

PRELIMINARY REPORT OF 070115

last update on Mon Jan 15 16:29:31 GMT 2007

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 2007-01-14 00:00:00 to 2007-01-15 16:29:32

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	25	46	15	0	1
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	25	46	15	0	1
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	25	46	15	0	1
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	25	46	15	0	1

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	45	42	61	4	37
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	45	42	61	4	37
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	45	42	61	4	37
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	45	42	61	4	37

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	20070114 053207
H	20070115 050030

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	-3.964294	0.007427	-0.007257
7	P1	-3.137853	0.048584	0.006149
11	P1	-4.116691	0.025236	-0.007997
15	P1	-6.334665	0.016452	-0.018797
19	P1	-3.682812	0.006010	-0.049346
22	P1	-4.677089	0.016235	-0.030581
26	P1	-3.953396	0.009817	0.004378
30	P1	-5.915706	0.008698	-0.023751
3	P1	-16.525602	0.255574	0.053545
7	P1	-17.271599	0.184731	0.031052
11	P1	-17.267683	0.456395	-0.100577
15	P1	-13.039794	0.126798	0.011515
19	P1	-15.080231	0.111017	-0.093777
22	P1	-15.808394	0.553401	0.075592
26	P1	-15.028185	0.186603	-0.036886
30	P1	-17.538349	0.497624	-0.019949

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.786654	0.090134	0.005585
7	P2	-21.671438	0.088176	0.039501
11	P2	-15.534177	0.099505	0.018878
15	P2	-7.093671	0.103504	0.012624
19	P2	-9.174898	0.097125	0.029581
22	P2	-18.223806	0.089985	-0.009417
26	P2	-16.595507	0.102703	0.003032
30	P2	-19.436329	0.084613	0.026339

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.237038	0.008482	-0.016924
7	P3	-8.237038	0.008482	-0.016924
11	P3	-8.237038	0.008482	-0.016924
15	P3	-8.237038	0.008482	-0.016924
19	P3	-8.237038	0.008482	-0.016924
22	P3	-8.237038	0.008482	-0.016924
26	P3	-8.237059	0.008482	-0.016859
30	P3	-8.237059	0.008482	-0.016859

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	-3.920034	0.013984	-0.010069
7	P1	-2.474120	0.072750	0.024064
11	P1	-2.829984	0.015797	0.034162
15	P1	-3.709686	0.032317	-0.041828
19	P1	-3.550744	0.018916	-0.039393
22	P1	-5.004627	0.022804	0.020200
26	P1	-6.041183	0.026055	-0.052233
30	P1	-5.348587	0.037596	-0.043330
3	P1	-11.723571	0.079105	0.003174
7	P1	-10.038894	0.091472	0.088574
11	P1	-10.360659	0.091823	-0.008653
15	P1	-10.737581	0.156862	-0.015868
19	P1	-15.745609	0.107525	-0.110098
22	P1	-21.534512	1.461543	0.178349
26	P1	-15.976169	0.319309	0.161835
30	P1	-17.922033	0.372165	-0.157001

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.429523	0.097828	0.055701
7	P2	-22.185711	0.243207	0.023788
11	P2	-10.834528	0.101323	0.017631
15	P2	-4.959652	0.203231	0.012157
19	P2	-6.945121	0.212543	0.005204
22	P2	-8.233971	0.123001	-0.015053
26	P2	-24.342407	0.157815	-0.047012
30	P2	-21.906019	0.129044	0.058659

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.087331	0.003318	-0.010029
7	P3	-8.087033	0.003300	-0.009327
11	P3	-8.087273	0.003319	-0.009498
15	P3	-8.087128	0.003310	-0.010510
19	P3	-8.087184	0.003318	-0.009807
22	P3	-8.087049	0.003325	-0.010479
26	P3	-8.087401	0.003322	-0.009850
30	P3	-8.087176	0.003301	-0.009275

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	0.000567913
	stdev	1.65185e-07
MEAN Q	mean	0.000507082
	stdev	2.12551e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.140117
	stdev	0.00117438
STDEV Q	mean	0.140515
	stdev	0.00119414



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007011[345]

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_IMM_1PNPDE20070113_024624_000001482054_00361_25465_5301.N1	1	1
ASA_IMM_1PNPDE20070113_182645_000000352054_00371_25475_5884.N1	0	17
ASA_GM1_1PNPDK20070115_091257_000003202054_00394_25498_7135.N1	0	7







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

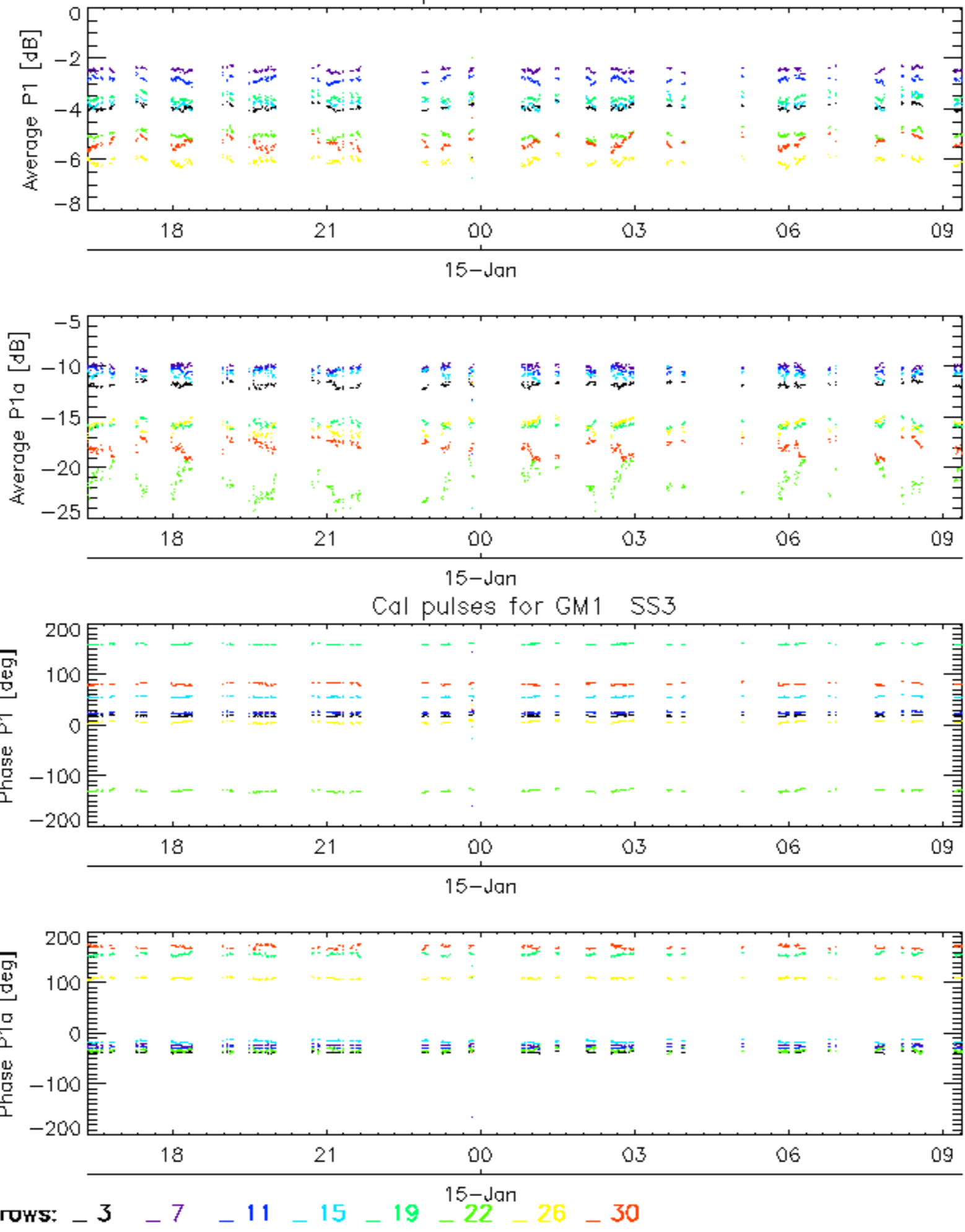
Ascending

Descending

7.6 - Doppler evolution versus ANX for GM1

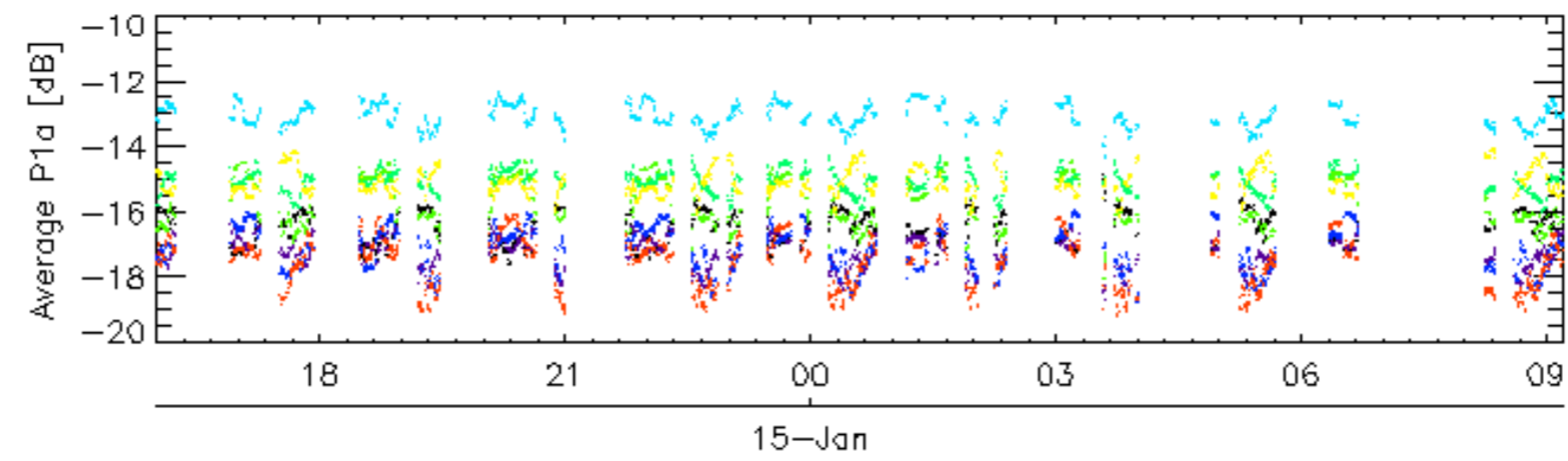
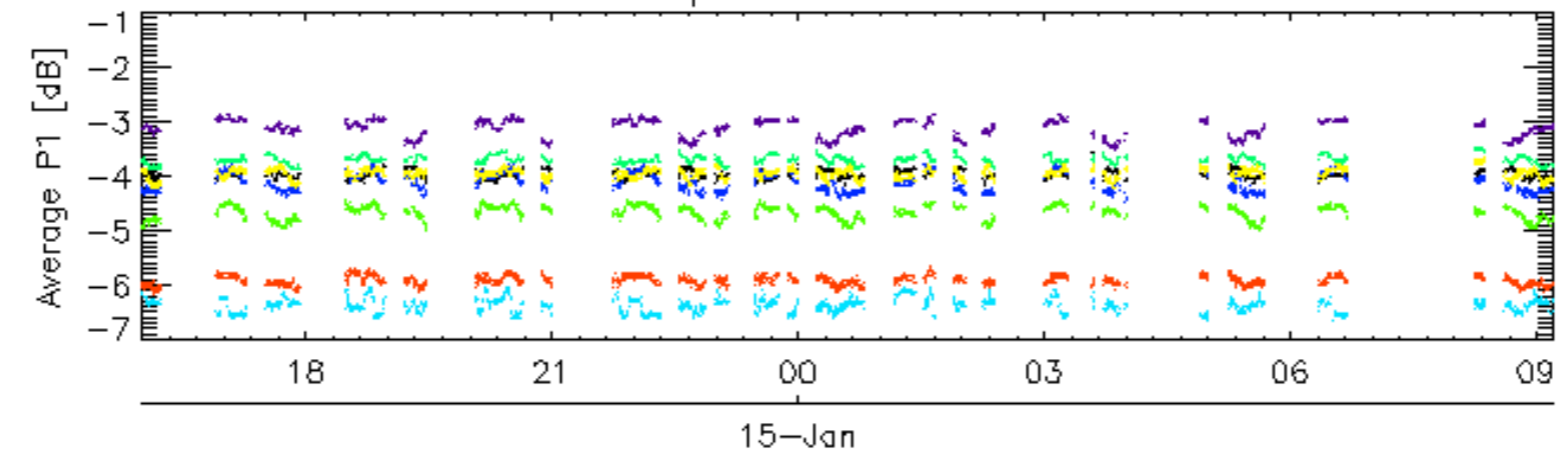
Evolution Doppler error versus ANX

Cal pulses for GM1 SS3

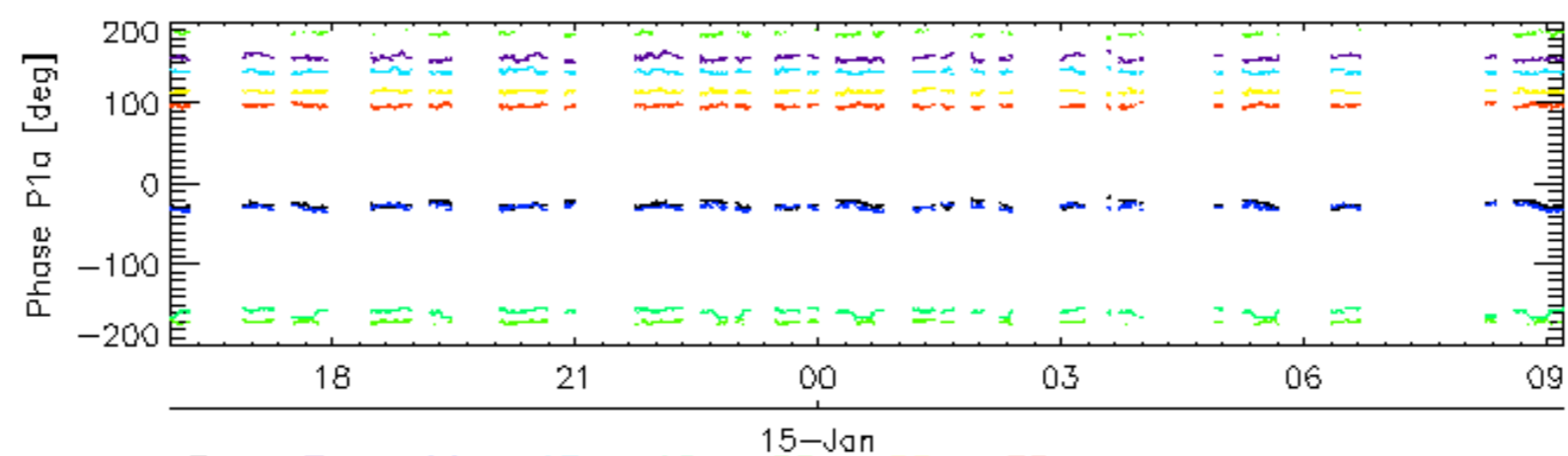
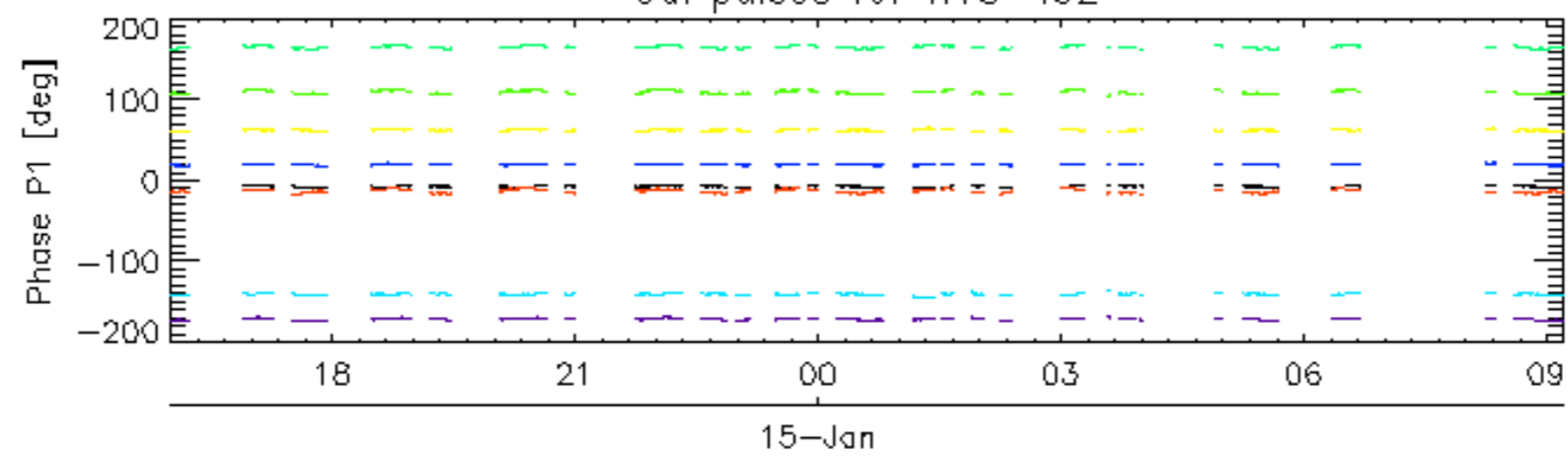


rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

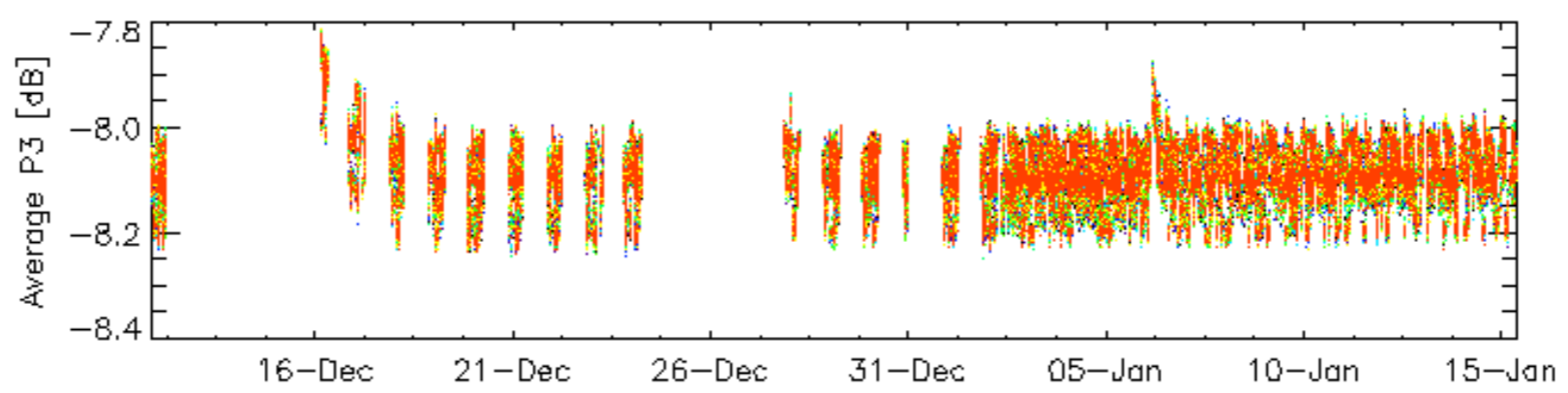
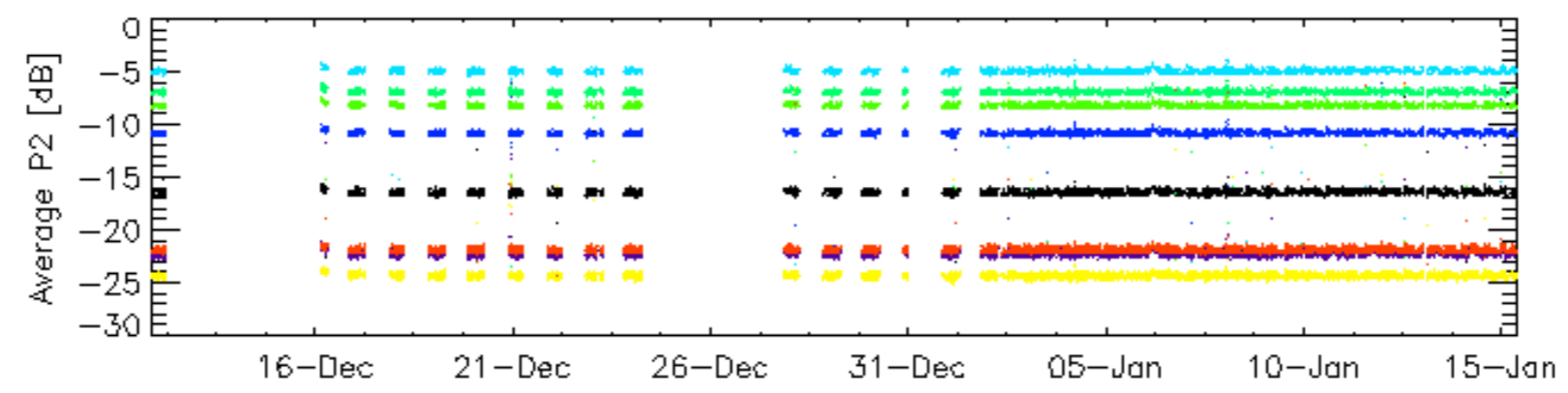
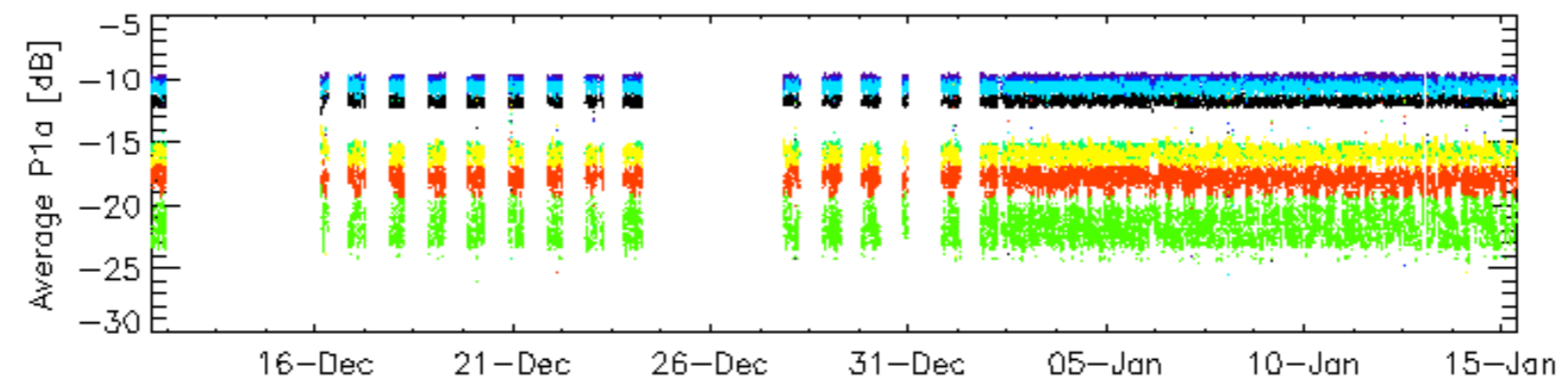
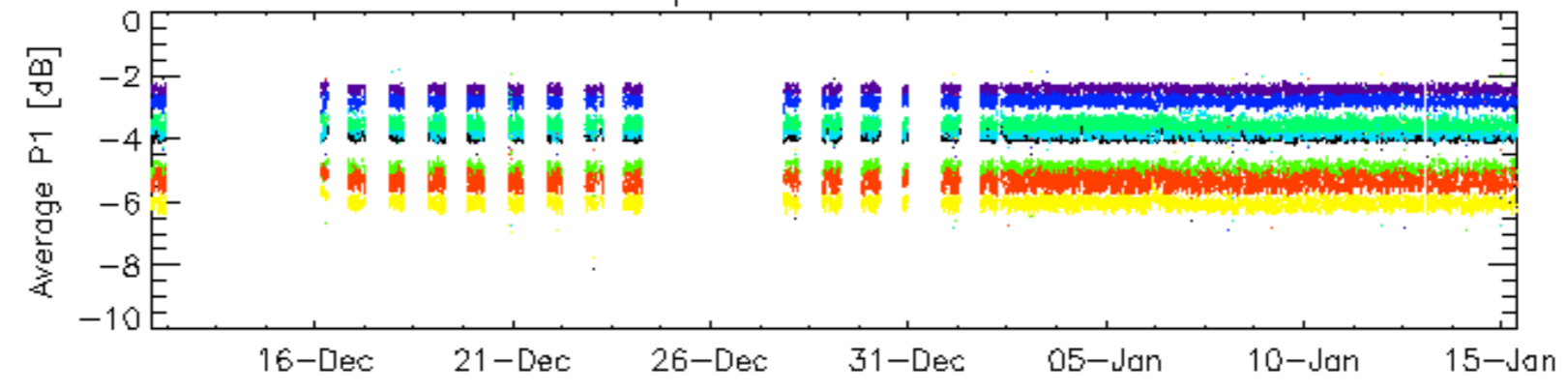


Cal pulses for WVS IS2



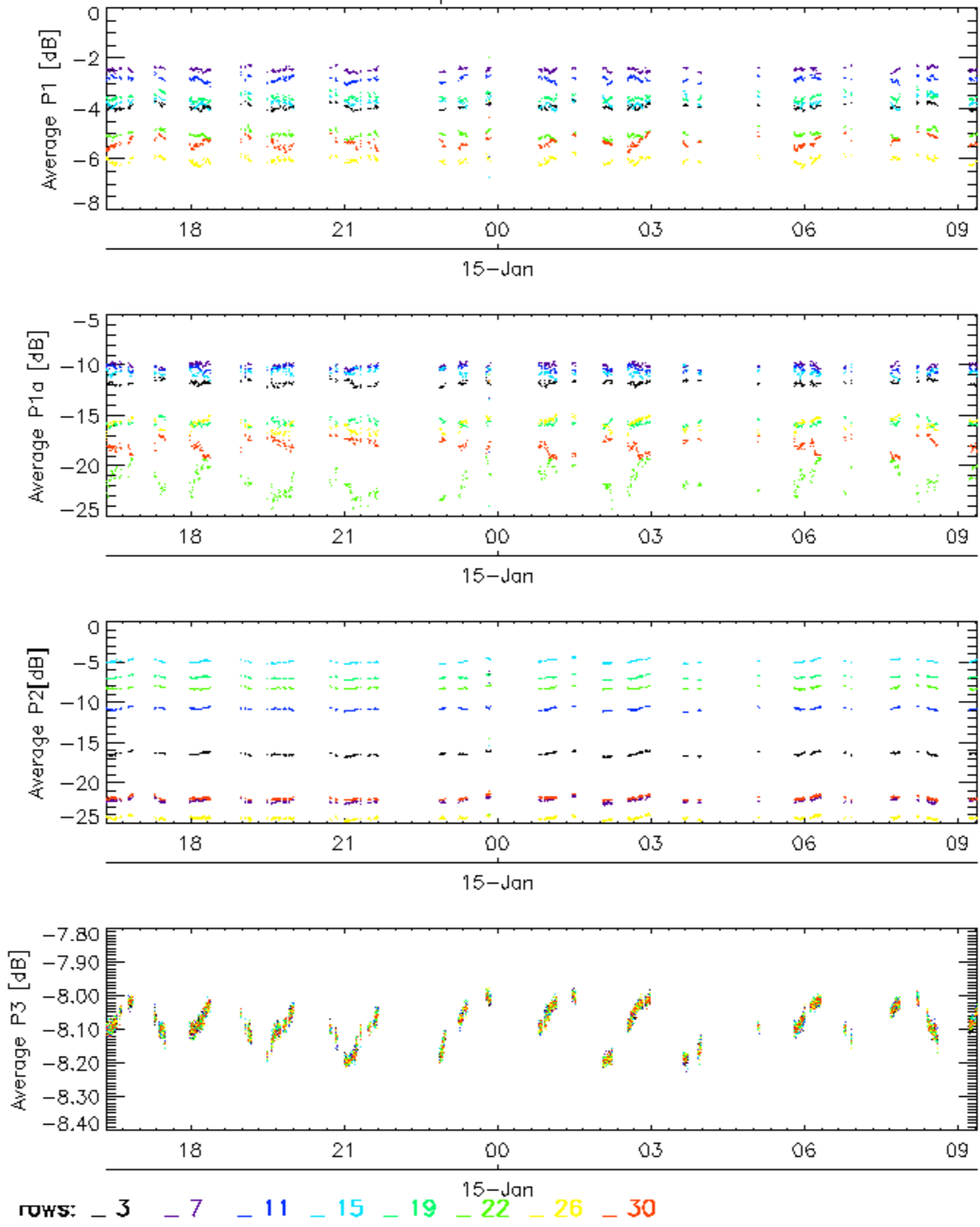
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

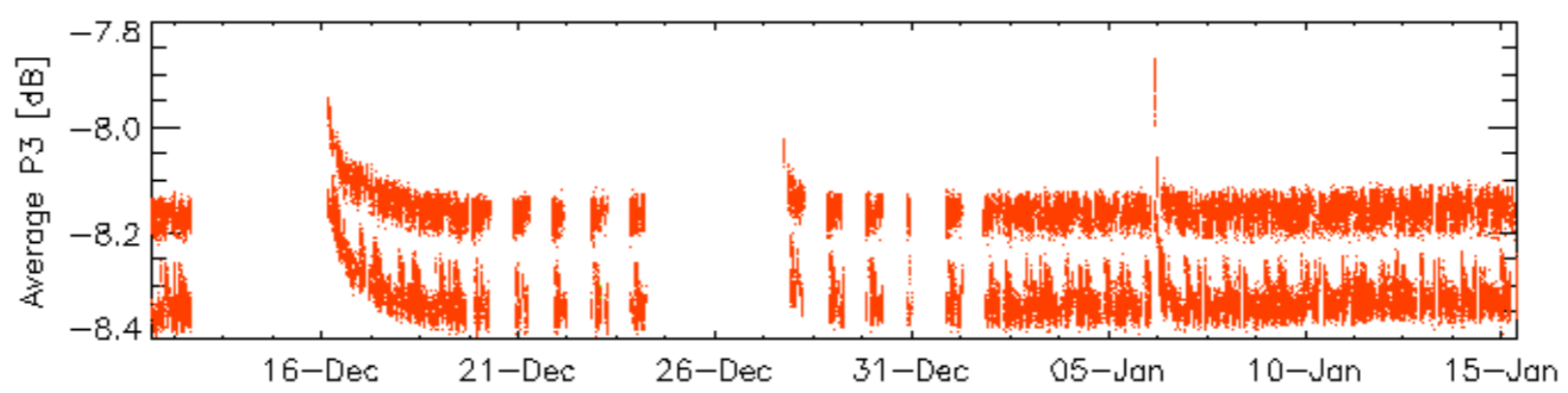
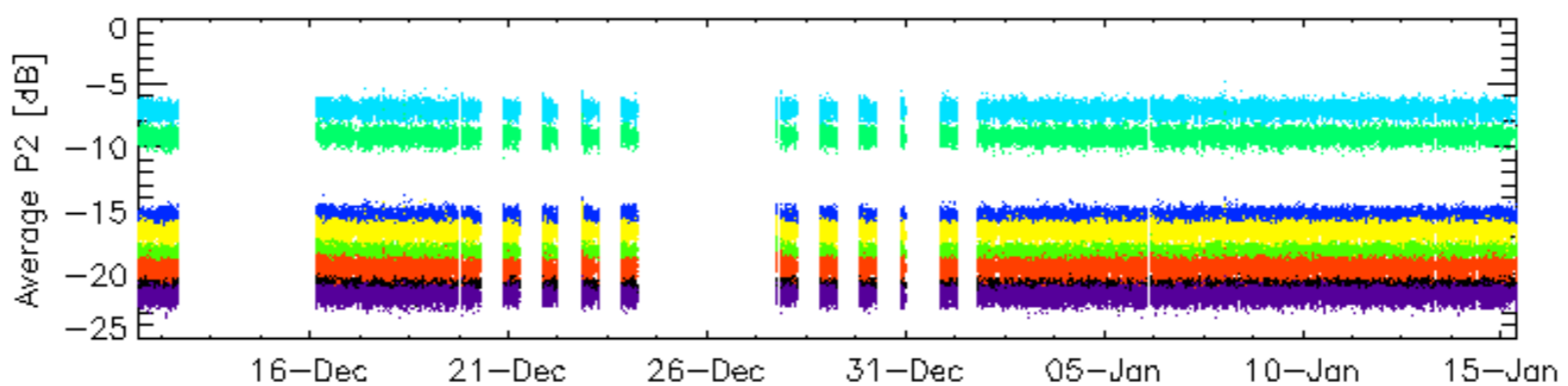
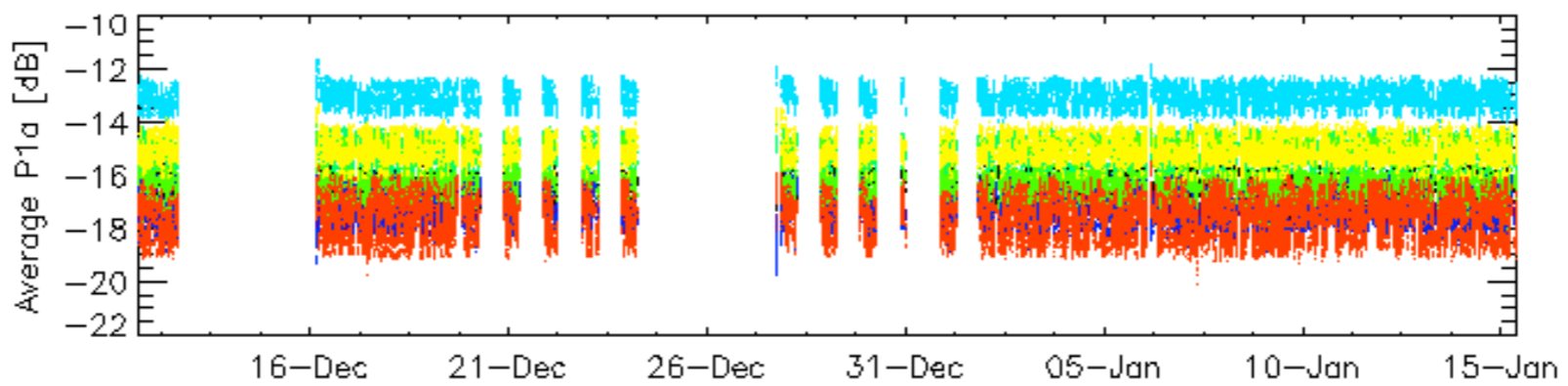
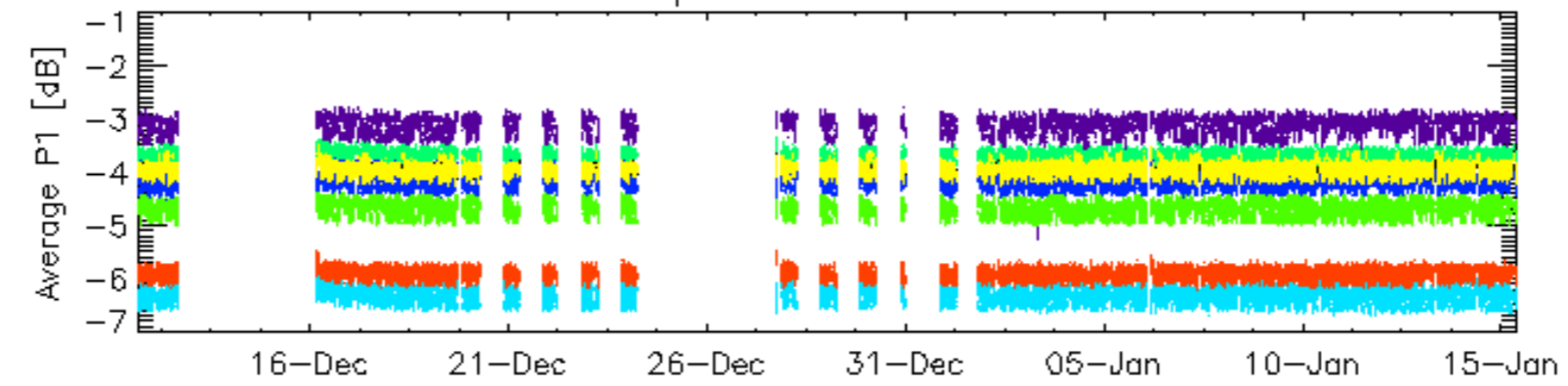


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

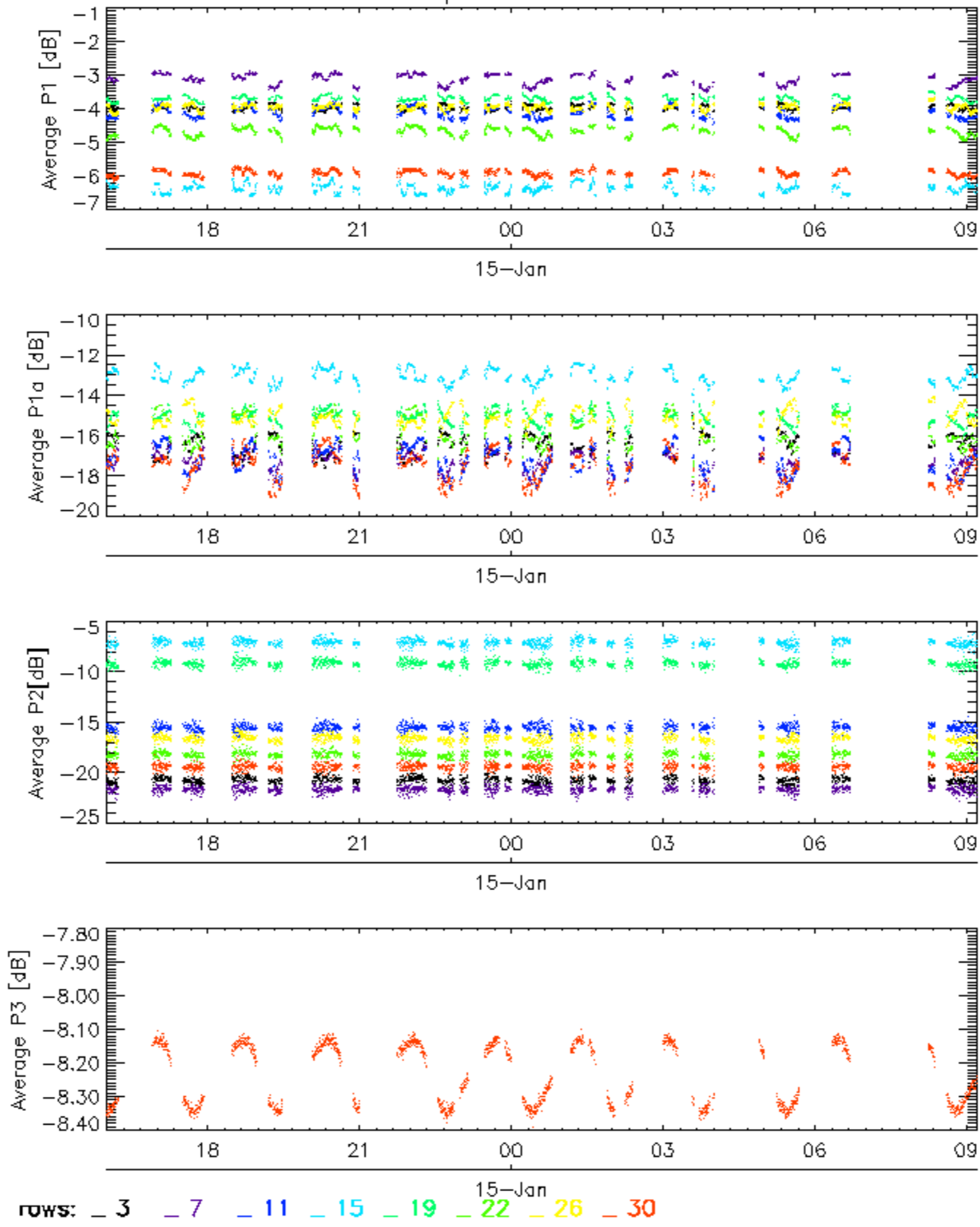


Cal pulses for WVS IS2

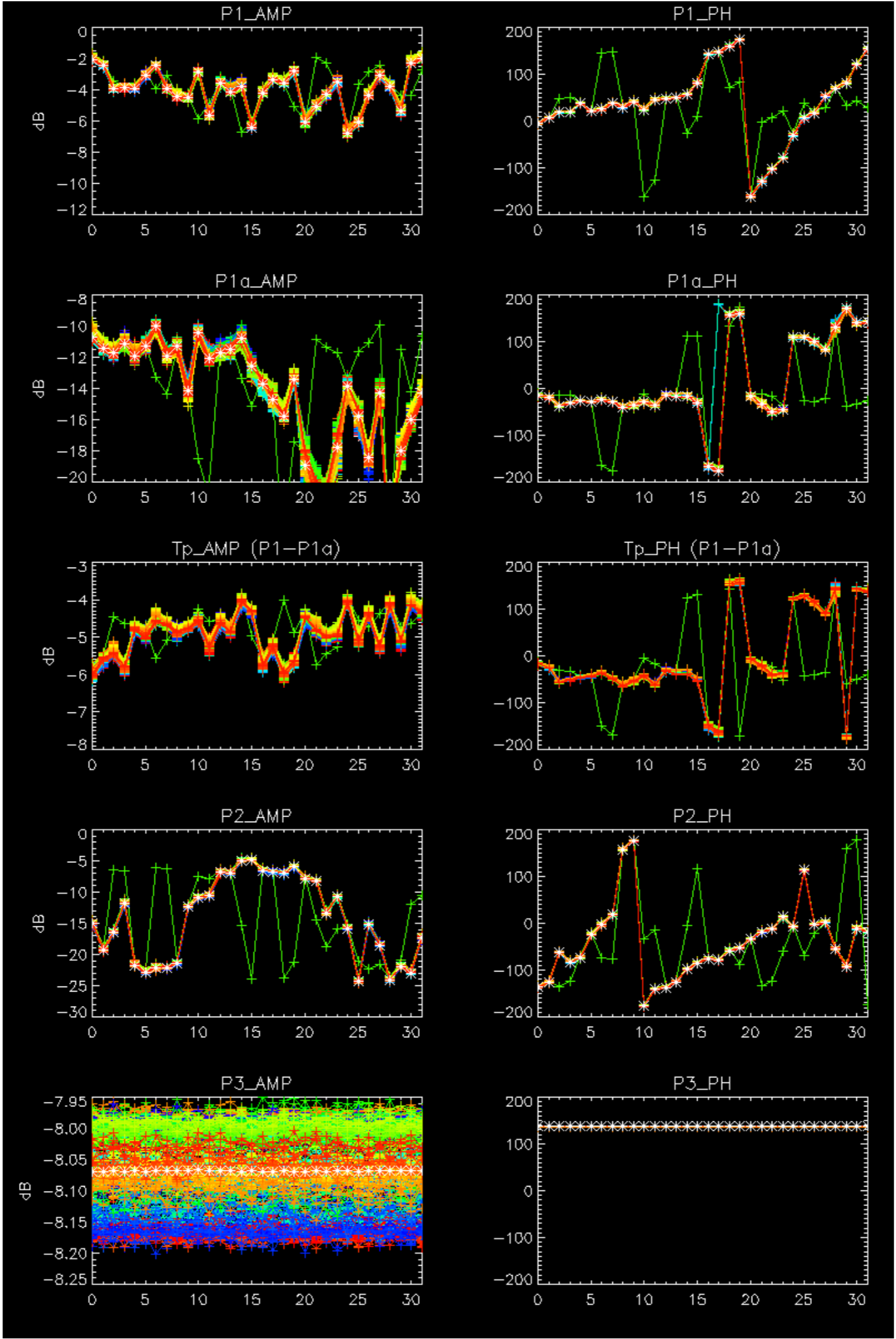


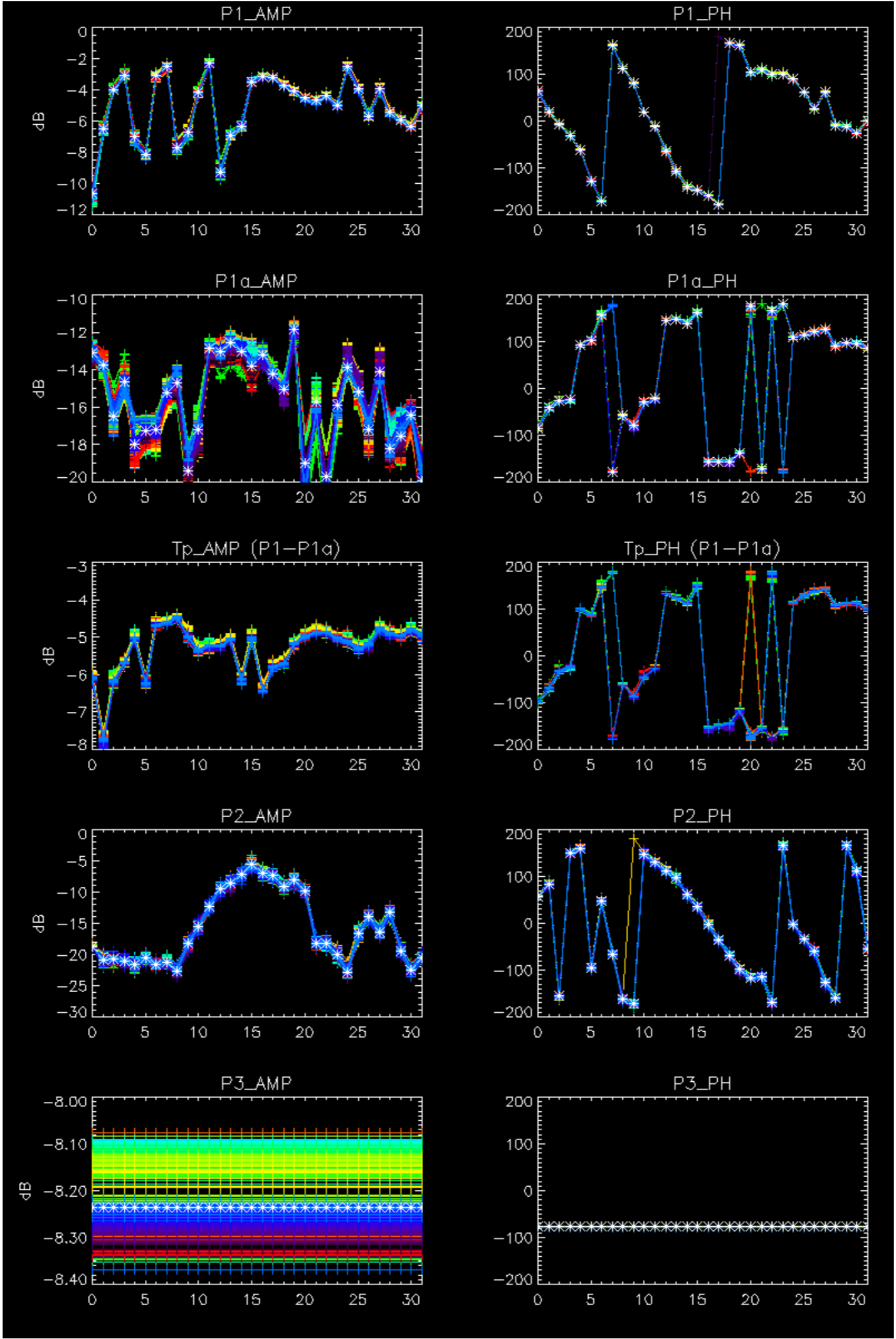
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



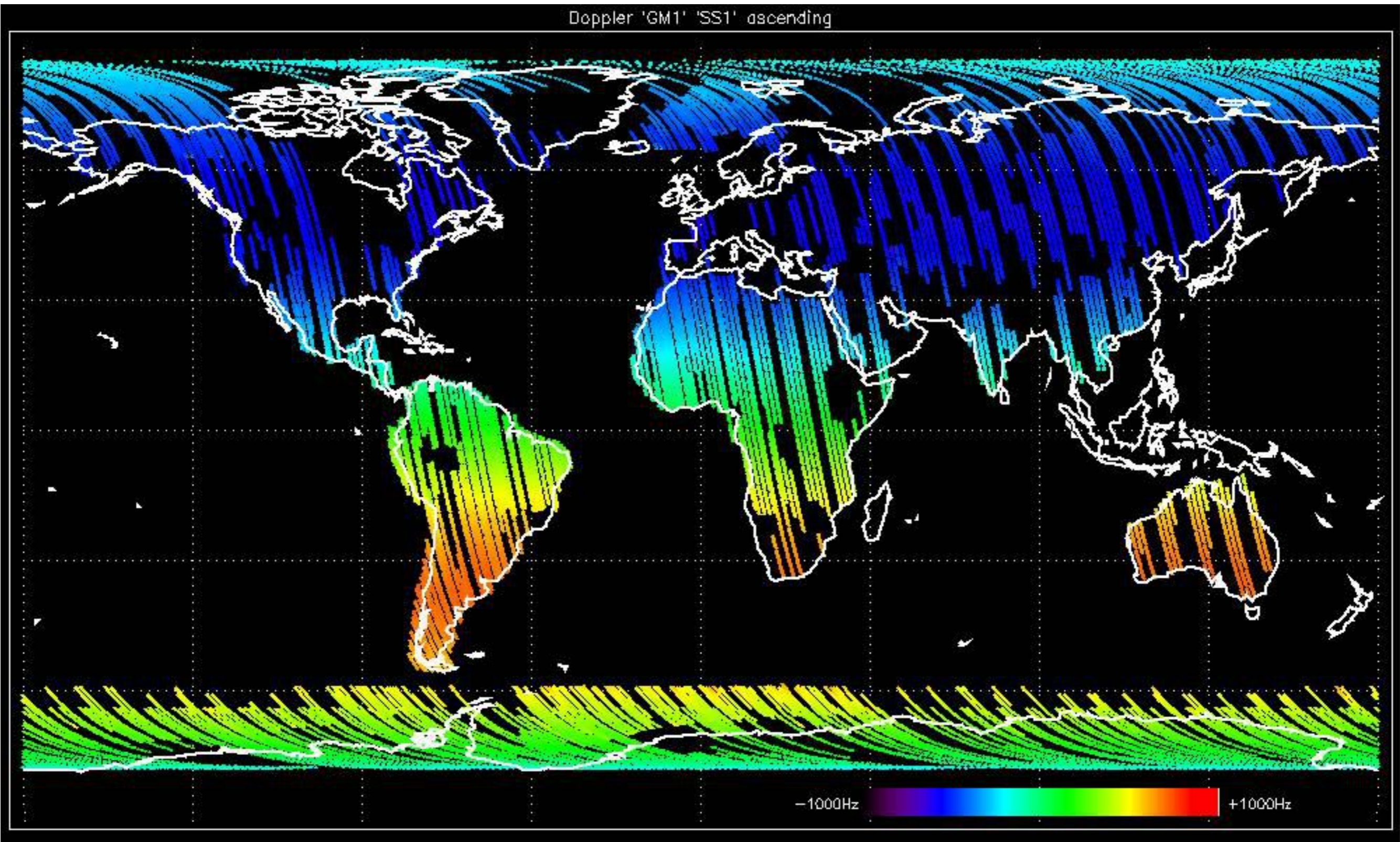
No anomalies observed.



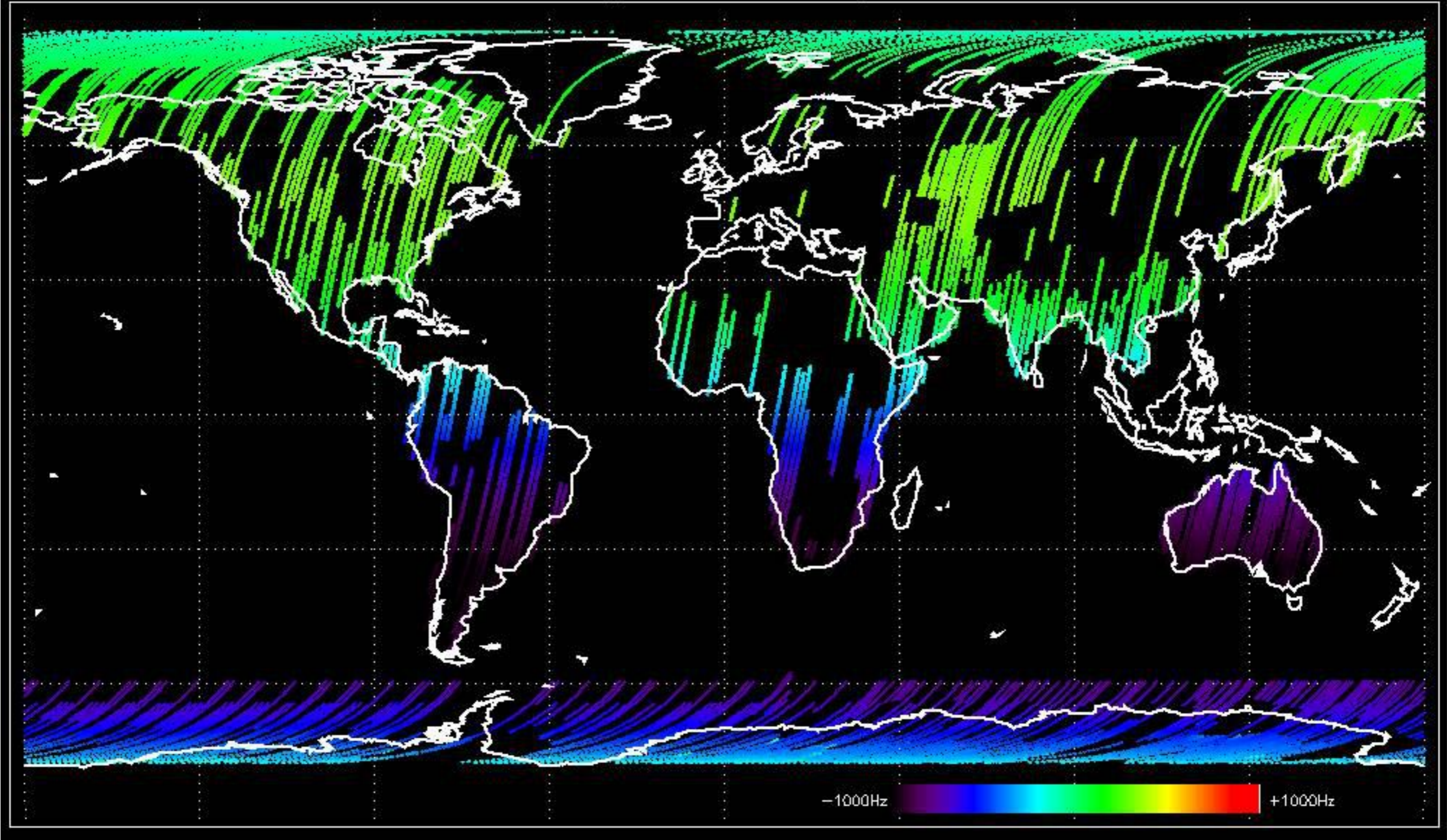


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

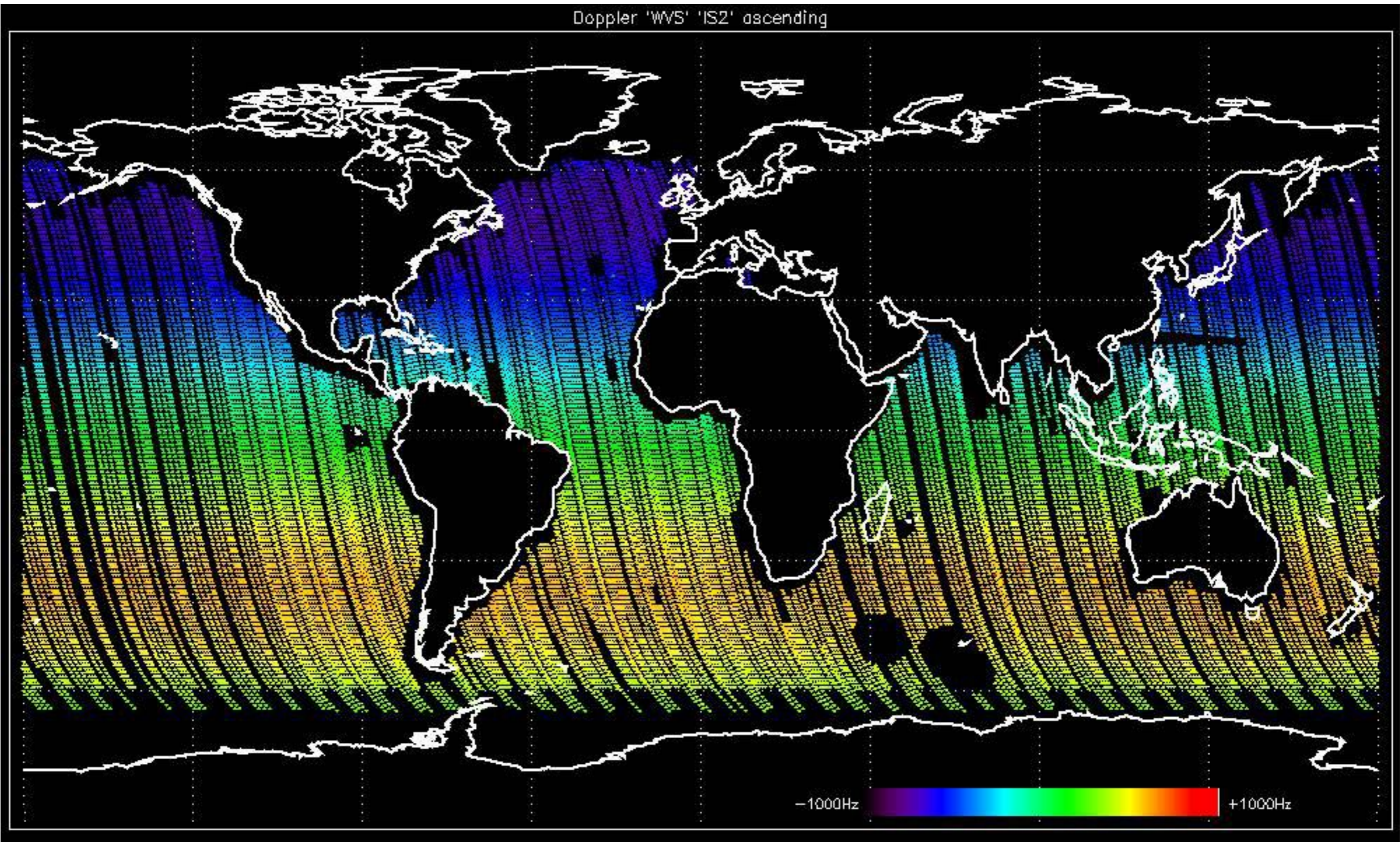
Doppler 'GM1' 'SS1' ascending



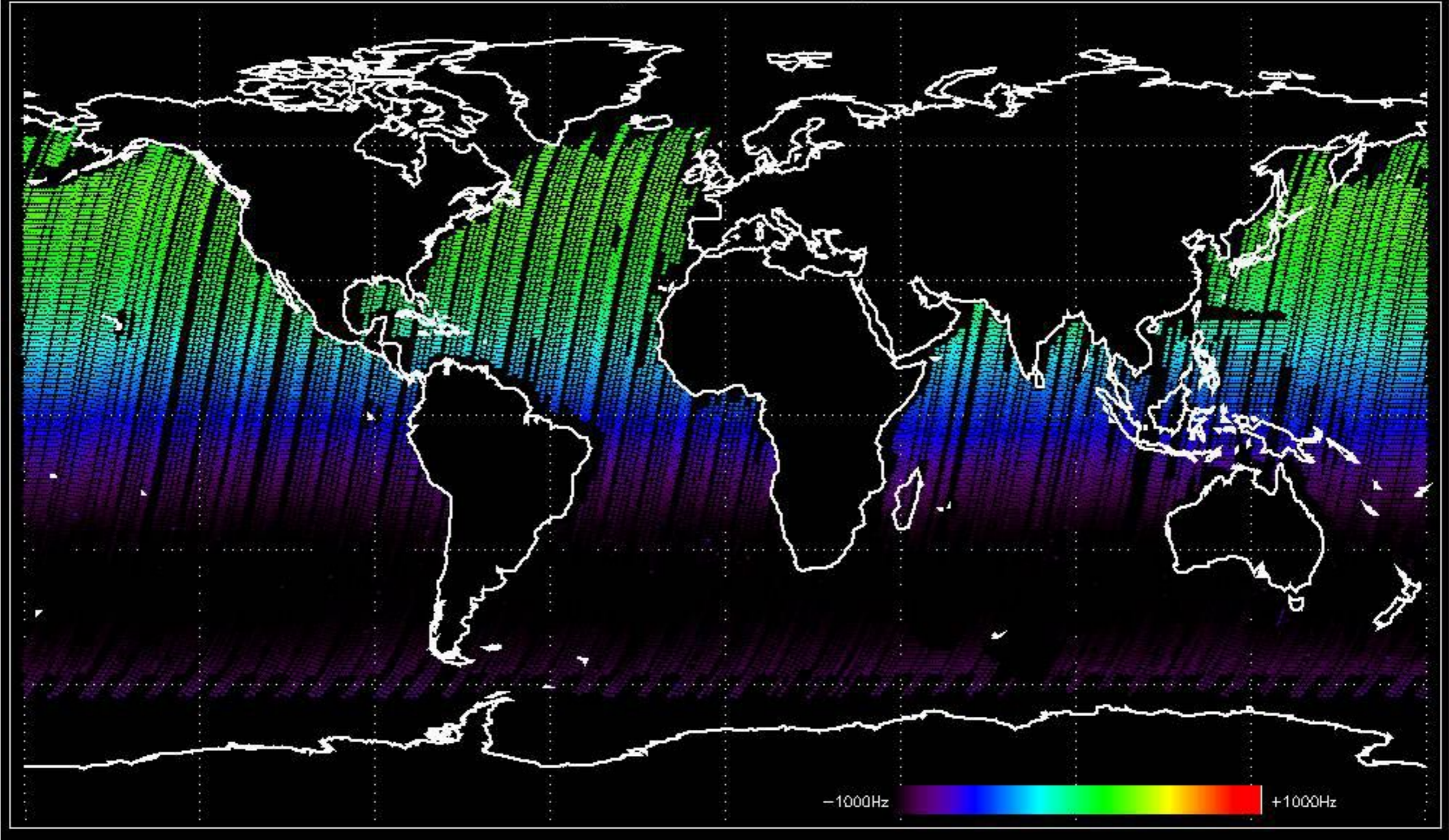
Doppler 'GM1' 'SS1' descending



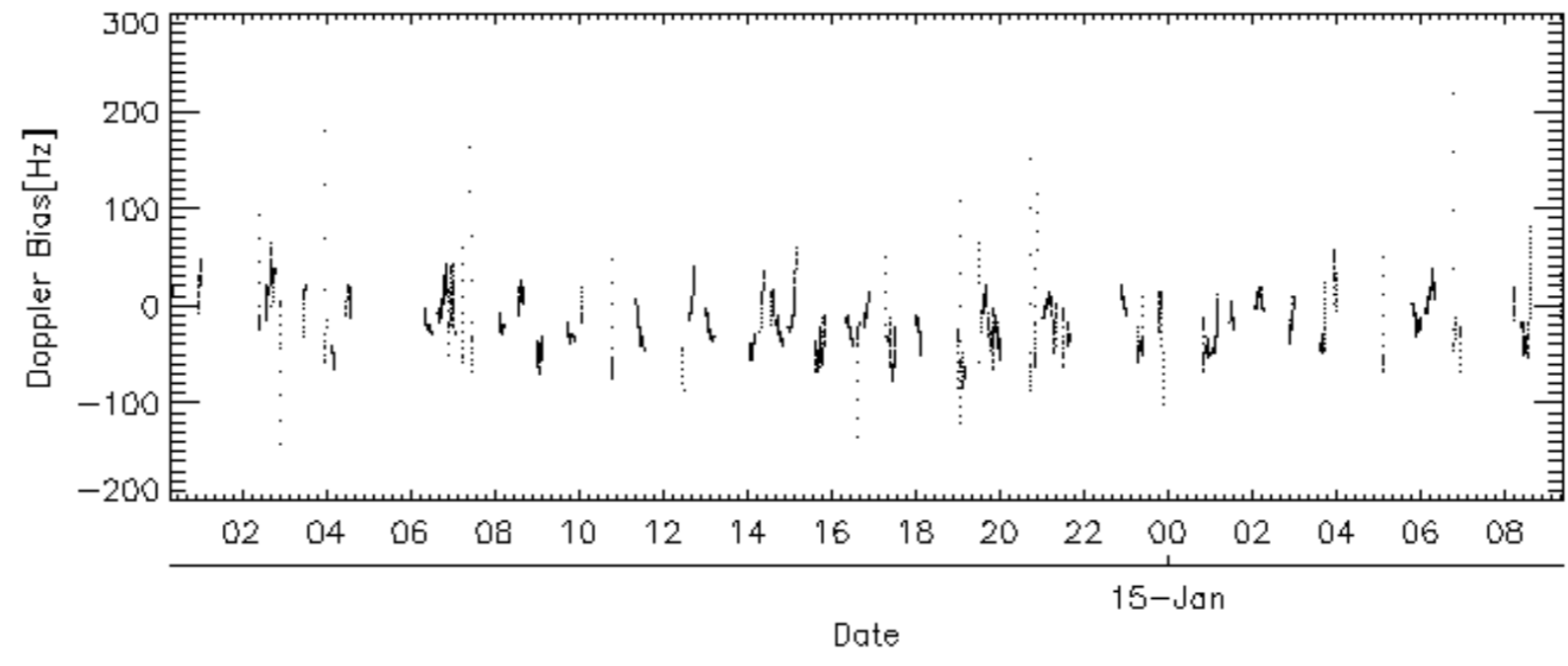
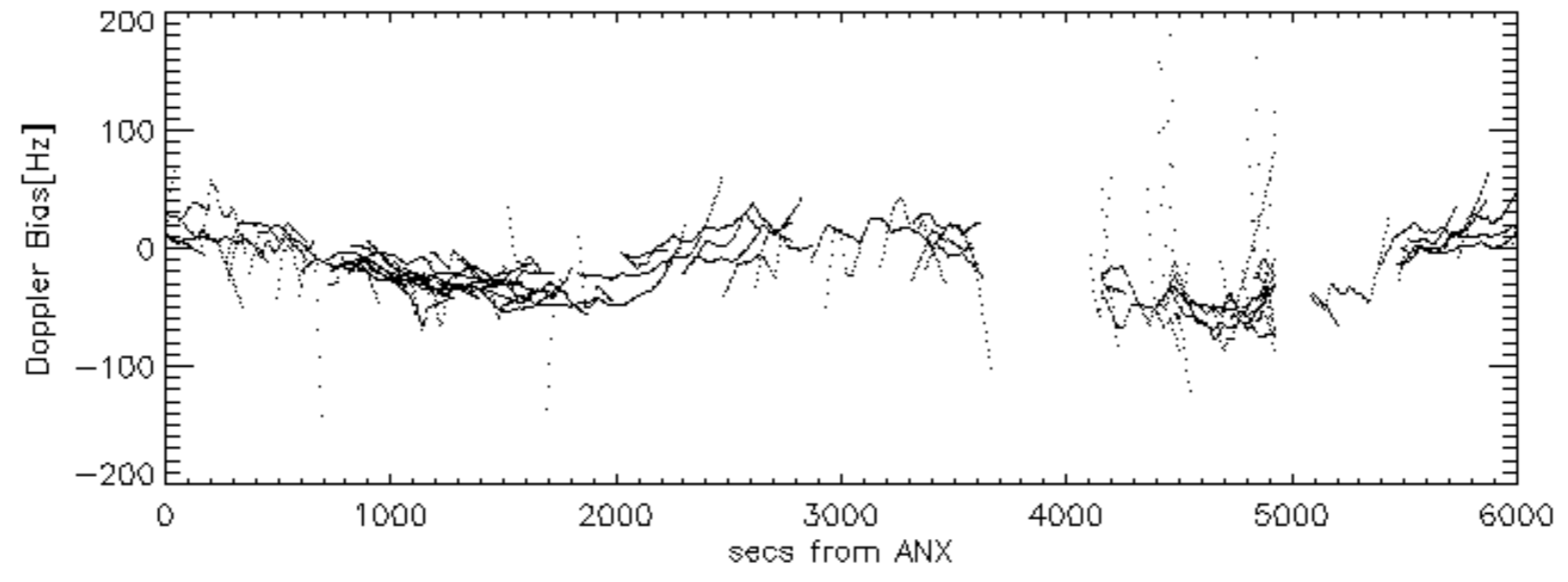
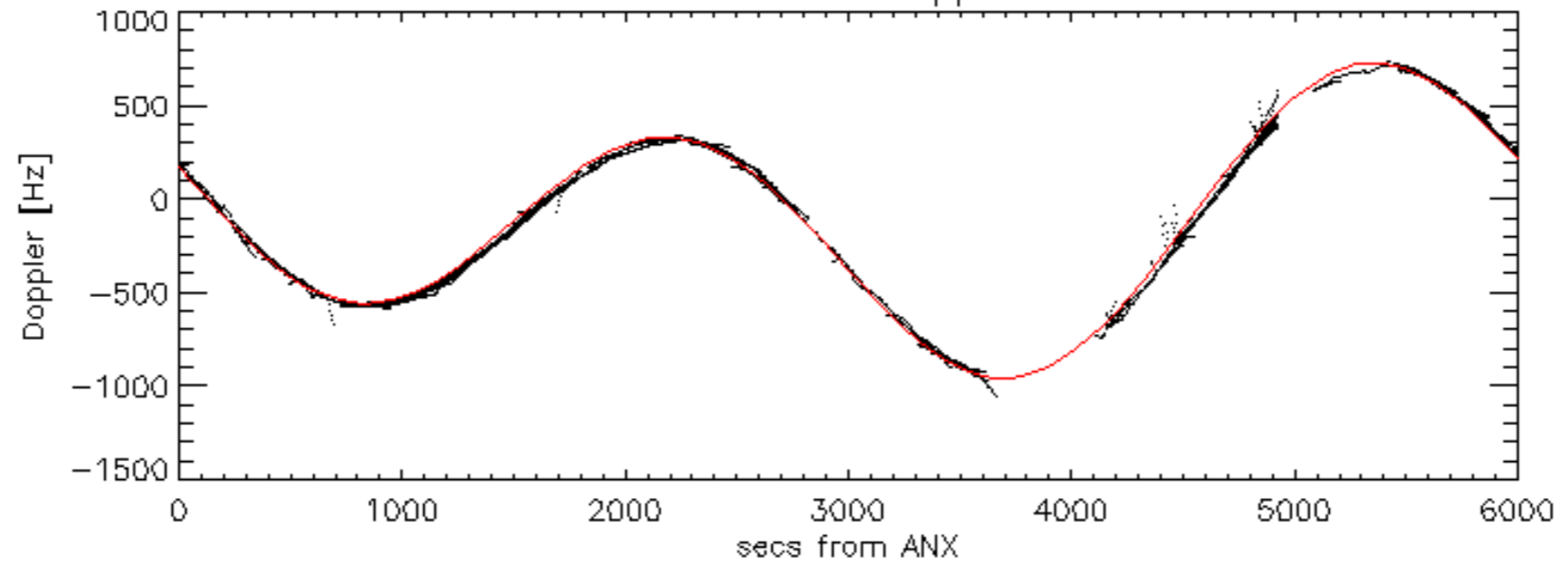
Doppler 'WVS' 'IS2' ascending

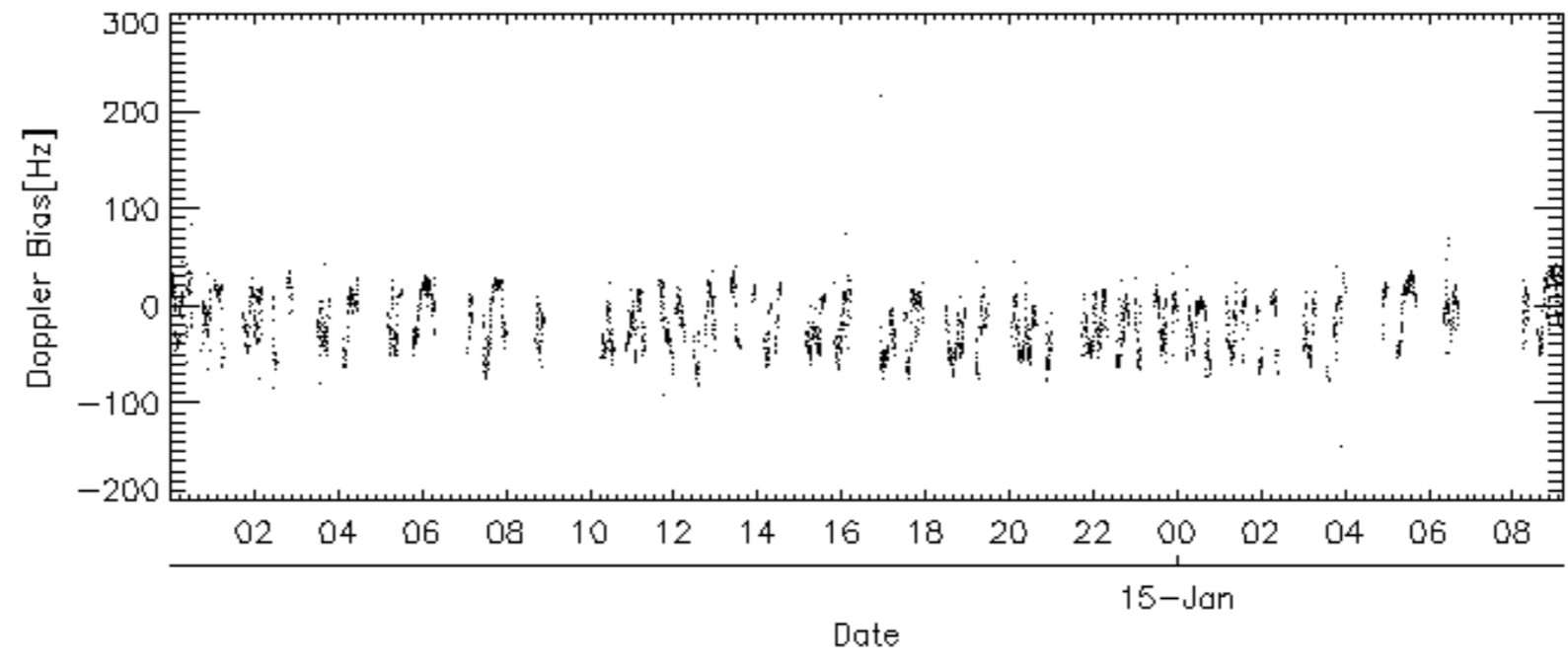
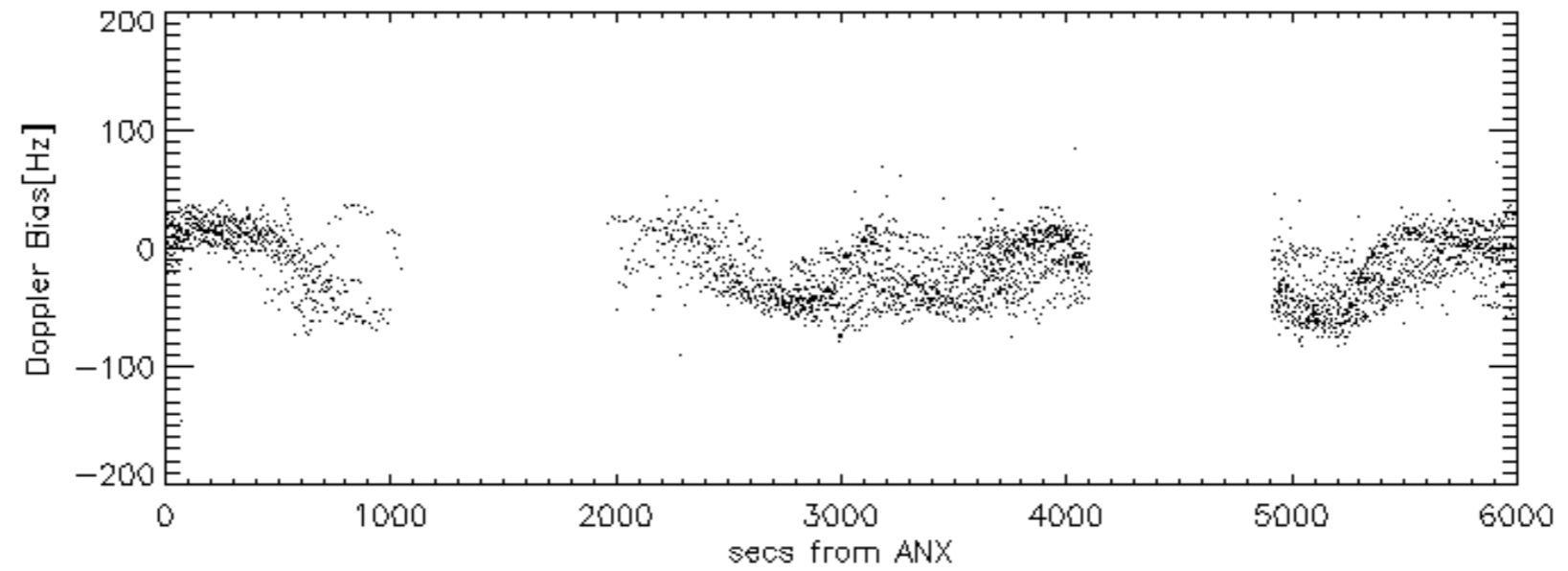
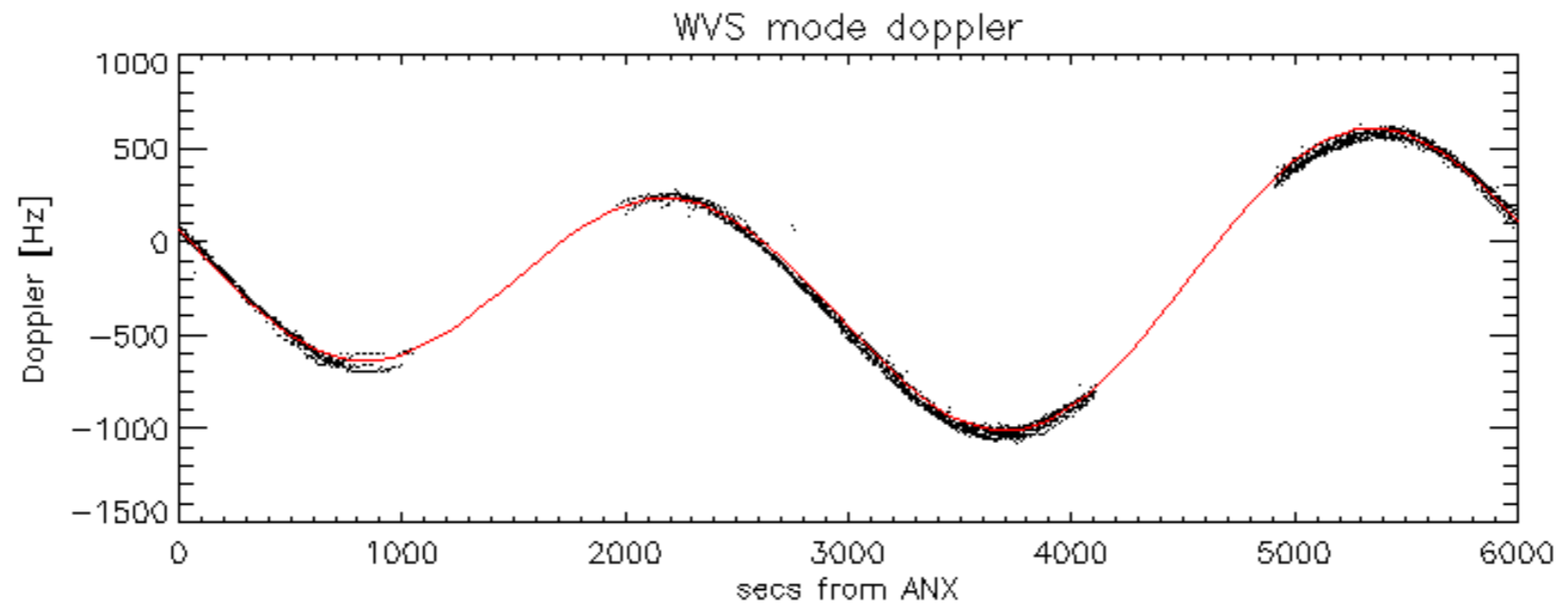


Doppler 'WVS' 'IS2' descending

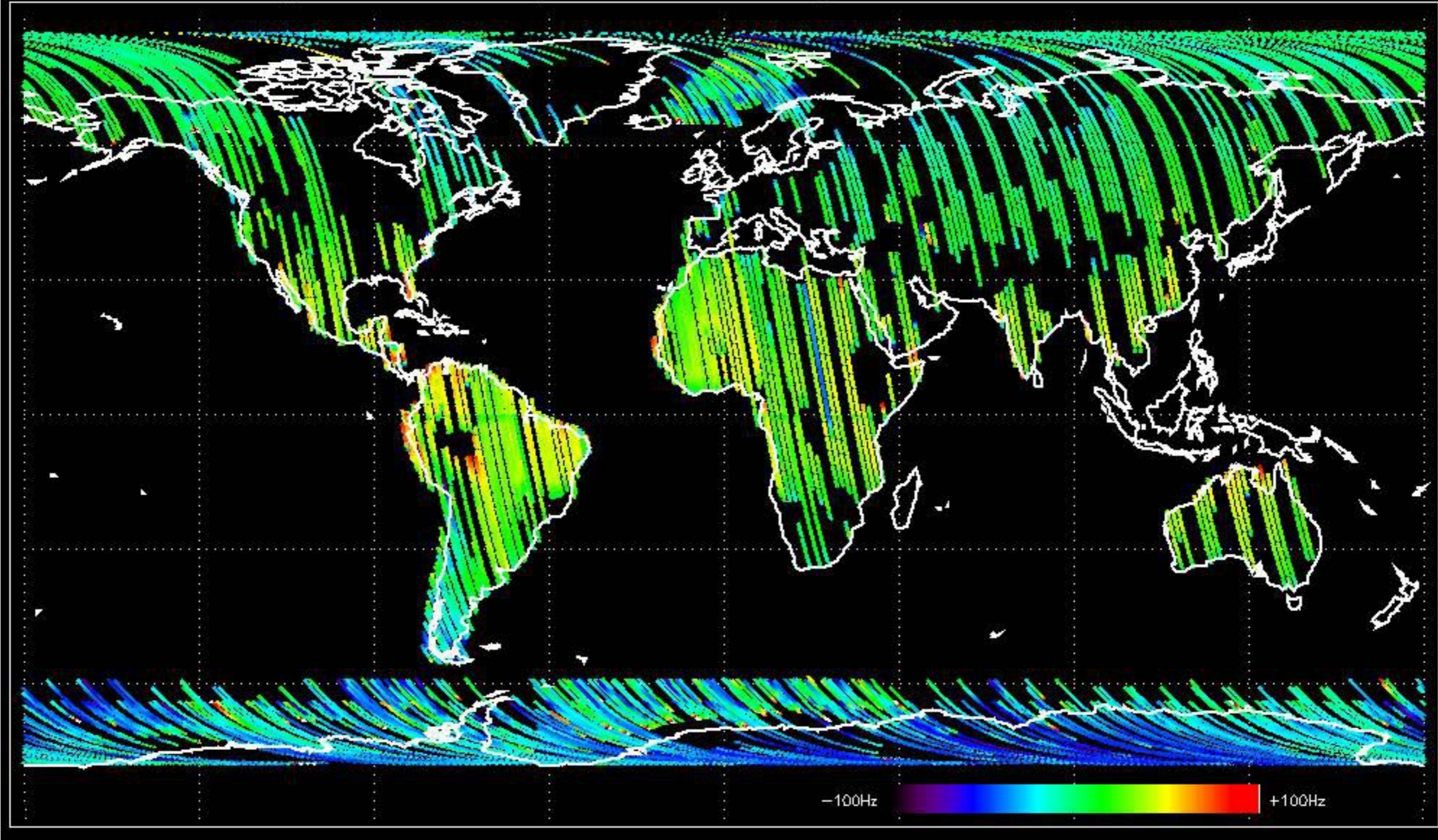


GM1 mode doppler

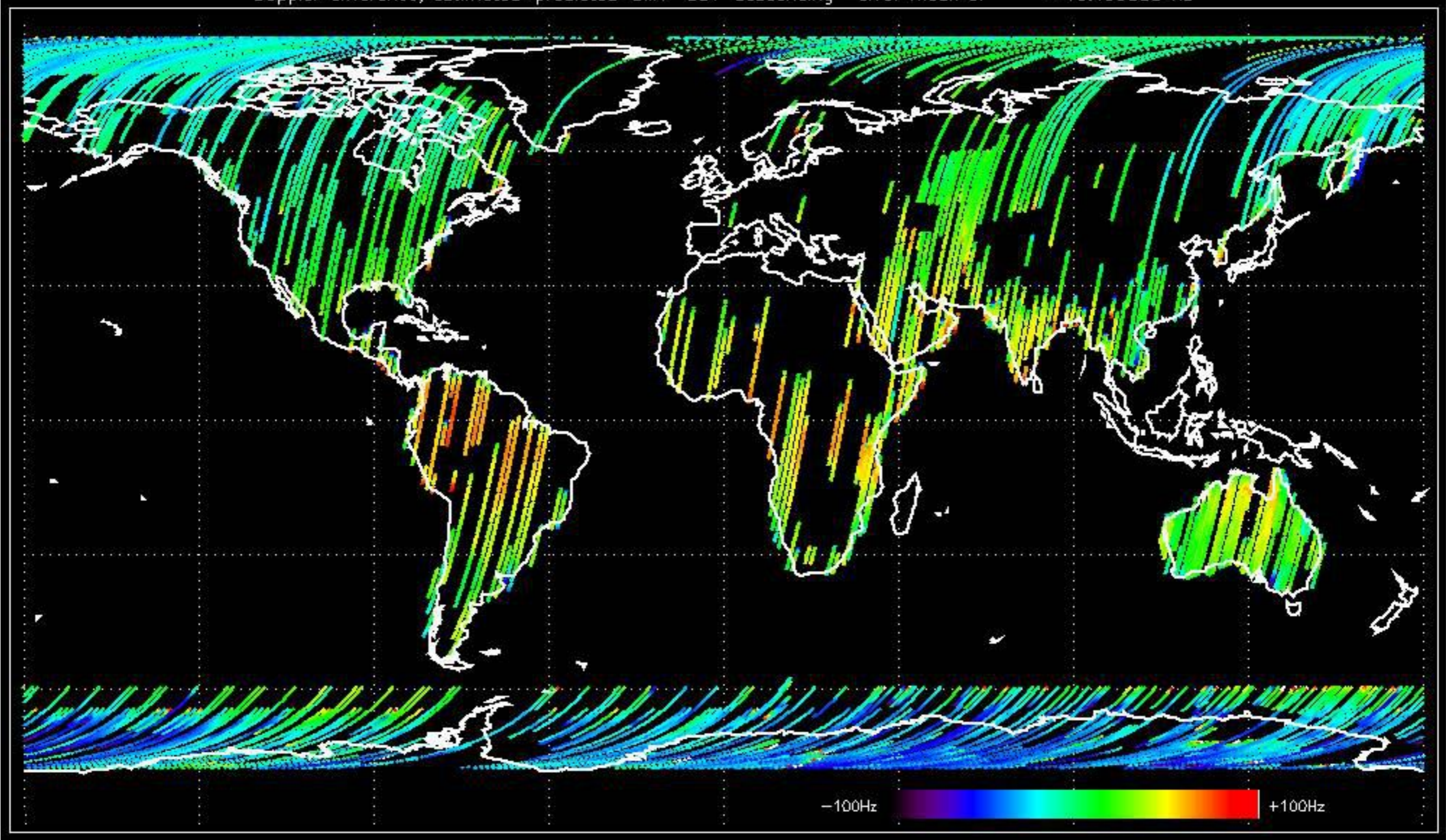




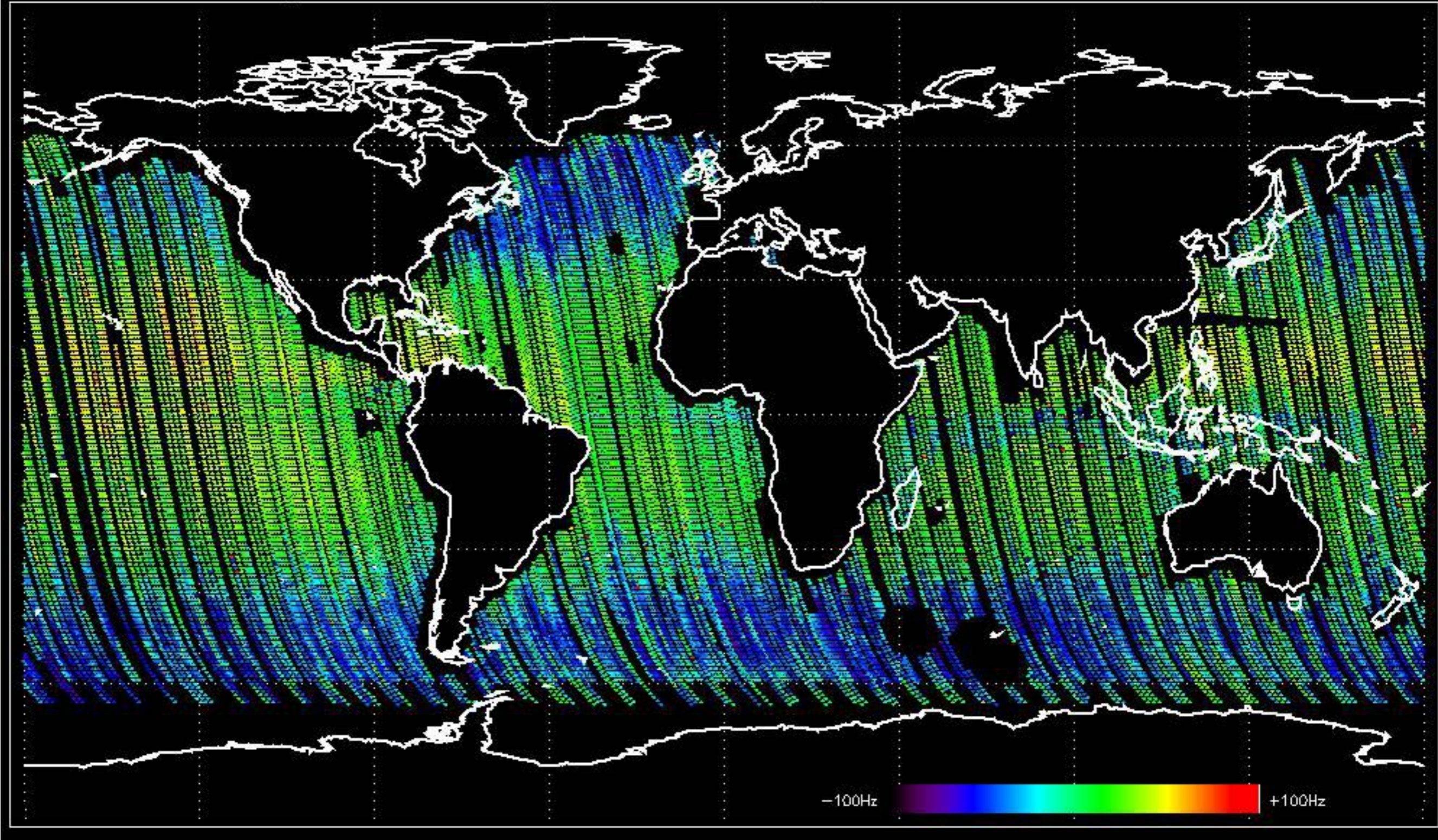
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -19.752551 Hz



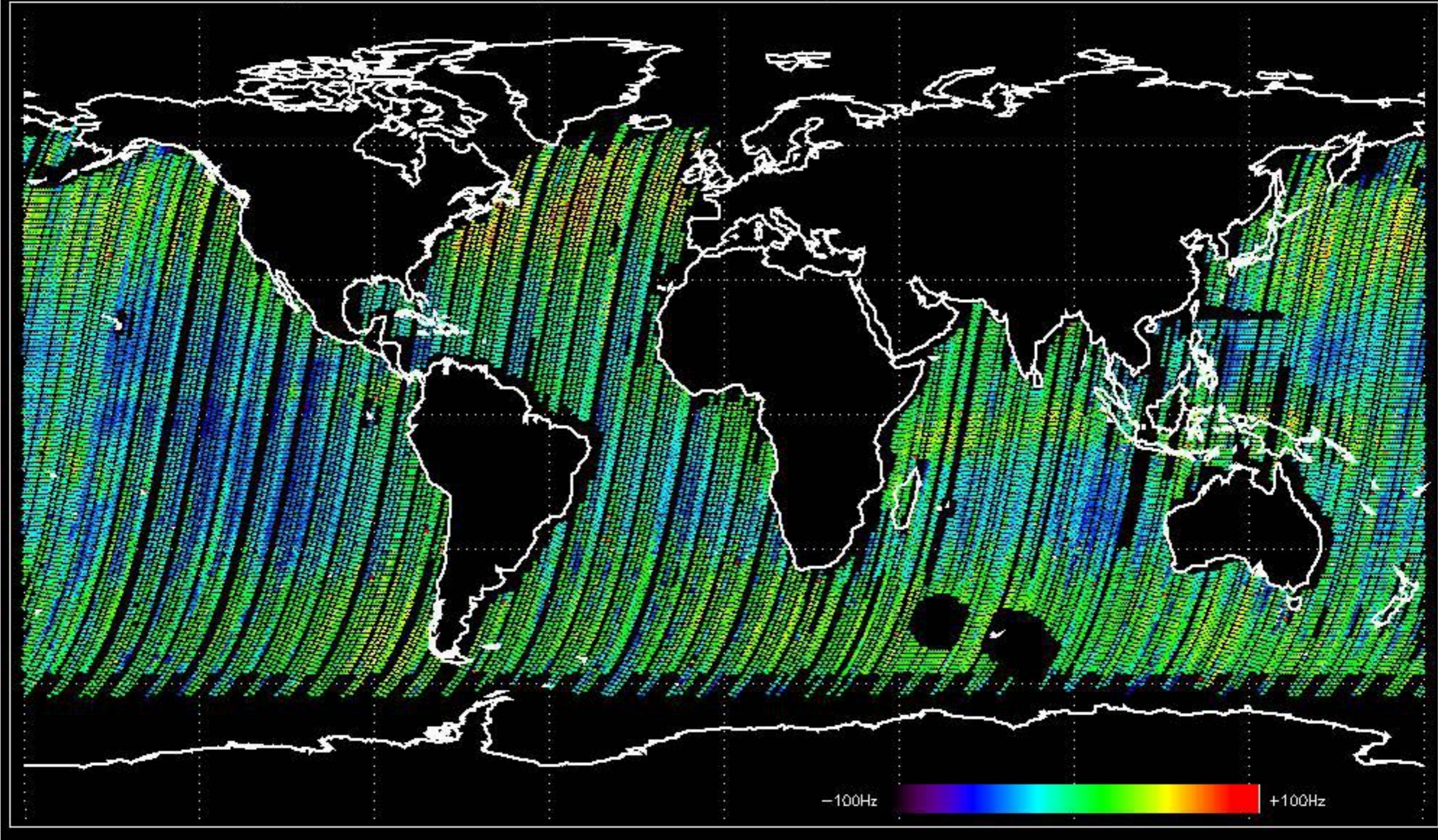
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -18.199588 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -11.613295 Hz

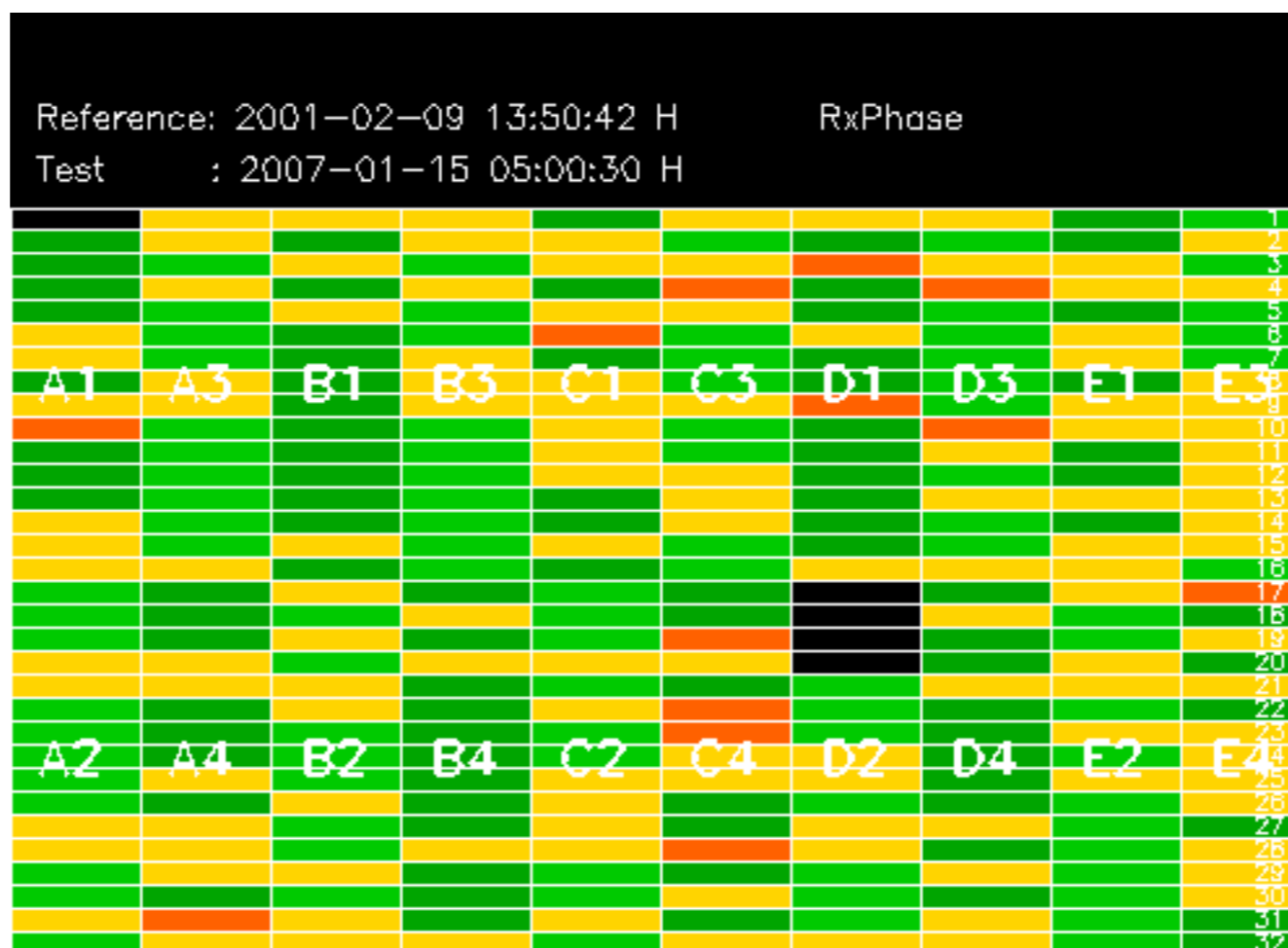


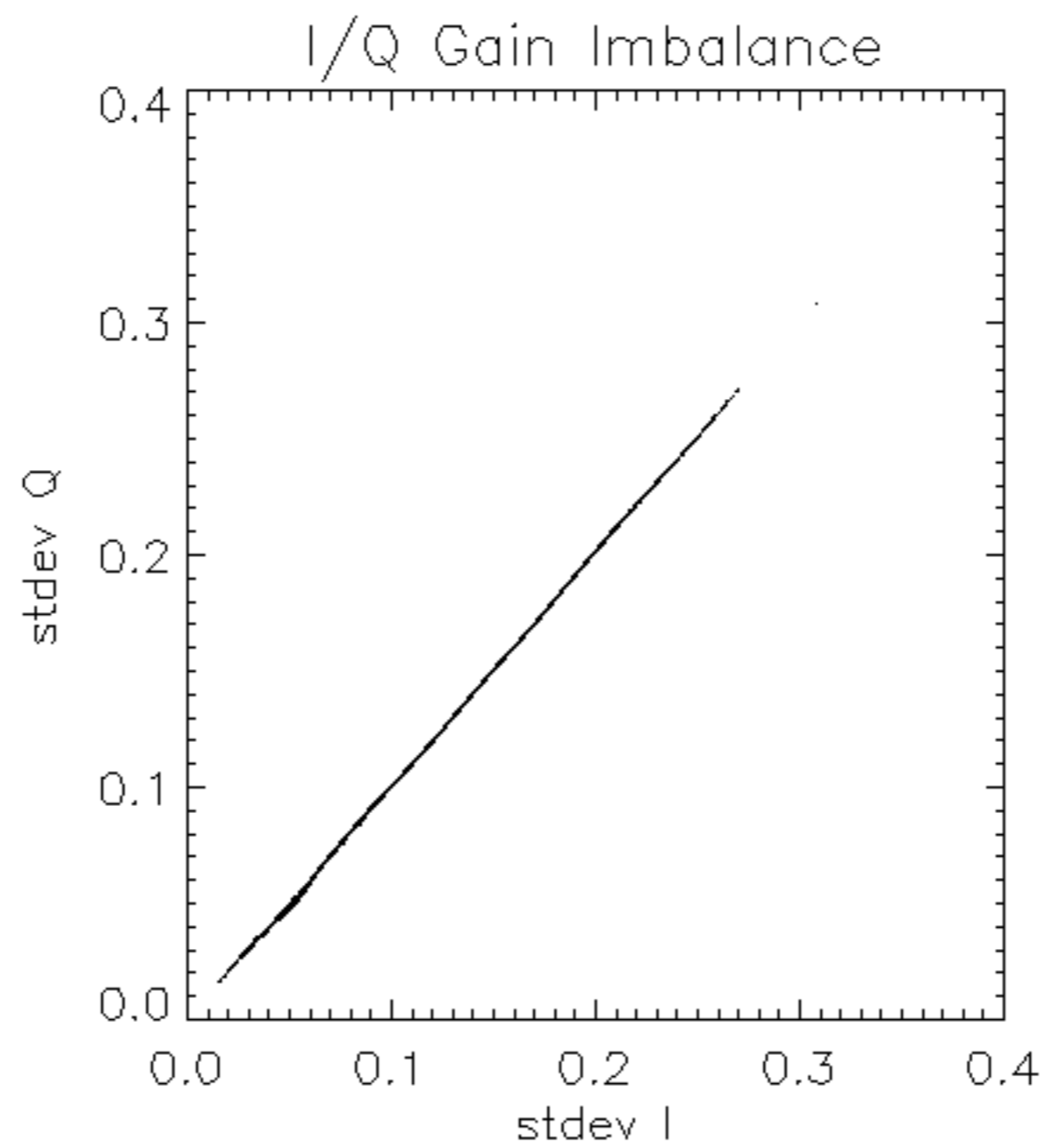
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -12.433224 Hz

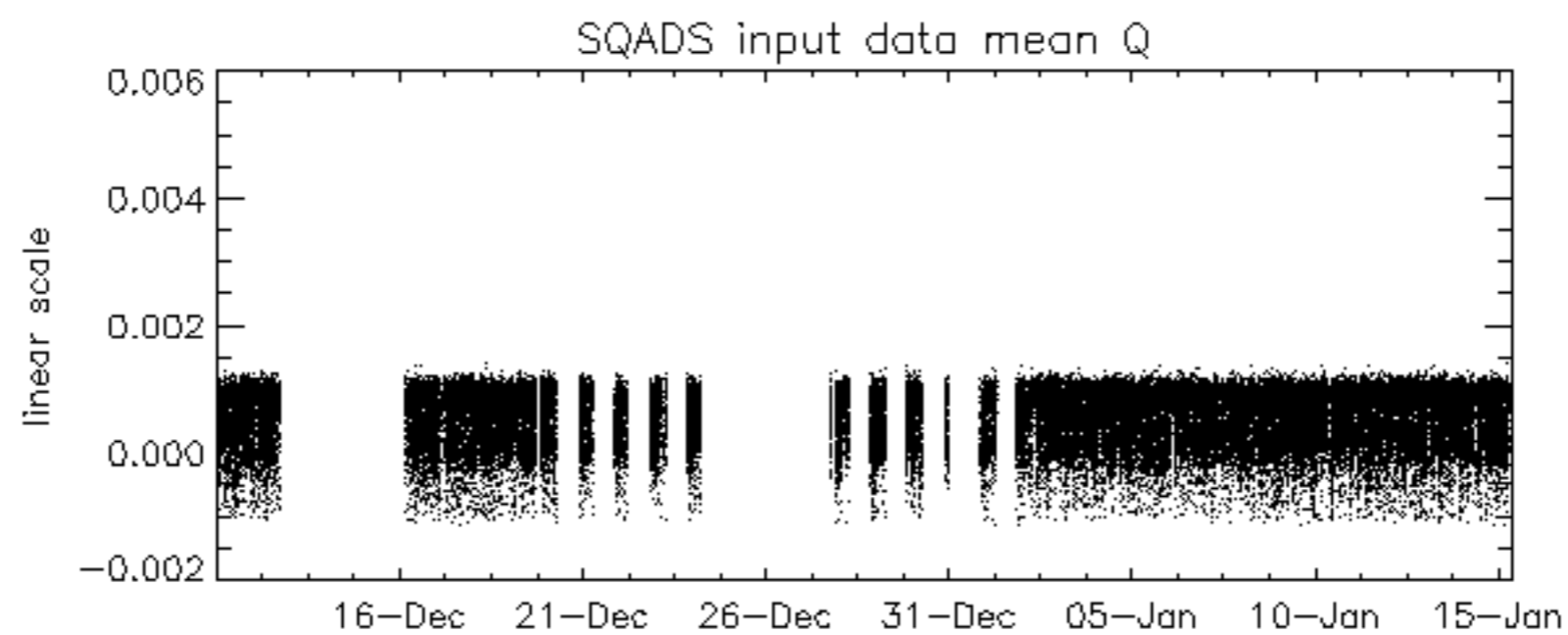
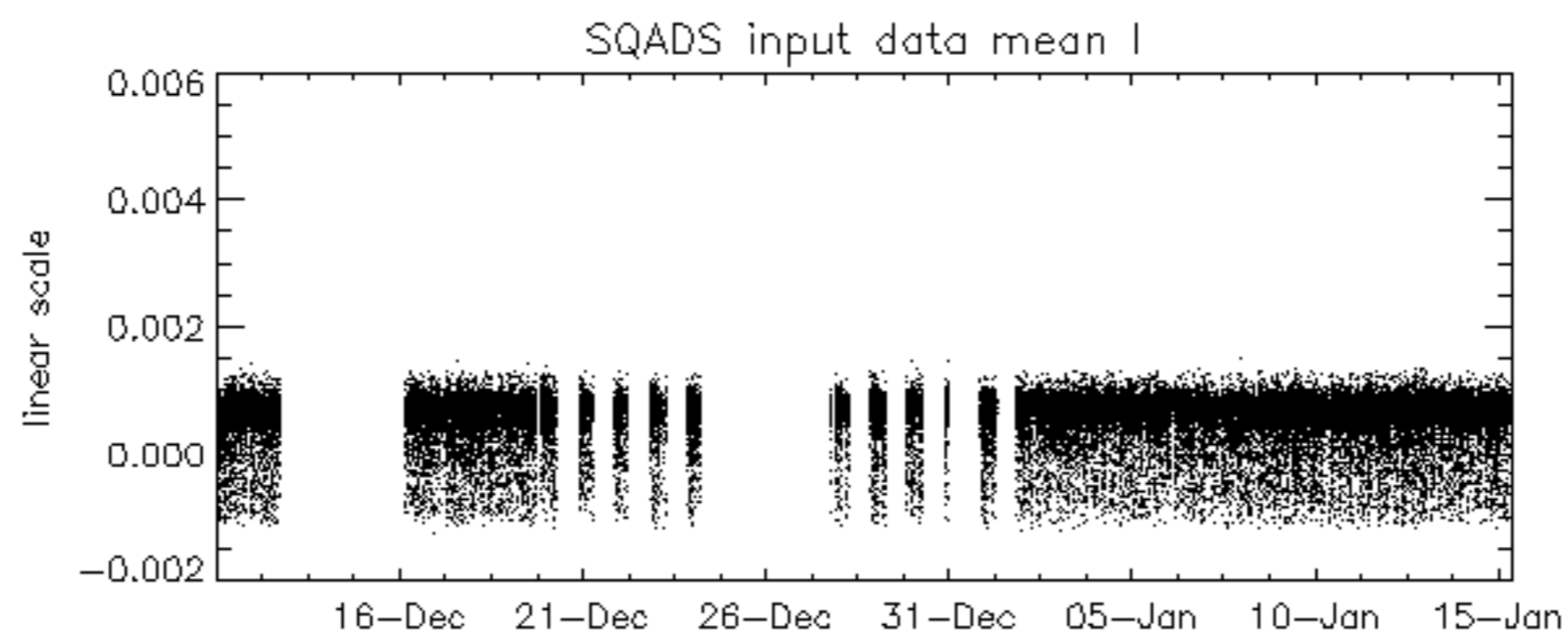
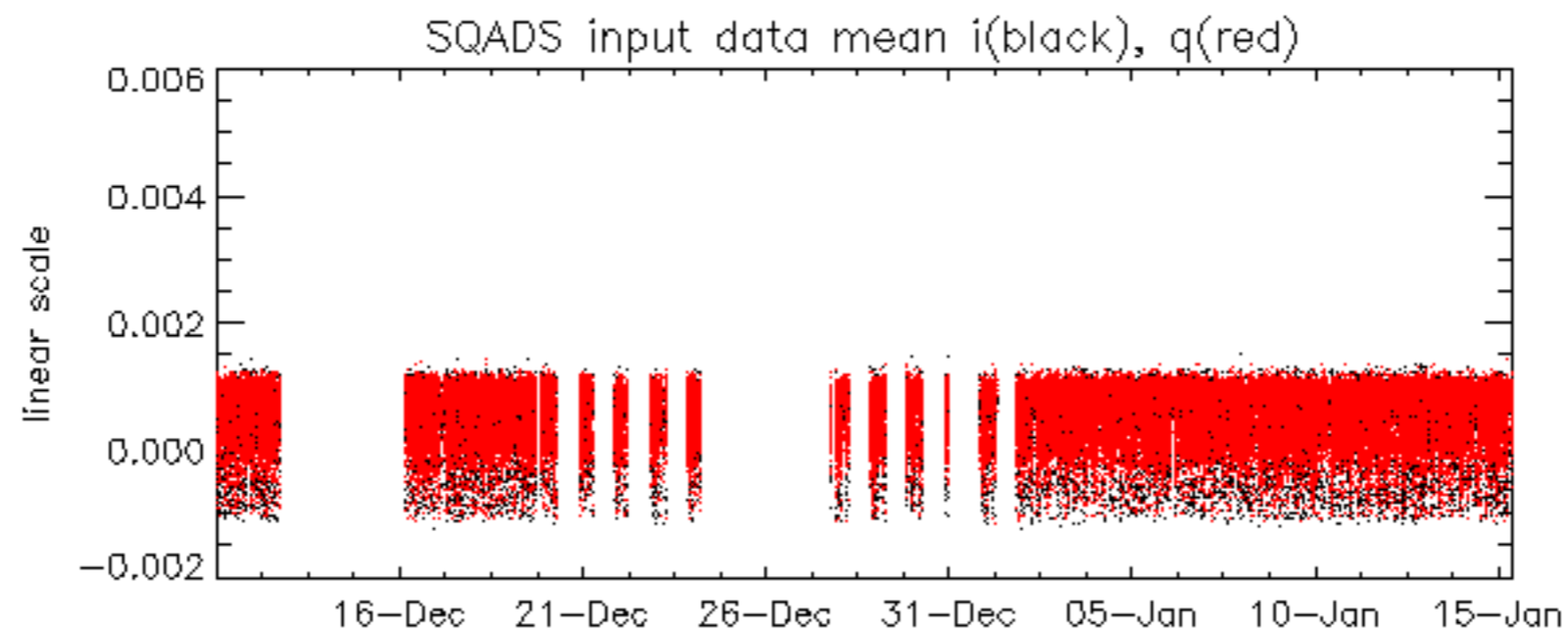


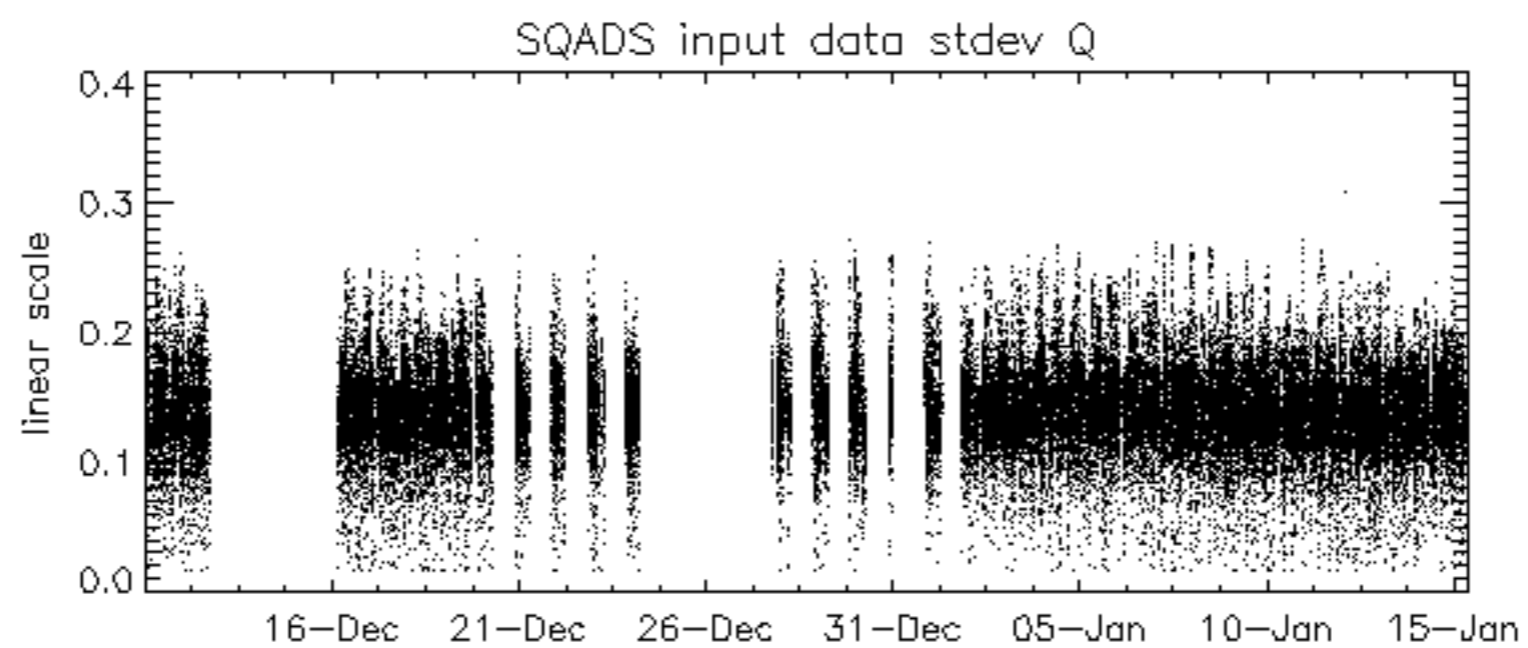
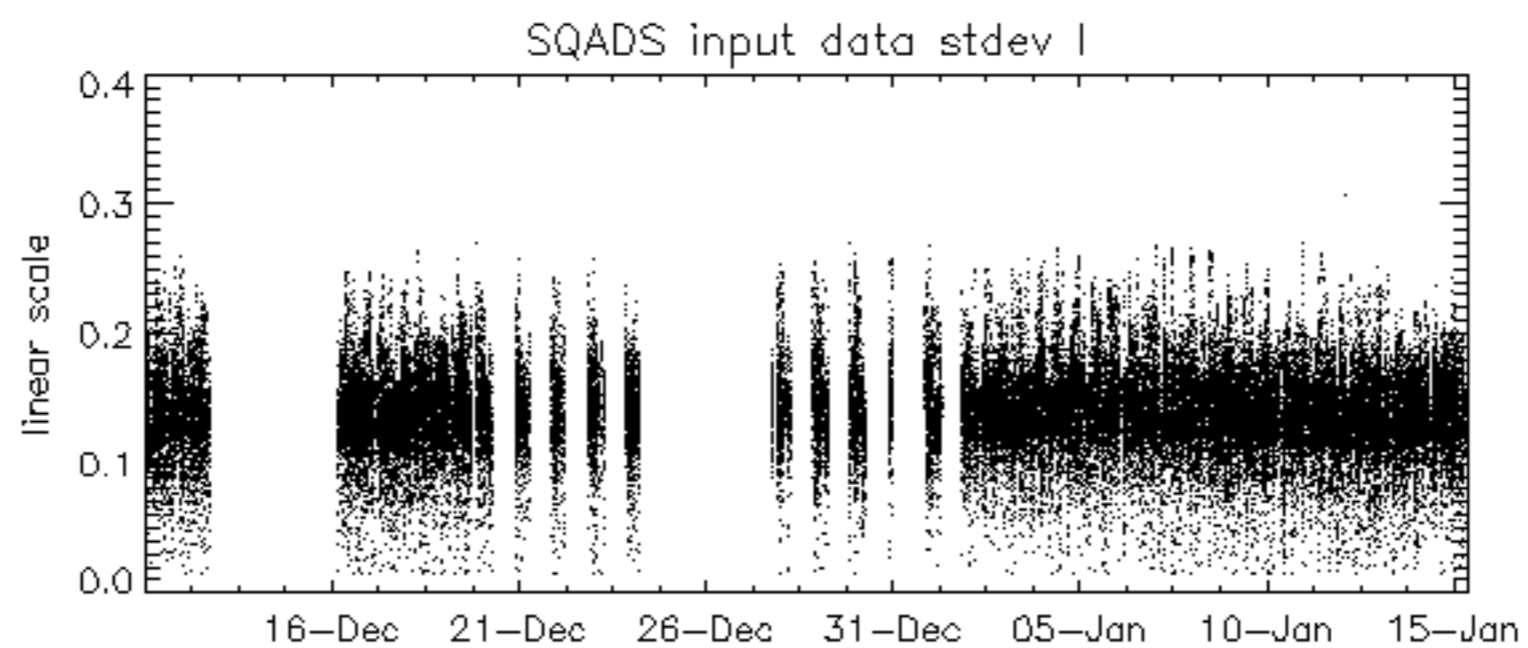
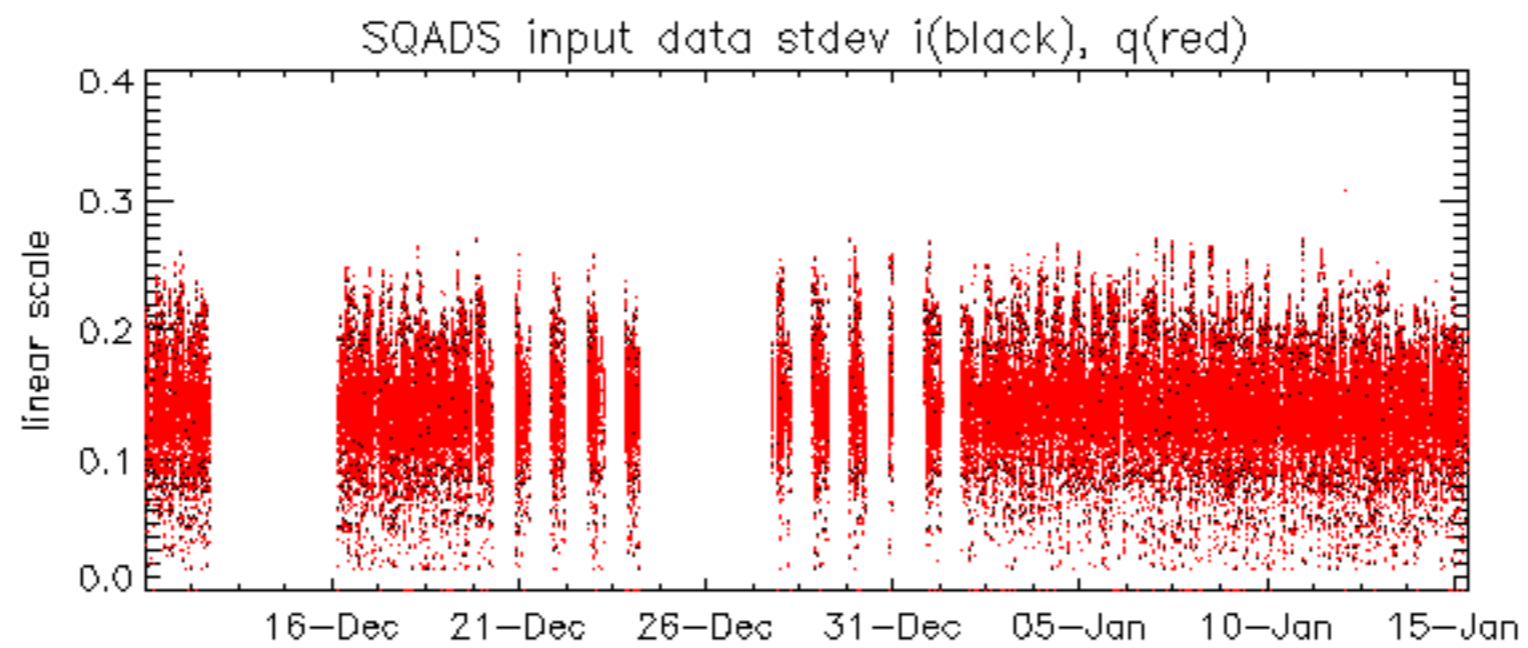
No anomalies observed on available MS products:

No anomalies observed.





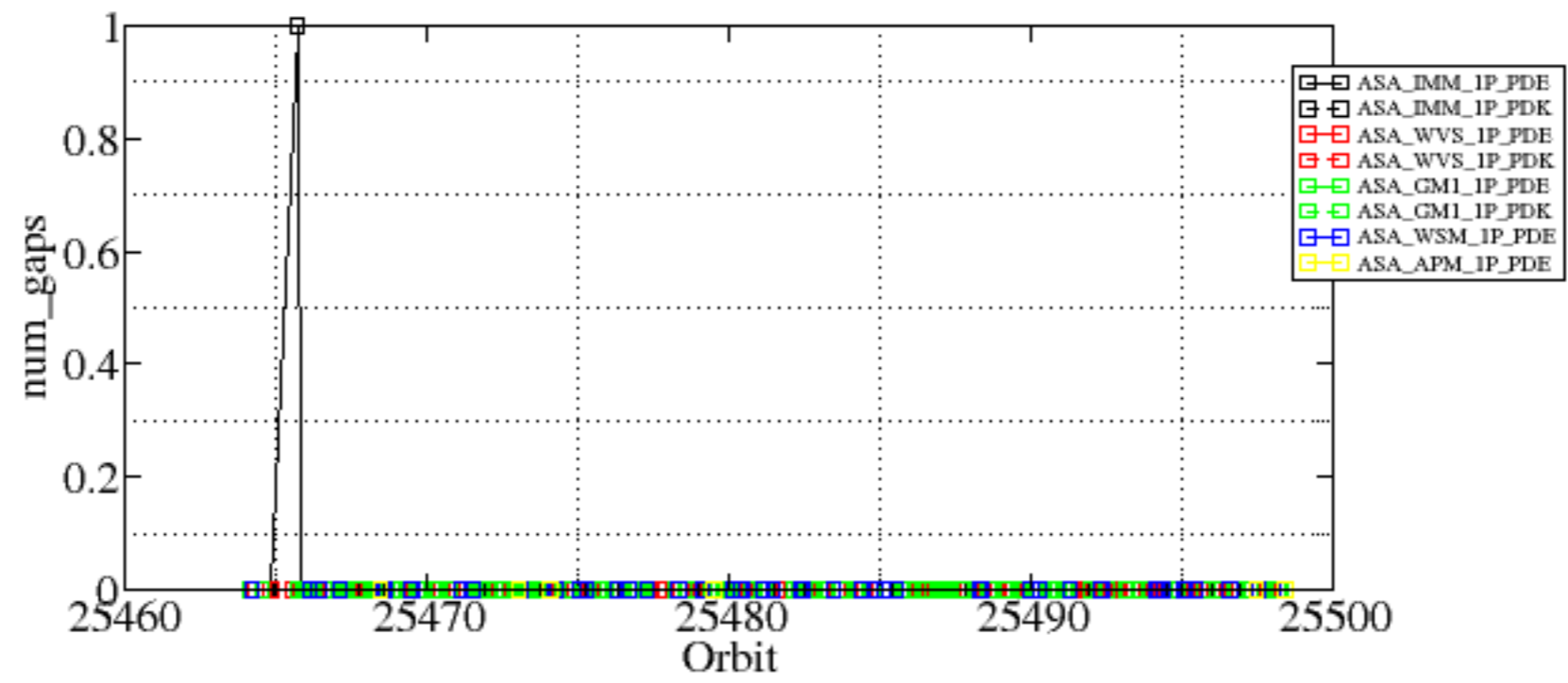




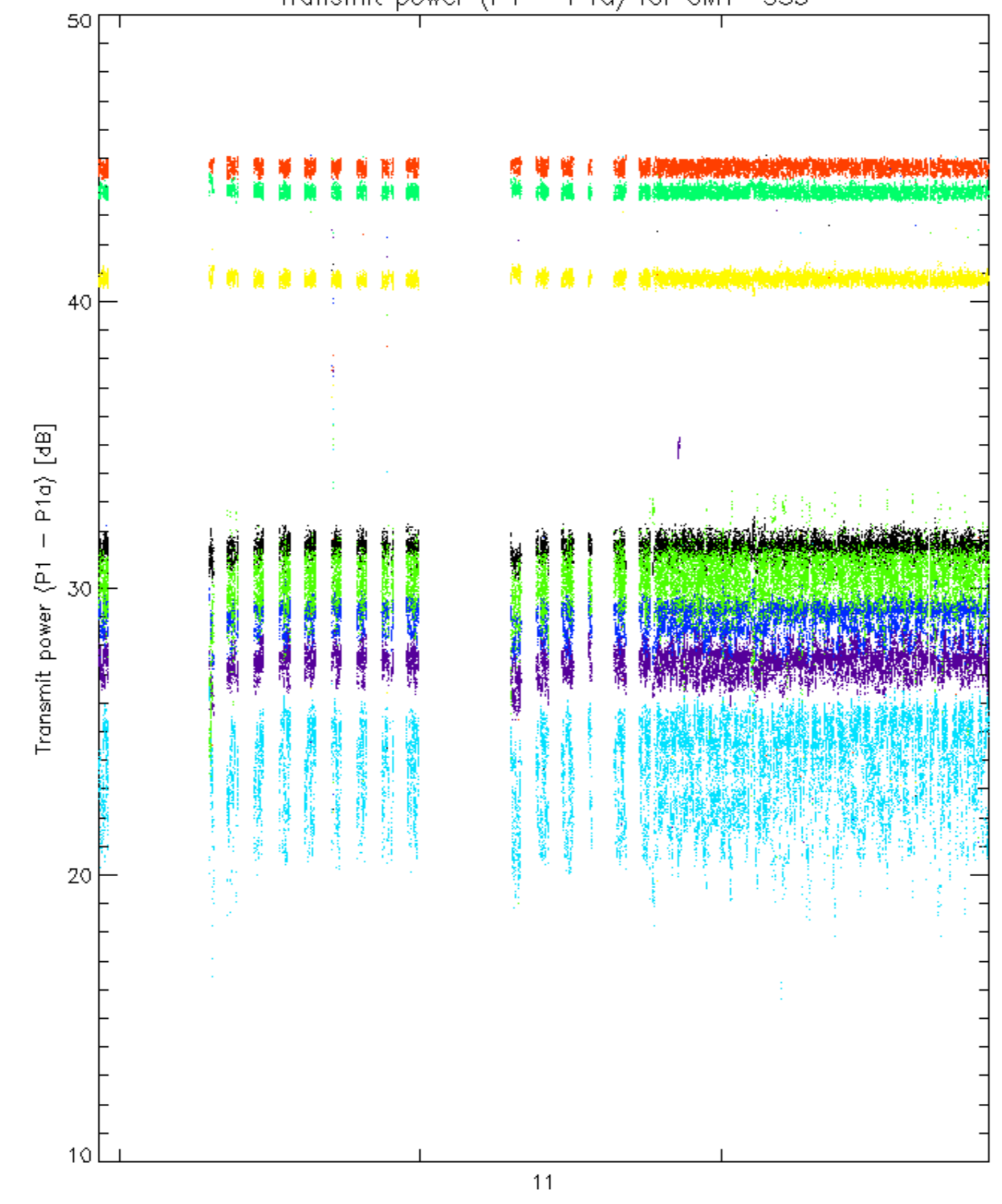
Summary of analysis for the last 3 days 2007011[345]

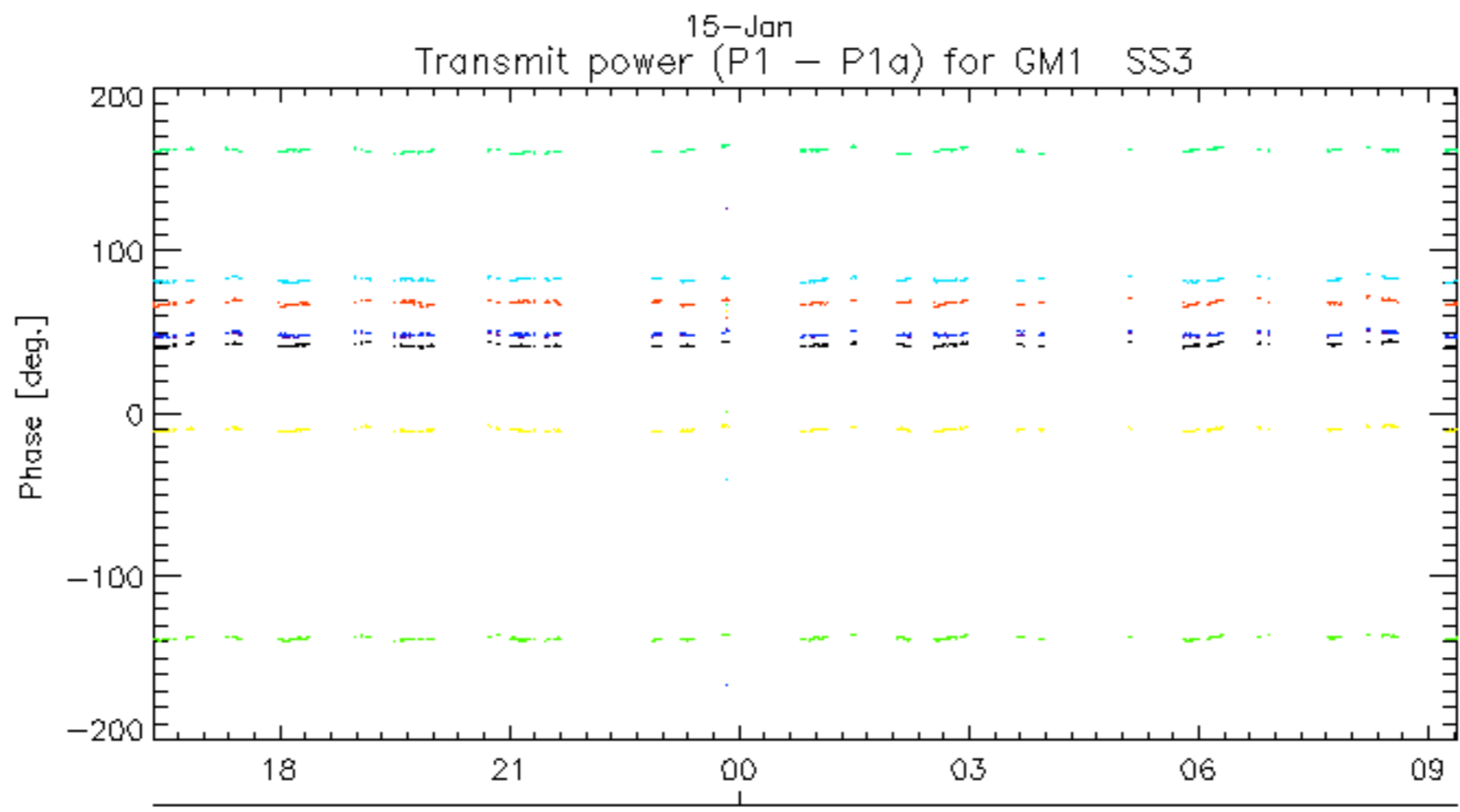
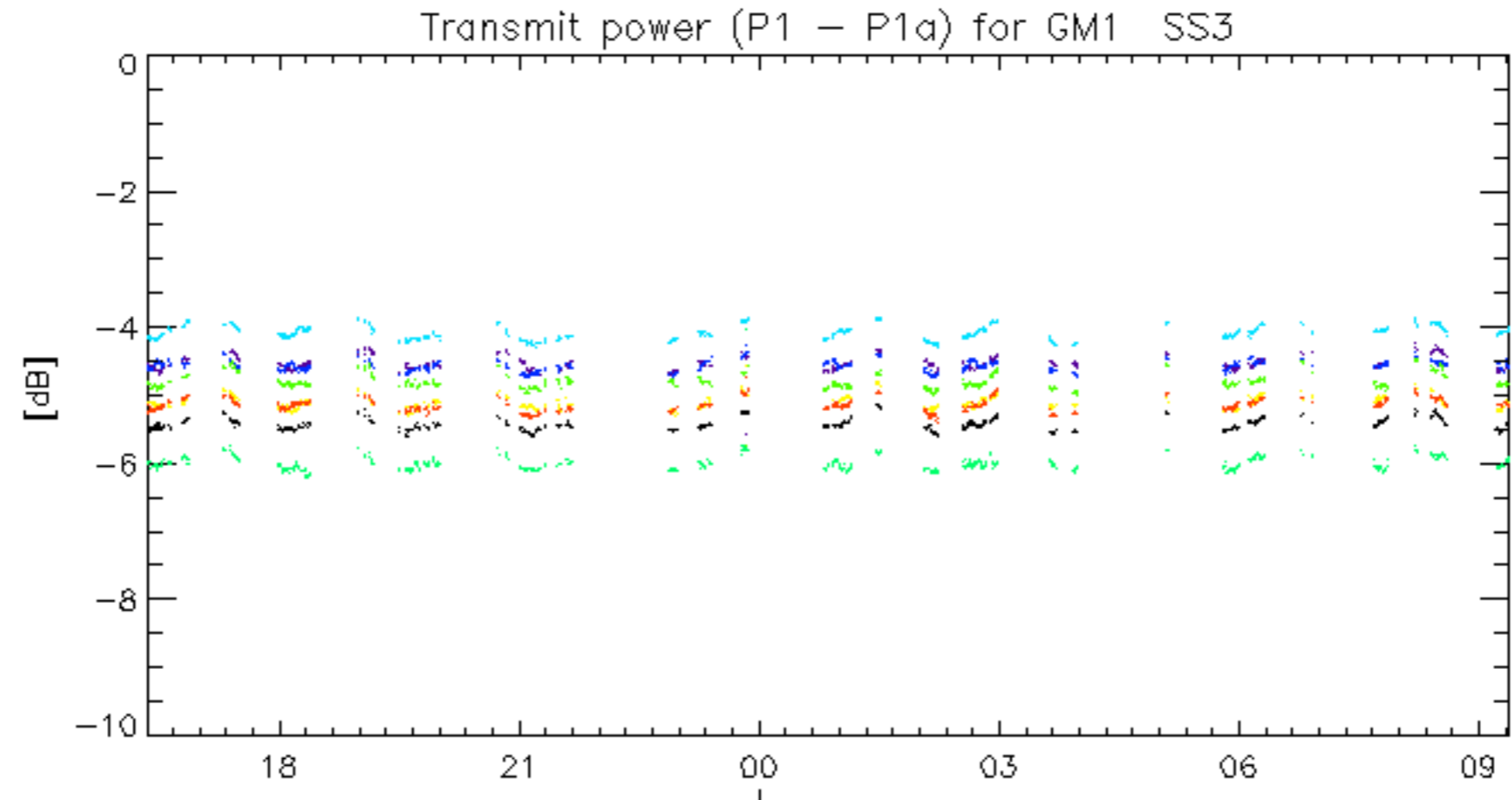
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20070113_024624_000001482054_00361_25465_5301.N1	1	1
ASA_IMM_1PNPDE20070113_182645_000000352054_00371_25475_5884.N1	0	17
ASA_GM1_1PNPDK20070115_091257_000003202054_00394_25498_7135.N1	0	7



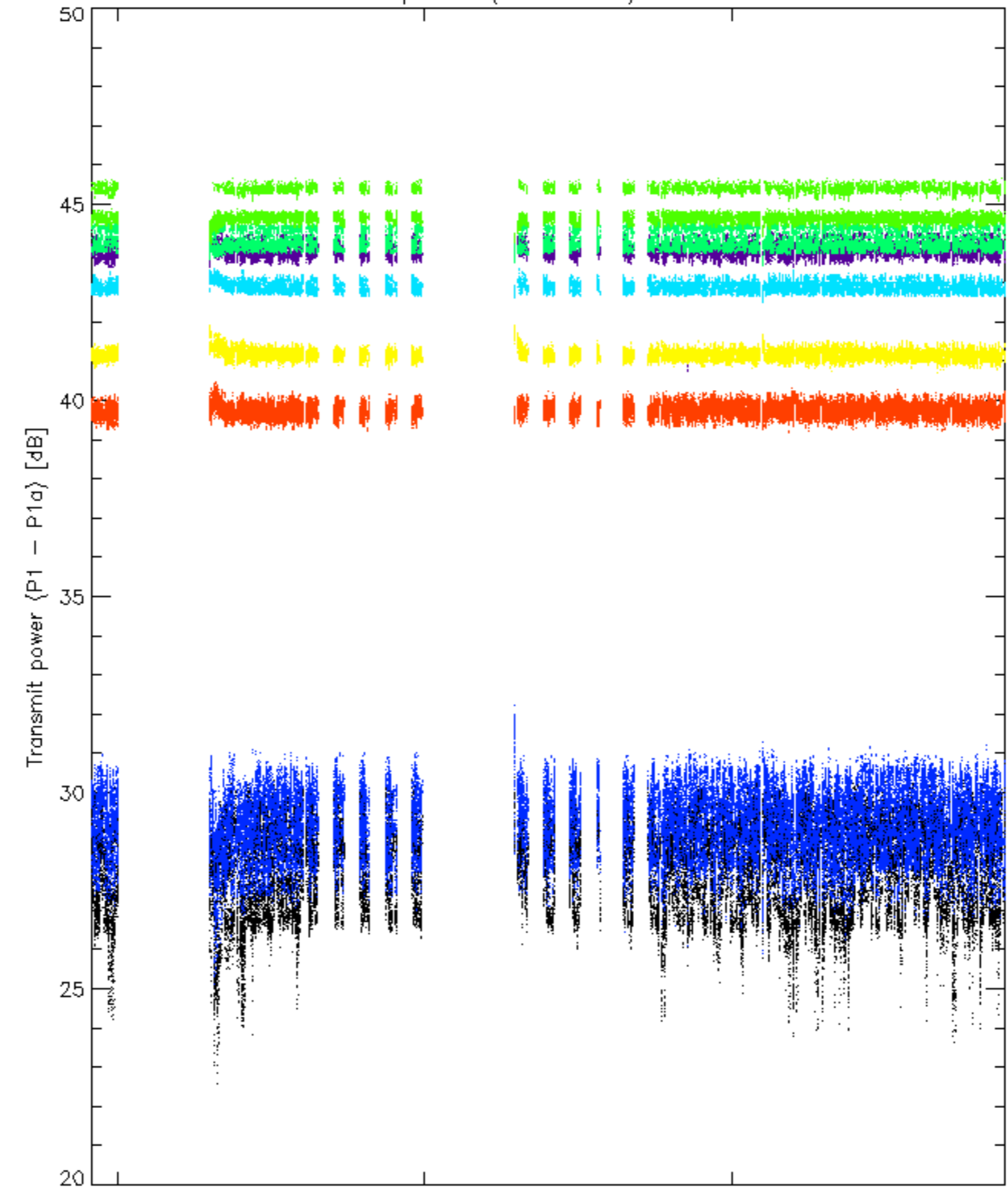
Transmit power (P1 - P1a) for GM1 SS3





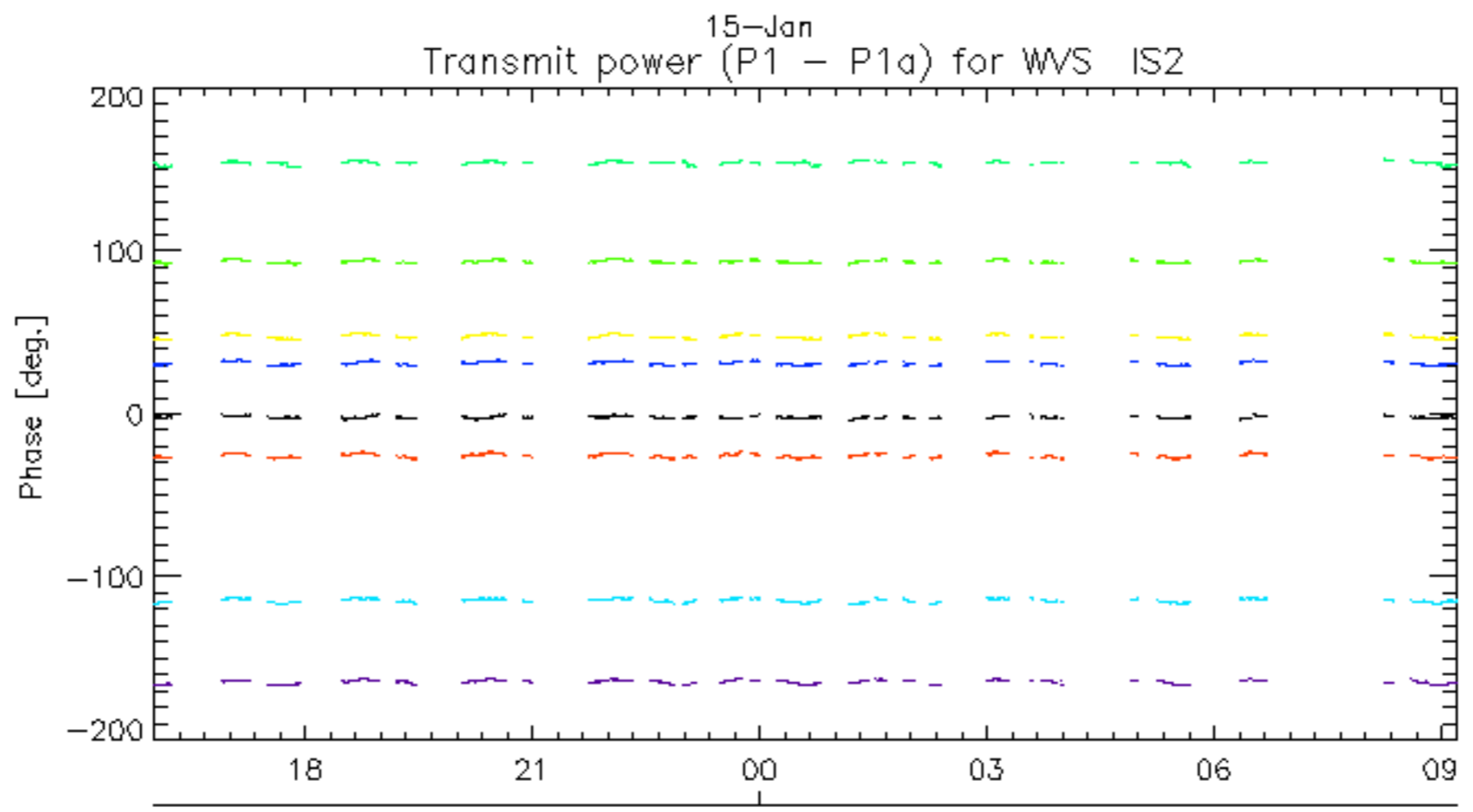
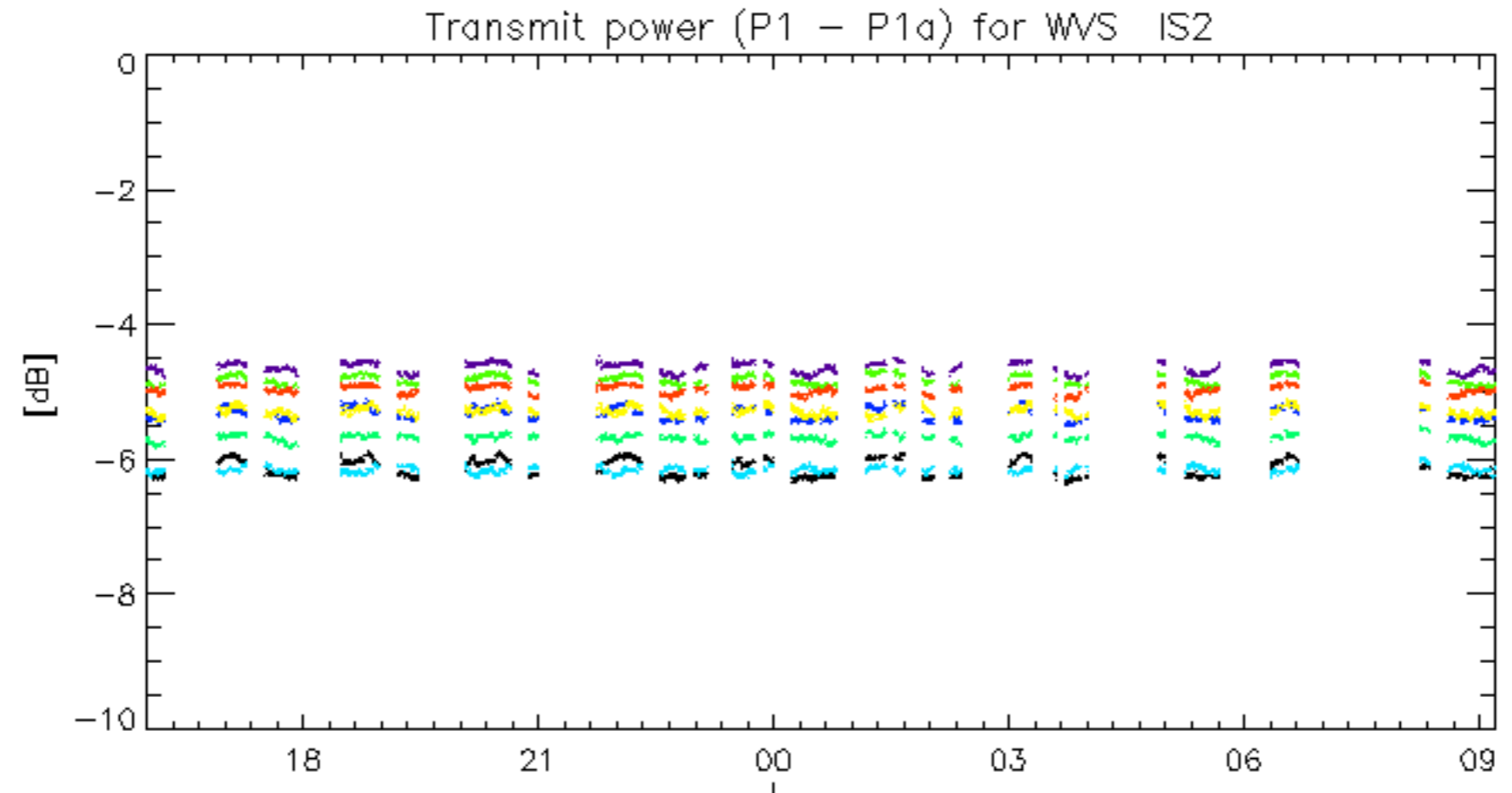
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Transmit power (P1 - P1a) for WVS IS2



11

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



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

No unavailabilities during the reported period.