

PRELIMINARY REPORT OF 070130

last update on Tue Jan 30 16:15:17 GMT 2007

Due to an ASAR test acquisition campaign, the daily analysis on WVS products will be based on IS4 instead of IS2 during the following periods:

From orbit 25621 (23-Jan-2007) to 25720 (30-Jan-2007) in HH polarization
From orbit 26122 (27-Feb-2007) to 26221 (06-Mar-2007) in HH polarization
From orbit 25721 (30-Jan-2007) to 25820 (06-Feb-2007) in VV polarization
From orbit 26222 (06-Mar-2007) to 26321 (13-Mar-2007) in VV polarization

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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 2007-01-29 00:00:00 to 2007-01-30 16:15:17

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	38	64	6	3	21
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	38	64	6	3	21
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	38	64	6	3	21
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	38	64	6	3	21

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20061107_090002_20050916_195733_20071231_000000	46	53	41	16	59
ASA_XCA_AXVIEC20061221_143253_20050916_195733_20071231_000000	46	53	41	16	59
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	46	53	41	16	59
ASA_INS_AXVIEC20061220_105425_20030211_000000_20071231_000000	46	53	41	16	59

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	20070130 085026
H	20070129 092202

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

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☒

4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1

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☒

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)
3	P1a	-11.686784	0.045172	0.571133
7	P1a	-10.006898	0.041980	0.059893
11	P1a	-10.516440	0.055181	-0.279926
15	P1a	-10.784784	0.116787	-0.669417
19	P1a	-15.795220	0.064180	0.018290
22	P1a	-21.500517	1.916470	1.226271
26	P1a	-15.563133	0.363151	0.446275
30	P1a	-18.151175	0.292759	-0.403856

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-4.330388	0.181217	-6.502965
7	P1	-2.542039	0.005243	0.039415
11	P1	-2.956552	0.011496	-0.066844
15	P1	-3.750484	0.020805	-0.206875
19	P1	-3.617215	0.014548	-0.085827
22	P1	-5.096692	0.019539	-0.078838
26	P1	-5.987638	0.021336	-0.053679
30	P1	-5.317578	0.042085	0.271149

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.212727	0.092432	-0.071651
7	P2	-22.106678	0.132714	0.045524
11	P2	-10.988797	0.079856	0.064371
15	P2	-5.153516	0.102149	0.038117

19	P2	-7.279546	0.085461	-0.011034
22	P2	-8.343927	0.080875	-0.011497
26	P2	-24.341946	0.071564	-0.133704
30	P2	-21.703453	0.076121	0.045325

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.226125	0.007500	-0.007978
7	P3	-8.226125	0.007500	-0.007978
11	P3	-8.226125	0.007500	-0.007978
15	P3	-8.226125	0.007500	-0.007978
19	P3	-8.226125	0.007500	-0.007978
22	P3	-8.226125	0.007500	-0.007978
26	P3	-8.226125	0.007500	-0.007978
30	P3	-8.226125	0.007500	-0.007978

4.2.2 - Evolution for GM1

Evolution of cal pulses for GM1



P1a Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1a	-11.735881	0.047271	0.658334
7	P1a	-10.016149	0.038902	0.471428
11	P1a	-10.480932	0.057787	0.359937
15	P1a	-10.817729	0.131066	-0.051650
19	P1a	-15.746643	0.062876	-0.424163
22	P1a	-21.036175	1.447687	1.039974
26	P1a	-15.523198	0.260839	-0.467755
30	P1a	-18.301388	0.363017	-0.137267

P1t Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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3	P1	-4.163916	0.159290	-5.115830
7	P1	-2.439994	0.006091	0.111547
11	P1	-2.848399	0.016064	0.255031
15	P1	-3.766030	0.032078	0.084834
19	P1	-3.547823	0.014111	-0.130670
22	P1	-5.022939	0.023961	0.144236
26	P1	-6.000250	0.022149	-0.371709
30	P1	-5.294882	0.026012	-0.187482

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.291691	0.031345	-0.395275
7	P2	-22.039850	0.048477	-0.546277
11	P2	-10.703318	0.030716	-0.478553
15	P2	-4.846220	0.027708	-0.290305
19	P2	-6.847956	0.028089	-0.404760
22	P2	-8.151851	0.028796	-0.366545
26	P2	-24.260460	0.031570	-0.455920
30	P2	-21.803057	0.034401	-0.062832

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.057550	0.002585	-0.068688
7	P3	-8.057346	0.002576	-0.071314
11	P3	-8.057529	0.002578	-0.065194
15	P3	-8.057459	0.002573	-0.069277
19	P3	-8.057333	0.002568	-0.066486
22	P3	-8.057600	0.002589	-0.069550
26	P3	-8.057553	0.002578	-0.070432
30	P3	-8.057539	0.002573	-0.068462

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	0.000658718
	stdev	2.43414e-07
MEAN Q	mean	0.000355052
	stdev	1.65725e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.0567038
	stdev	0.00109597
STDEV Q	mean	0.0563256
	stdev	0.00110359



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2007012[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
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ASA_IMM_1PNPDE20070120_015157_000000532054_00461_25565_3990.N1	1	0
ASA_GM1_1PNPDK20070120_131030_000008632054_00468_25572_5436.N1	0	17
ASA_GM1_1PNPDK20070129_101419_000004832055_00094_25699_7395.N1	0	7
ASA_WSM_1PNPDE20070129_145855_000002872055_00097_25702_8748.N1	0	39



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

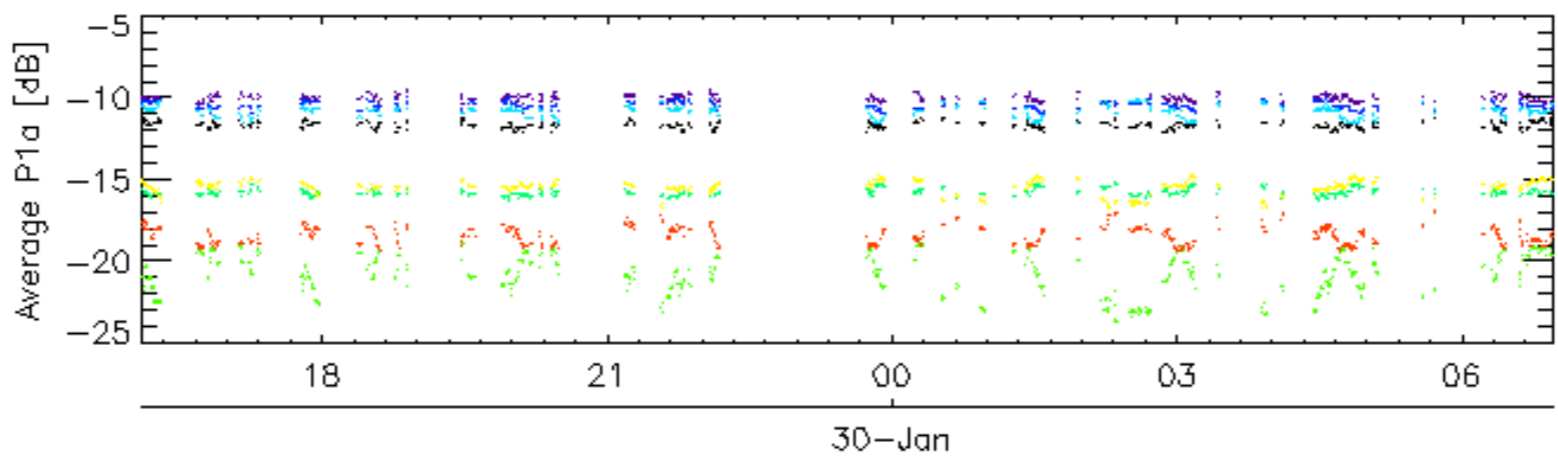
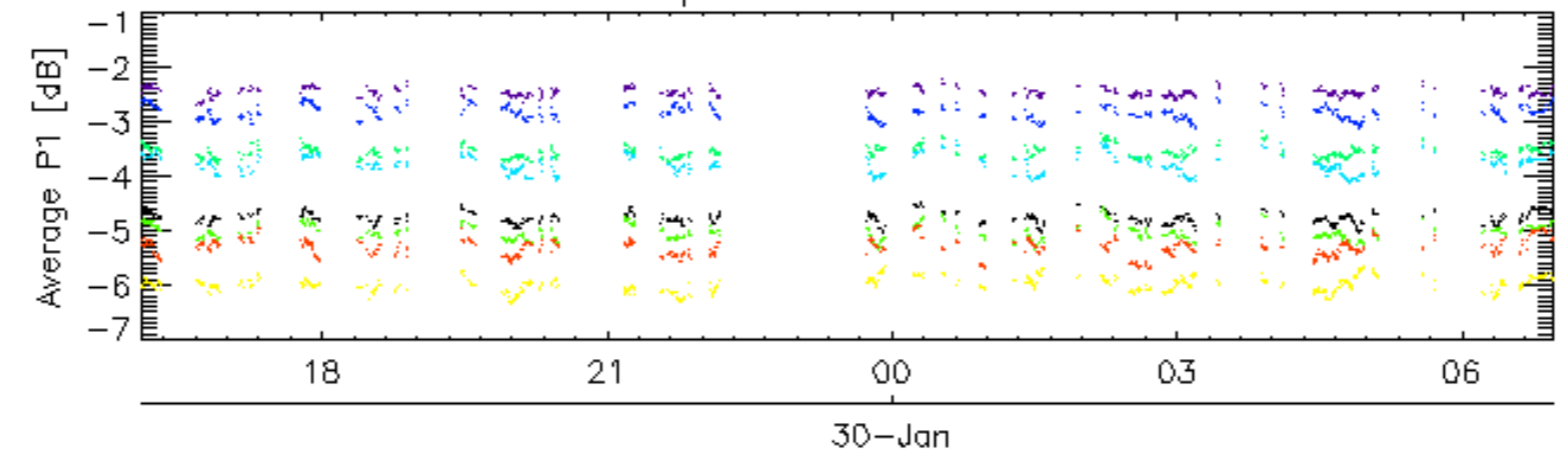
7.5 - Absolute Doppler for GM1

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

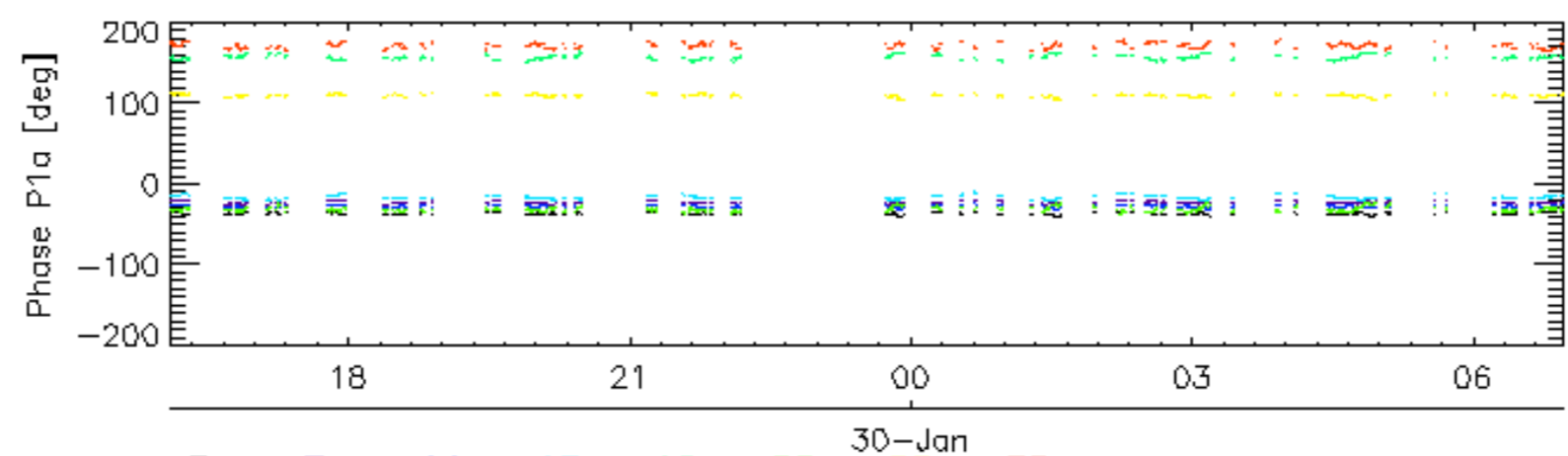
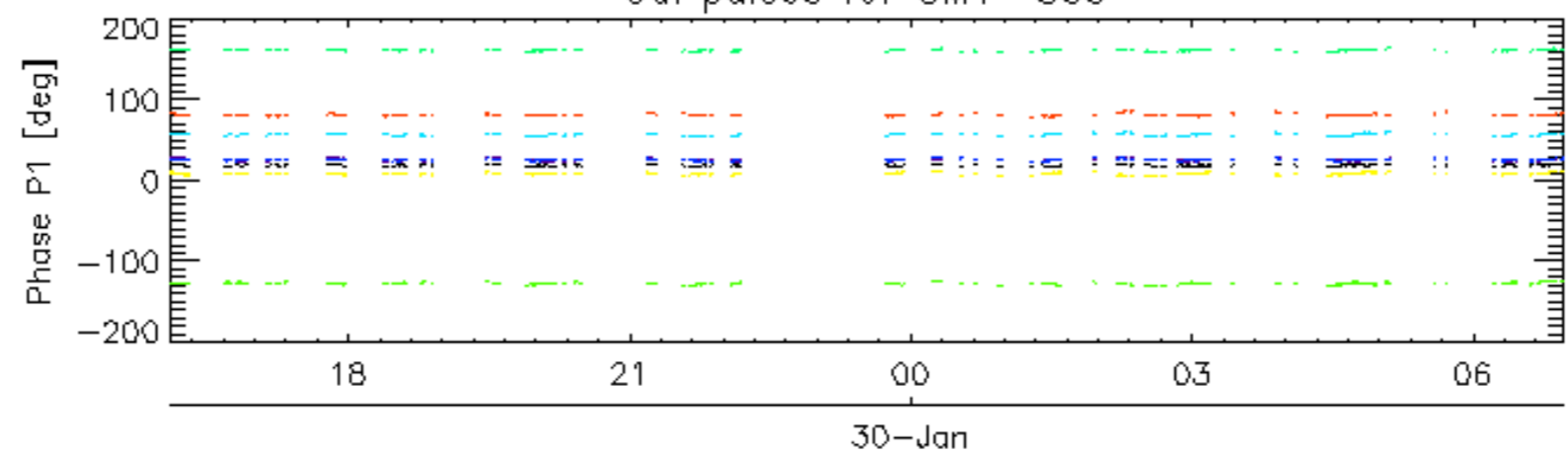
7.6 - Doppler evolution versus ANX for GM1

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

Cal pulses for GM1 SS3

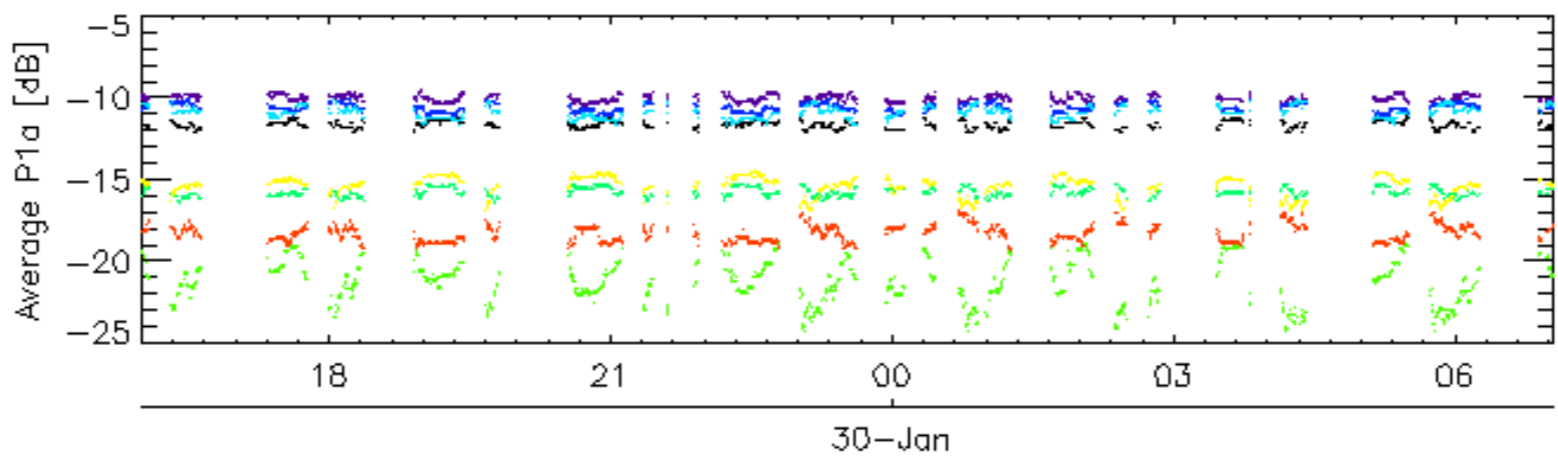
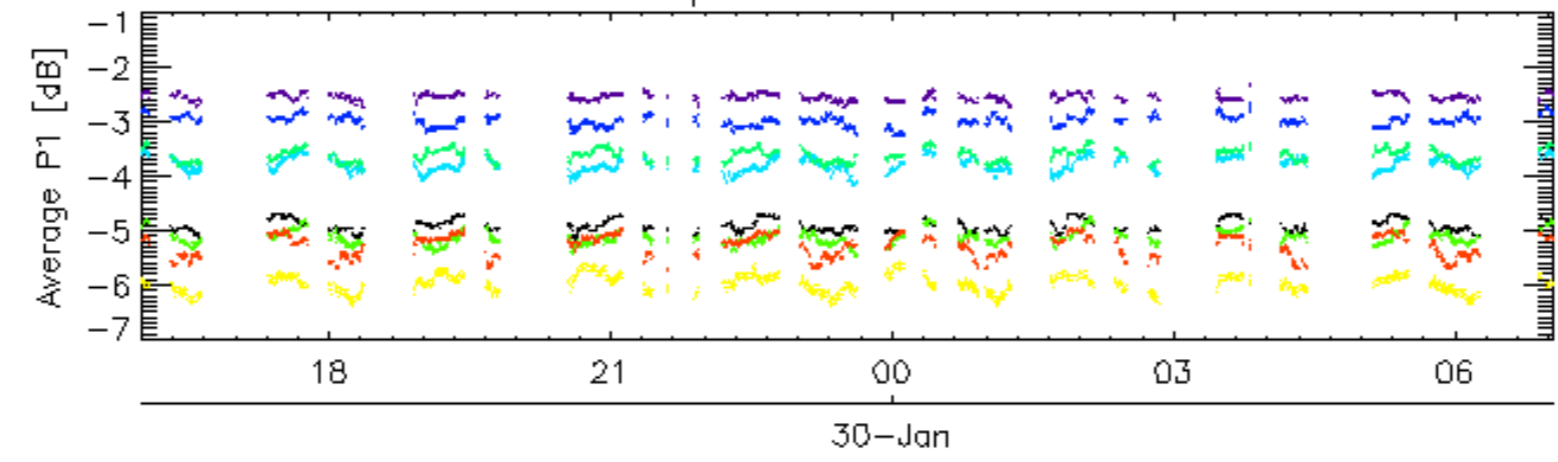


Cal pulses for GM1 SS3

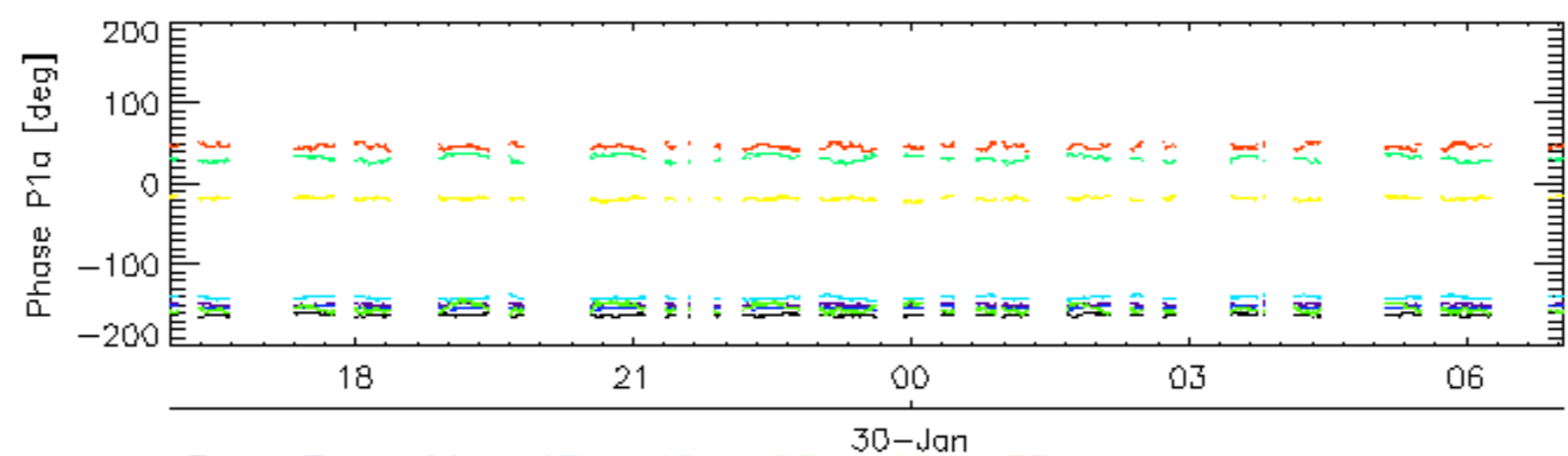
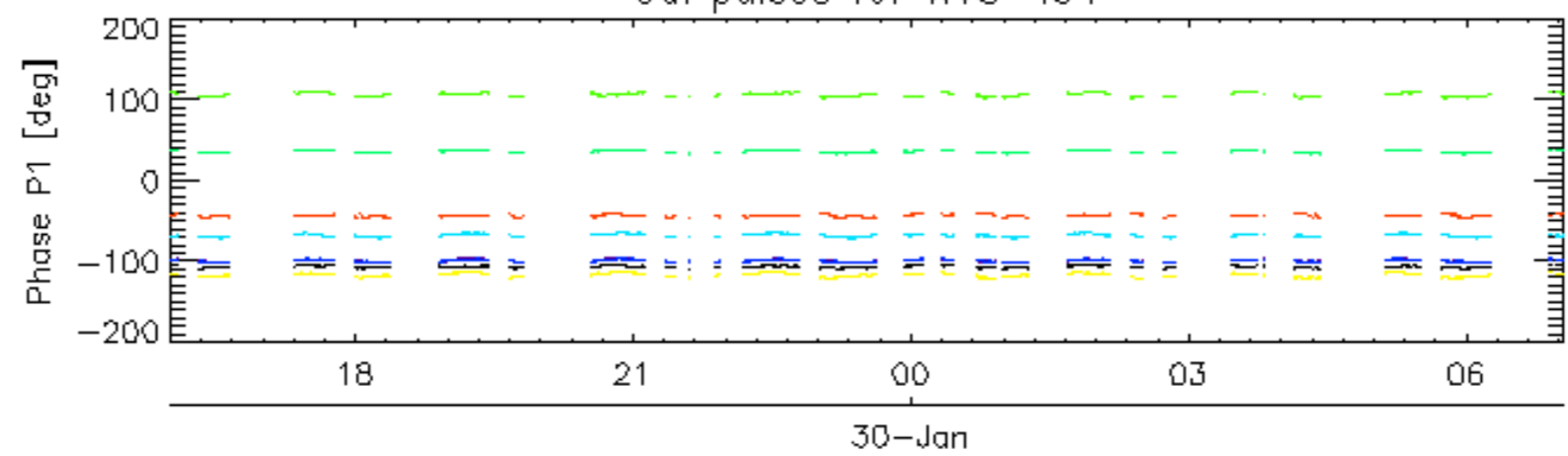


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS4

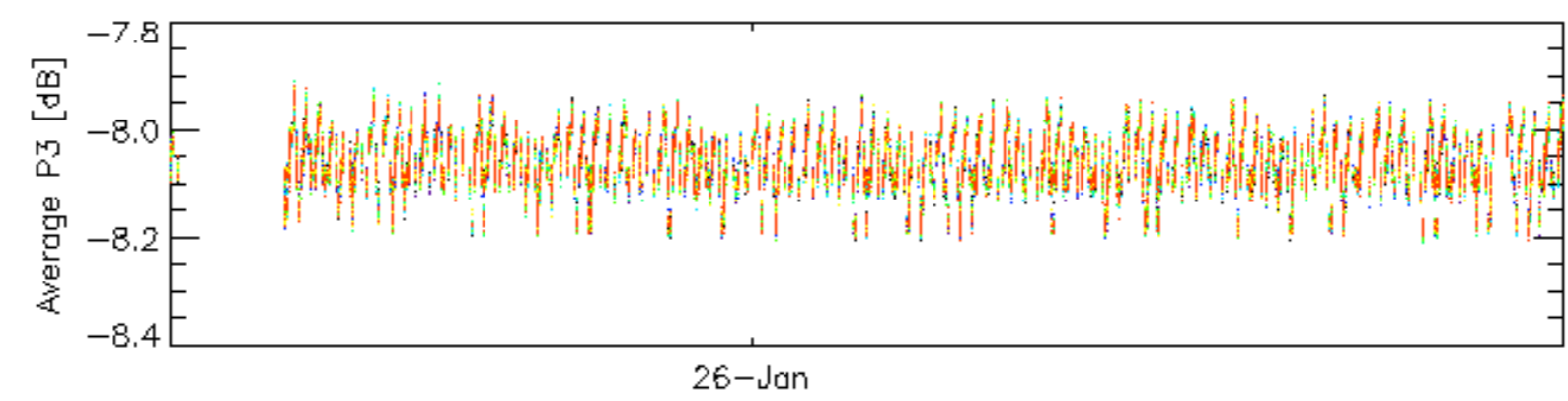
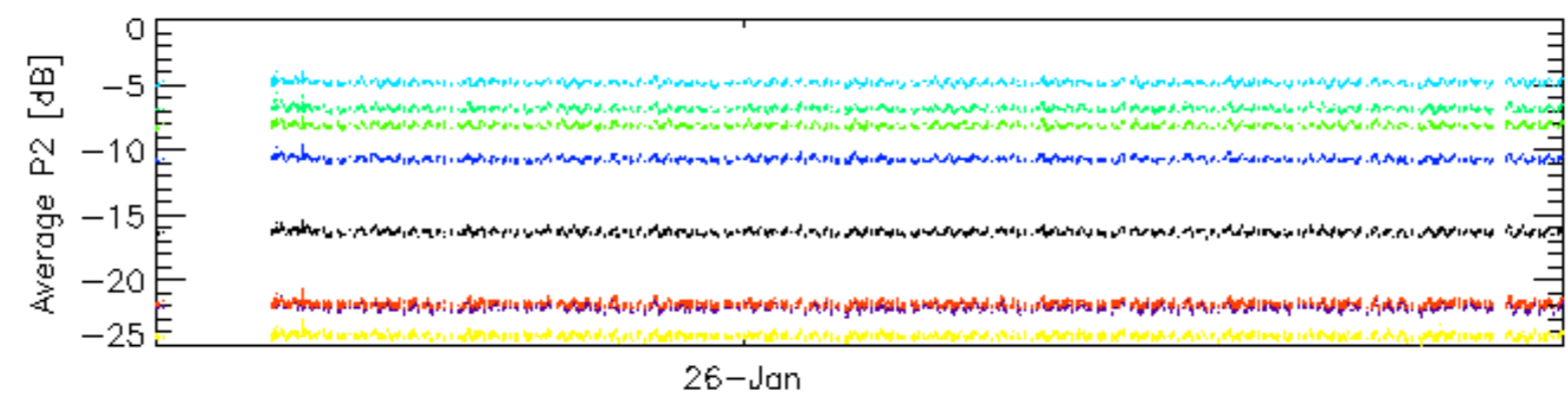
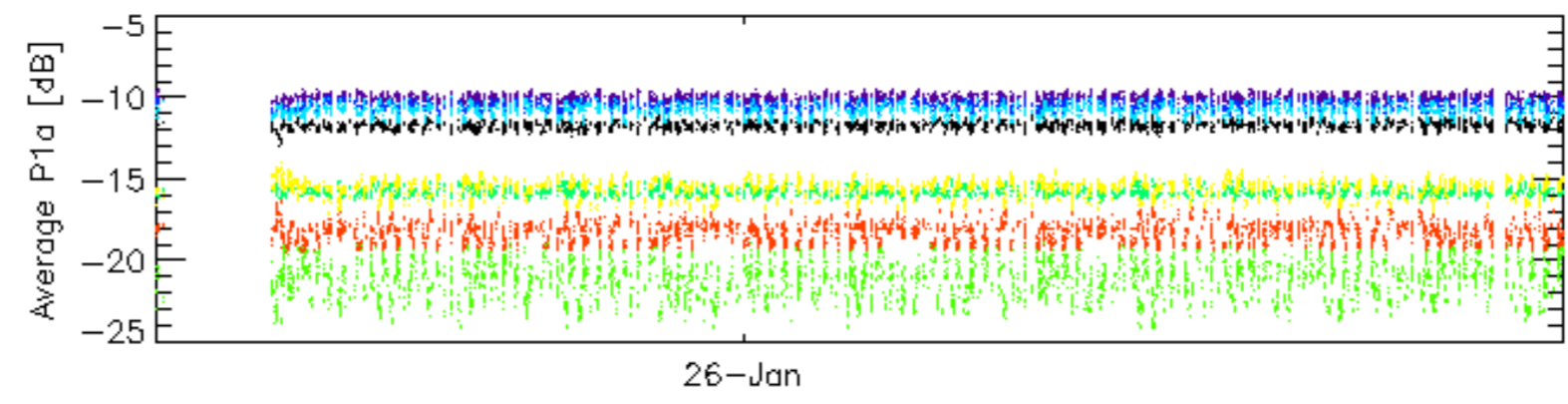
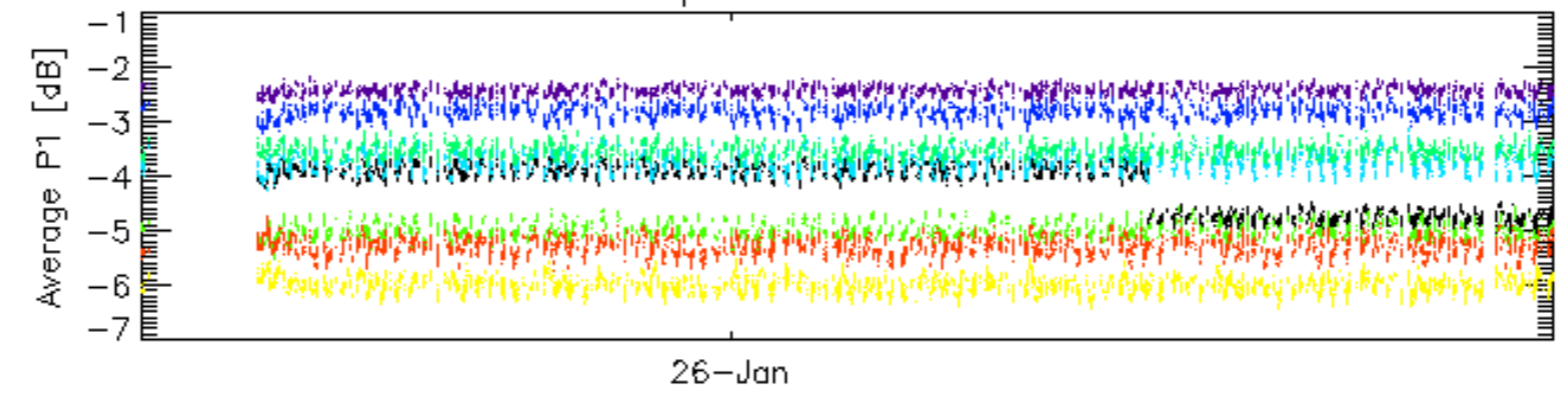


Cal pulses for WVS IS4



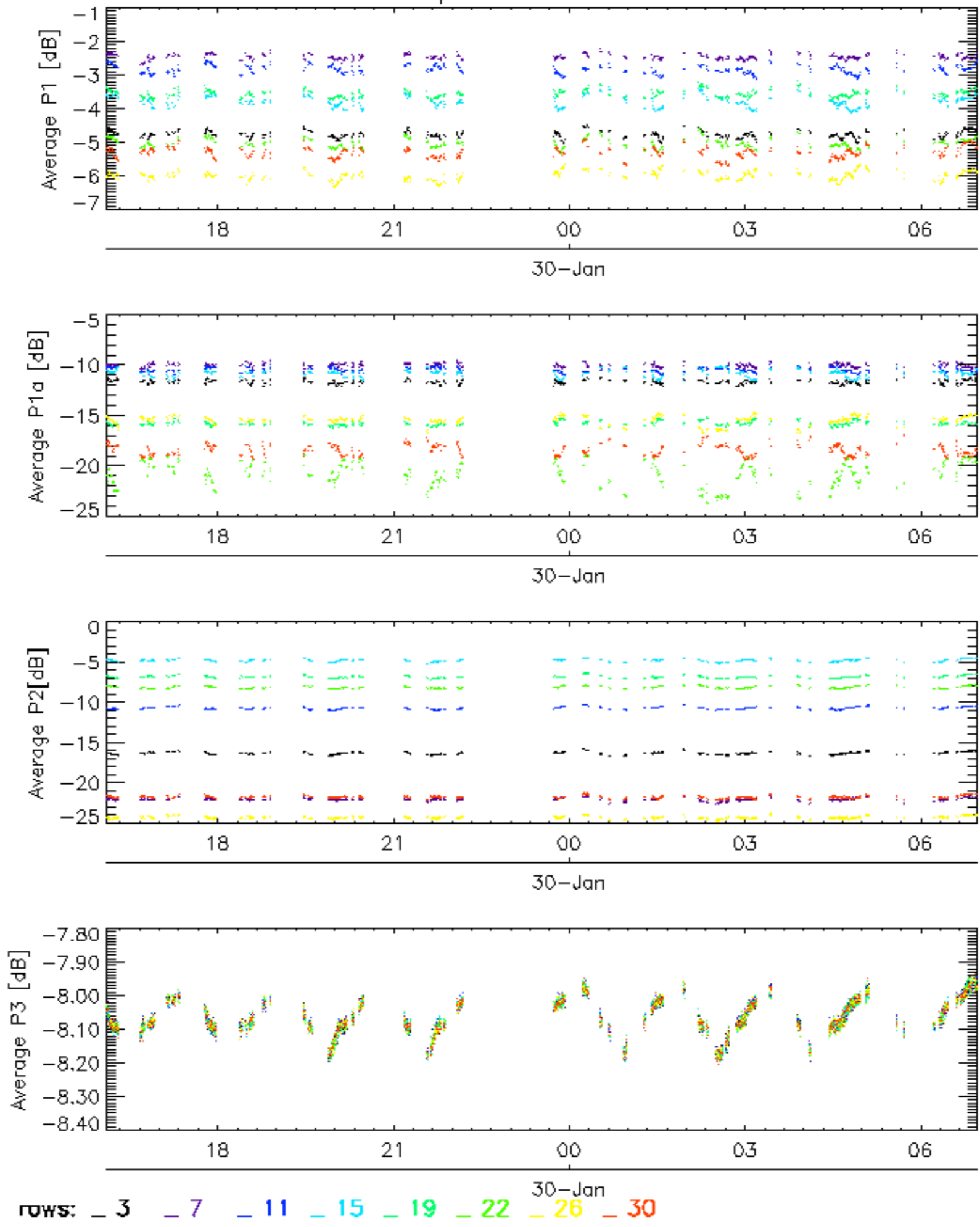
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

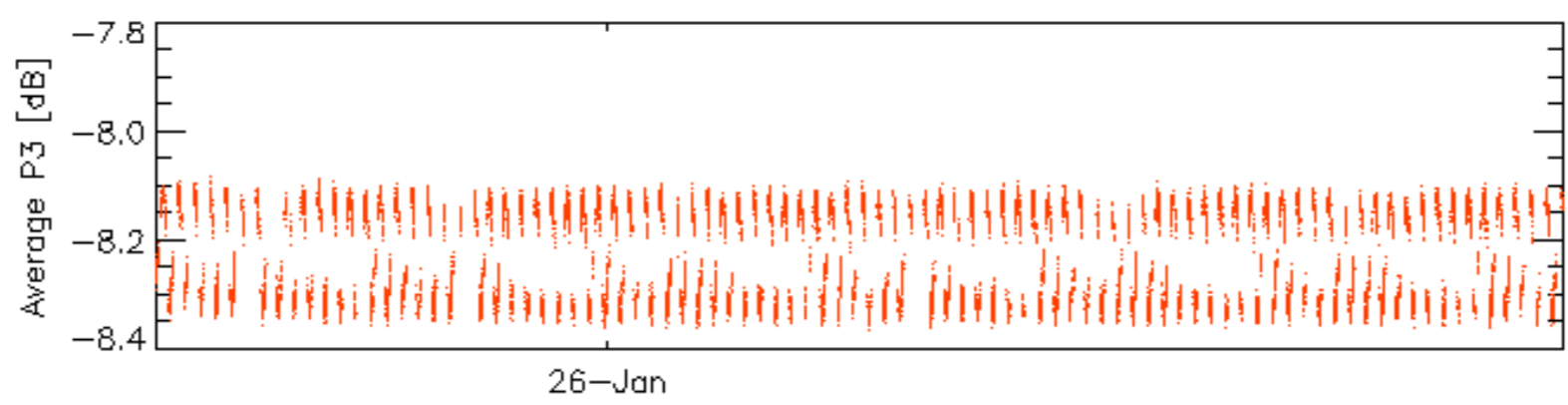
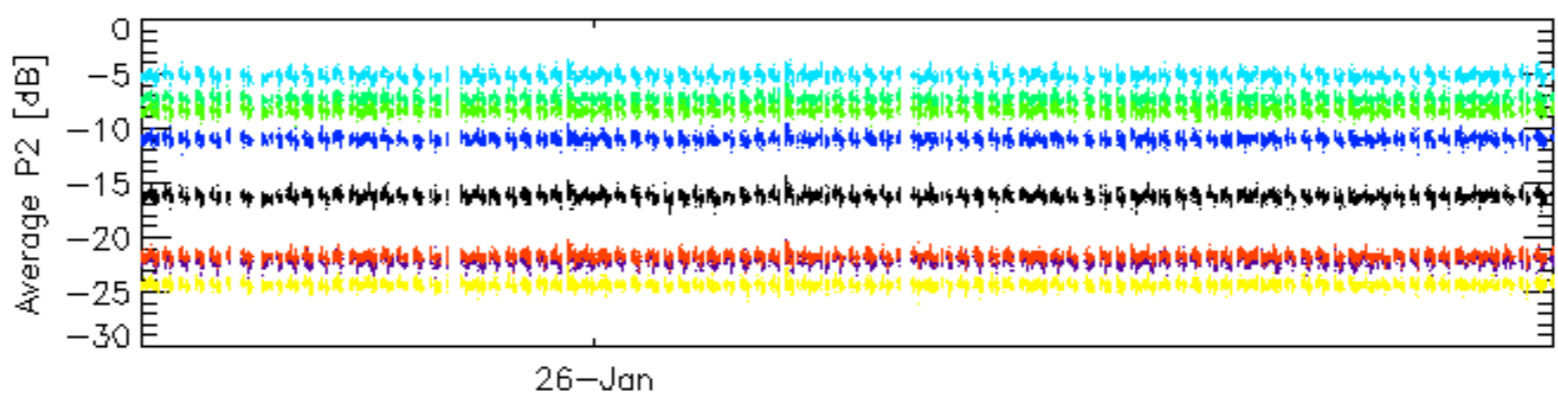
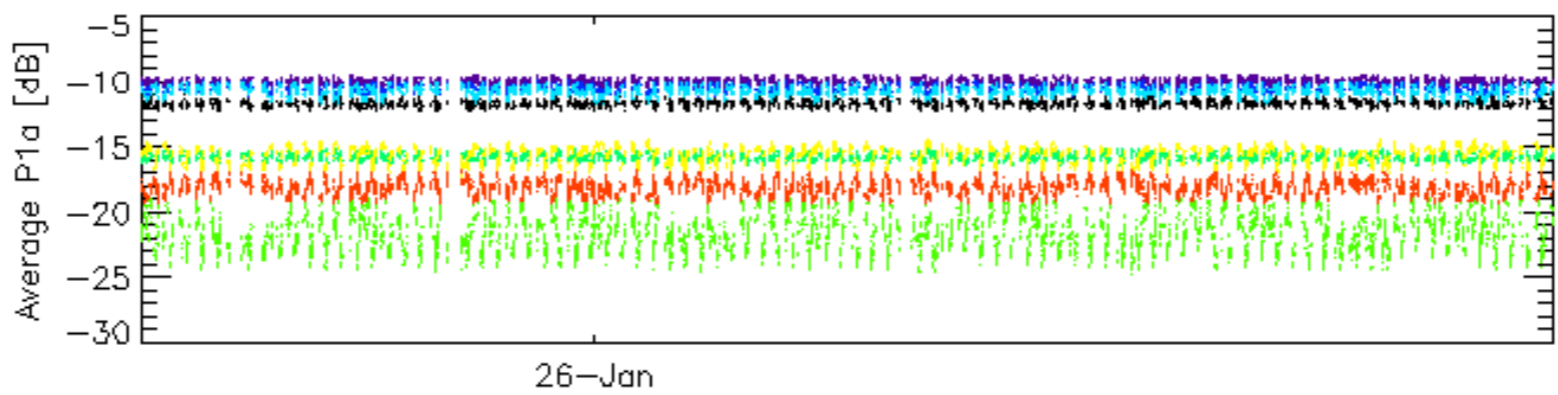
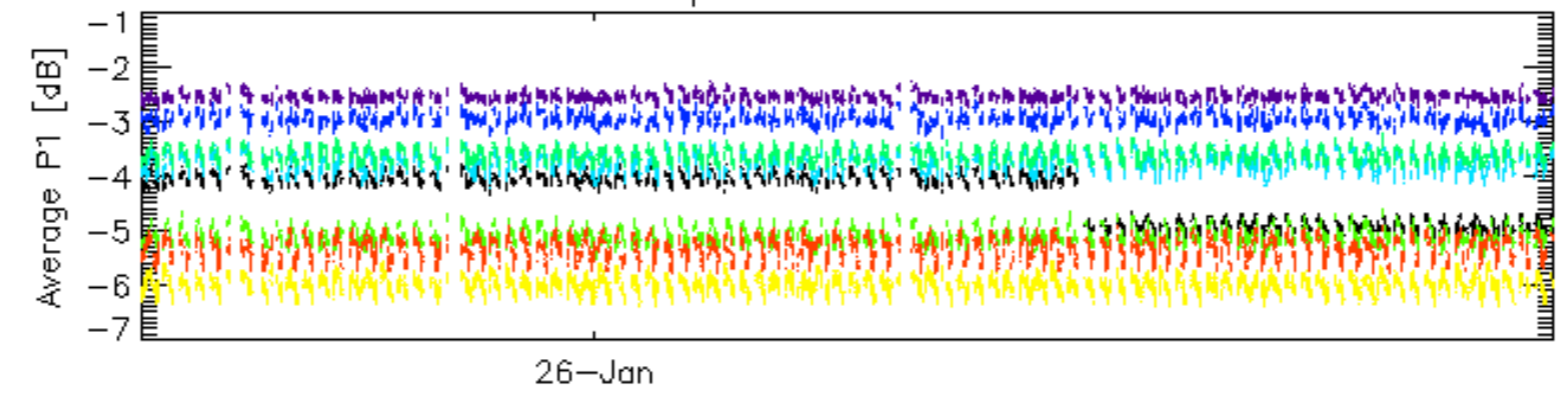


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

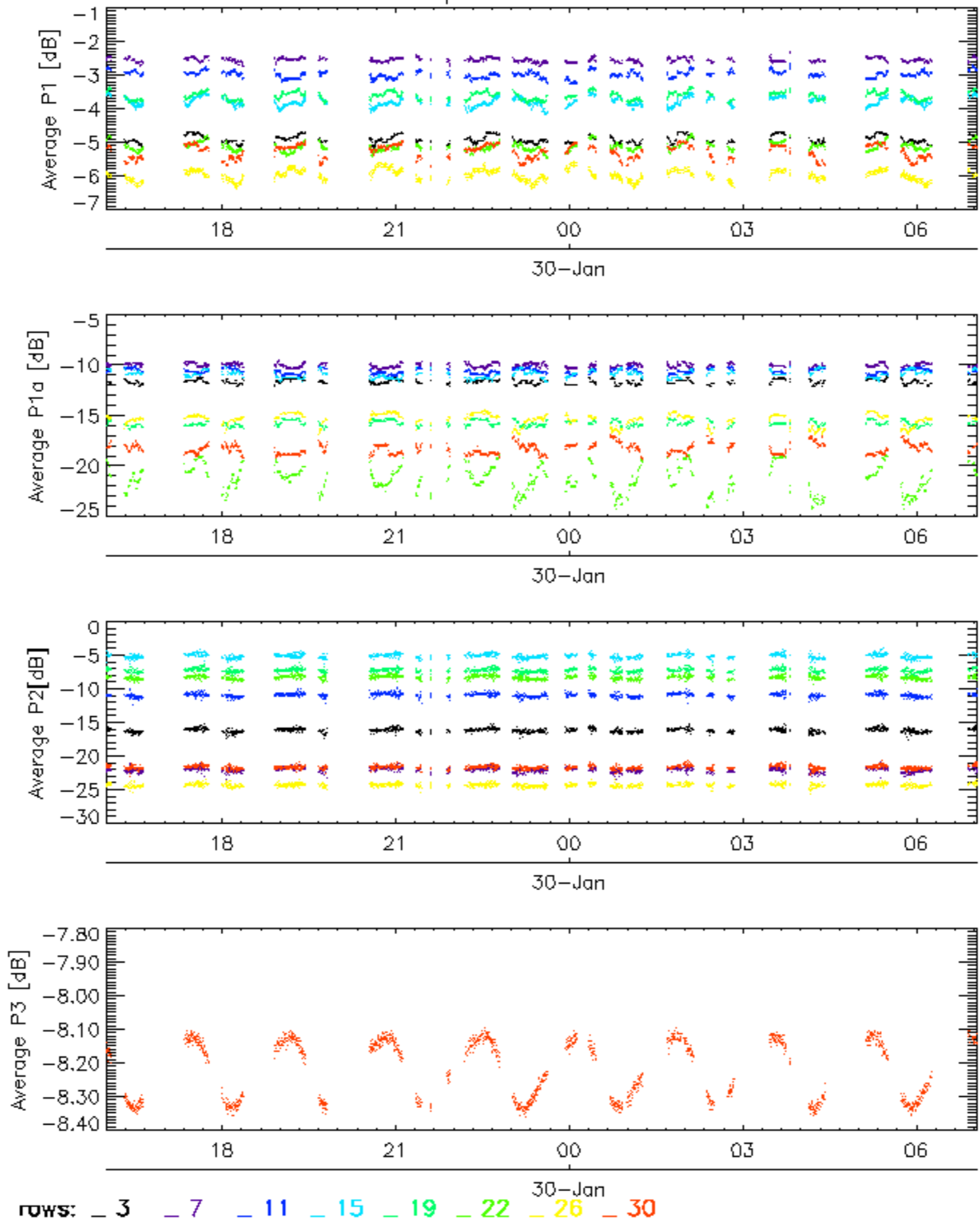


Cal pulses for WVS IS4



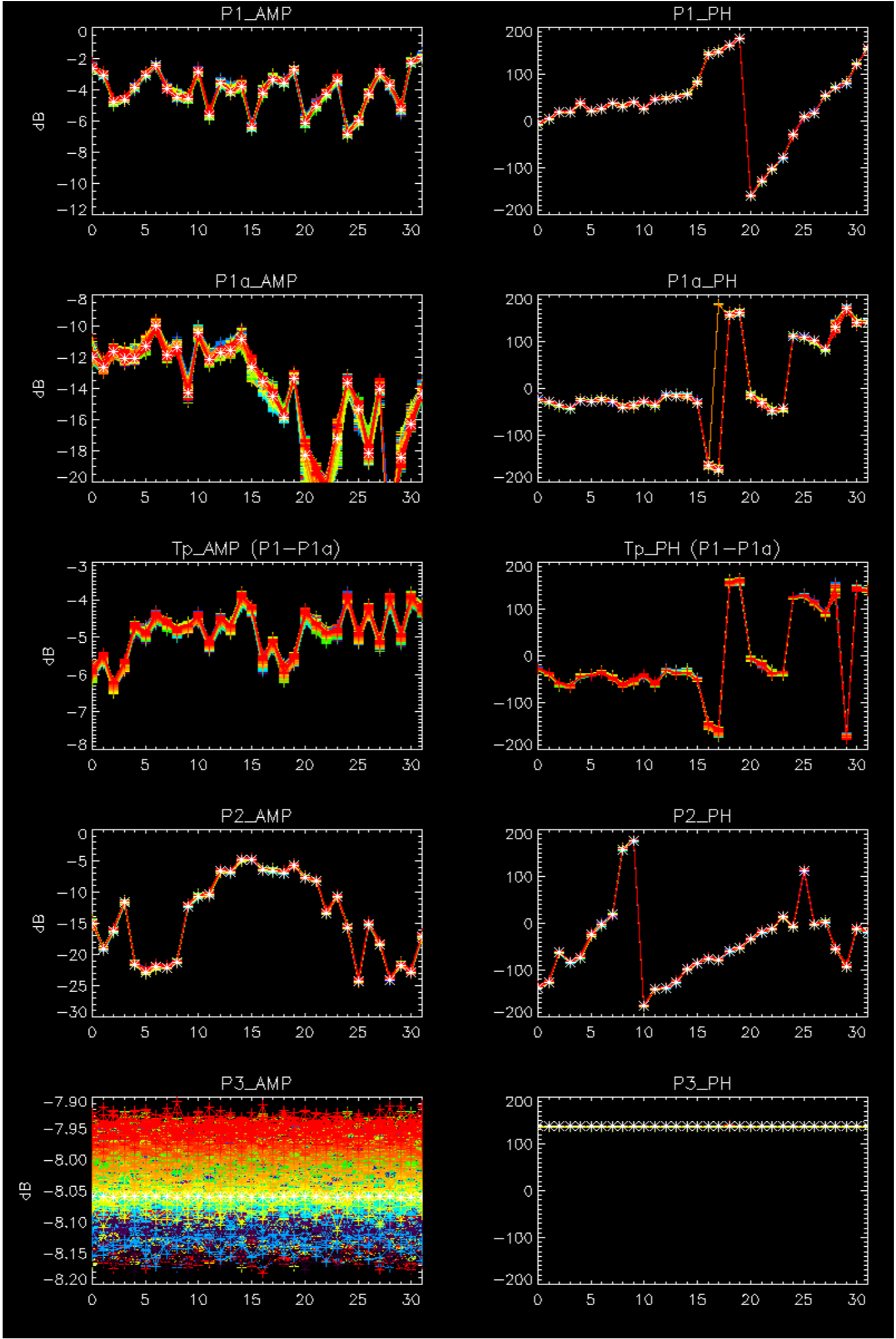
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

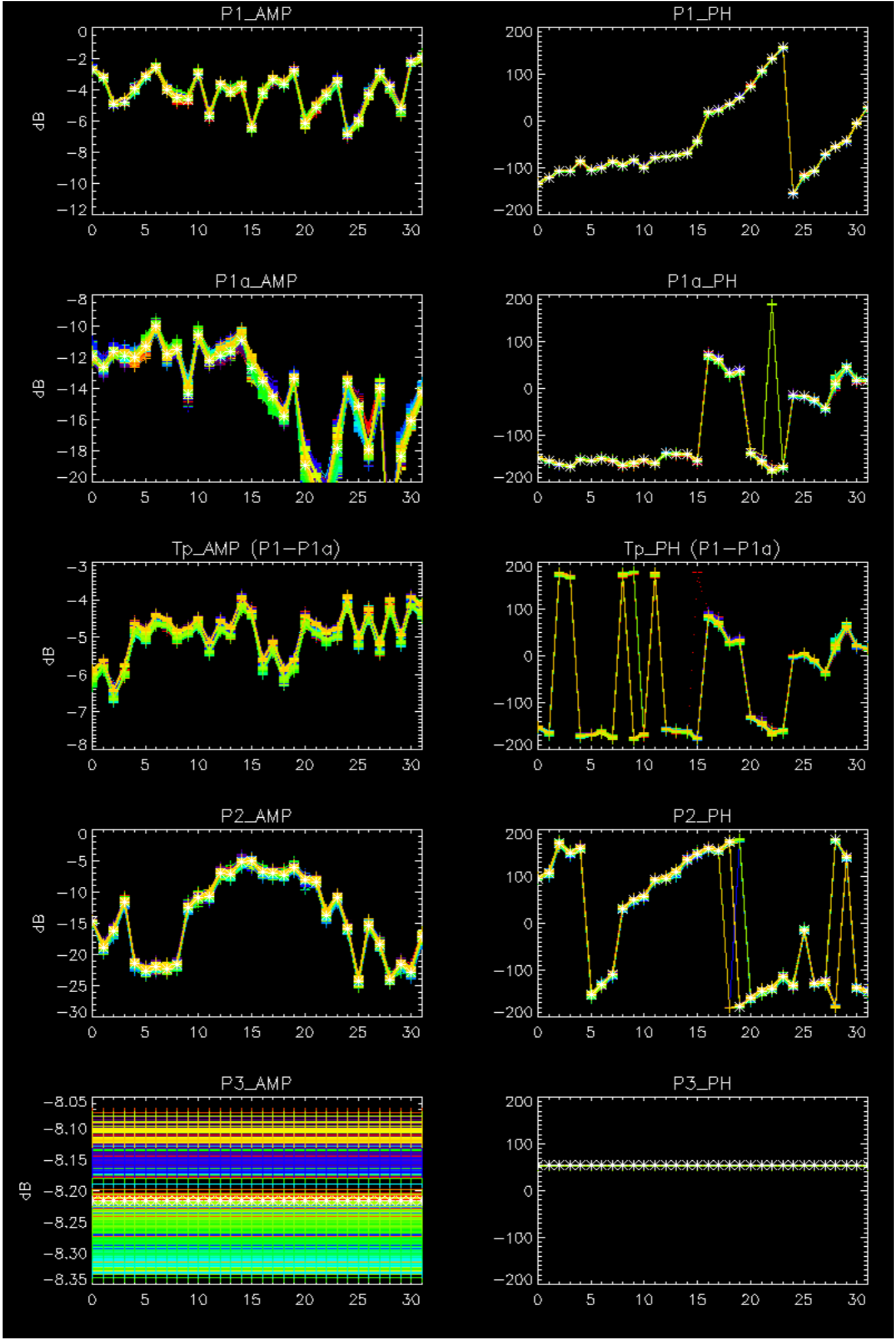
Cal pulses for WVS IS4



No anomalies observed on available browse products

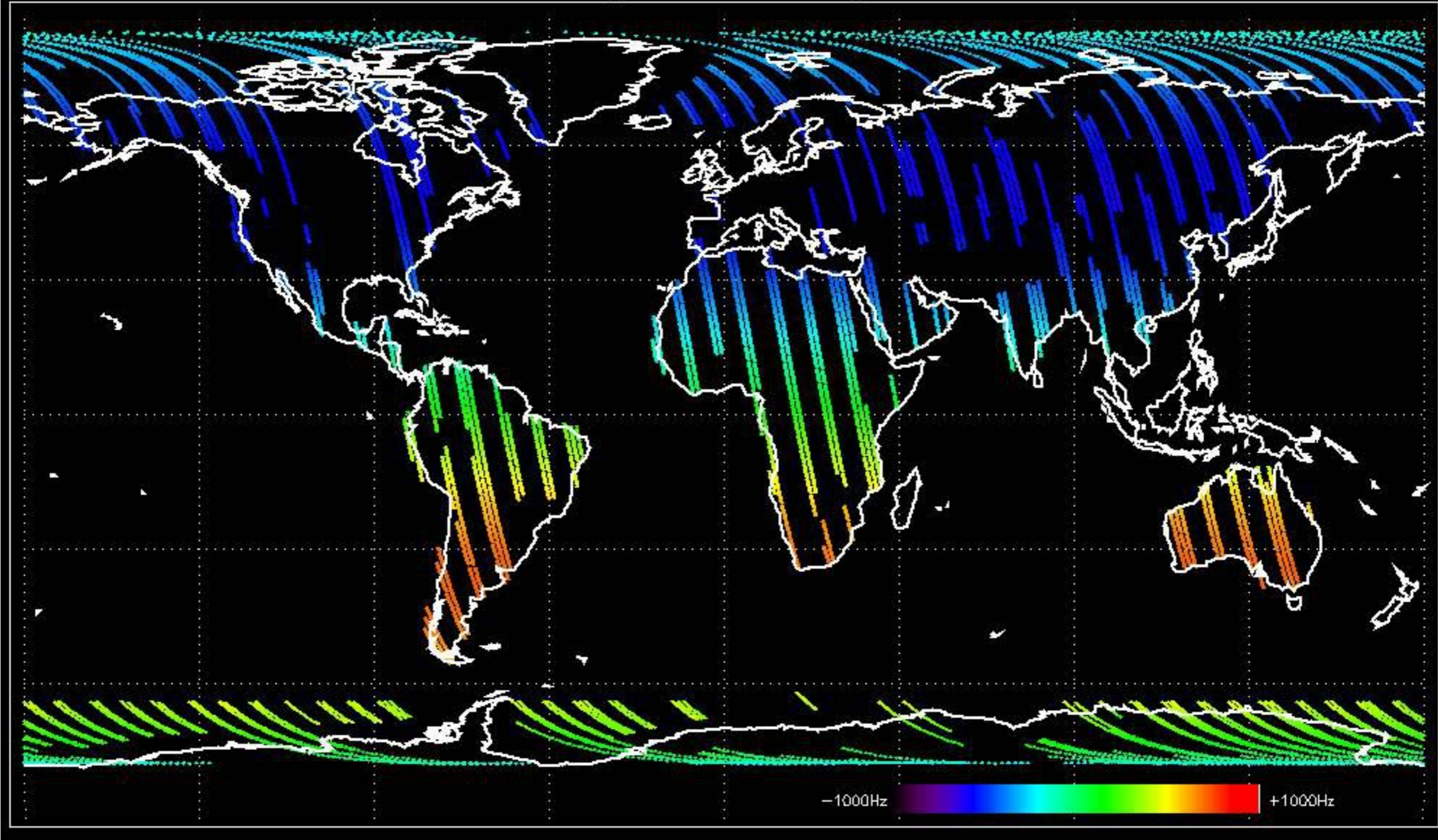
No anomalies observed.



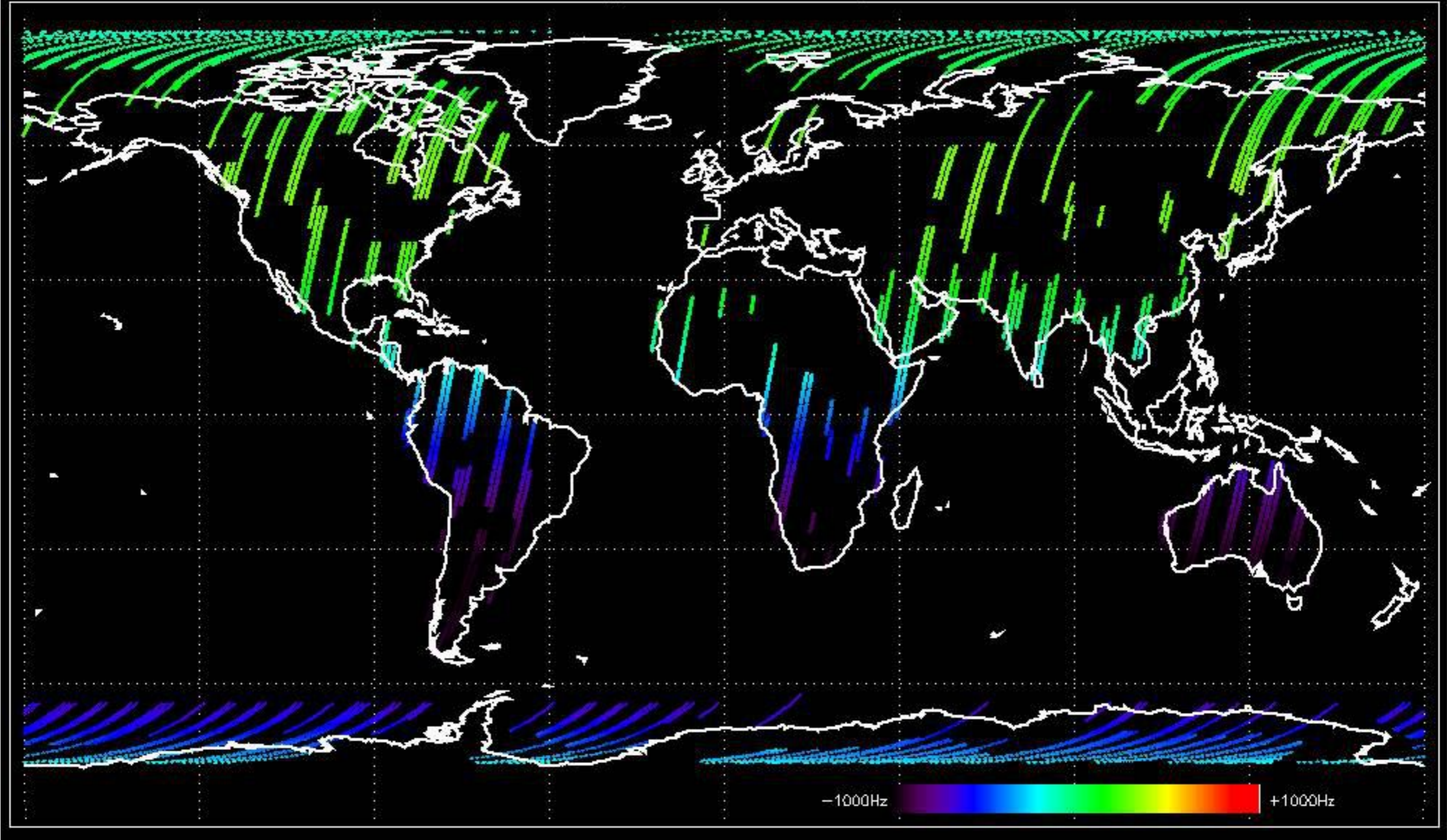


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

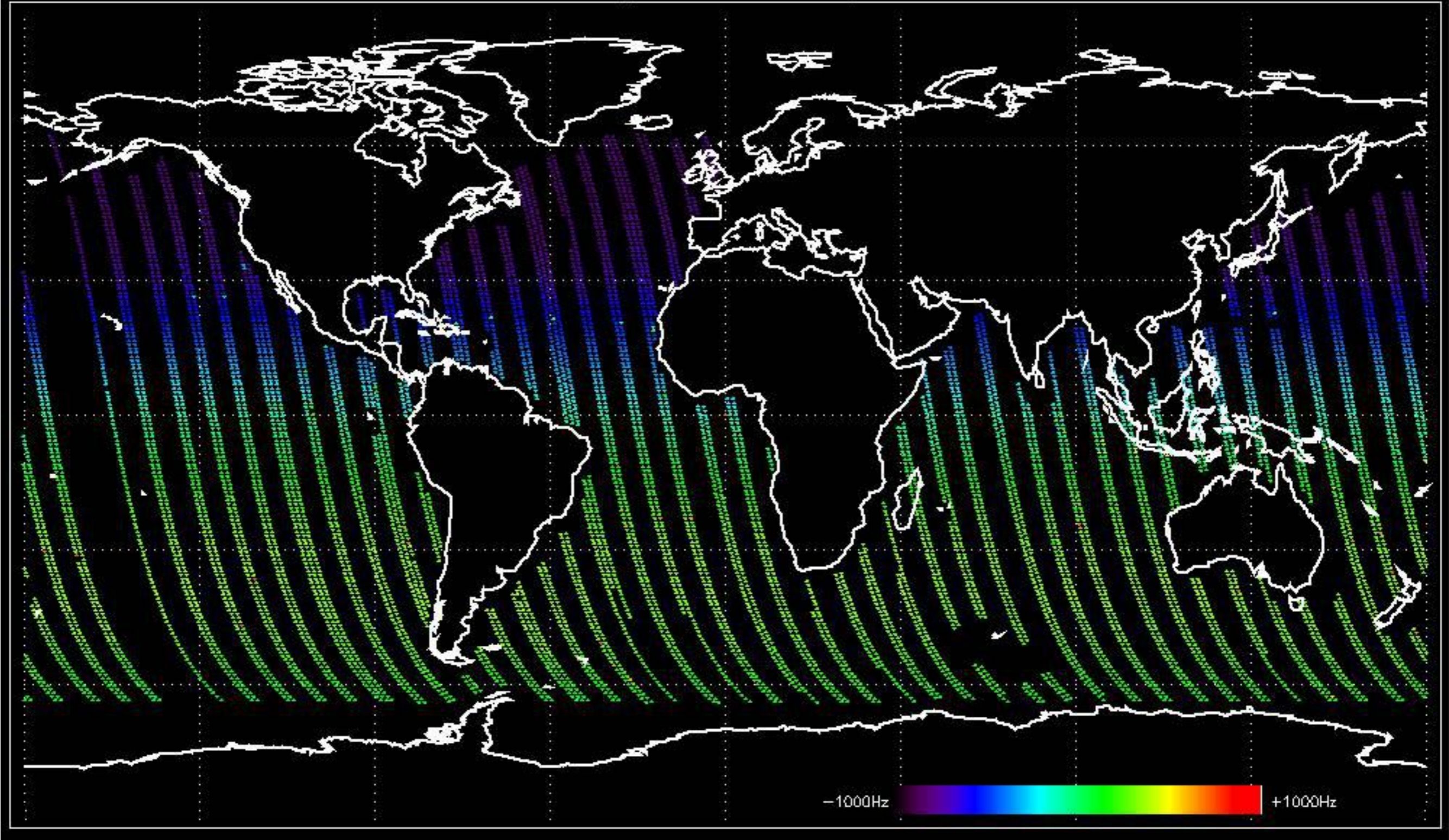
Doppler 'GM1' 'SS1' ascending



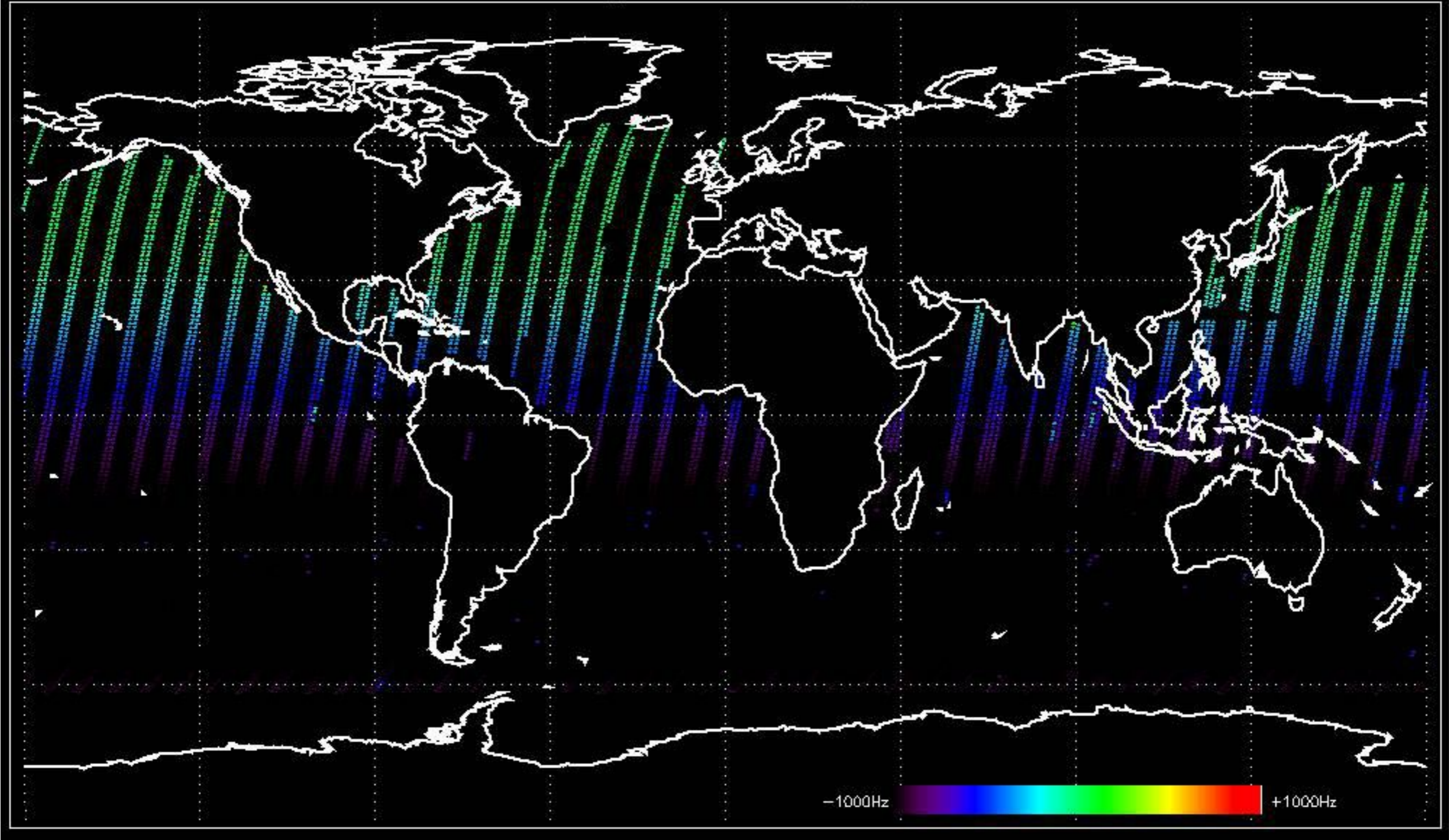
Doppler 'GM1' 'SS1' descending



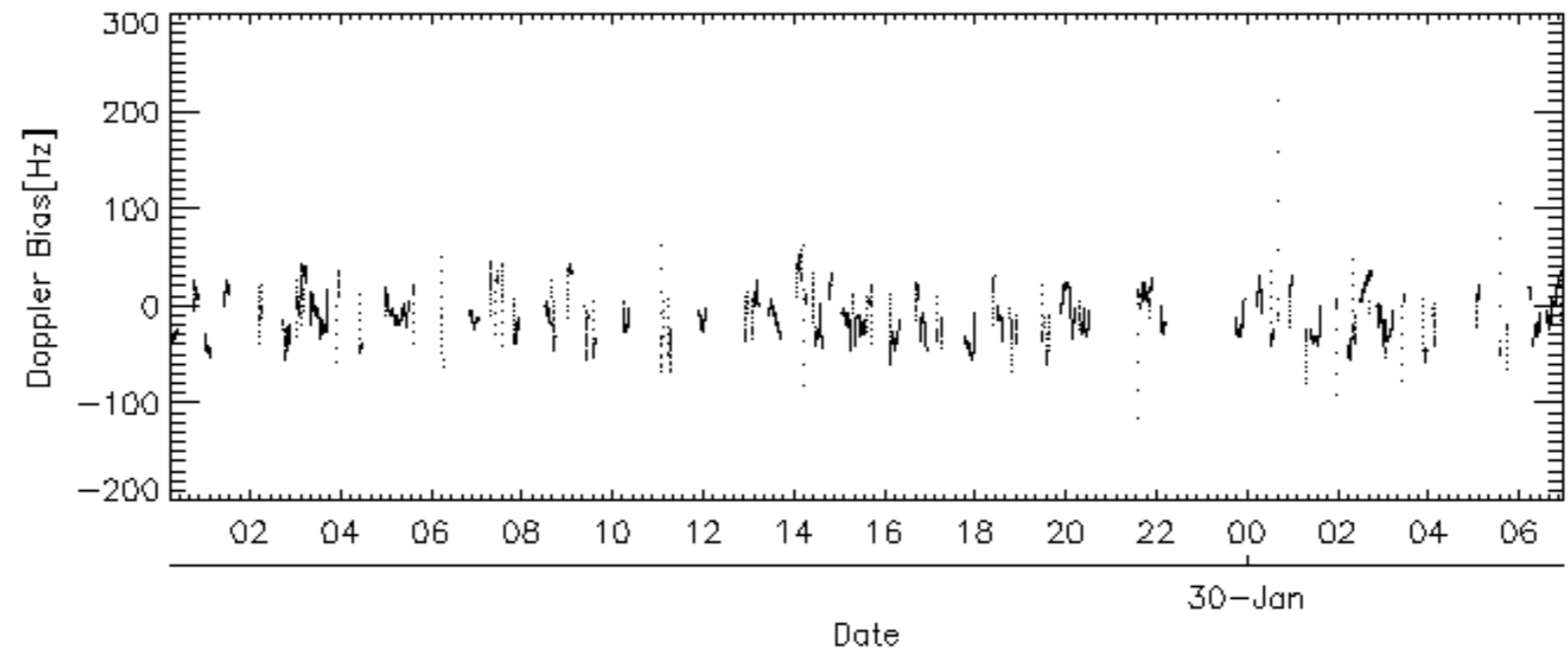
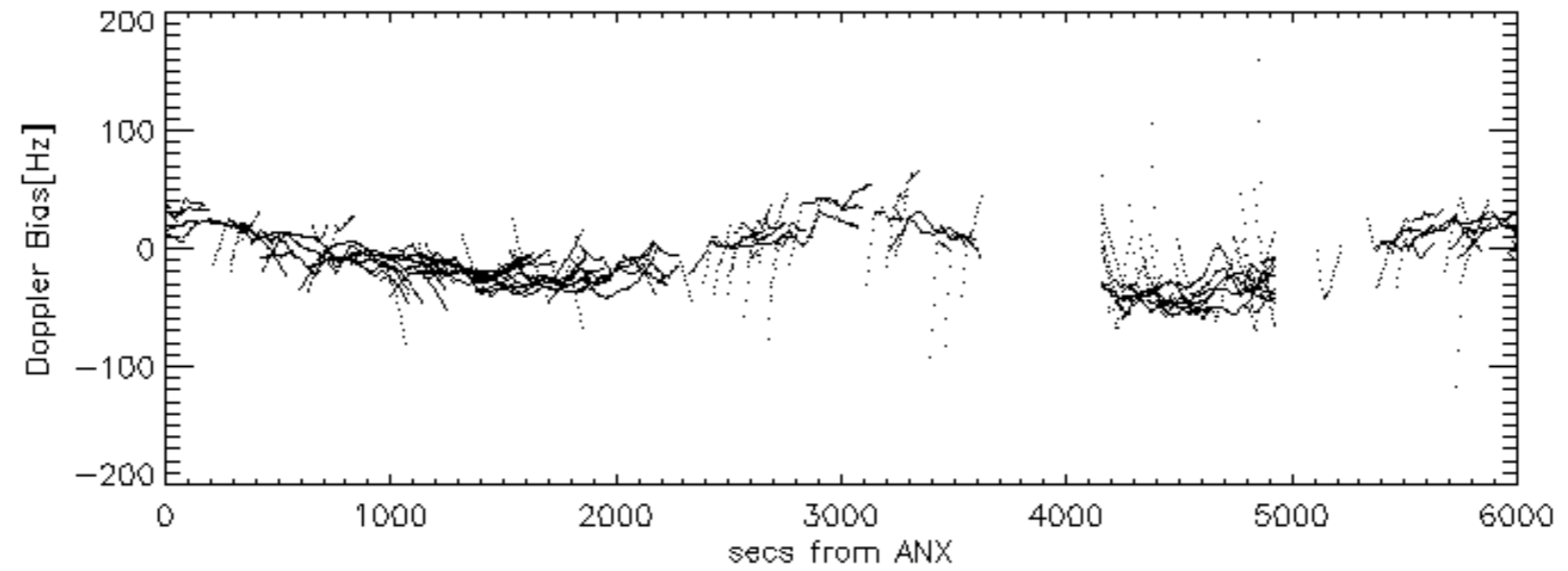
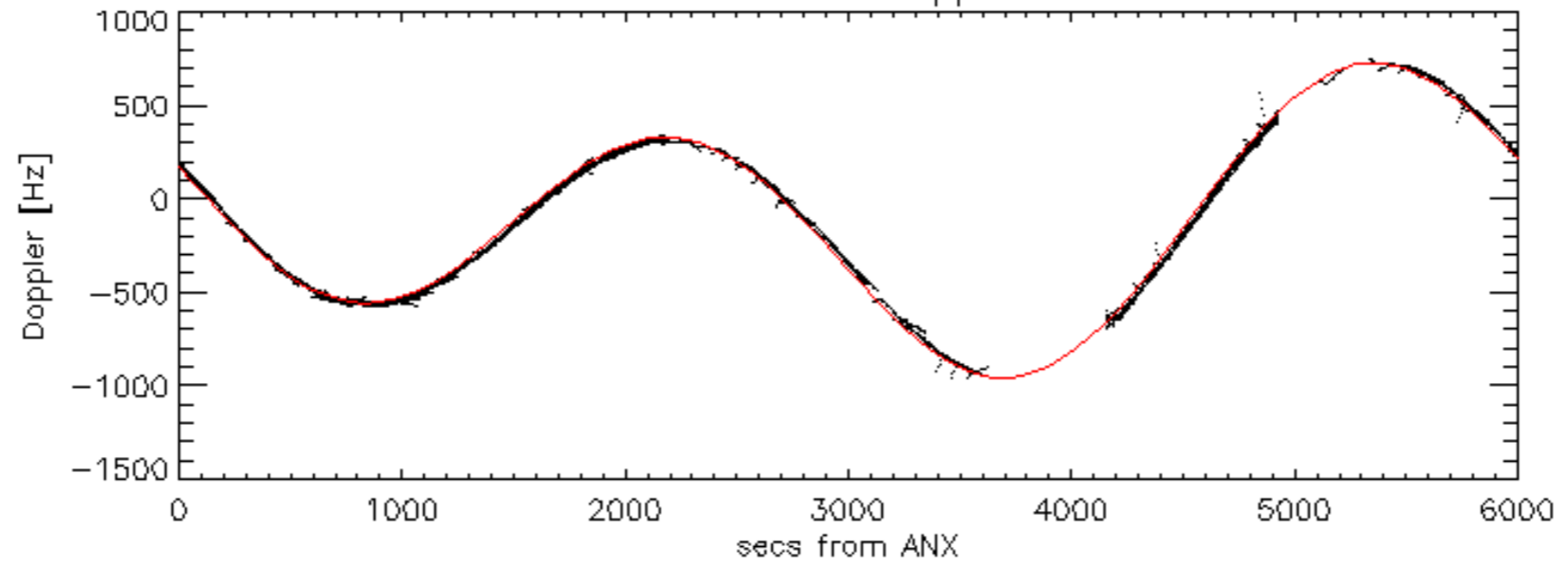
Doppler 'WVS' 'IS4' ascending

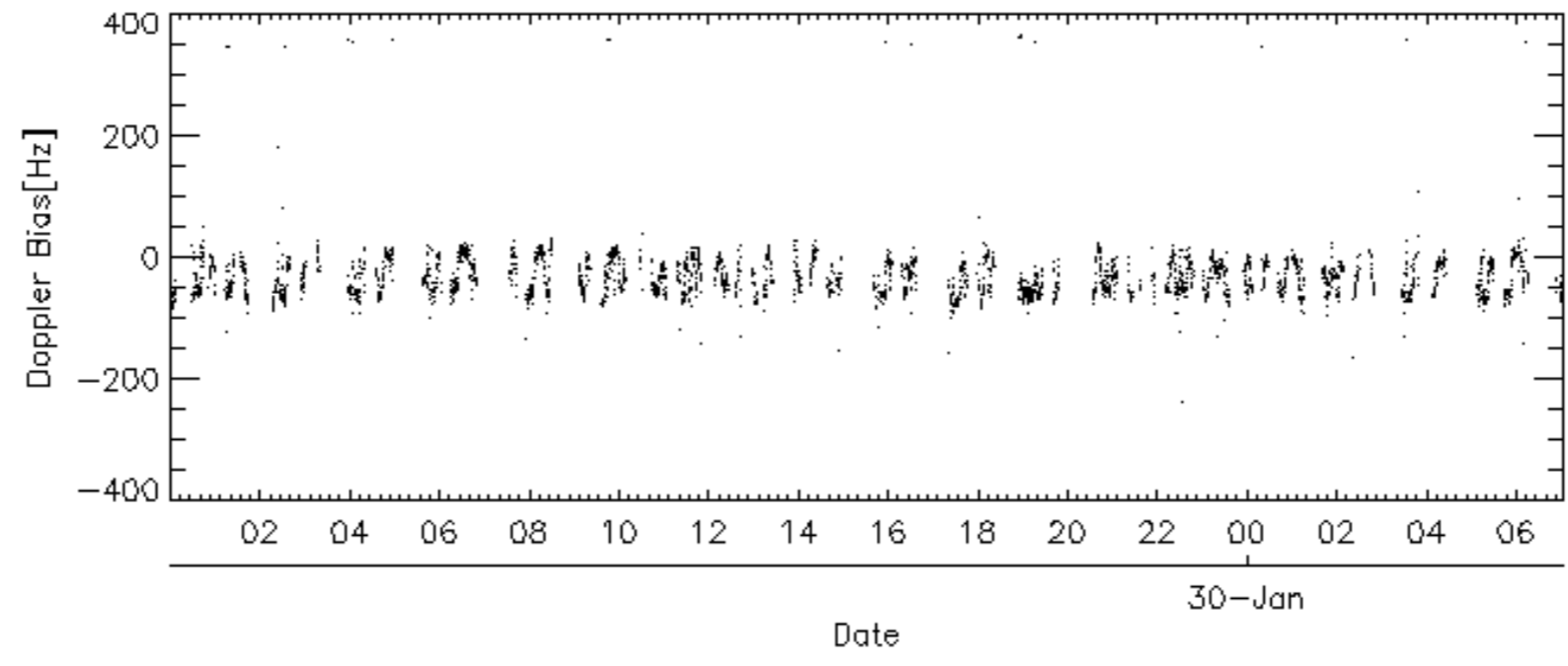
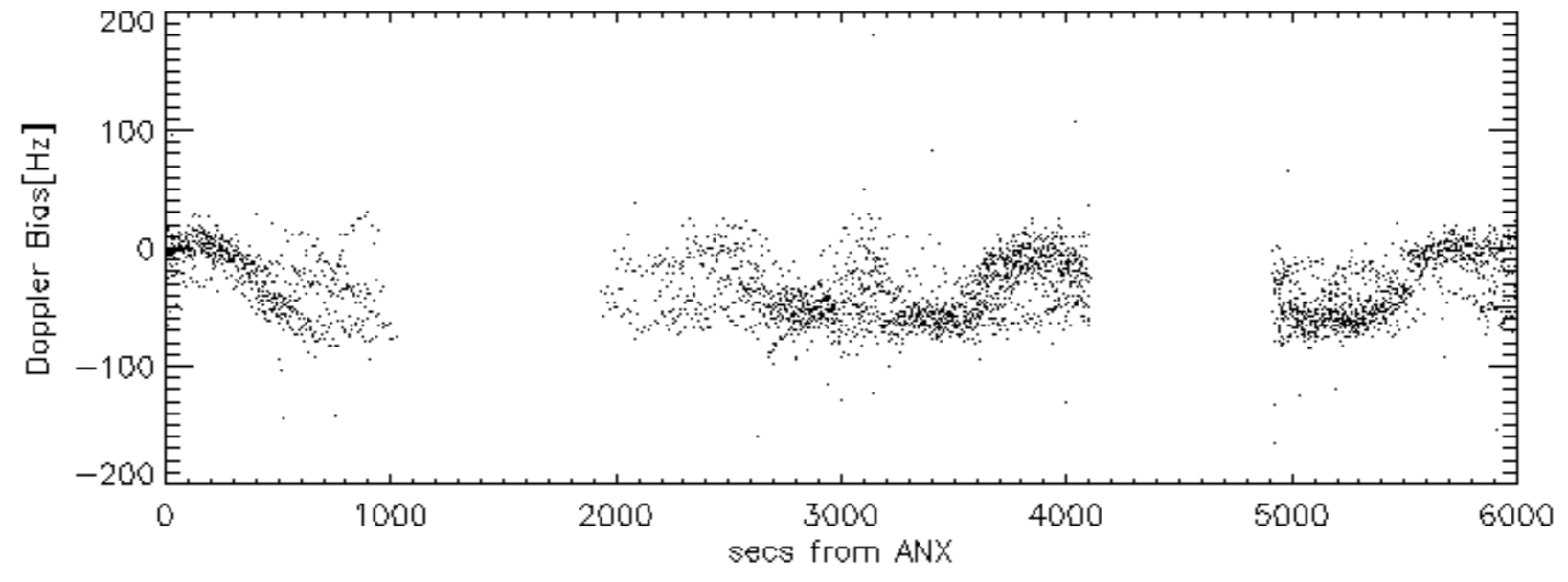
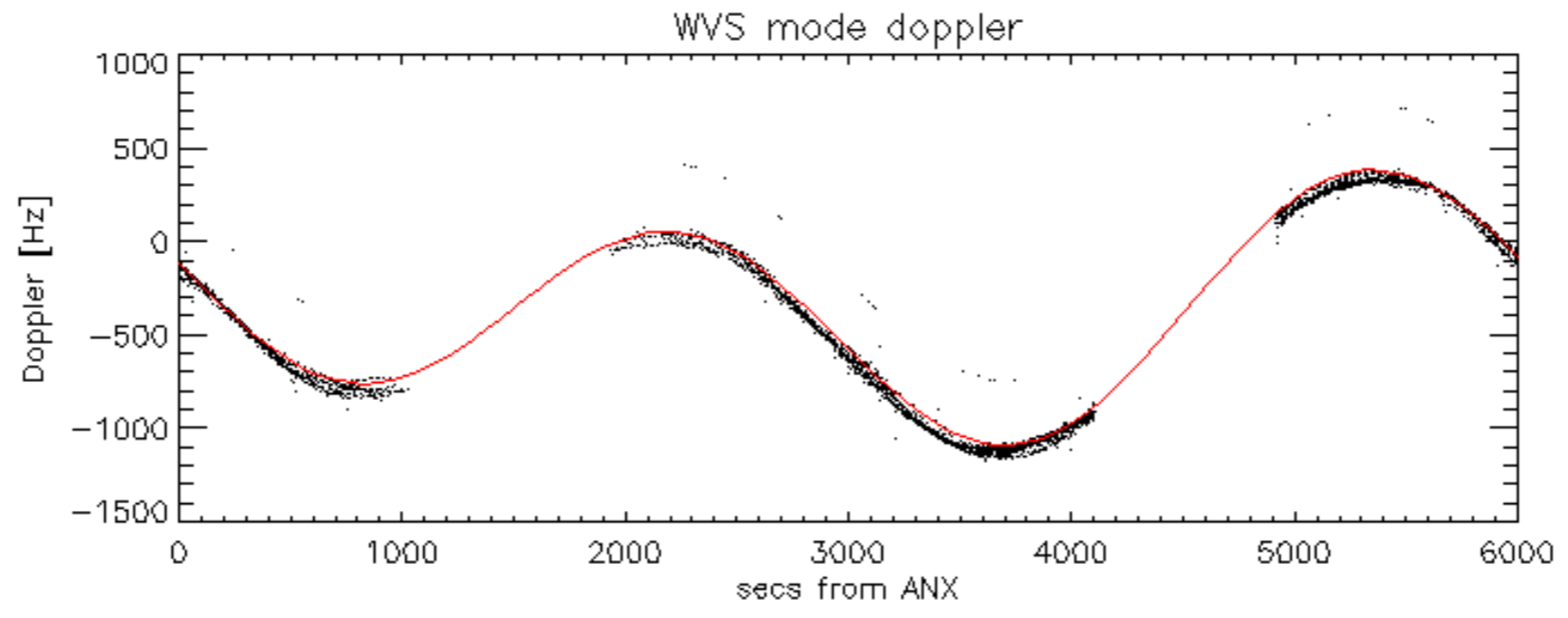


Doppler 'WVS' 'IS4' descending

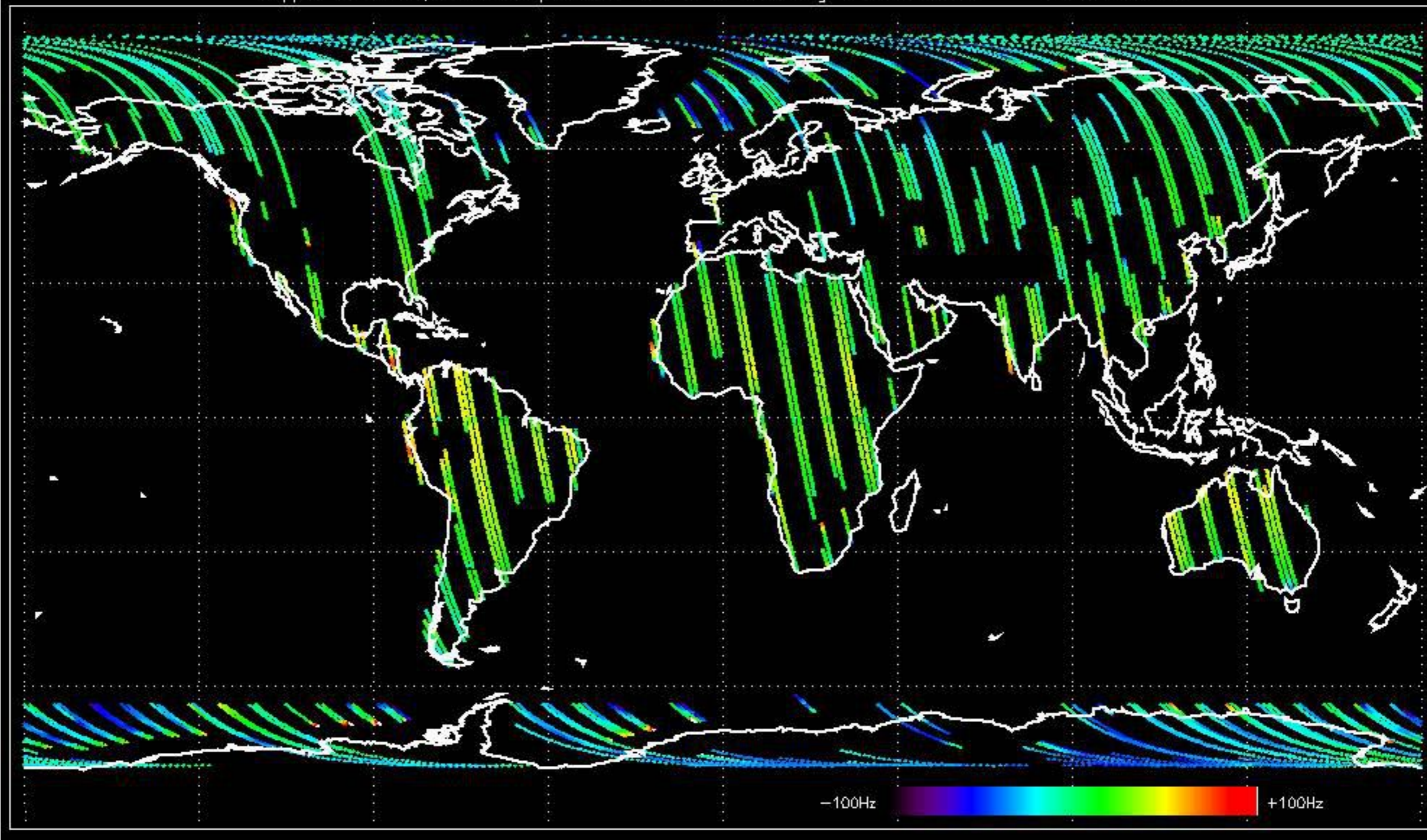


GM1 mode doppler

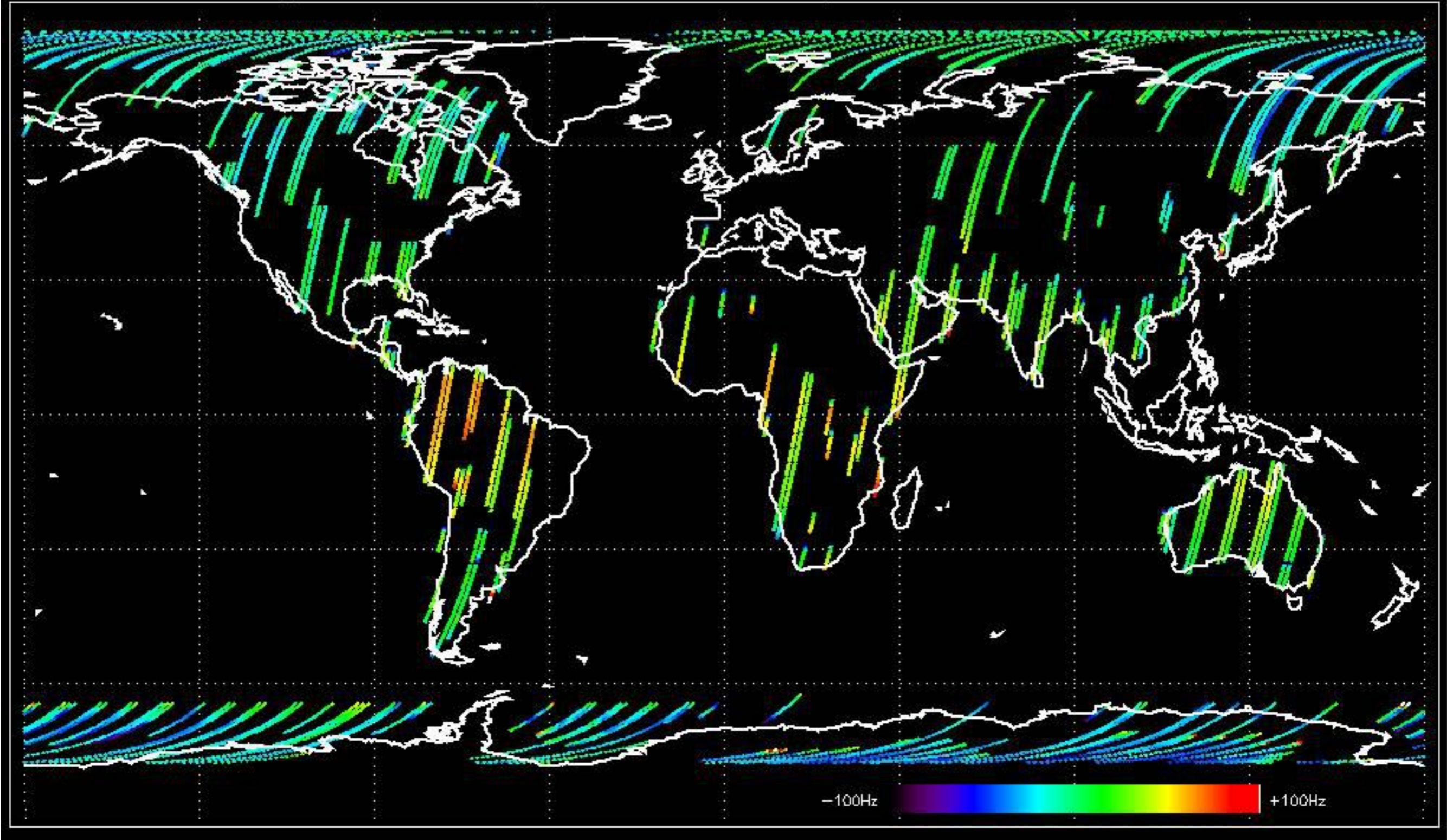




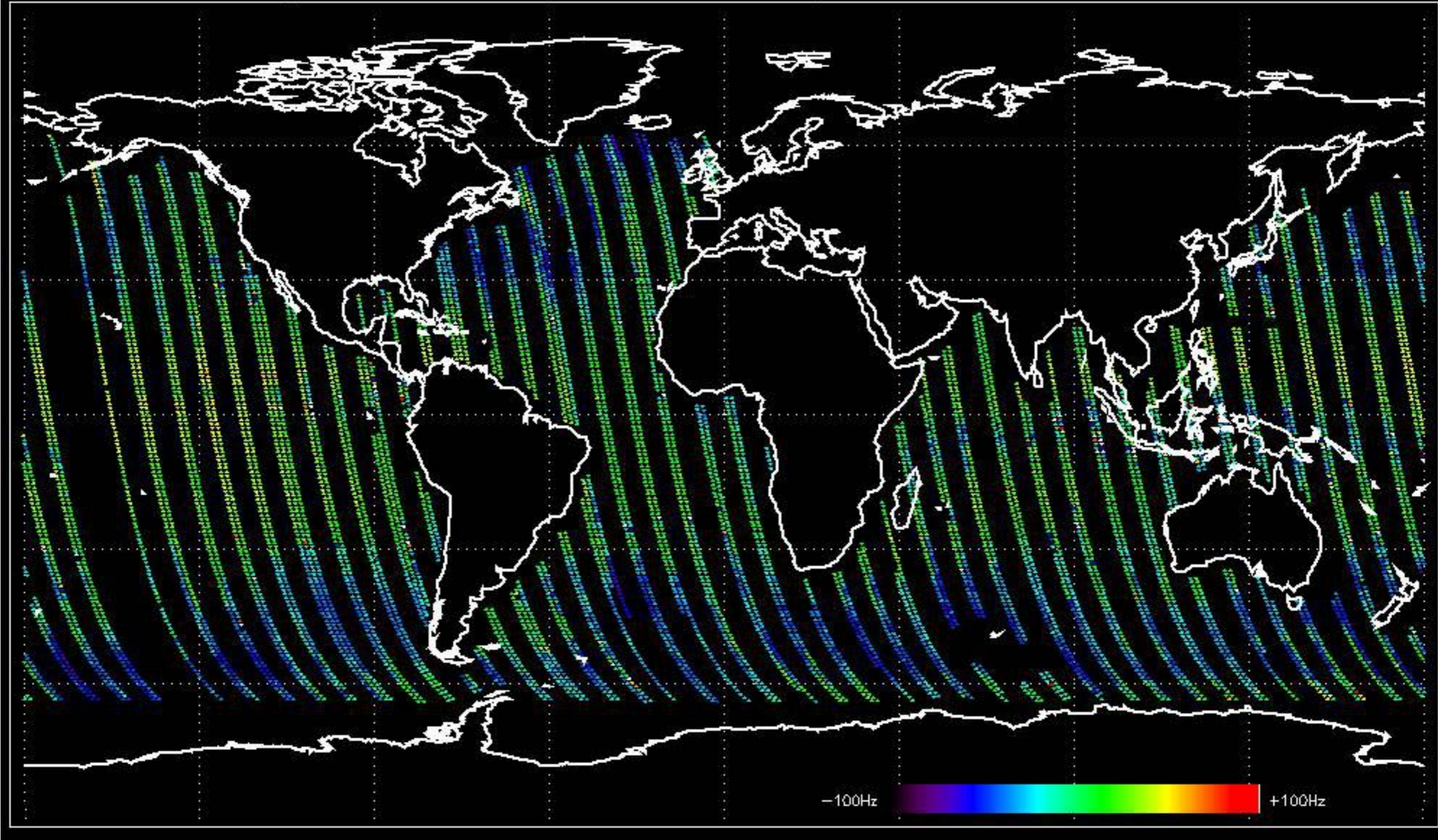
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -16.188346 Hz



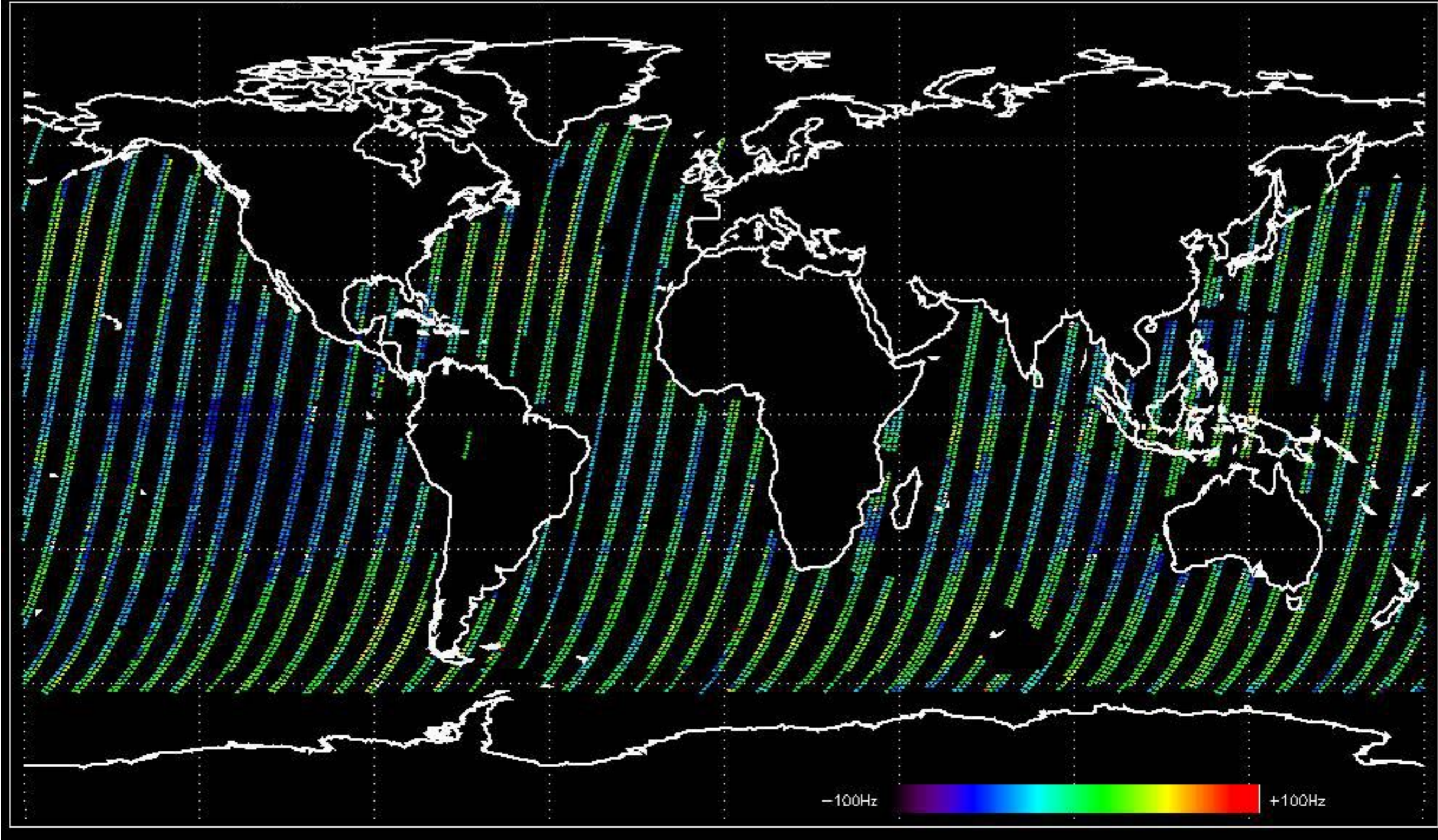
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -19.377694 Hz



Doppler difference, estimated-predicted 'WVS' 'IS4' ascending -error mean of -27.911108 Hz

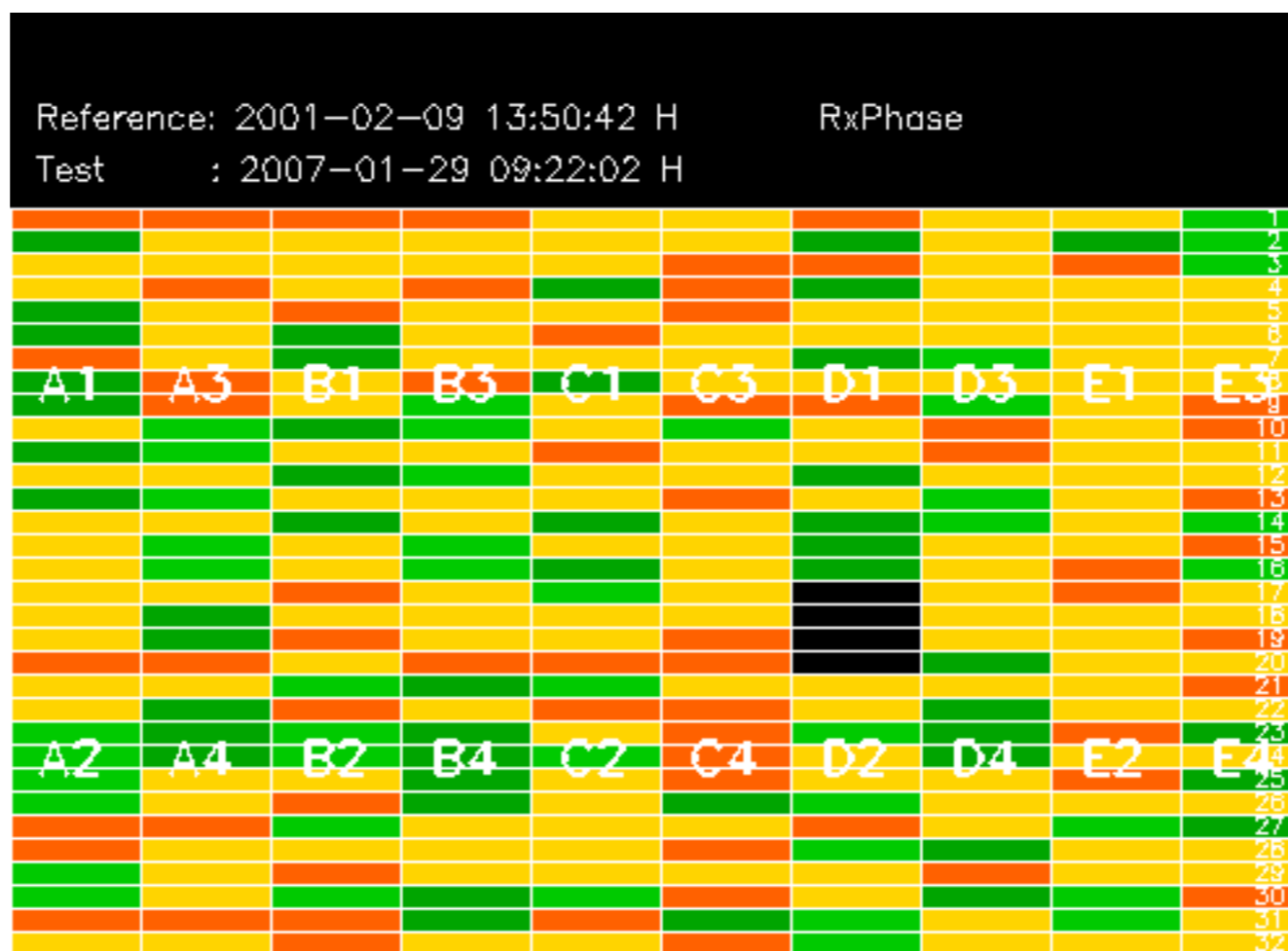


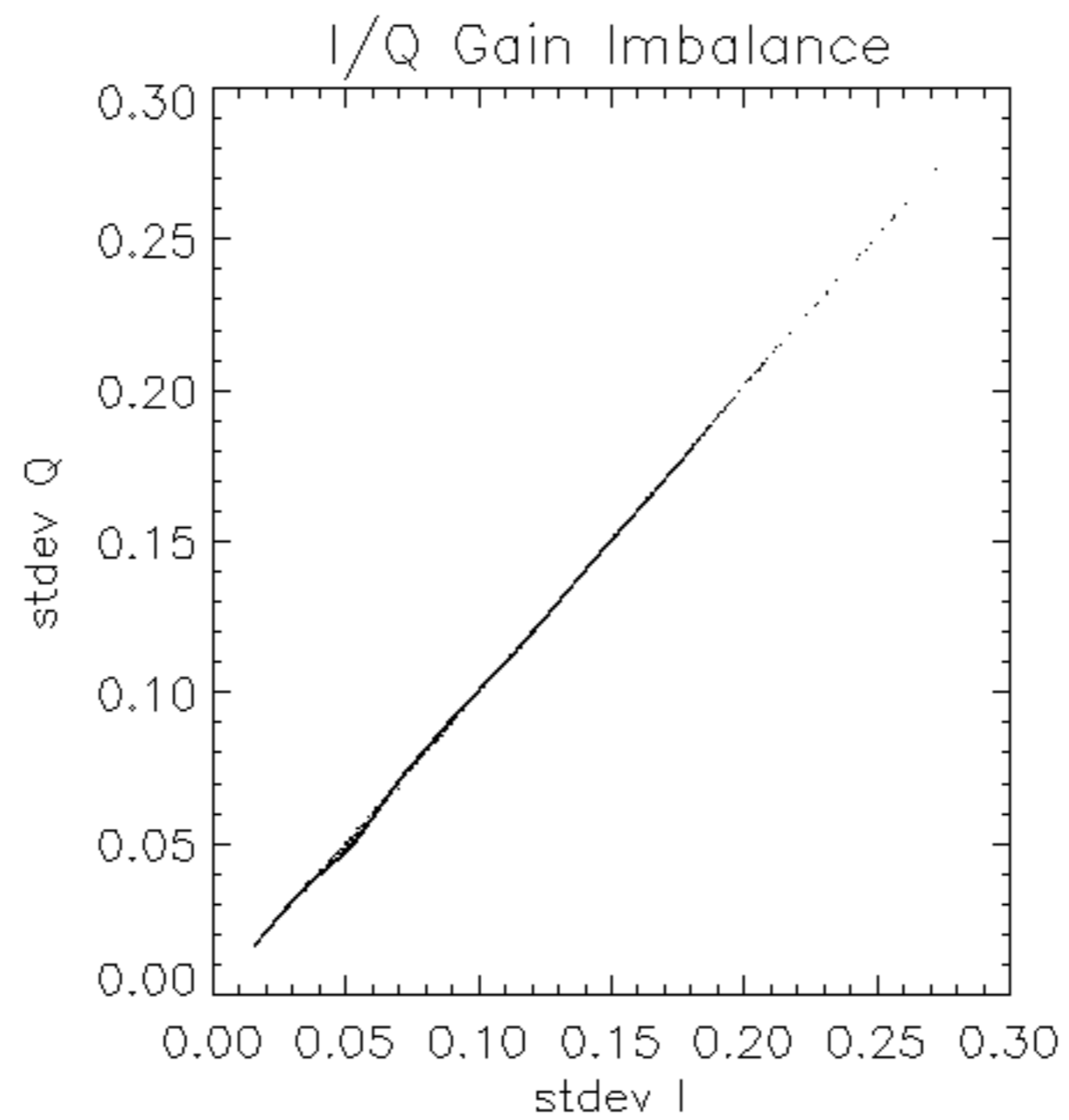
Doppler difference, estimated-predicted 'WVS' 'IS4' descending -error mean of -34.894376 Hz

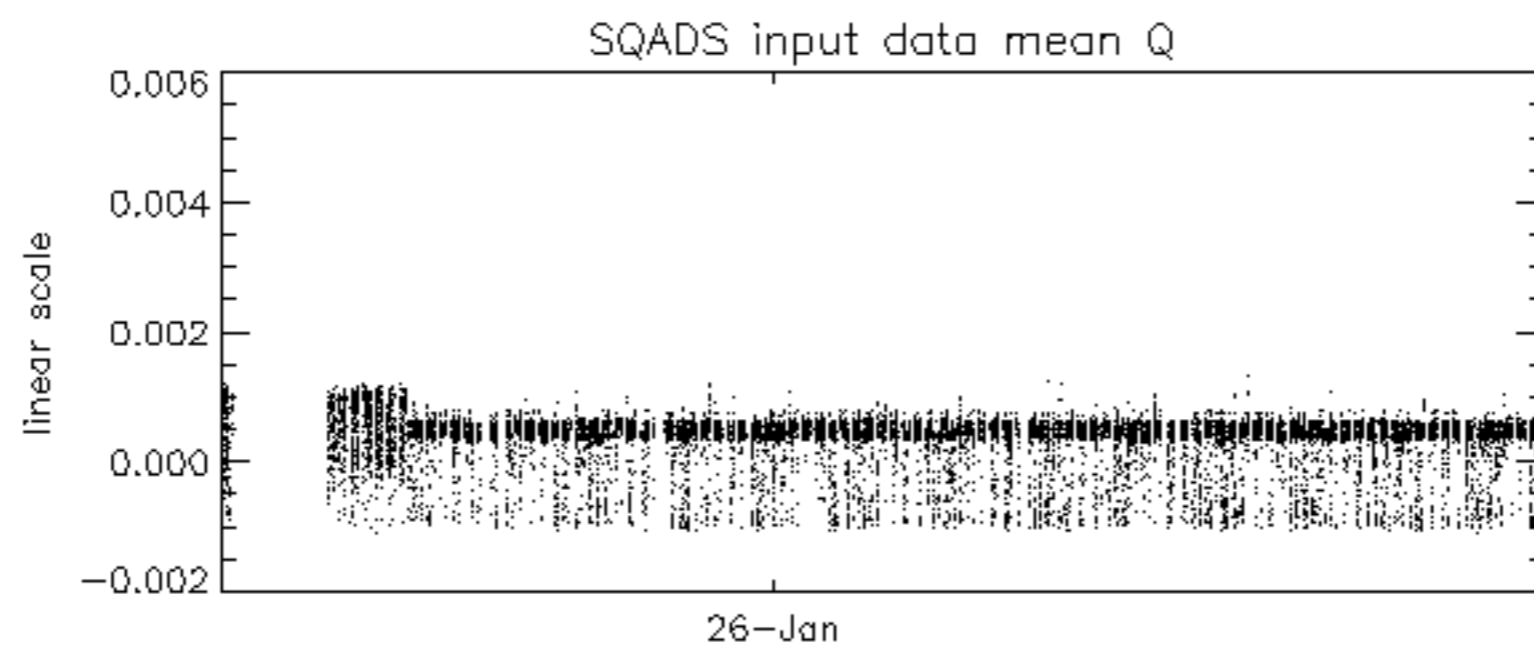
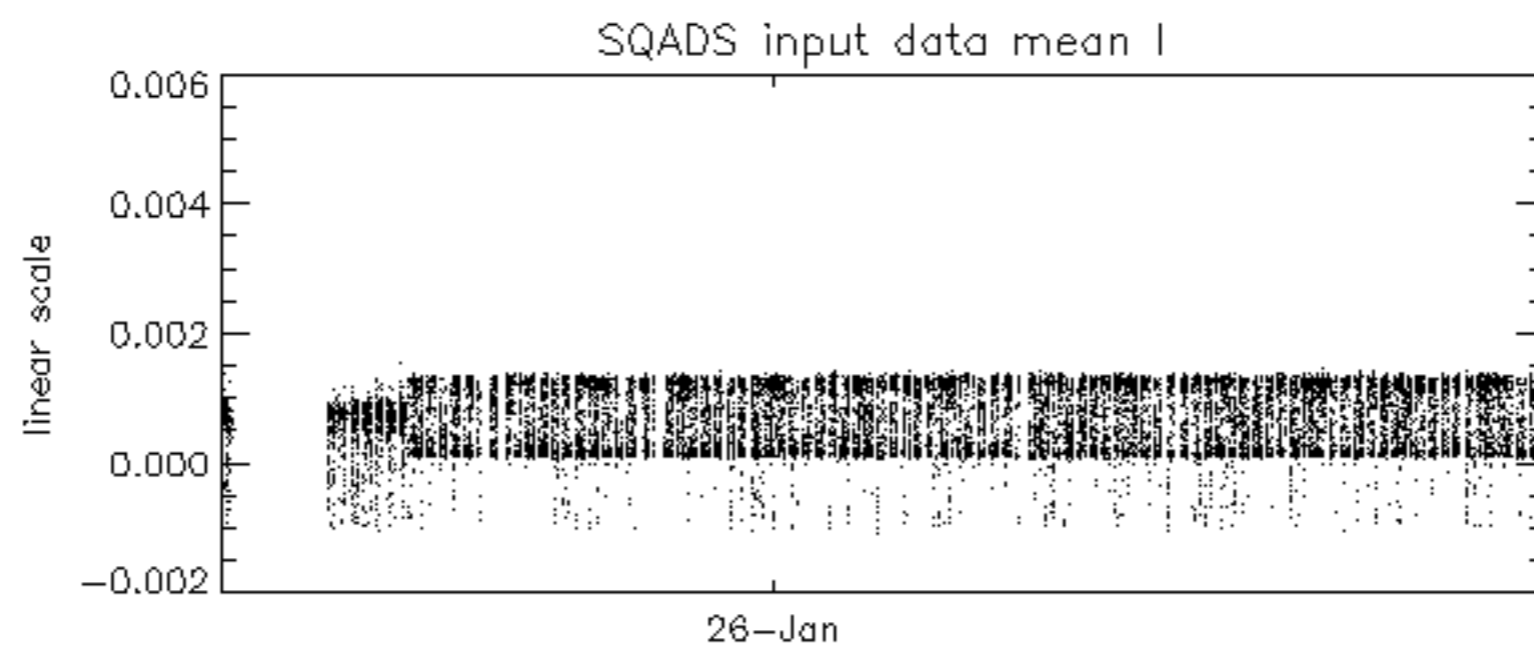
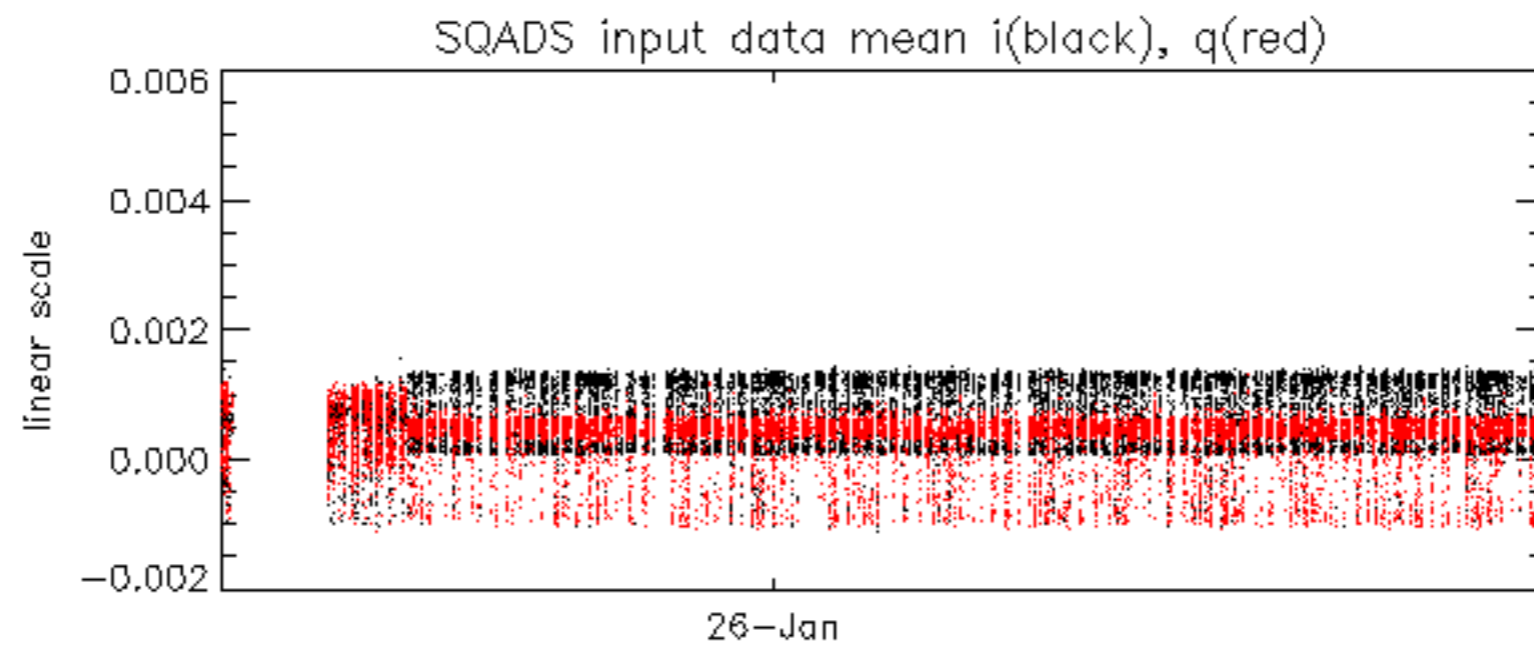


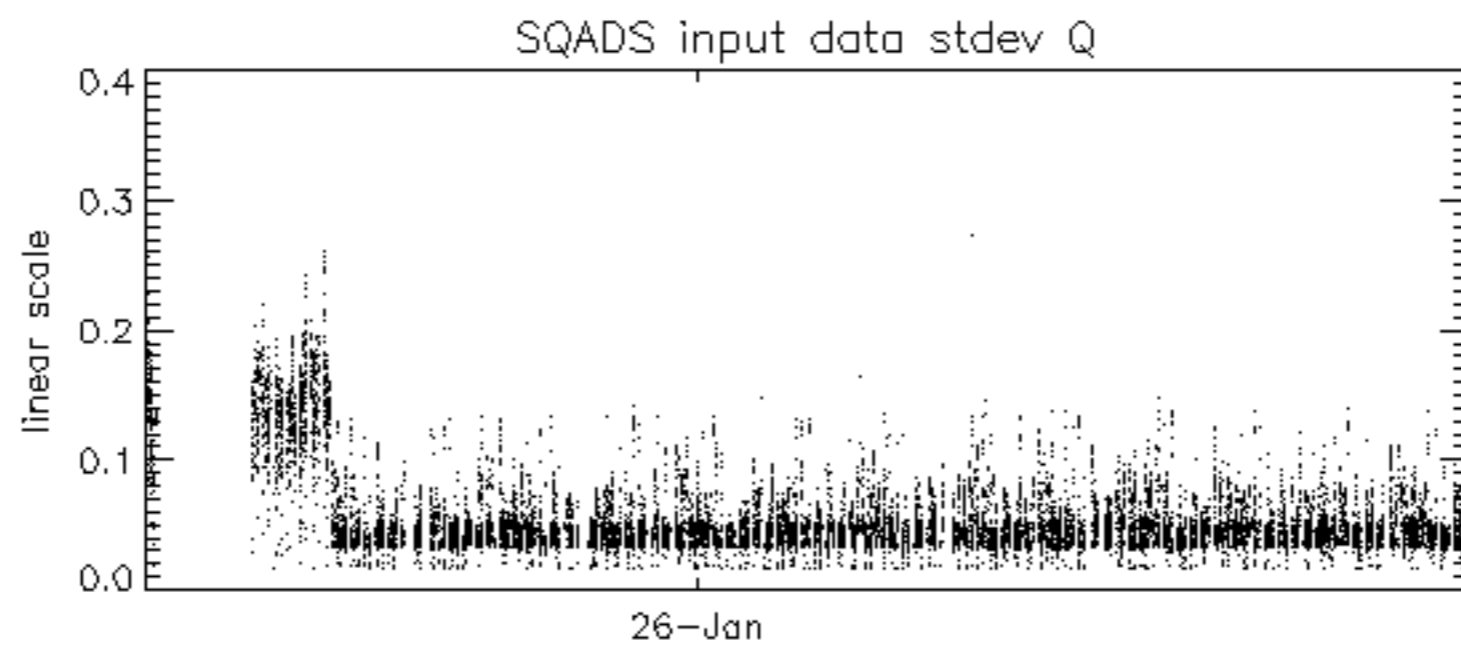
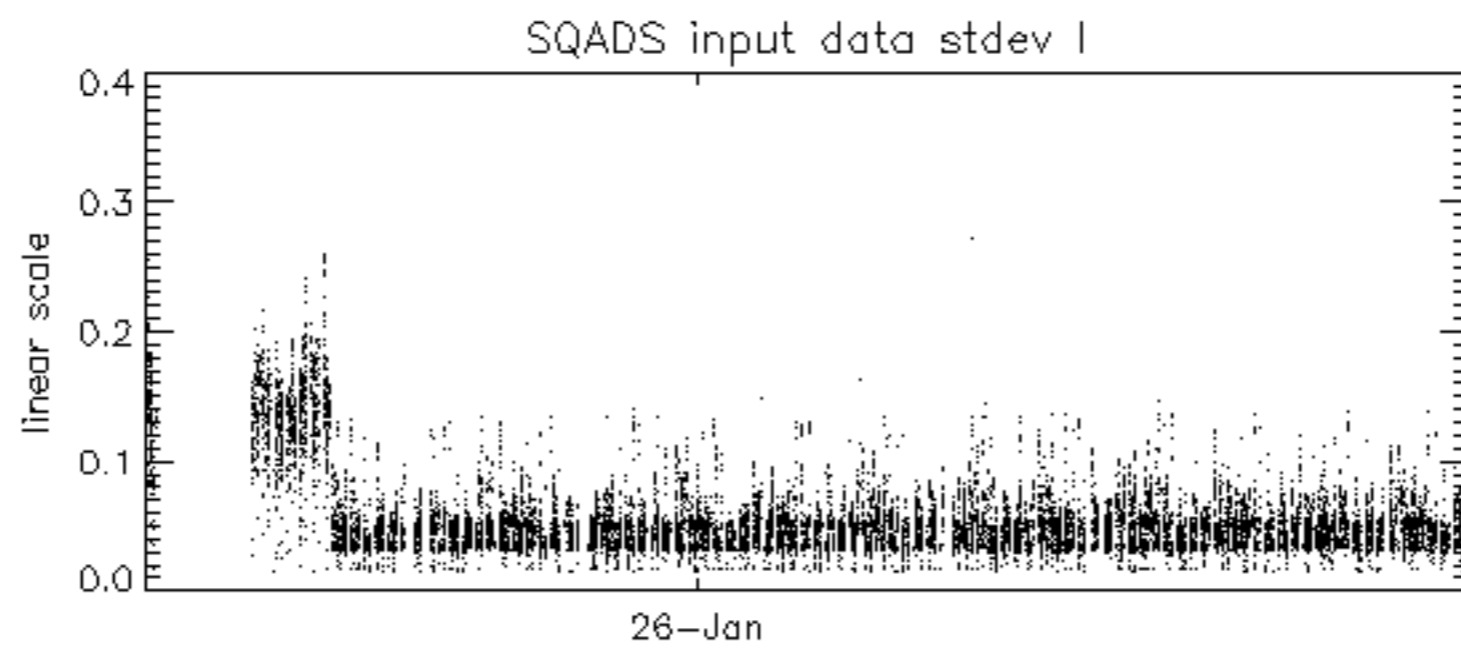
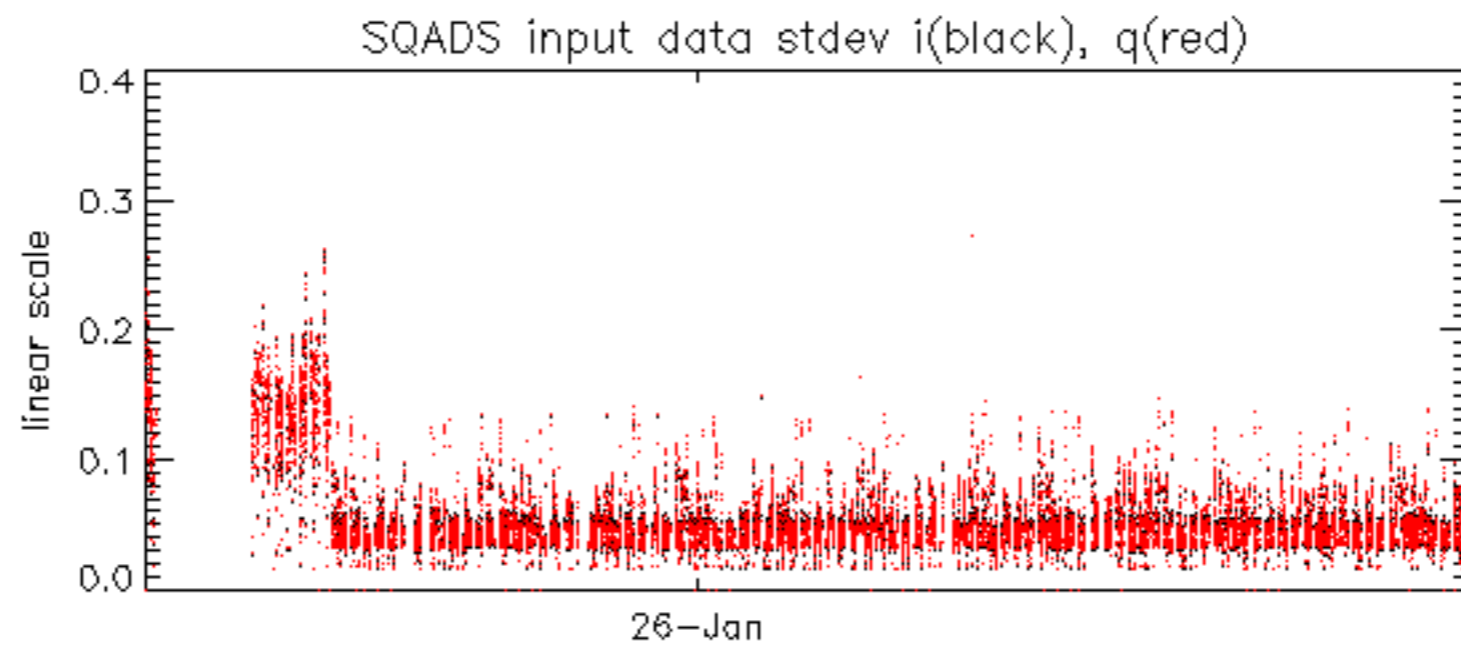
No anomalies observed on available MS products:

No anomalies observed.

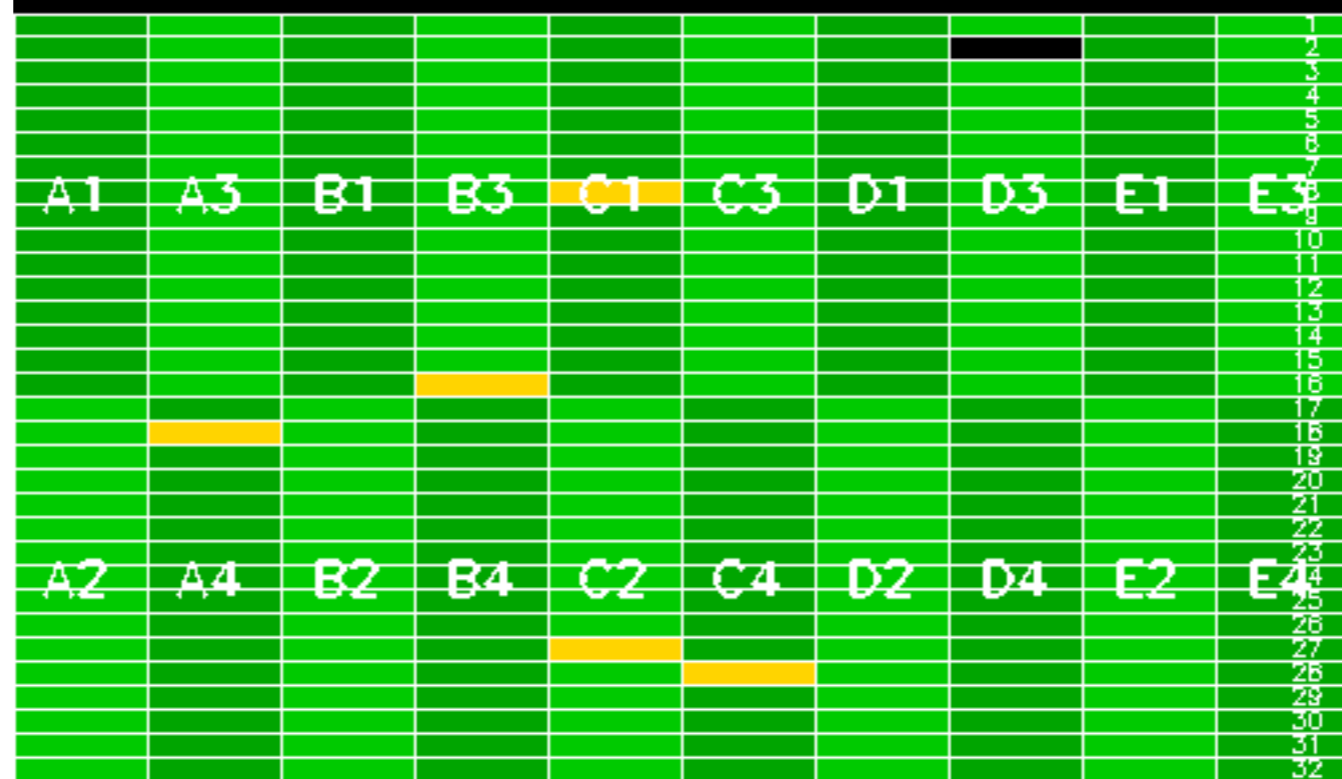








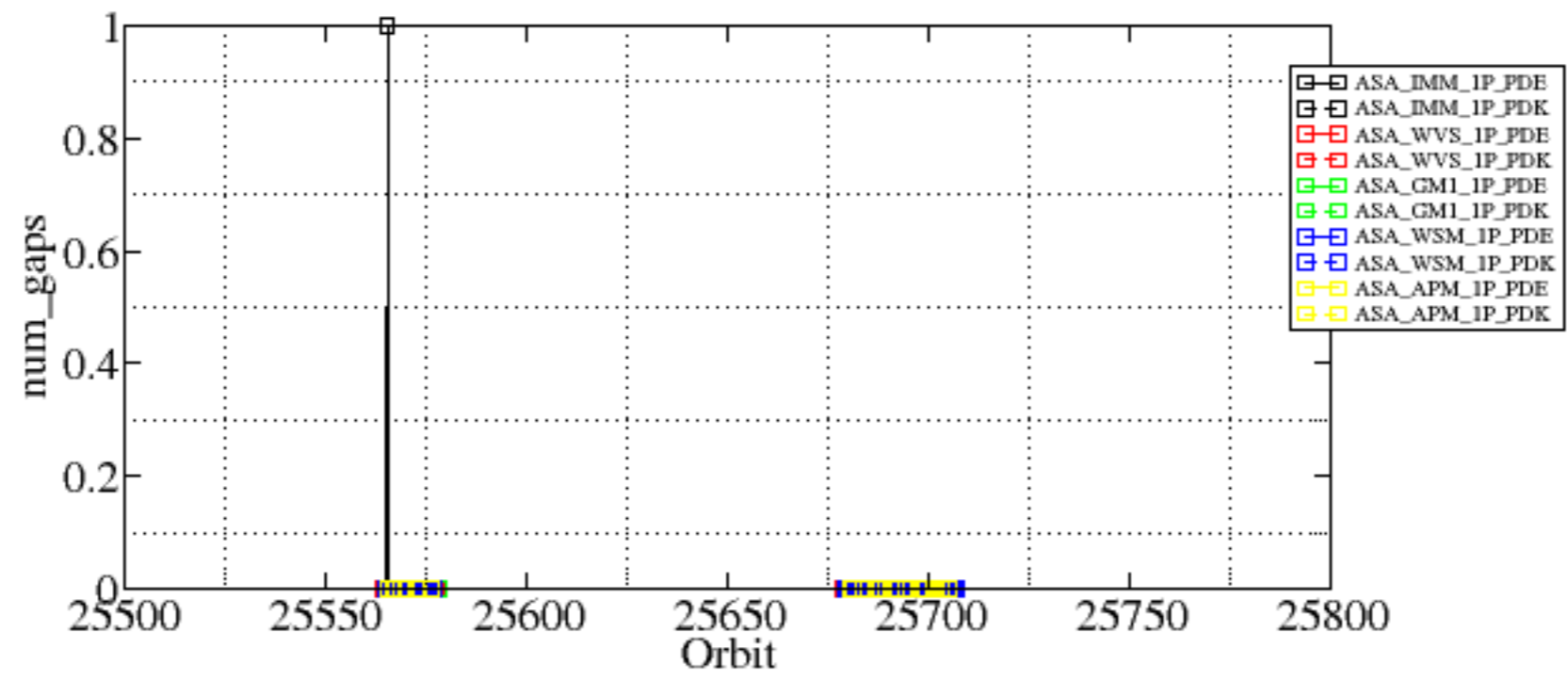
Reference: 2005-09-23 05:55:14 V TxGain
 Test : 2007-01-30 08:50:26 V

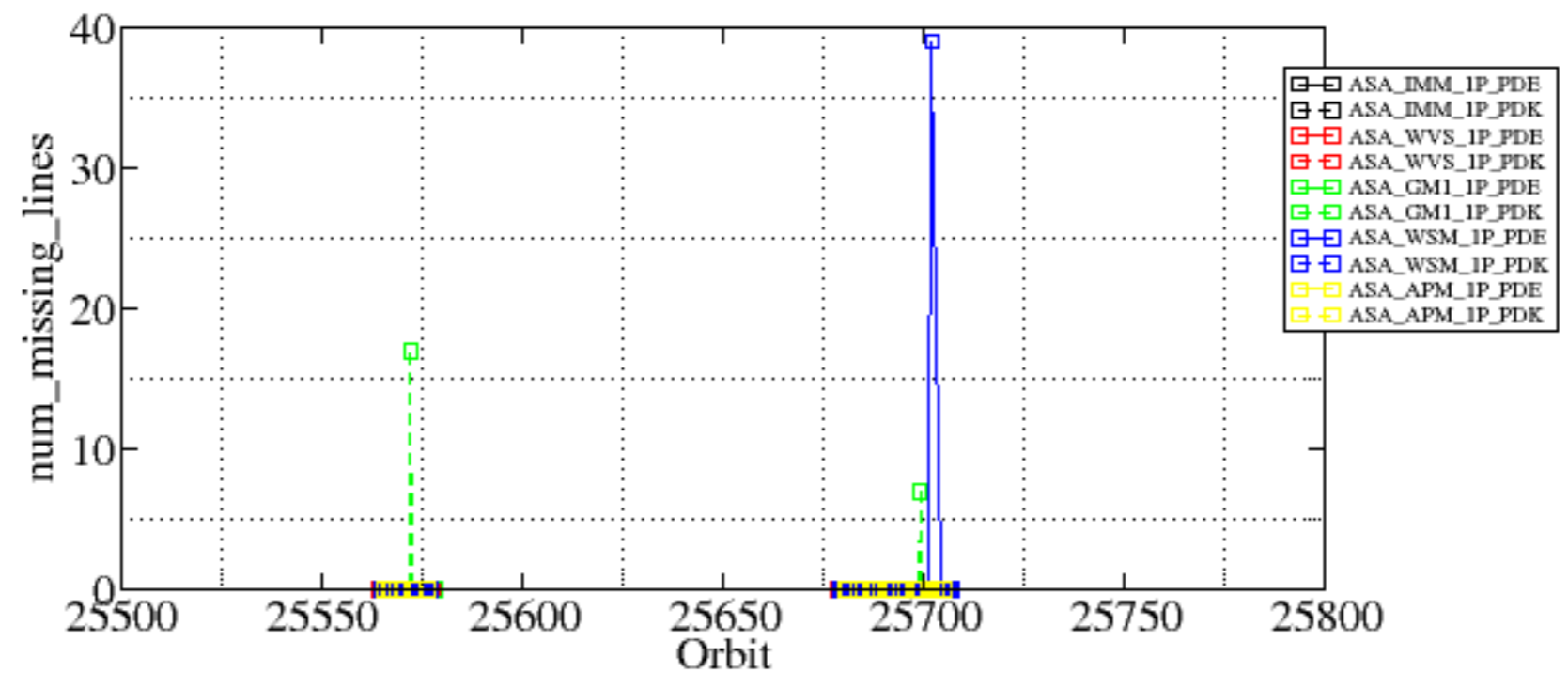


Summary of analysis for the last 3 days 2007012[890]

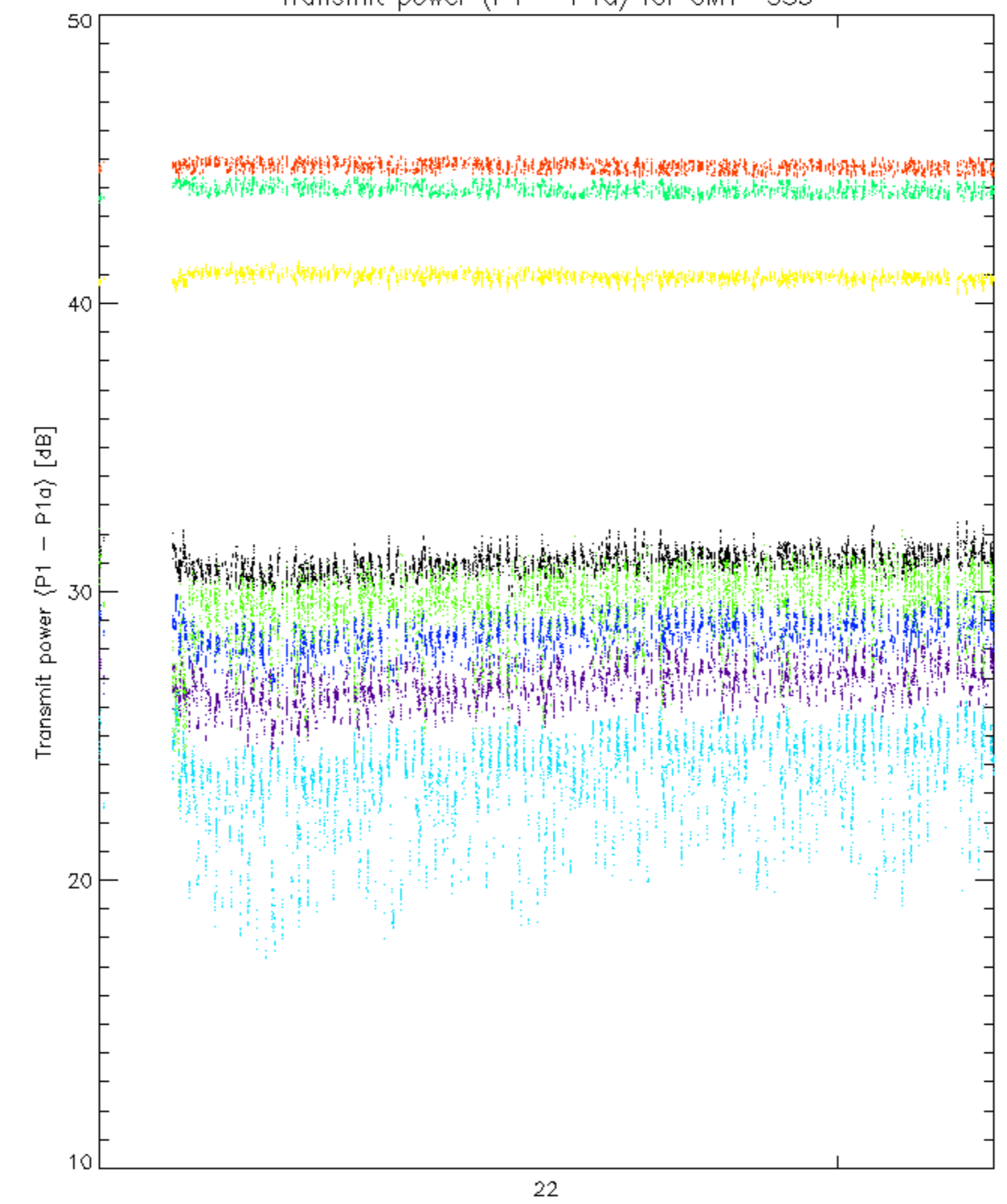
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20070120_015157_00000532054_00461_25565_3990.N1	1	0
ASA_GM1_1PNPDK20070120_131030_000008632054_00468_25572_5436.N1	0	17
ASA_GM1_1PNPDK20070129_101419_000004832055_00094_25699_7395.N1	0	7
ASA_WSM_1PNPDE20070129_145855_000002872055_00097_25702_8748.N1	0	39

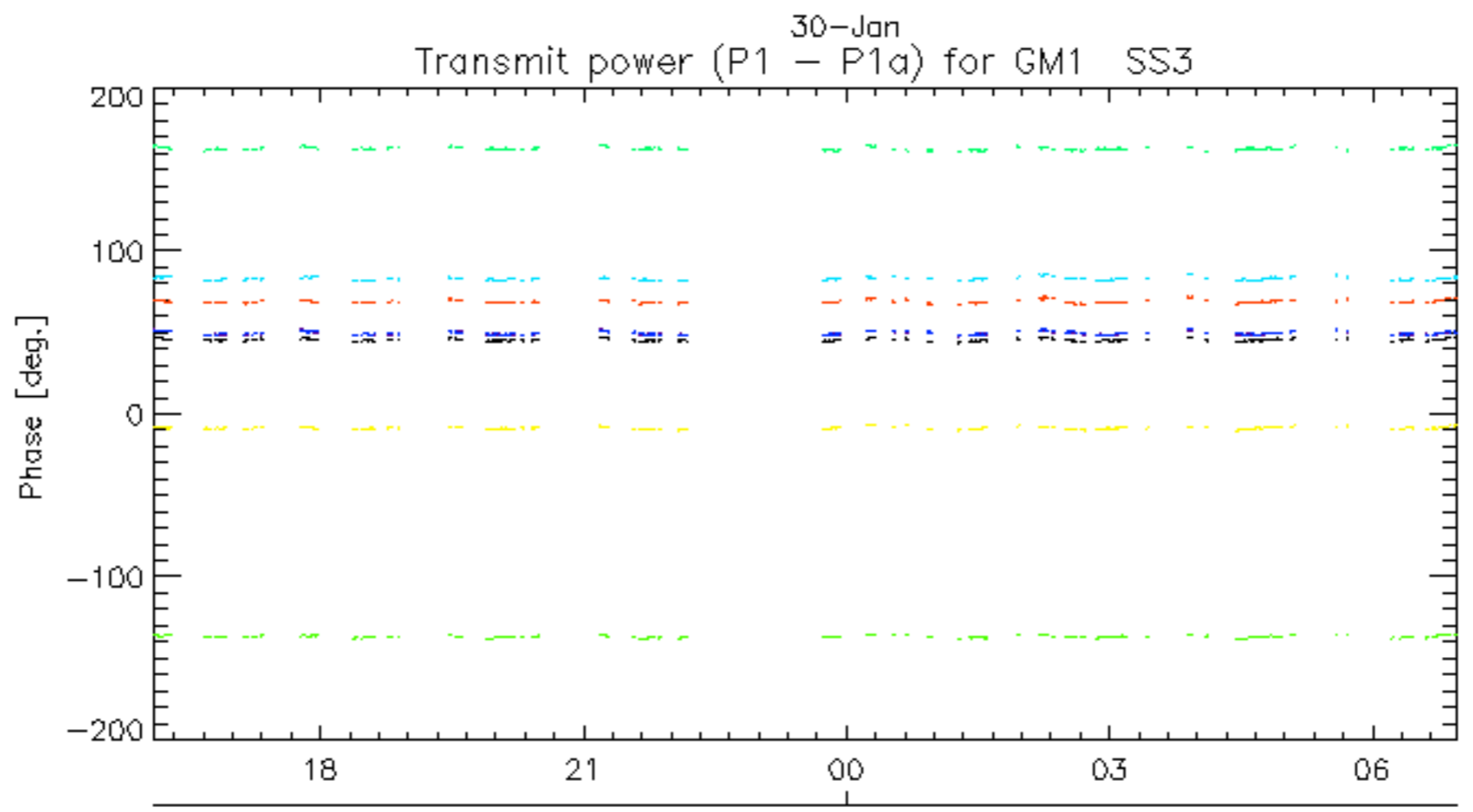
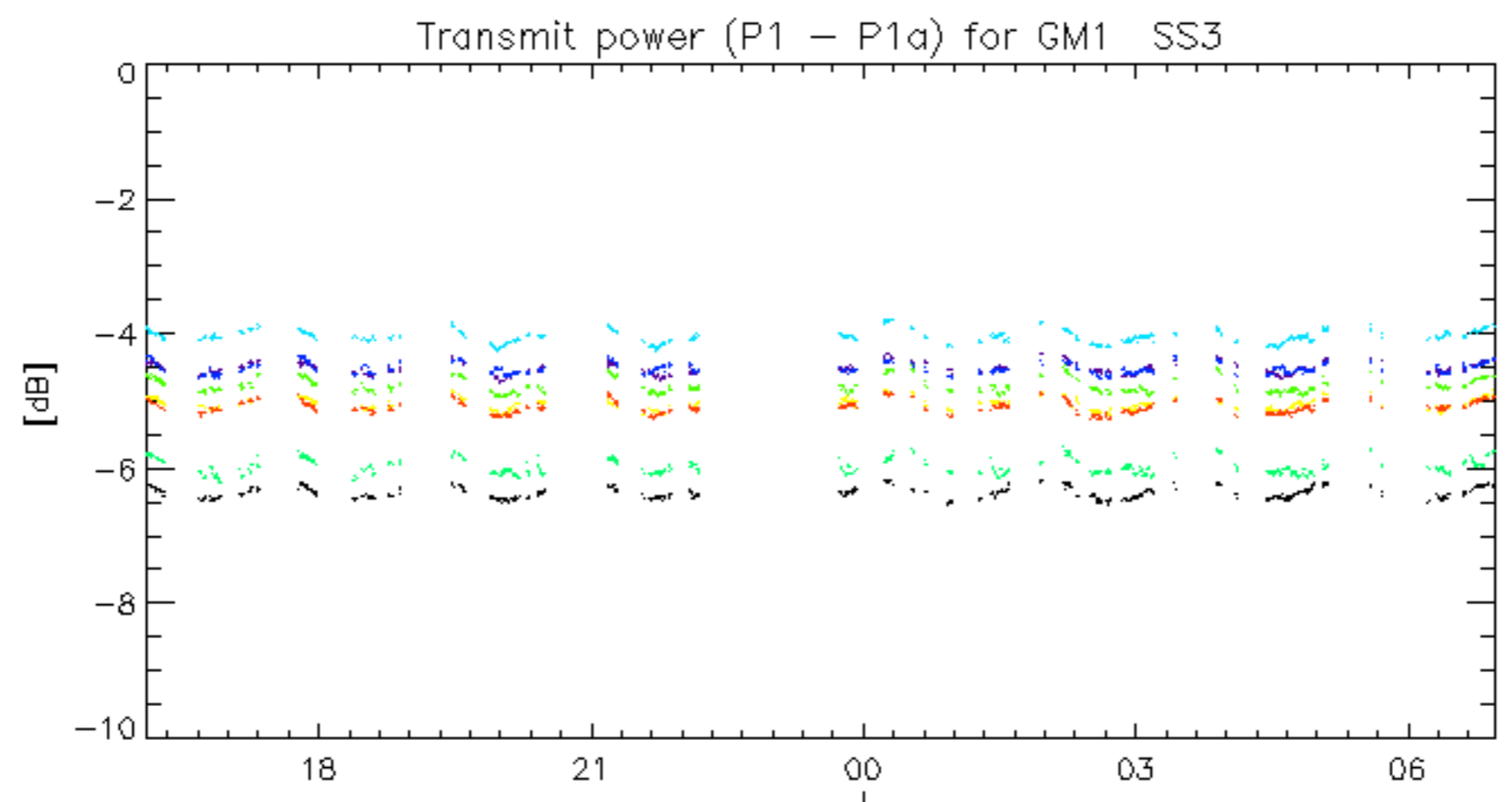




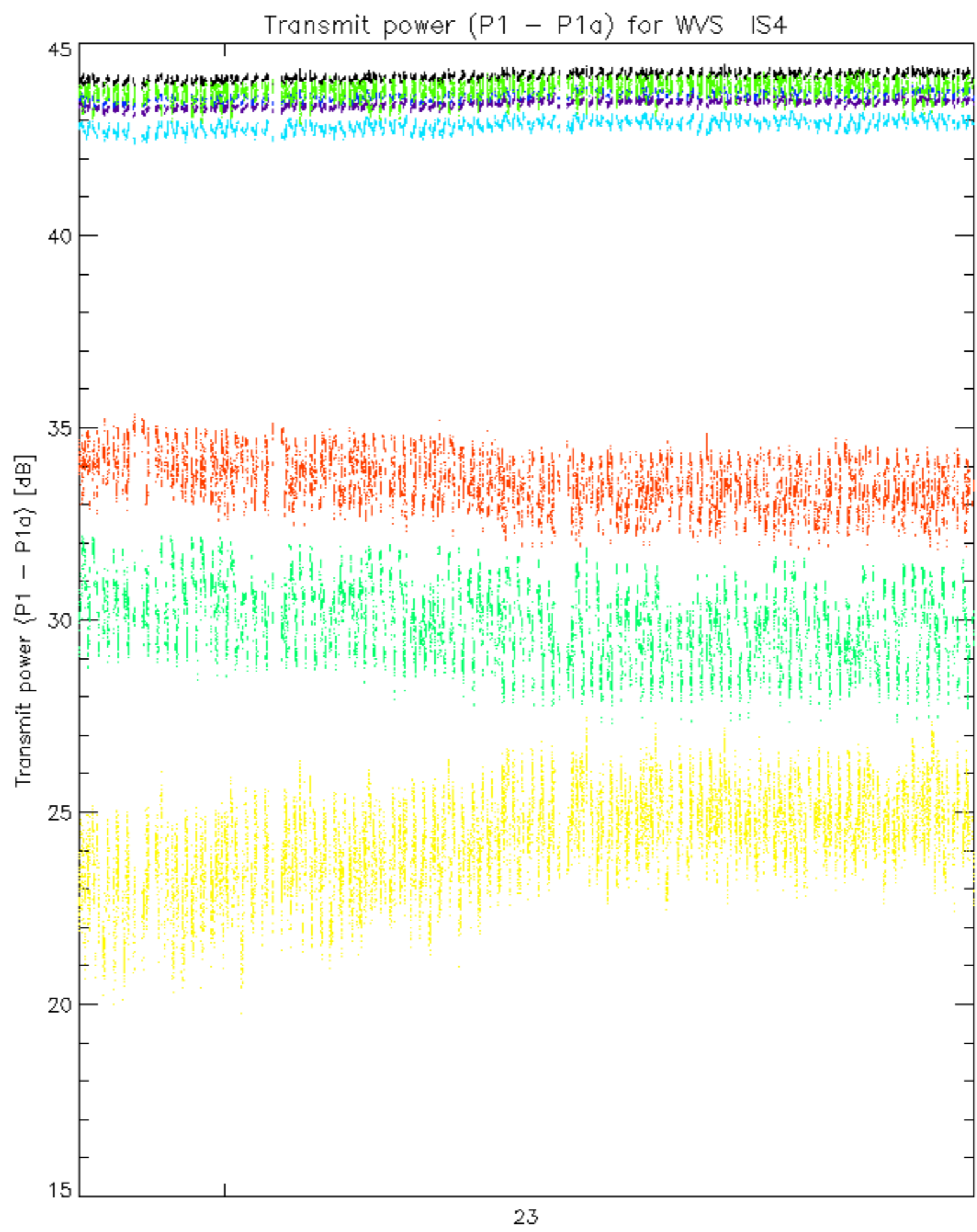
Transmit power (P1 - P1a) for GM1 SS3

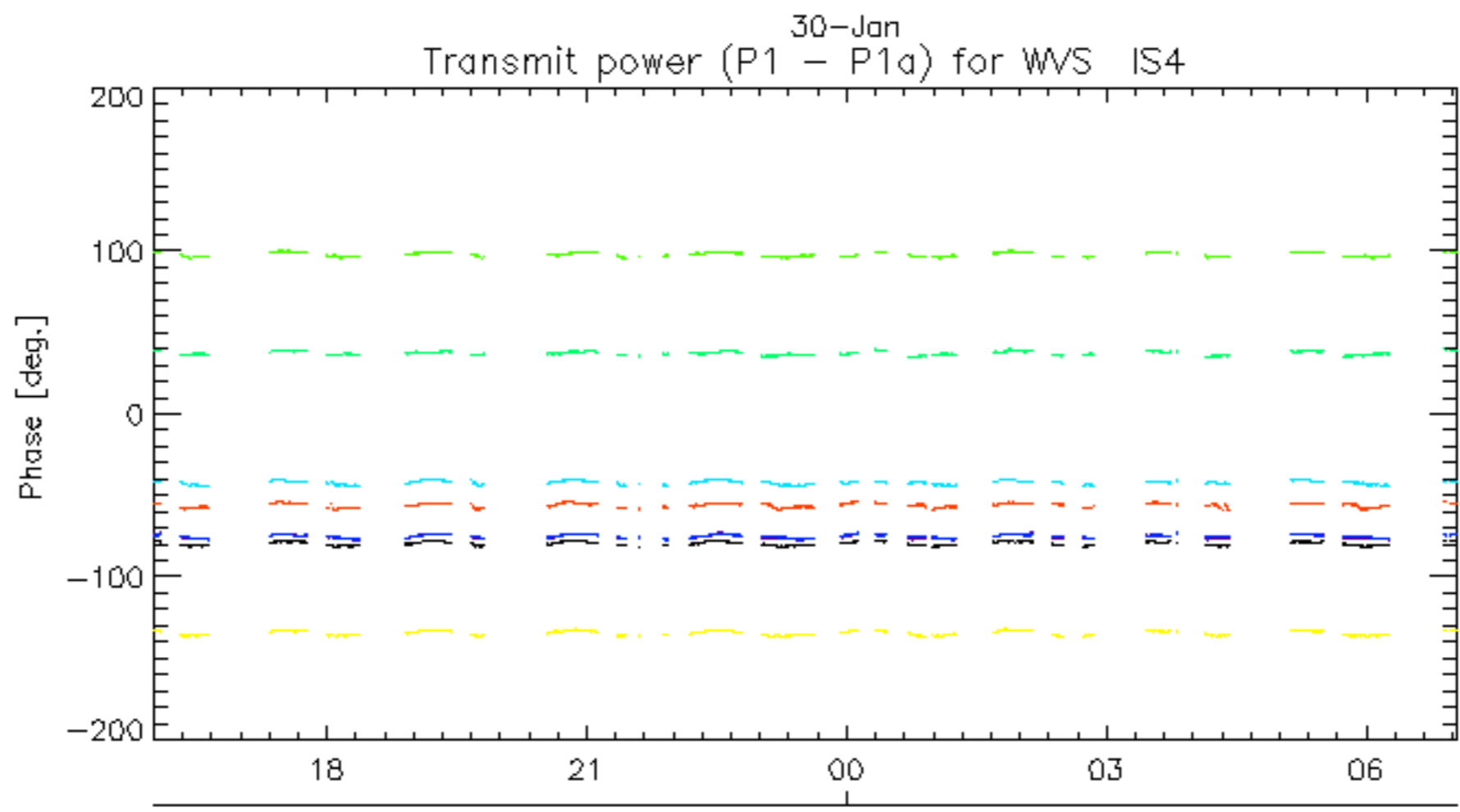
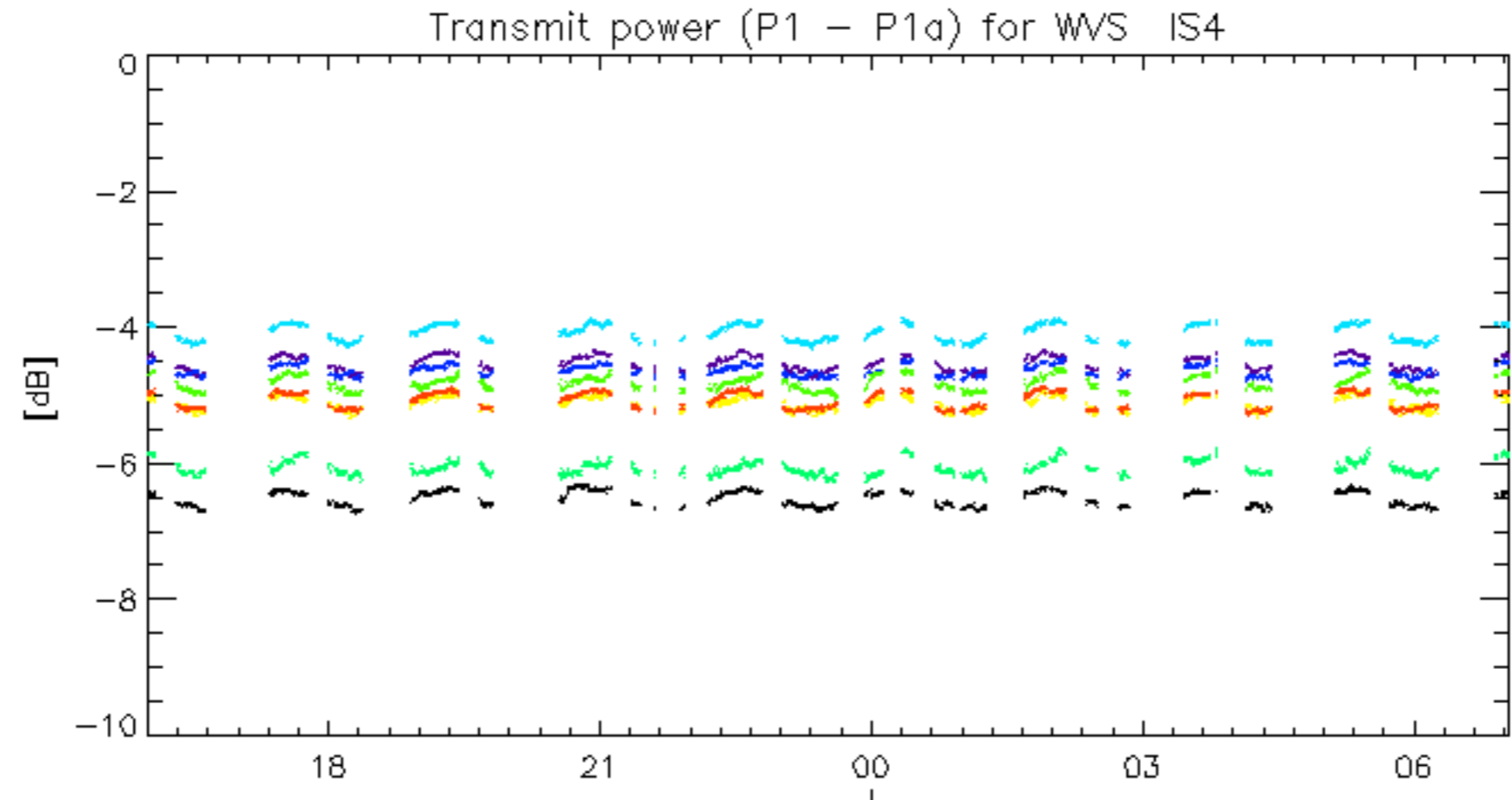


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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





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

No unavailabilities during the reported period.