

PRELIMINARY REPORT OF 050430

last update on Sat Apr 30 10:50:01 GMT 2005

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 2005-04-29 00:00:00 to 2005-04-30 10:50:01

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	10	36	4	6	2
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	10	36	4	6	2
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	10	36	4	6	2
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	10	36	4	6	2

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000	40	56	5	16	4
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	40	56	5	16	4
ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	40	56	5	16	4
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	40	56	5	16	4

2.3 - Browse Visual Inspection

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	20050428 100815
H	20050429 143825

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
<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

No anomalies observed.

4.1 - Daily statistics

4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS
<input type="checkbox"/>
<input type="checkbox"/>

4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
<input type="checkbox"/>
<input type="checkbox"/>

4.2 - Cyclic statistics

4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS
<input type="checkbox"/>

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	-3.347827	0.006757	0.010589
7	P1	-3.115294	0.011547	0.030716
11	P1	-4.671037	0.026737	0.031171
15	P1	-5.588127	0.043365	0.120615
19	P1	-3.710702	0.004124	-0.027427
22	P1	-4.568665	0.012305	-0.065122
26	P1	-4.897864	0.019977	0.050528
30	P1	-7.164046	0.026334	0.078880
3	P1	-15.787488	0.079300	0.225810
7	P1	-15.526045	0.083396	0.111878
11	P1	-21.198093	0.241529	-0.175140
15	P1	-11.483165	0.031400	0.136154
19	P1	-14.320807	0.031063	-0.030336
22	P1	-15.854980	0.322024	-0.239614
26	P1	-17.630575	0.180045	0.059674
30	P1	-17.884489	0.315718	0.087040

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.044672	0.082999	-0.005016
7	P2	-22.221037	0.103494	-0.023010
11	P2	-14.189795	0.110935	0.171534
15	P2	-7.072747	0.093005	-0.056110
19	P2	-9.650109	0.095451	-0.005813
22	P2	-16.881712	0.097706	-0.006168
26	P2	-16.466661	0.096733	-0.048183
30	P2	-18.825275	0.086361	0.014178

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.166778	0.004202	0.001264
7	P3	-8.166778	0.004202	0.001264
11	P3	-8.166777	0.004202	0.001264
15	P3	-8.166777	0.004202	0.001264
19	P3	-8.166777	0.004202	0.001264
22	P3	-8.166777	0.004202	0.001264
26	P3	-8.166777	0.004202	0.001264
30	P3	-8.166777	0.004201	0.001264

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	-2.750175	0.012062	-0.052629
7	P1	-3.010314	0.031128	0.041213
11	P1	-3.982902	0.016550	0.047627
15	P1	-3.543062	0.021608	0.077013
19	P1	-3.622356	0.014558	-0.026907
22	P1	-5.686555	0.046774	0.112199
26	P1	-7.309500	0.025081	-0.035573
30	P1	-6.276371	0.061837	0.000448
3	P1	-10.753934	0.044978	-0.028621
7	P1	-10.391823	0.149386	-0.119278
11	P1	-12.558122	0.097292	0.009162
15	P1	-11.684414	0.070228	0.180440
19	P1	-15.607940	0.059580	-0.044624
22	P1	-25.029991	1.753570	-0.973023
26	P1	-15.608860	0.274041	-0.258998
30	P1	-20.177900	1.243143	-0.203344

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.751331	0.039256	-0.038205
7	P2	-22.291866	0.047038	0.045079
11	P2	-10.062324	0.058003	0.072759
15	P2	-5.047810	0.037658	-0.115291
19	P2	-6.876508	0.052619	-0.079363
22	P2	-7.090428	0.038768	-0.054844
26	P2	-23.888481	0.038326	-0.085415
30	P2	-21.916214	0.043371	-0.078868

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.003171	0.003640	-0.003611
7	P3	-8.003284	0.003629	-0.003499
11	P3	-8.003194	0.003628	-0.003225
15	P3	-8.003345	0.003637	-0.003642
19	P3	-8.003320	0.003631	-0.003364
22	P3	-8.003331	0.003619	-0.003468
26	P3	-8.003325	0.003630	-0.003472
30	P3	-8.003189	0.003638	-0.003366

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	0.000479025
	stdev	2.15915e-07
MEAN Q	mean	0.000493240
	stdev	2.34284e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.129232
	stdev	0.00104454
STDEV Q	mean	0.129493
	stdev	0.00105612



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2005042[890]

The assumption 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_GM1_1PNPDK20050428_175348_000005732036_00442_16528_9621.N1	0	9
ASA_WSM_1PNPDE20050428_012548_000000672036_00432_16518_9246.N1	0	2
ASA_WSM_1PNPDK20050428_140630_000001472036_00440_16526_1597.N1	0	28





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)



Ascending



Descending

7.5 - Absolute Doppler for GM1

Evolution of Absolute Doppler

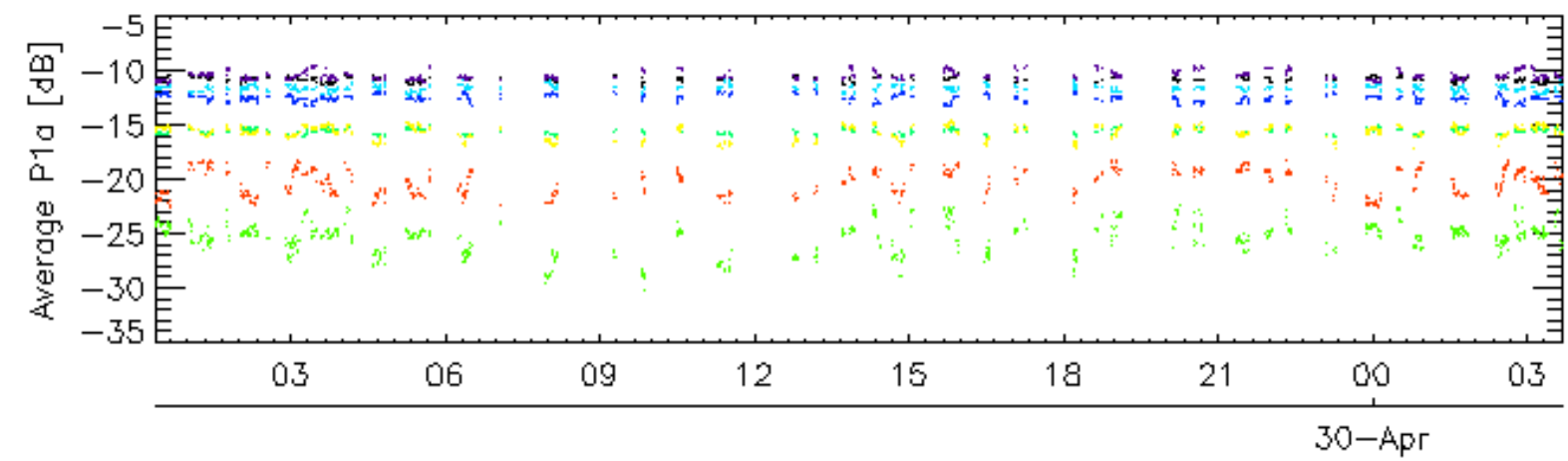
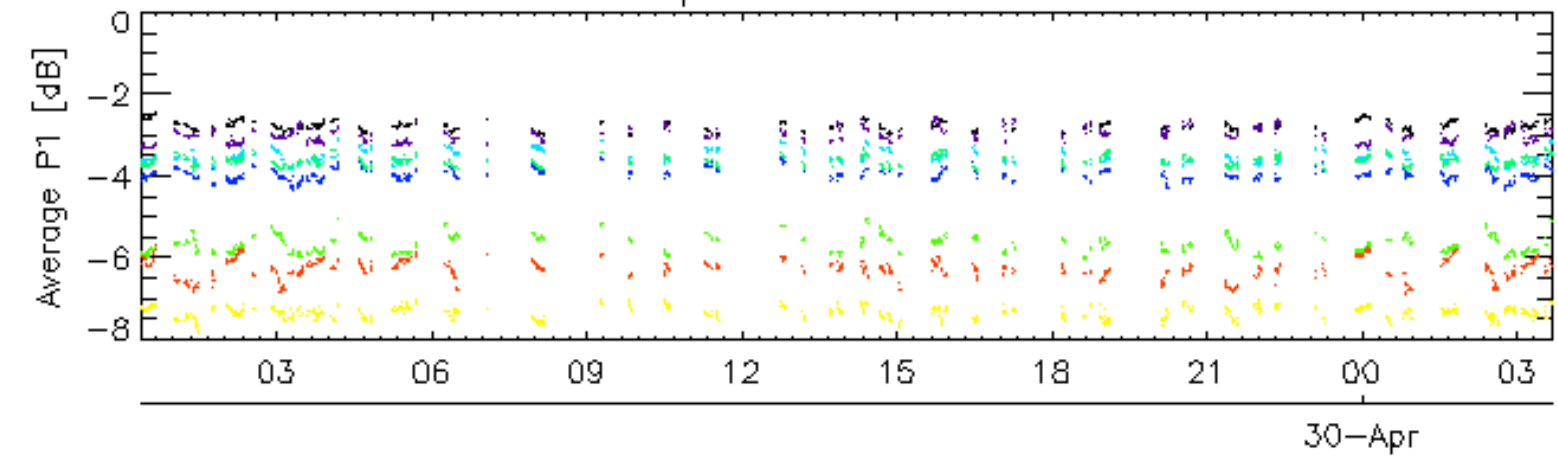
Ascending

Descending

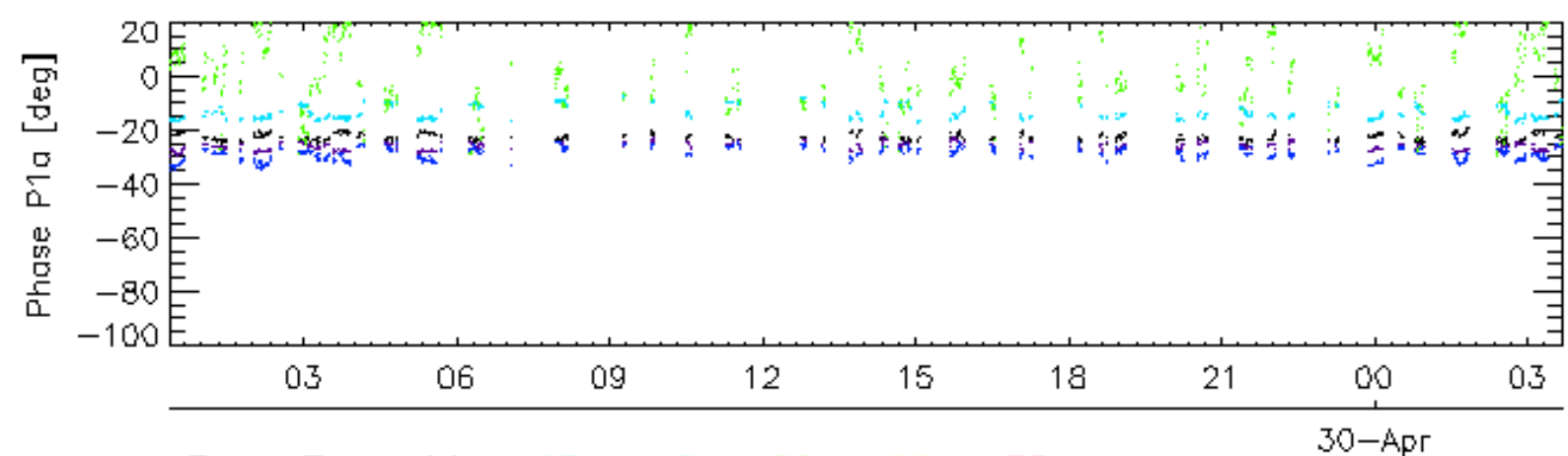
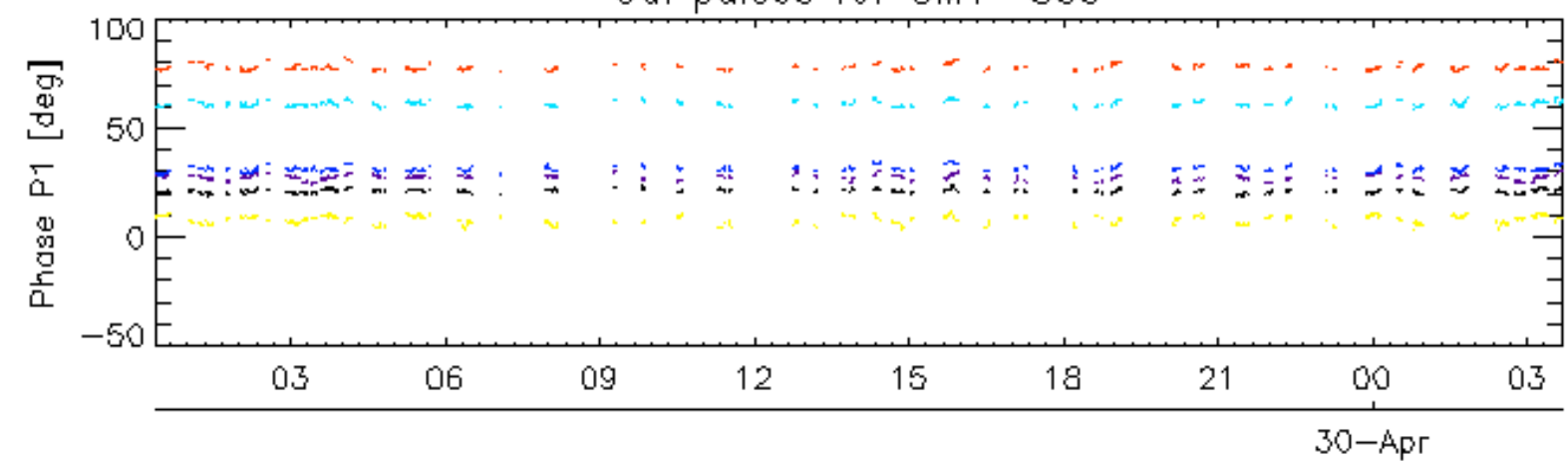
7.6 - Doppler evolution versus ANX for GM1

Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

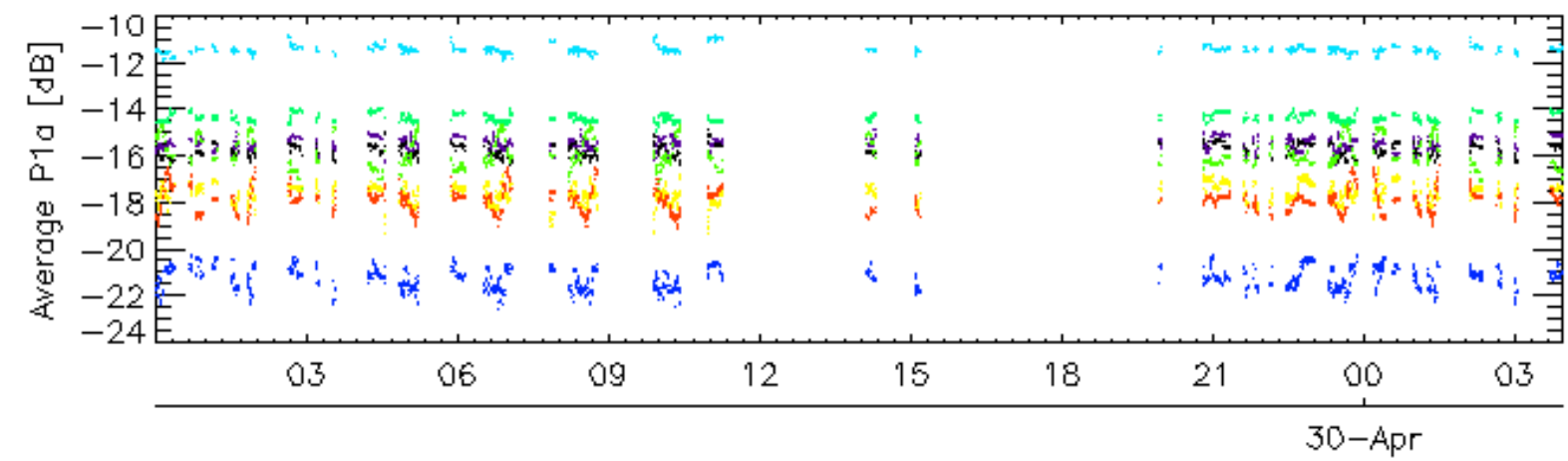
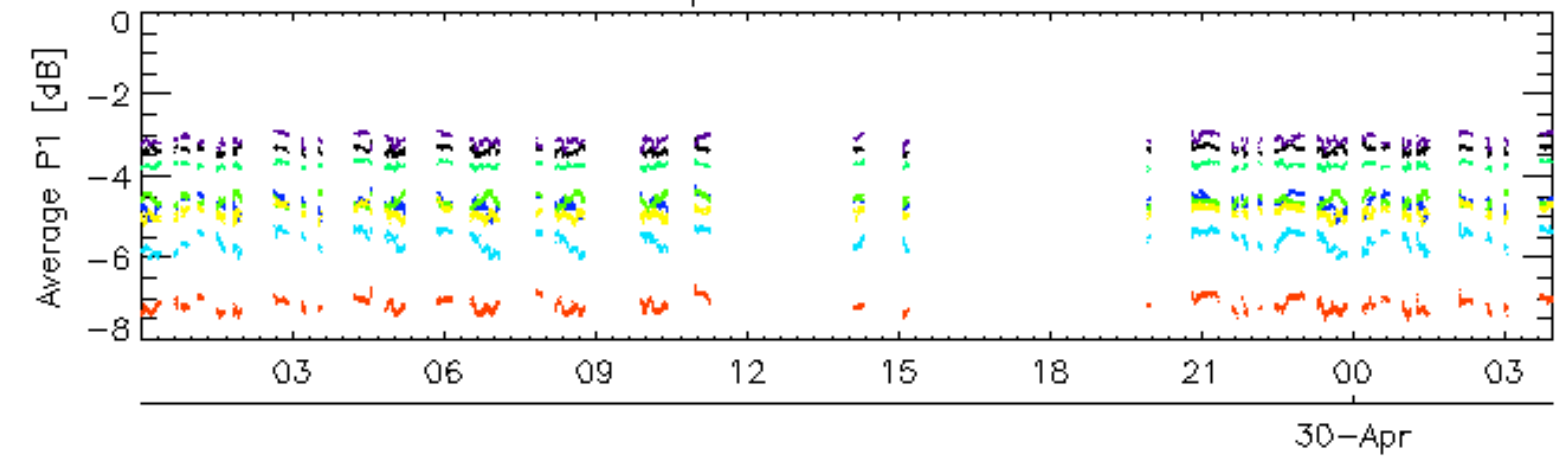


Cal pulses for GM1 SS3

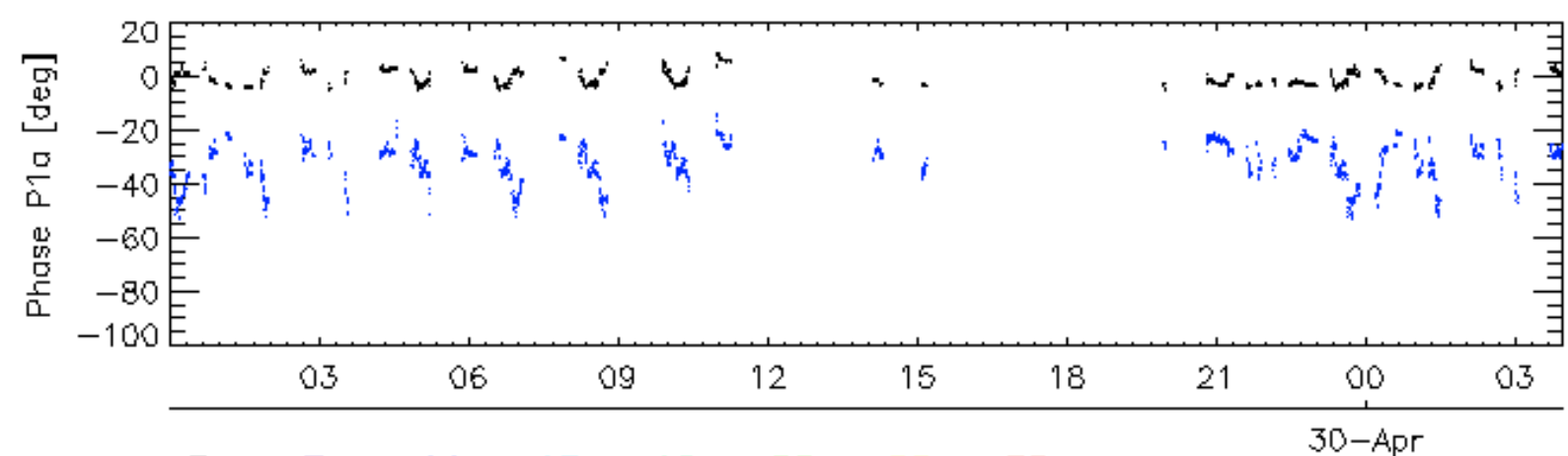
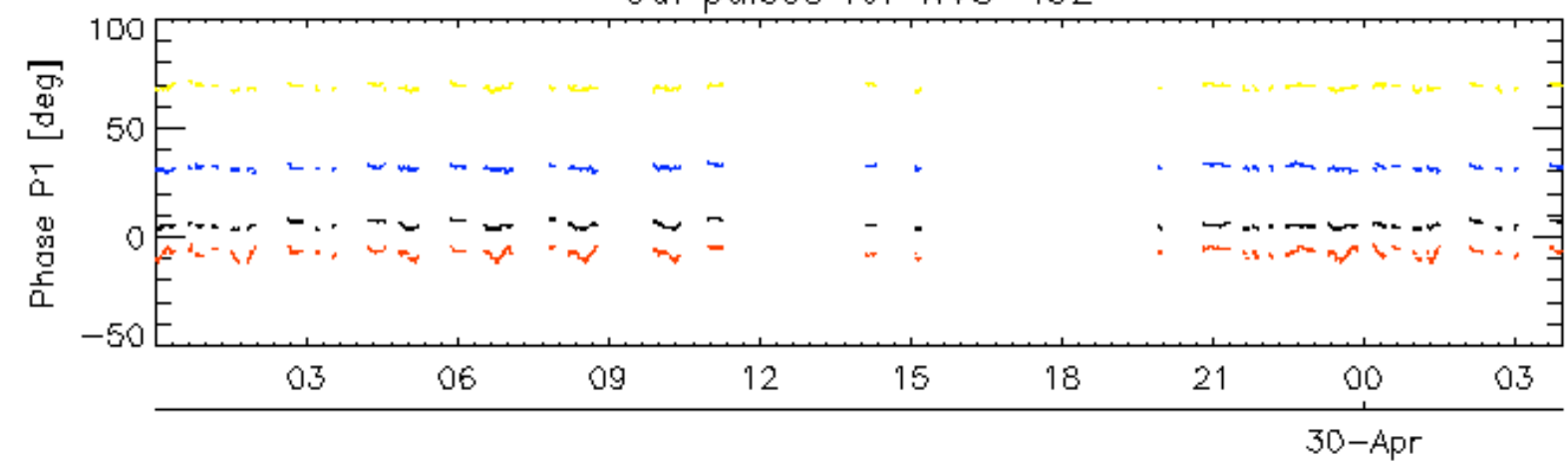


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

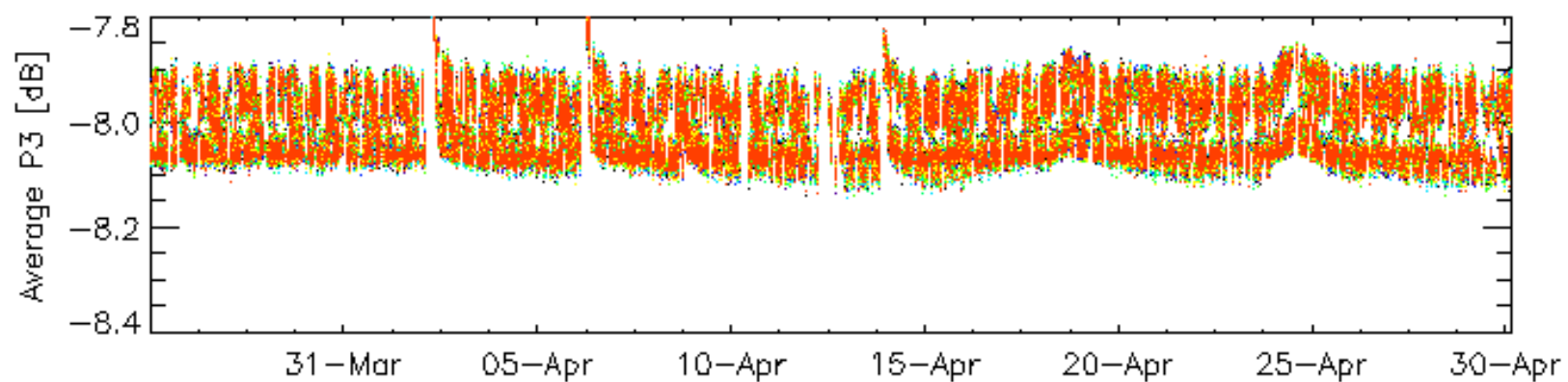
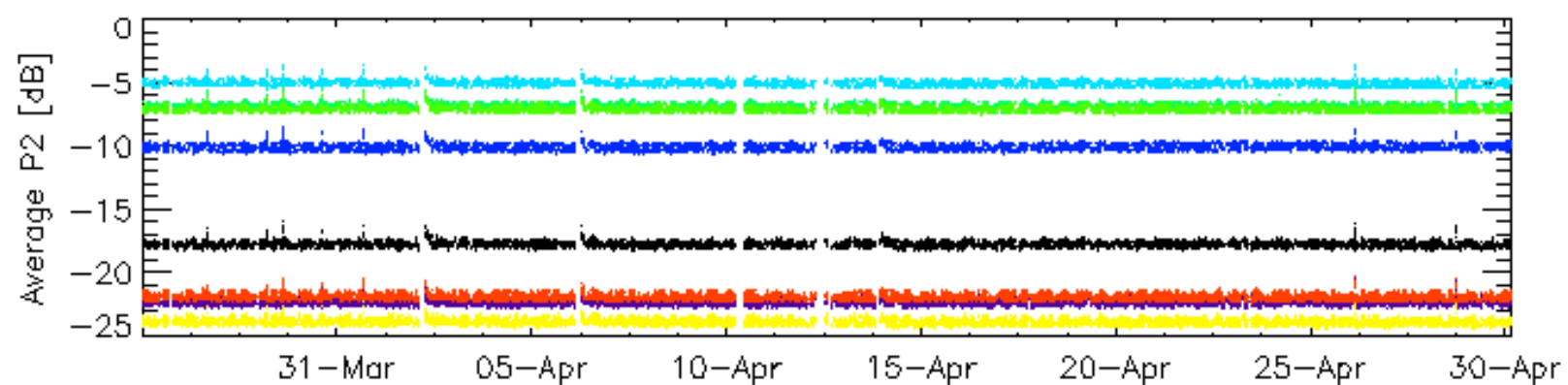
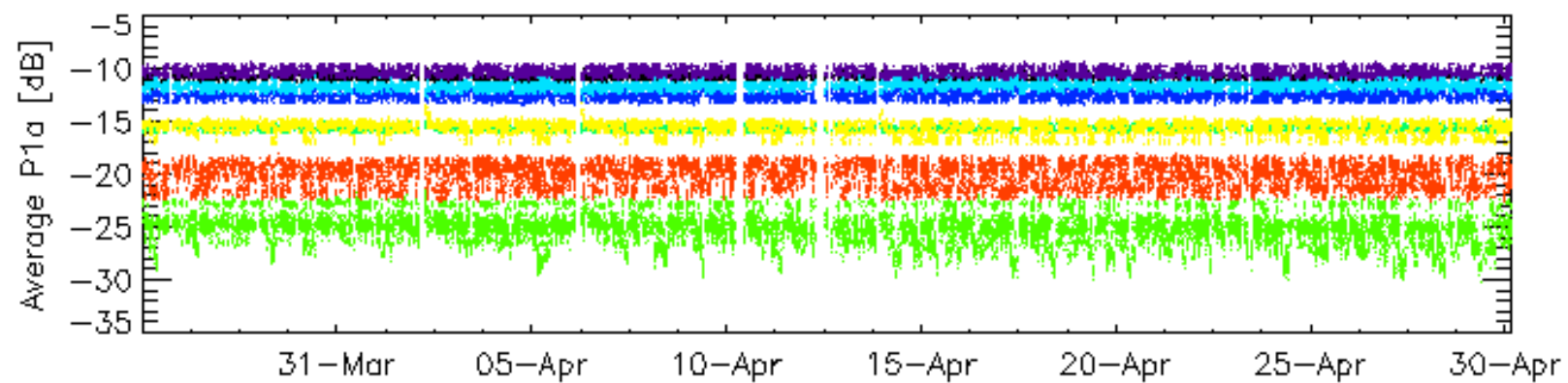
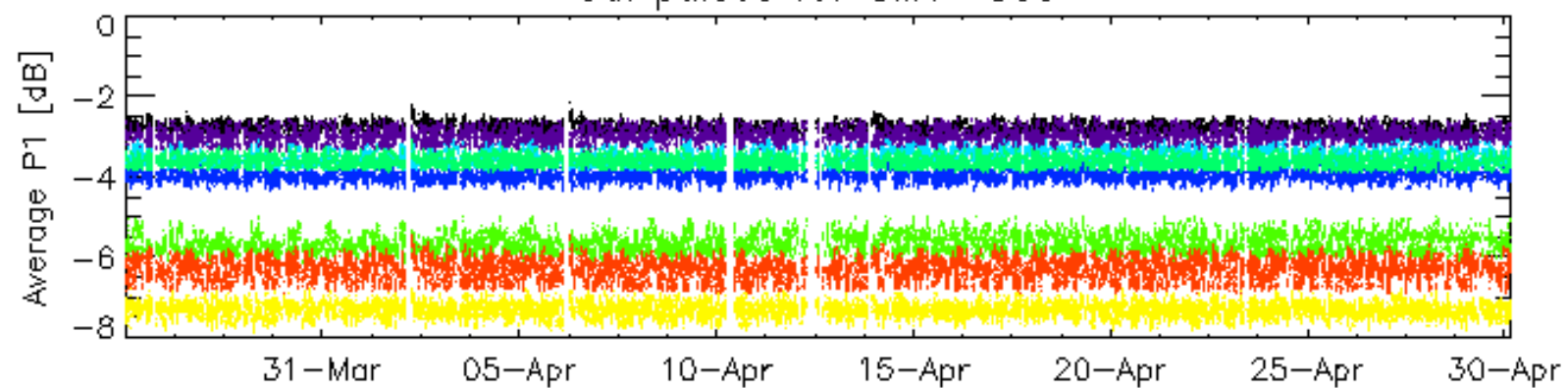


Cal pulses for WVS IS2



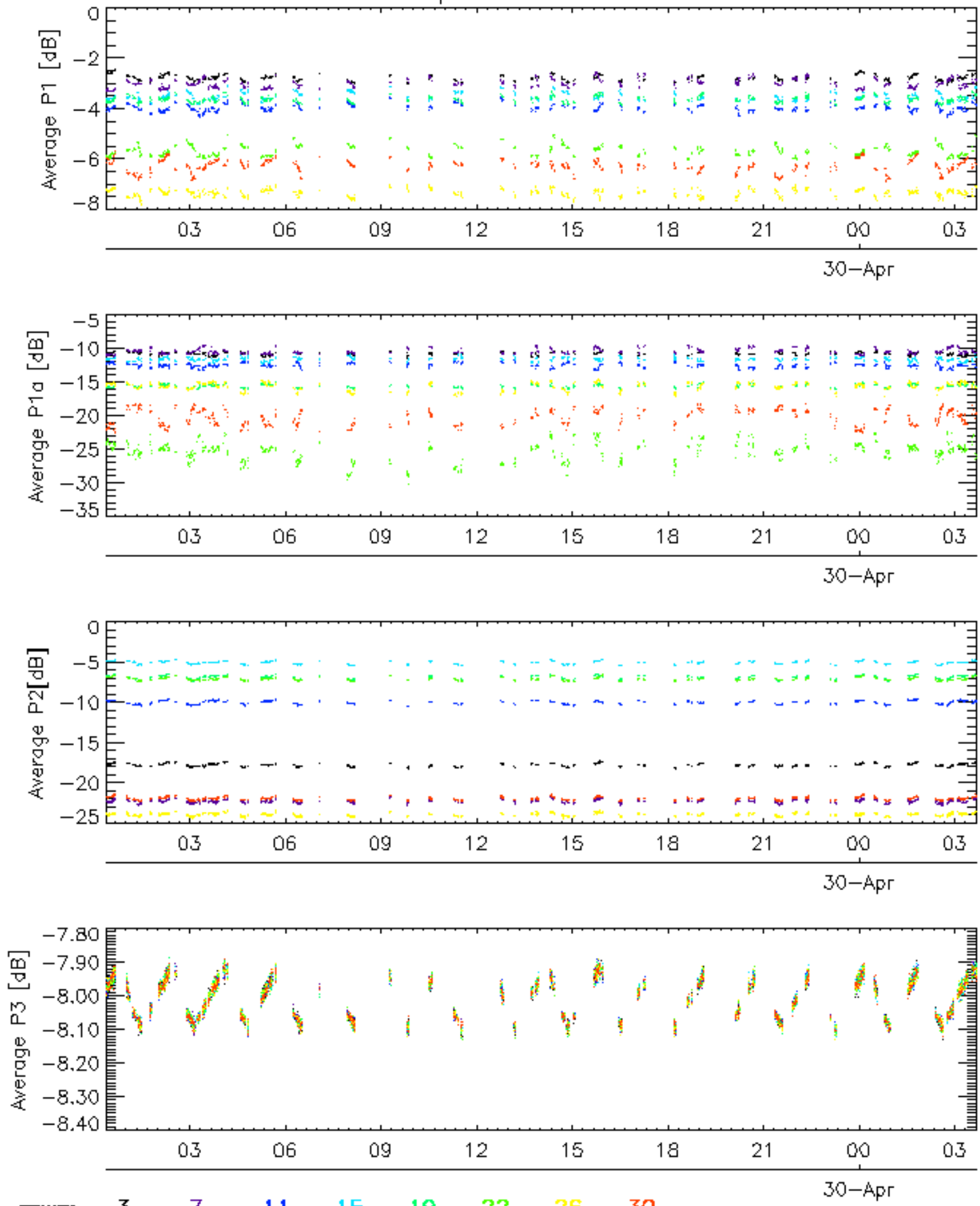
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3



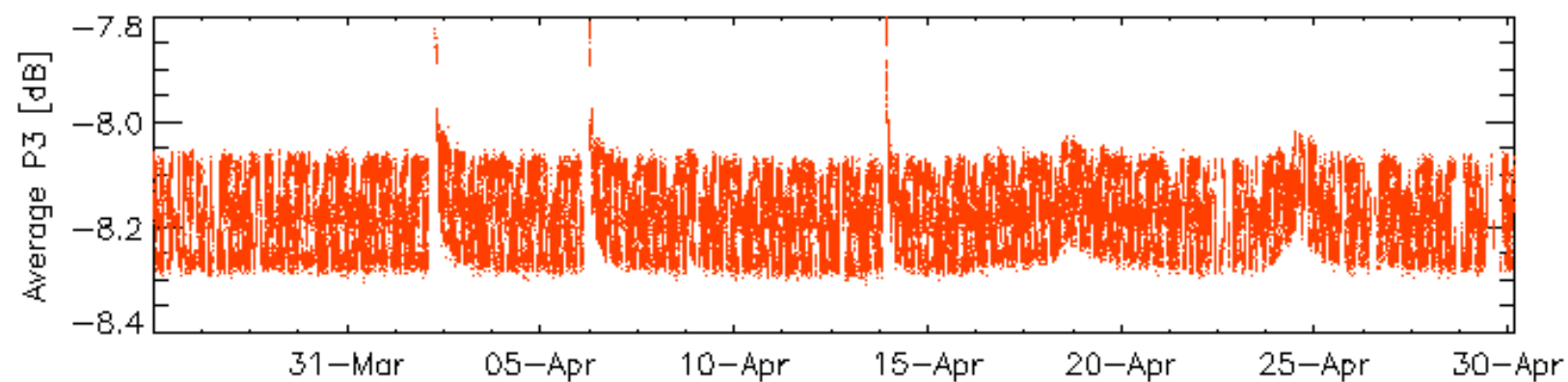
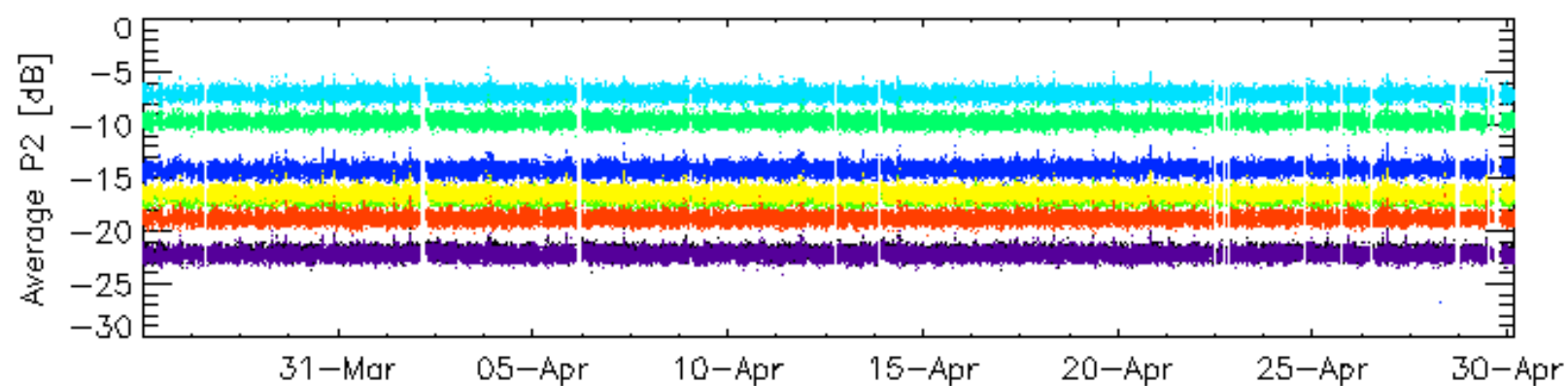
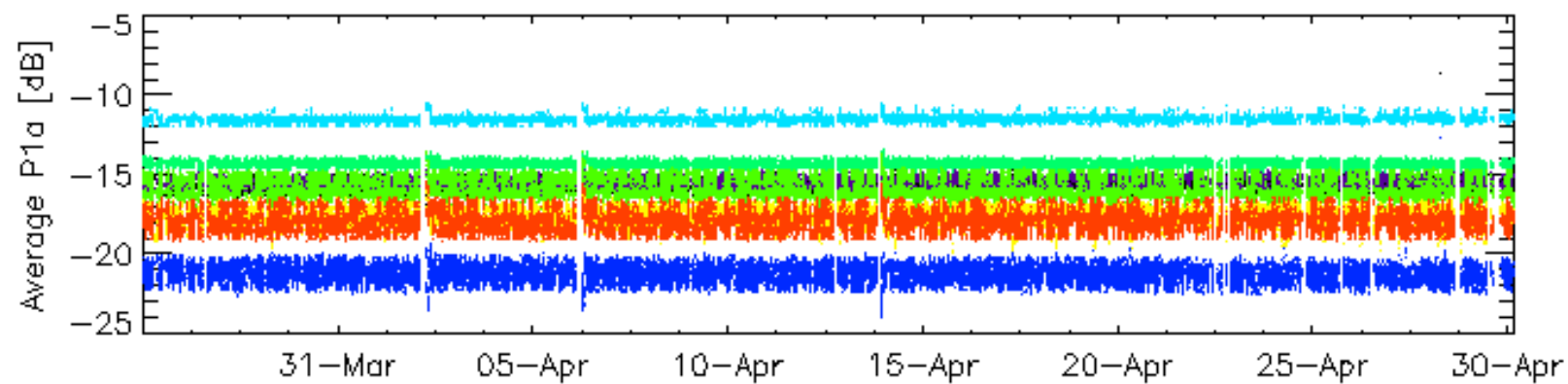
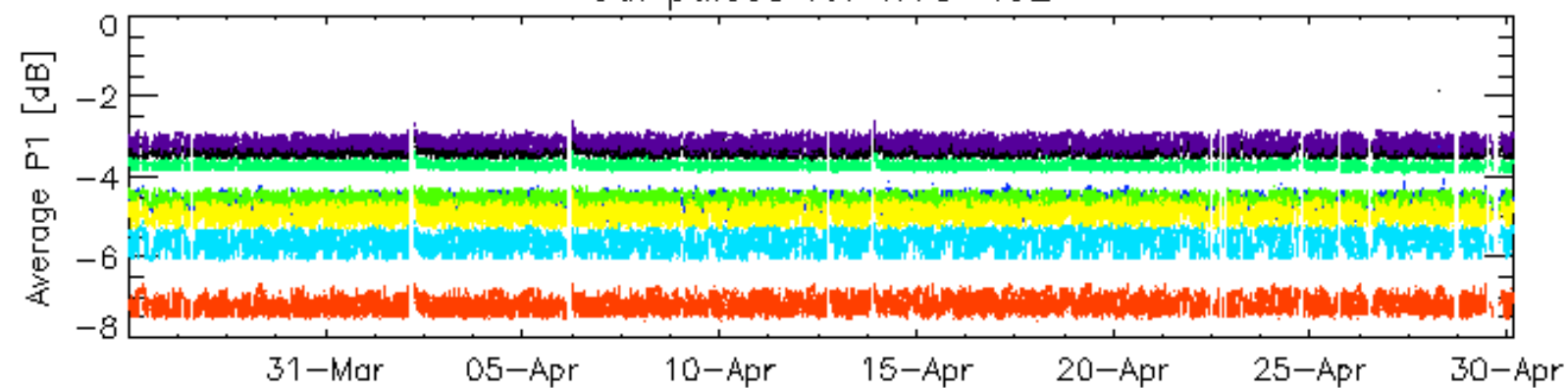
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3



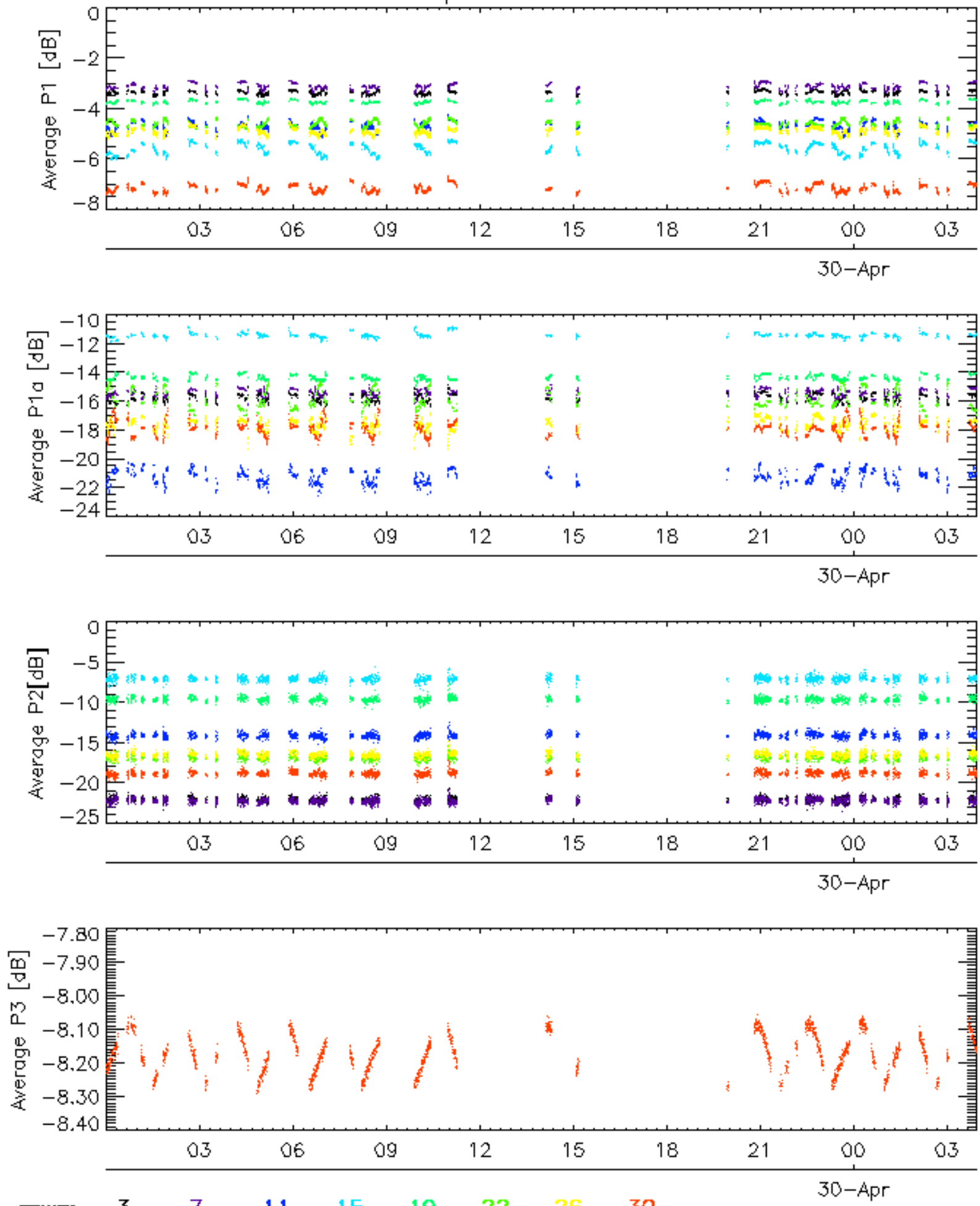
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



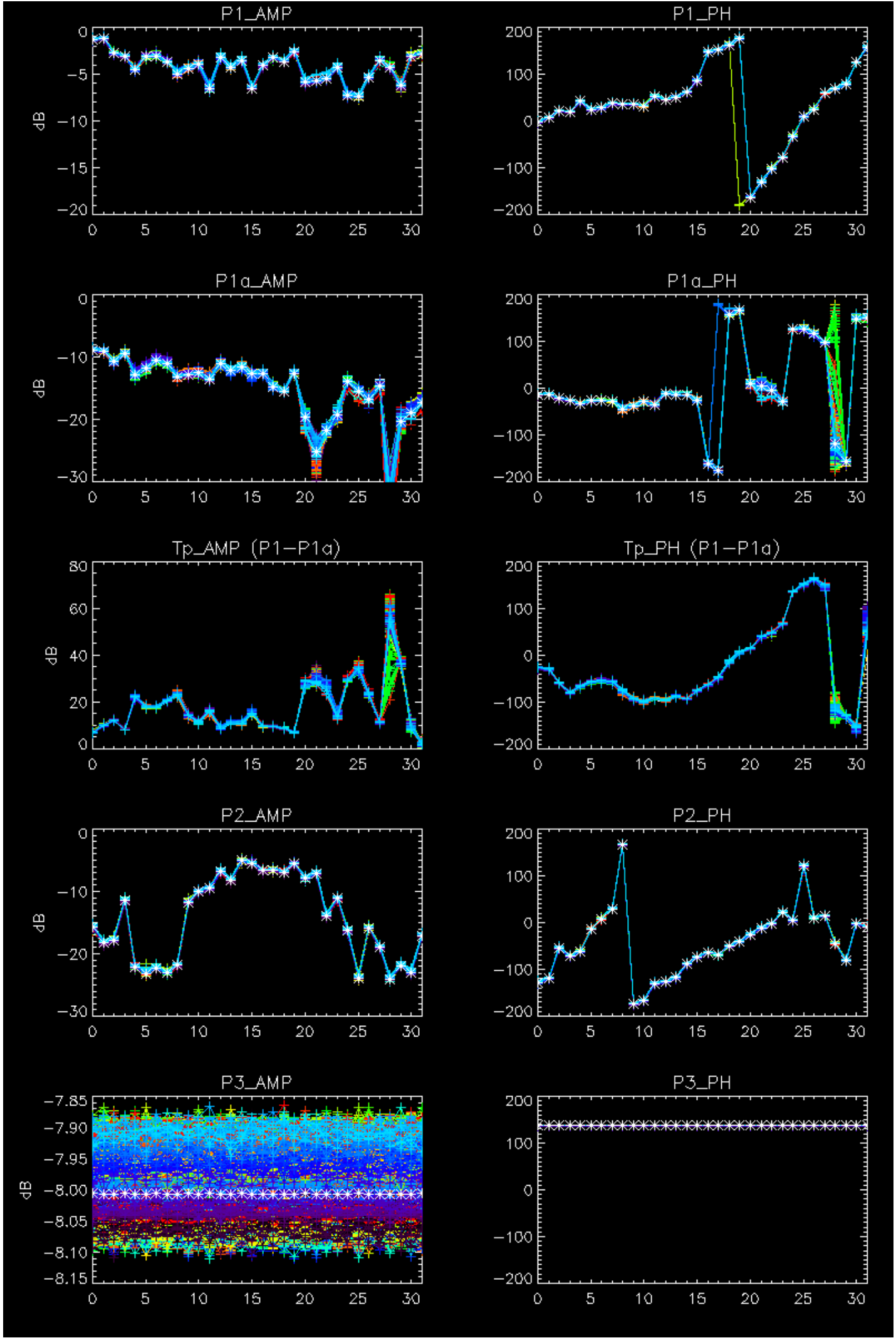
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

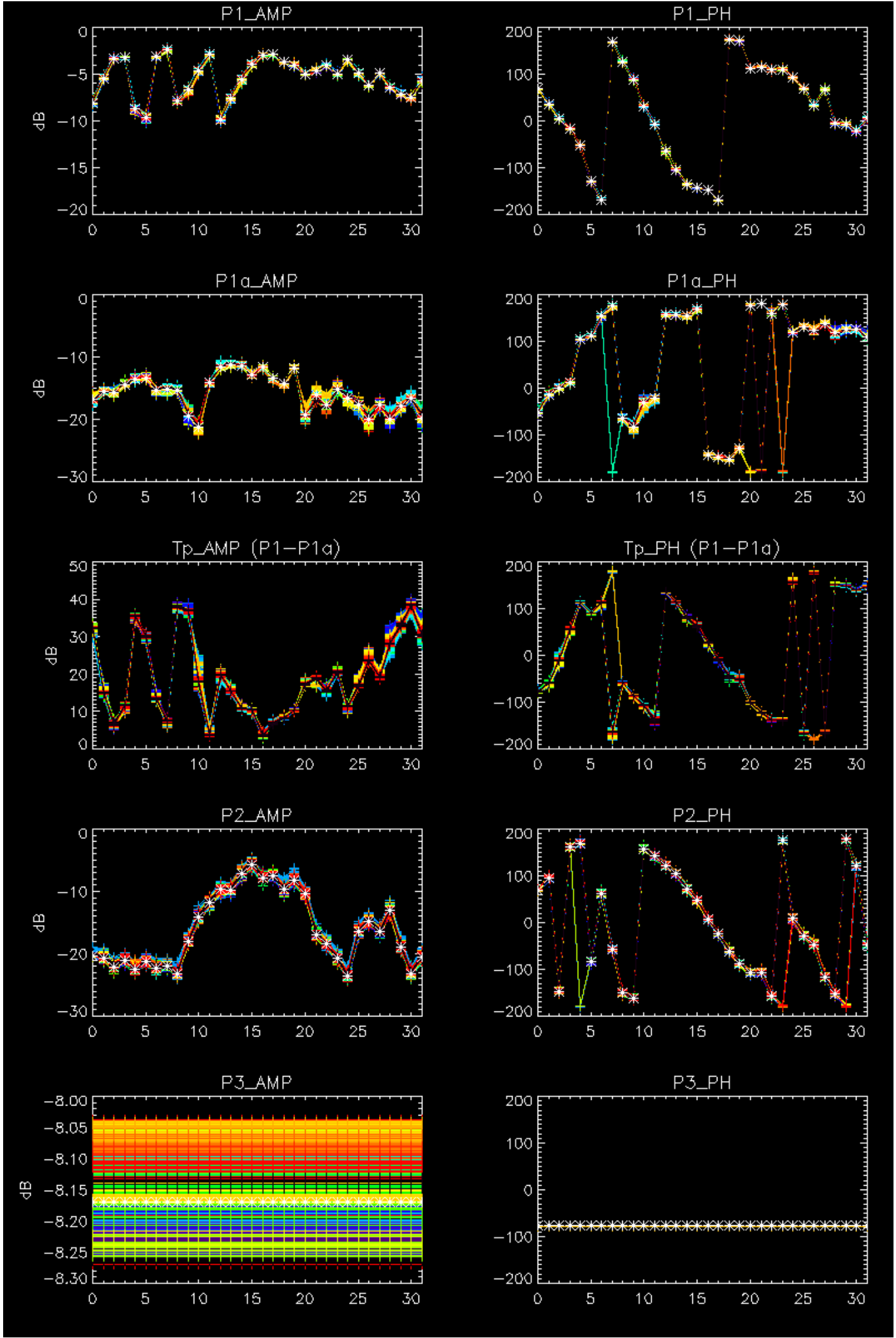
Cal pulses for WVS IS2



rows: 3 7 11 15 19 22 26 30

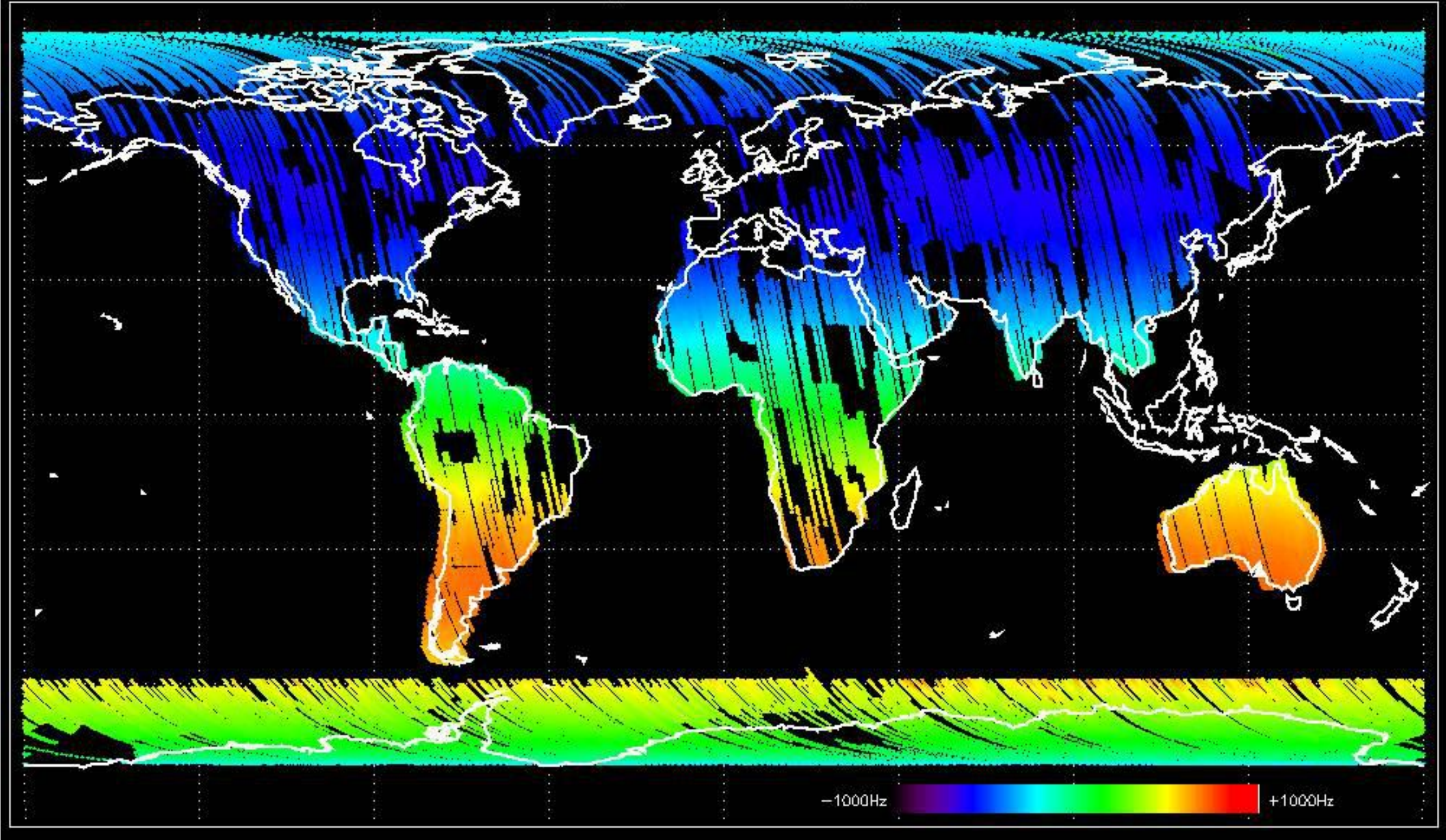
No anomalies observed.



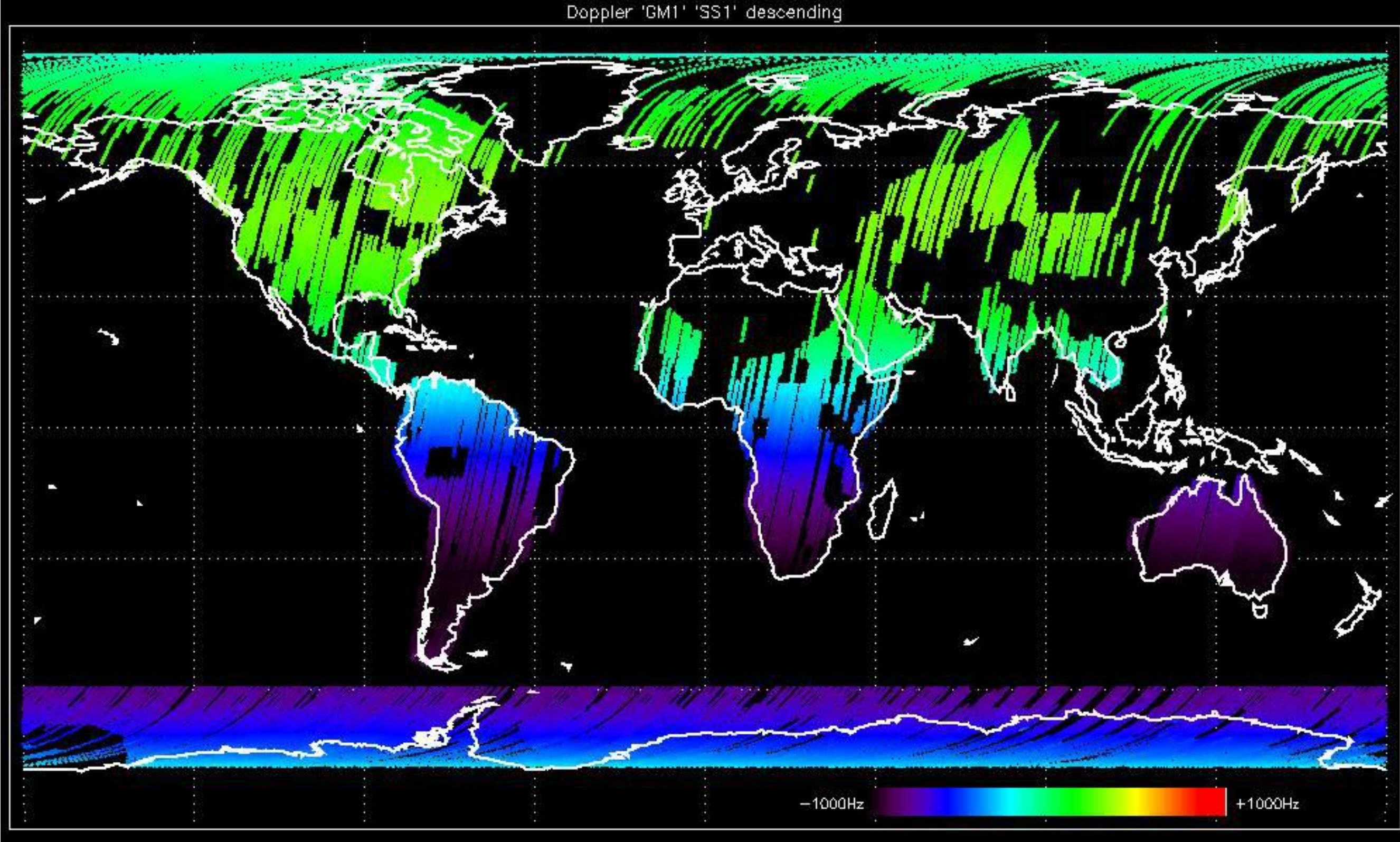


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

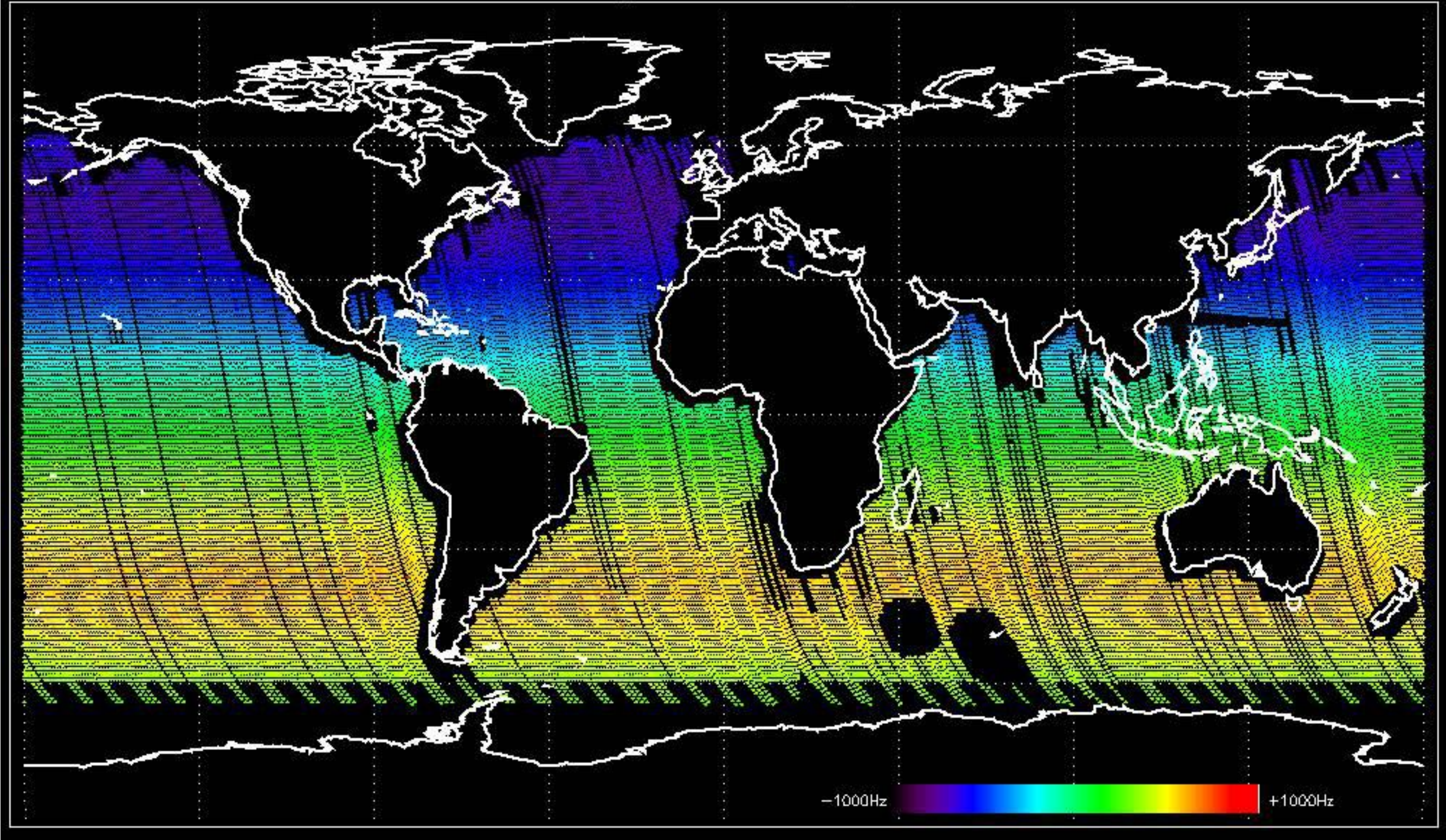
Doppler 'GM1' 'SS1' ascending



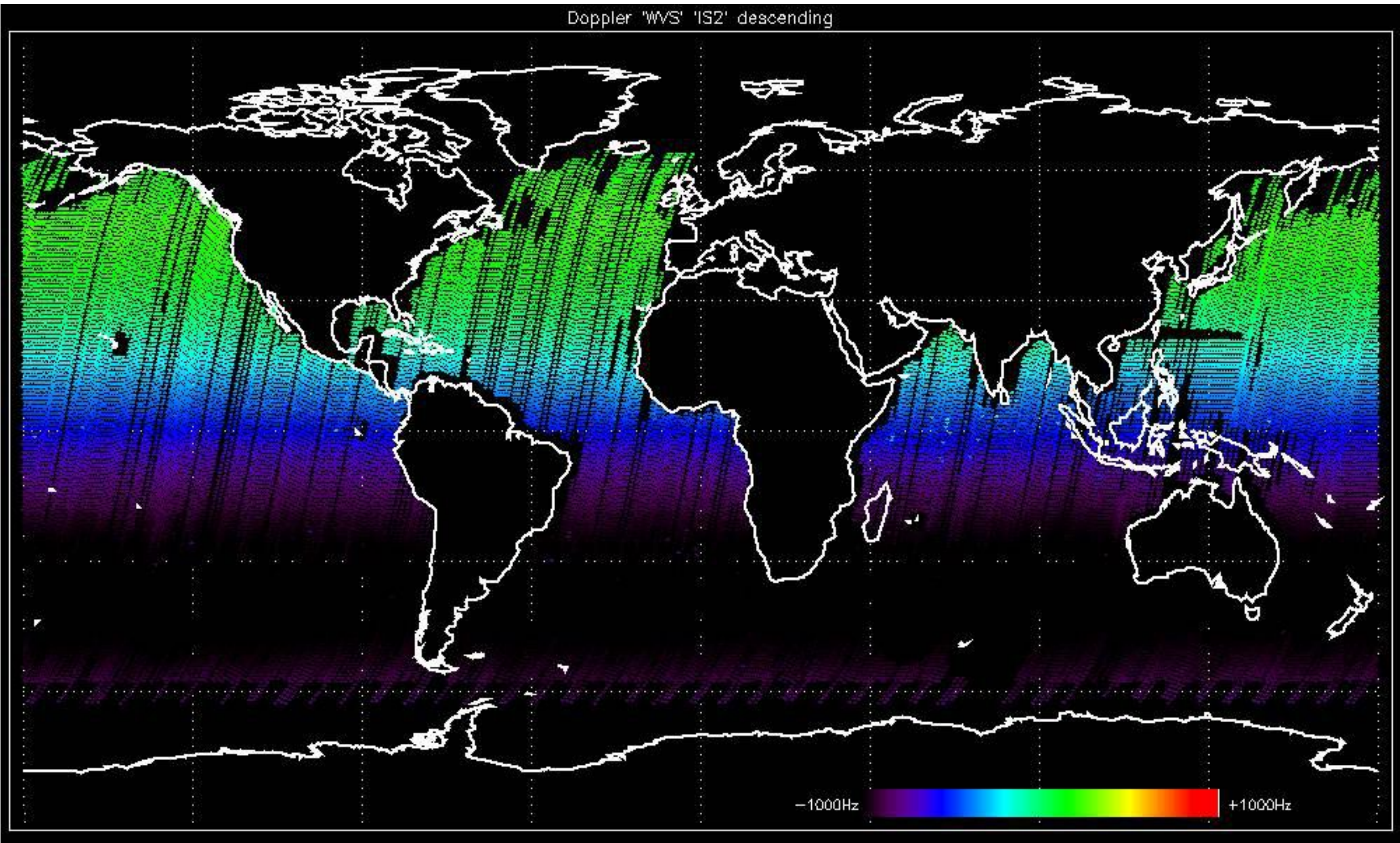
Doppler 'GM1' 'SS1' descending



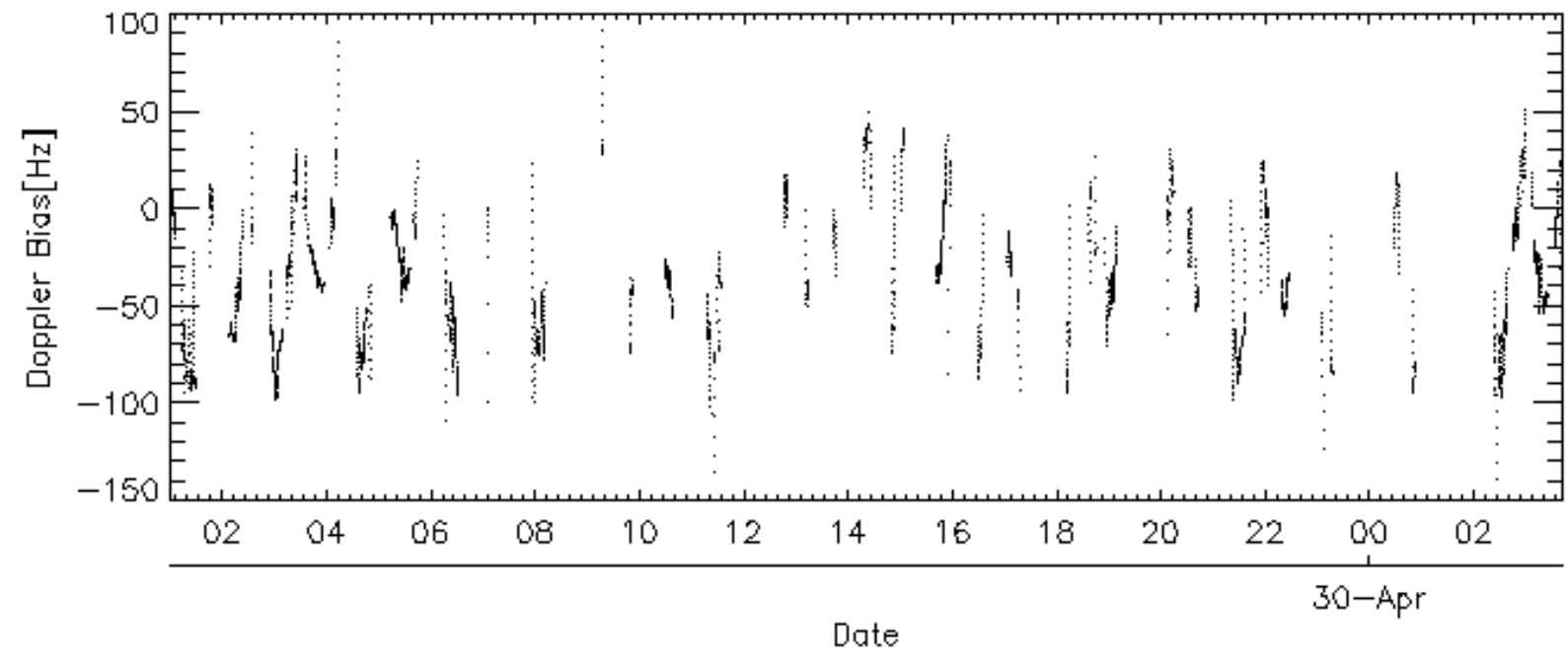
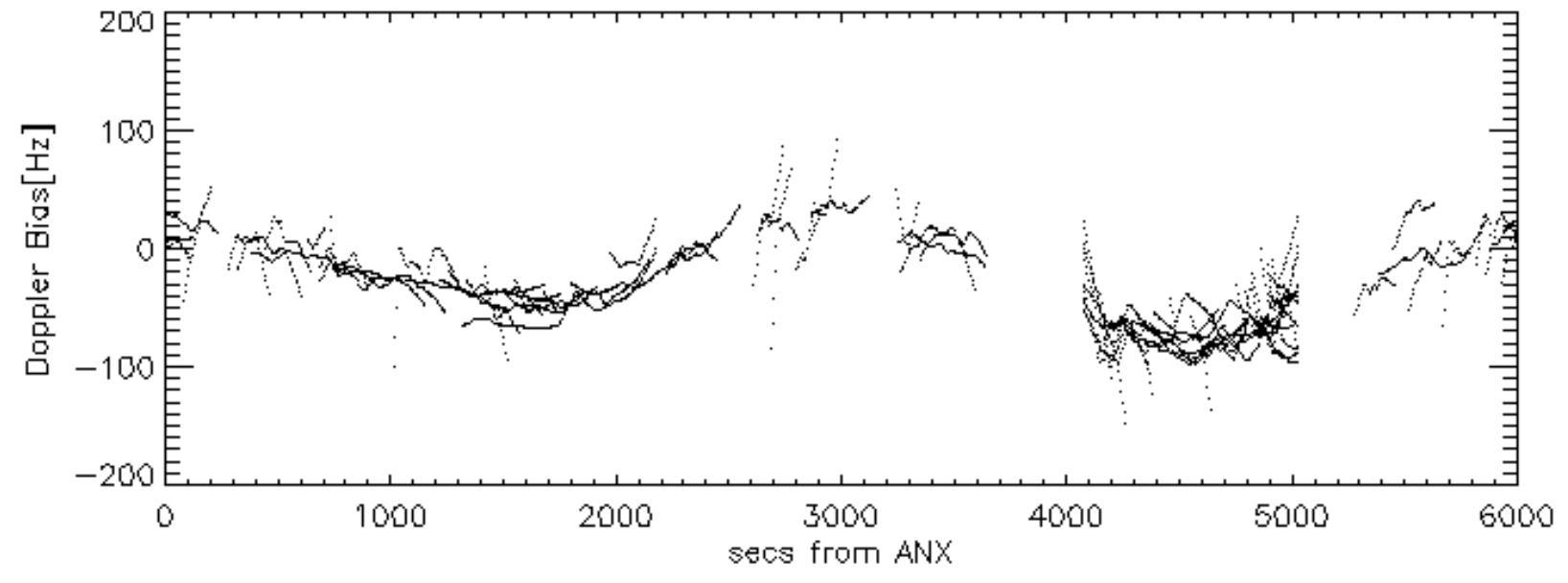
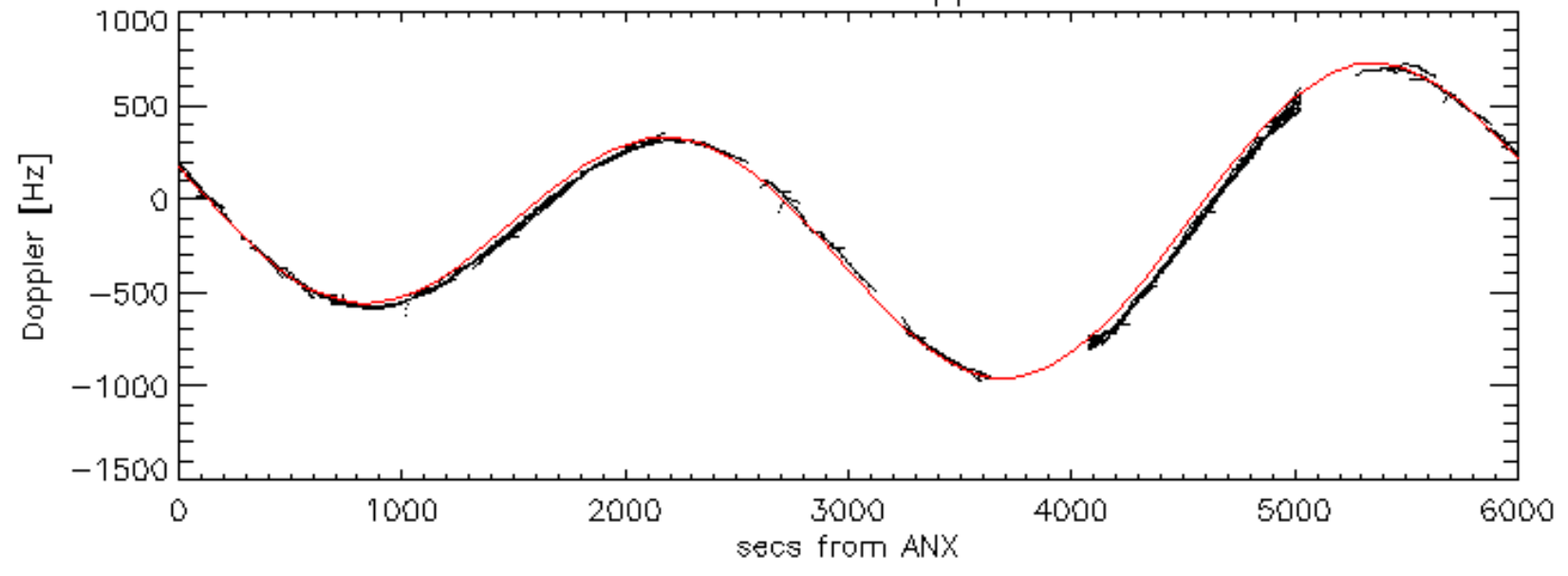
Doppler 'WVS' 'IS2' ascending

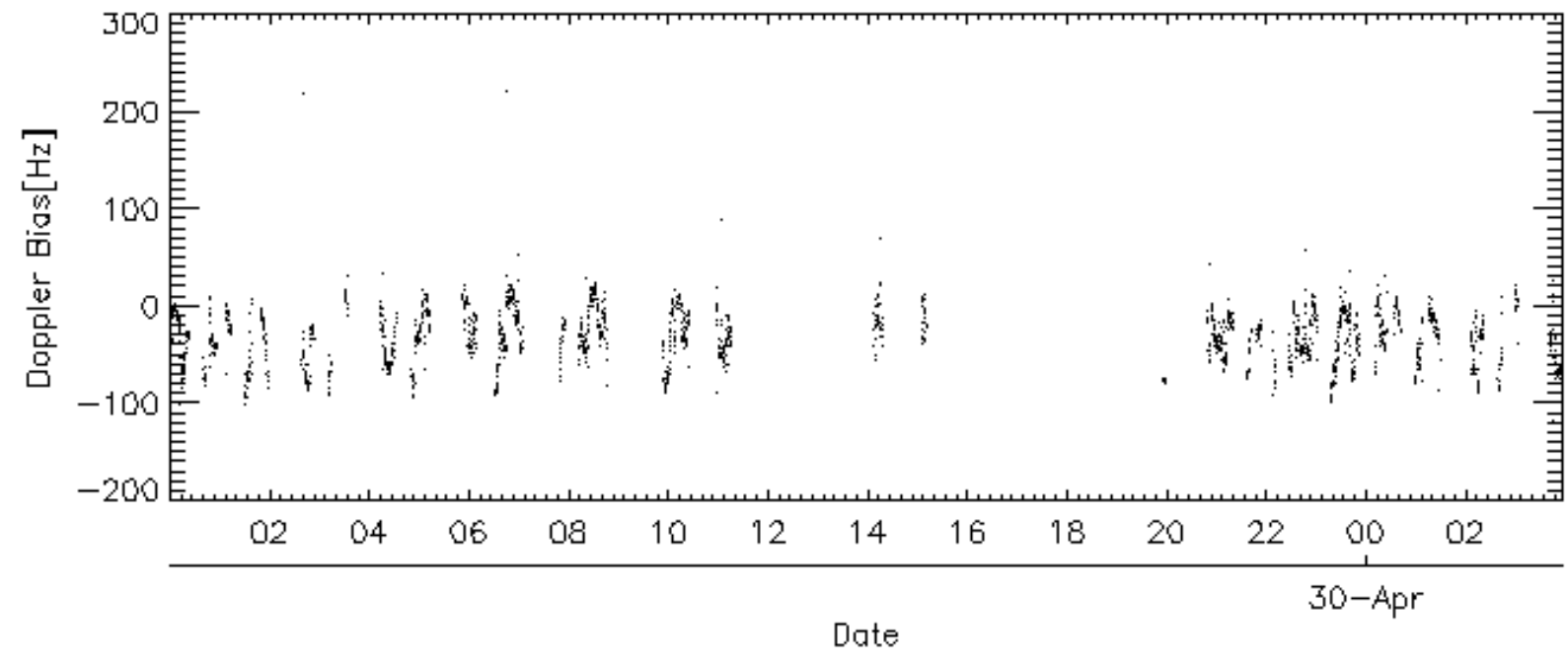
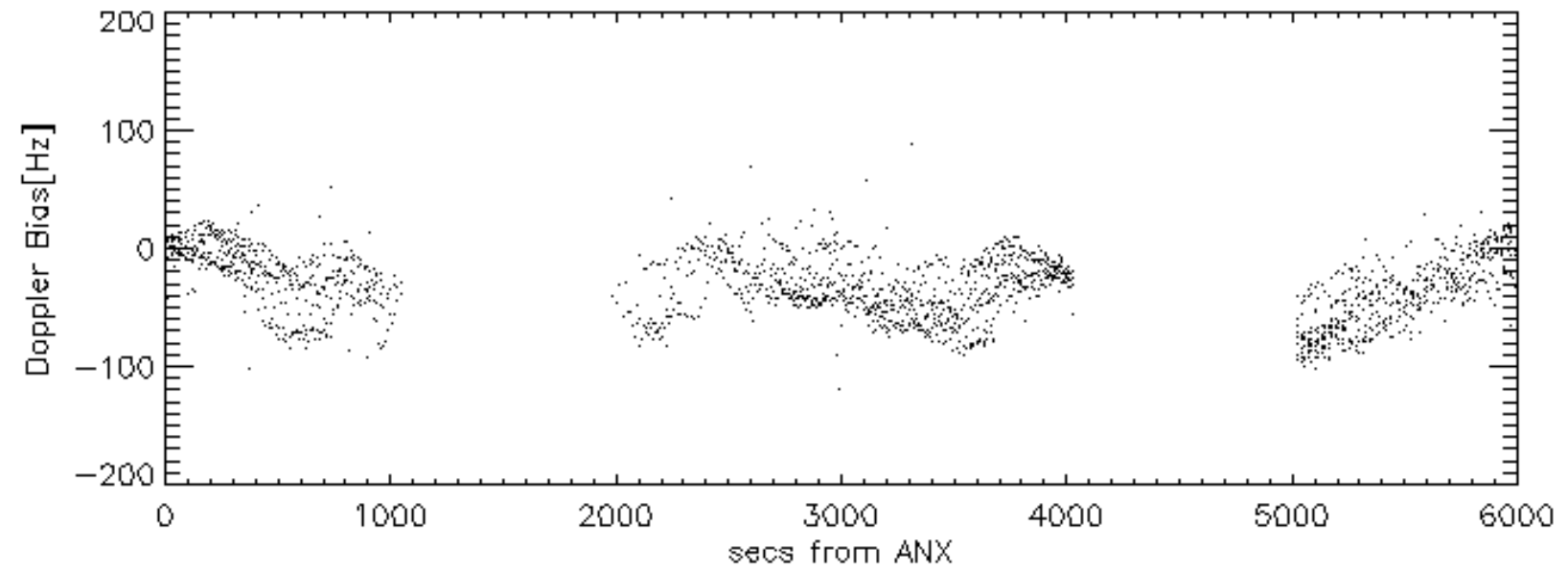
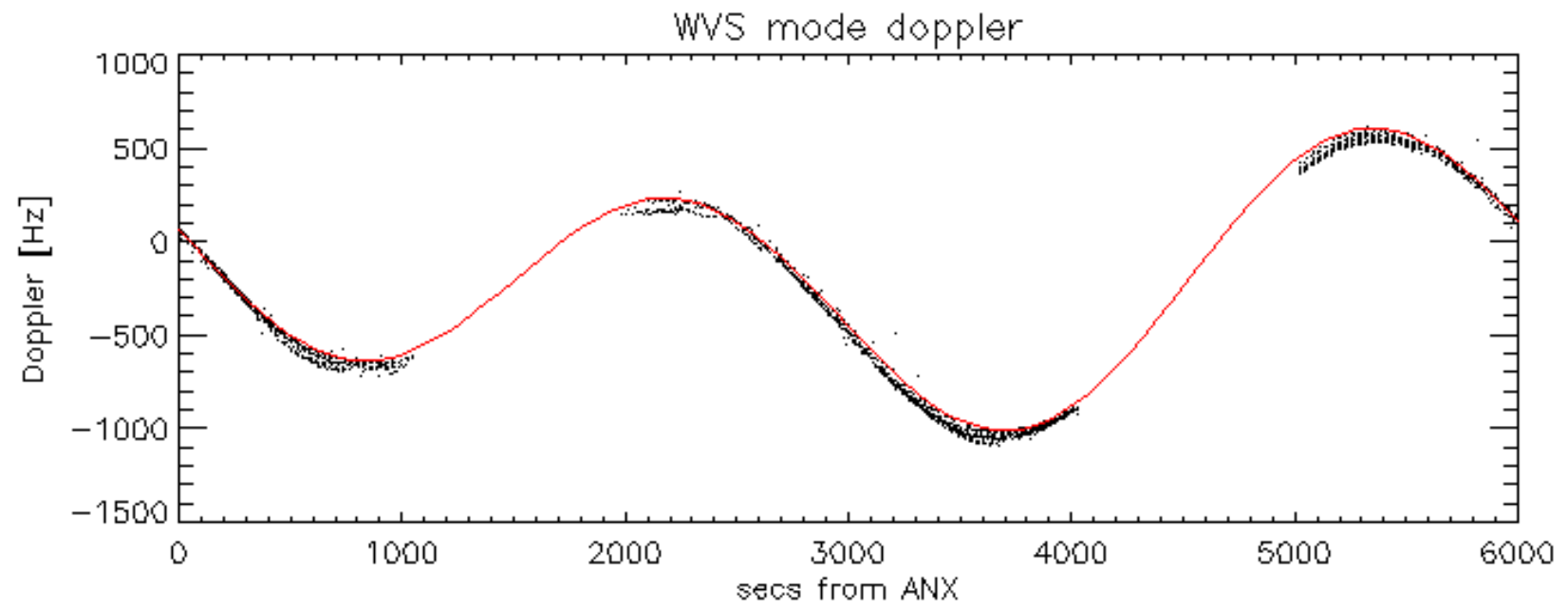


Doppler 'WVS' 'IS2' descending

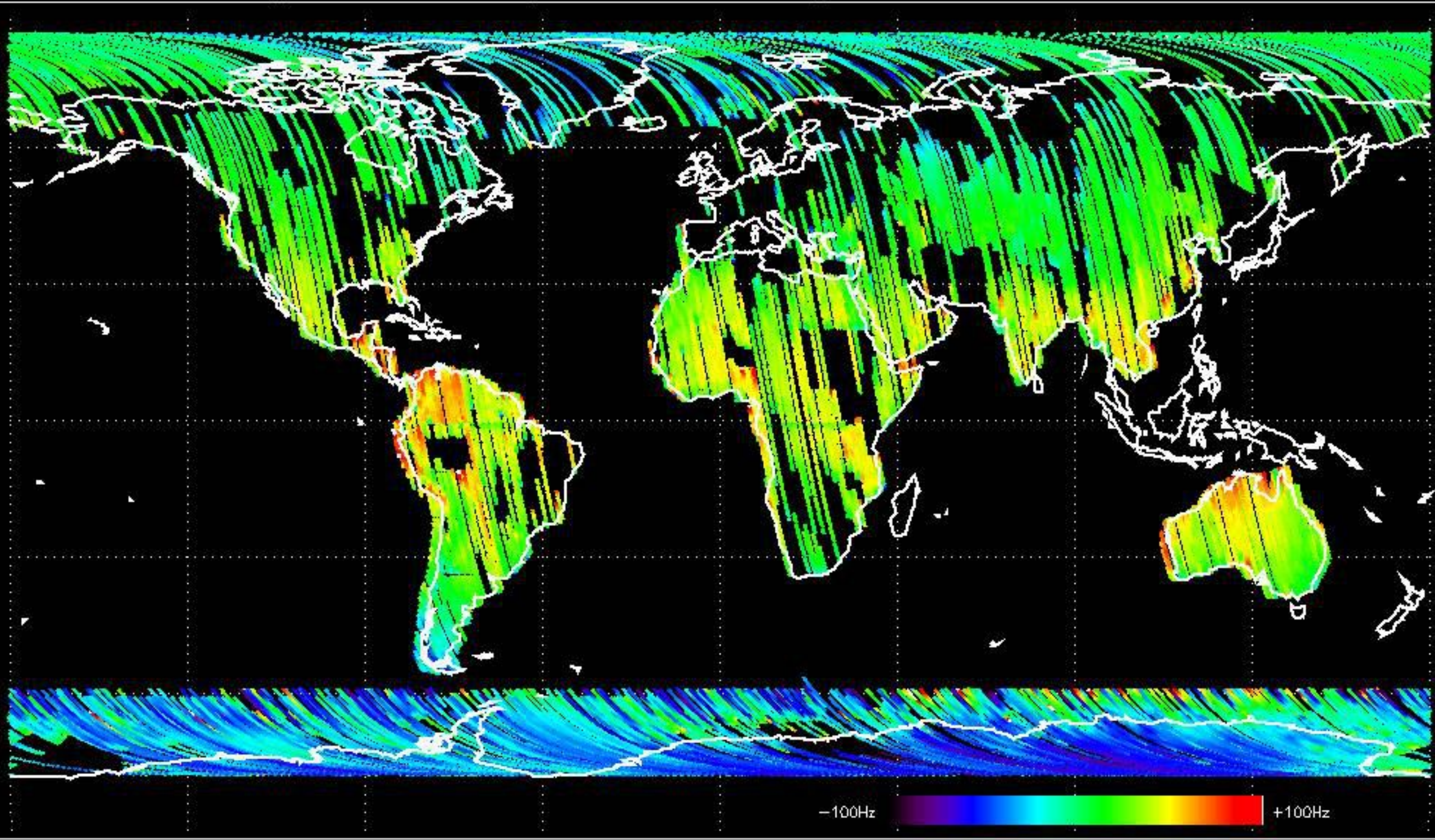


GM1 mode doppler

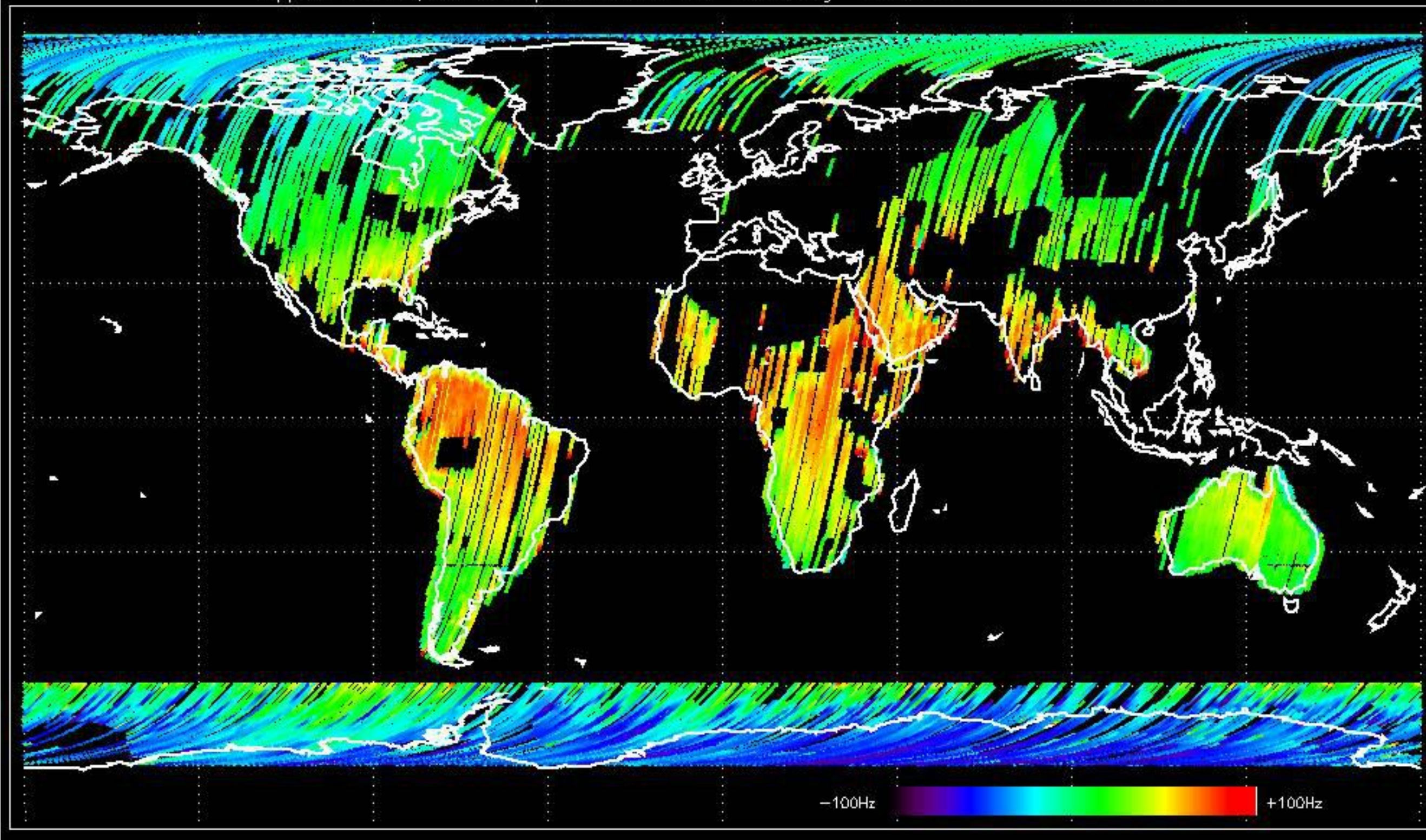




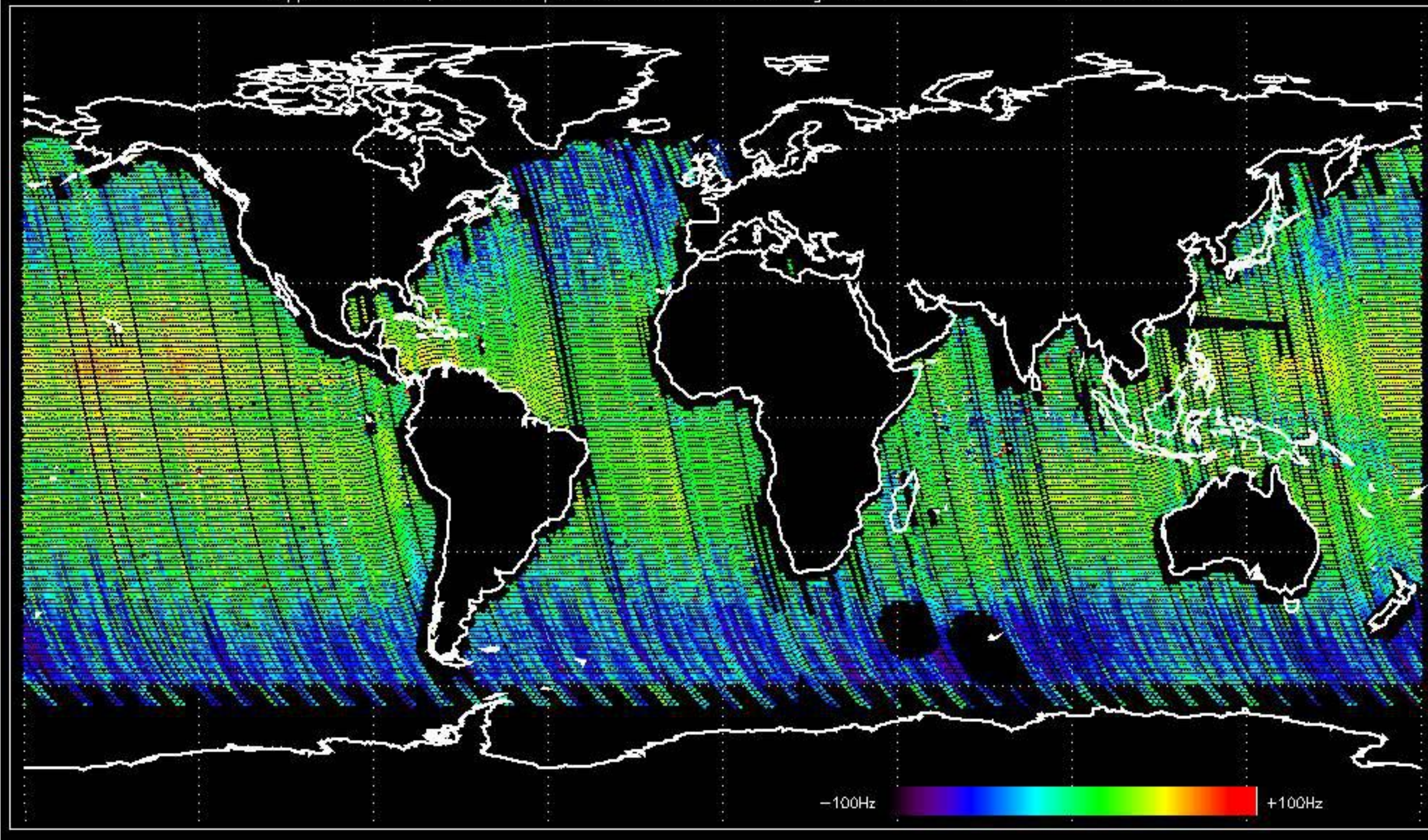
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -37.916143 Hz



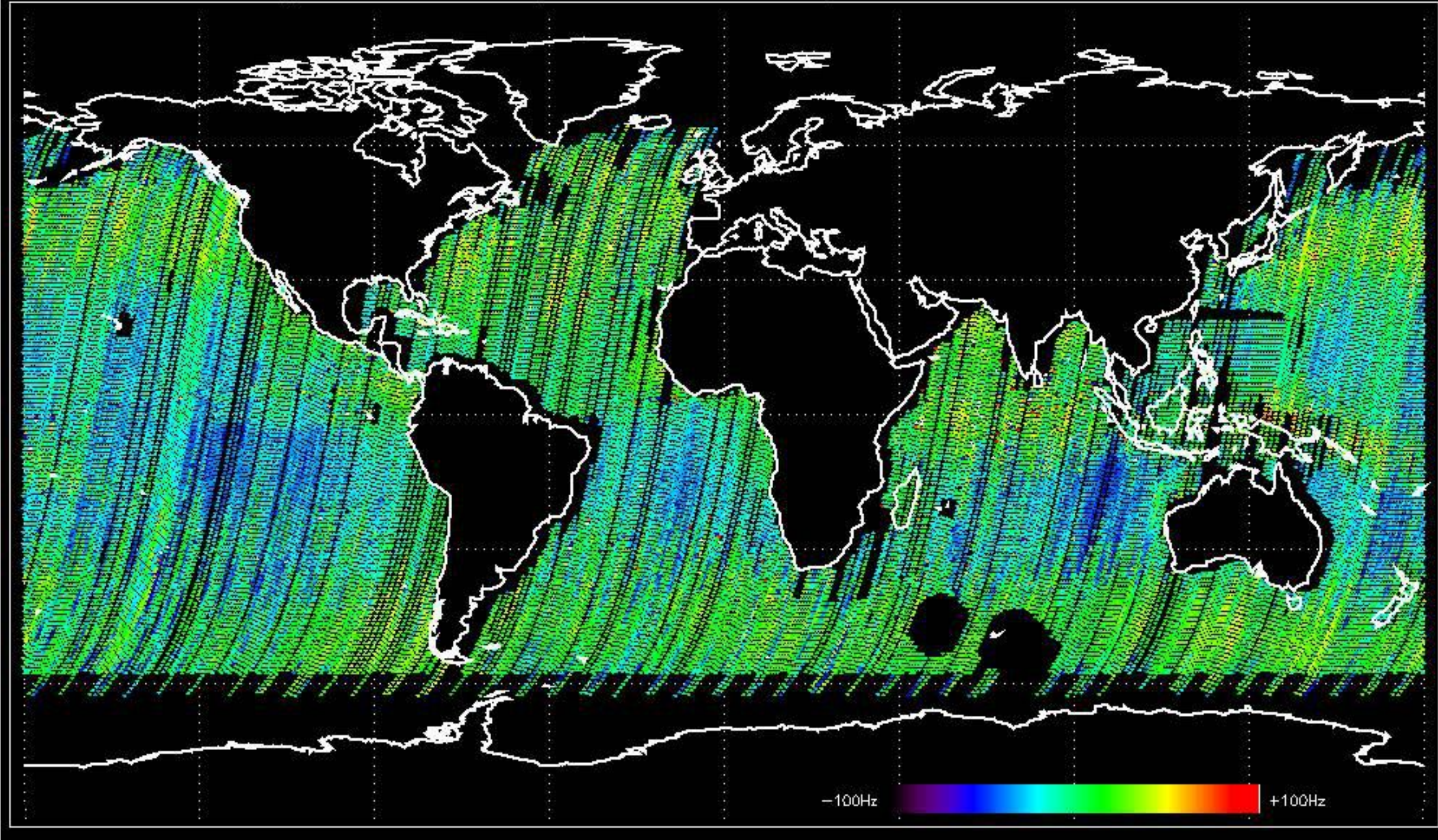
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -30.101008 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -33.708226 Hz

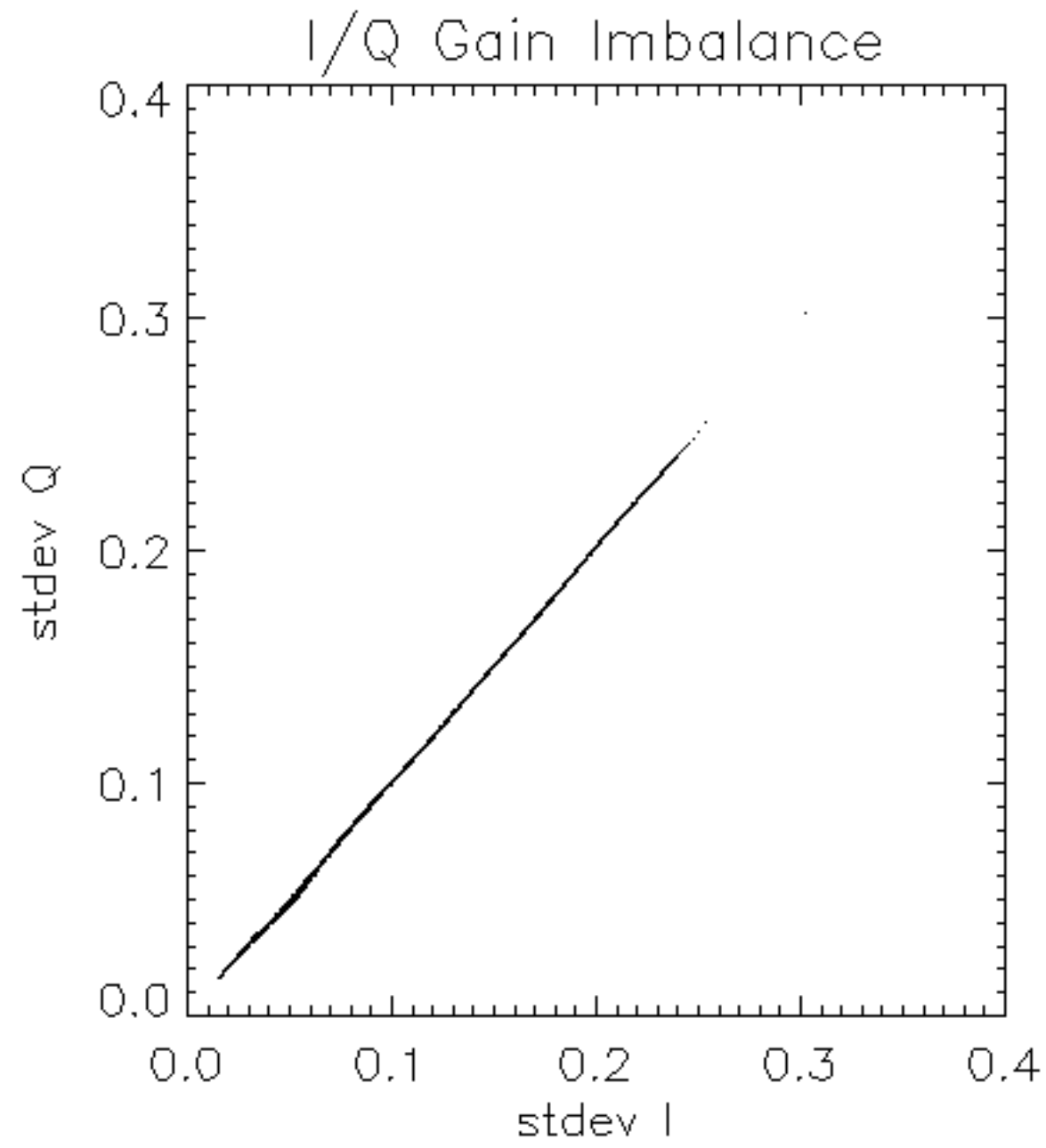


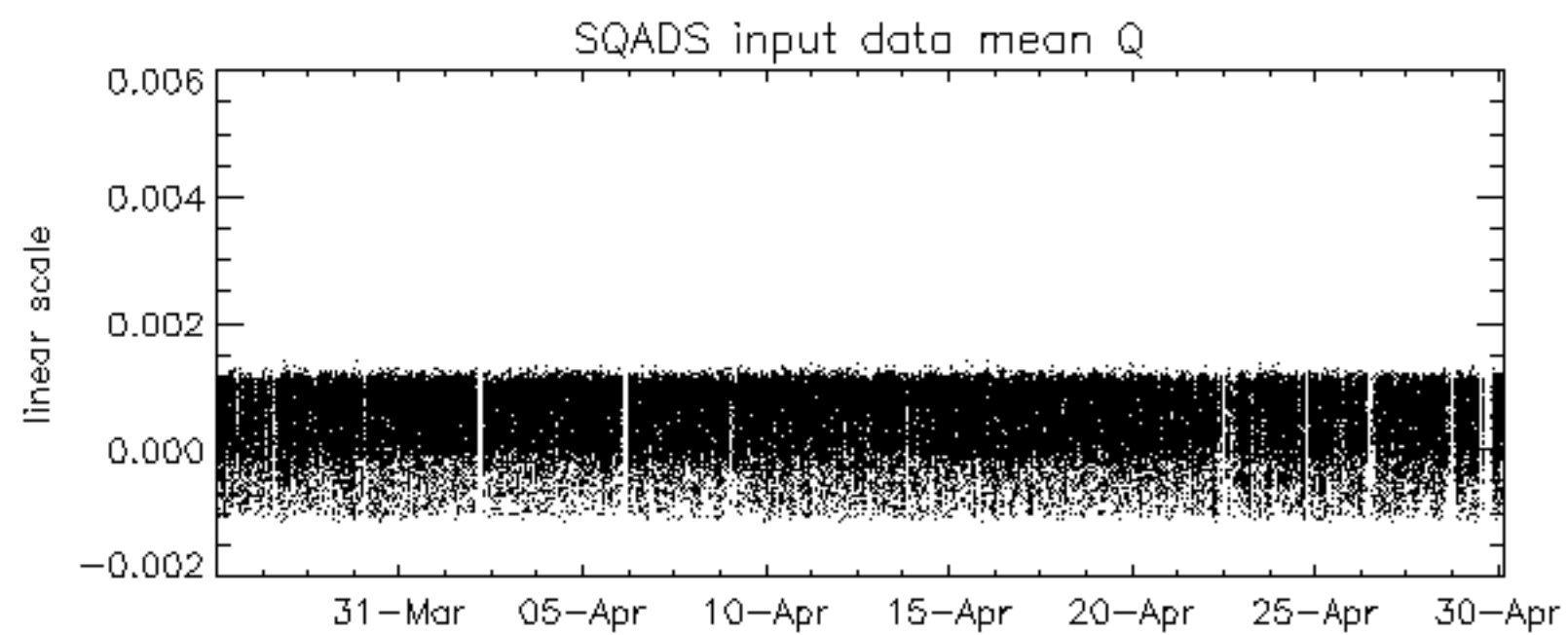
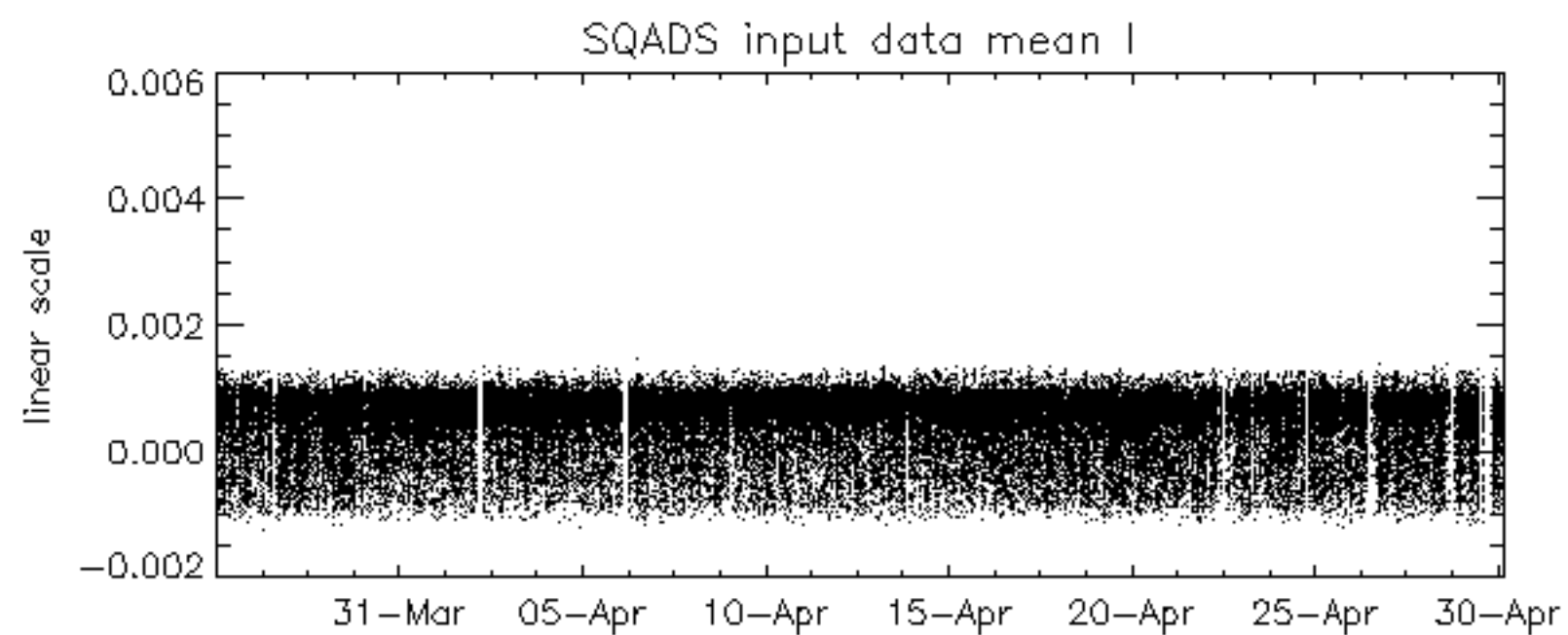
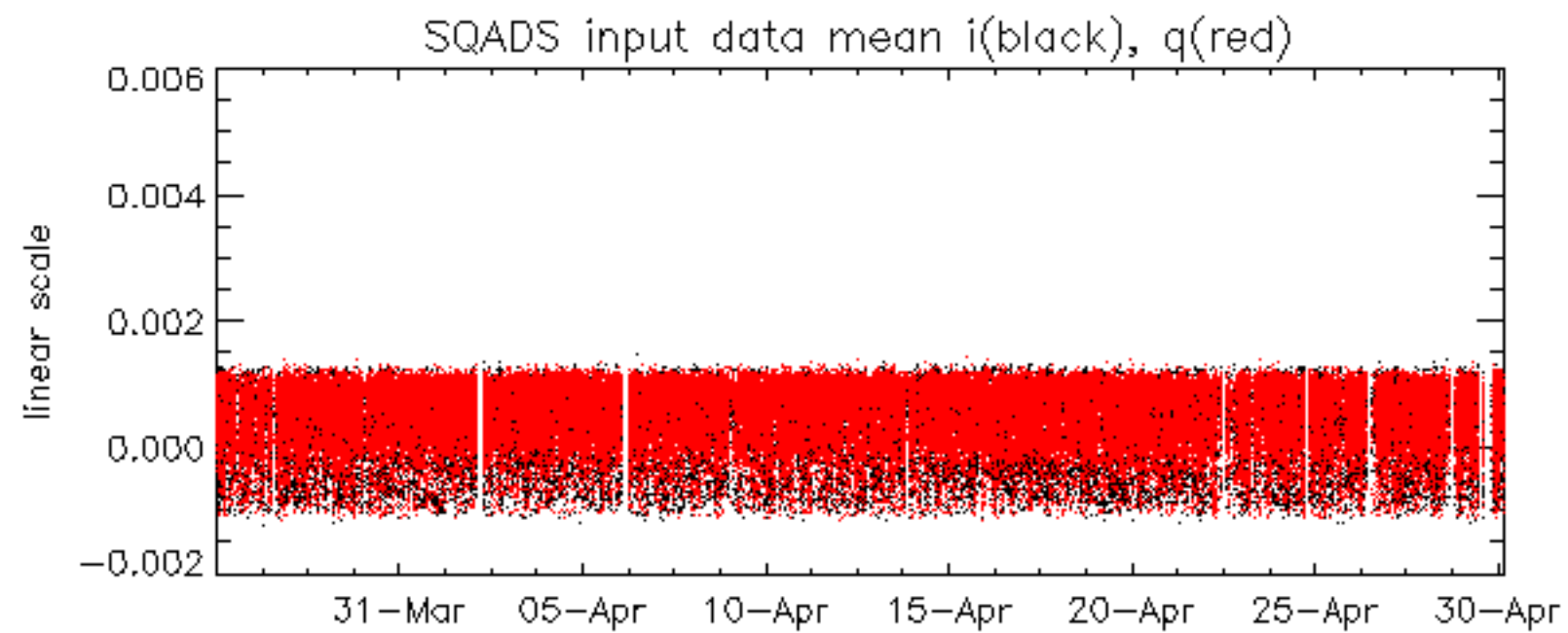
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -36.287092 Hz

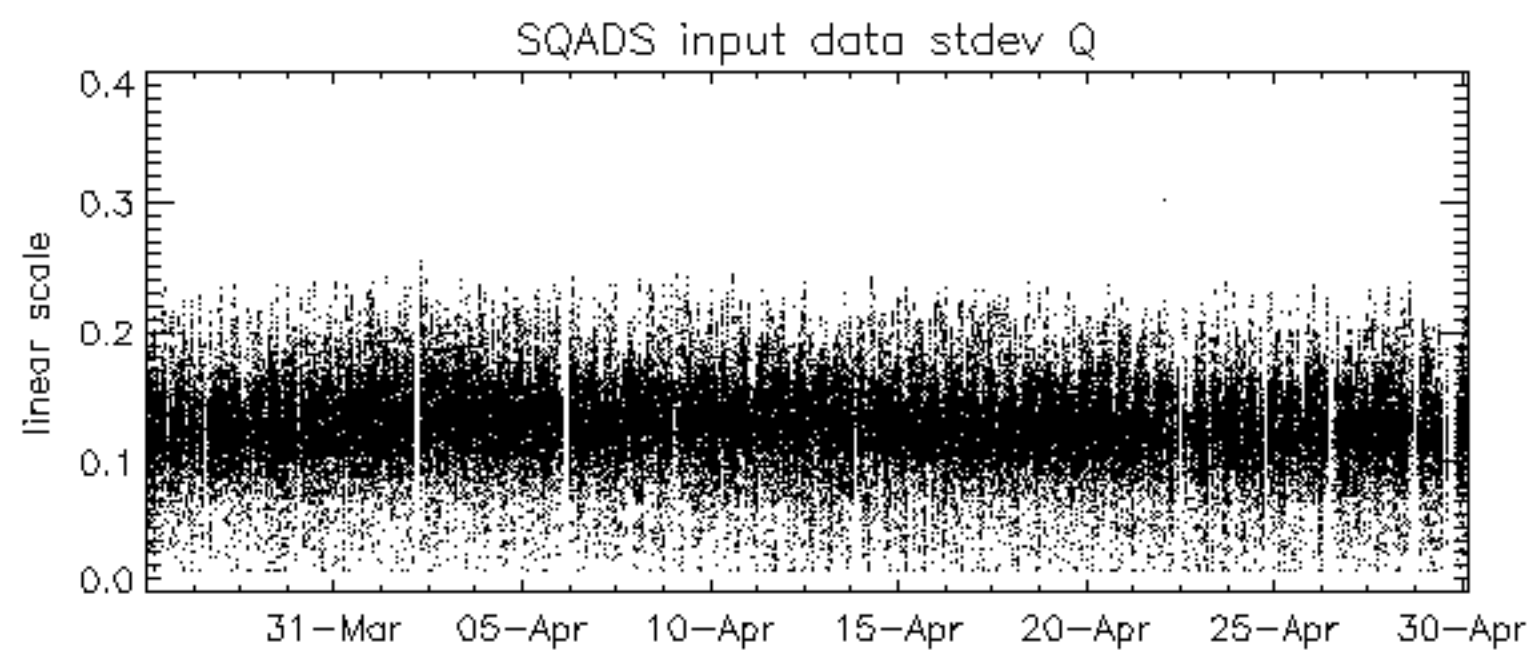
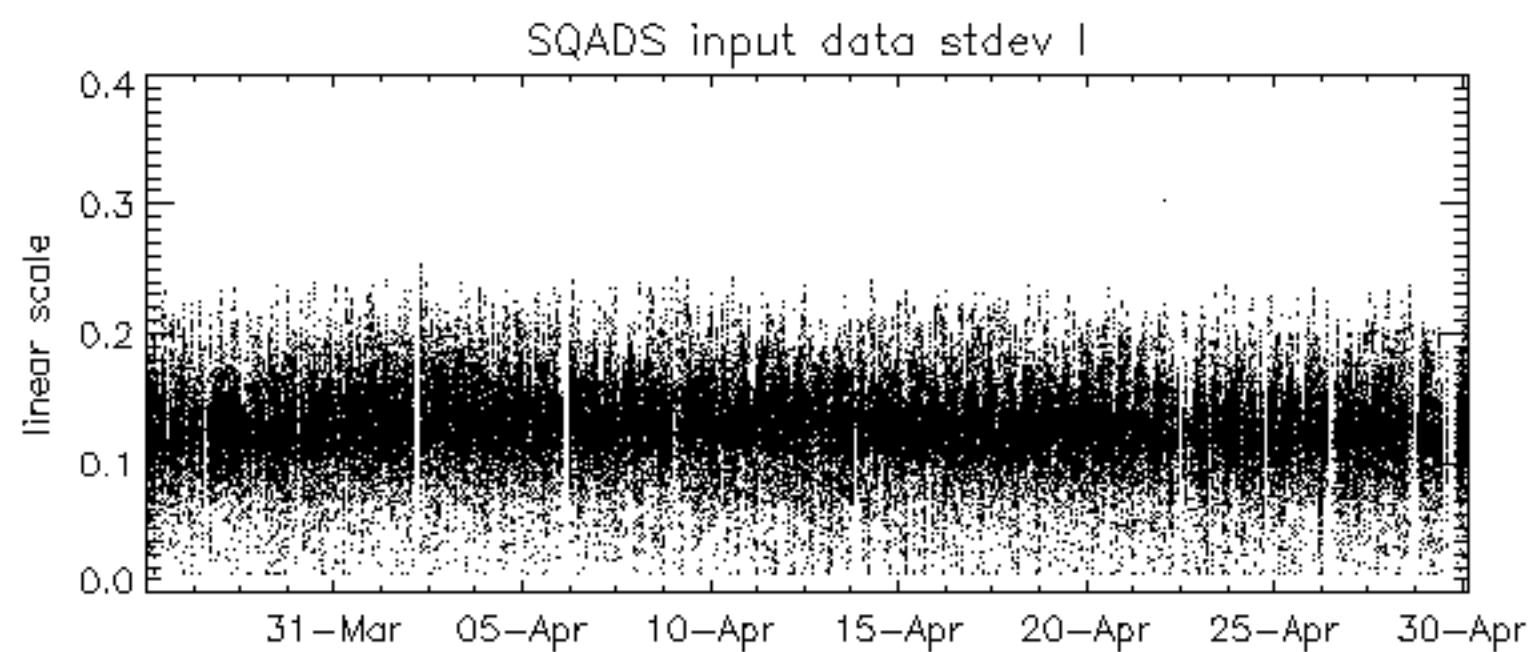
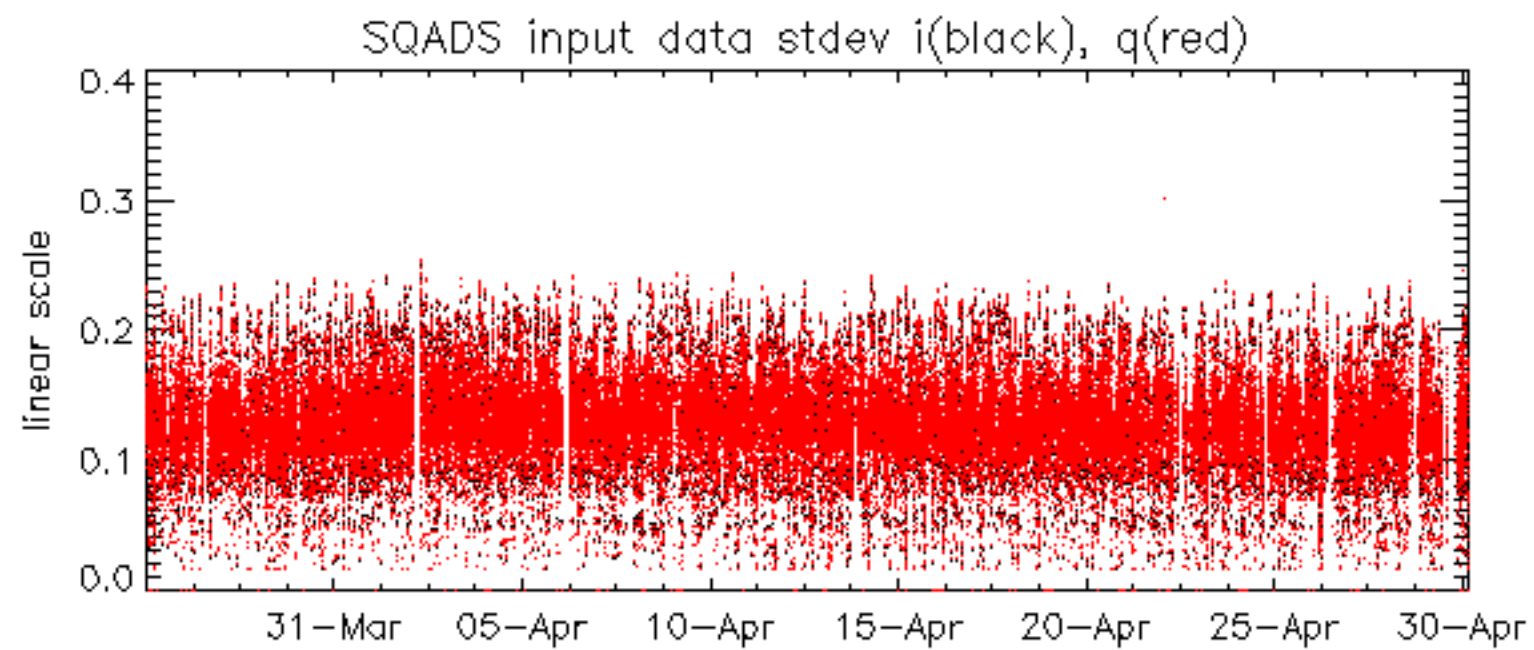


No anomalies observed on available MS products:

No anomalies observed.



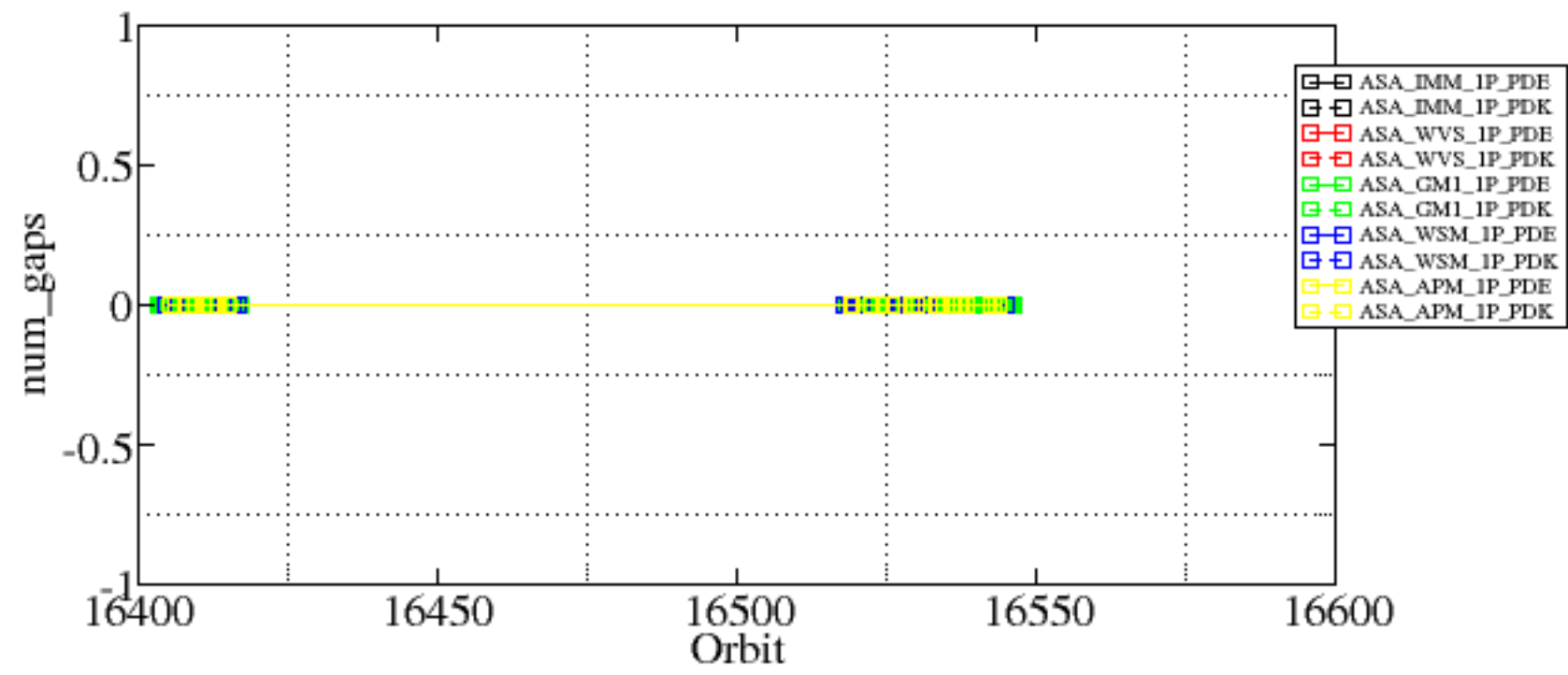


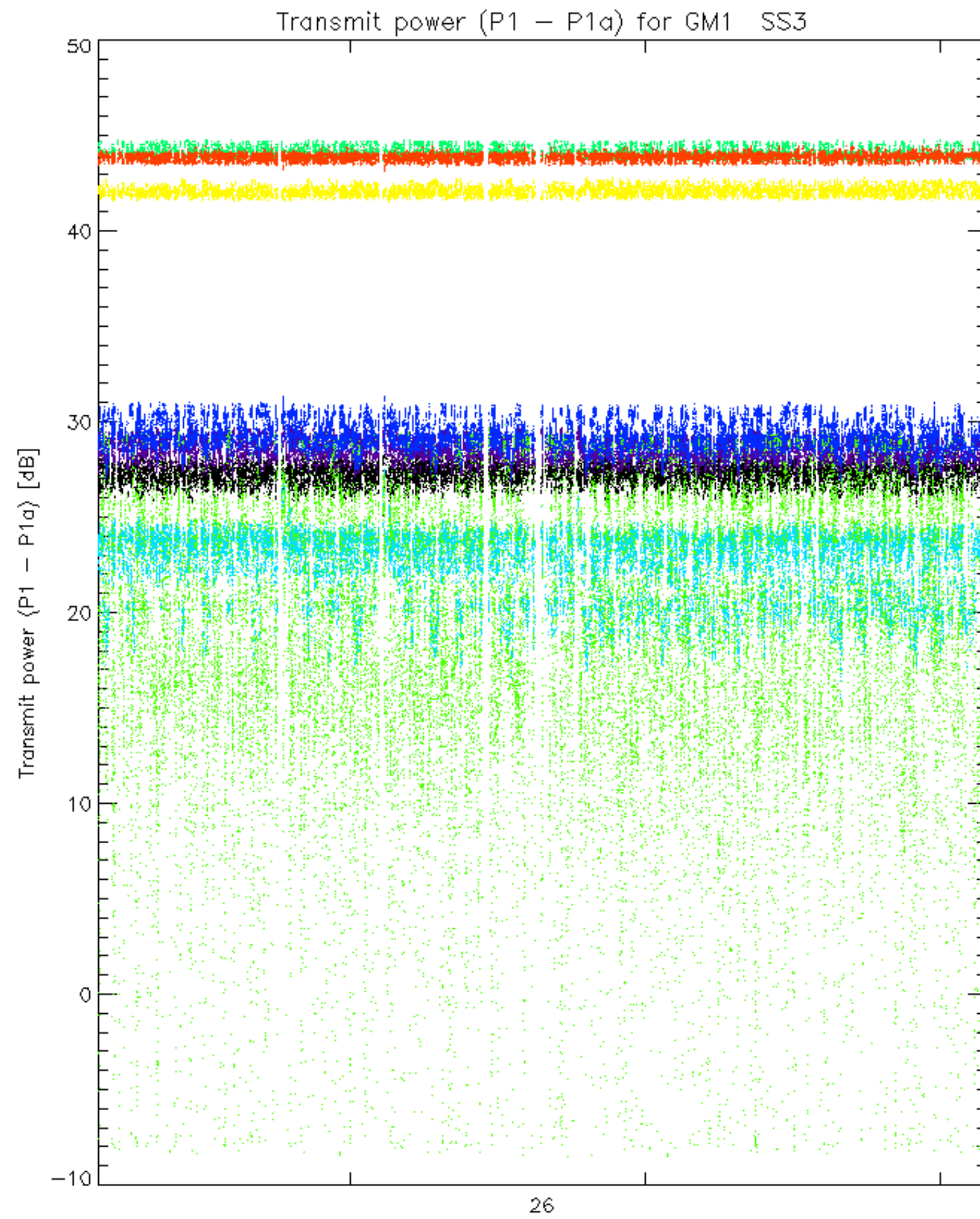


Summary of analysis for the last 3 days 2005042[890]

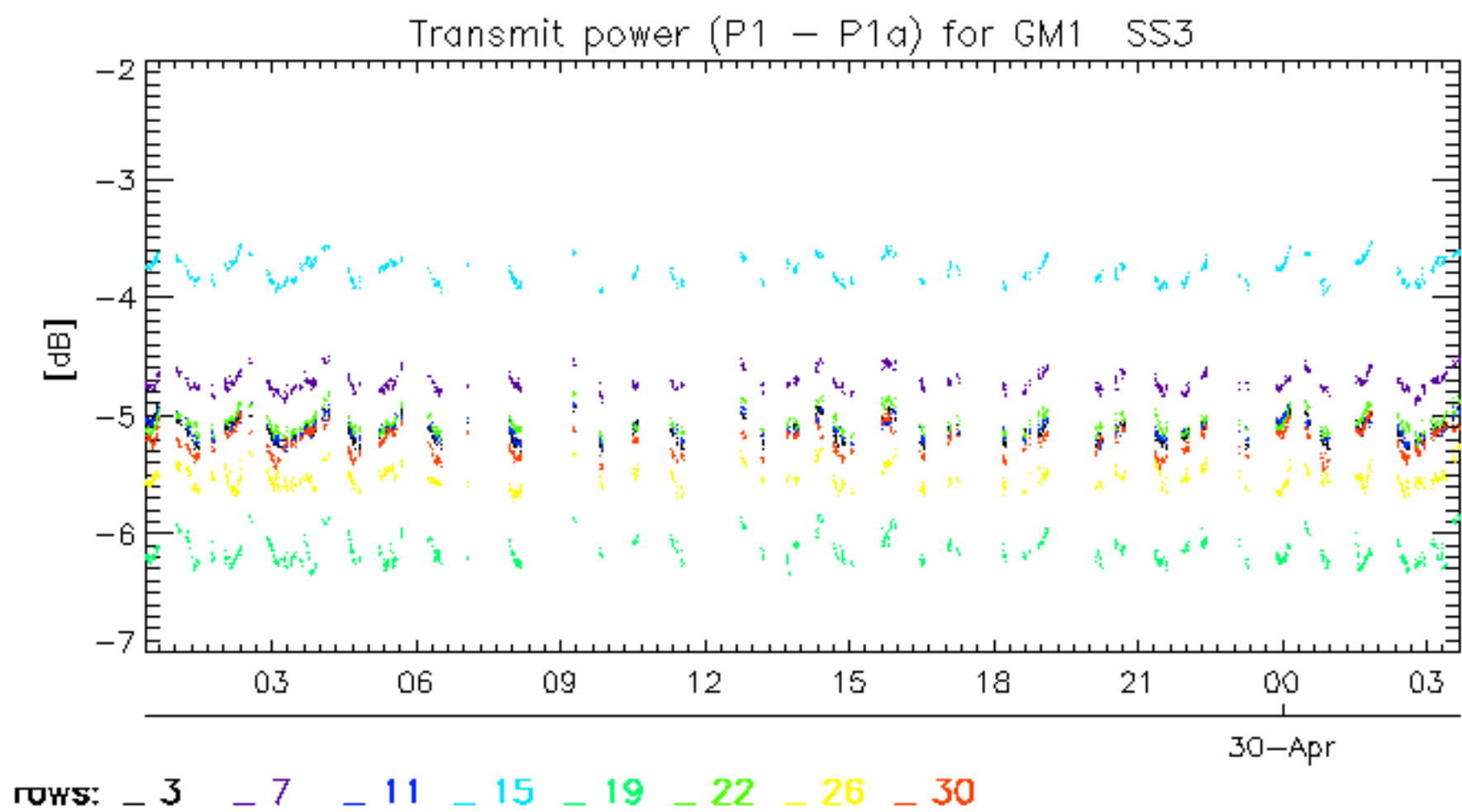
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

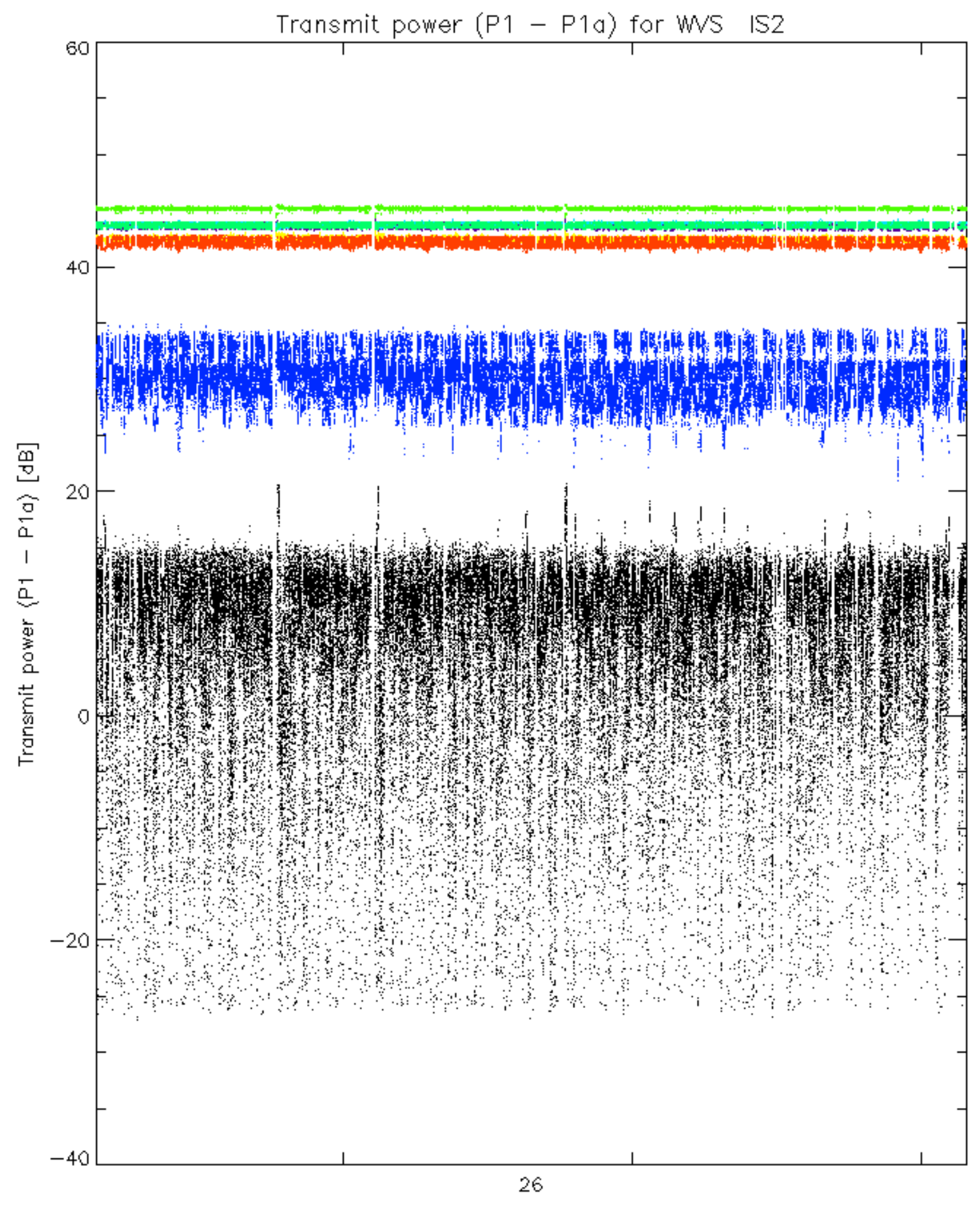
Filename	num_gaps	num_missing_lines
ASA_GM1_1PNPDK20050428_175348_000005732036_00442_16528_9621.N1	0	9
ASA_WSM_1PNPDE20050428_012548_00000672036_00432_16518_9246.N1	0	2
ASA_WSM_1PNPDK20050428_140630_000001472036_00440_16526_1597.N1	0	28

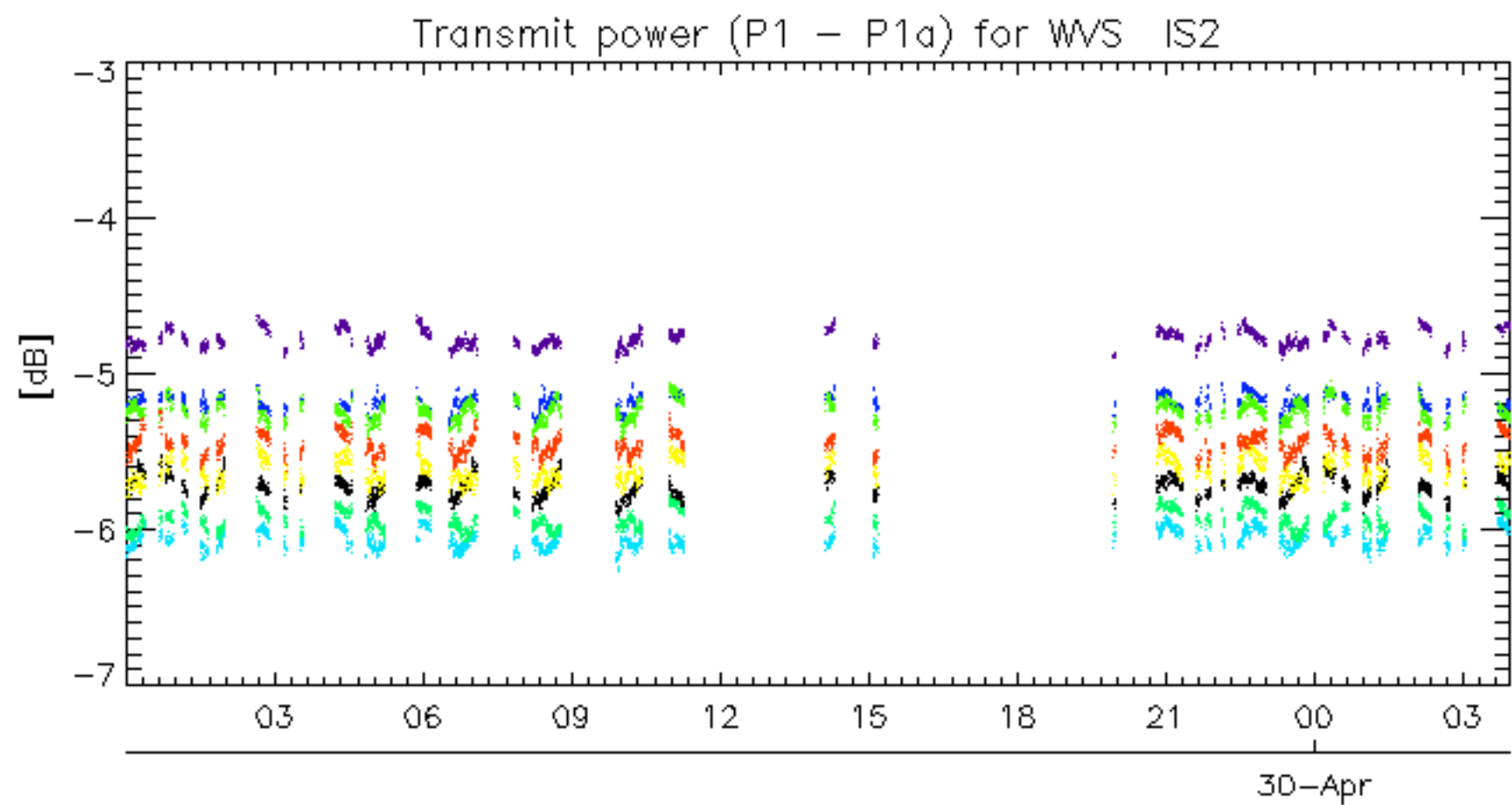




rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30







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

No unavailabilities during the reported period.