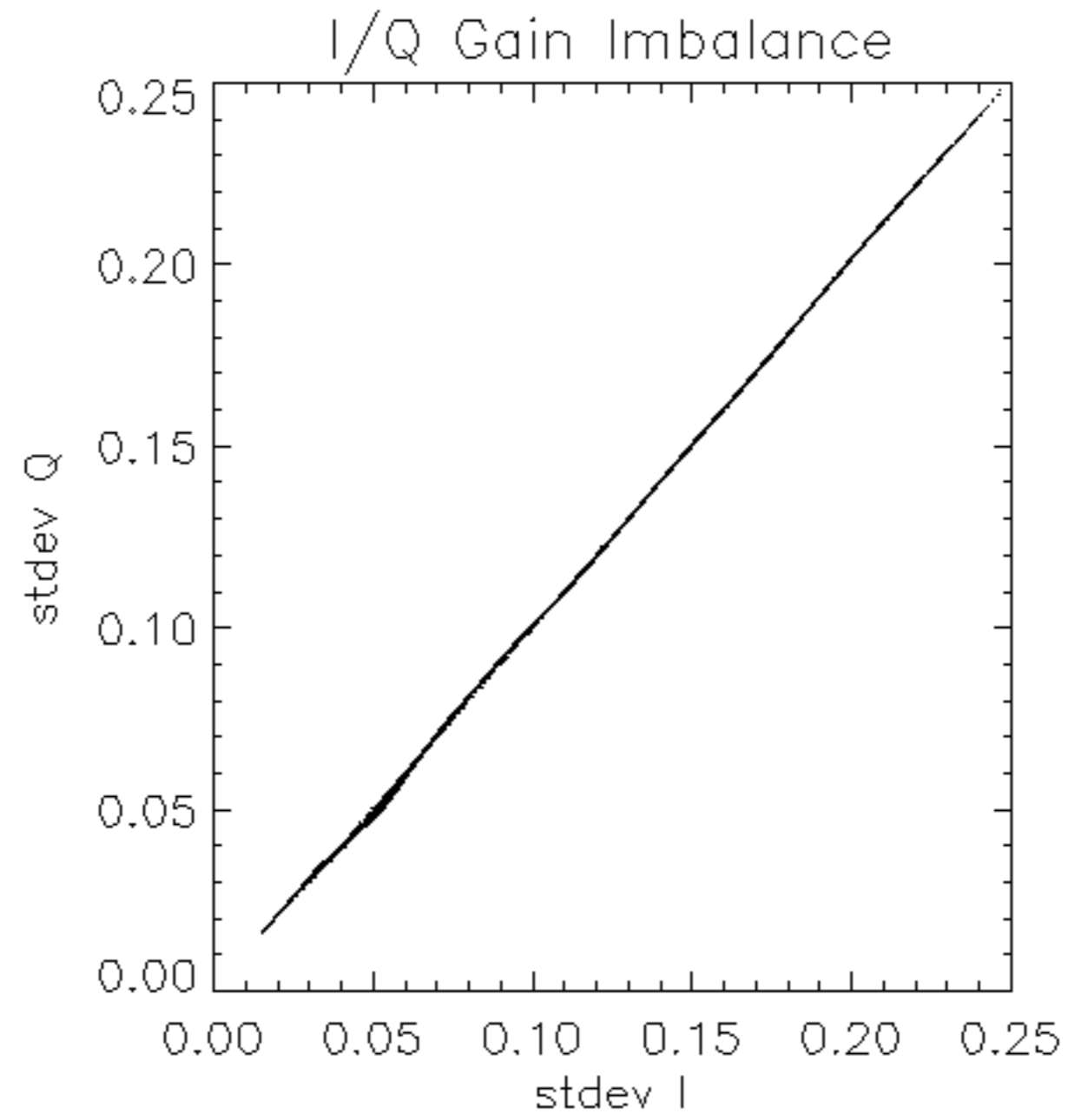


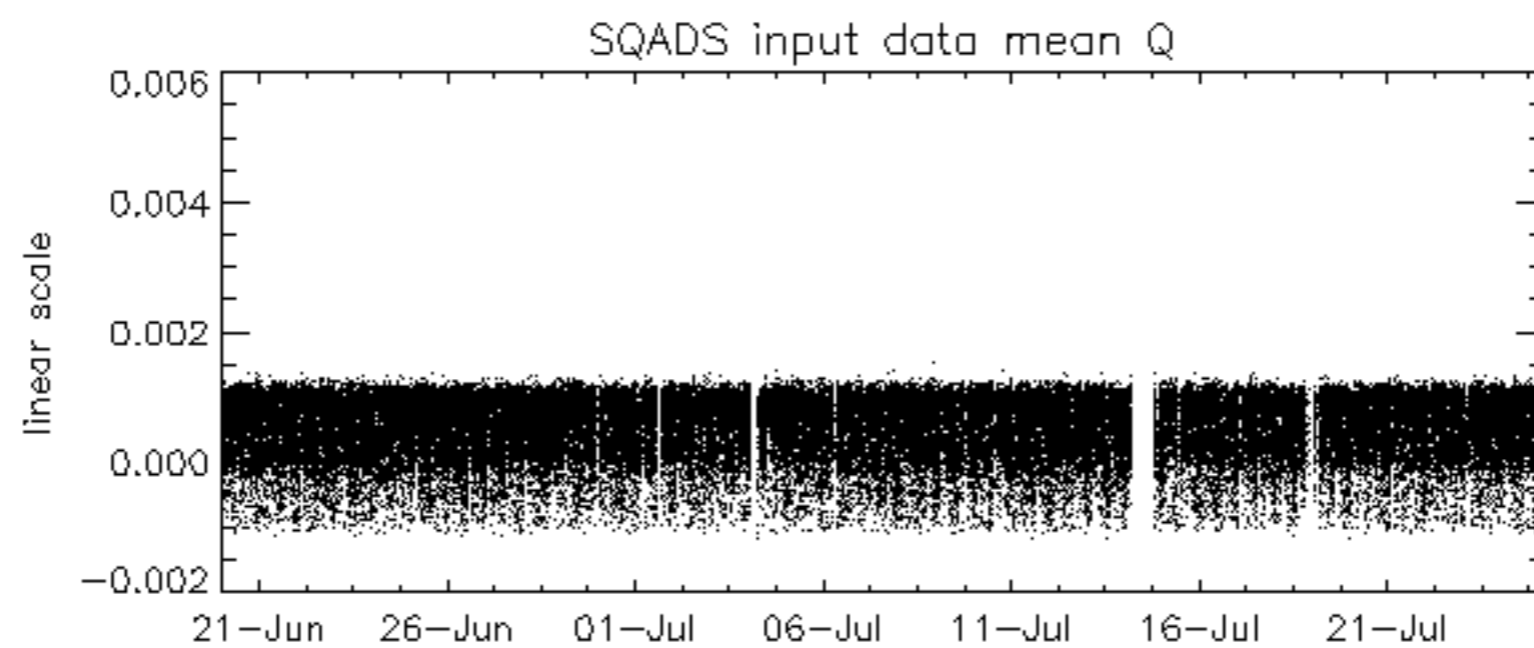
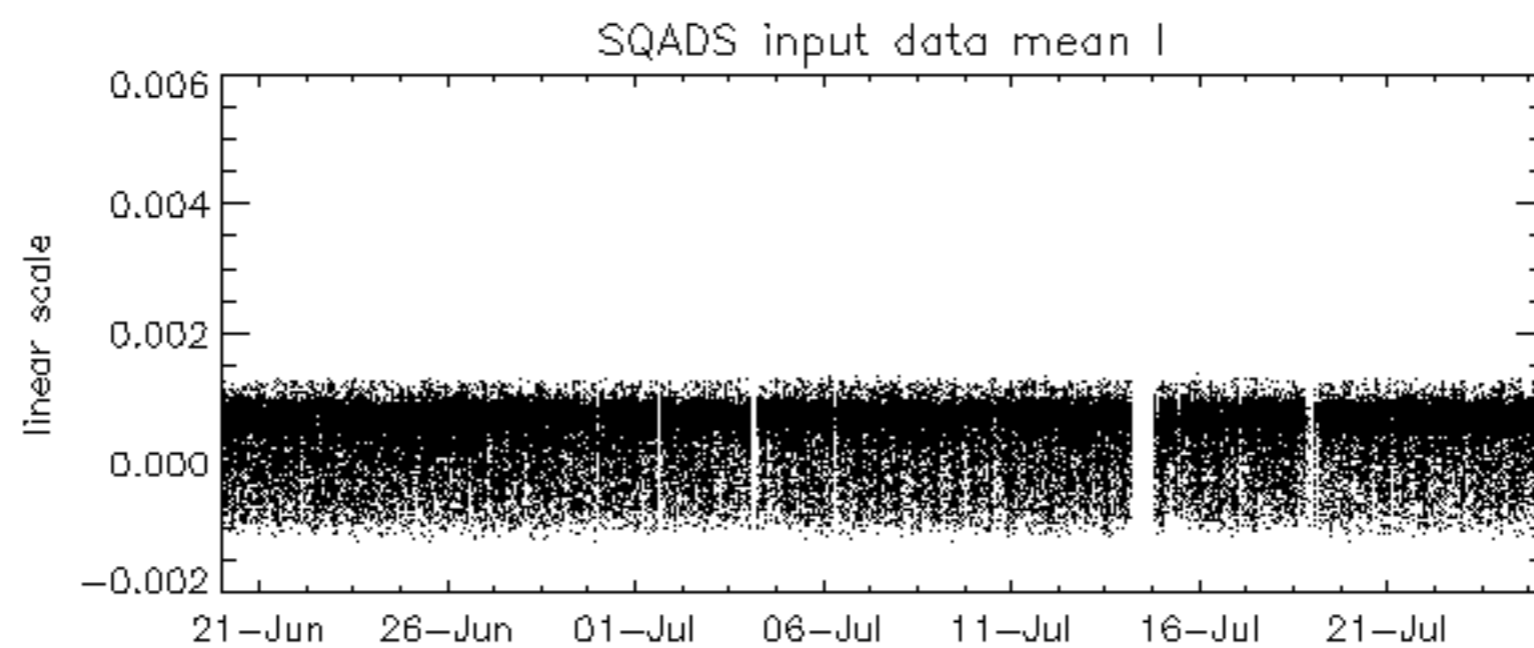
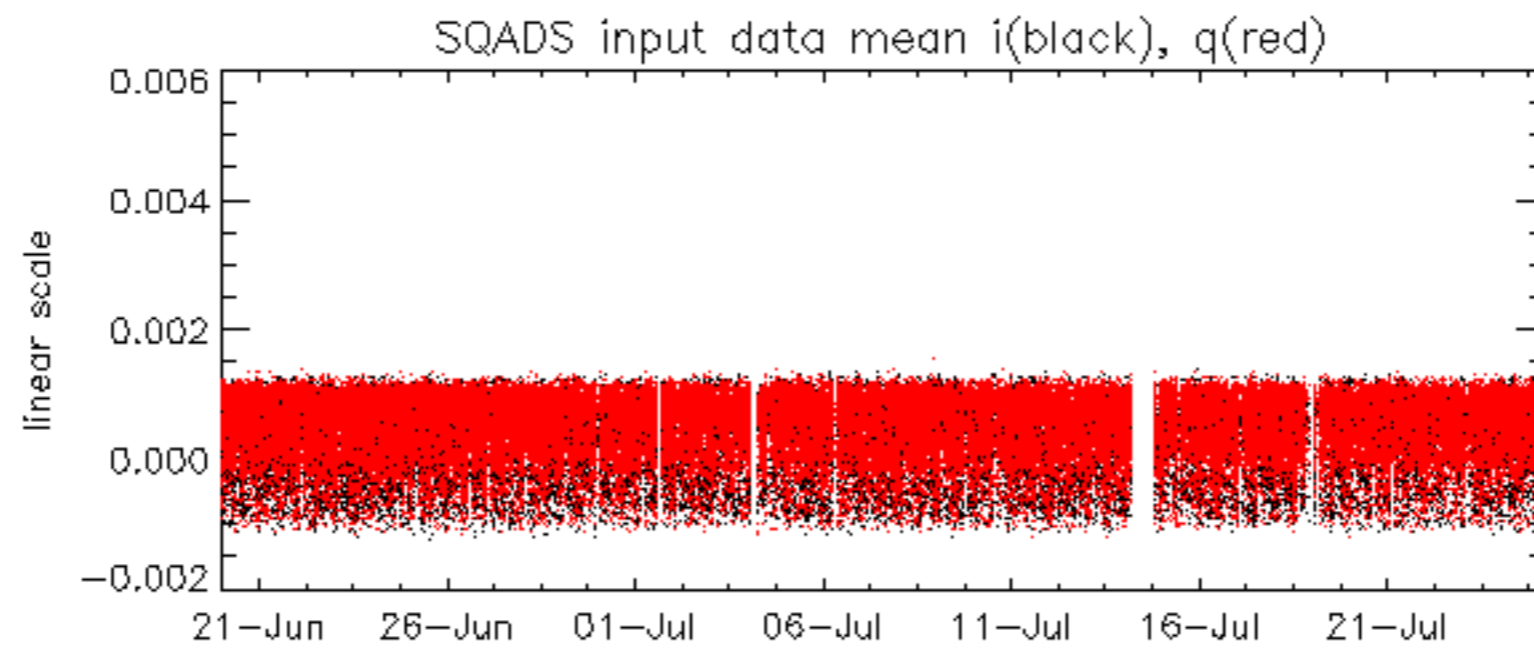
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -35.545515 Hz

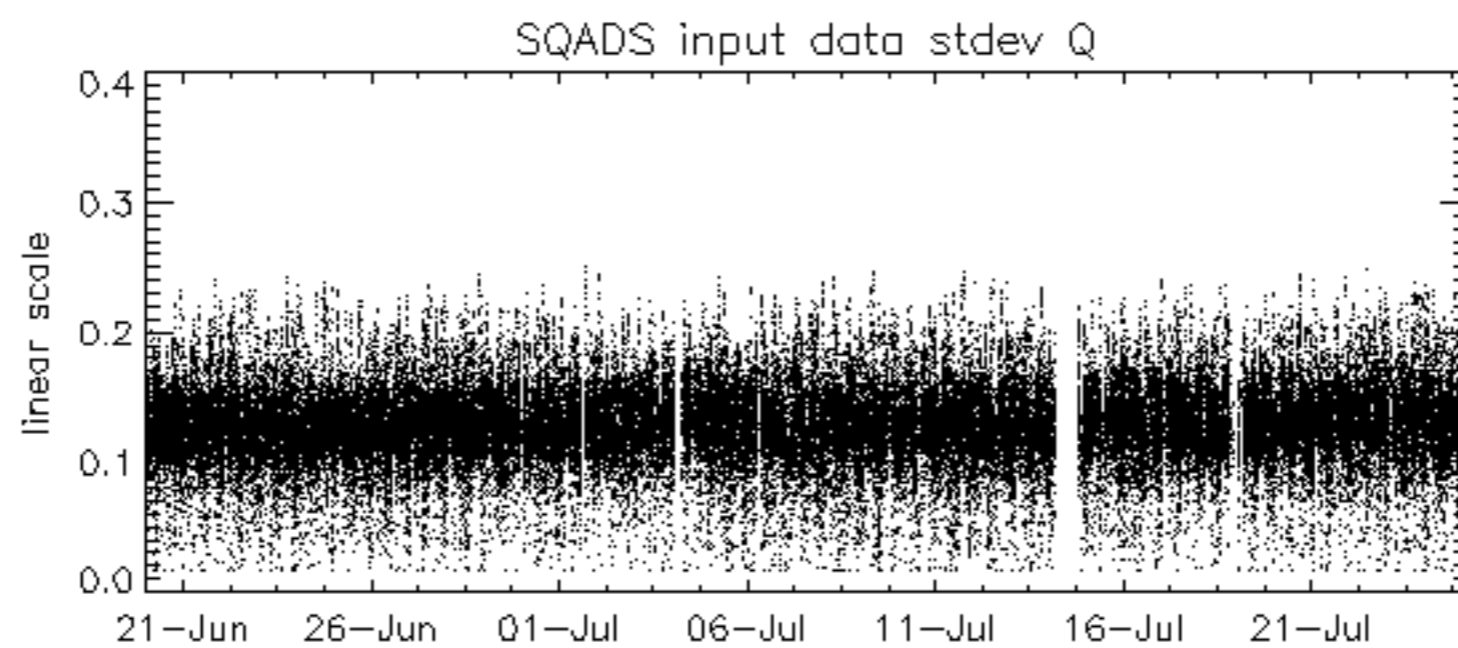
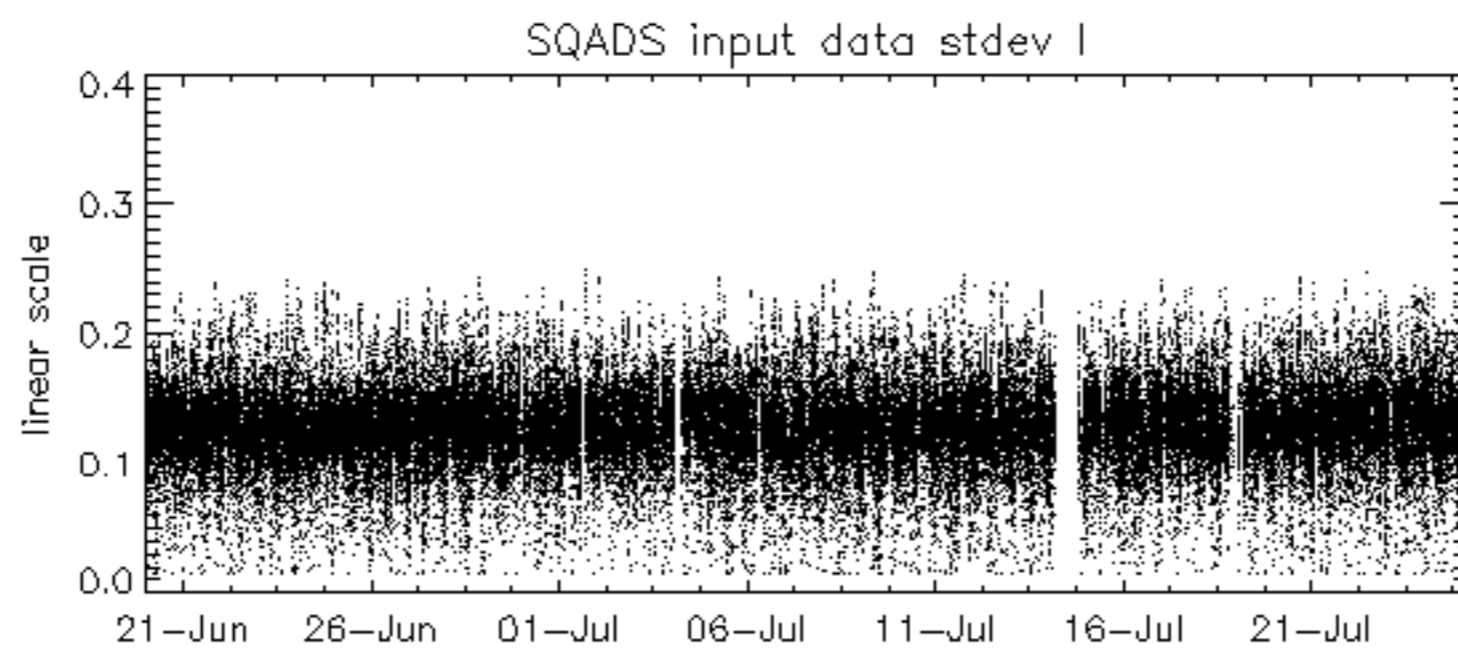
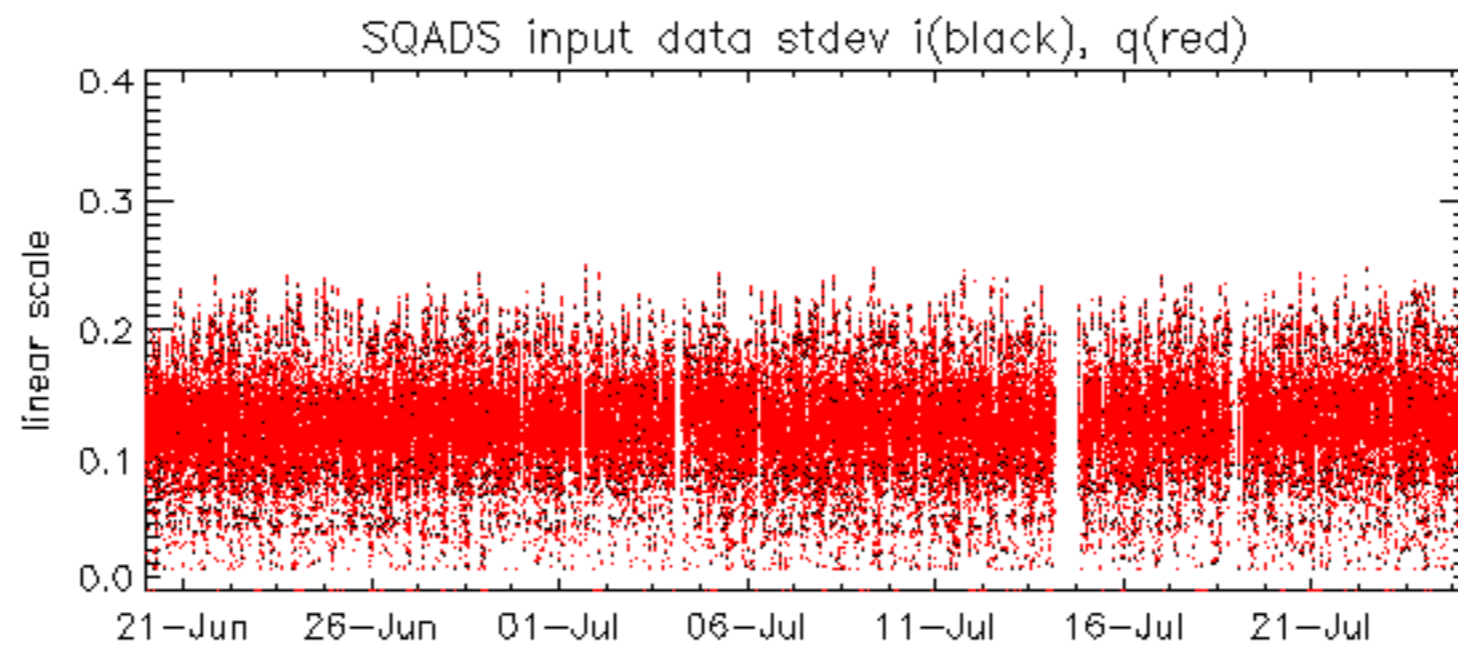


No anomalies observed on available MS products:

No anomalies observed.



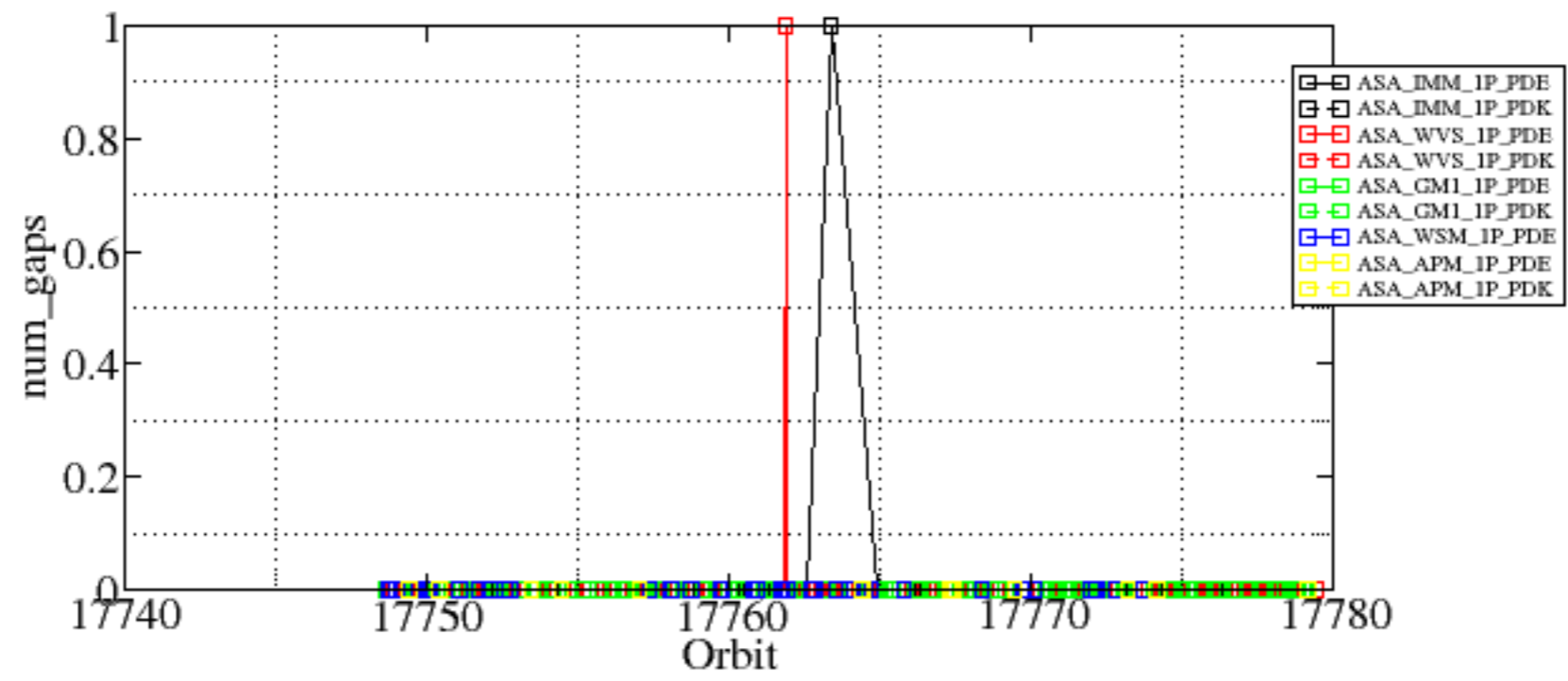


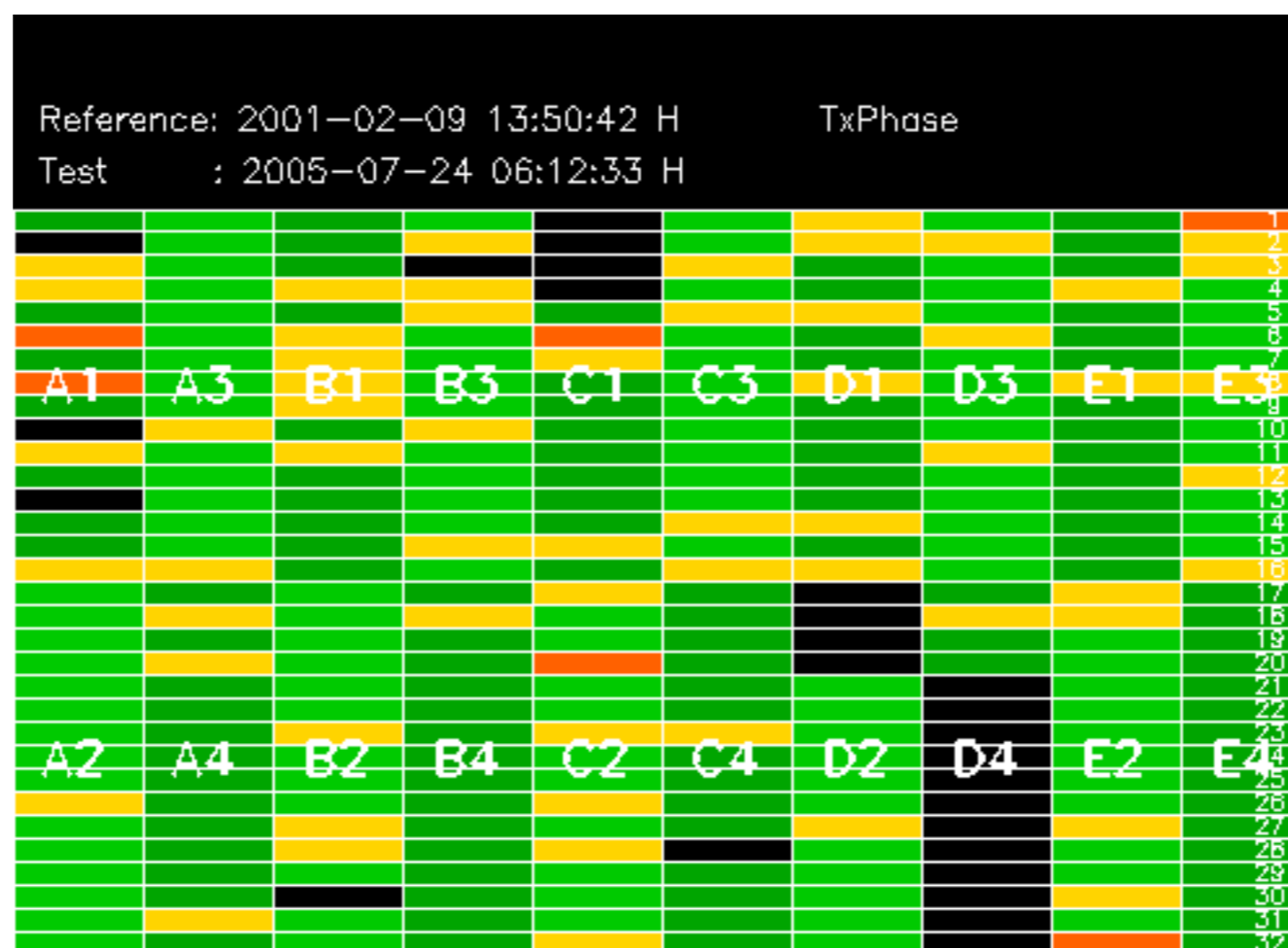


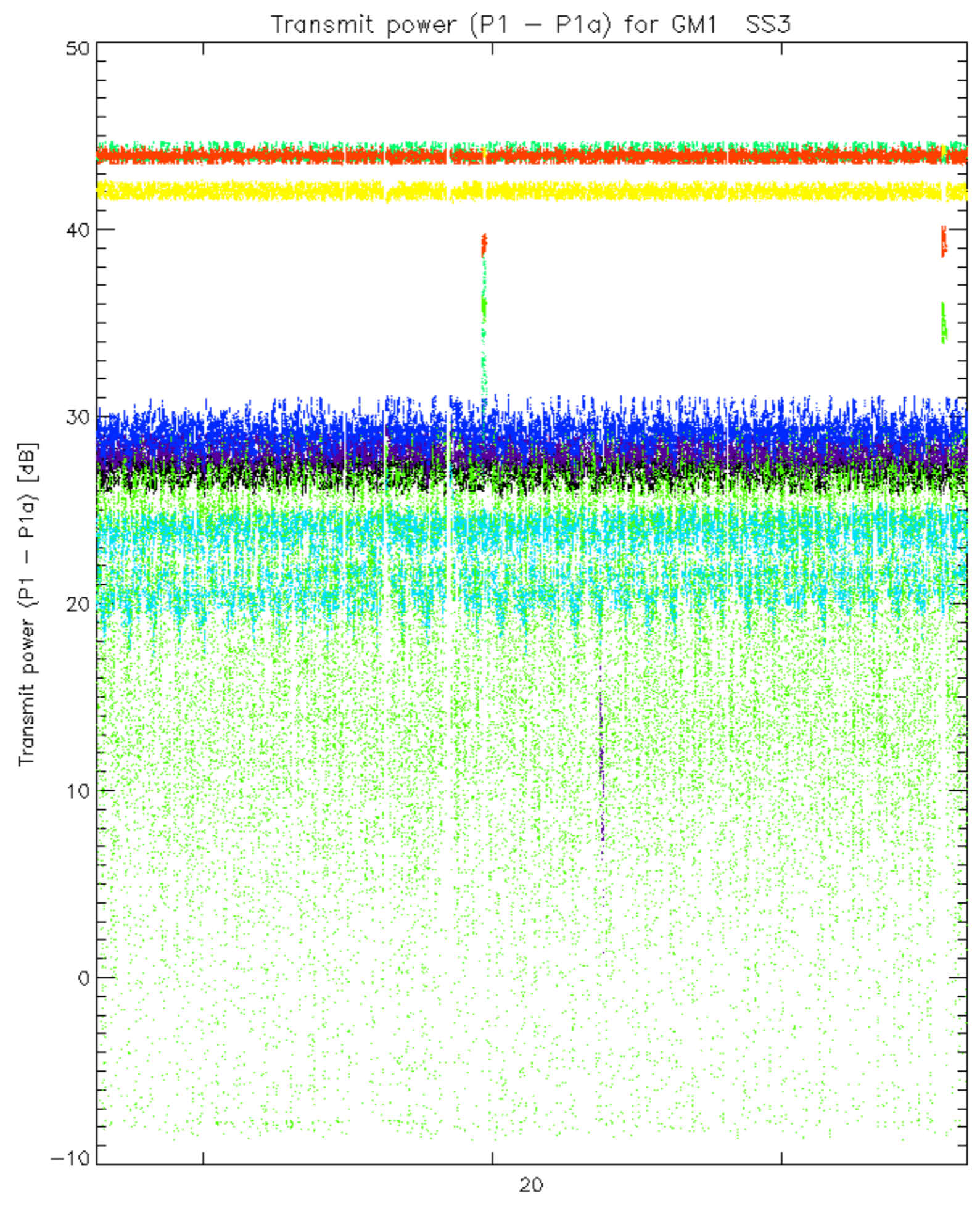
Summary of analysis for the last 3 days 2005072[345]

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

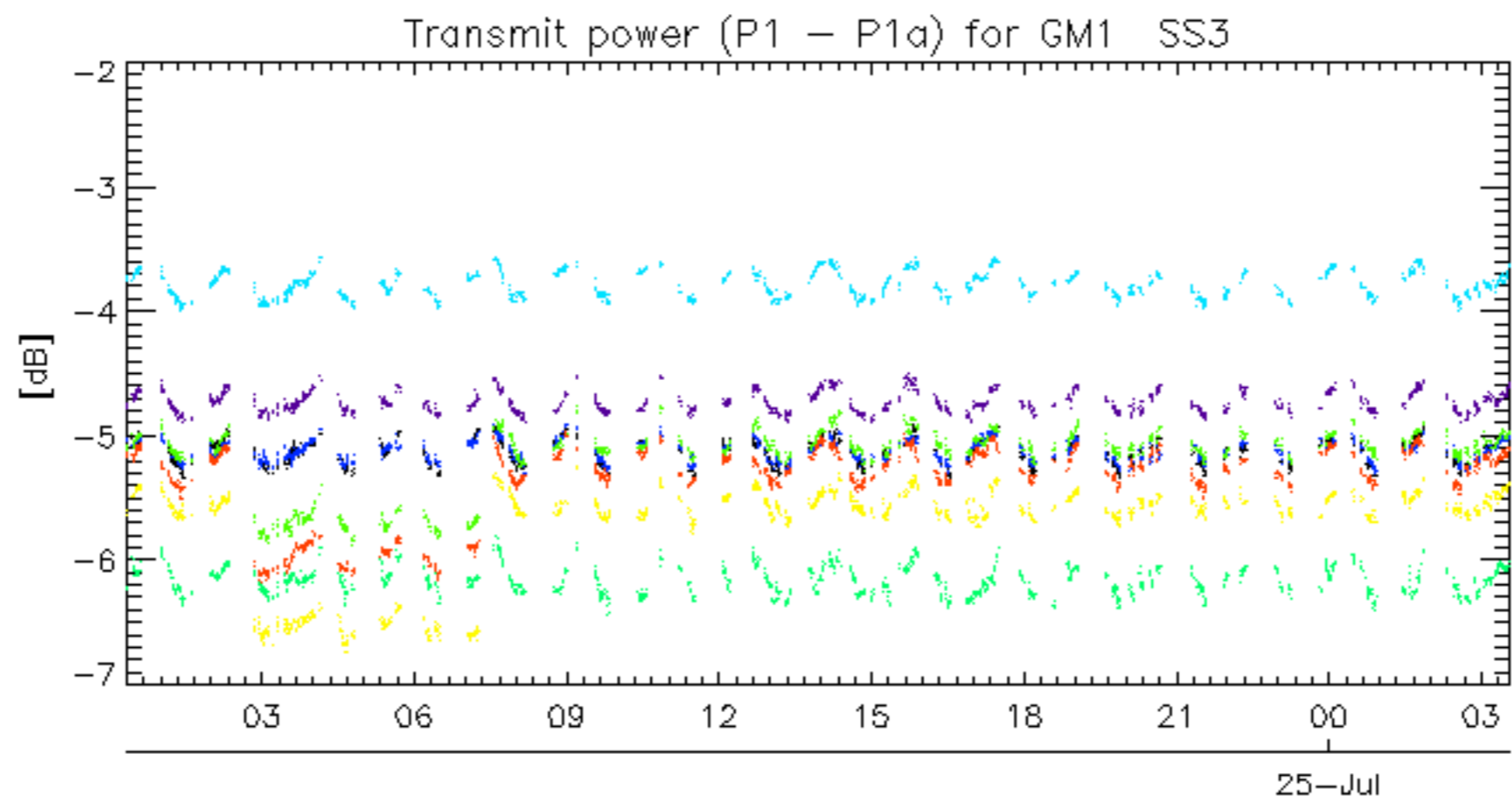
Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20050724_004103_000000622039_00174_17763_0522.N1	1	0
ASA_WVS_1PNPDE20050723_221009_000000002039_00172_17761_0150.N1	1	0
ASA_WSM_1PNPDE20050723_012128_000000672039_00160_17749_0739.N1	0	69
ASA_WSM_1PNPDE20050724_023124_000000672039_00175_17764_0904.N1	0	8
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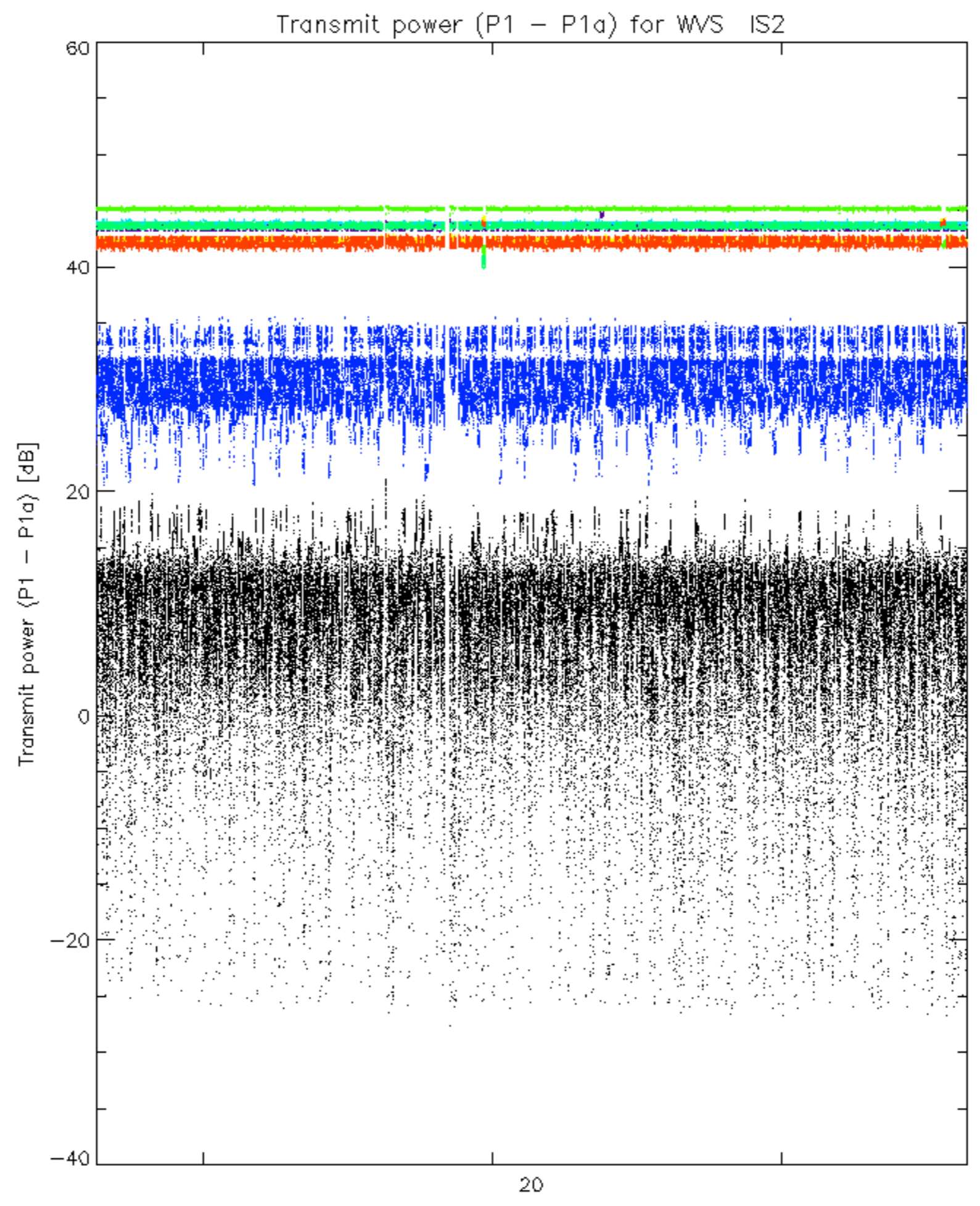


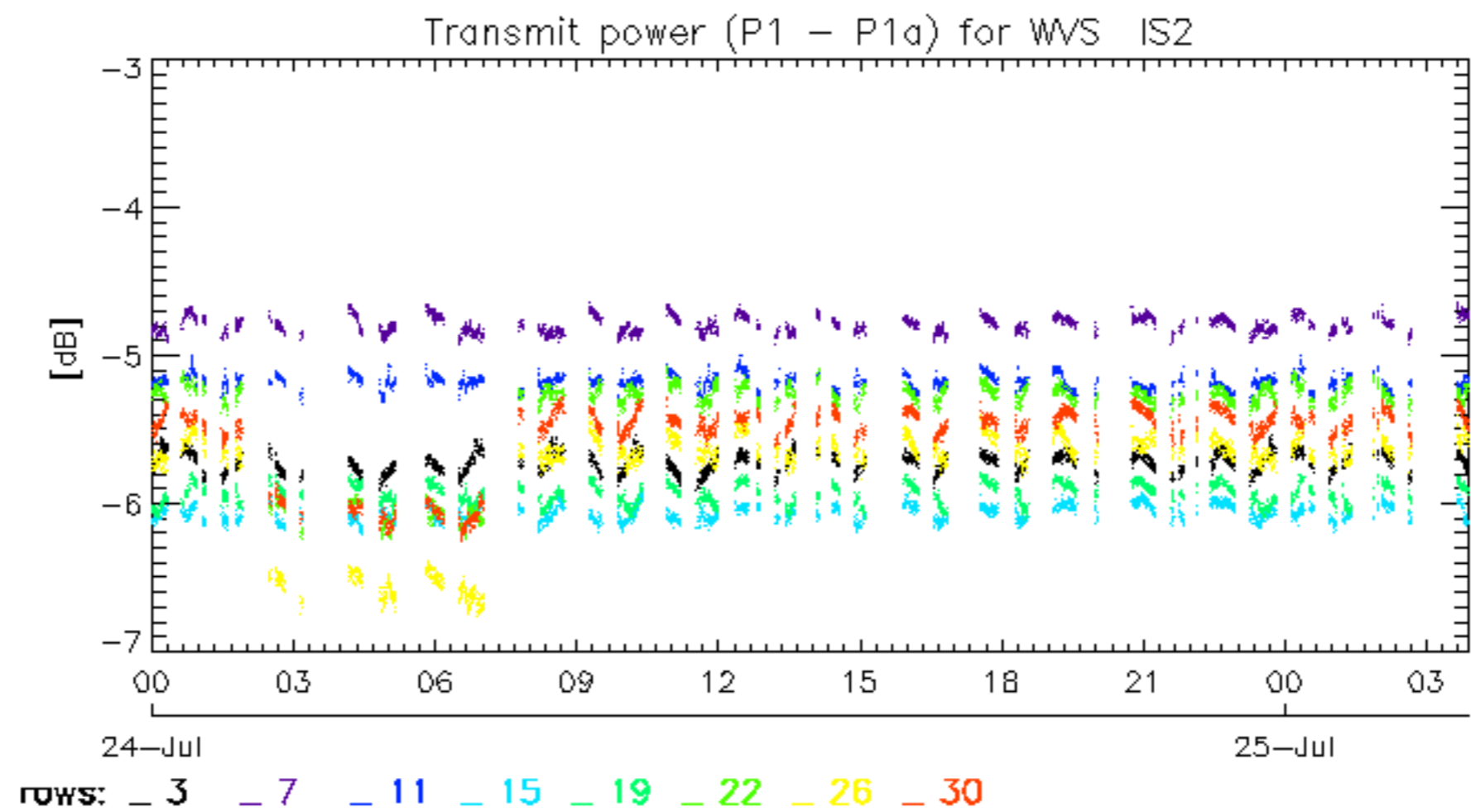


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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





No unavailabilities during the reported period.