

PRELIMINARY REPORT OF 051202

last update on Fri Dec 2 10:50:02 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 2005-12-01 00:00:00 to 2005-12-02 10:50:02

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	32	0	0	0	0
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	32	0	0	0	0
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	32	0	0	0	0
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	32	0	0	0	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000	39	42	40	10	34
ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	39	42	40	10	34
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	39	42	40	10	34
ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000	39	42	40	10	34

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	20051124 100809
H	20051127 183652

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

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	-3.591544	0.107568	-0.156539
7	P1	-2.903592	0.067442	0.413408
11	P1	-4.140556	0.017560	-0.019482
15	P1	-5.736804	0.807633	1.746862
19	P1	-3.136448	0.030350	0.279744
22	P1	-4.474141	0.017279	0.103873
26	P1	-4.289952	0.034391	-0.306958
30	P1	-5.720440	0.019162	0.168186
3	P1	-15.434744	1.202294	-0.413744
7	P1	-16.061377	1.290935	2.114941
11	P1	-16.489155	0.395176	0.420615
15	P1	-13.253328	0.538056	1.206193
19	P1	-13.653189	0.188633	0.661429
22	P1	-16.252771	0.502794	0.639576
26	P1	-15.598288	0.676162	1.312762
30	P1	-16.293215	1.309802	1.920039

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-21.874180	0.100218	-0.020103
7	P2	-22.577965	0.099981	0.089762
11	P2	-16.589128	0.110477	0.000775
15	P2	-7.267454	0.099444	-0.038543
19	P2	-9.227880	0.096073	0.006031
22	P2	-17.875200	0.102546	0.014194
26	P2	-16.257744	0.112780	-0.297984
30	P2	-19.708170	0.100629	-0.231827

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.228669	0.007222	-0.021775
7	P3	-8.228669	0.007222	-0.021775
11	P3	-8.228669	0.007222	-0.021775
15	P3	-8.228669	0.007222	-0.021775
19	P3	-8.228669	0.007222	-0.021775
22	P3	-8.228669	0.007222	-0.021775
26	P3	-8.228669	0.007222	-0.021775
30	P3	-8.228669	0.007222	-0.021775

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	-3.686974	0.007778	-0.036436
7	P1	-2.783641	0.010831	-0.005639
11	P1	-2.870253	0.013074	-0.029742
15	P1	-3.388006	0.021815	-0.070323
19	P1	-3.375204	0.013079	-0.026295
22	P1	-5.111909	0.019583	-0.037900
26	P1	-5.816731	0.015781	-0.044998
30	P1	-5.258167	0.031942	-0.062478
3	P1	-11.463237	0.041280	-0.029574
7	P1	-9.963245	0.045016	-0.019419
11	P1	-10.043620	0.060191	-0.037465
15	P1	-10.552971	0.085129	-0.131467
19	P1	-15.503733	0.073561	0.006160
22	P1	-20.895342	0.971660	-0.046155

26	P1	-17.229969	0.302345	0.157422
30	P1	-18.351261	0.314430	-0.027237

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-17.668865	0.031423	0.122165
7	P2	-23.075541	0.063843	0.126975
11	P2	-11.695760	0.023859	0.130616
15	P2	-4.972284	0.021547	-0.008244
19	P2	-6.950774	0.021664	-0.016325
22	P2	-8.166560	0.023596	-0.048600
26	P2	-24.018890	0.032909	-0.093113
30	P2	-22.111706	0.021210	0.007191

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.069068	0.002523	-0.019145
7	P3	-8.069098	0.002521	-0.019429
11	P3	-8.069008	0.002514	-0.019190
15	P3	-8.069063	0.002530	-0.018947
19	P3	-8.069194	0.002527	-0.019200
22	P3	-8.069120	0.002521	-0.019174
26	P3	-8.069008	0.002512	-0.019118
30	P3	-8.069021	0.002517	-0.018480

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	0.000519525
	stdev	1.94650e-07
MEAN Q	mean	0.000519343
	stdev	2.28783e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.133761
	stdev	0.00110955
STDEV Q	mean	0.134081
	stdev	0.00112453



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2005120[012]

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_WSM_1PNPDE20051201_010641_000002812043_00031_19624_2294.N1	0	44
ASA_WSM_1PNPDE20051201_170445_000002452043_00041_19634_2379.N1	0	18





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)


Acsending

Descending

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler


Acsending

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

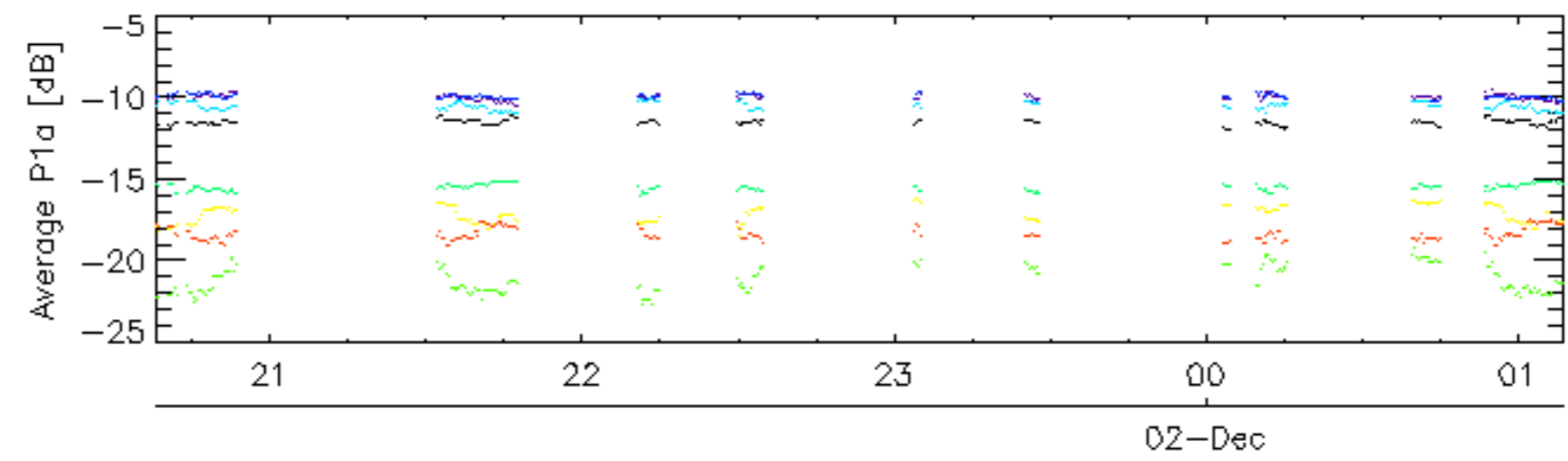
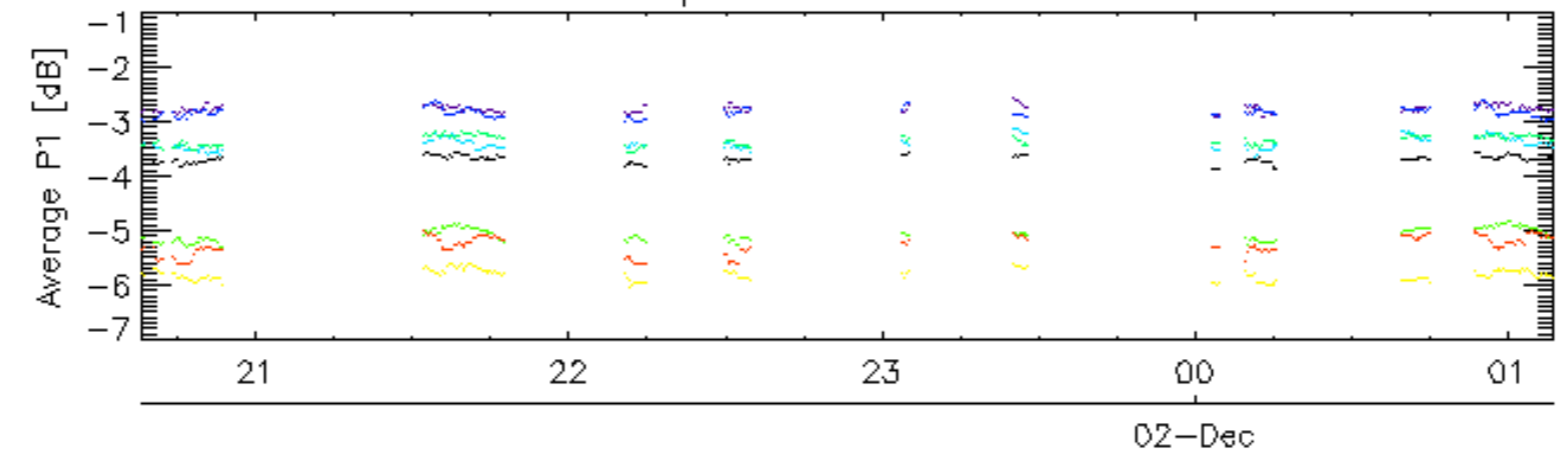
7.5 - Absolute Doppler for GM1

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

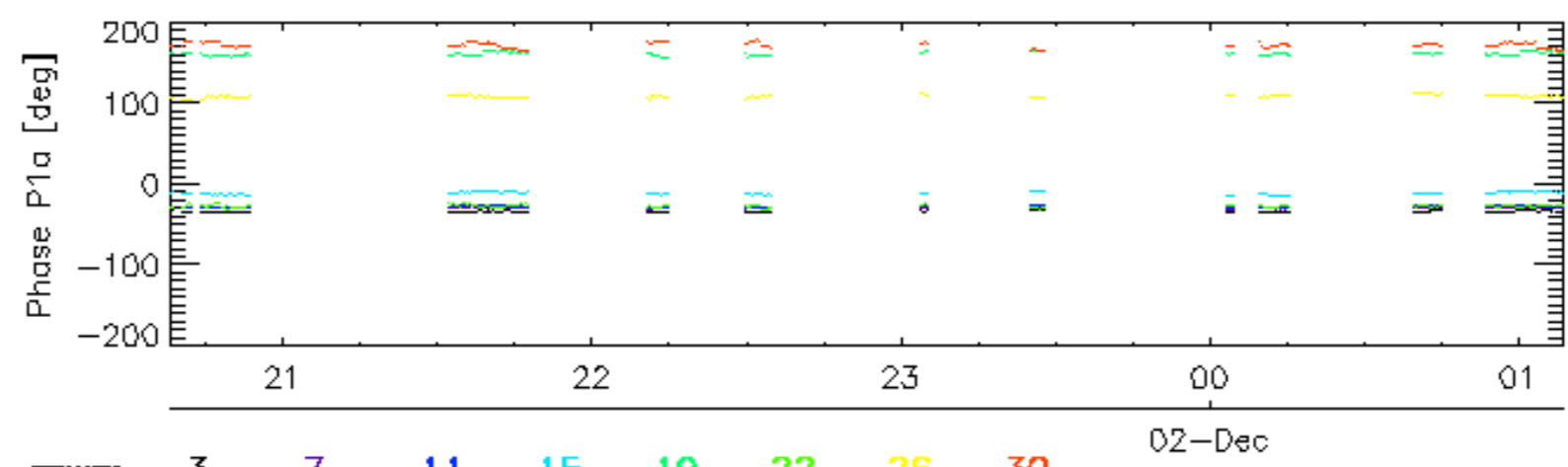
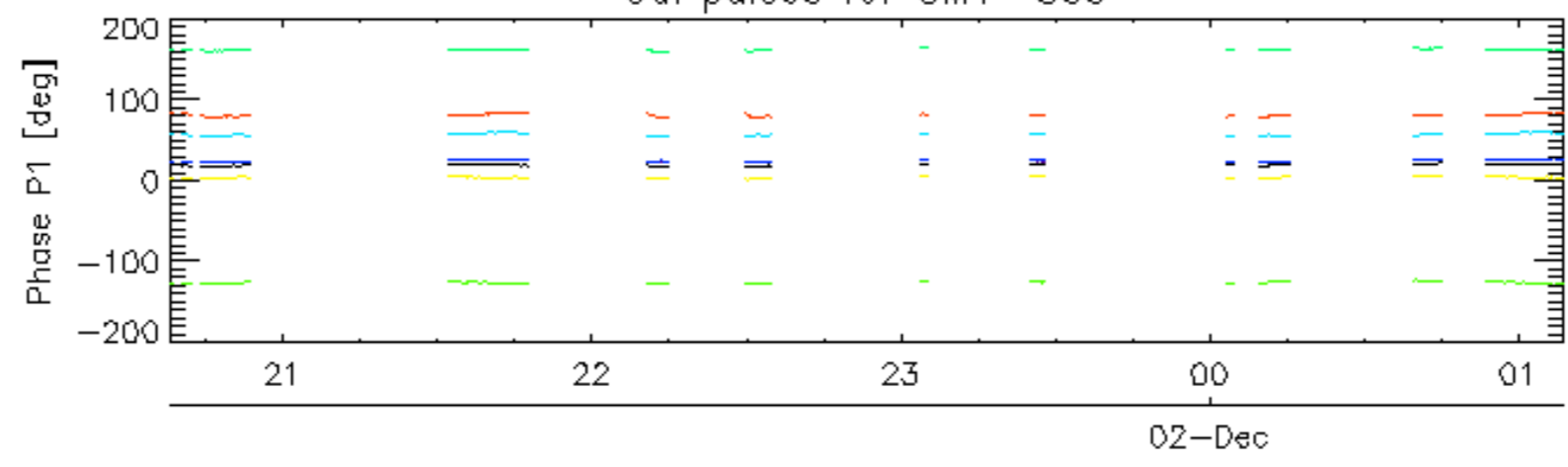
7.6 - Doppler evolution versus ANX for GM1

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

Cal pulses for GM1 SS3

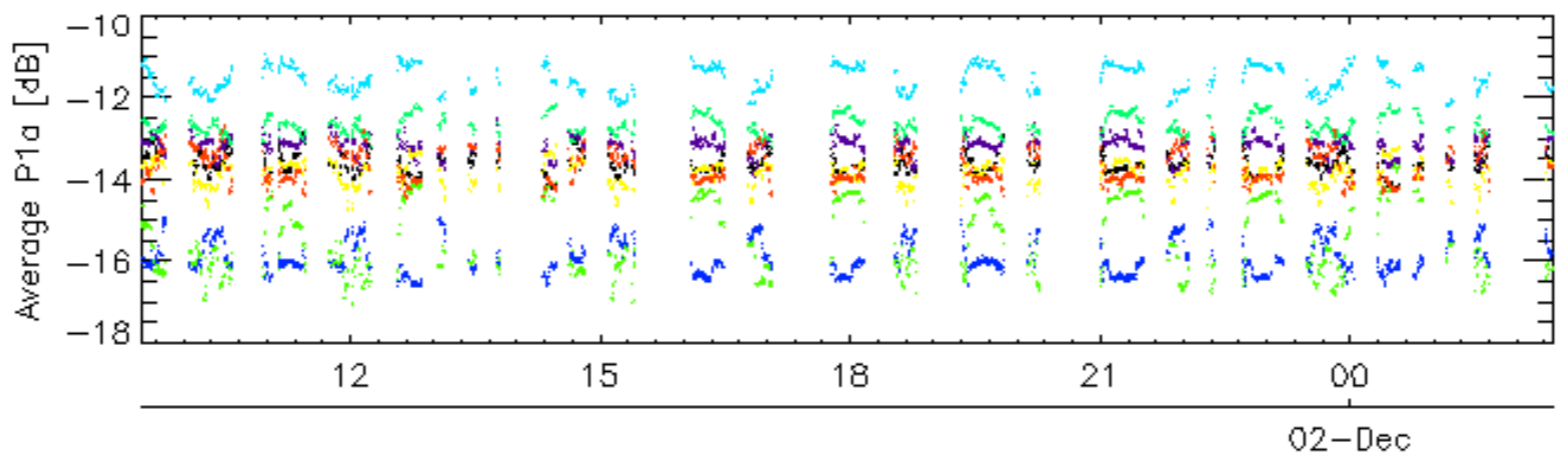
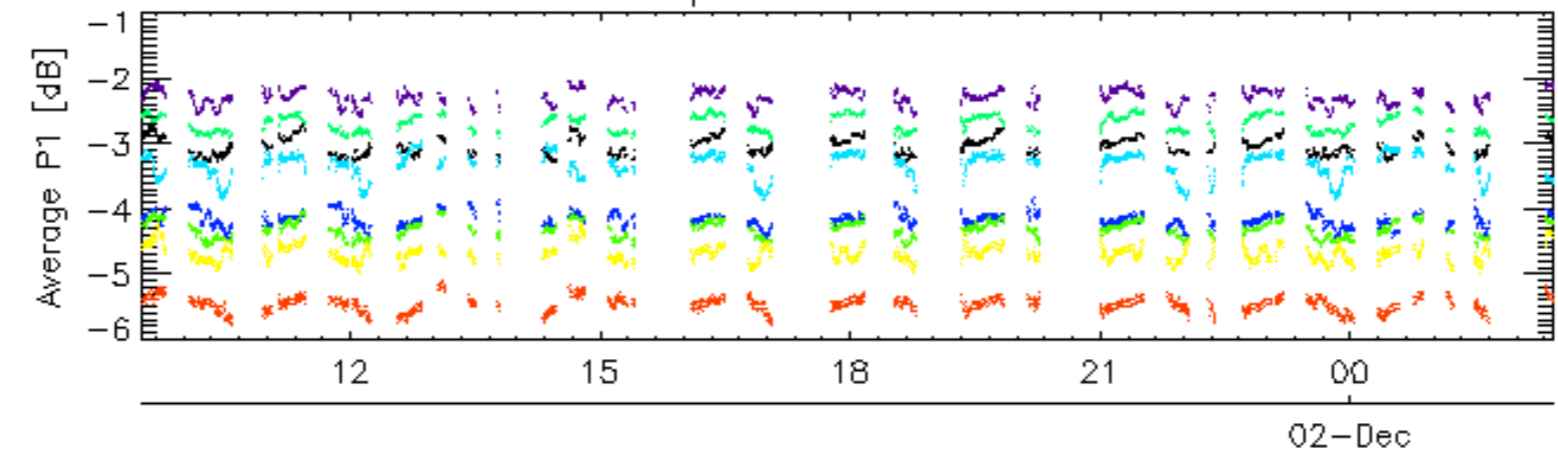


Cal pulses for GM1 SS3

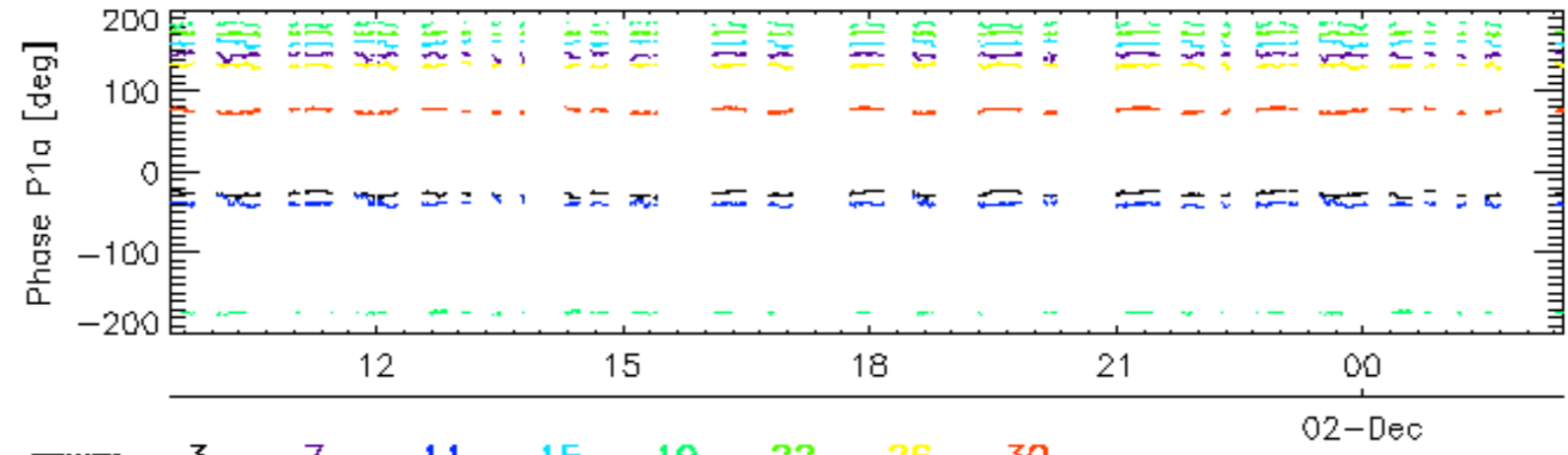
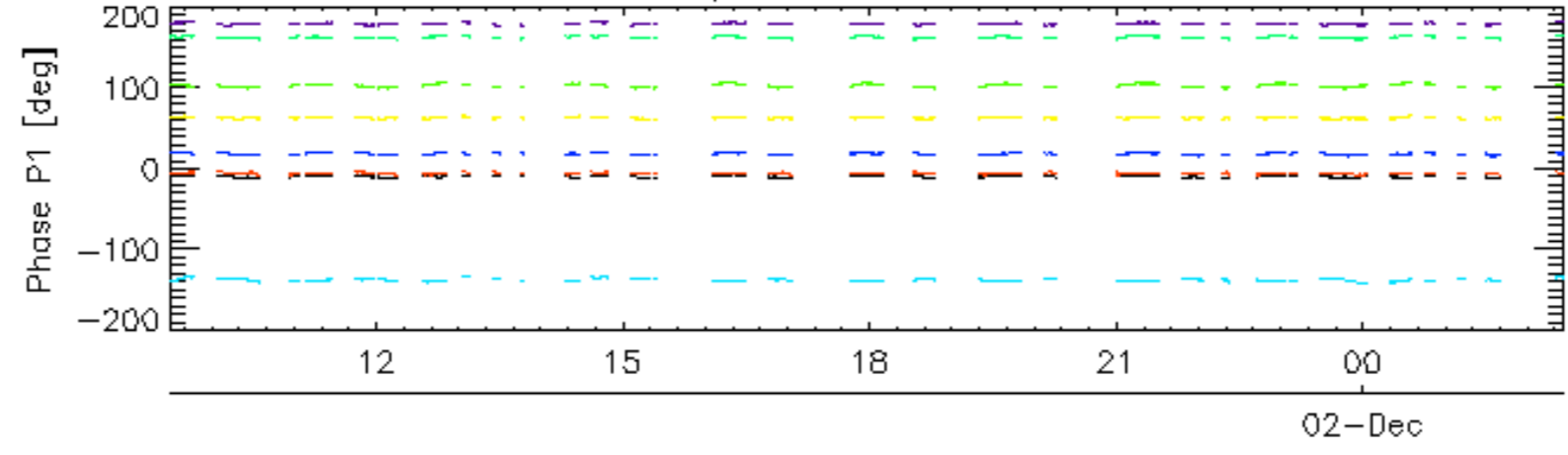


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

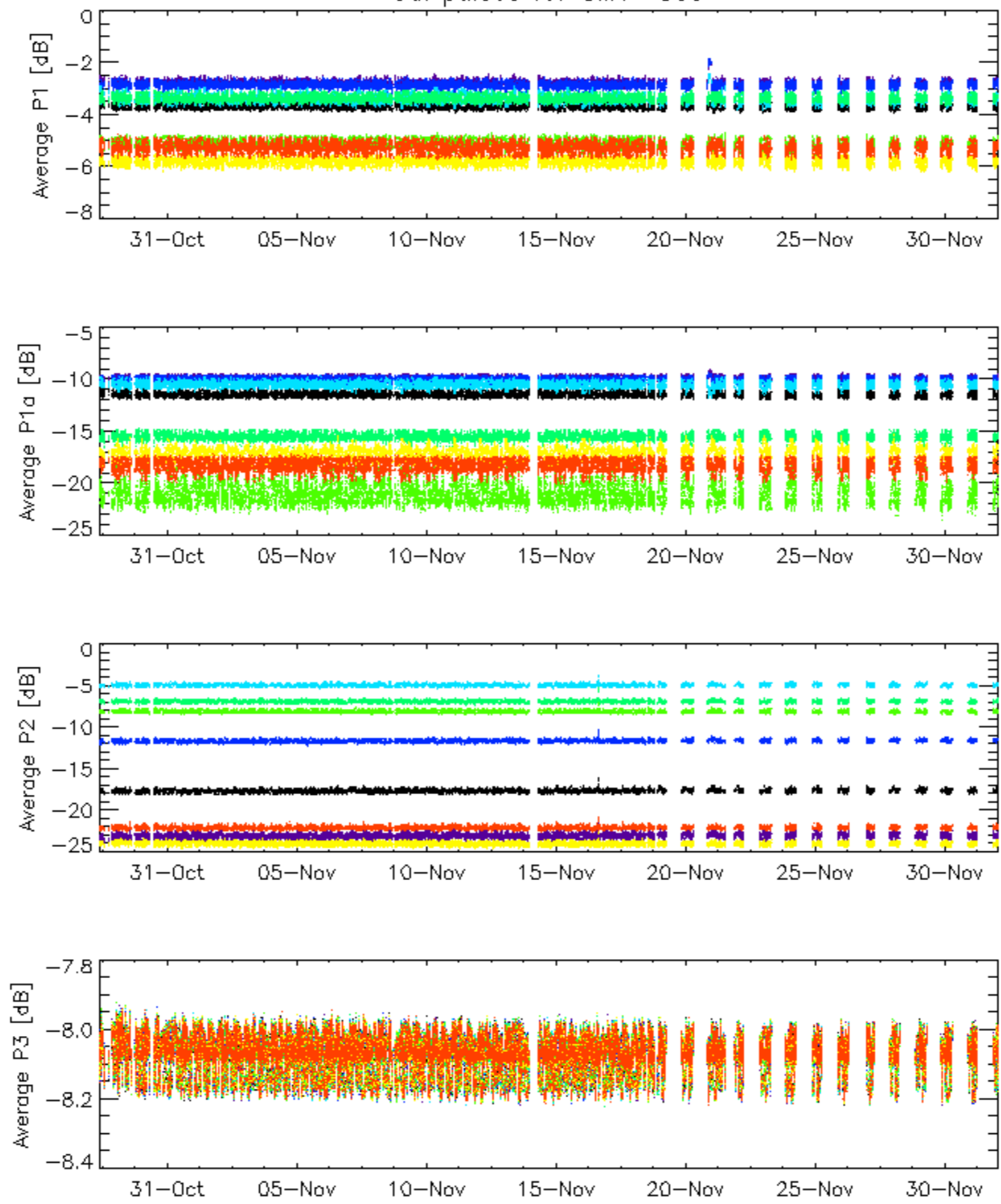


Cal pulses for WVS IS2



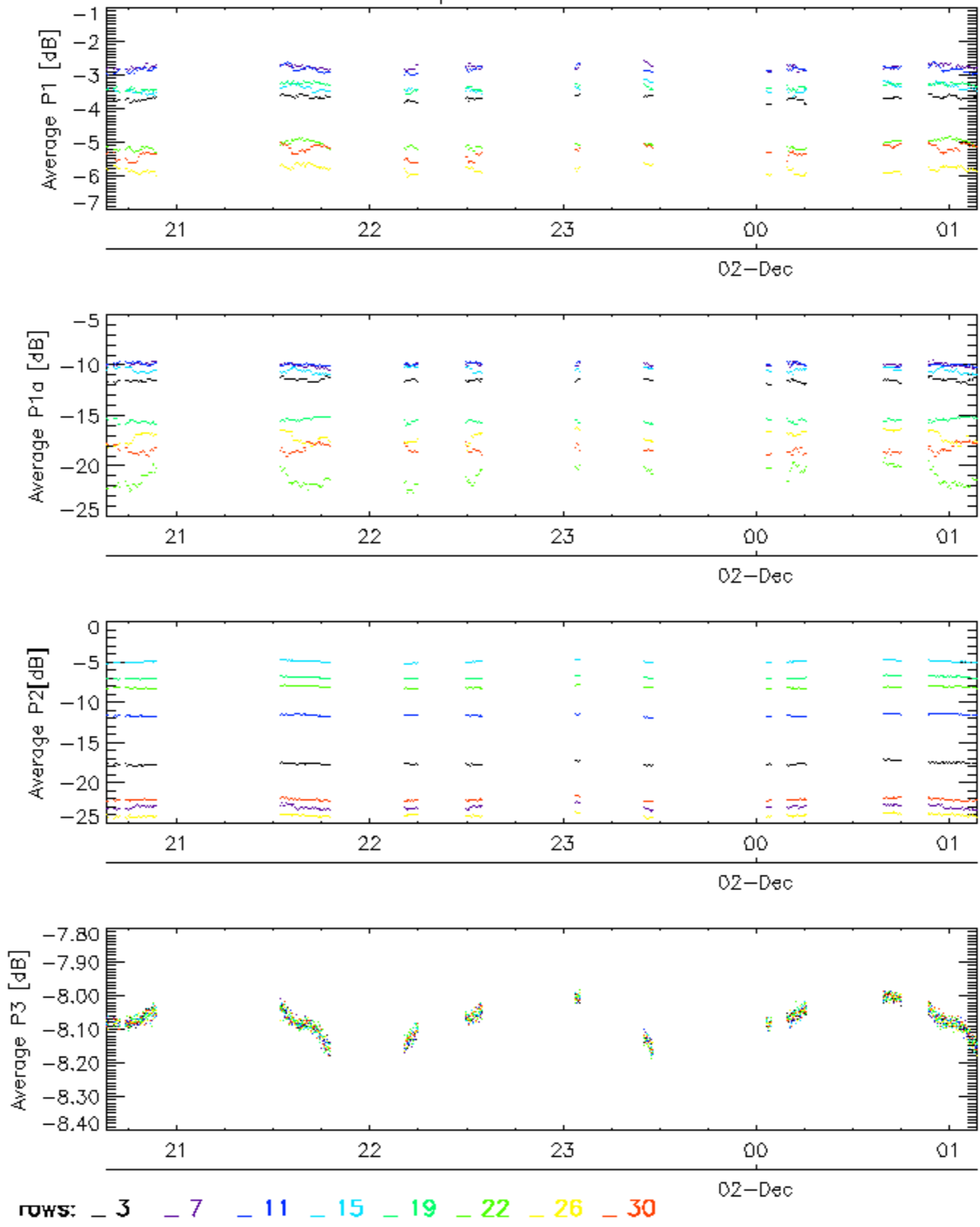
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

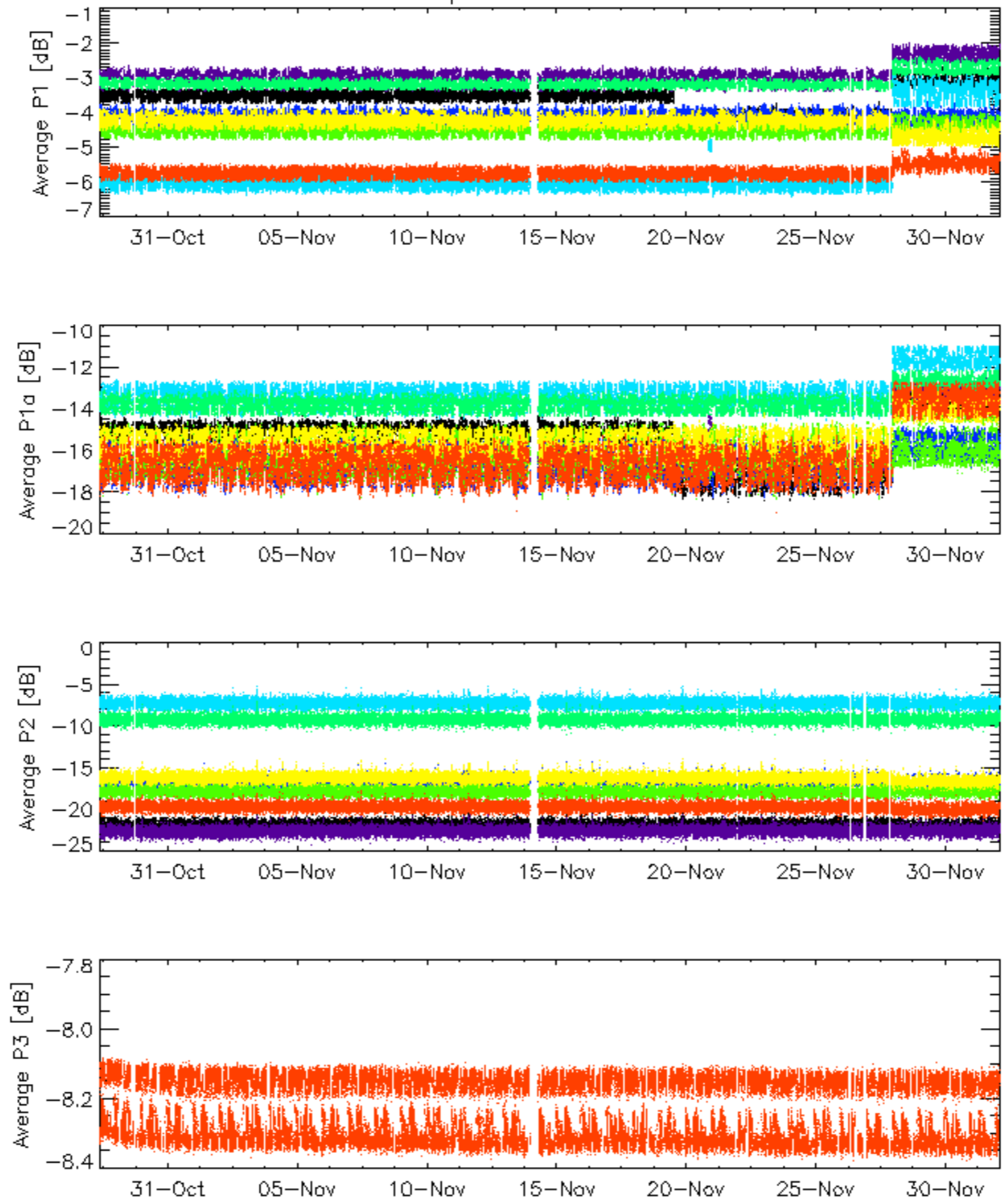


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

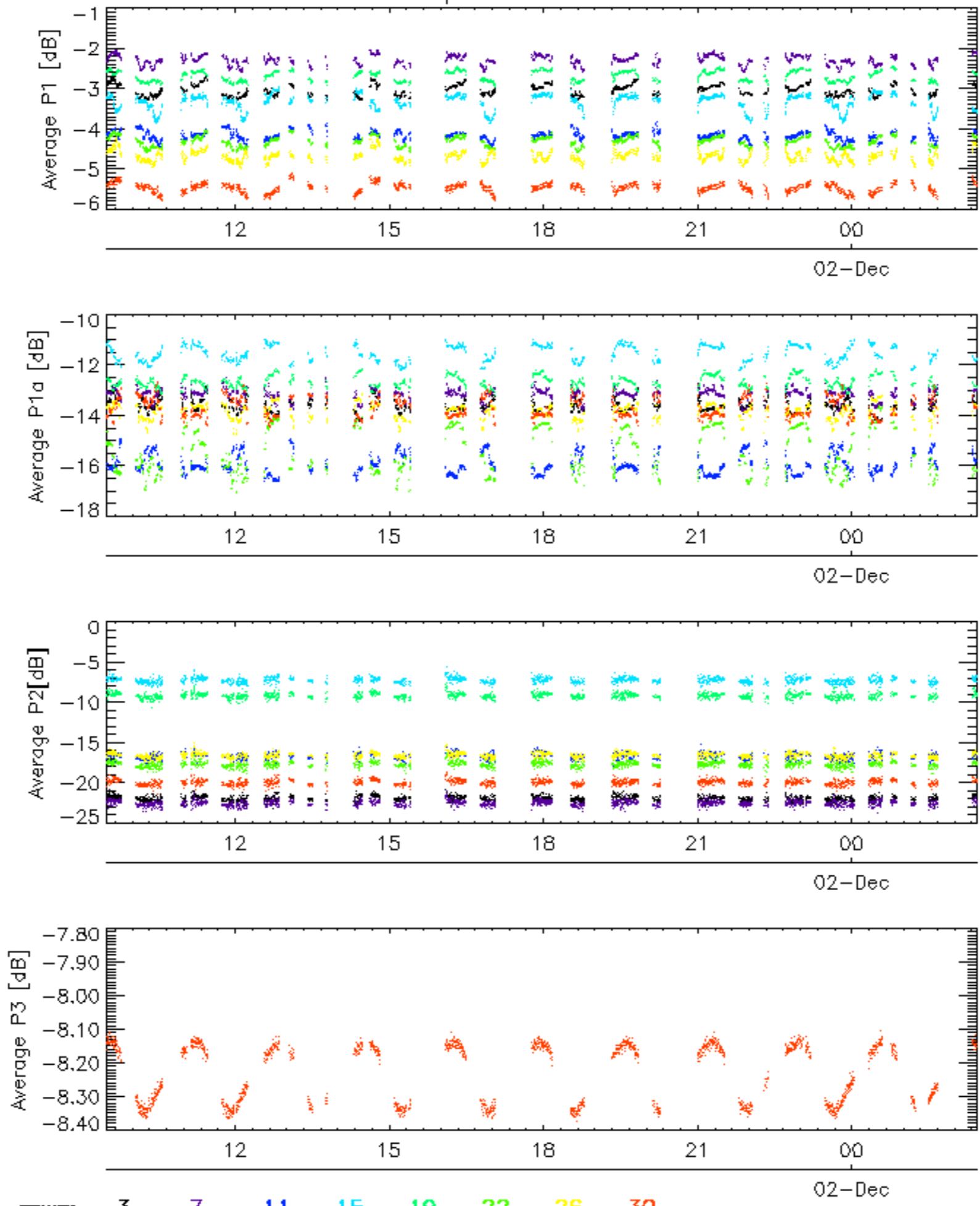


Cal pulses for WVS IS2



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

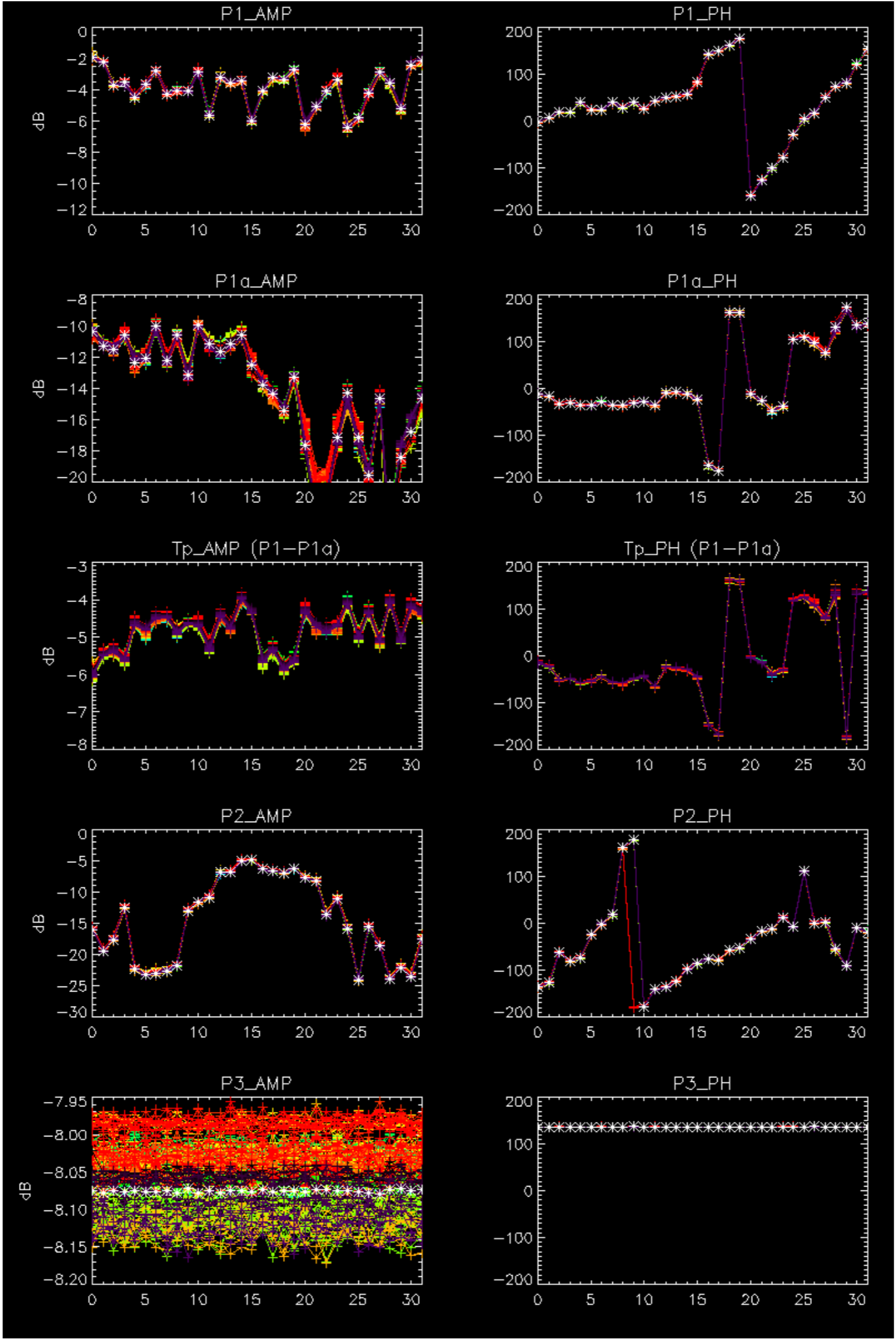
Cal pulses for WVS IS2

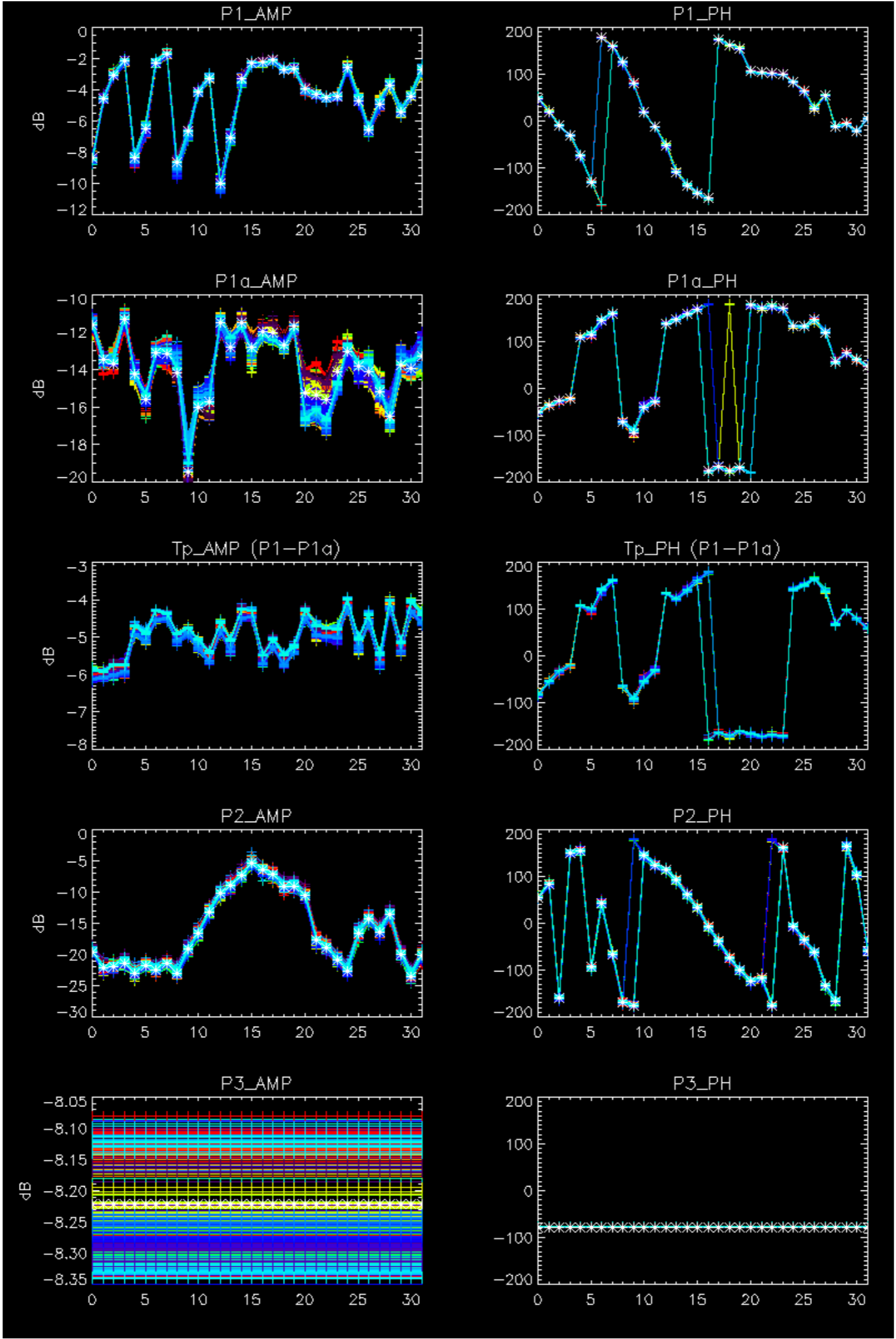


rows: 3 7 11 15 19 22 26 30

No anomalies observed on available browse products

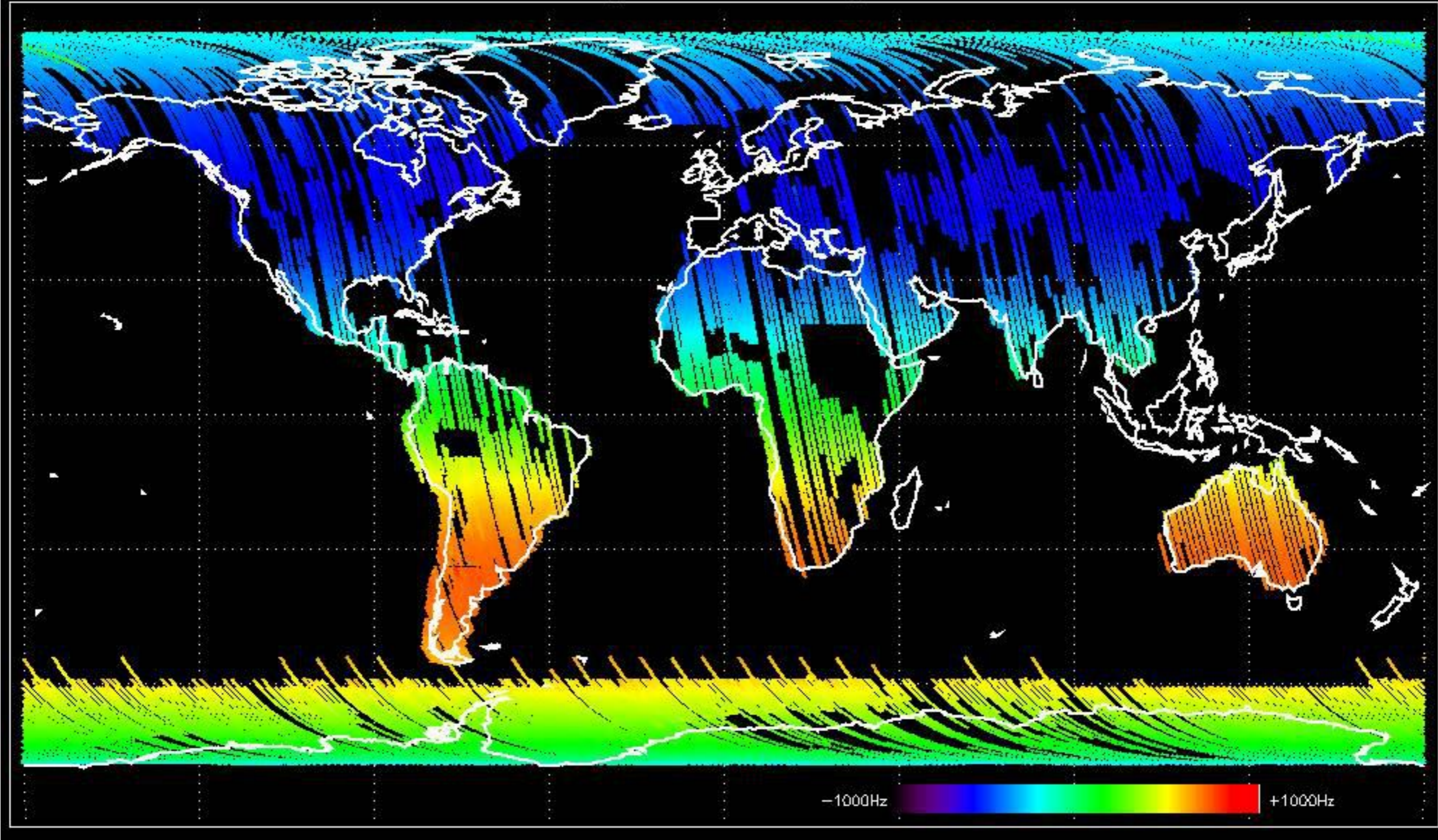
No anomalies observed.



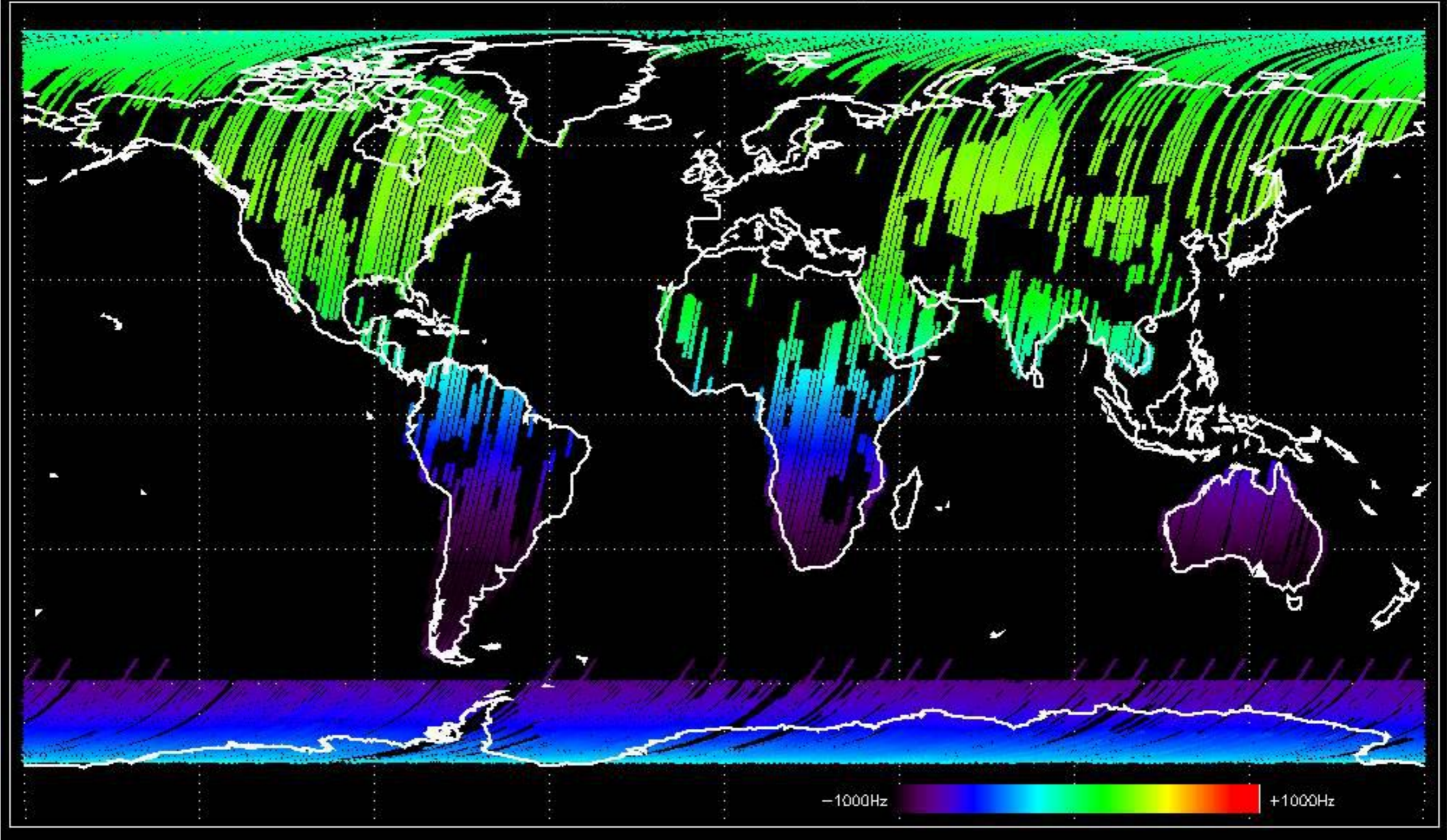


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

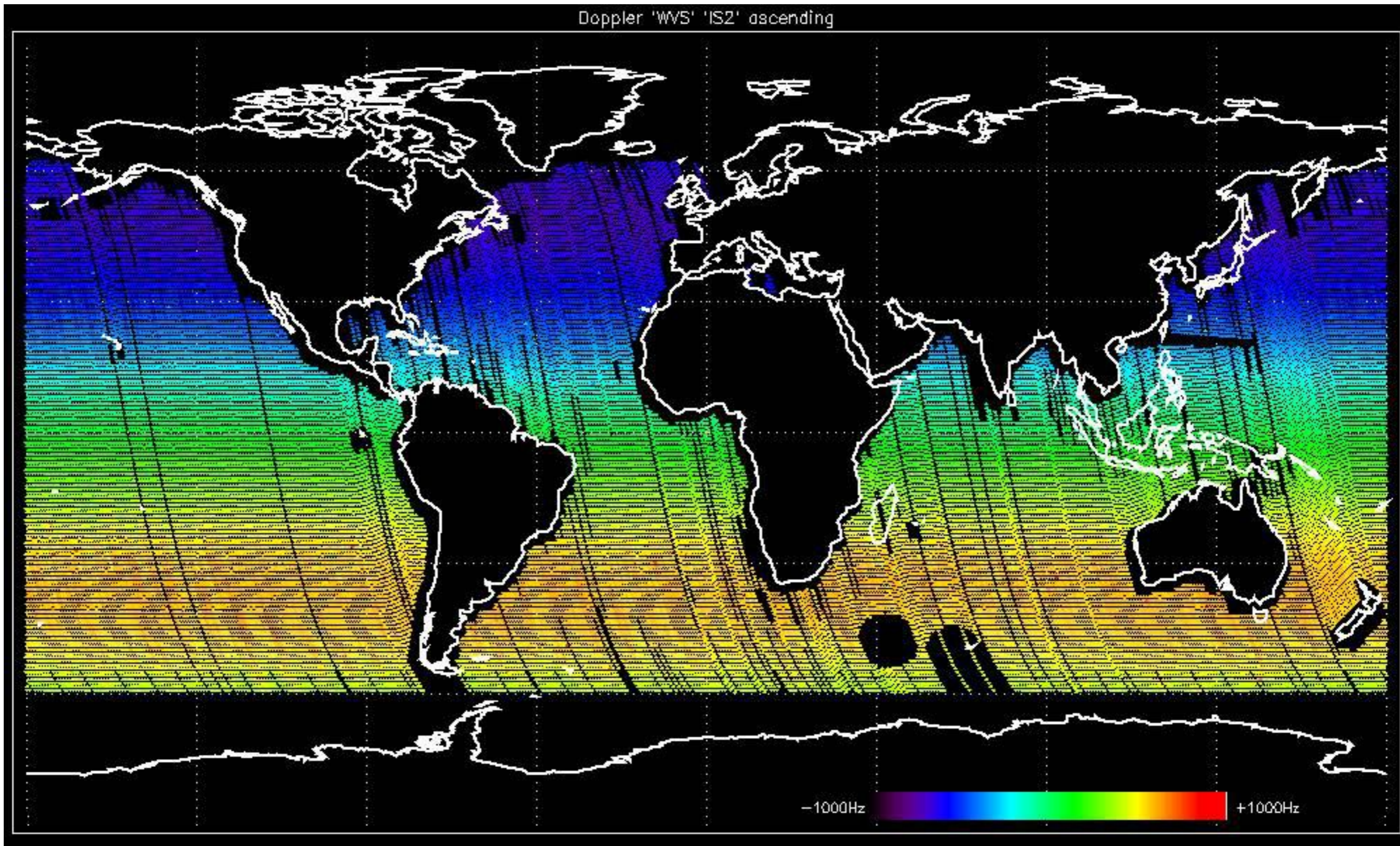
Doppler 'GM1' 'SS1' ascending



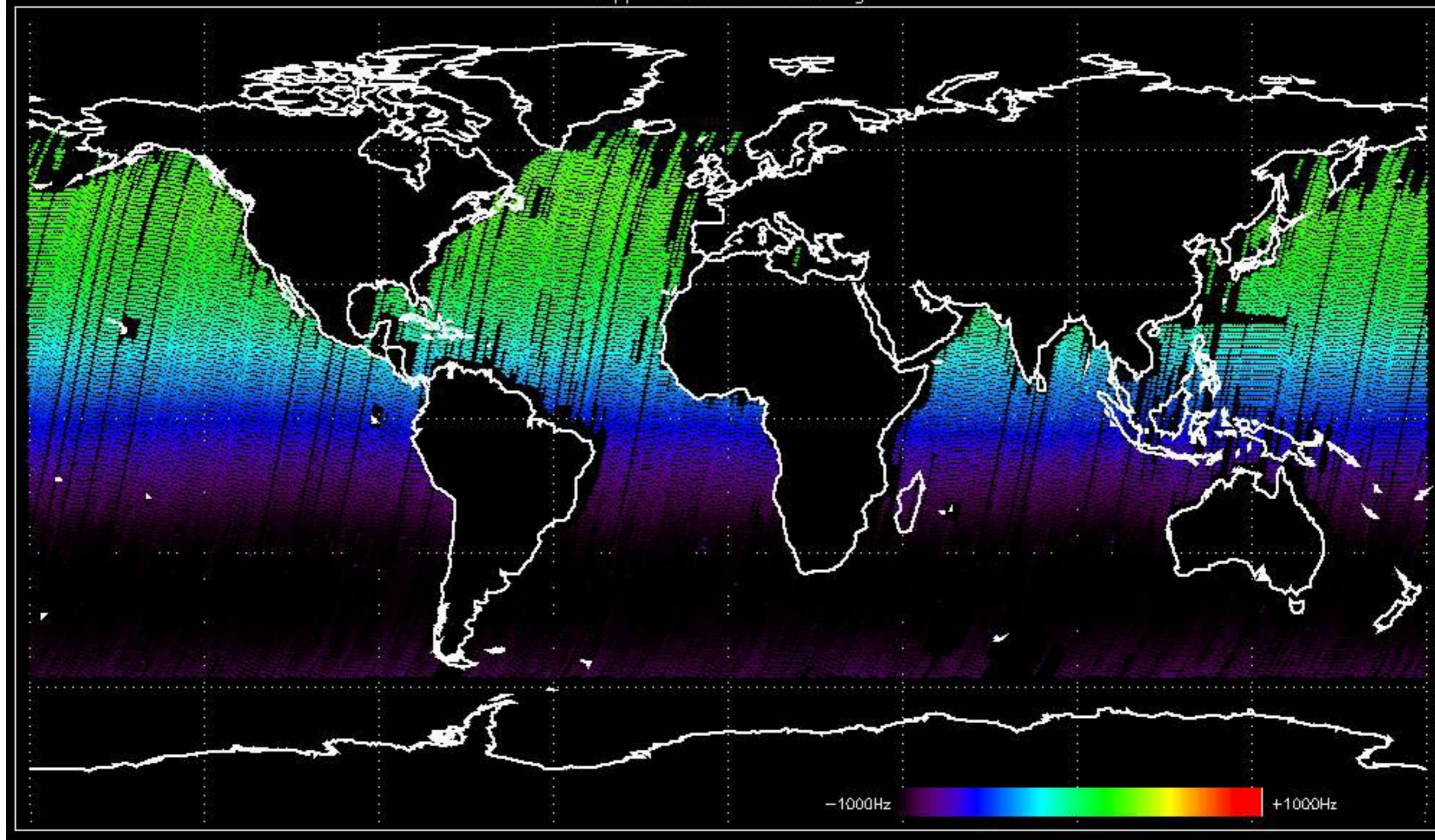
Doppler 'GM1' 'SS1' descending



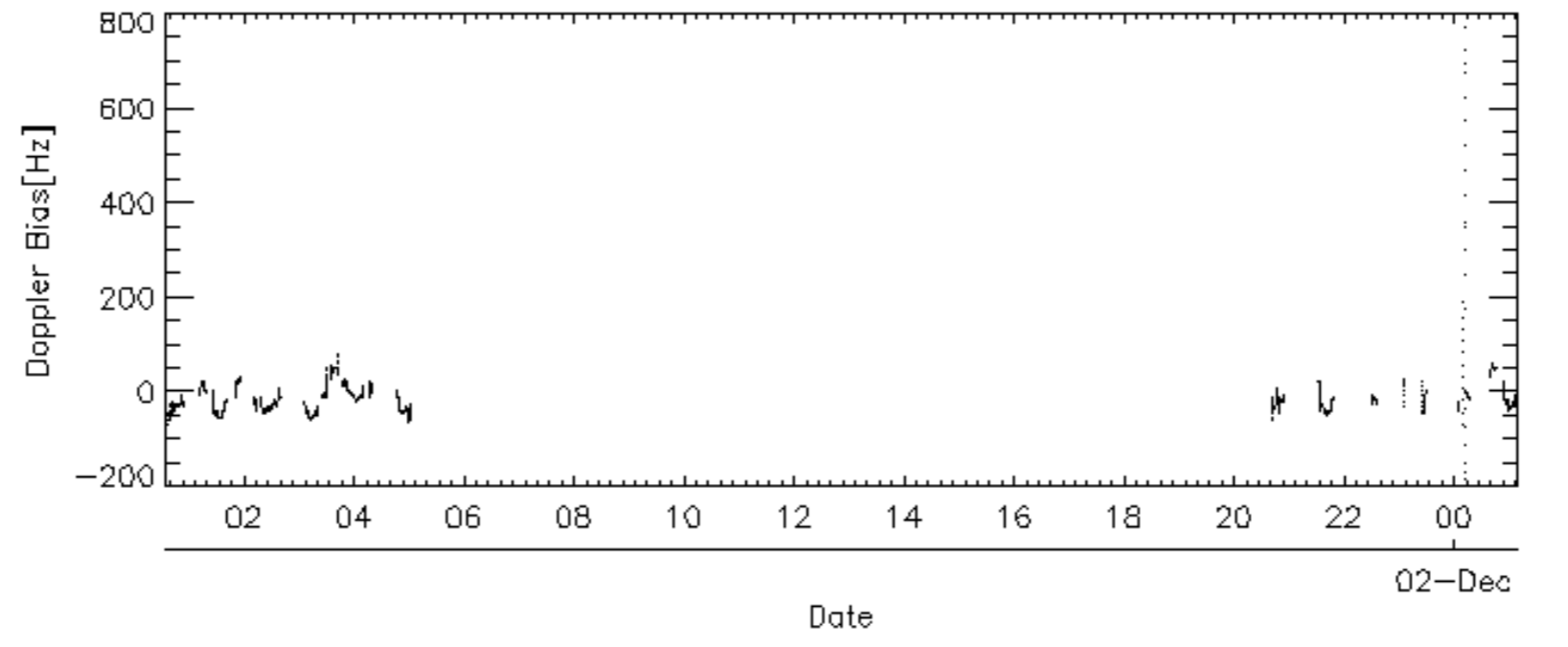
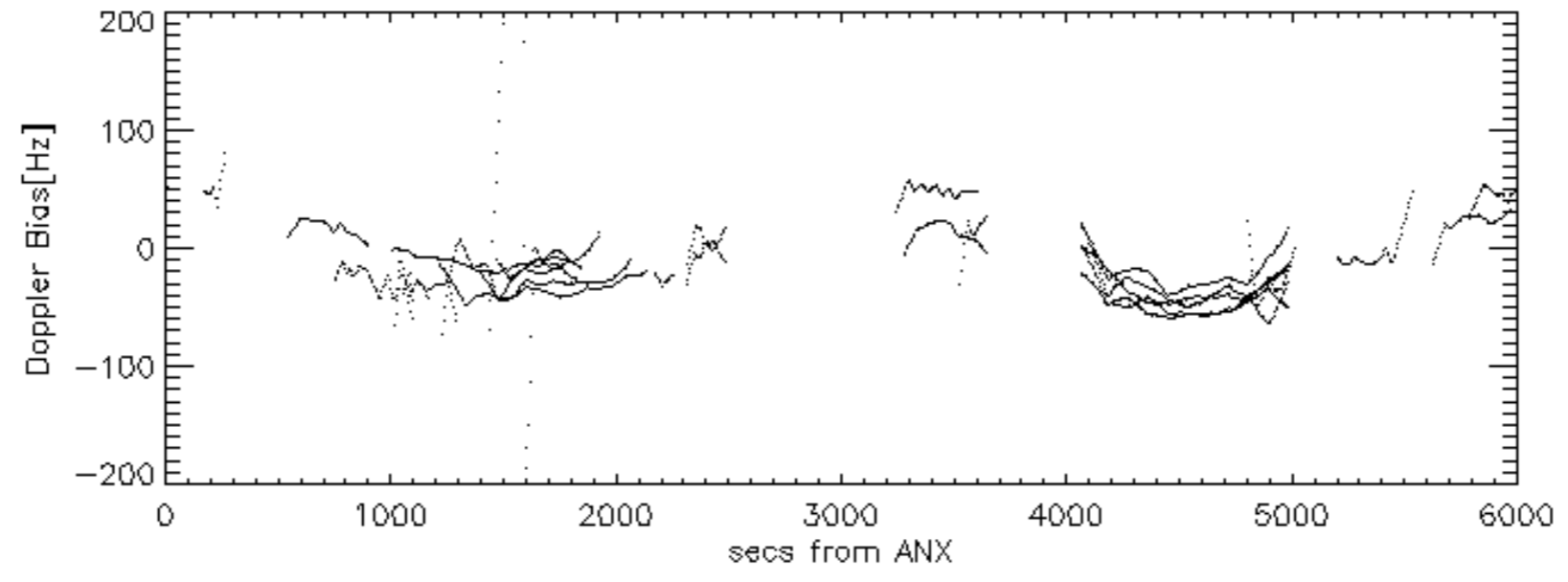
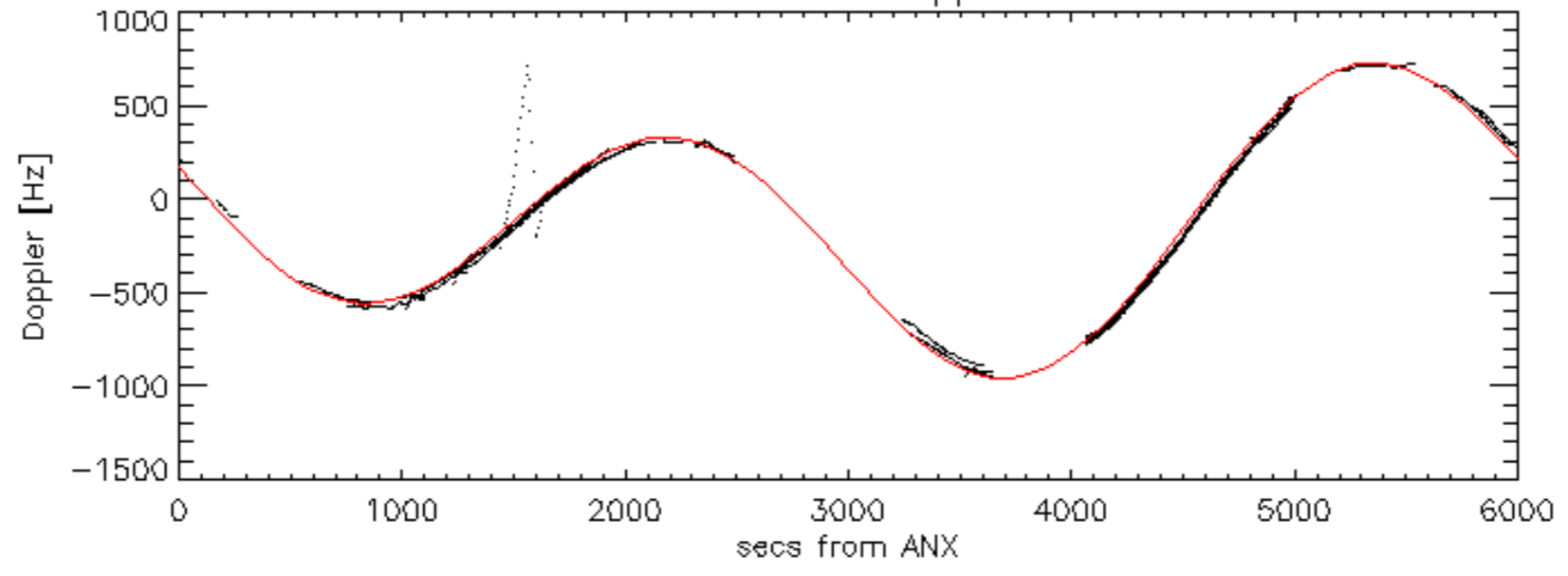
Doppler 'WVS' 'IS2' ascending

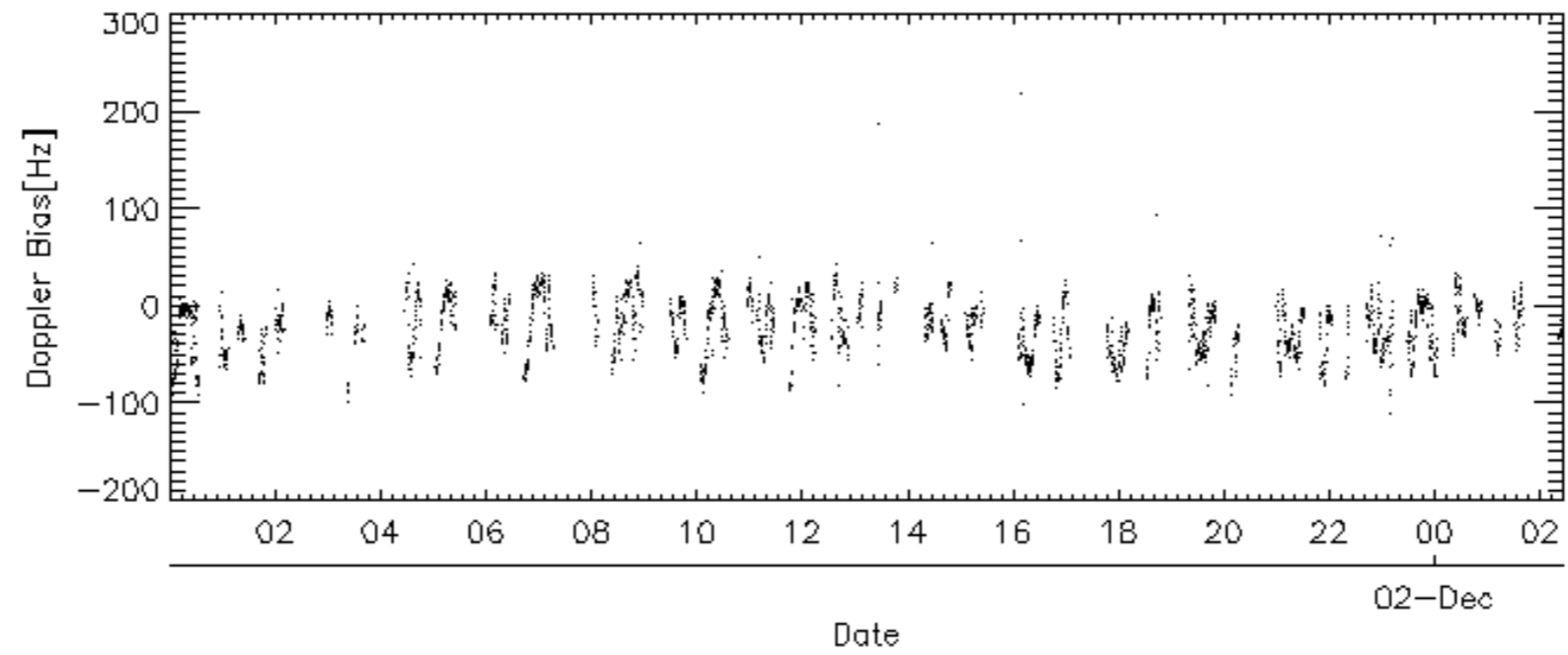
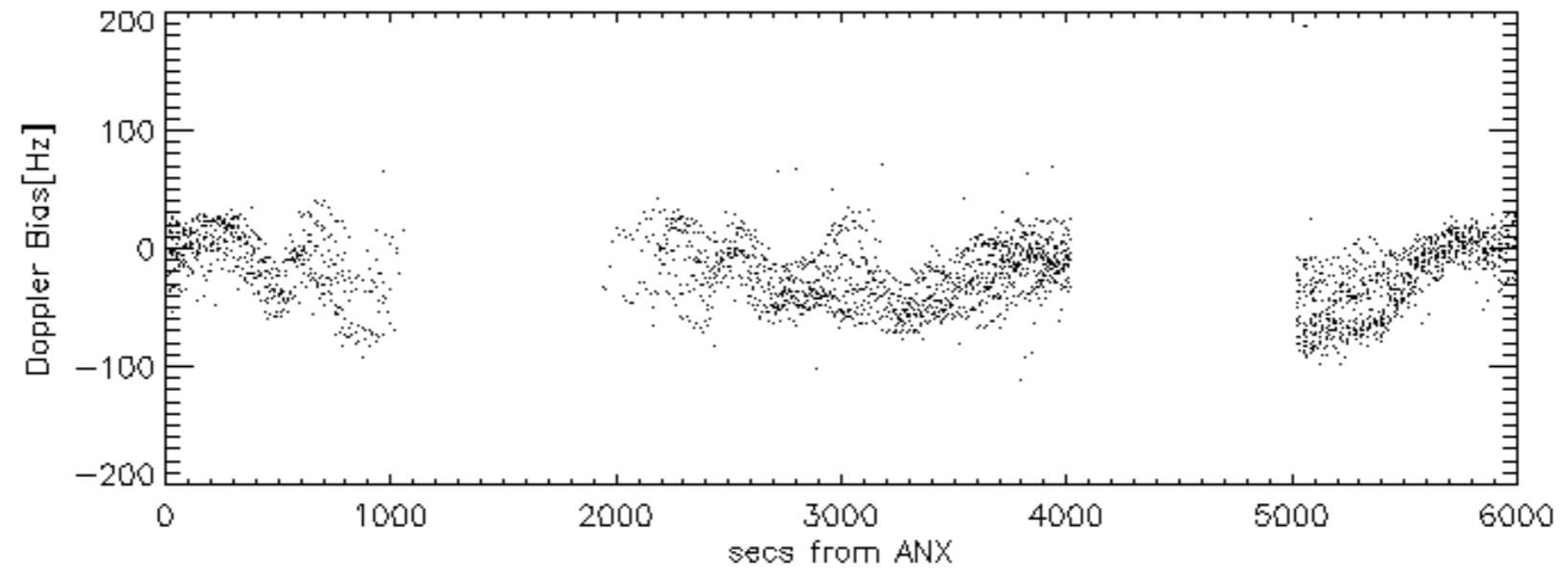
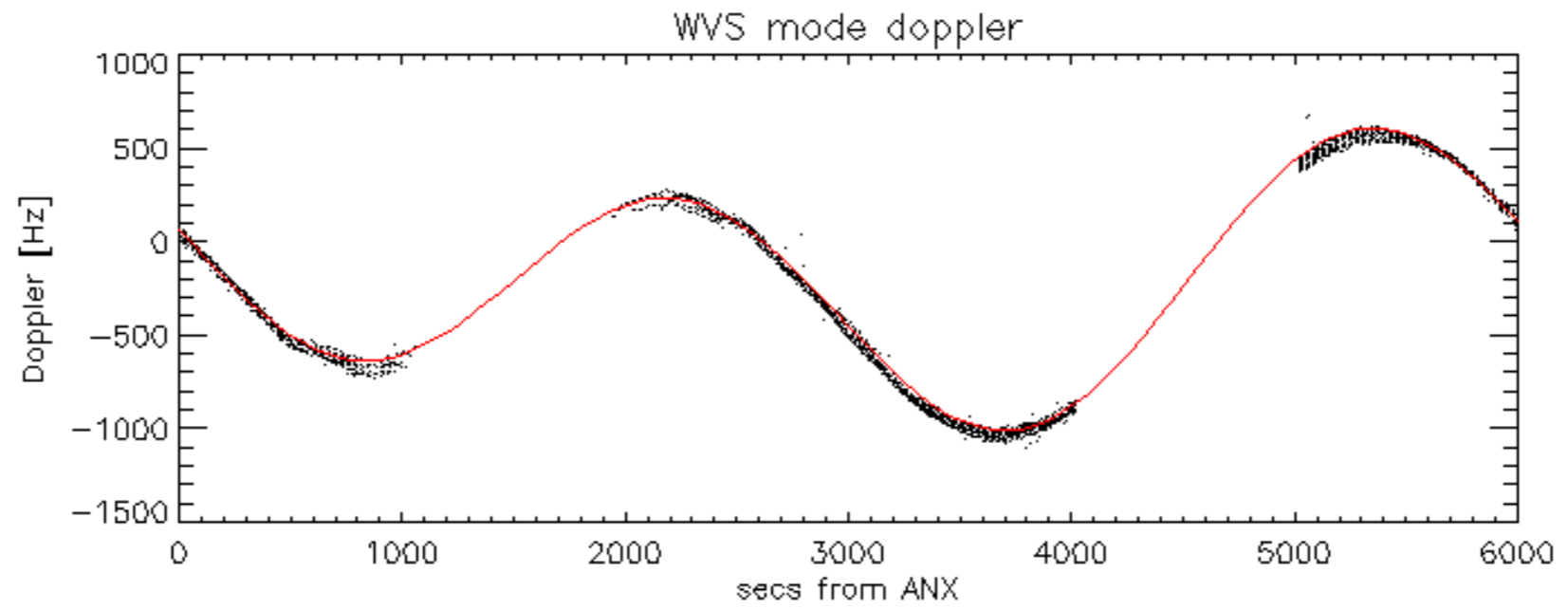


Doppler 'WVS' 'IS2' descending

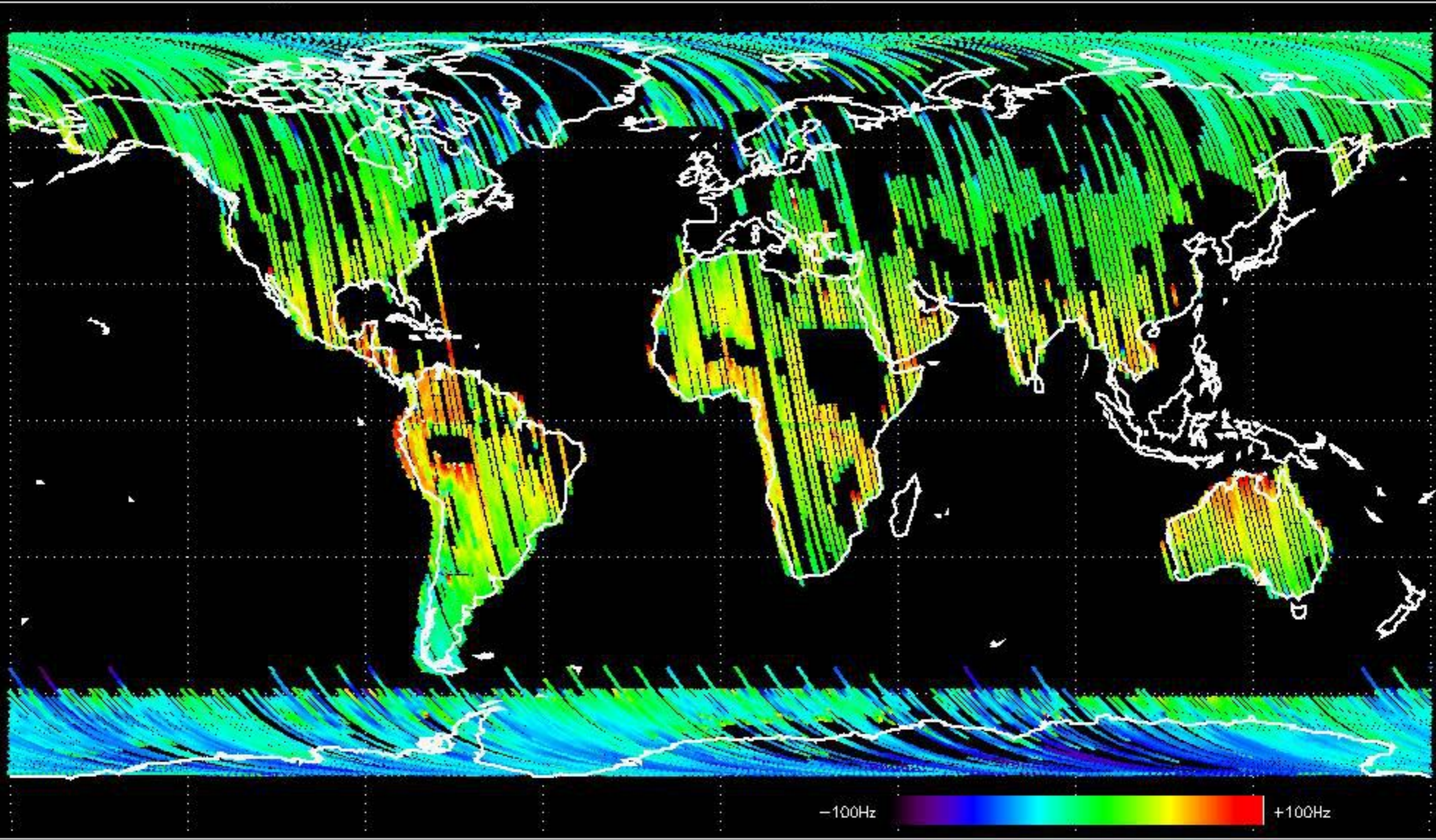


GM1 mode doppler

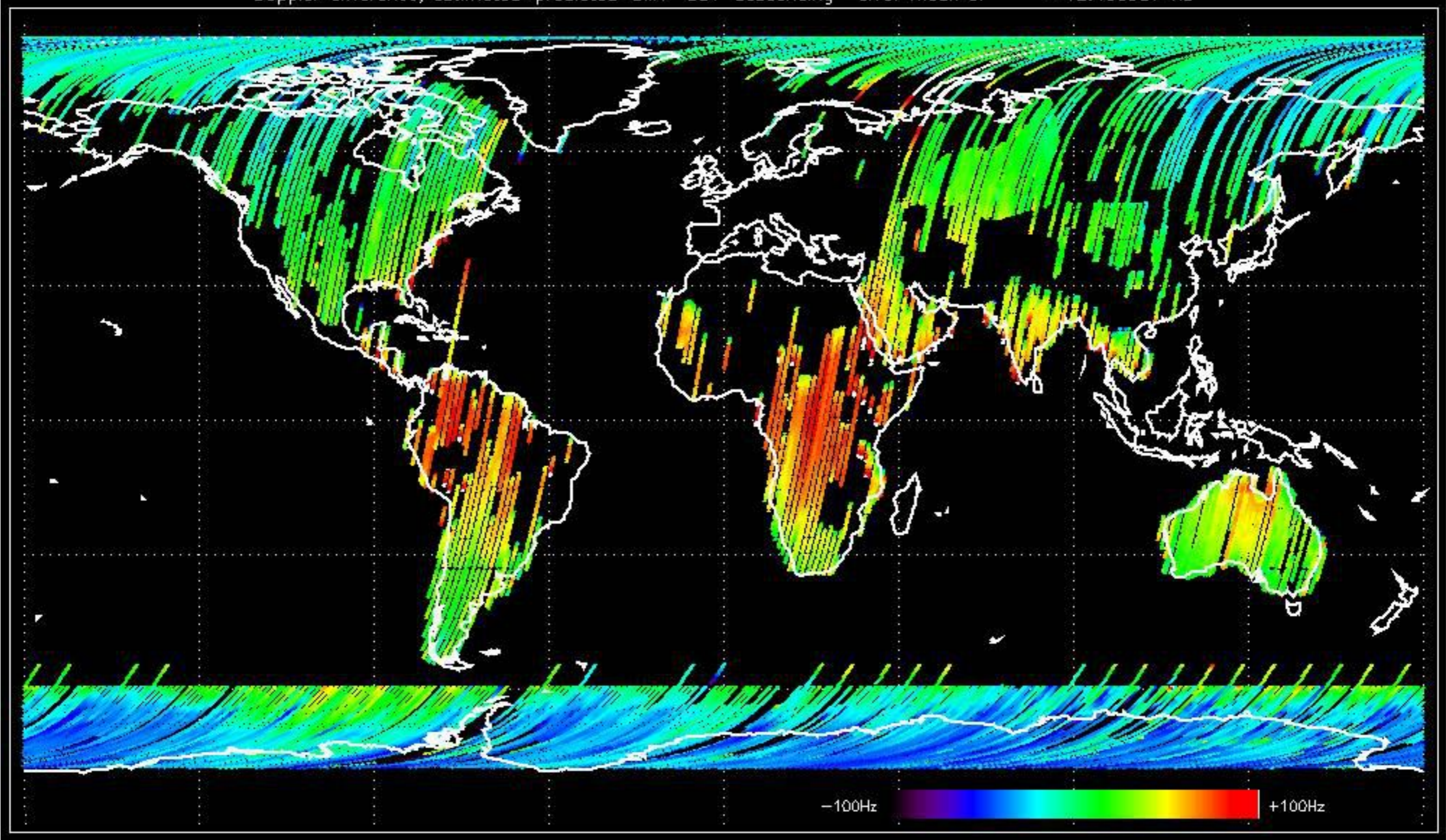




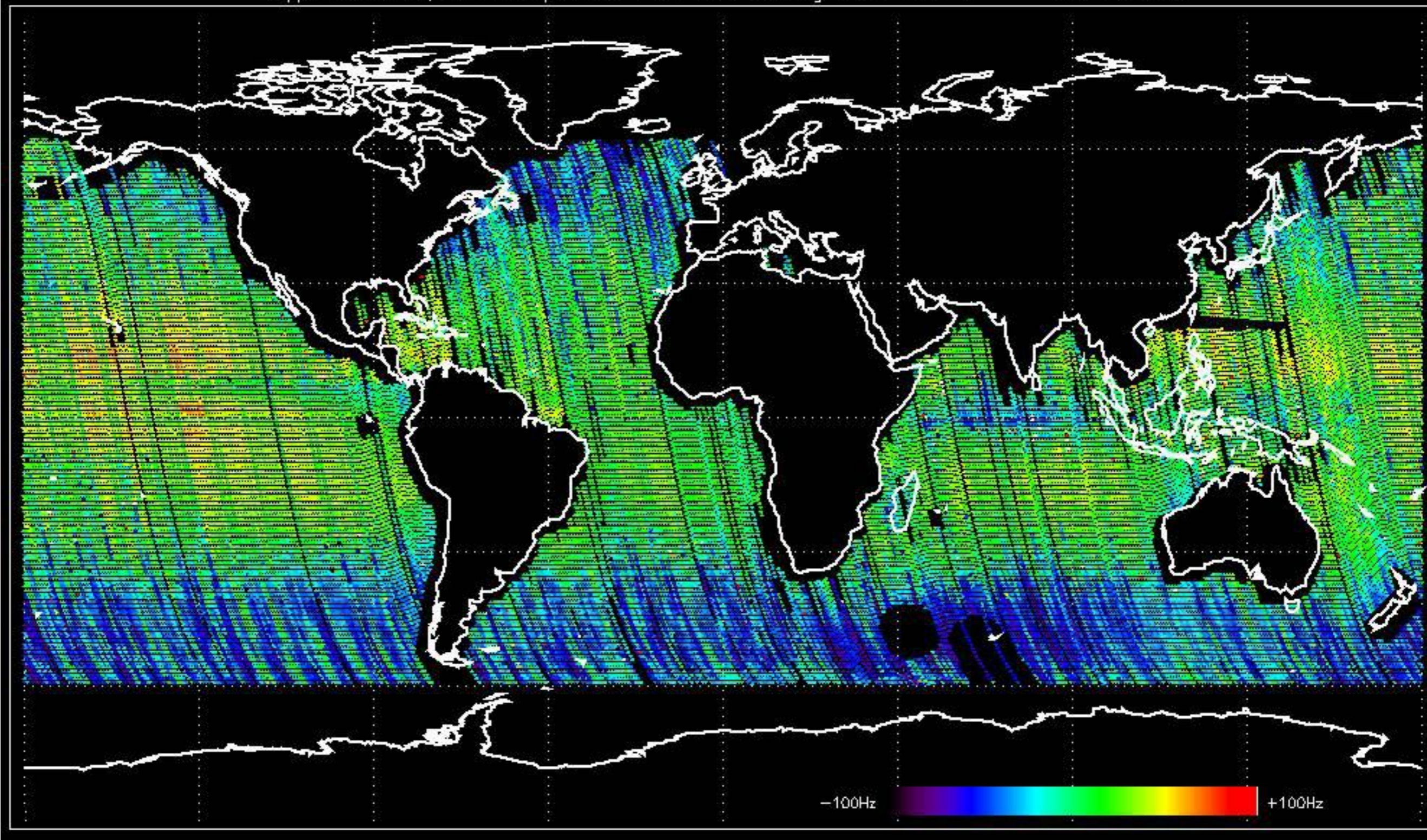
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -16.027866 Hz



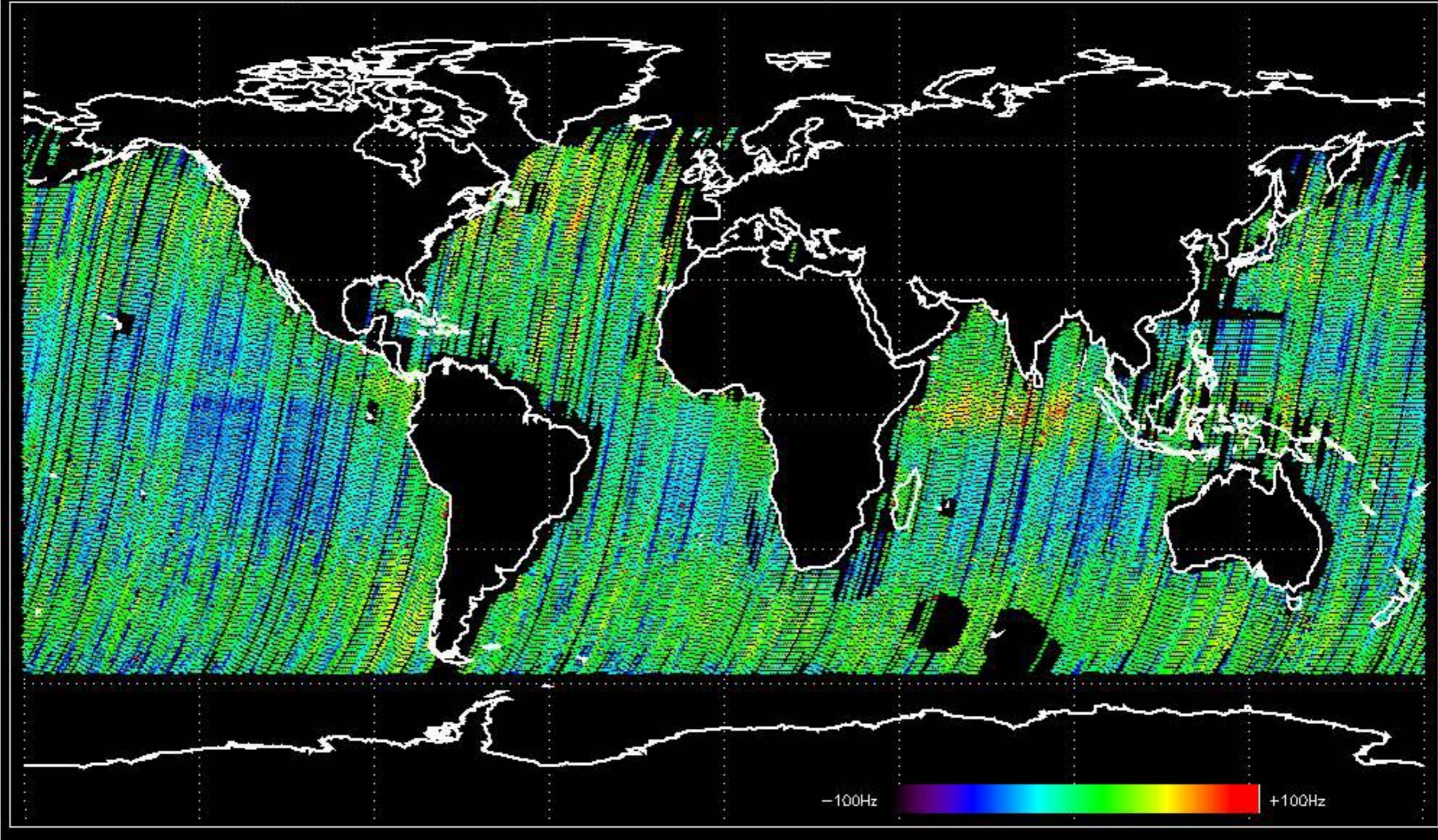
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -12.406937 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -4.4668972 Hz

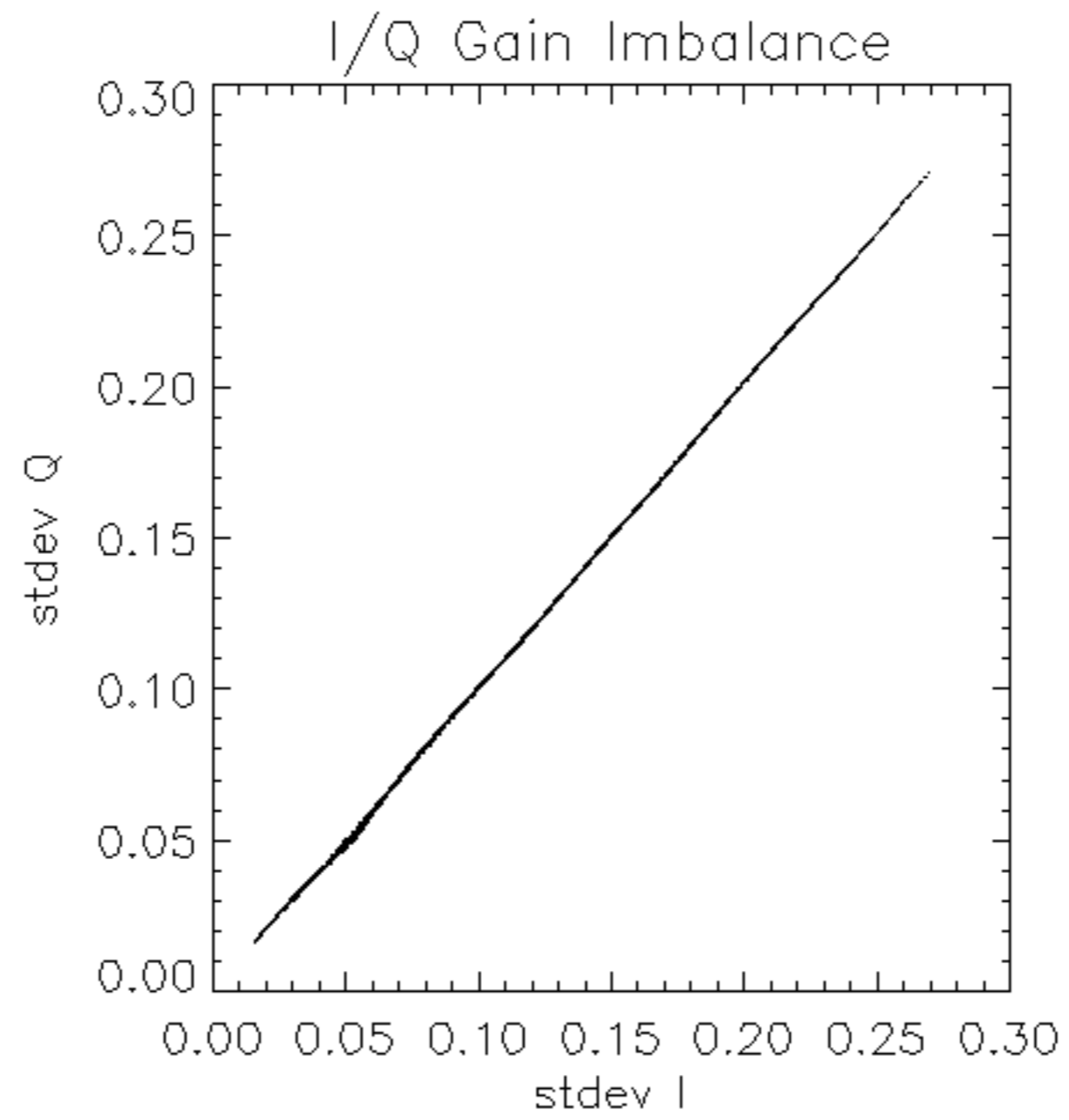


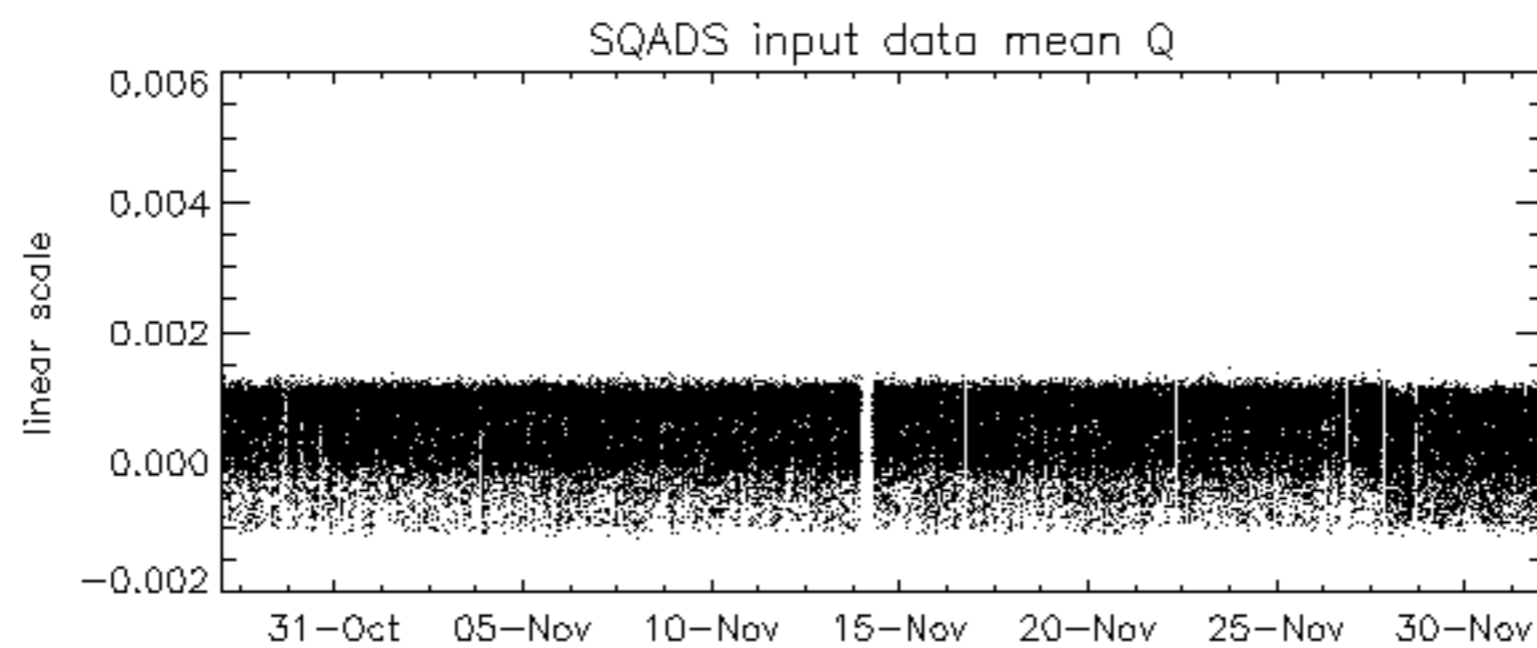
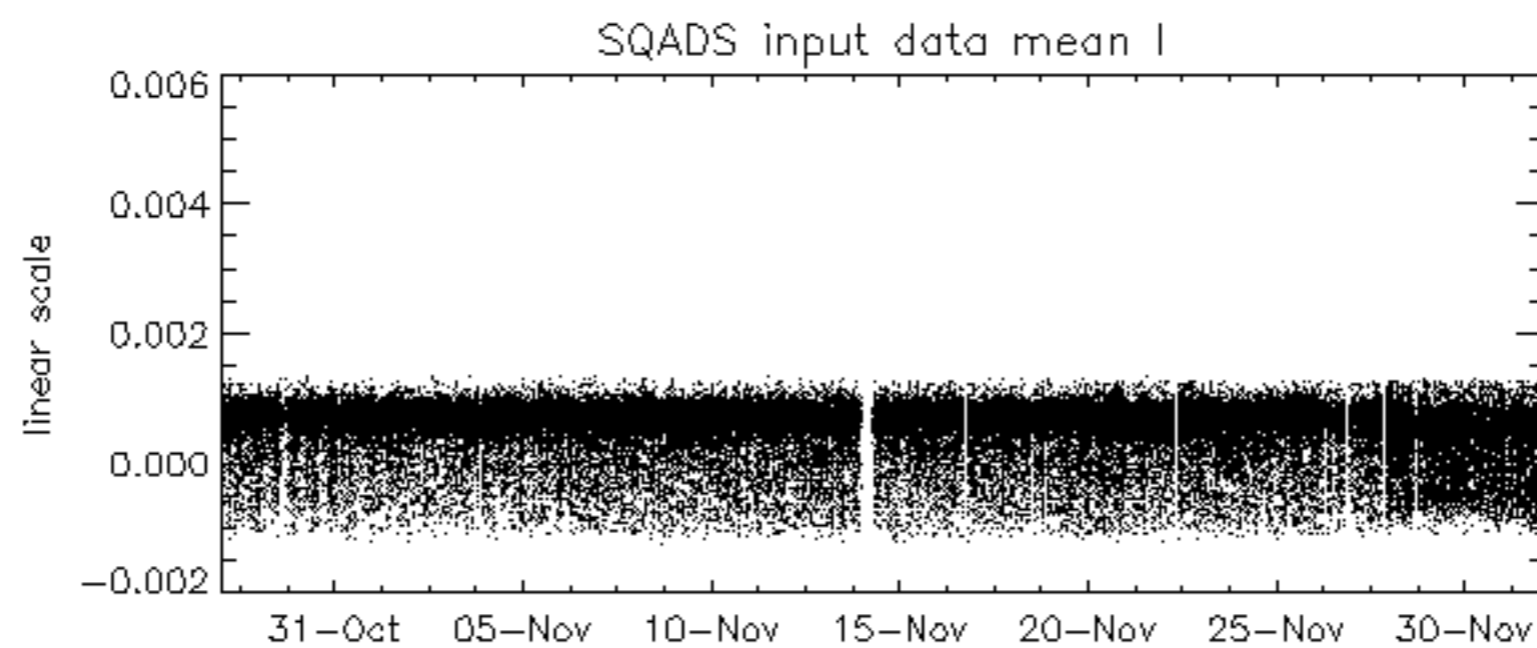
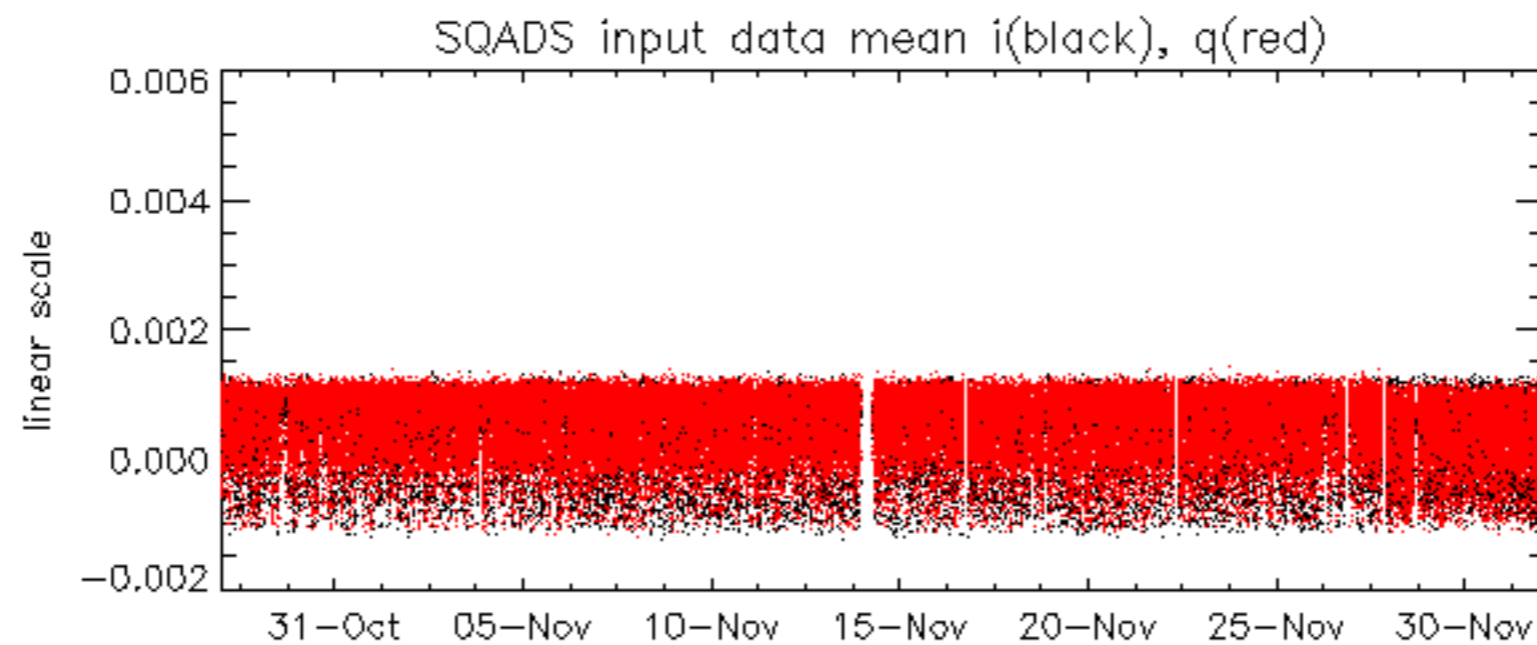
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -7.5492048 Hz

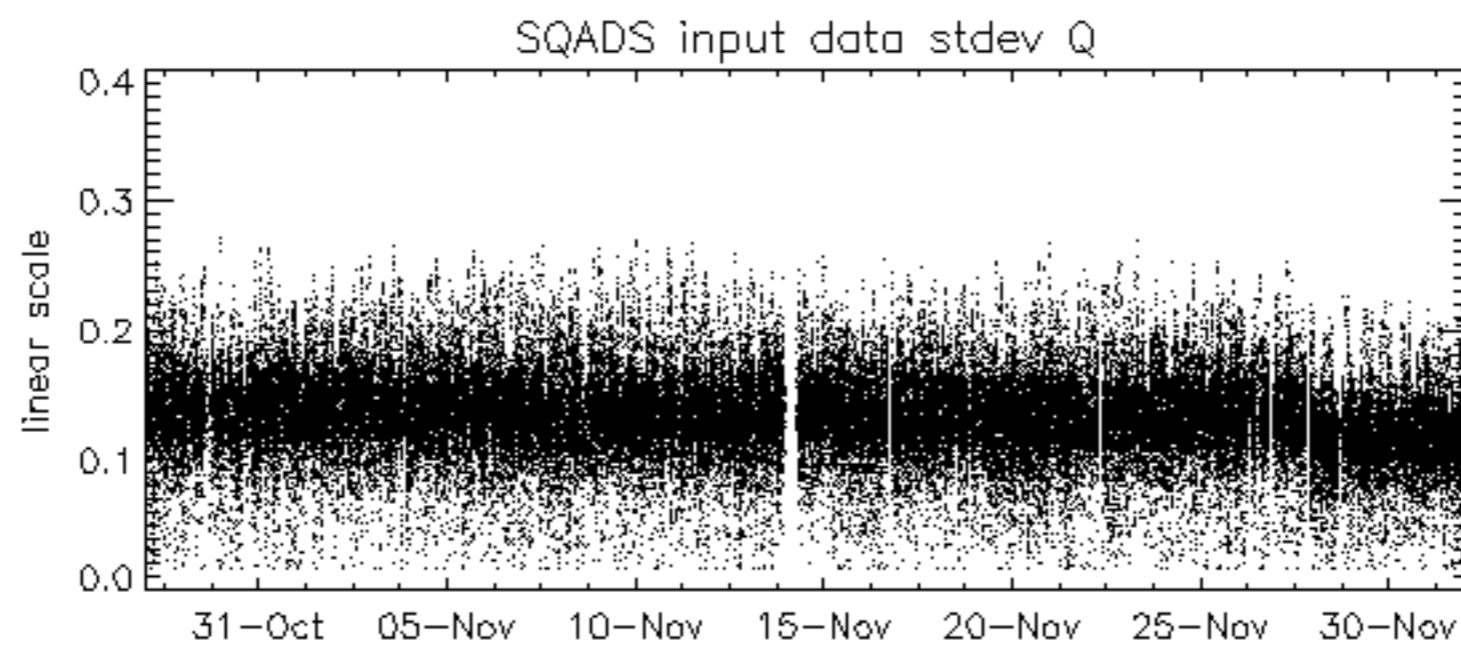
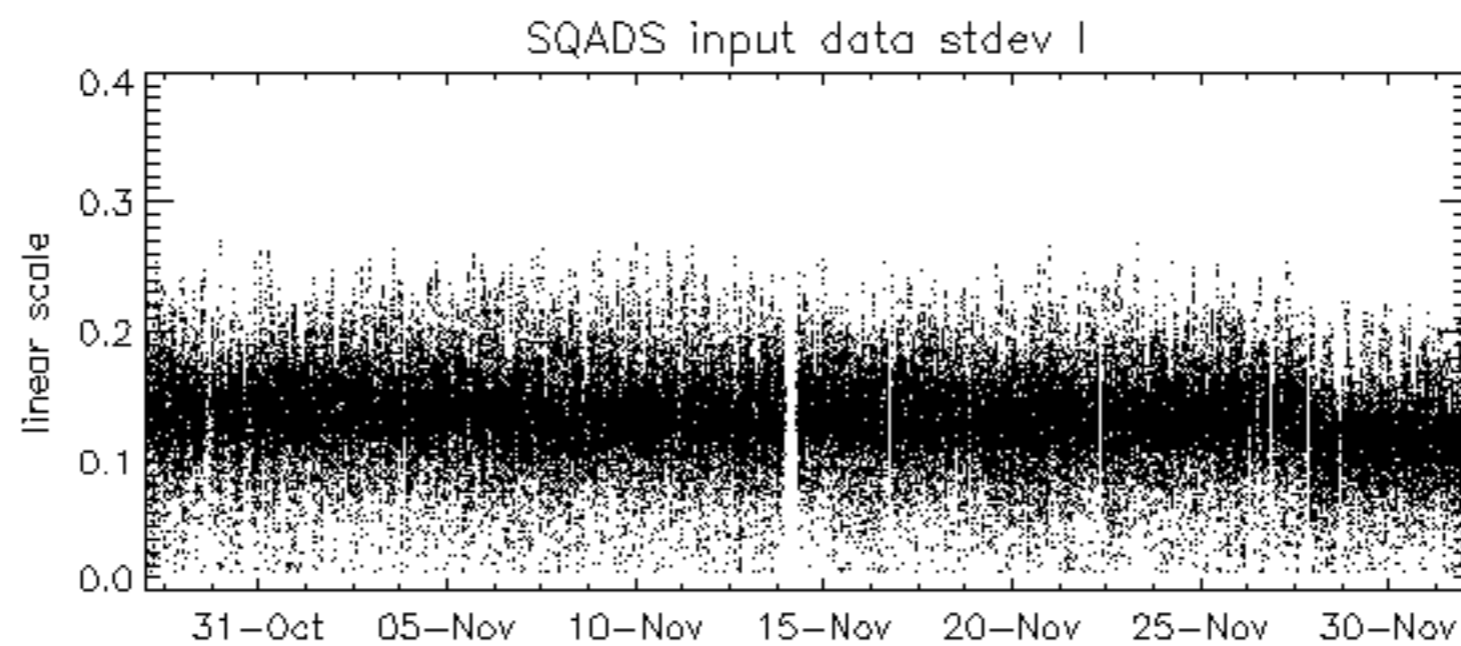
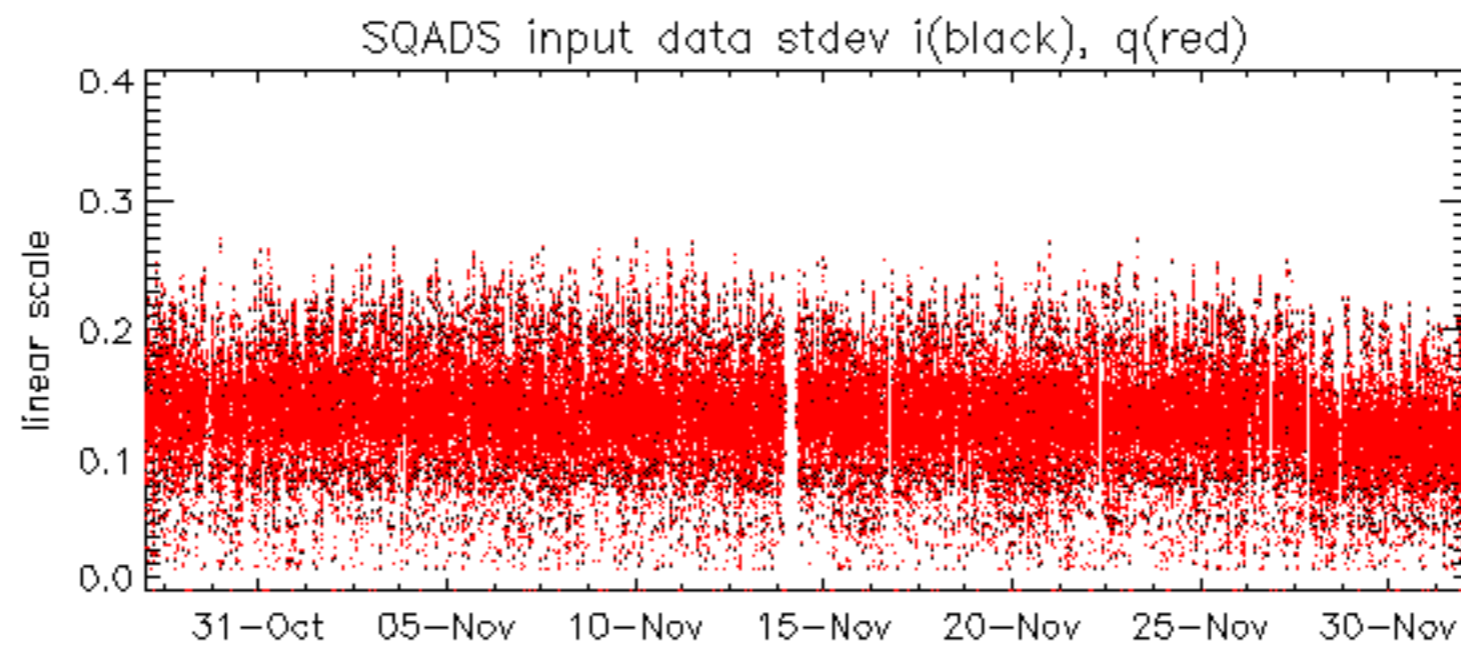


No anomalies observed on available MS products:

No anomalies observed.



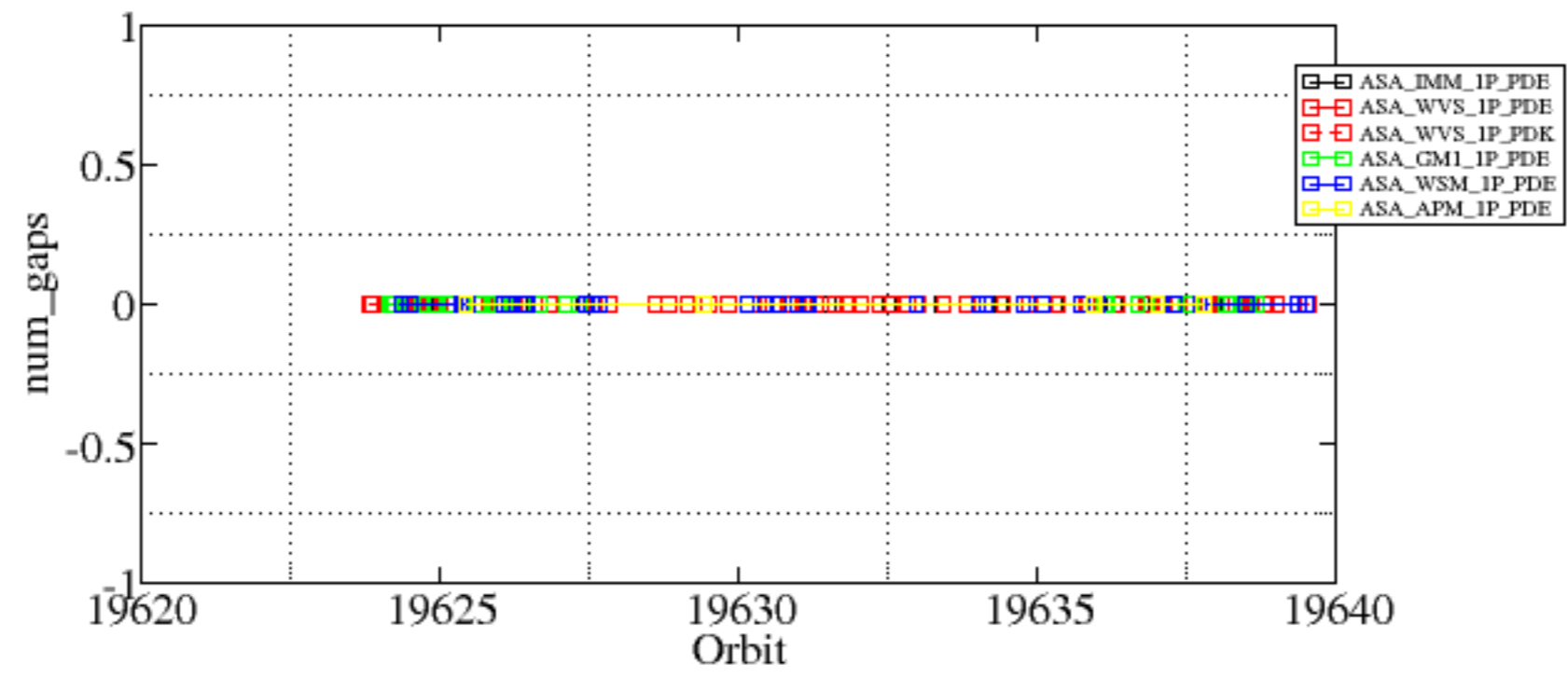


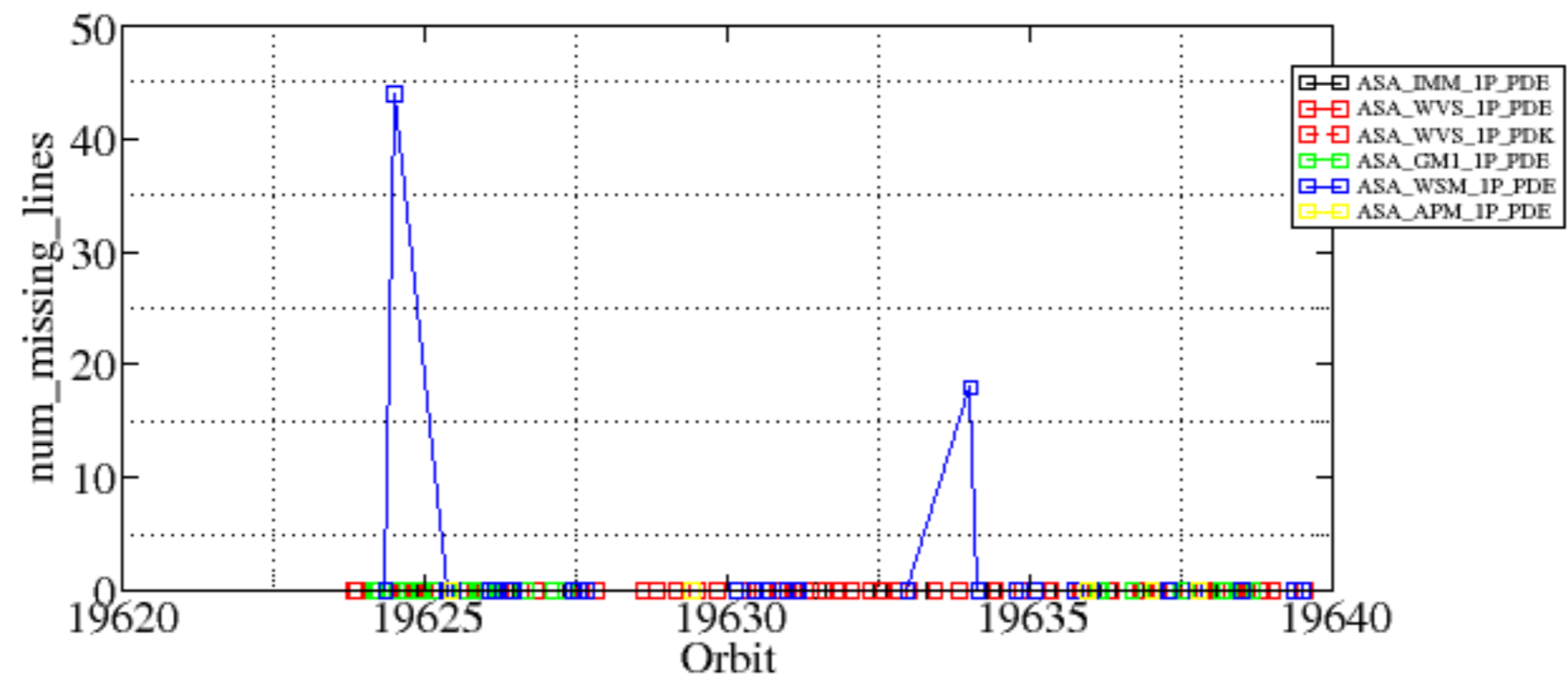


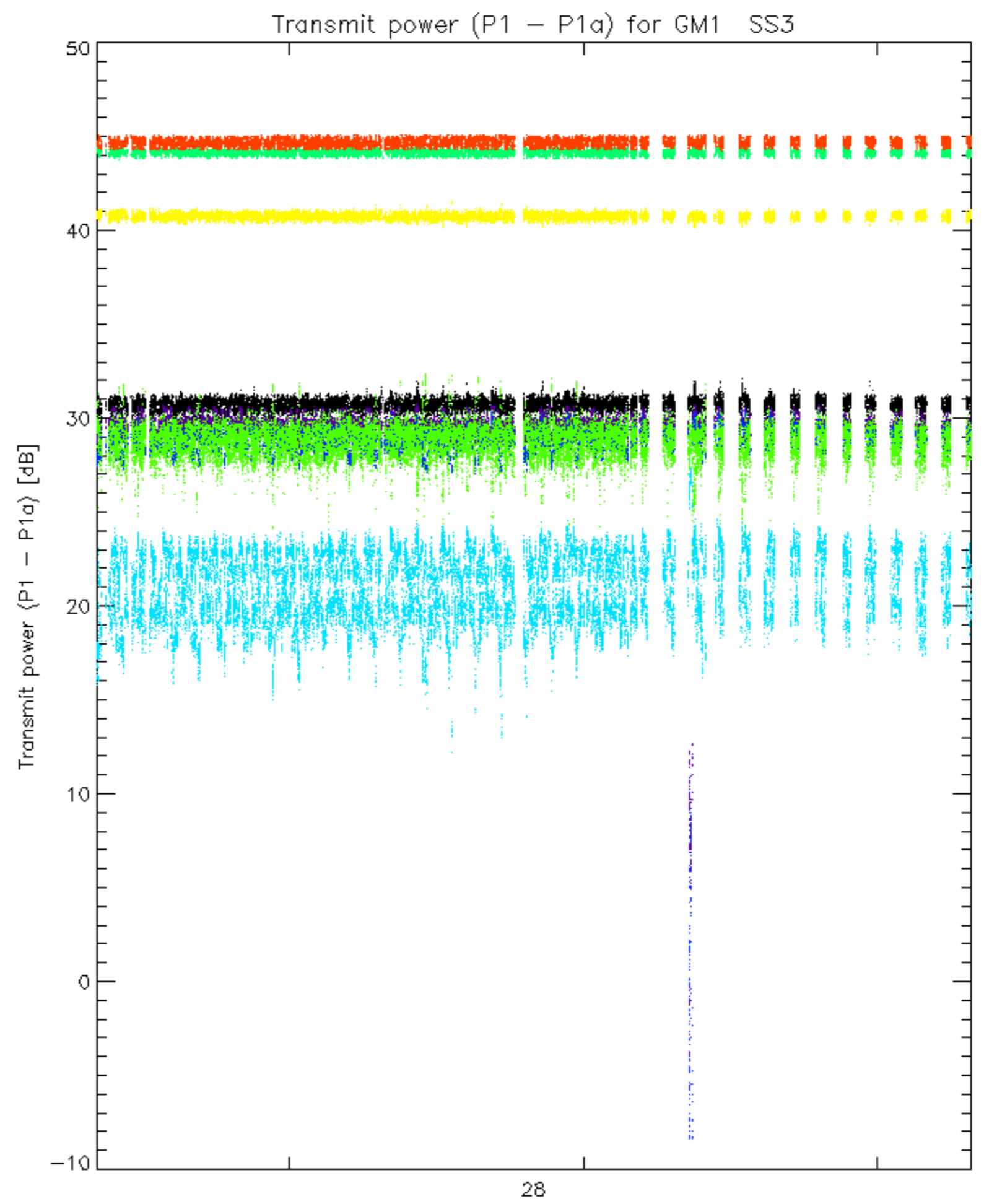
Summary of analysis for the last 3 days 2005120[012]

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

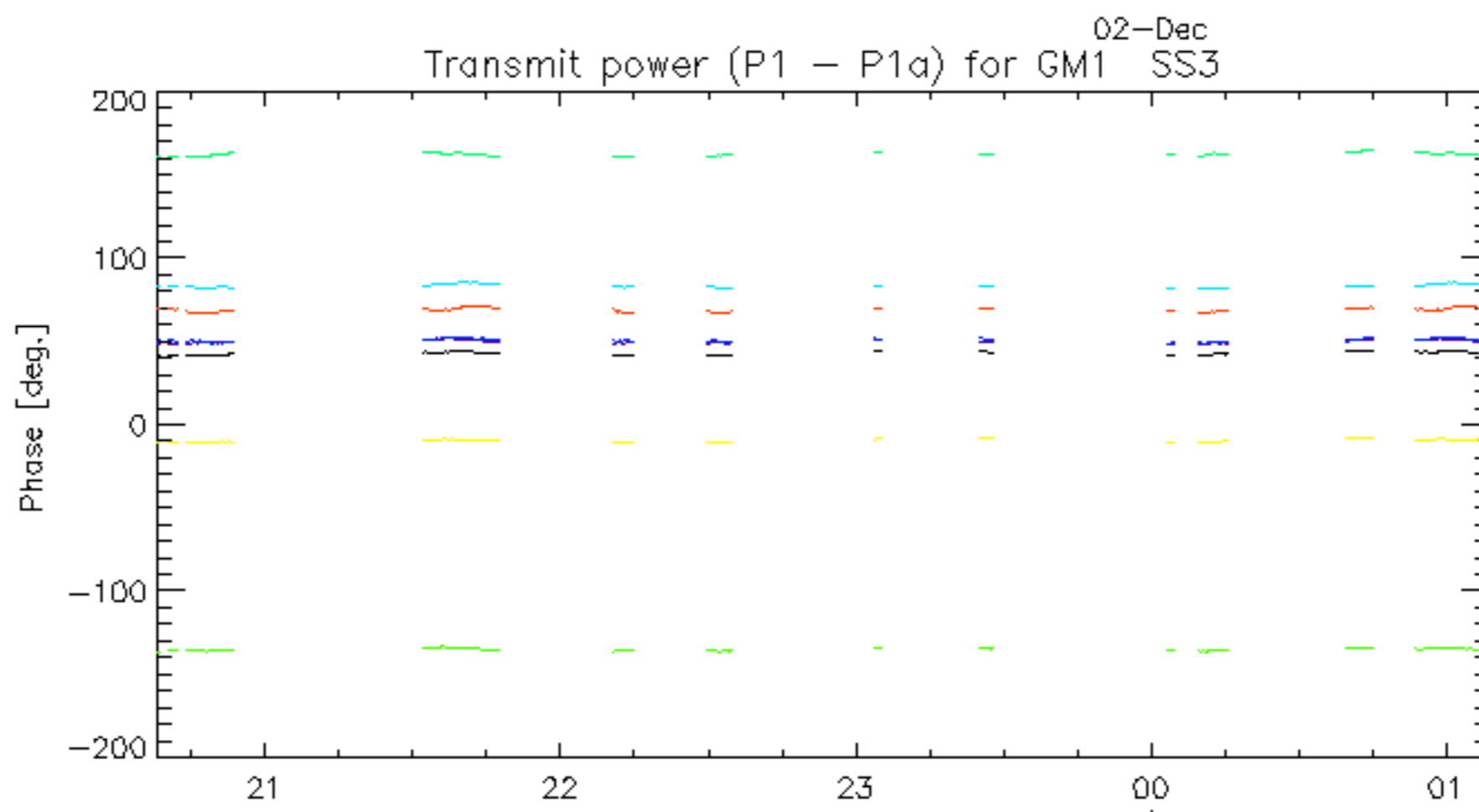
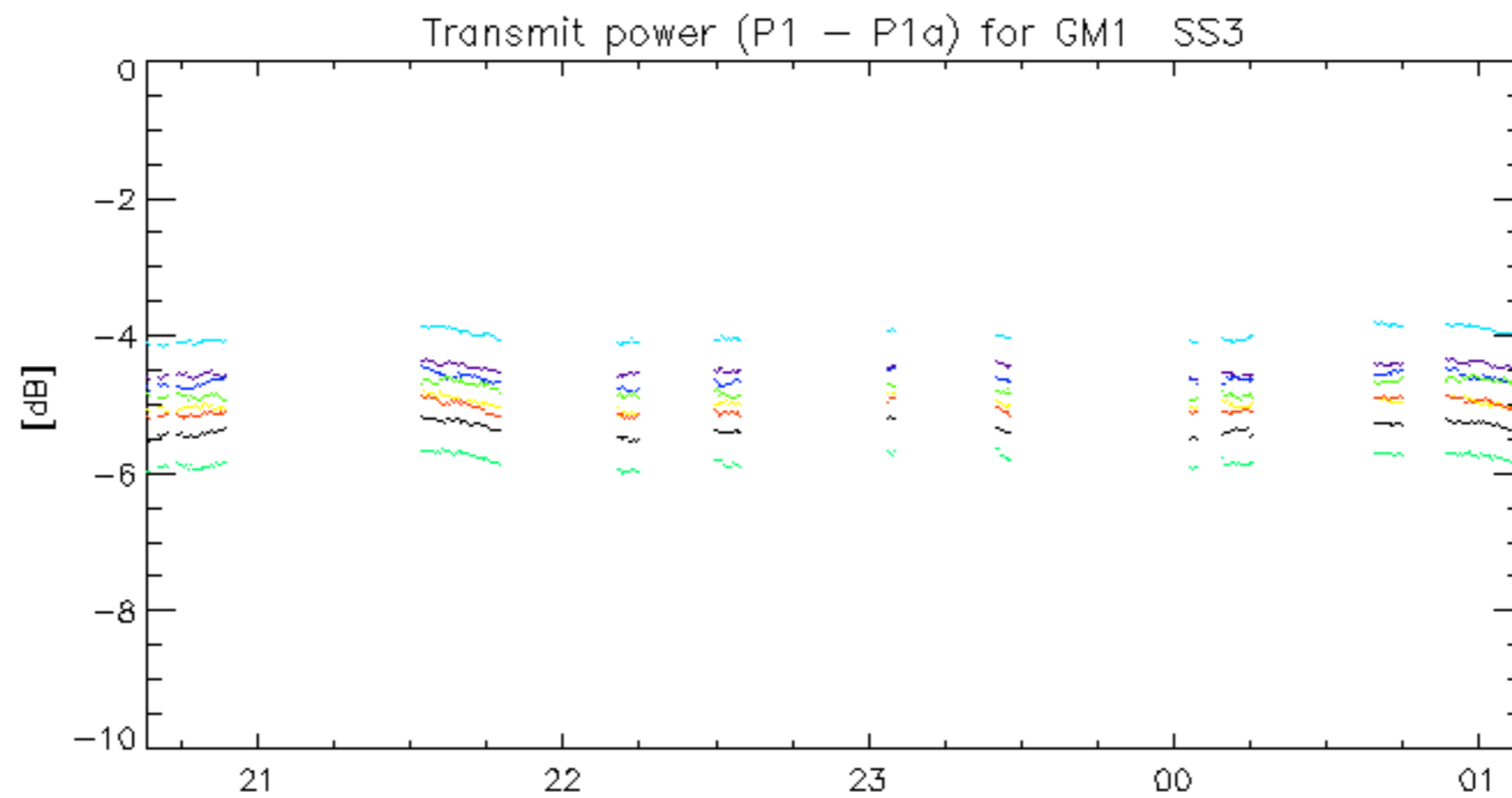
Filename	num_gaps	num_missing_lines
ASA_WSM_1PNPDE20051201_010641_000002812043_00031_19624_2294.N1	0	44
ASA_WSM_1PNPDE20051201_170445_000002452043_00041_19634_2379.N1	0	18





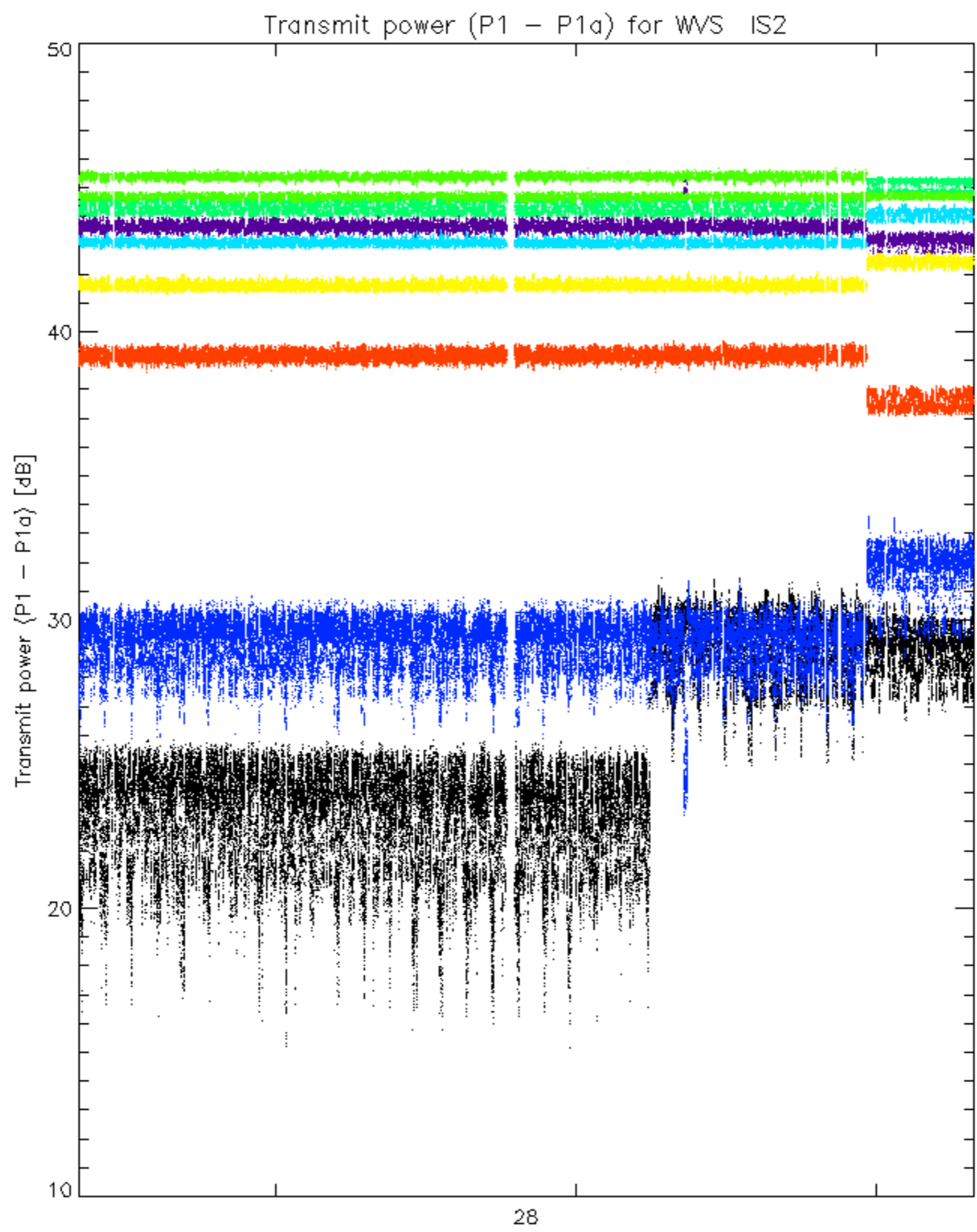


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

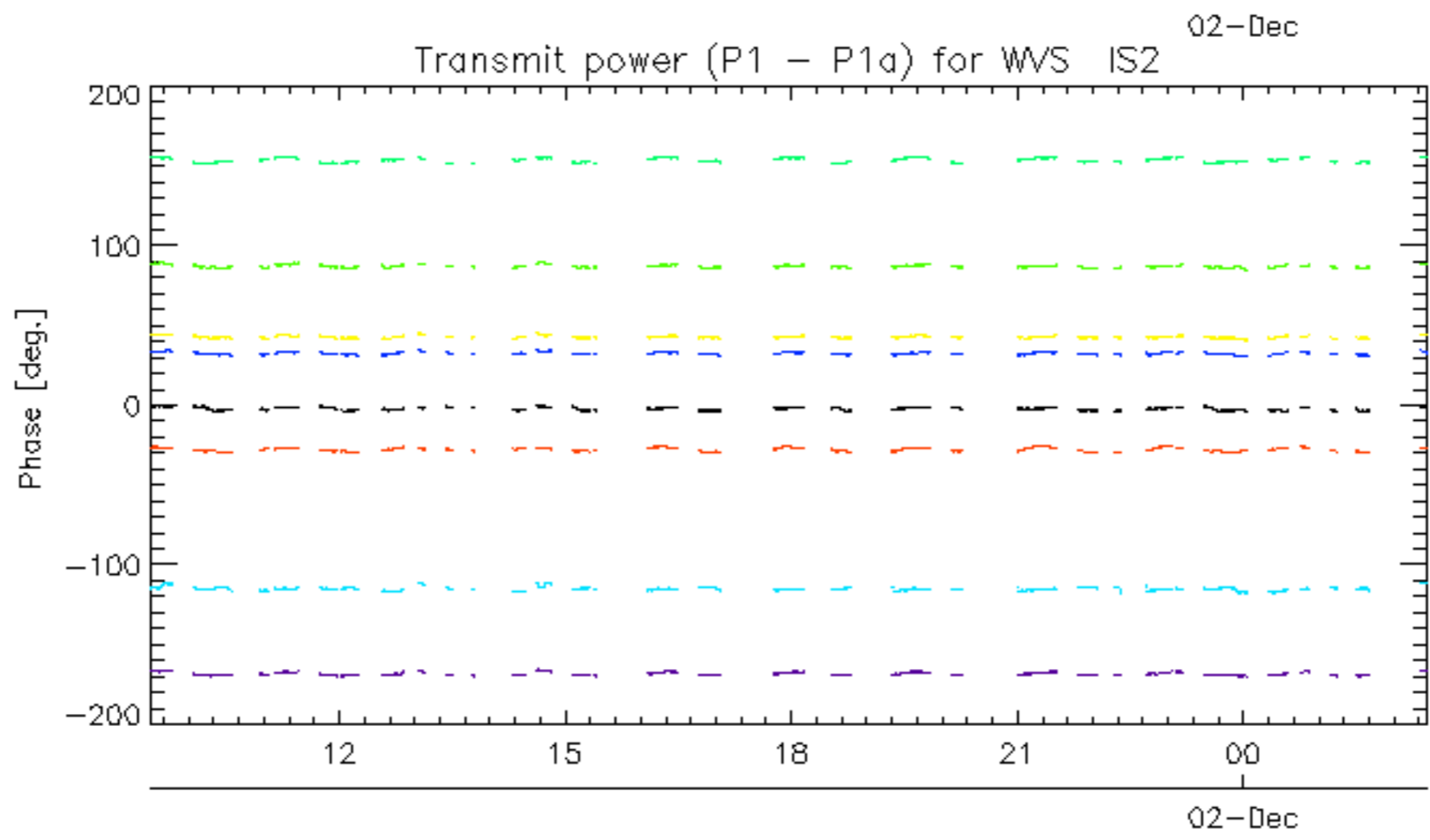
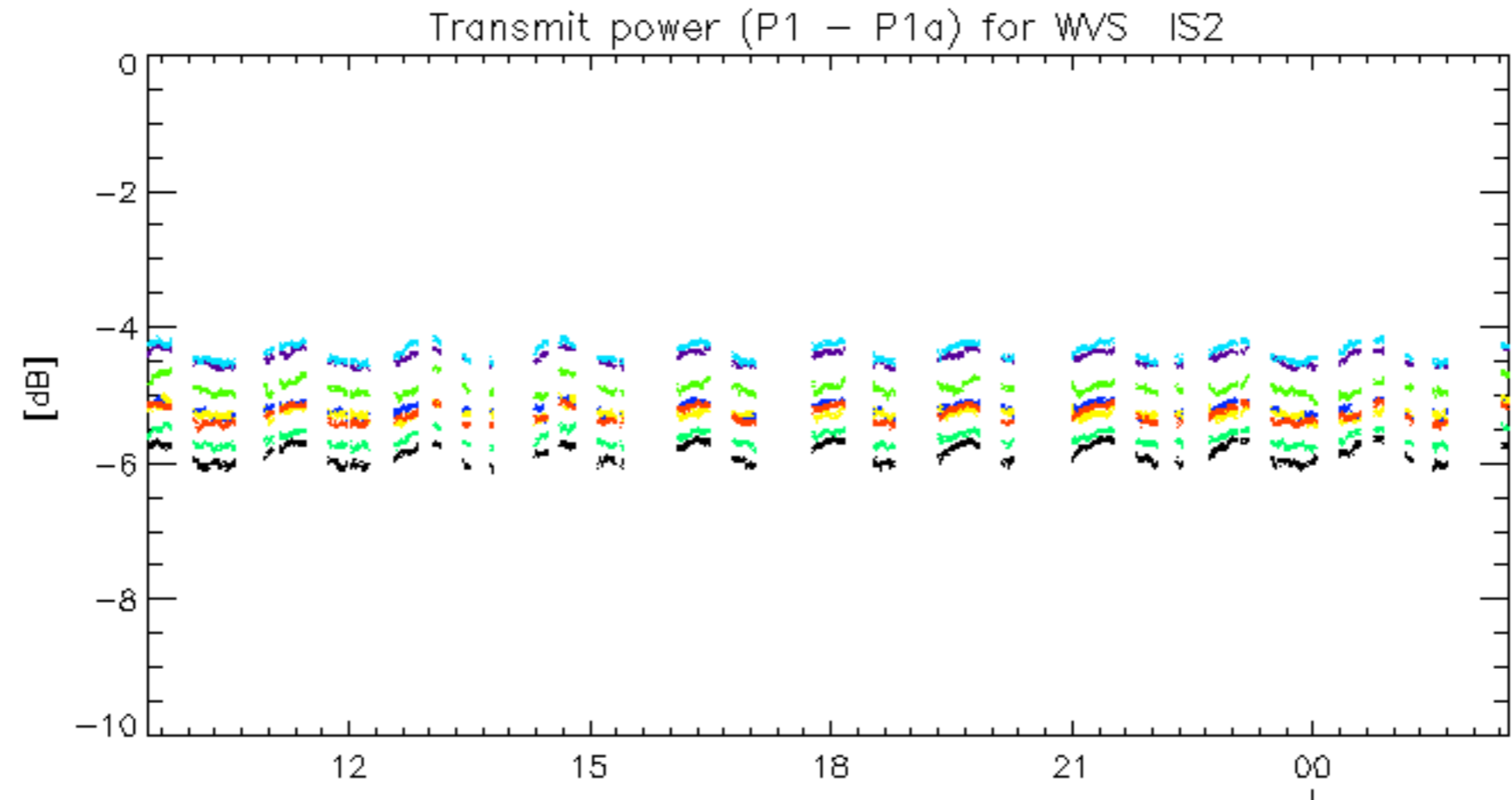


rows: **3** **7** **11** **15** **19** **22** **26** **30**

02-Dec



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



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

No unavailabilities during the reported period.