

REPORT OF 041102

last update on Mon Nov 8 13:43:26 GMT 2004

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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

ASAR ANTENNA reset due to tile E2 transmit power drop that began on 02-NOV-2004 14:17:25 UTC
From 03 Nov 2004 09:59:30.000 UTC (Orbit = 14004) to 03 Nov 2004 10:04:58.000 UTC (Orbit = 14004)

2.2 - Browse Visual Inspection

Impact visible on Scansar products.

2.3 - Data Analysis

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

3 - Module Stepping Mode

The MS mode provides an internal health check on an individual module basis. The purpose of this mode is to identify any malfunctioning modules and to identify modules for which calibration offsets are to be applied.

No anomalies observed on available MS products:

Polarisation	Start Time
V	20041031 053217
H	20041030 060354

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

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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	-3.479783	0.006376	-0.004869
7	P1	-3.355586	0.012115	-0.021419
11	P1	-4.612120	0.018788	0.044739
15	P1	-5.690234	0.032666	0.064935
19	P1	-3.562864	0.005542	-0.090115
22	P1	-4.573473	0.013387	-0.042791
24	P1	-4.963149	0.009118	0.027623
30	P1	-7.055600	0.016349	-0.023923
3	P1	-16.076162	0.092518	0.092263

7	P1	-14.041747	0.063830	0.017257
11	P1	-20.505421	0.202860	-0.353513
15	P1	-11.708203	0.031938	0.065684
19	P1	-14.024243	0.025084	-0.052595
22	P1	-16.206017	0.387426	-0.179221
24	P1	-14.612480	0.253657	-0.202220
30	P1	-18.034128	0.294740	0.125872

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-22.360149	0.088485	-0.049133
7	P2	-22.609877	0.126110	-0.008504
11	P2	-15.109988	0.121447	0.061356
15	P2	-7.119231	0.106432	-0.067393
19	P2	-9.669287	0.125739	-0.134255
22	P2	-17.273781	0.107836	0.064440
24	P2	-20.796438	0.092088	-0.015986
30	P2	-19.076275	0.084677	0.079030

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.188868	0.005367	-0.035428
7	P3	-8.188867	0.005367	-0.035427
11	P3	-8.188866	0.005367	-0.035433
15	P3	-8.188865	0.005367	-0.035434
19	P3	-8.188868	0.005367	-0.035433
22	P3	-8.188870	0.005367	-0.035438
24	P3	-8.188870	0.005367	-0.035437
30	P3	-8.188996	0.005371	-0.035484

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	-2.819318	0.013766	0.061160
7	P1	-2.965113	0.048059	0.072817
11	P1	-3.892263	0.023099	-0.012707
15	P1	-3.489703	0.024671	0.007370
19	P1	-3.561764	0.013443	-0.102487
22	P1	-5.642022	0.063378	0.079403
24	P1	-3.972800	0.022662	-0.015073
30	P1	-6.235639	0.045850	-0.071931
3	P1	-10.713650	0.093170	0.441093
7	P1	-10.066870	0.168155	0.049044
11	P1	-12.292465	0.128941	-0.170302
15	P1	-11.685428	0.072793	-0.002410
19	P1	-15.606182	0.060974	-0.048124
22	P1	-23.741556	1.664196	-0.416189
24	P1	-18.146049	0.226837	-0.084607
30	P1	-20.313522	1.048912	0.224264

P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-18.039768	0.046052	-0.071243
7	P2	-22.692722	0.063332	0.037290
11	P2	-10.877528	0.045071	0.005017
15	P2	-5.020626	0.028891	-0.064132
19	P2	-6.885369	0.041539	-0.199725
22	P2	-7.392347	0.038102	0.043781
24	P2	-11.143565	0.052113	-0.093536
30	P2	-22.103121	0.036586	0.026179

P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.030814	0.003292	-0.033946

7	P3	-8.030733	0.003297	-0.033840
11	P3	-8.030792	0.003285	-0.033657
15	P3	-8.030712	0.003288	-0.033701
19	P3	-8.030740	0.003291	-0.033803
22	P3	-8.030781	0.003292	-0.033923
24	P3	-8.030913	0.003307	-0.033825
30	P3	-8.030783	0.003299	-0.033969

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	0.000478404
	stdev	2.13772e-07
MEAN Q	mean	0.000552182
	stdev	2.32961e-07



5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.127239
	stdev	0.000925800
STDEV Q	mean	0.127456

stdev 0.000934764



5.3 - Gain imbalance I/Q



6 - Doppler Analysis

Preliminary report. The data is not yet controlled

6.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)

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

6.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

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

6.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX

<input type="checkbox"/>

6.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

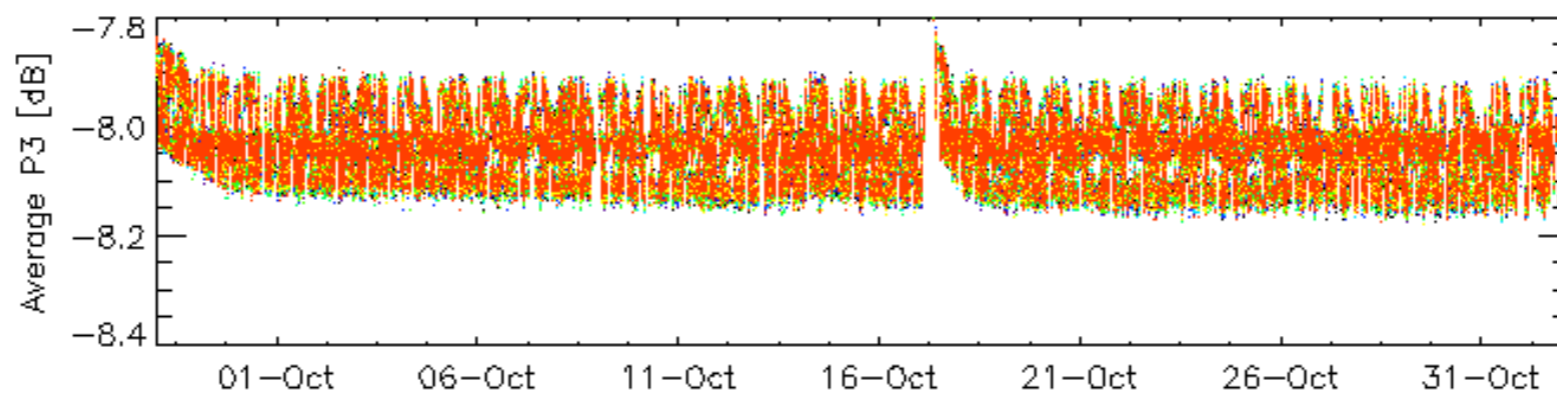
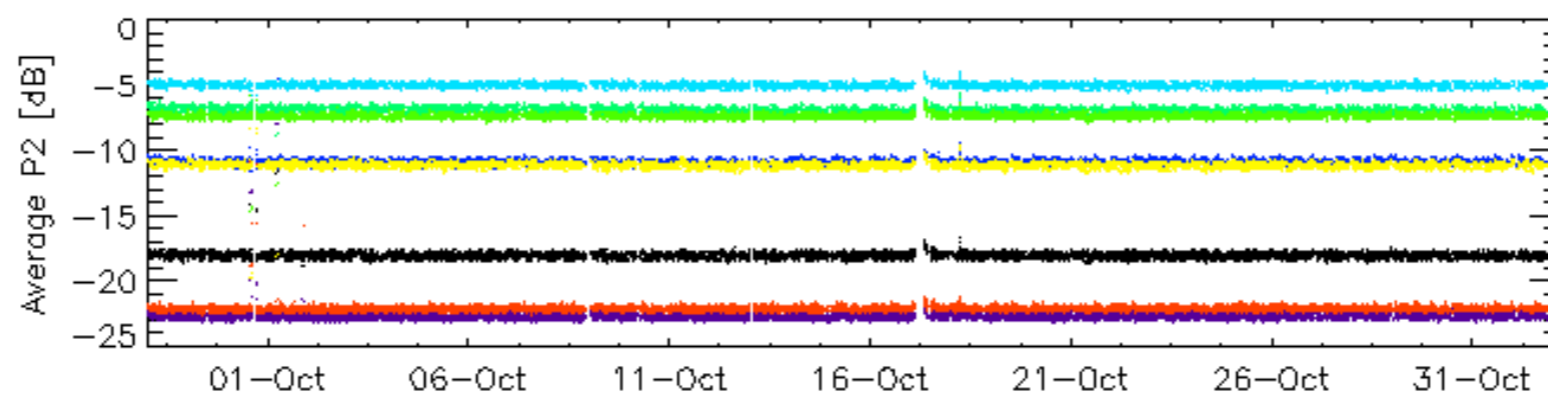
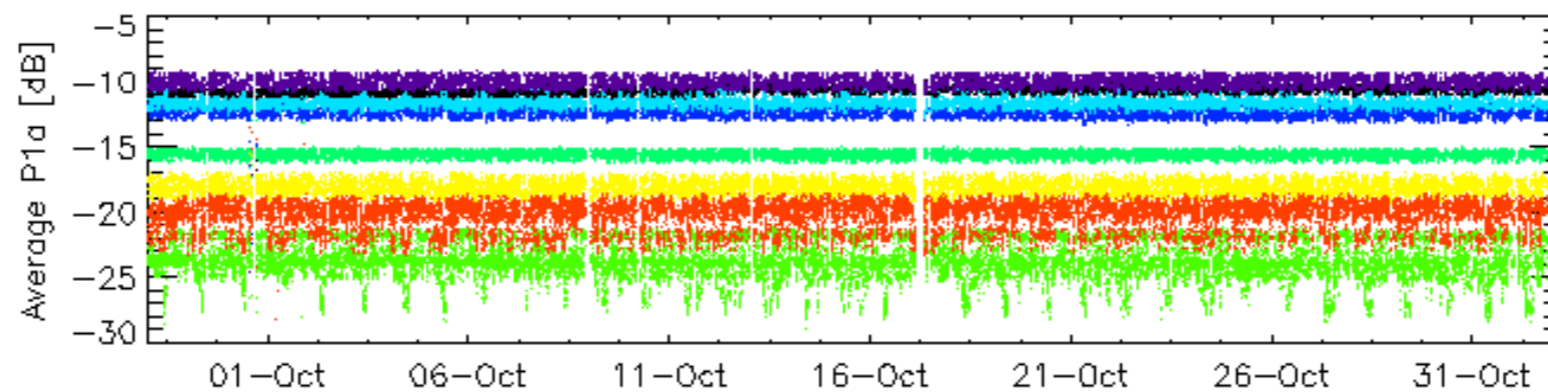
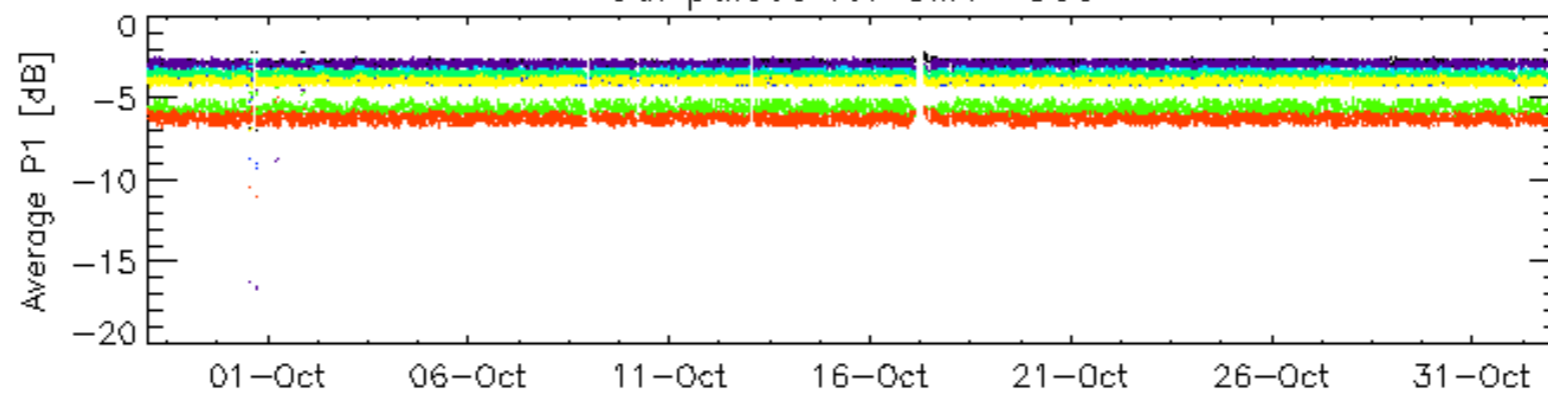
6.5 - Absolute Doppler for GM1

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

6.6 - Doppler evolution versus ANX for GM1

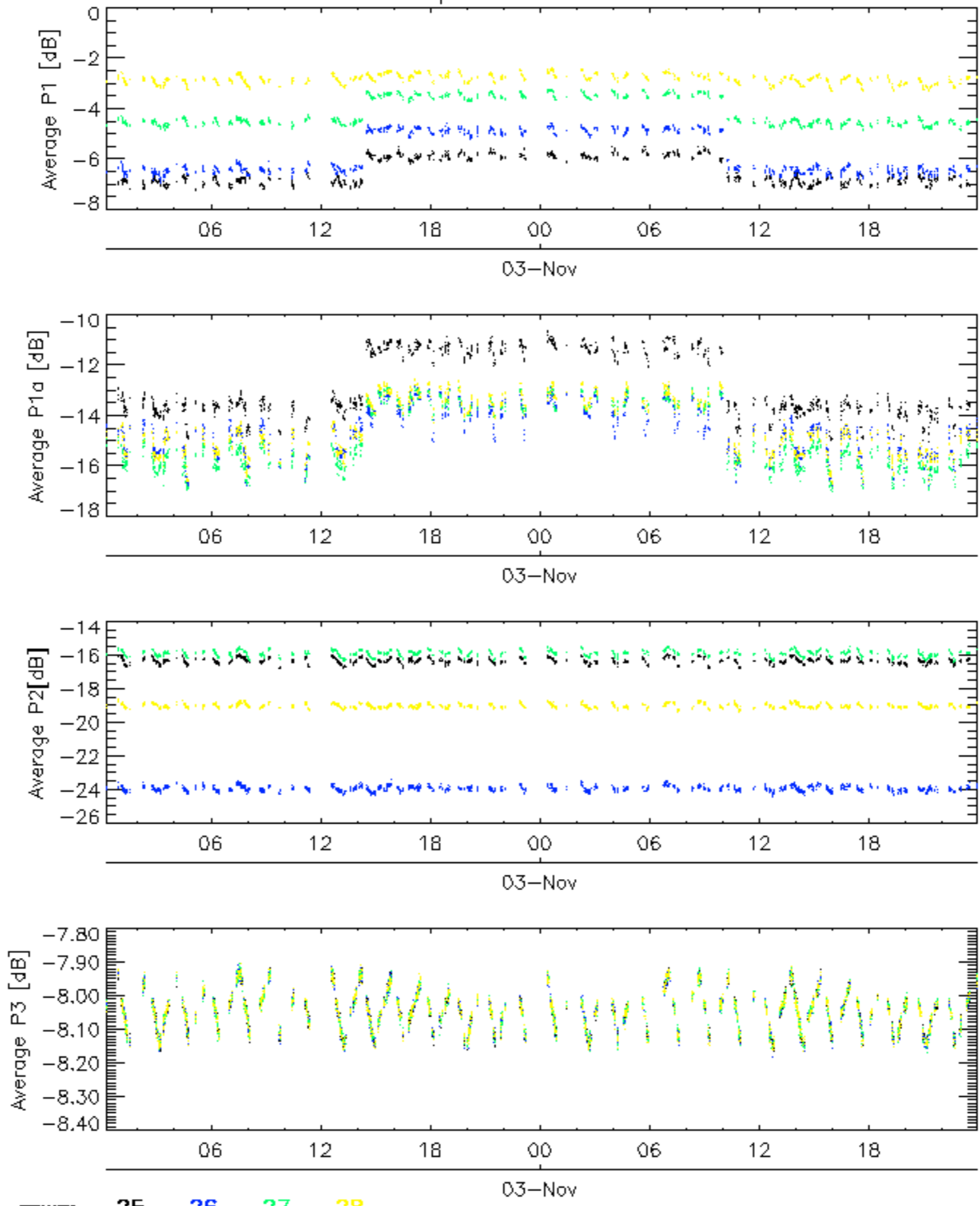
Evolution Doppler error versus ANX
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Cal pulses for GM1 SS3



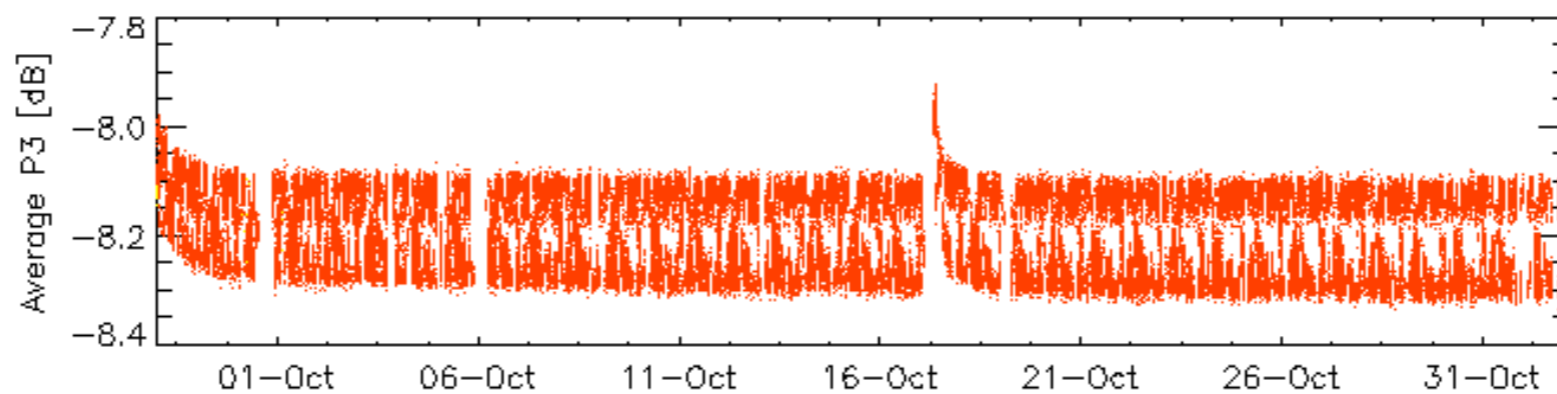
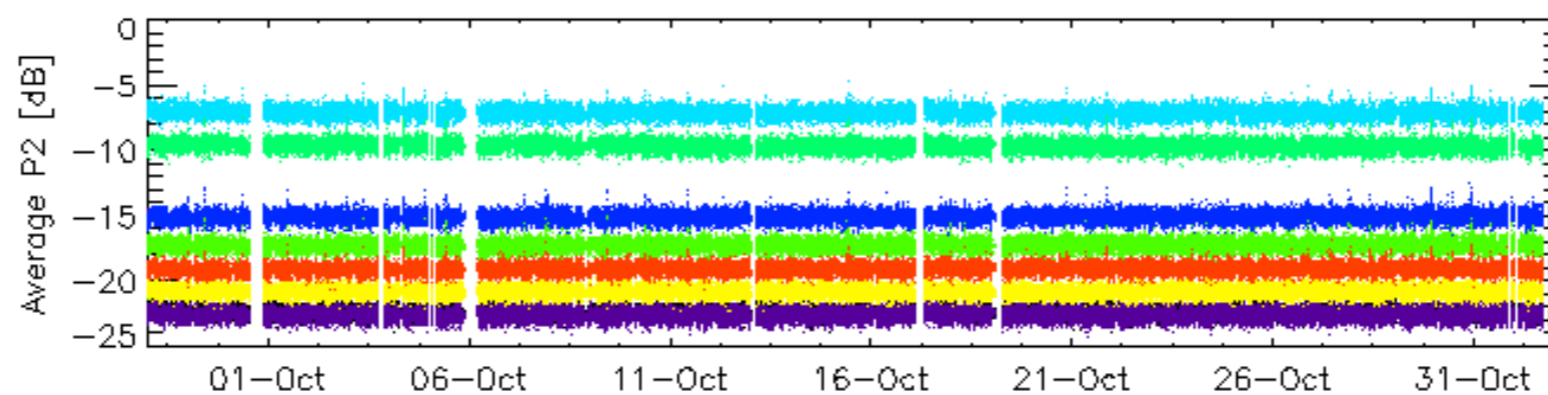
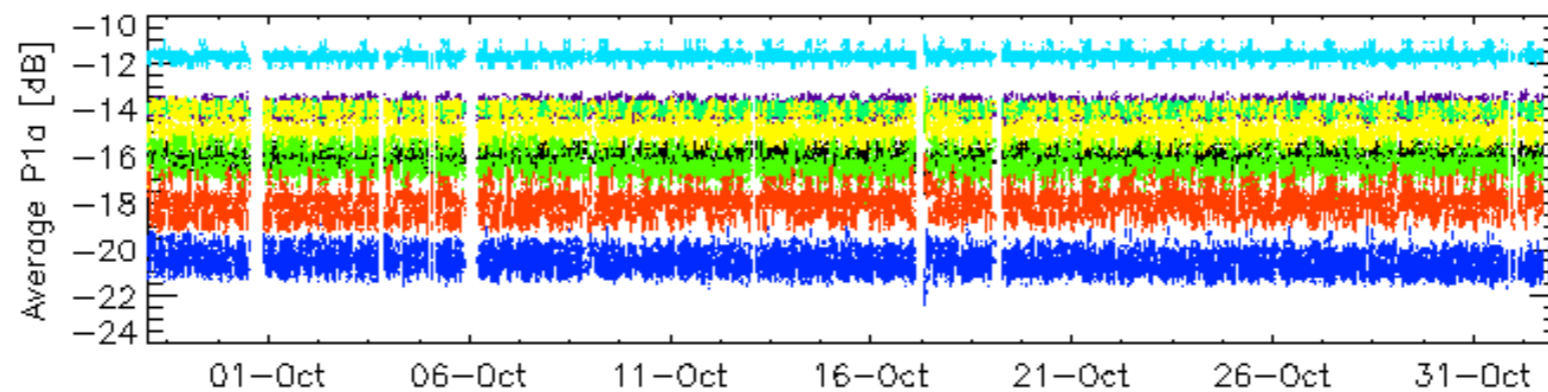
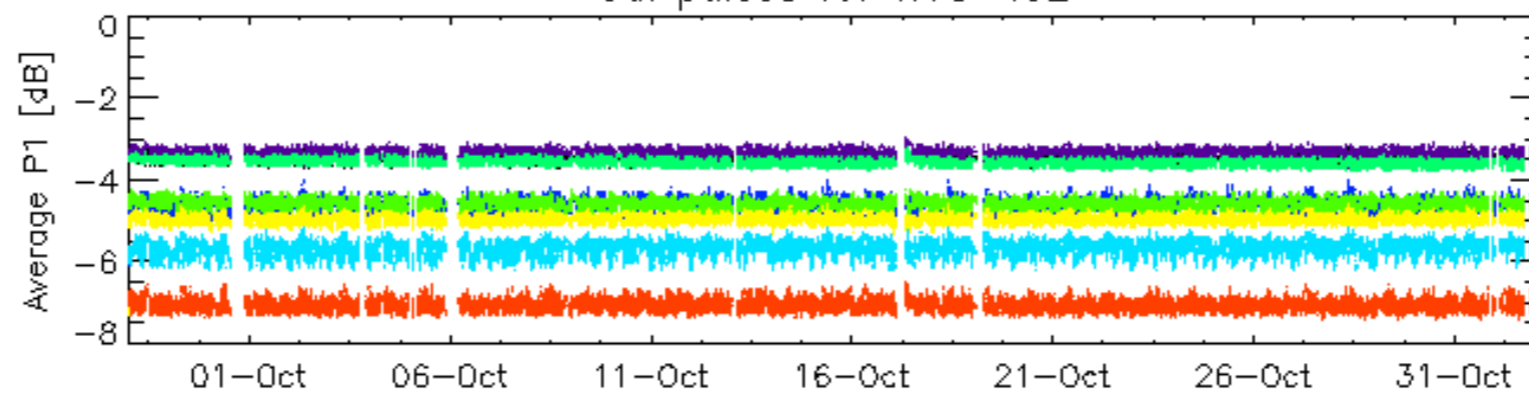
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

Cal pulses for GM1 SS3



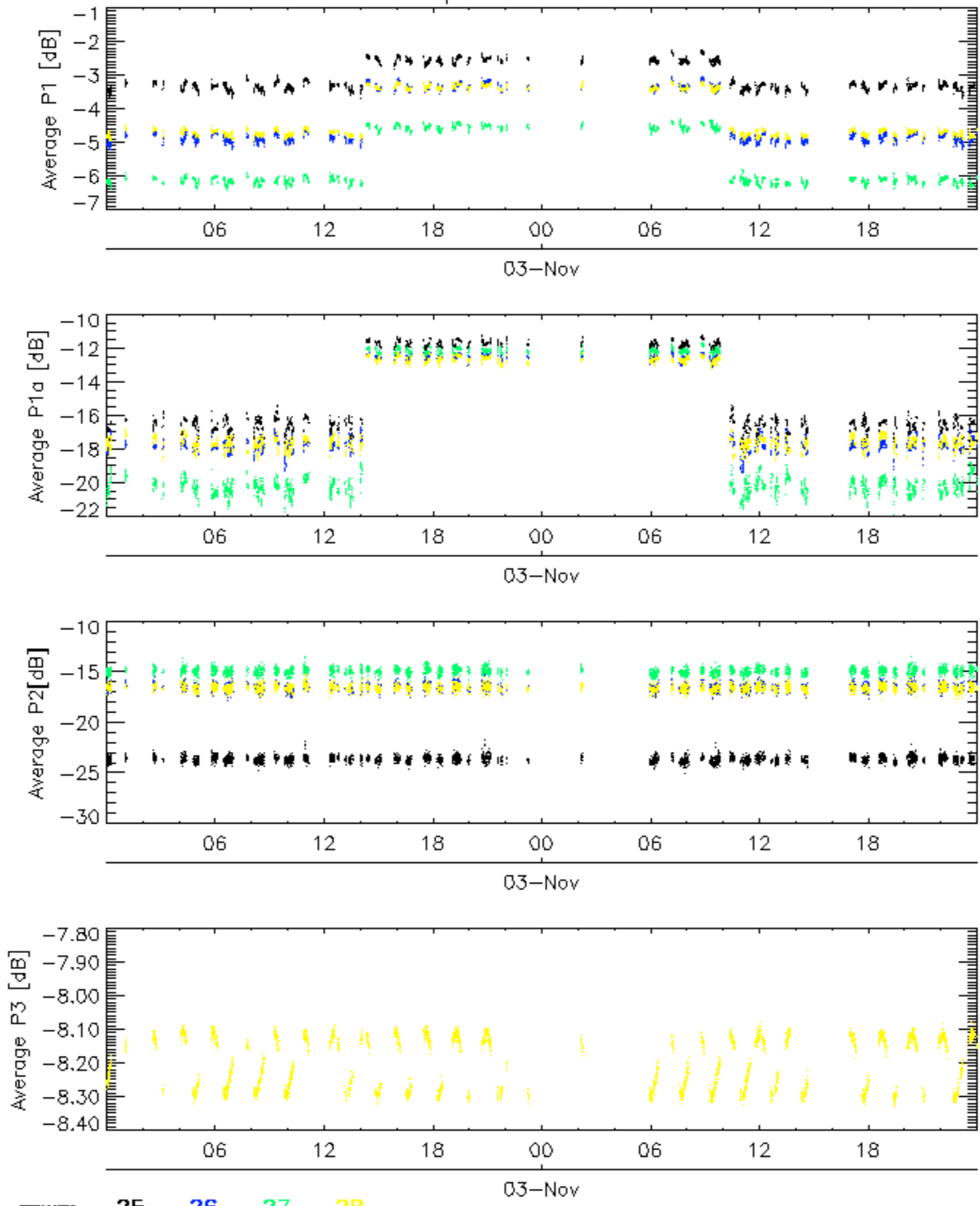
rows: _ 25 _ 26 _ 27 _ 28

Cal pulses for WVS IS2



rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

Cal pulses for WVS IS2

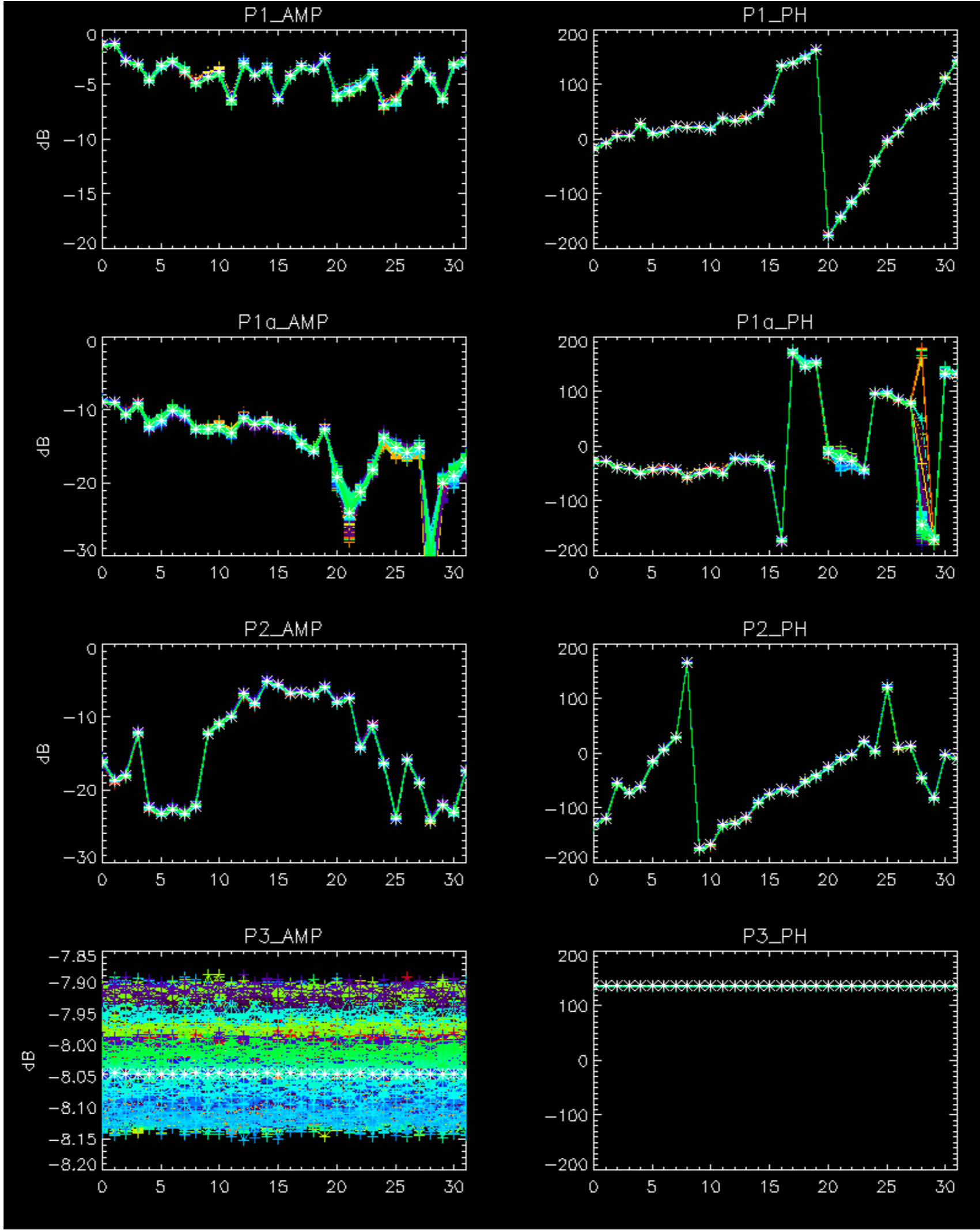


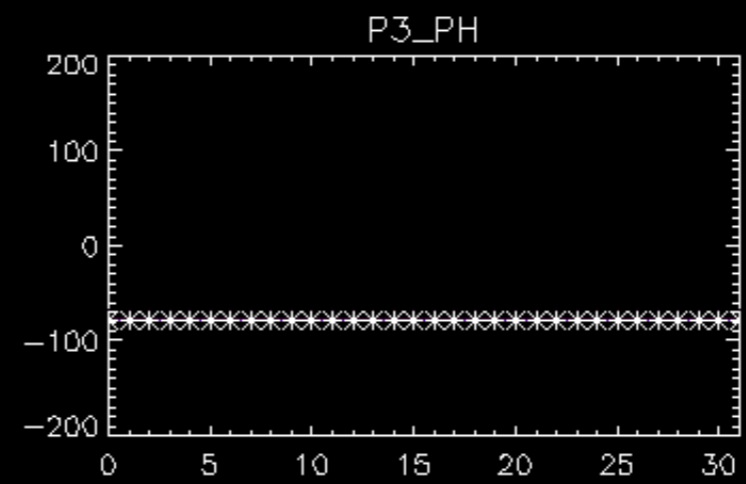
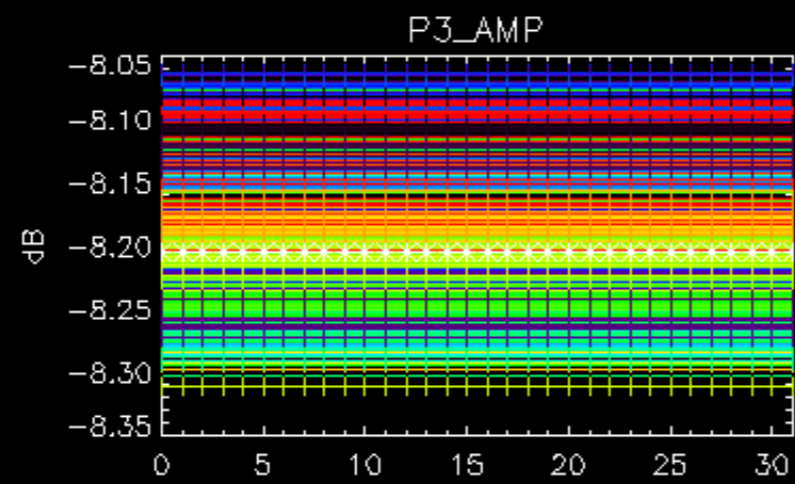
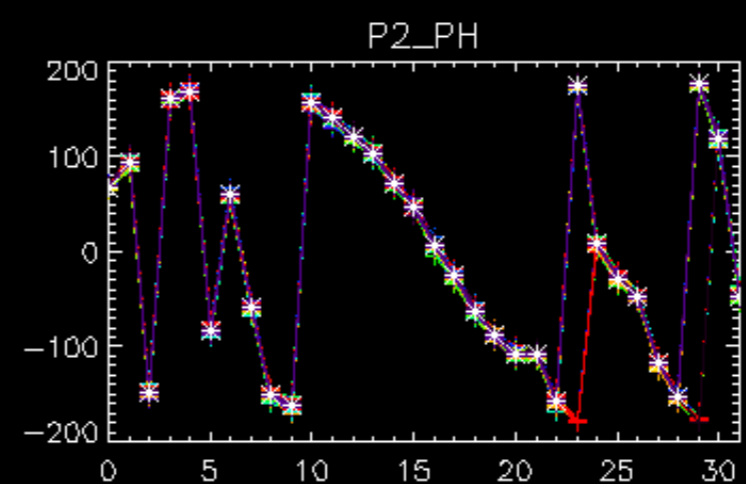
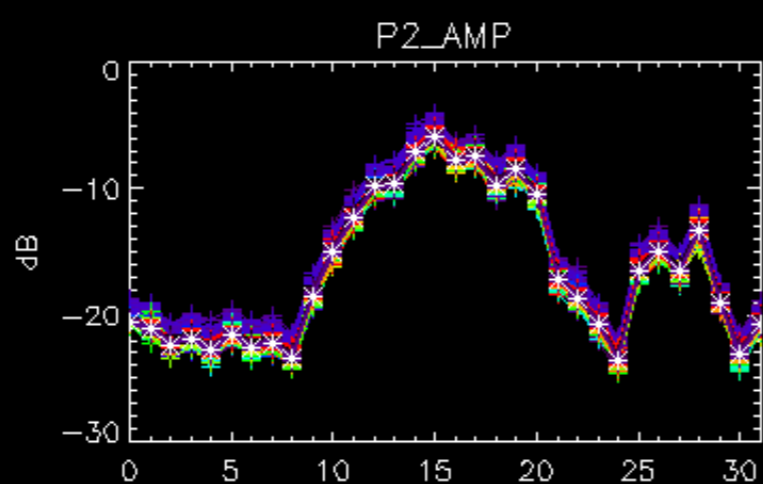
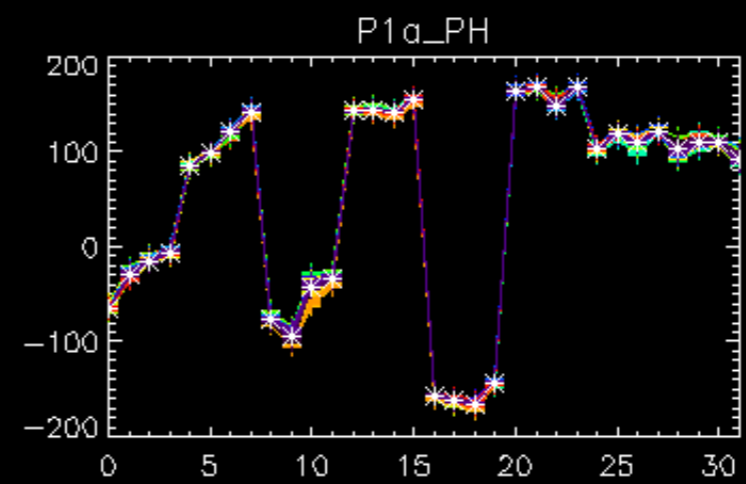
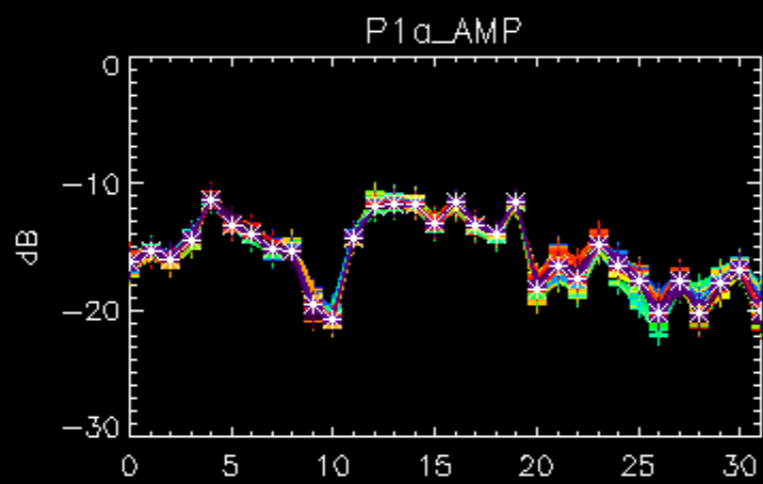
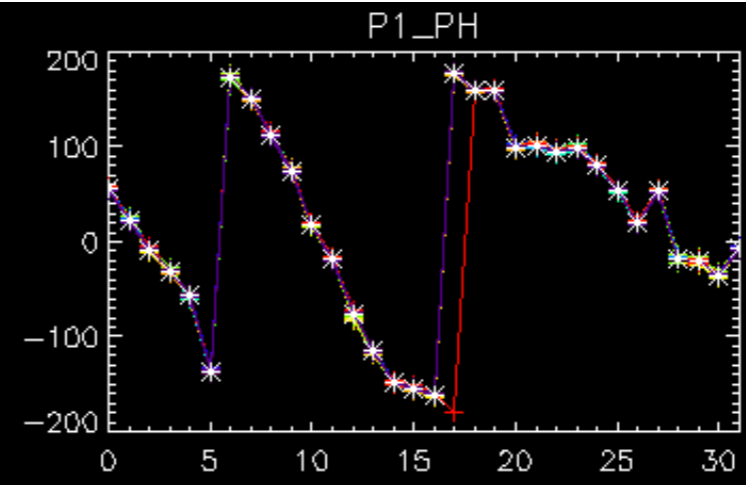
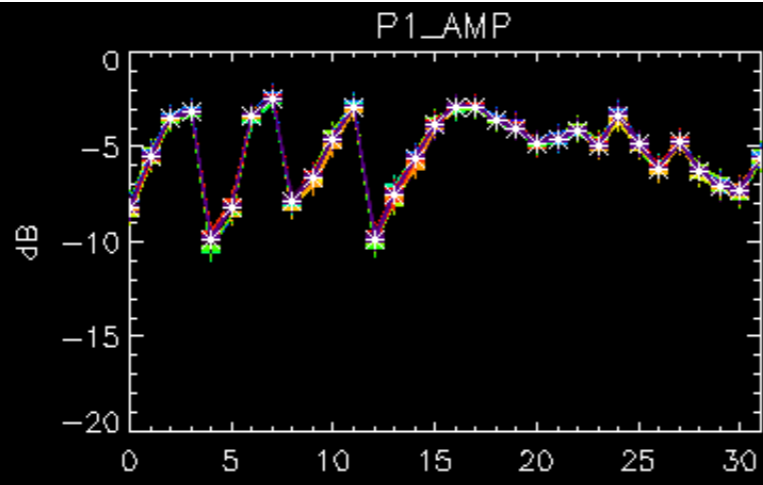
rows: _ 25 _ 26 _ 27 _ 28

Impact visible on Scansar products.



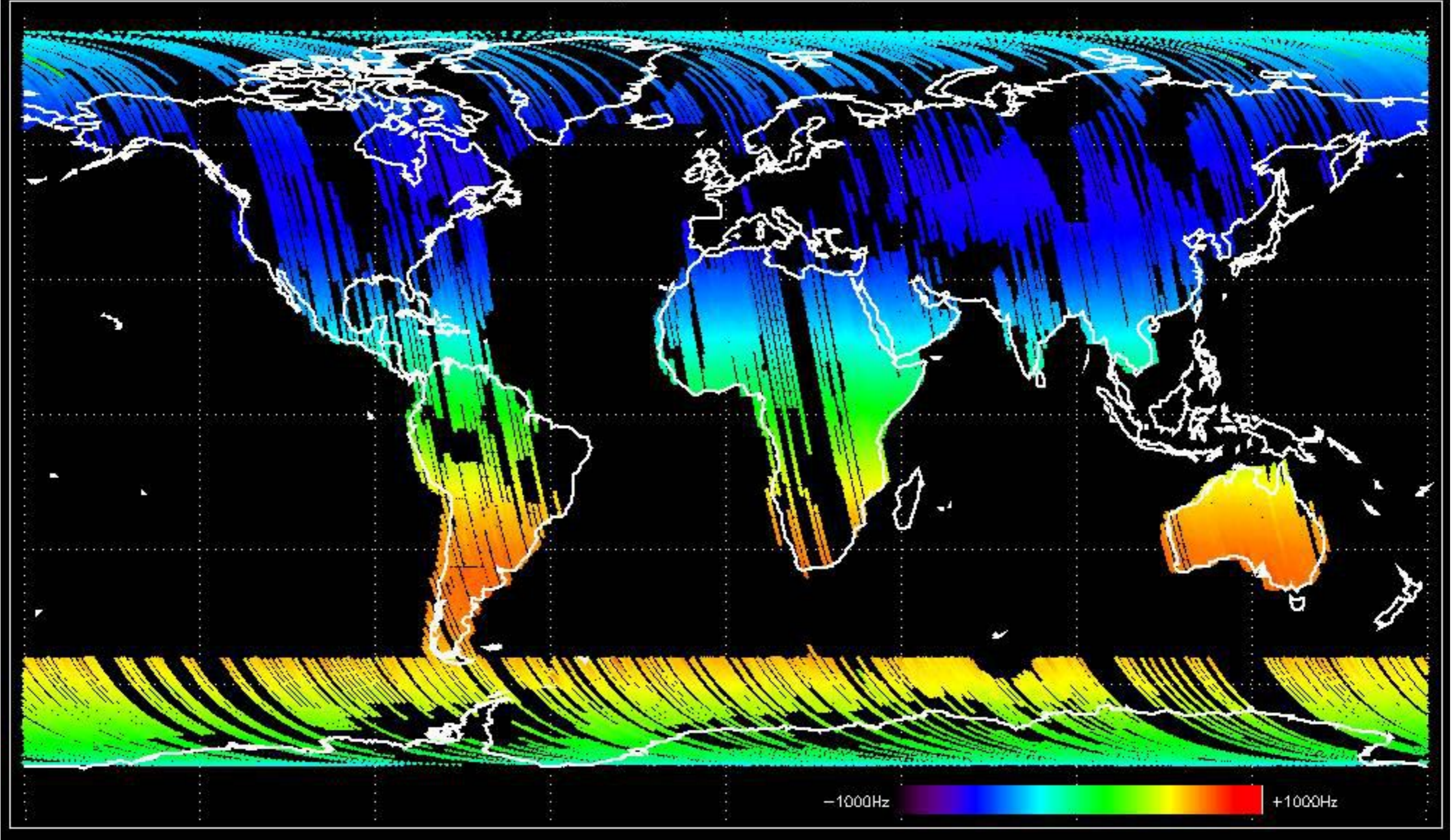
No anomalies observed.



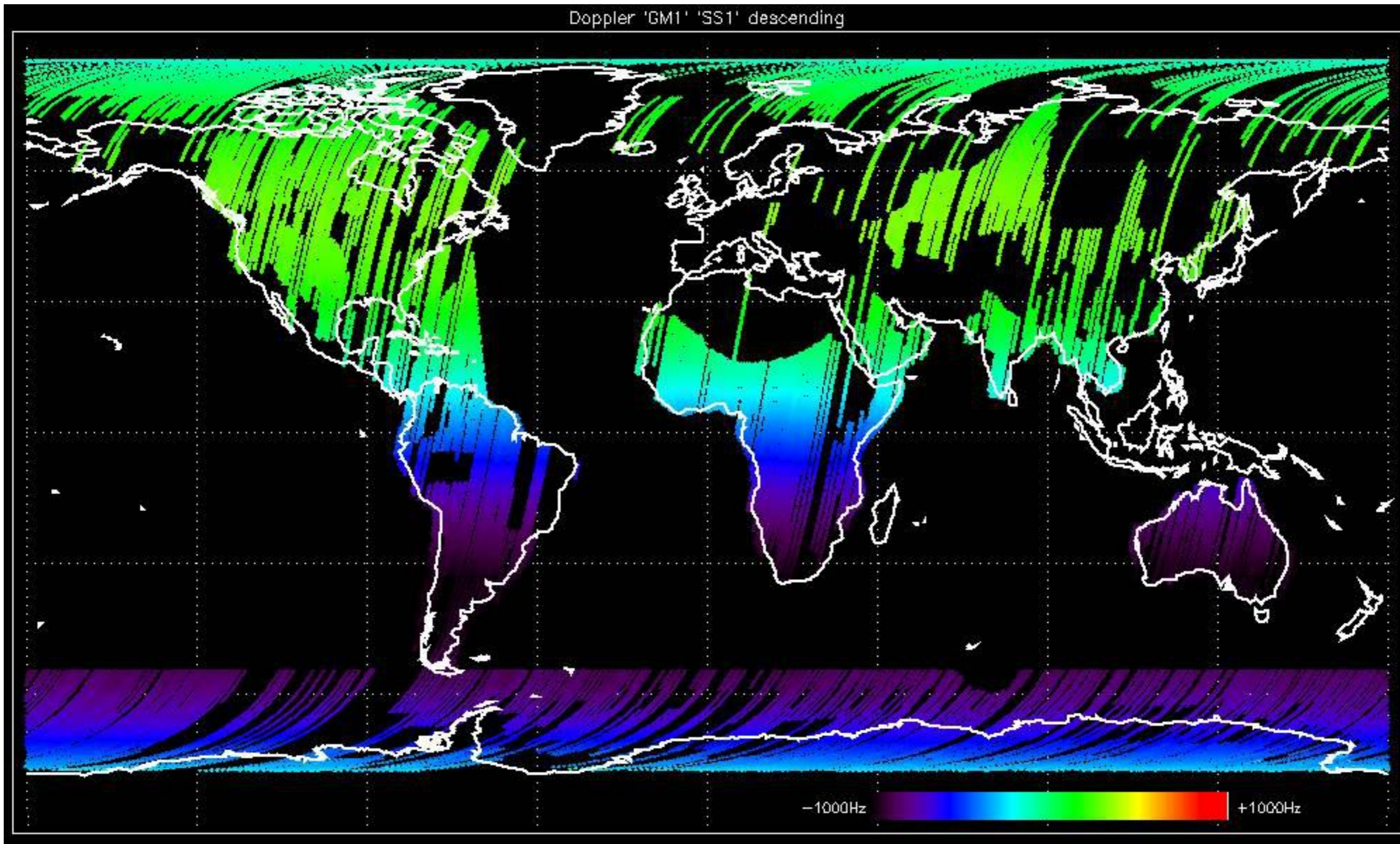


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

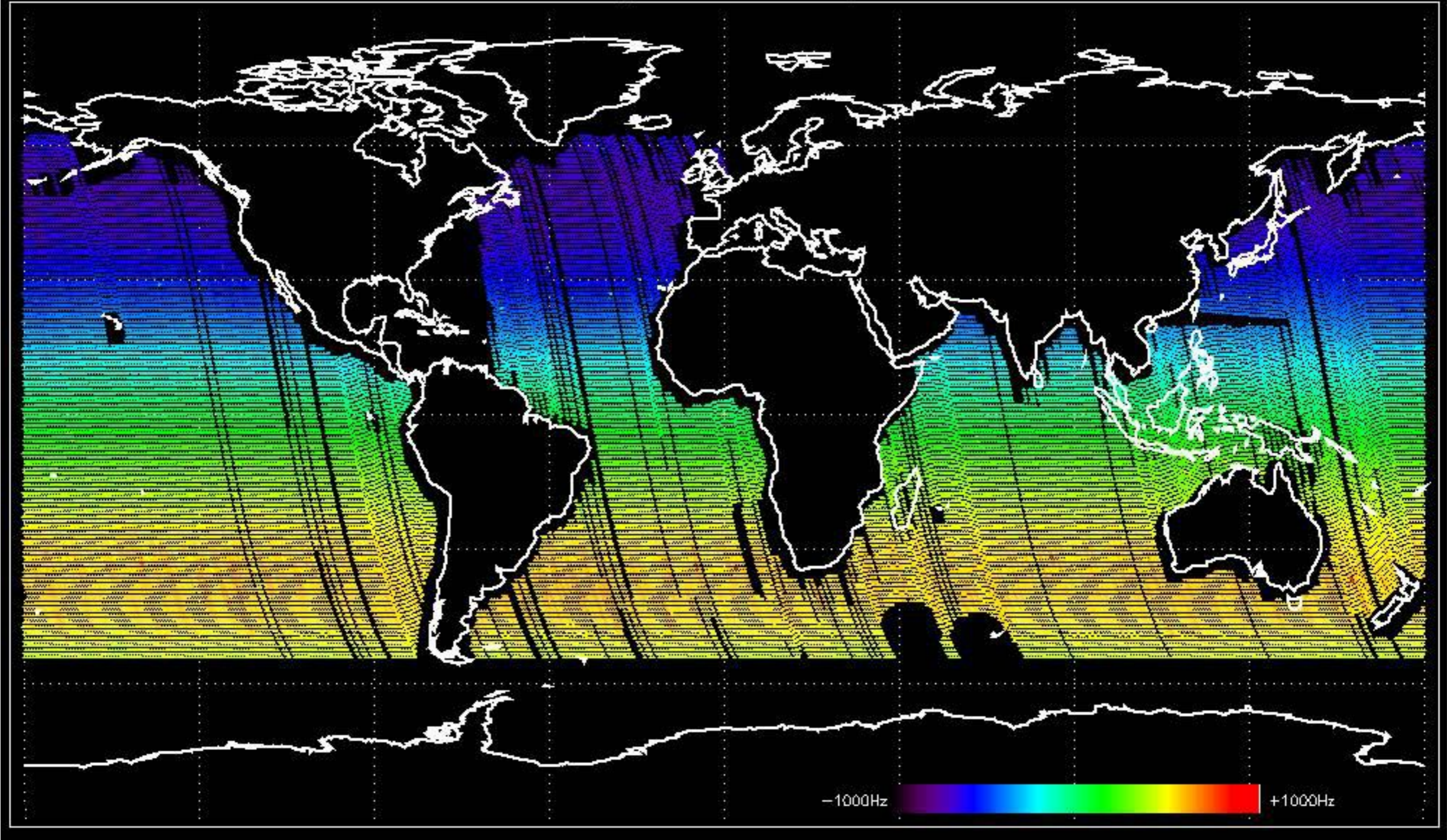
Doppler 'GM1' 'SS1' ascending



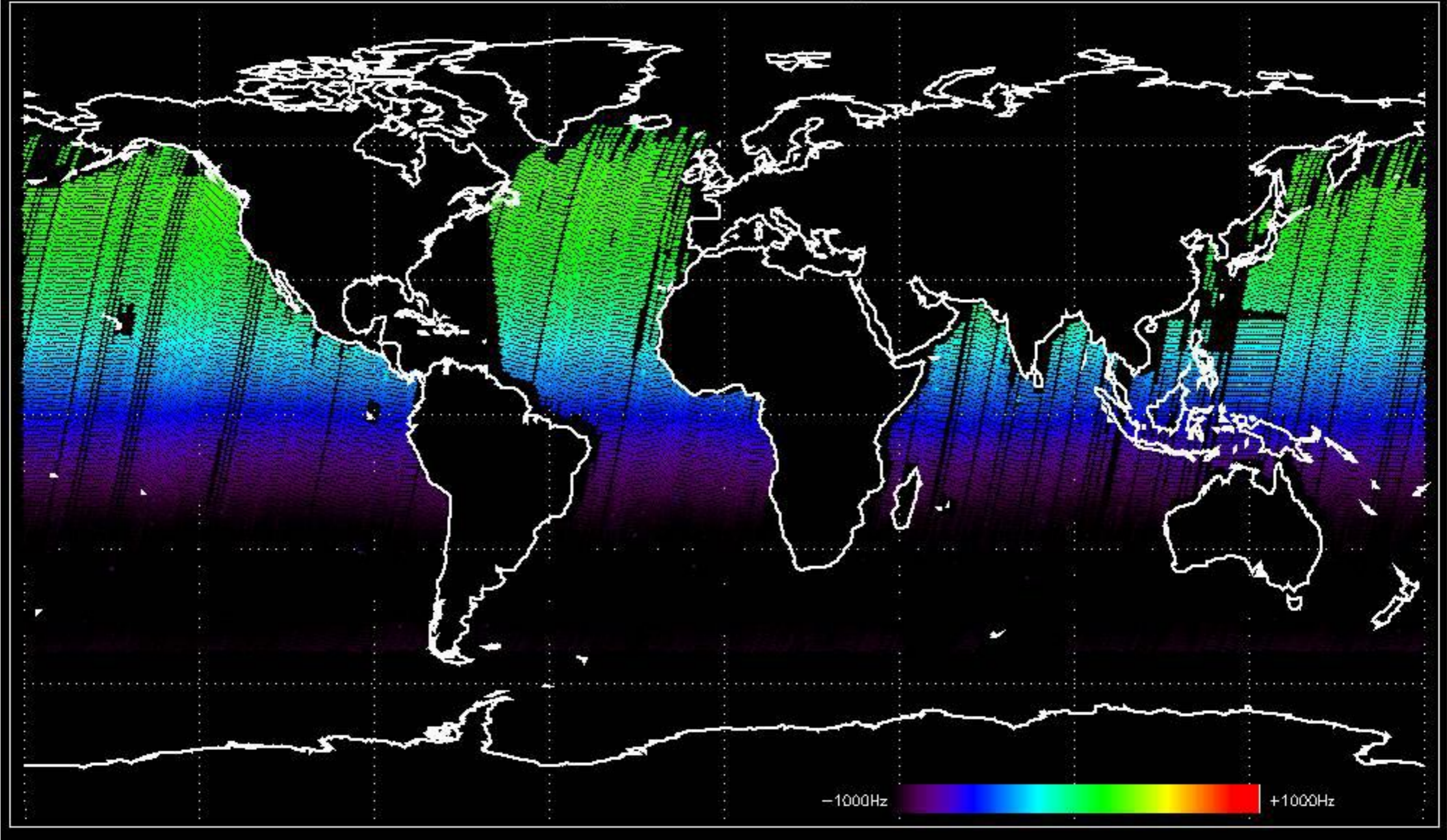
Doppler 'GM1' 'SS1' descending



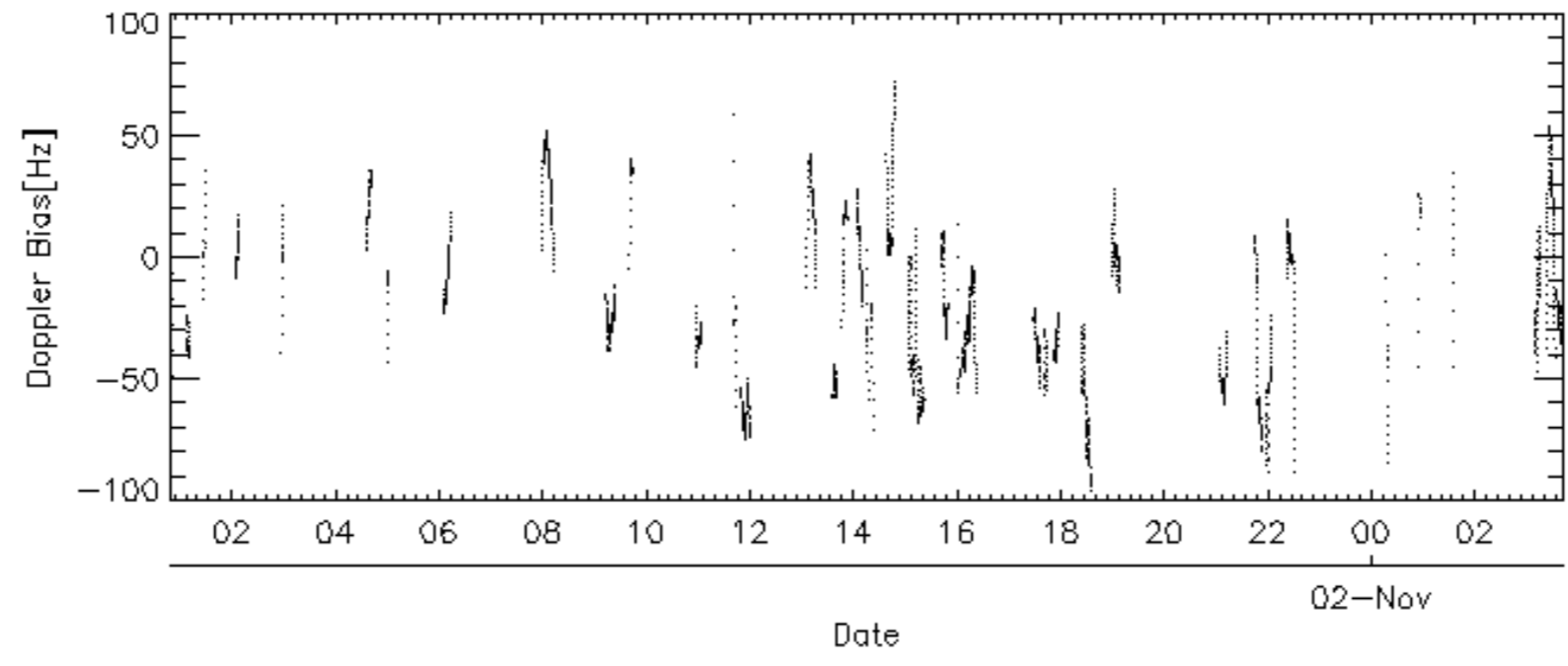
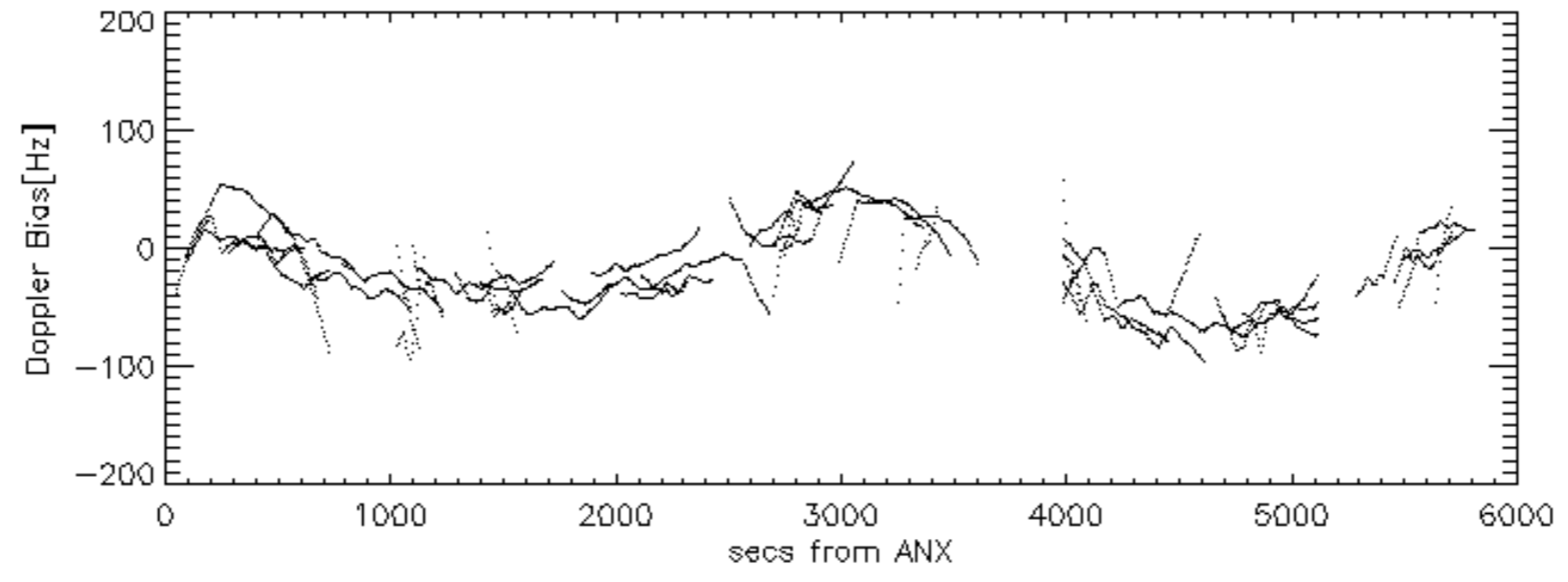
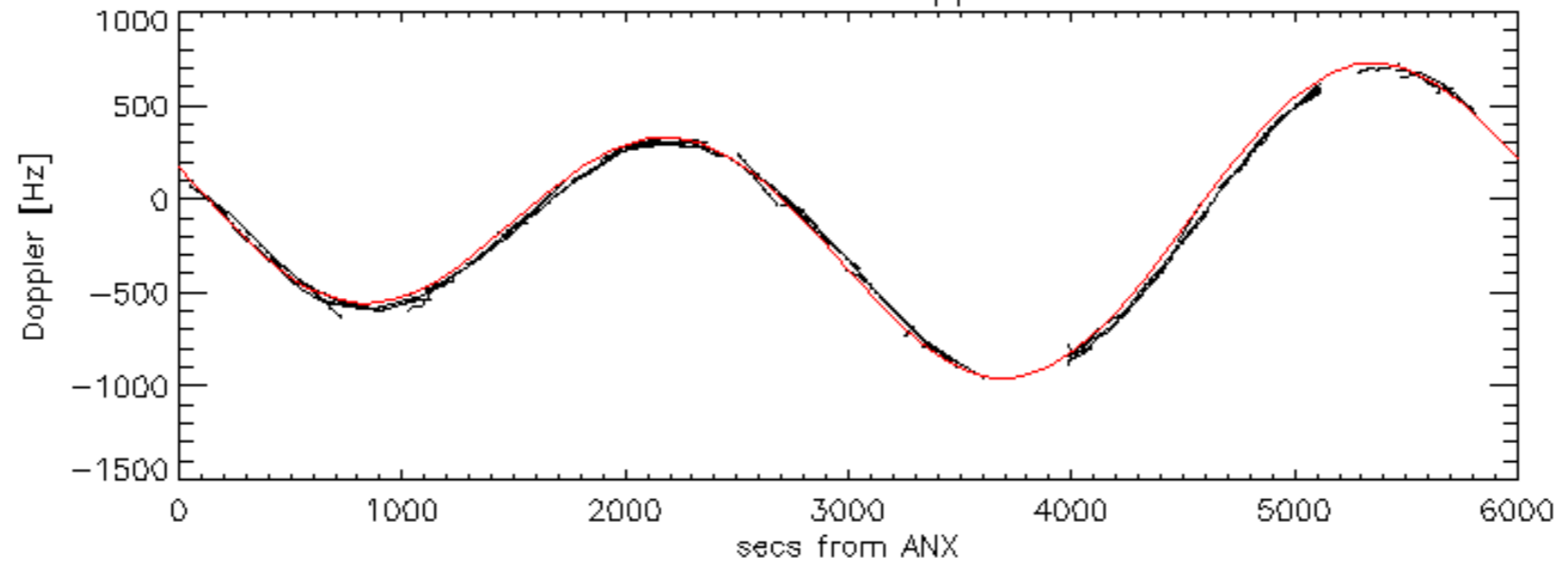
Doppler 'WVS' 'IS2' ascending

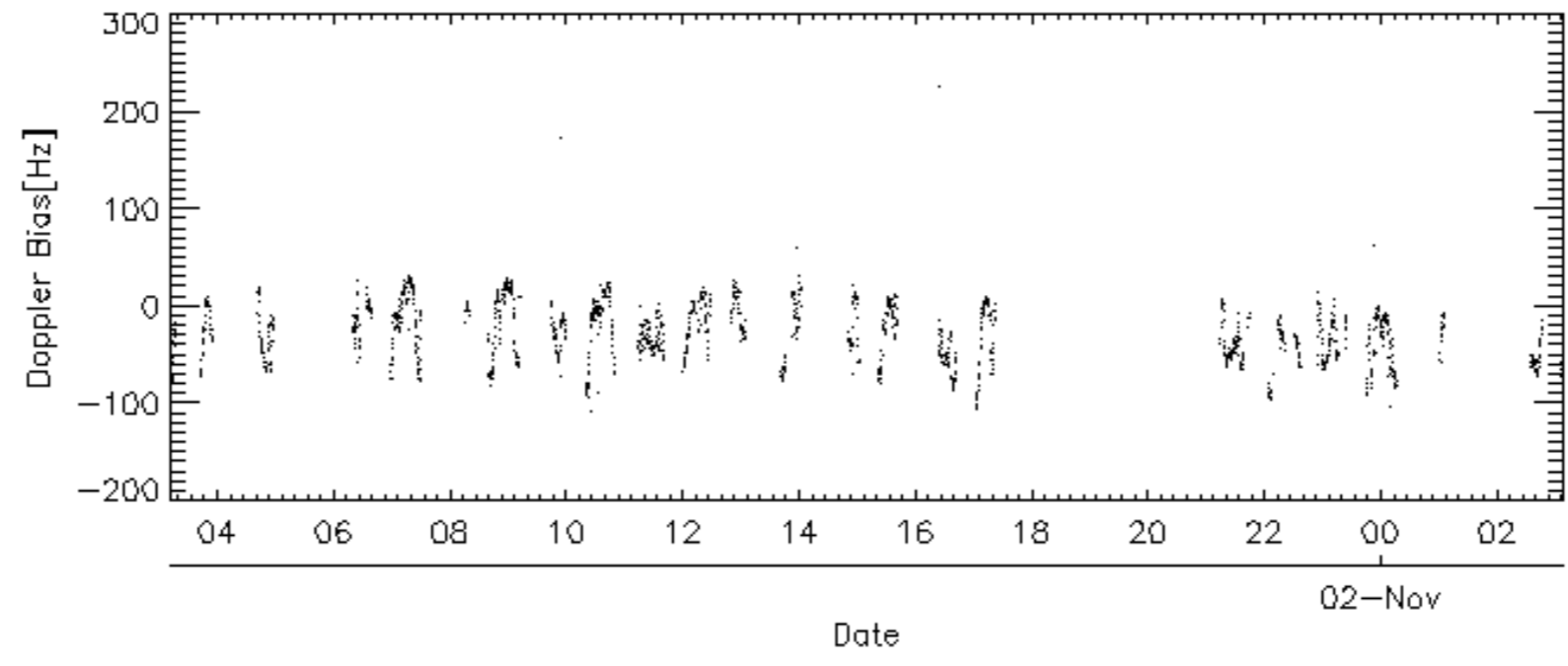
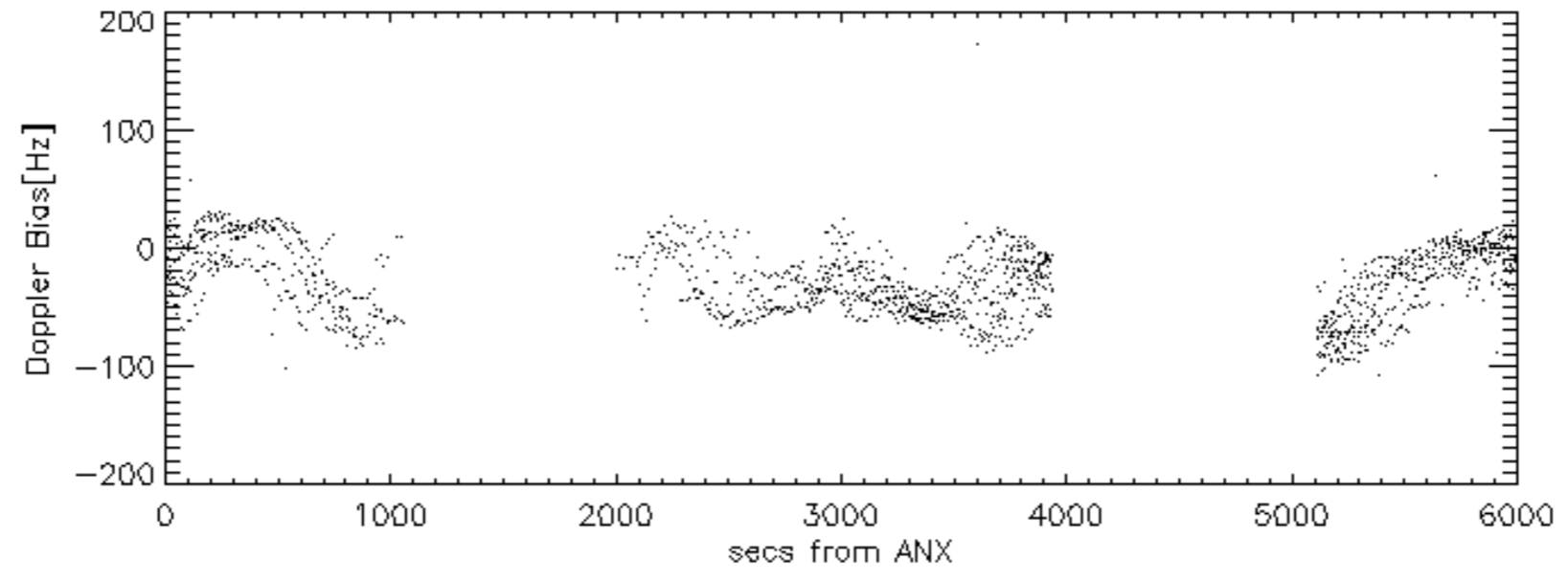
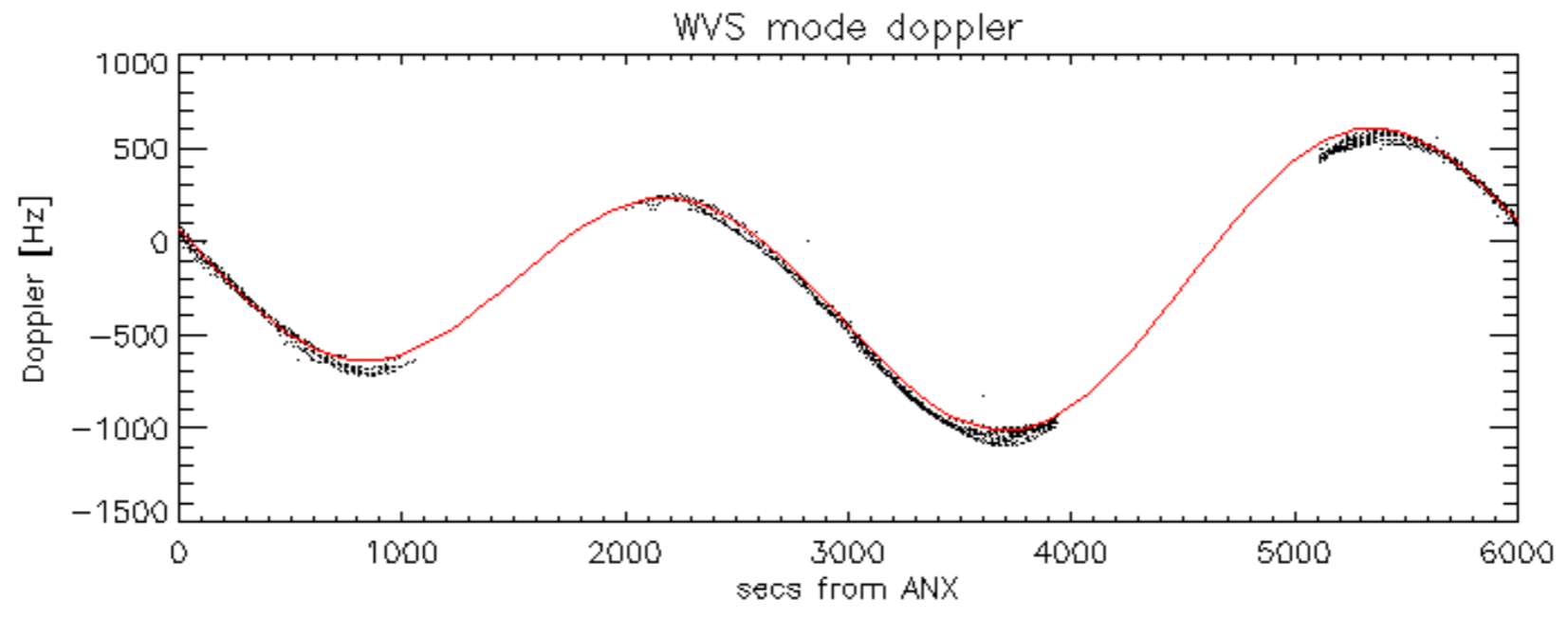


Doppler 'WVS' 'IS2' descending

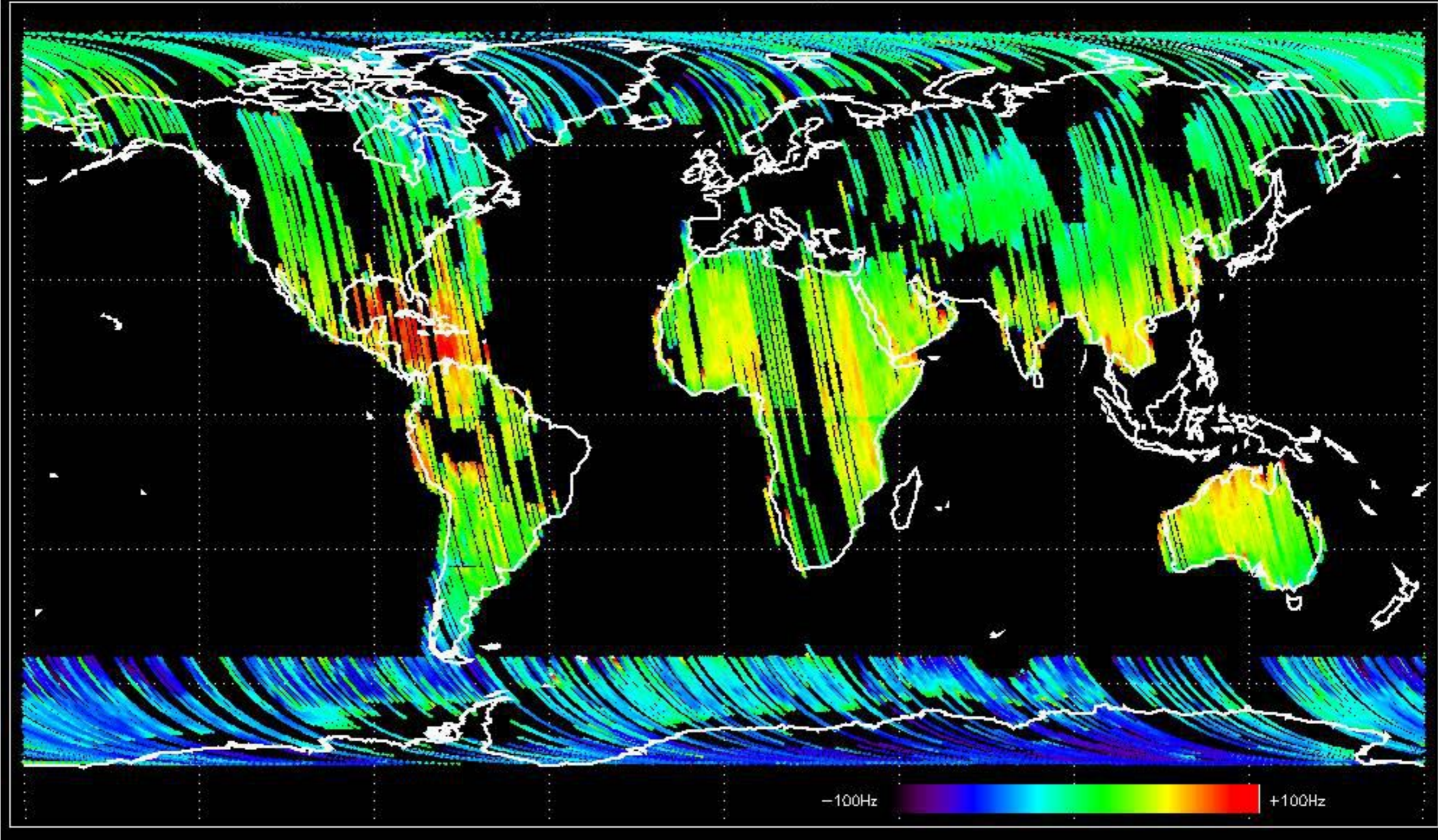


GM1 mode doppler

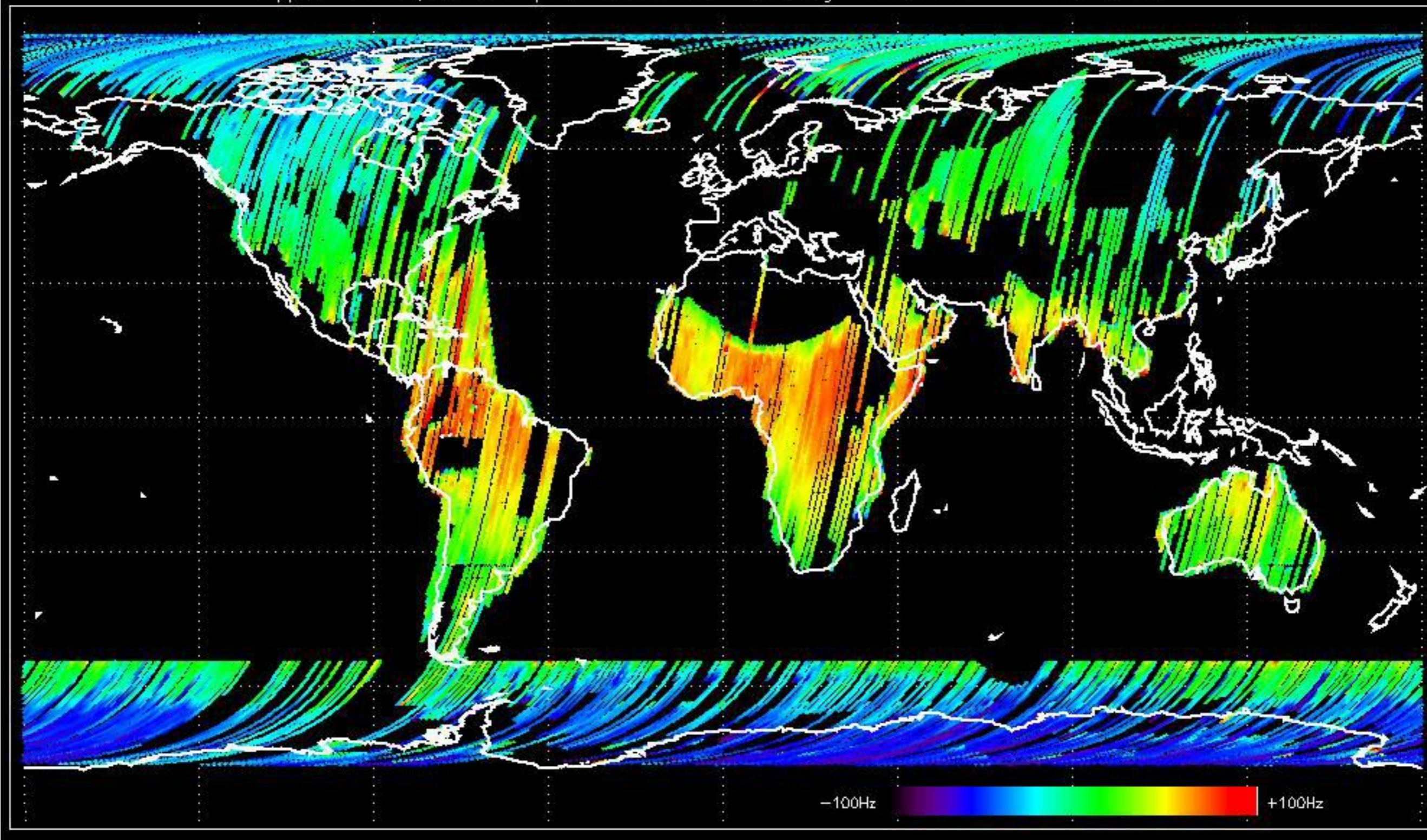




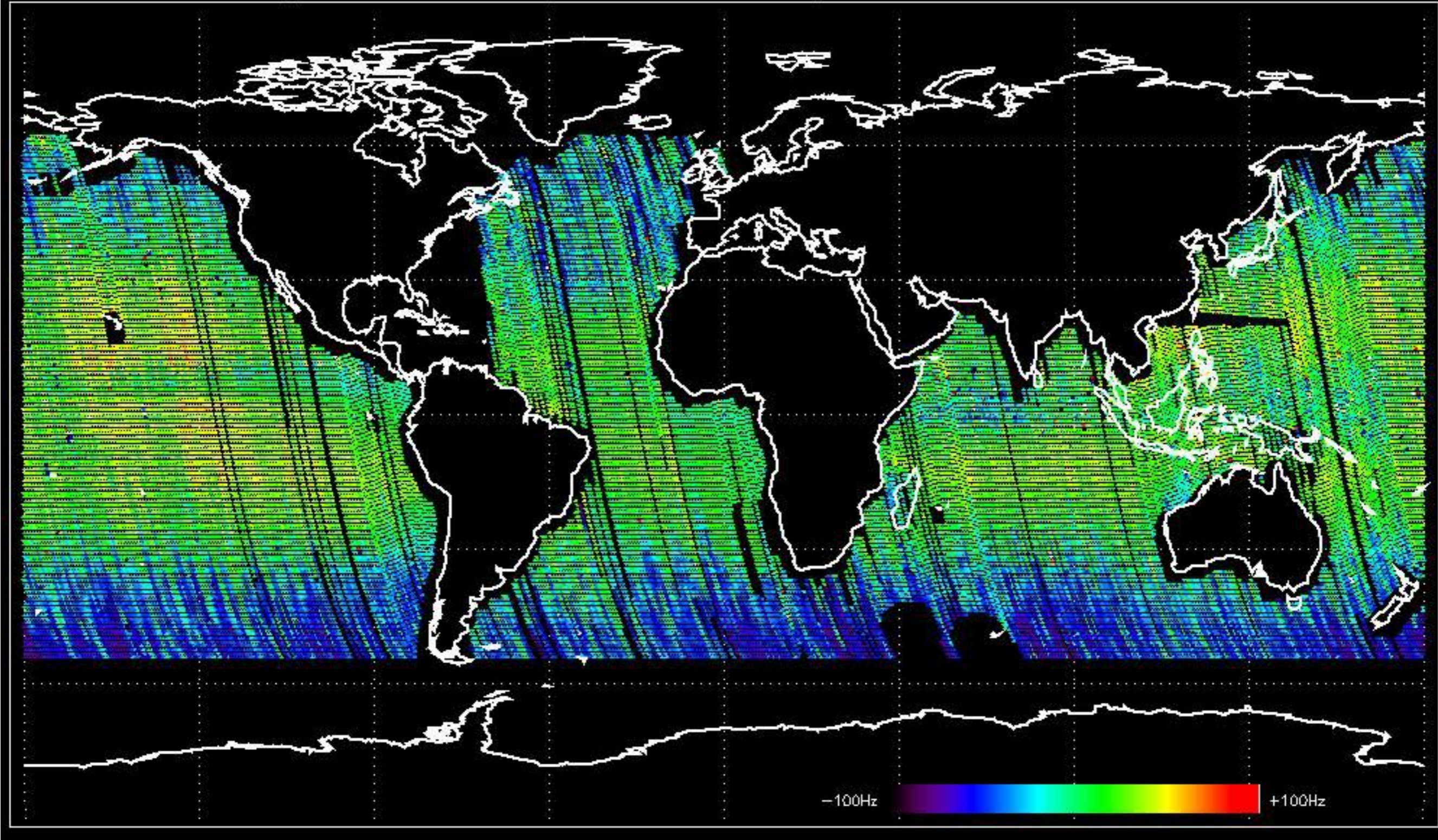
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -30.710121 Hz



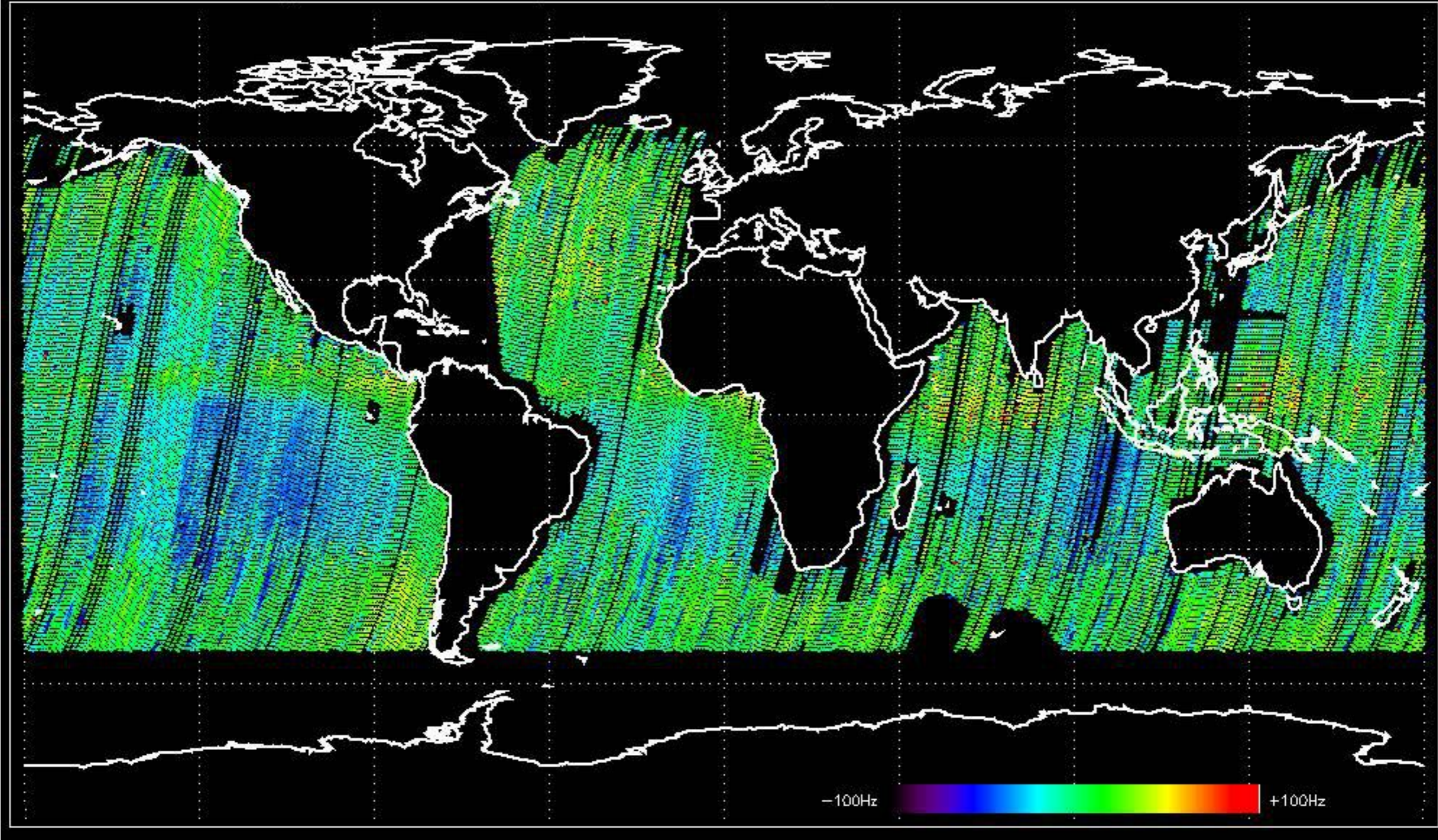
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -23.291008 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -27.566895 Hz

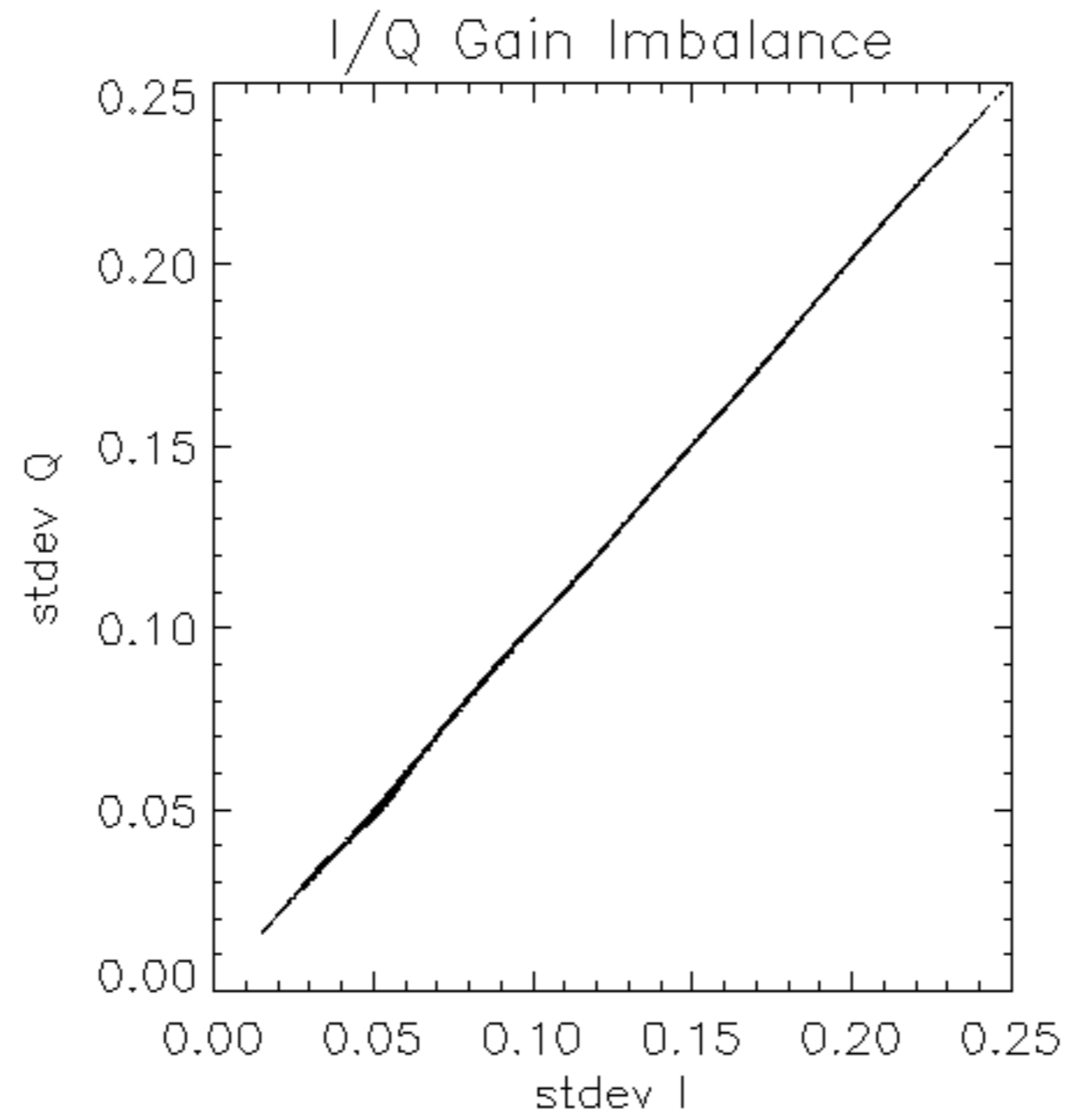


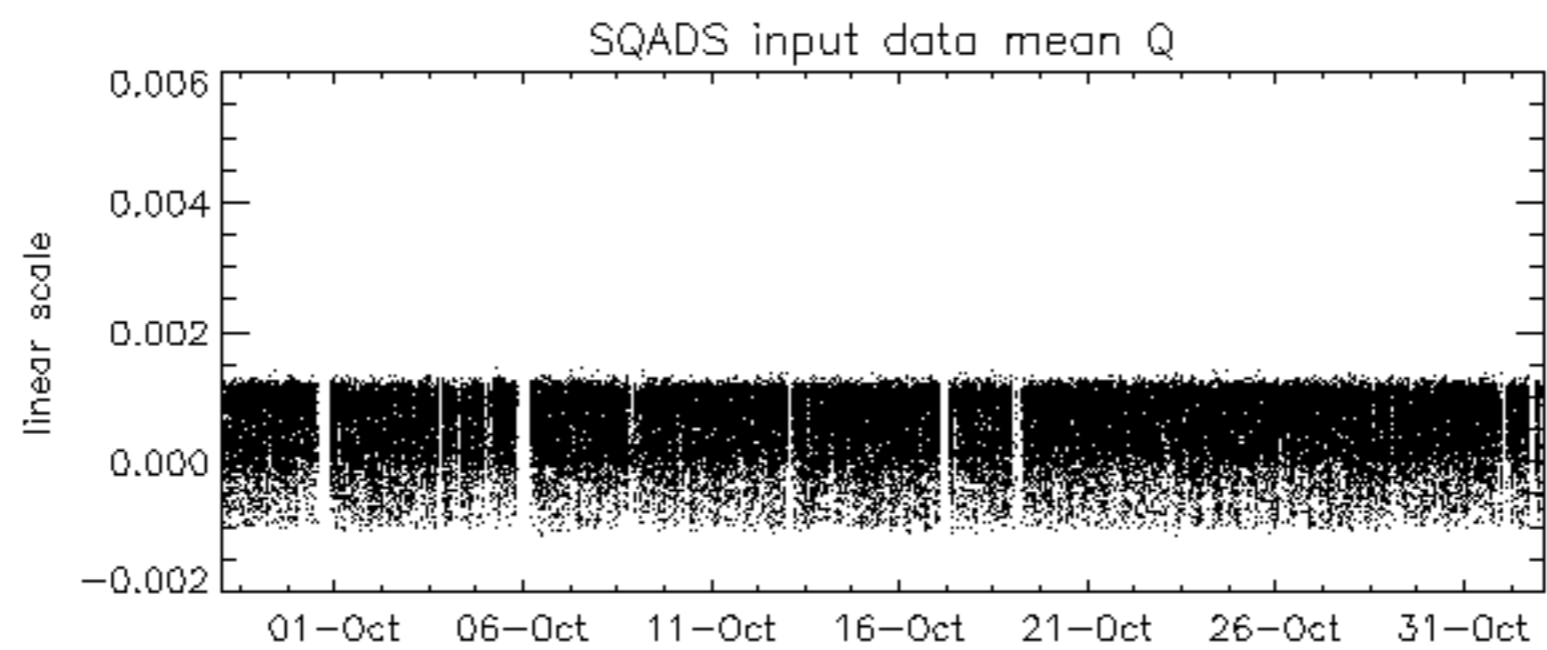
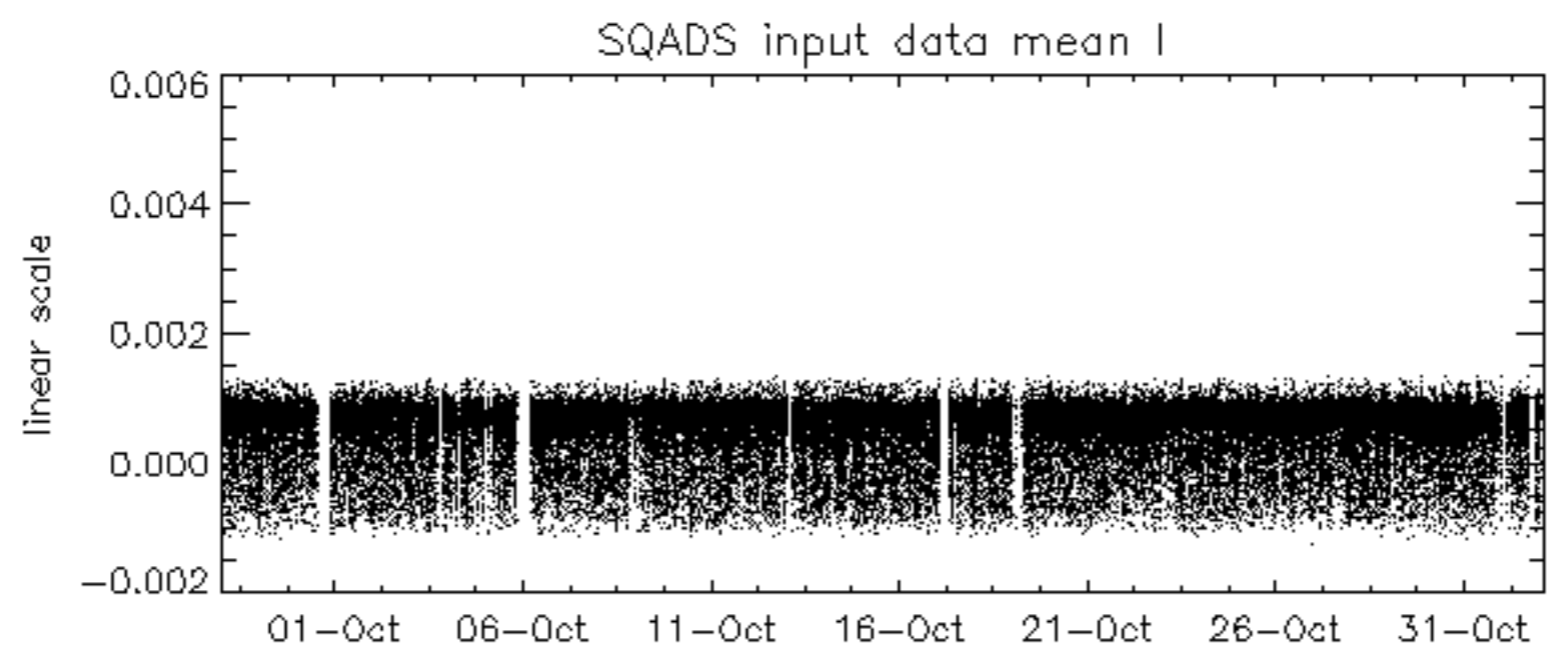
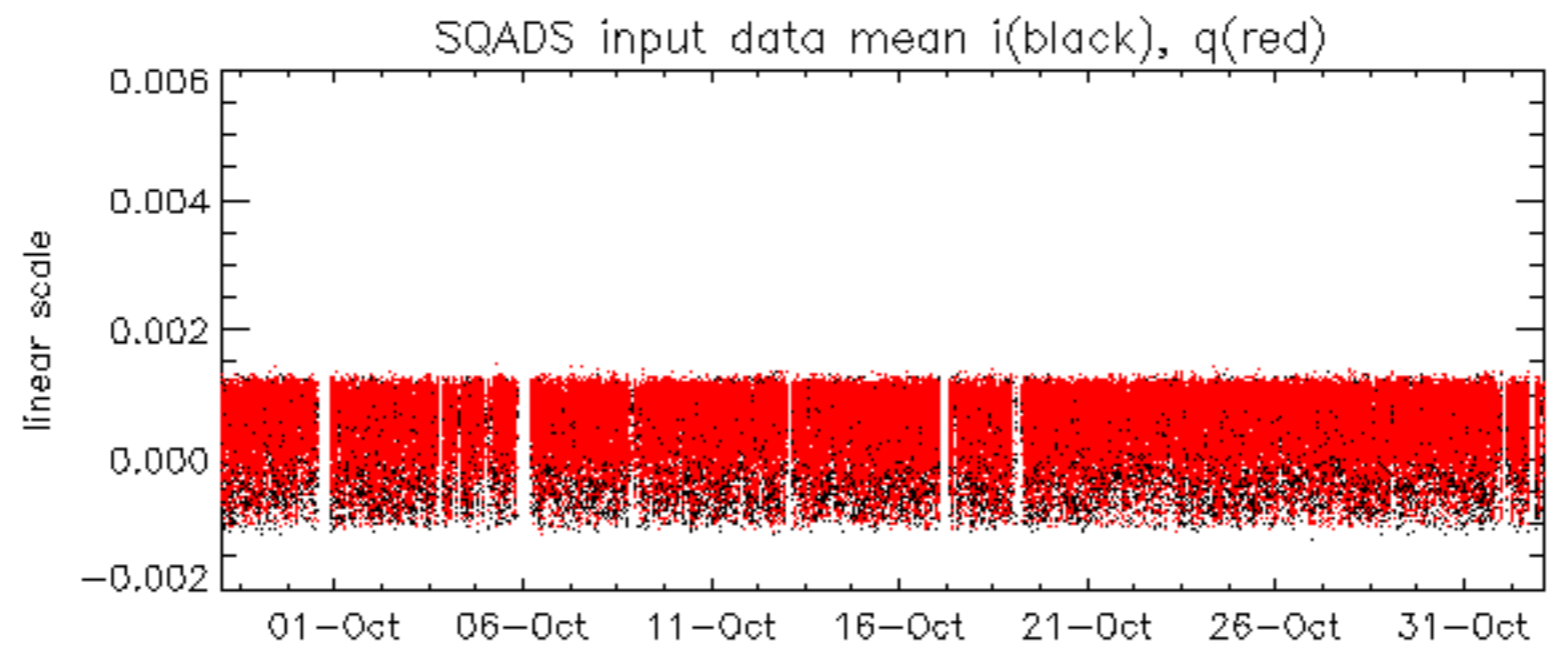
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -31.994175 Hz

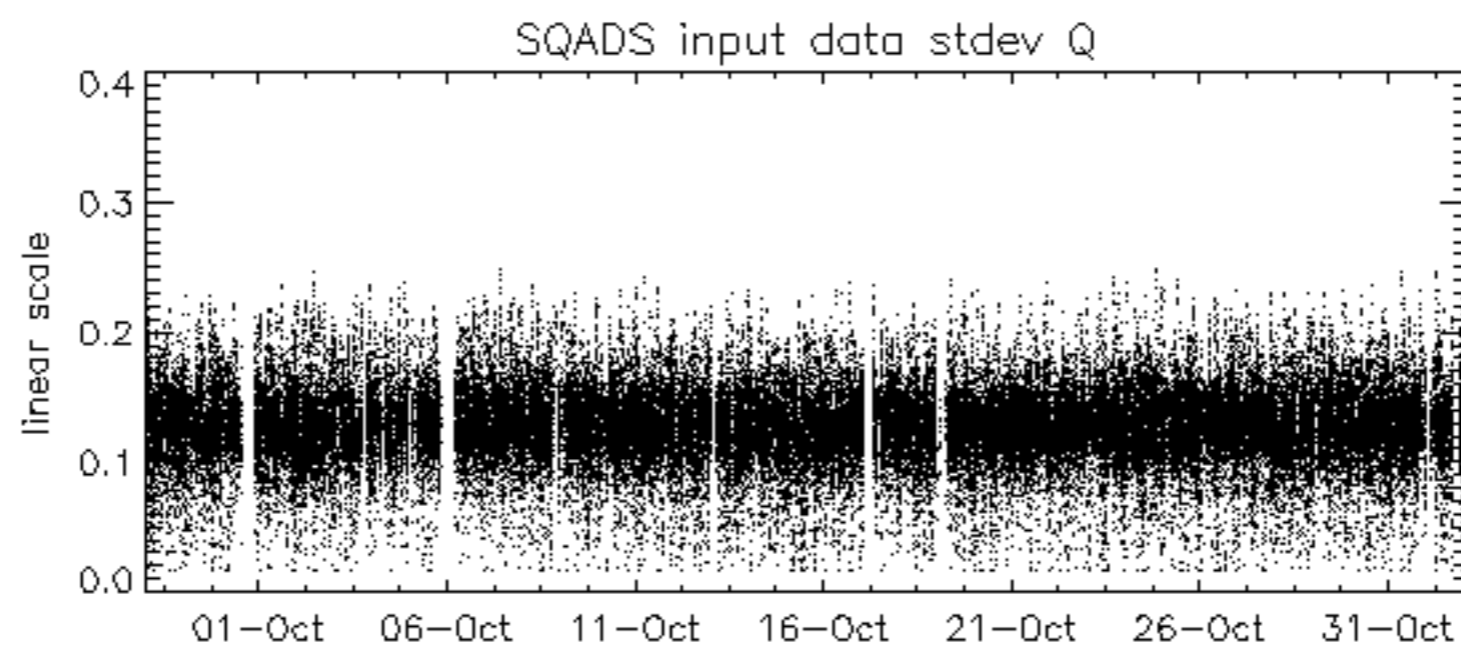
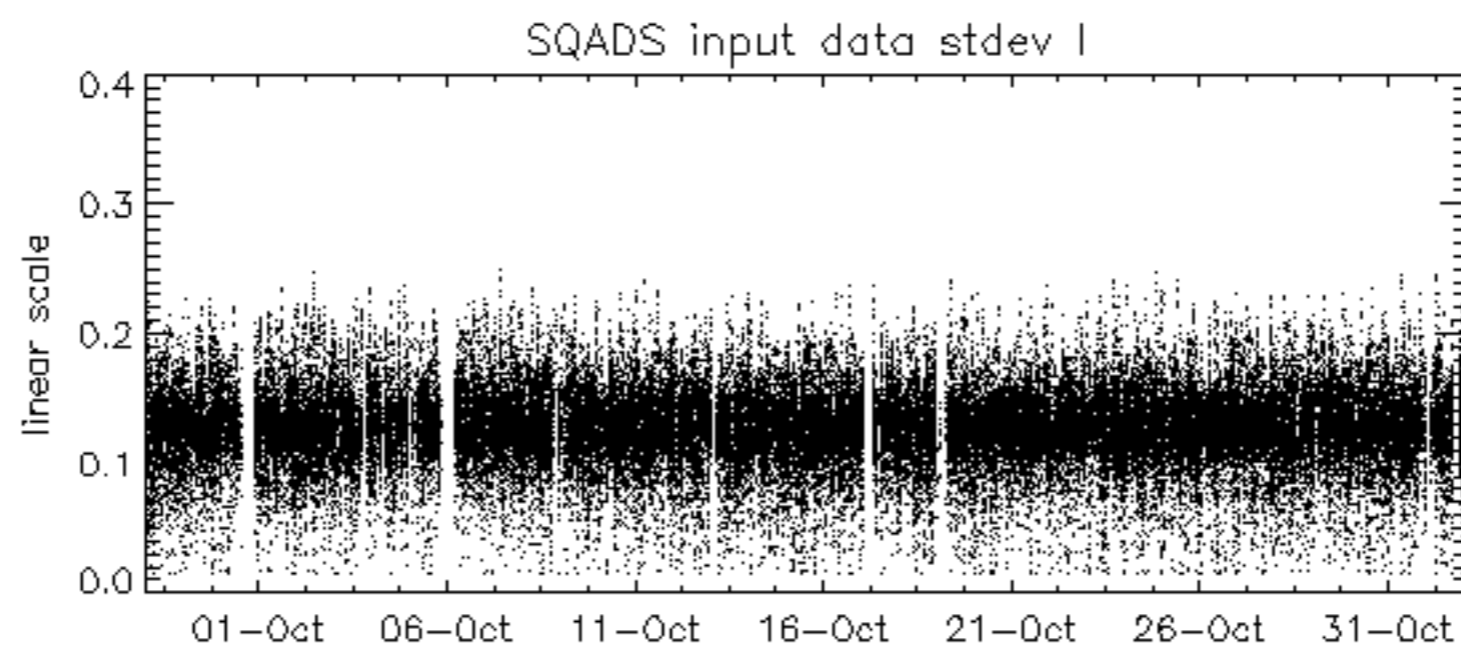
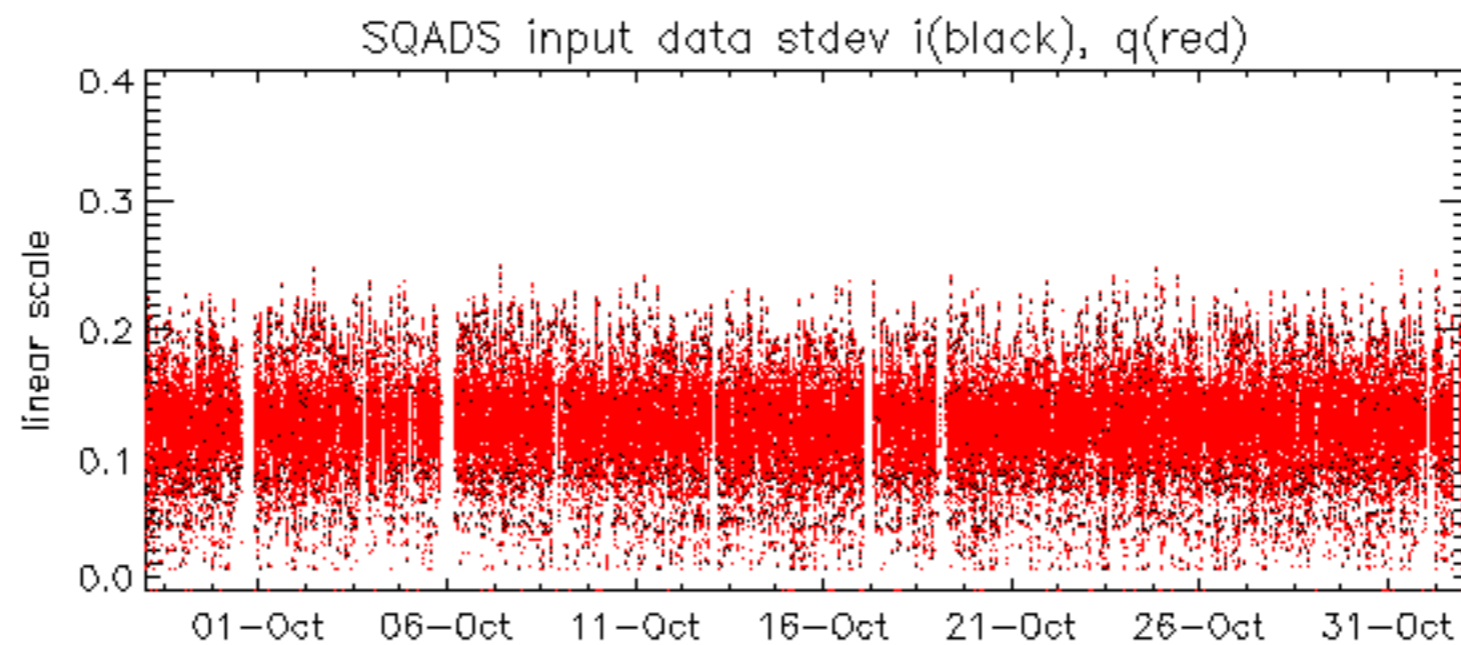


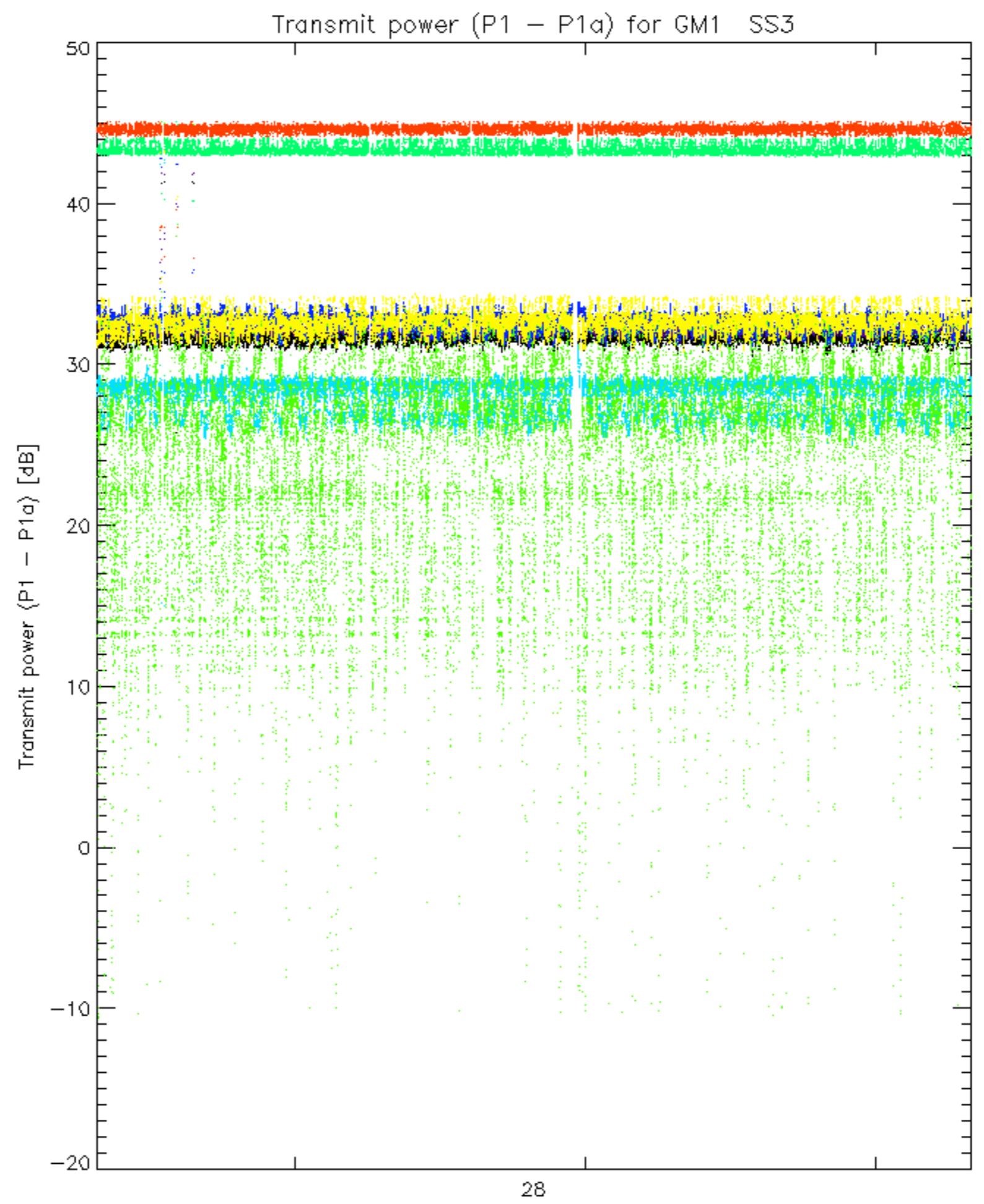
The MS mode provides an internal health check on an individual module basis.
The purpose of this mode is to identify to identify any malfunctioning modules and
to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

No anomalies observed.

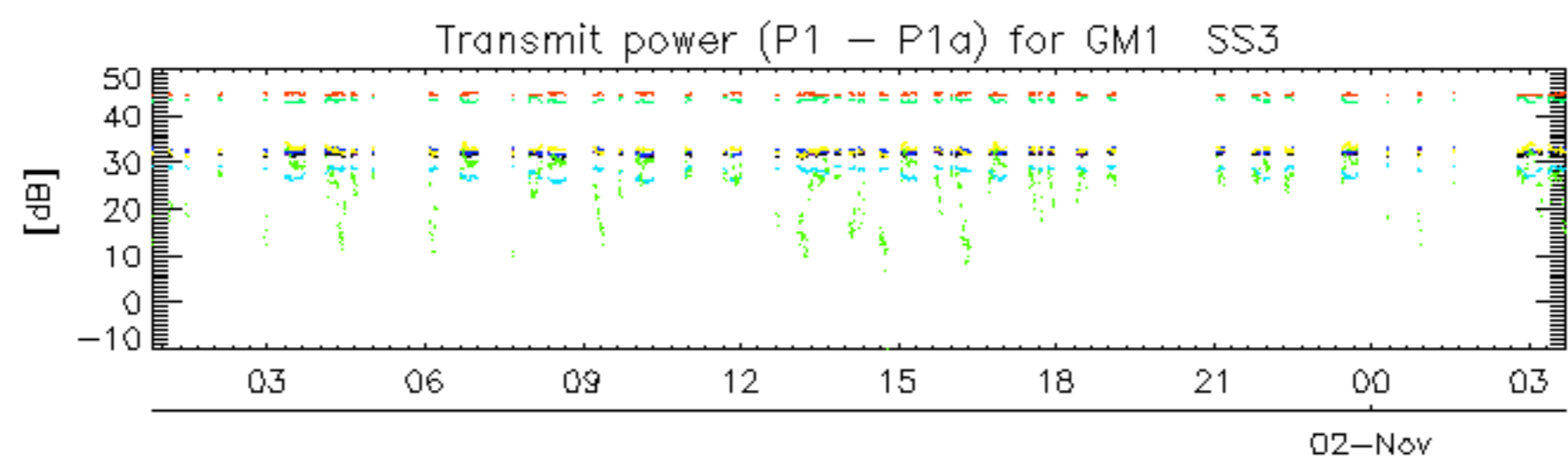




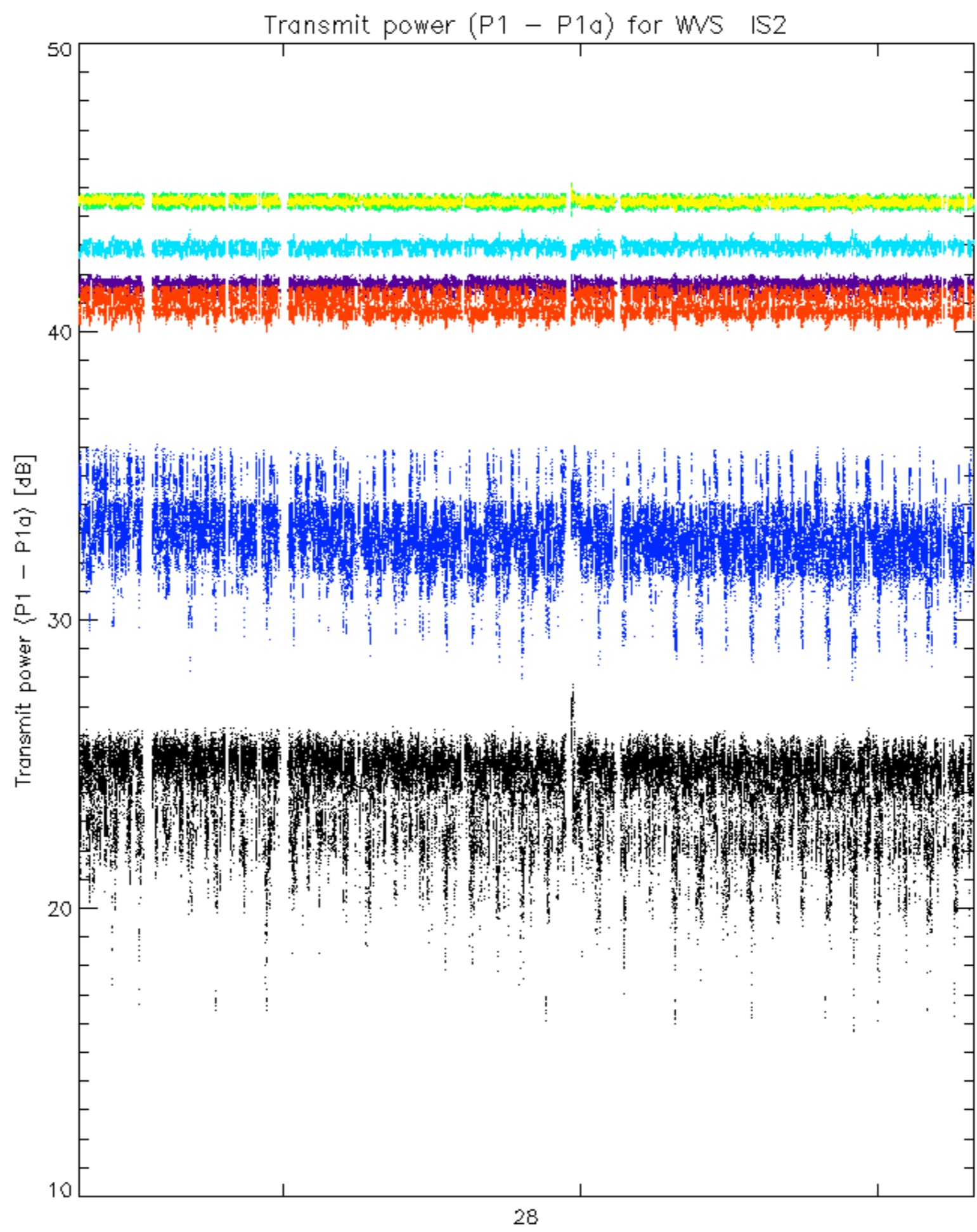




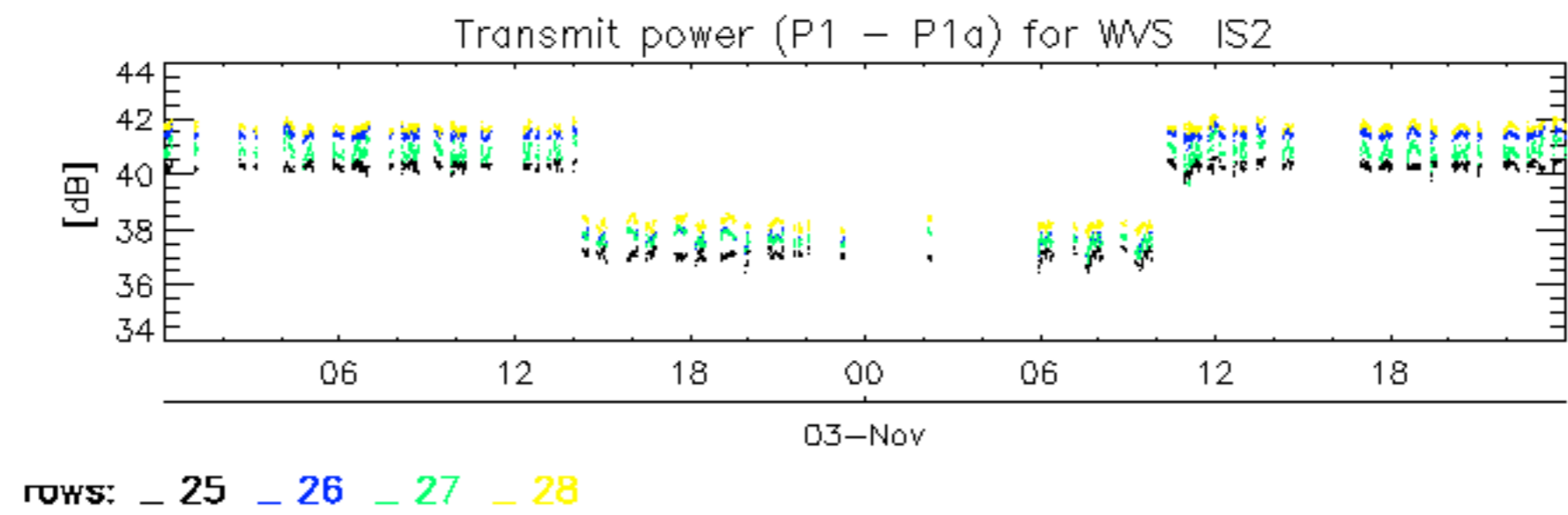
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30



rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30



rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30



ASAR ANTENNA reset due to tile E2 transmit power drop that began on 02-NOV-2004 14:17:25 UTC
From 03 Nov 2004 09:59:30.000 UTC (Orbit = 14004) to 03 Nov 2004 10:04:58.000 UTC (Orbit = 14004)

