

PRELIMINARY REPORT OF 060806

last update on Sun Aug 6 16:36:54 GMT 2006

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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 2006-08-05 00:00:00 to 2006-08-06 16:36:54

| | | | | | |
|----------------|-----|-----|-----|-----|-----|
| PDHS-K | | | | | |
| AUXILIARY FILE | WVS | GM1 | IMM | APM | WSM |

| | | | | | |
|---|----|----|---|---|----|
| ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000 | 38 | 71 | 9 | 8 | 26 |
| ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000 | 38 | 71 | 9 | 8 | 26 |
| ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000 | 38 | 71 | 9 | 8 | 26 |
| ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 | 38 | 71 | 9 | 8 | 26 |

| PDHS-E | | | | | |
|---|-----|-----|-----|-----|-----|
| AUXILIARY FILE | WVS | GM1 | IMM | APM | WSM |
| ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000 | 29 | 58 | 25 | 19 | 92 |
| ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000 | 29 | 58 | 25 | 19 | 92 |
| ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000 | 29 | 58 | 25 | 19 | 92 |
| ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 | 29 | 58 | 25 | 19 | 92 |

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 | 20060806 095349 |
| H | 20060805 084450 |

MSM in V/V 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"/> |

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 | -3.938783 | 0.010420 | -0.016862 |
| 7 | P1 | -3.103403 | 0.022987 | -0.015728 |
| 11 | P1 | -4.084011 | 0.013670 | 0.008021 |
| 15 | P1 | -6.174473 | 0.011543 | 0.002065 |
| 19 | P1 | -3.414081 | 0.009971 | -0.063039 |
| 22 | P1 | -4.553472 | 0.010074 | -0.025525 |
| 26 | P1 | -3.924309 | 0.020035 | 0.014003 |
| 30 | P1 | -5.764068 | 0.009462 | -0.000093 |
| 3 | P1 | -16.532679 | 0.244056 | -0.010339 |
| 7 | P1 | -17.183474 | 0.111823 | 0.066592 |
| 11 | P1 | -16.966642 | 0.285151 | 0.117614 |
| 15 | P1 | -13.088311 | 0.144416 | 0.113721 |
| 19 | P1 | -14.473495 | 0.053656 | -0.069630 |
| 22 | P1 | -15.991847 | 0.429197 | 0.095806 |
| 26 | P1 | -15.116868 | 0.233681 | 0.006653 |
| 30 | P1 | -17.093330 | 0.338334 | 0.014837 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -20.946493 | 0.086749 | 0.125344 |
| 7 | P2 | -21.894888 | 0.103309 | 0.085046 |
| 11 | P2 | -15.782988 | 0.119832 | 0.041934 |
| 15 | P2 | -7.123572 | 0.098760 | 0.026254 |
| 19 | P2 | -9.130610 | 0.090376 | 0.014619 |
| 22 | P2 | -18.149761 | 0.085691 | 0.001376 |
| 26 | P2 | -16.400541 | 0.092124 | -0.002086 |
| 30 | P2 | -19.512041 | 0.091891 | 0.044754 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.173464 | 0.003085 | 0.003746 |
| 7 | P3 | -8.173464 | 0.003085 | 0.003746 |
| 11 | P3 | -8.173464 | 0.003085 | 0.003746 |
| 15 | P3 | -8.173464 | 0.003085 | 0.003746 |
| 19 | P3 | -8.173464 | 0.003085 | 0.003746 |
| 22 | P3 | -8.173464 | 0.003085 | 0.003746 |
| 26 | P3 | -8.173464 | 0.003085 | 0.003746 |
| 30 | P3 | -8.173464 | 0.003085 | 0.003746 |

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 | -3.821587 | 0.008928 | -0.013852 |
| 7 | P1 | -2.563742 | 0.030358 | -0.017162 |
| 11 | P1 | -2.855256 | 0.013990 | 0.016890 |
| 15 | P1 | -3.578010 | 0.029082 | -0.026307 |
| 19 | P1 | -3.424162 | 0.024228 | -0.018015 |
| 22 | P1 | -5.086022 | 0.019676 | 0.016810 |
| 26 | P1 | -5.861005 | 0.015874 | -0.001871 |
| 30 | P1 | -5.196974 | 0.033273 | -0.001889 |
| 3 | P1 | -11.614531 | 0.044132 | -0.025485 |
| 7 | P1 | -9.965311 | 0.035237 | 0.023565 |
| 11 | P1 | -10.249238 | 0.055663 | -0.004354 |
| 15 | P1 | -10.755597 | 0.144671 | 0.012198 |
| 19 | P1 | -15.556220 | 0.500572 | -0.076263 |
| 22 | P1 | -20.915865 | 1.292499 | 0.003139 |
| 26 | P1 | -16.258757 | 0.383567 | 0.186475 |
| 30 | P1 | -17.940977 | 0.411751 | -0.120781 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -16.576866 | 0.069674 | 0.177403 |
| 7 | P2 | -22.366199 | 0.120986 | 0.136399 |
| 11 | P2 | -11.031334 | 0.041023 | 0.073065 |
| 15 | P2 | -4.903487 | 0.045056 | 0.037910 |
| 19 | P2 | -6.868800 | 0.040254 | 0.019568 |
| 22 | P2 | -8.192539 | 0.035461 | 0.017028 |
| 26 | P2 | -24.181463 | 0.059630 | 0.008922 |
| 30 | P2 | -22.001677 | 0.048403 | 0.049324 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.011932 | 0.003754 | 0.008283 |
| 7 | P3 | -8.011904 | 0.003757 | 0.008205 |
| 11 | P3 | -8.011863 | 0.003763 | 0.007695 |
| 15 | P3 | -8.011966 | 0.003755 | 0.007874 |
| 19 | P3 | -8.011868 | 0.003764 | 0.008095 |
| 22 | P3 | -8.012021 | 0.003747 | 0.008007 |
| 26 | P3 | -8.011948 | 0.003749 | 0.007927 |
| 30 | P3 | -8.011911 | 0.003758 | 0.007813 |

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 | 0.000561154 |
| | stdev | 1.71472e-07 |
| MEAN Q | mean | 0.000536524 |
| | stdev | 2.14907e-07 |



5.2 - Input stdev I/Q

| channel | stat | DSS-B |
|---------|-------|------------|
| STDEV I | mean | 0.137435 |
| | stdev | 0.00109000 |
| STDEV Q | mean | 0.137789 |
| | stdev | 0.00110770 |



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006080[456]

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_IMM_1PNPDE20060804_054400_000000352050_00048_23148_2915.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20060805_005031_000002372050_00059_23159_2980.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20060805_065012_000000362050_00063_23163_2992.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20060805_111216_000002182050_00066_23166_2998.N1 | 1 | 0 |
| ASA_WSM_1PNPDE20060804_181615_000002202050_00056_23156_5846.N1 | 0 | 35 |







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)

| |
|---|
|  |
|---|

| |
|-----------|
| Ascending |
|-----------|



| |
|------------|
| Descending |
|------------|

7.5 - Absolute Doppler for GM1

| |
|--------------------------------------|
| Evolution of Absolute Doppler |
|--------------------------------------|



| |
|-----------|
| Ascending |
|-----------|



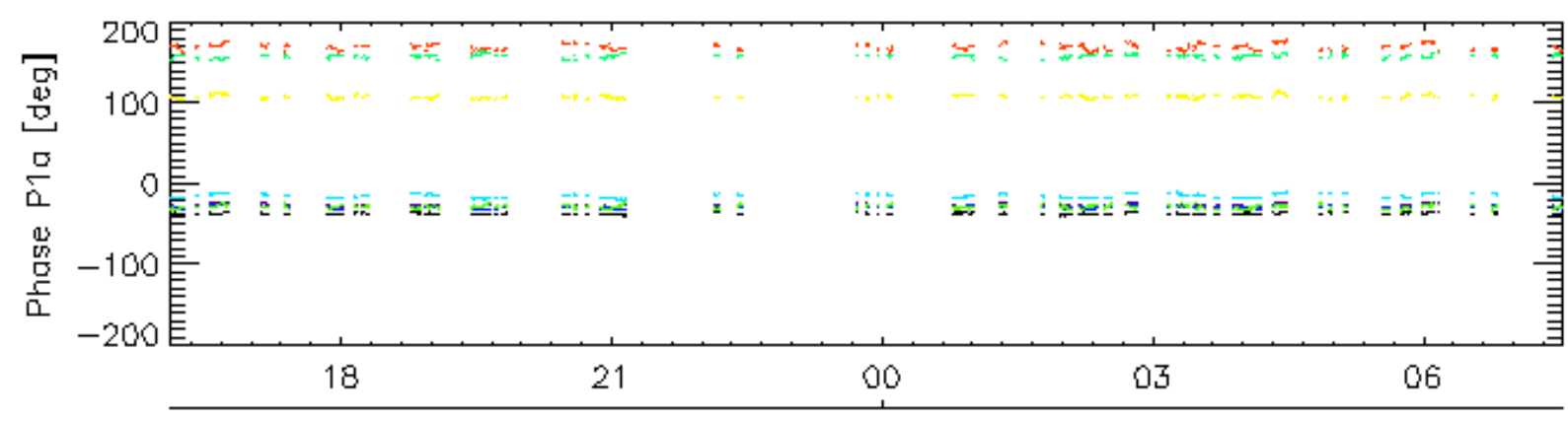
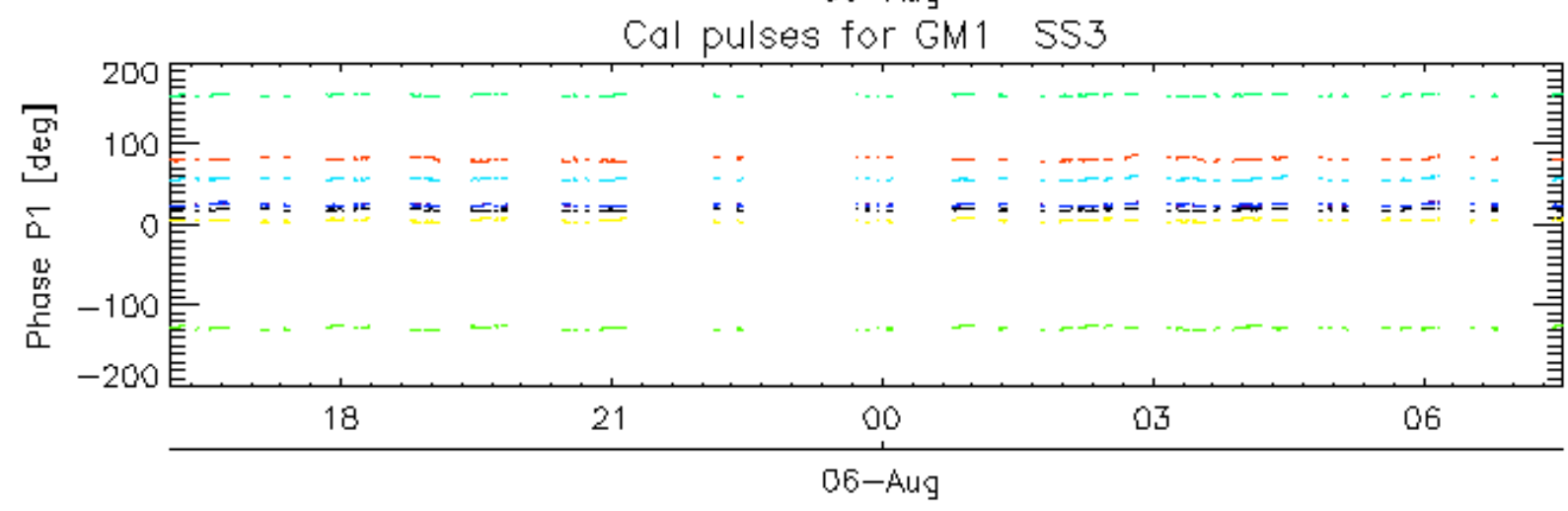
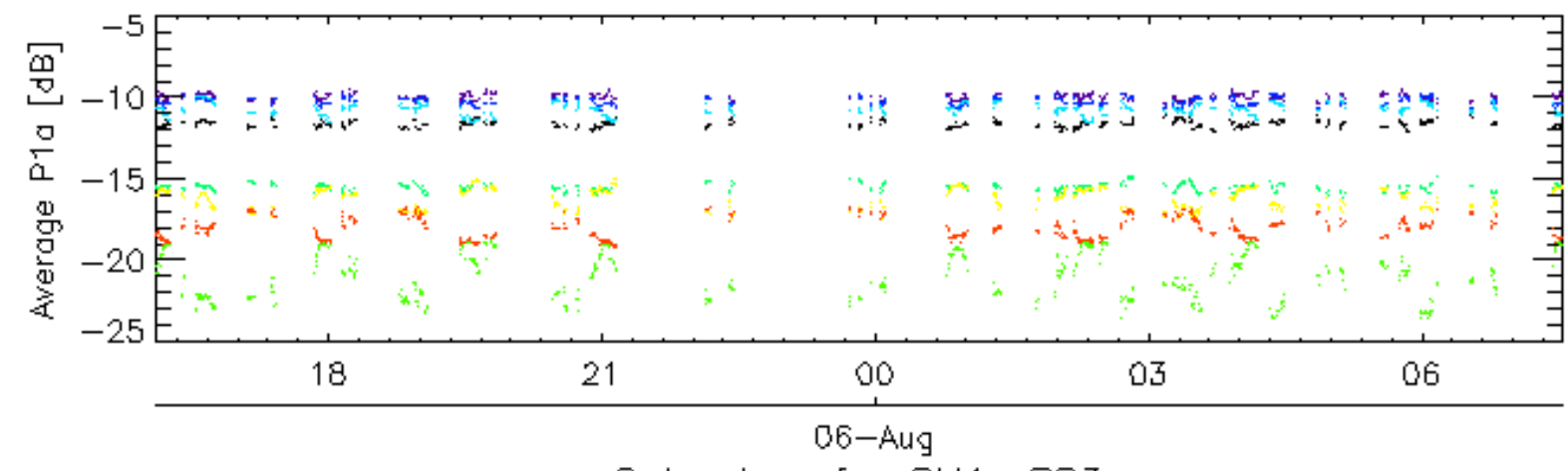
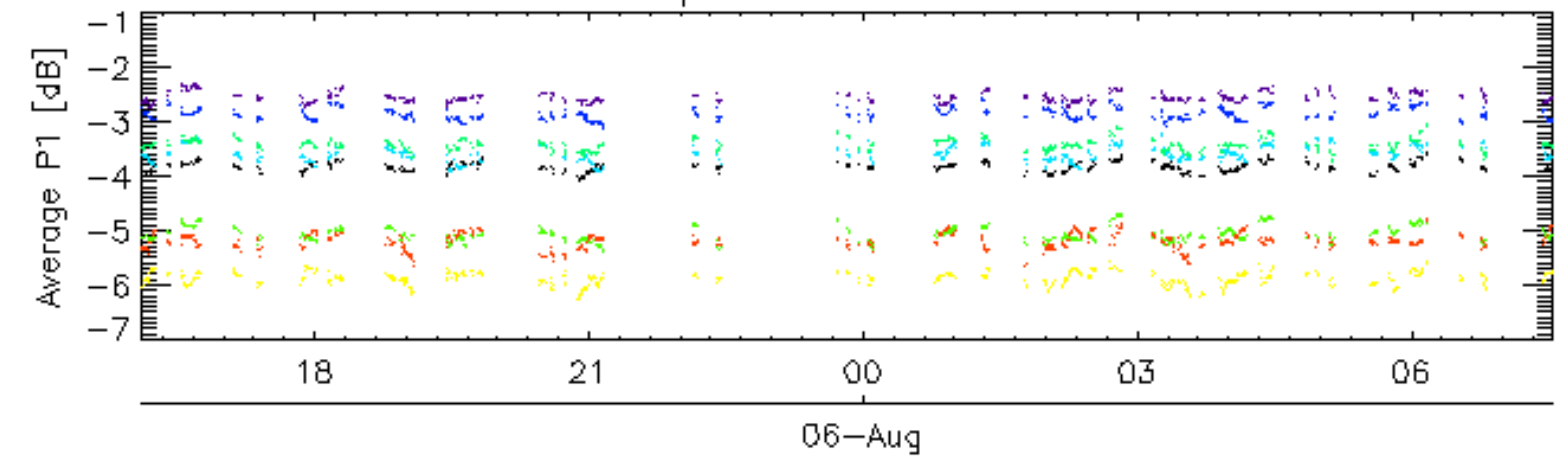
| |
|------------|
| Descending |
|------------|

7.6 - Doppler evolution versus ANX for GM1

| |
|---|
| Evolution Doppler error versus ANX |
|---|

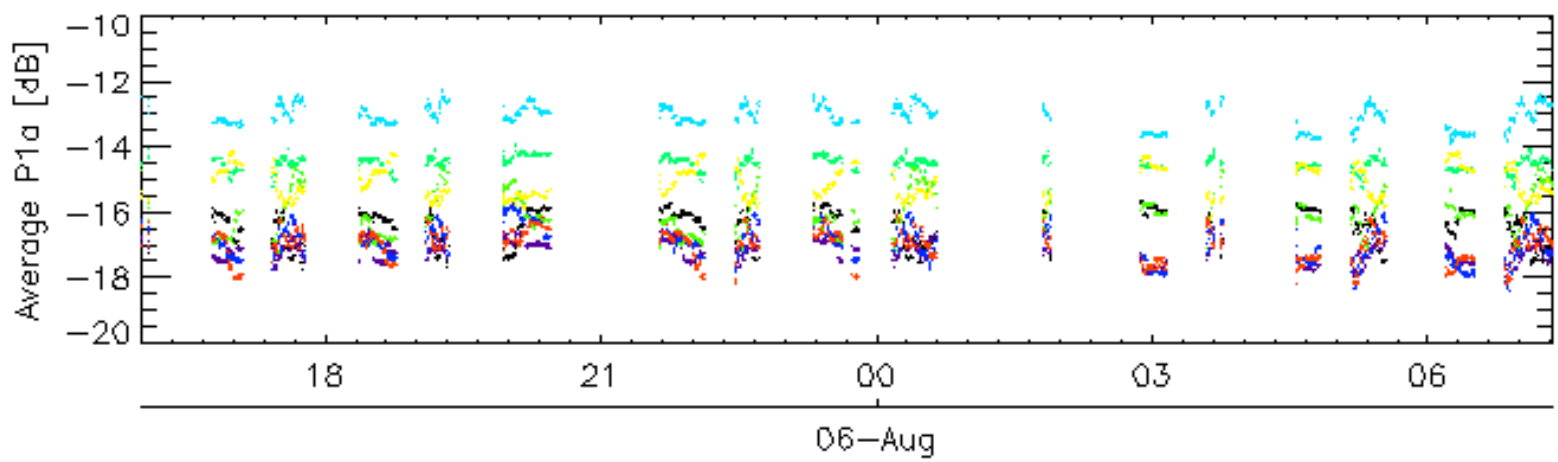
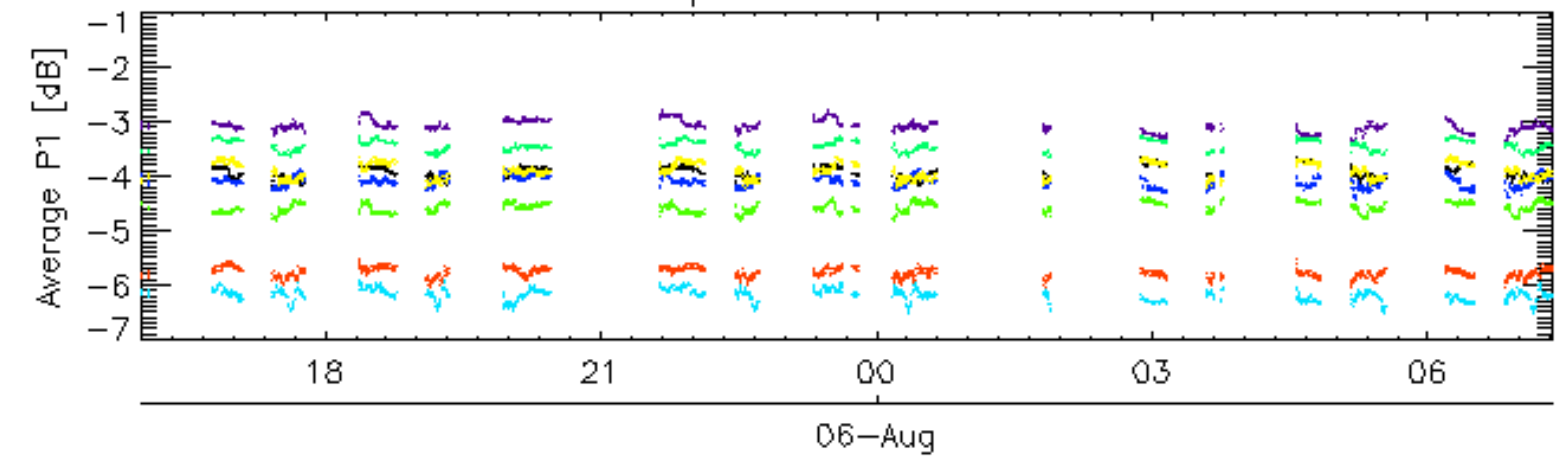


Cal pulses for GM1 SS3

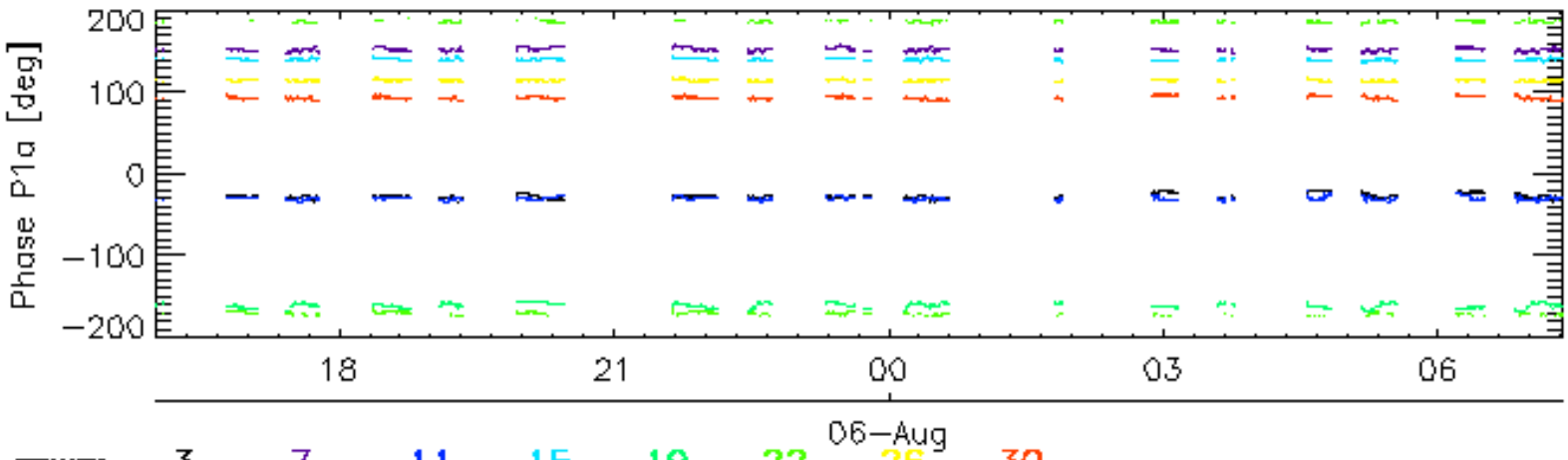
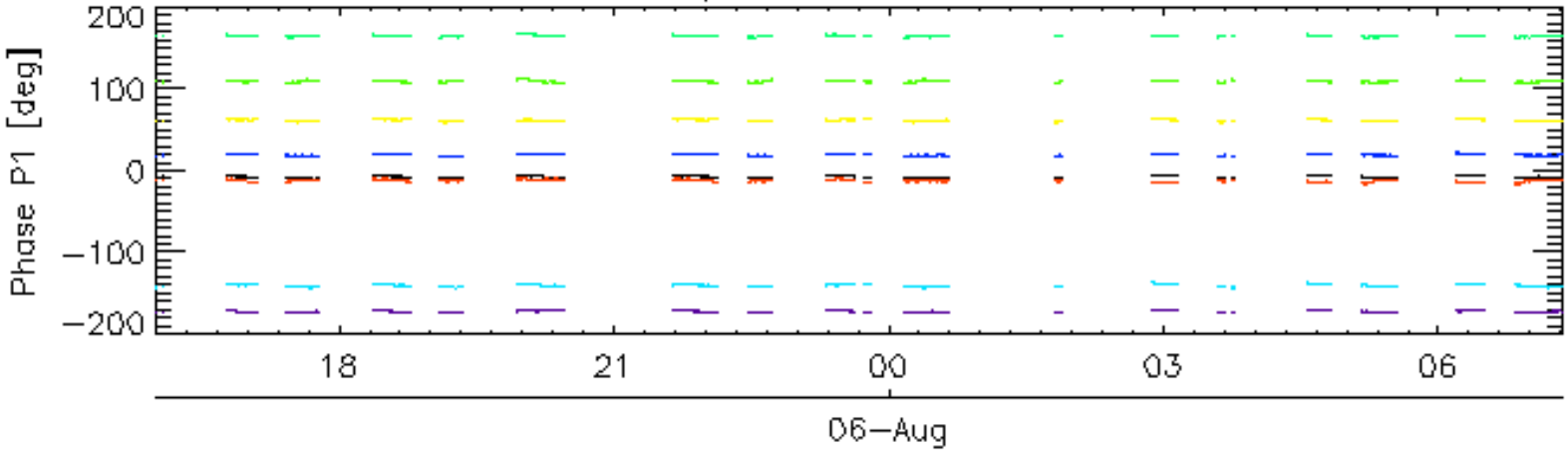


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

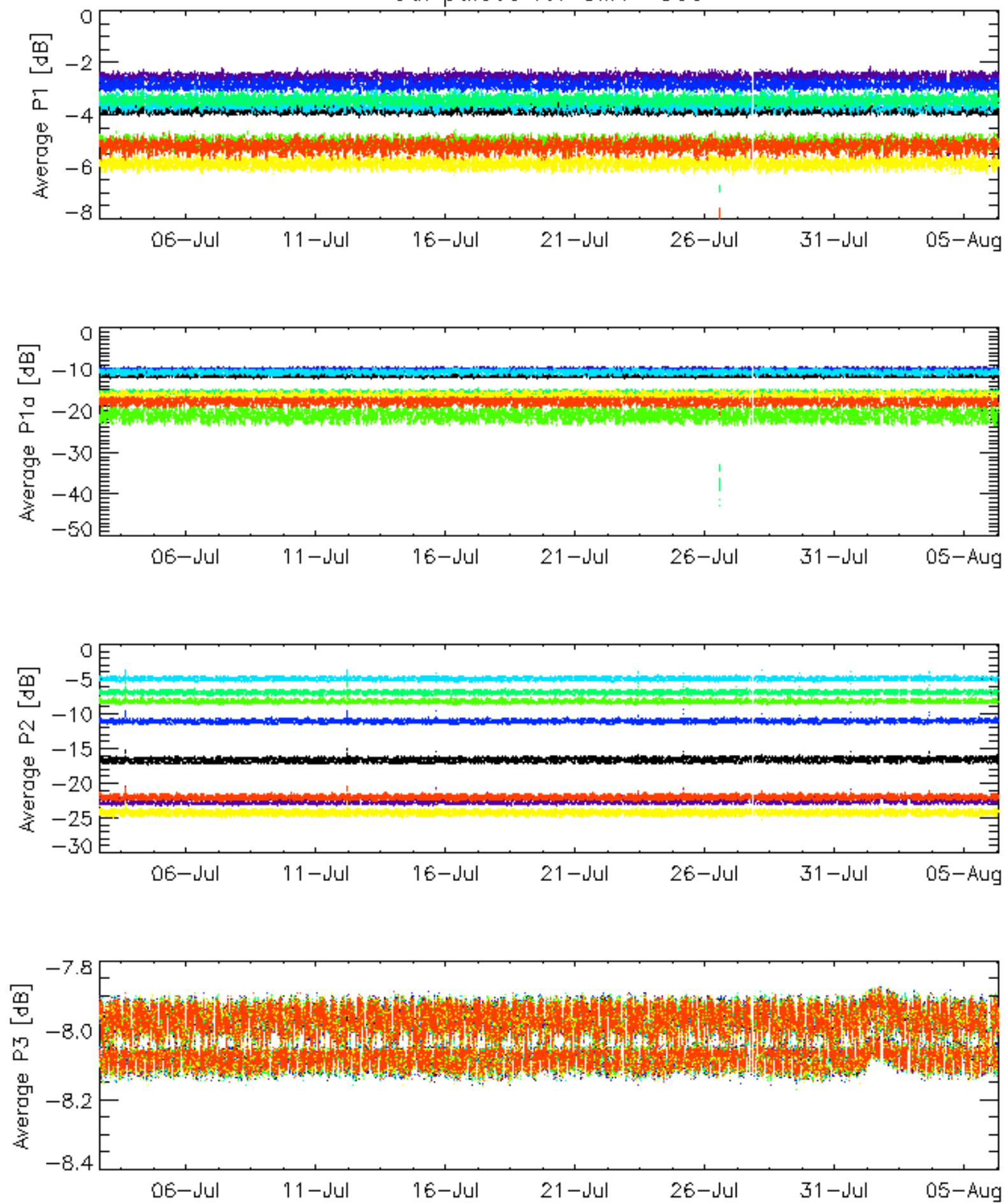


Cal pulses for WVS IS2



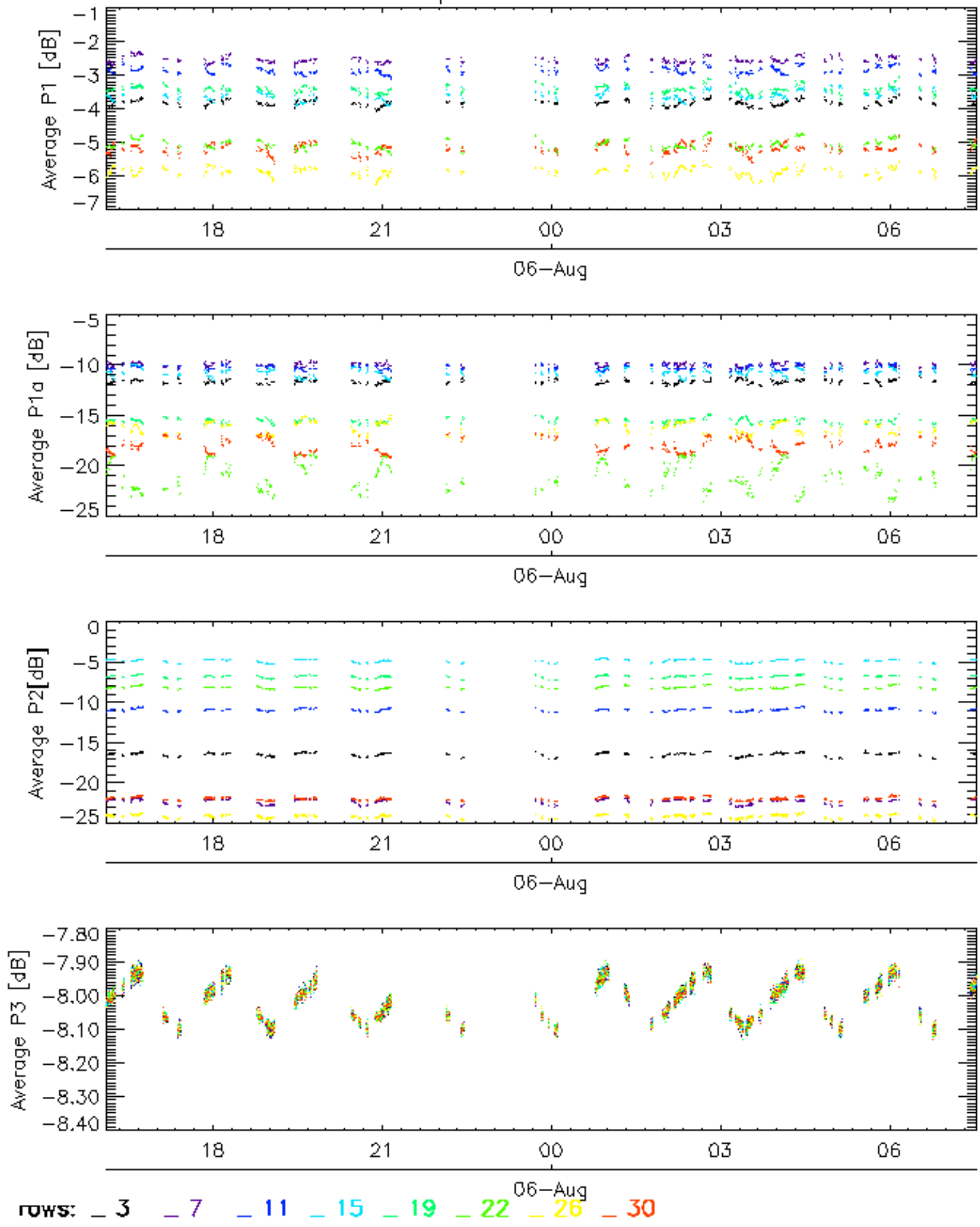
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

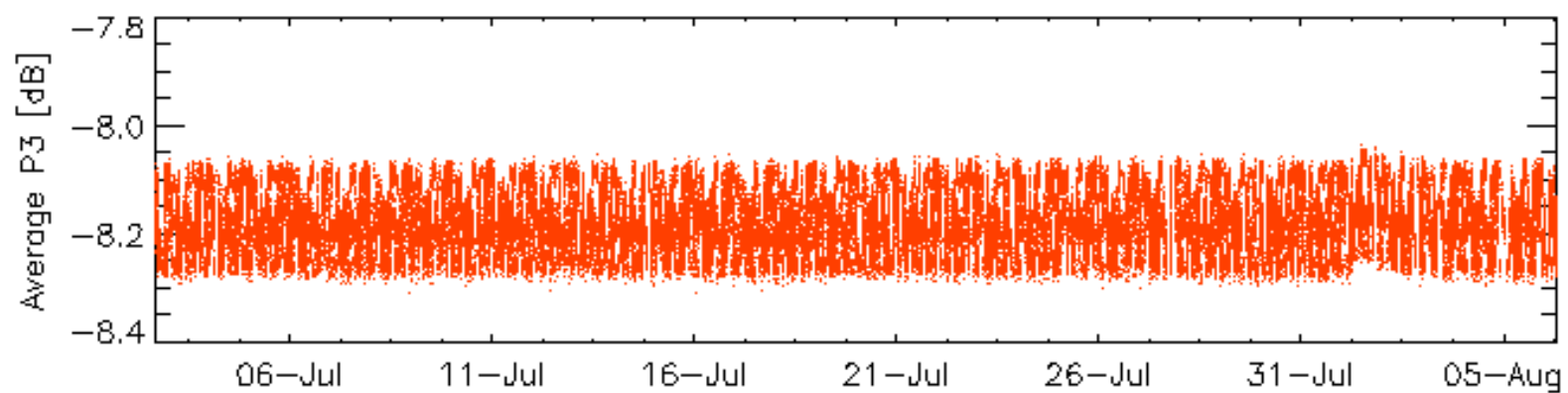
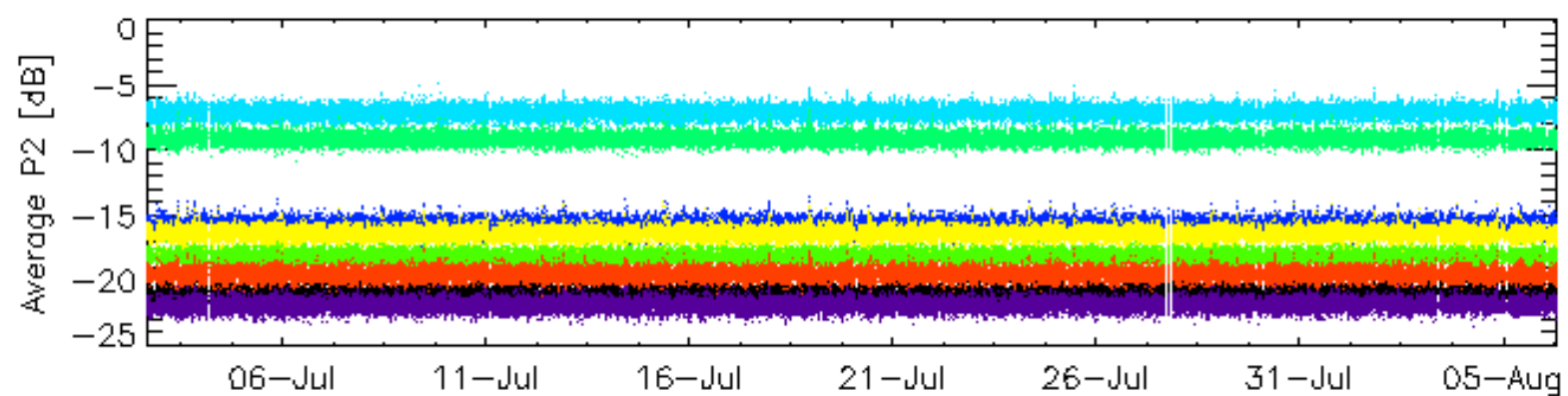
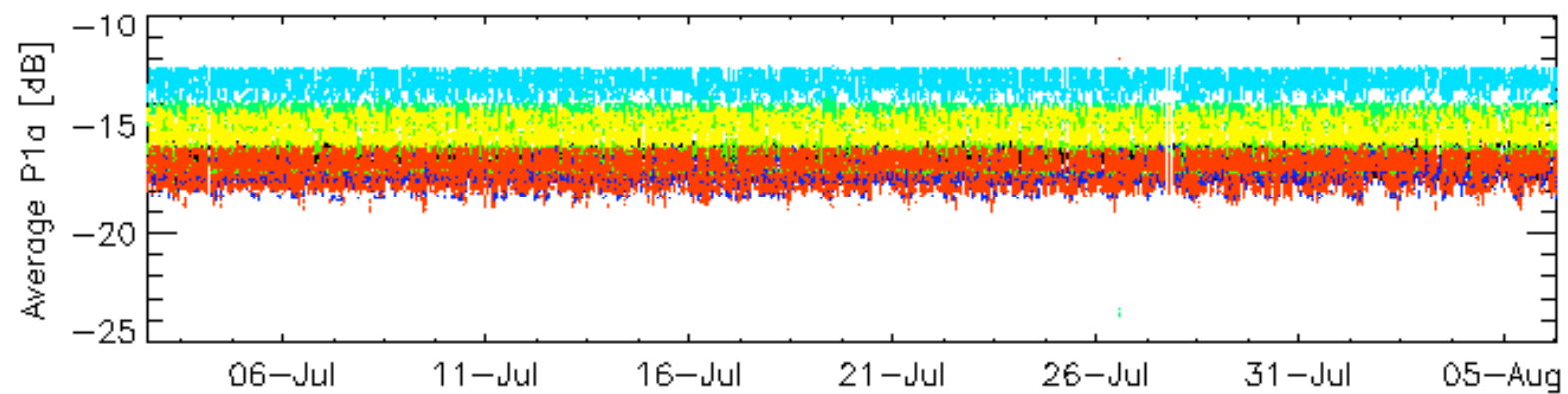
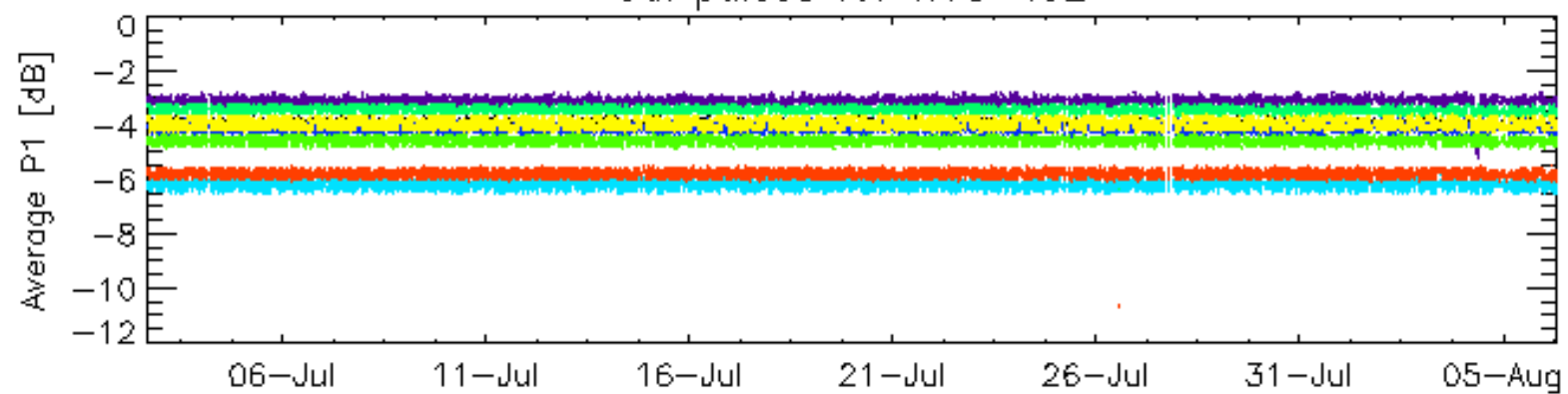


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

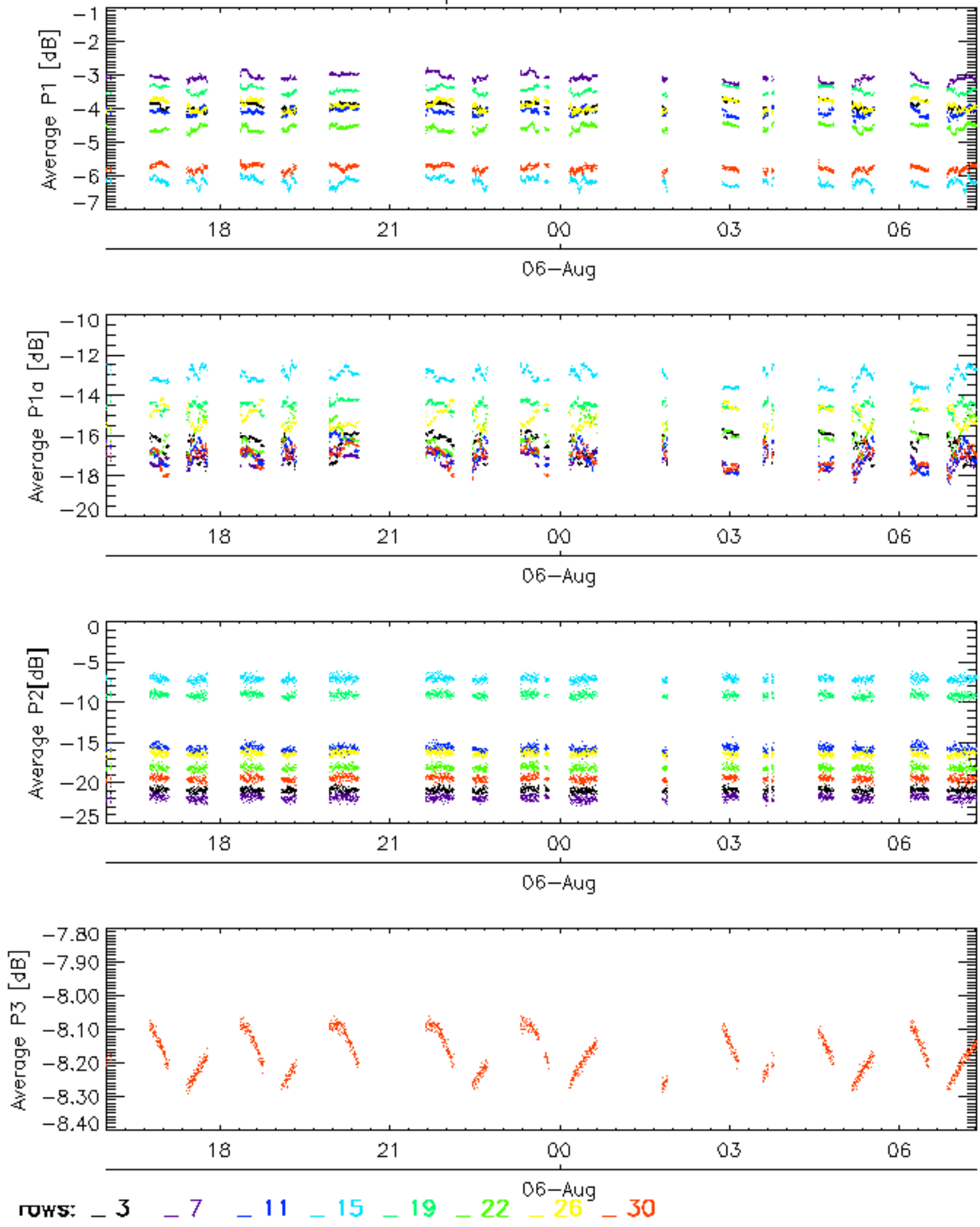


Cal pulses for WVS IS2

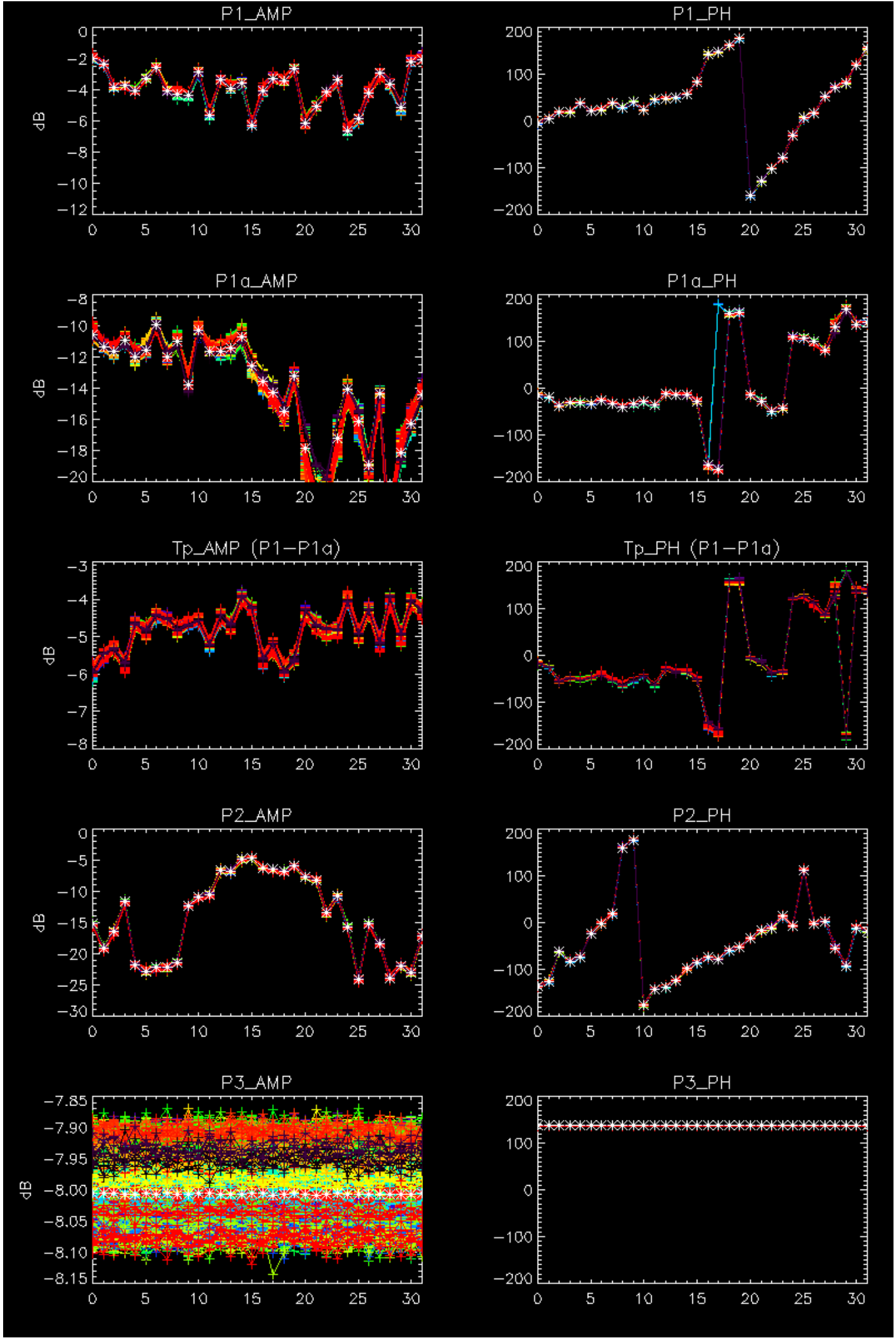


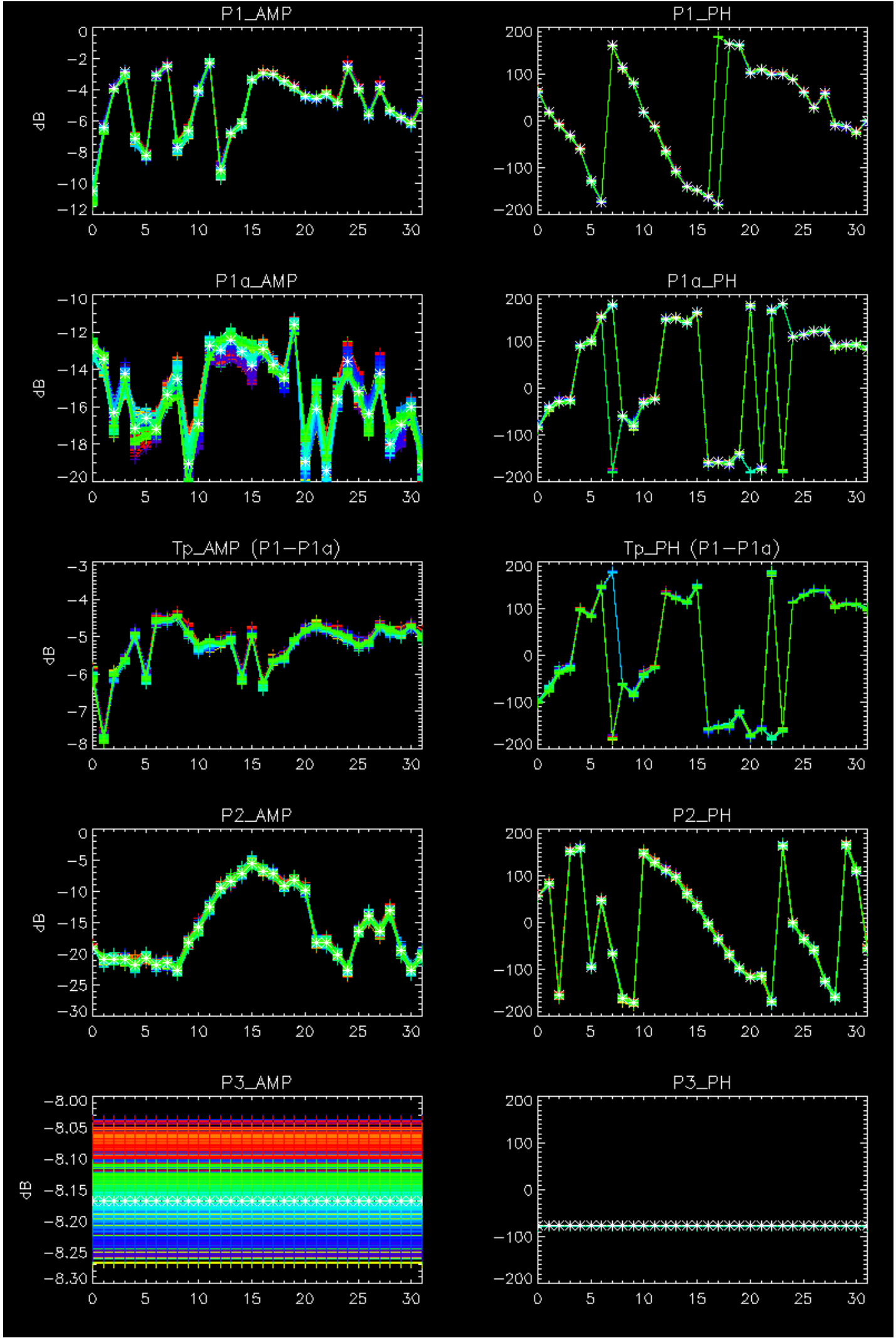
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



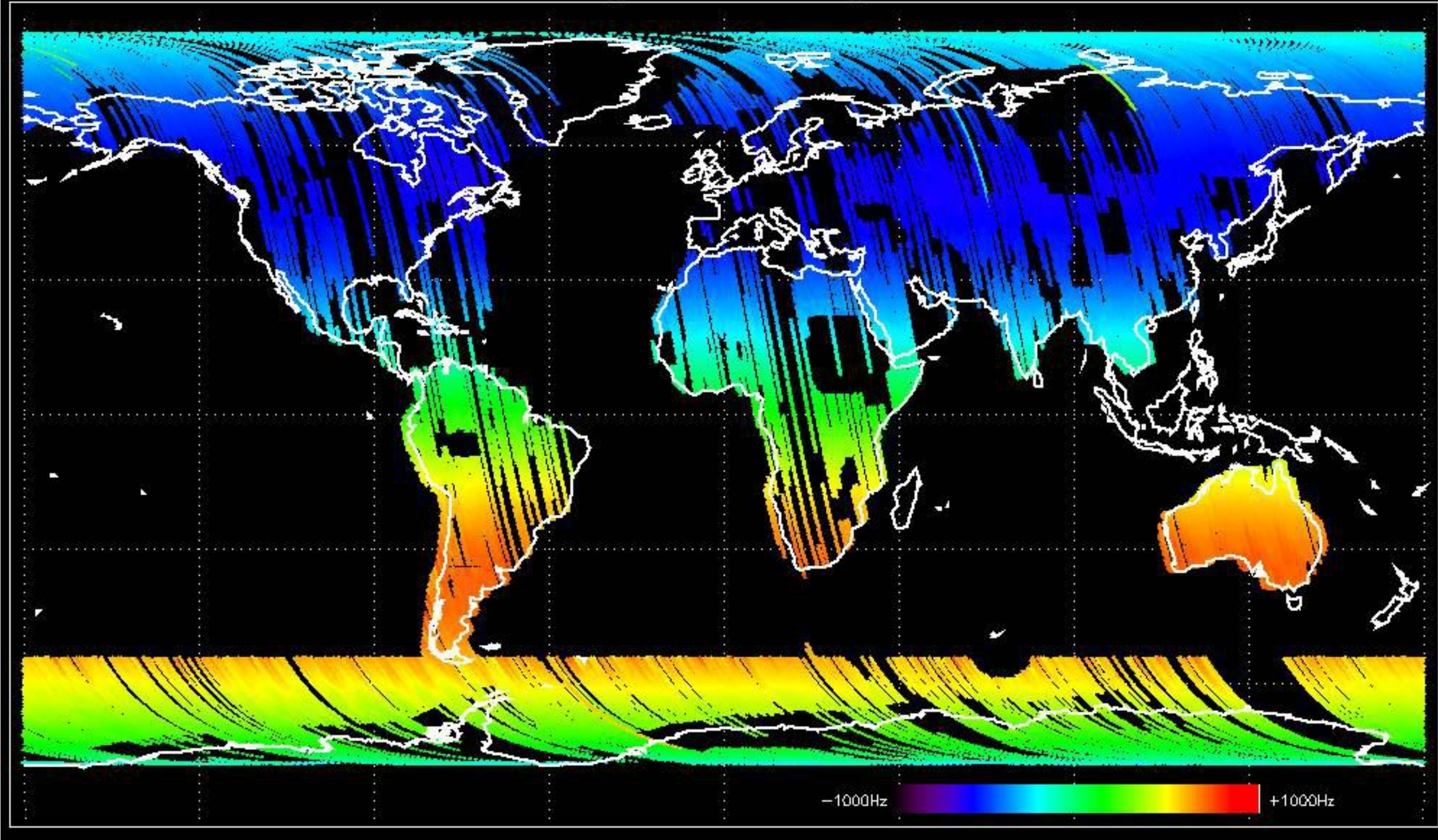
No anomalies observed.



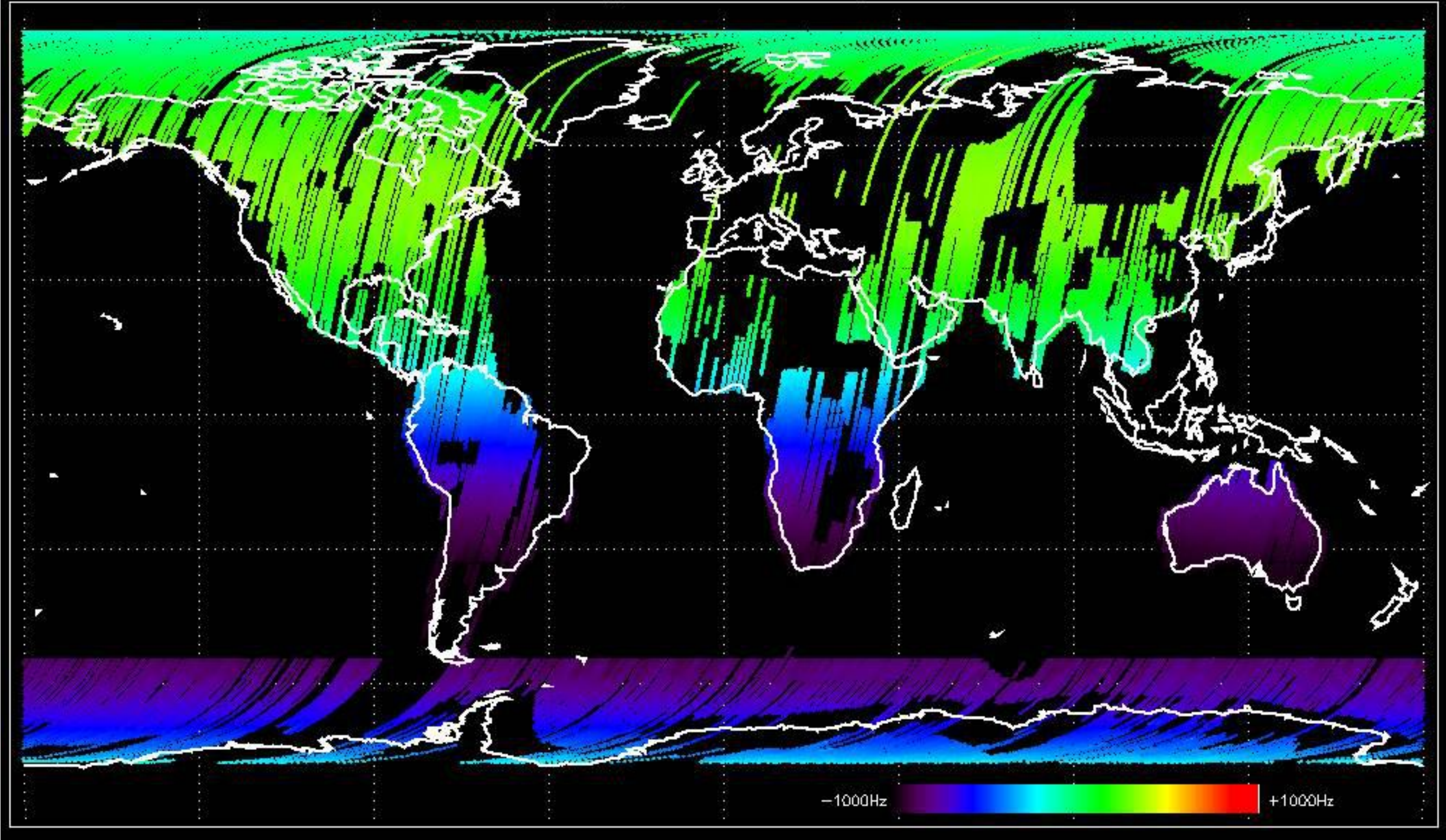


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

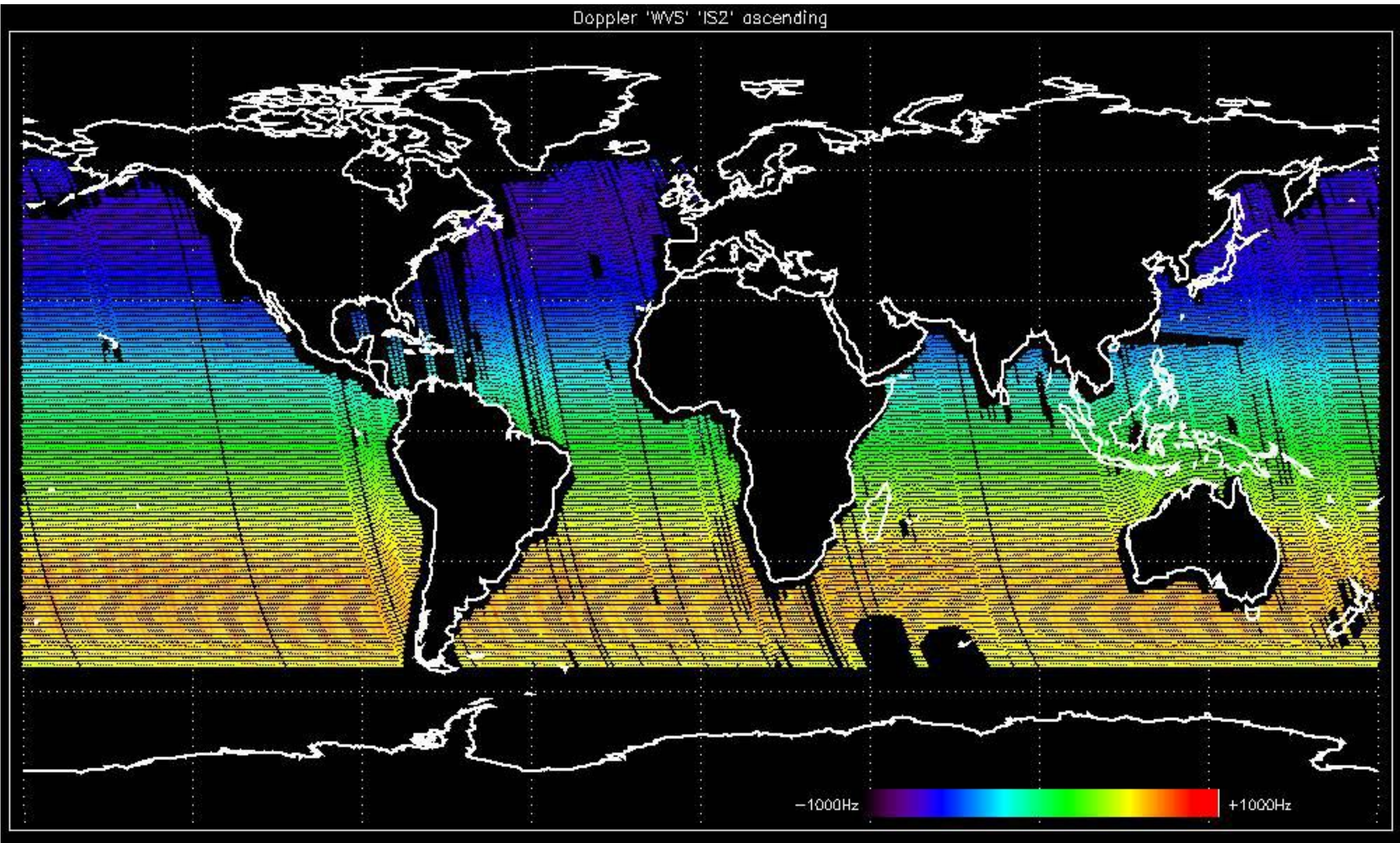
Doppler 'GM1' 'SS1' ascending



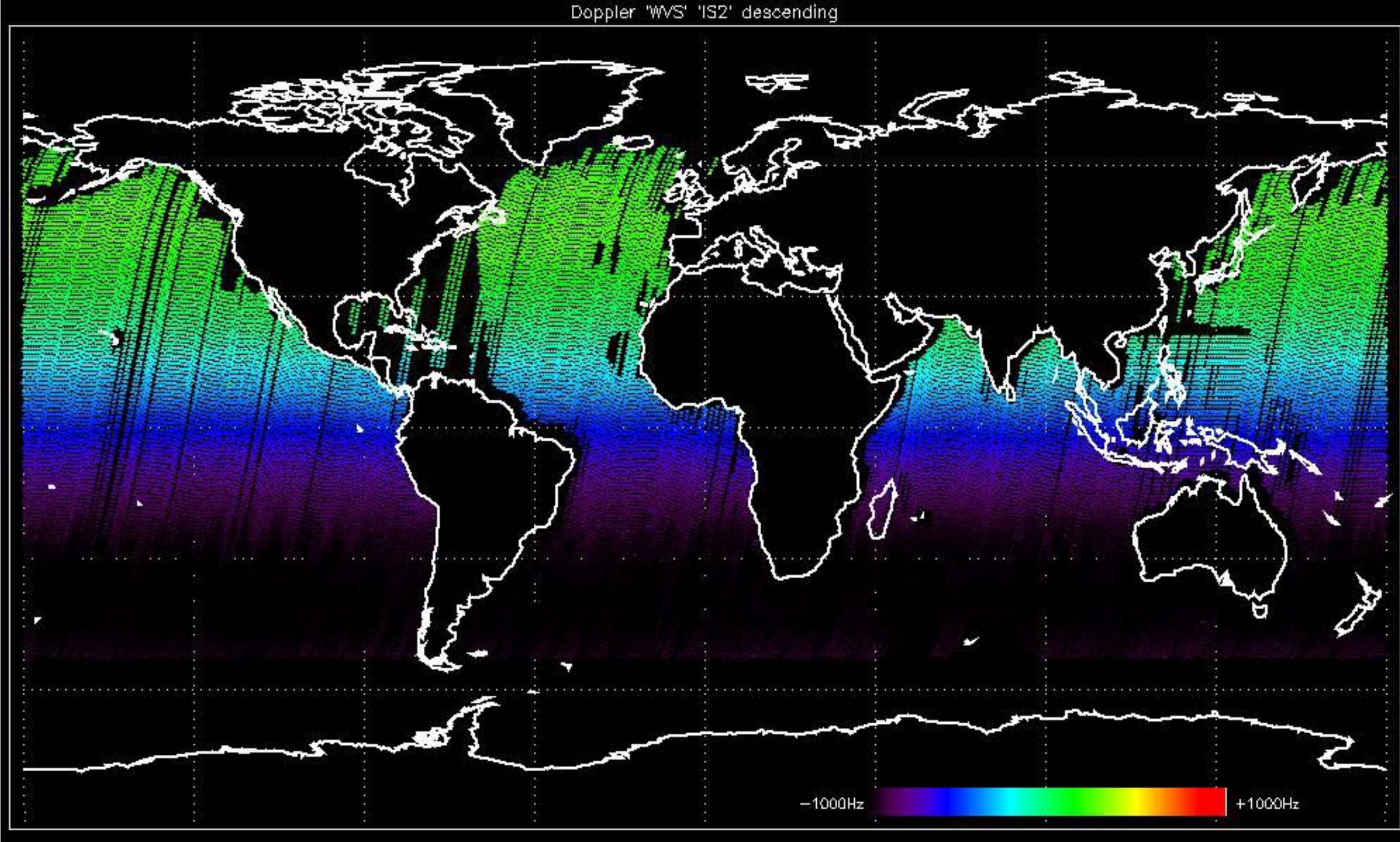
Doppler 'GM1' 'SS1' descending

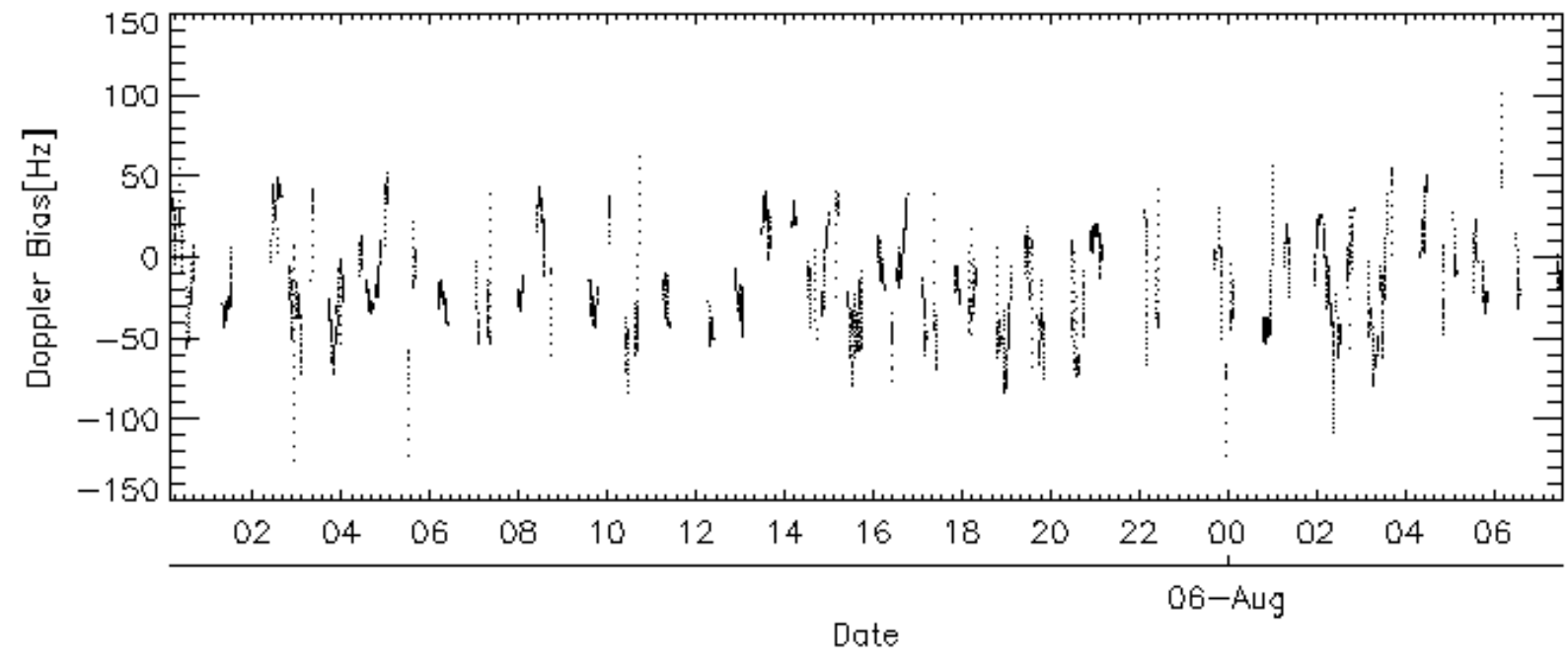
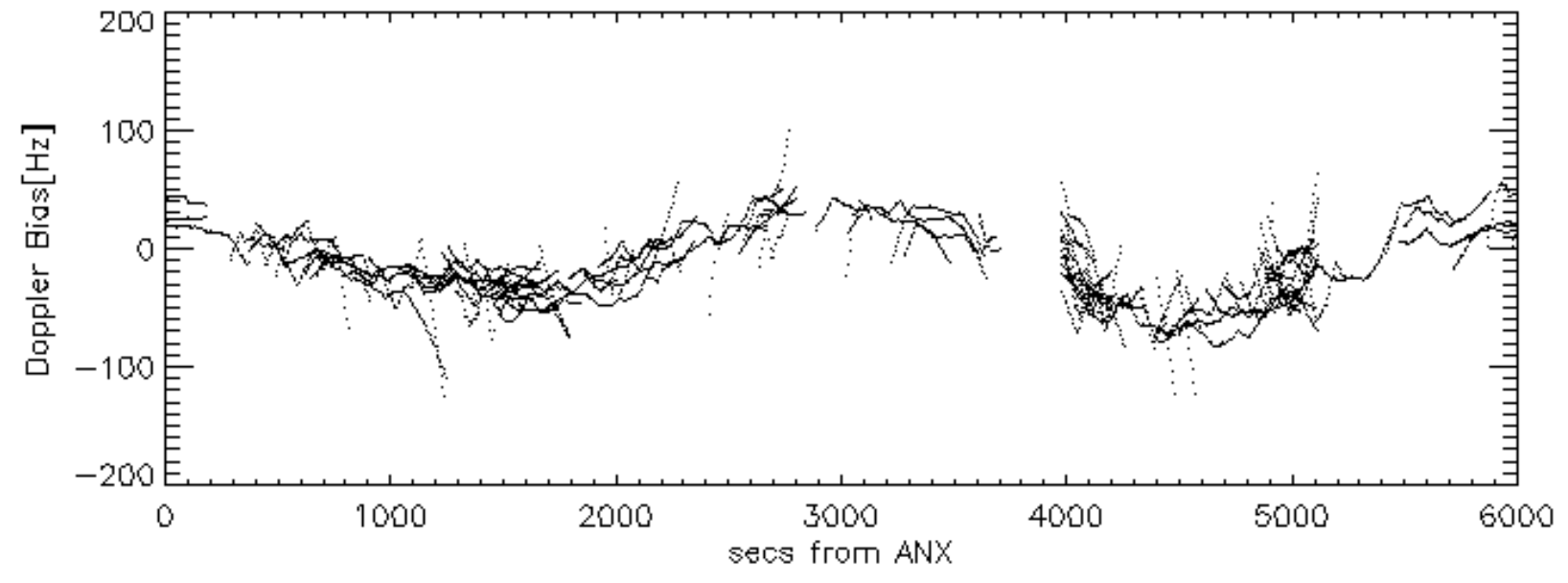
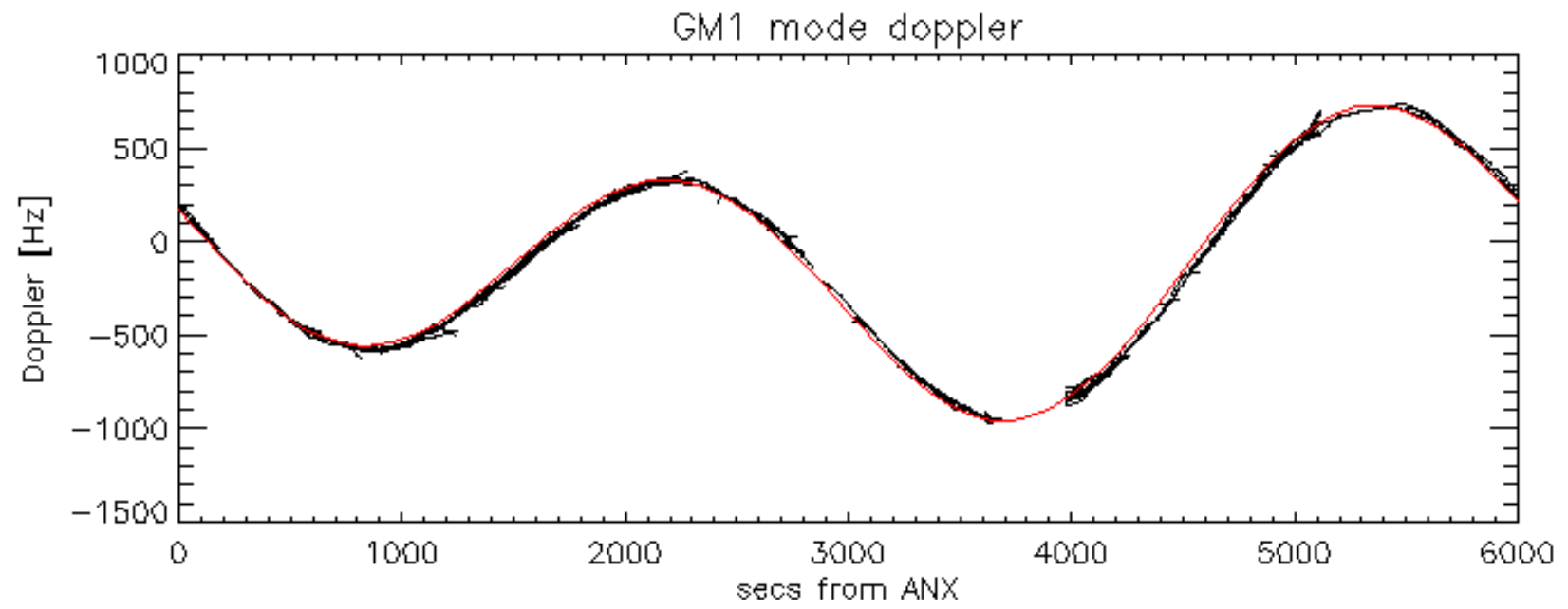


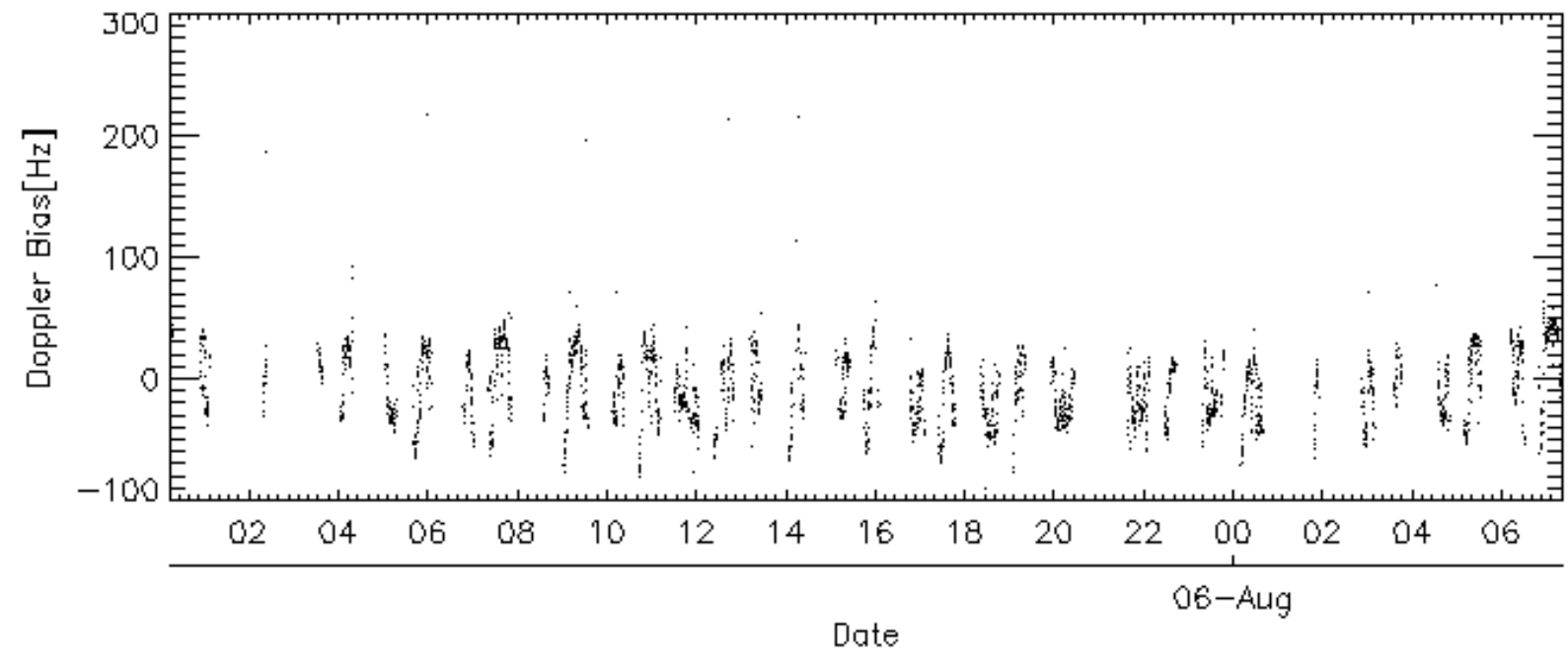
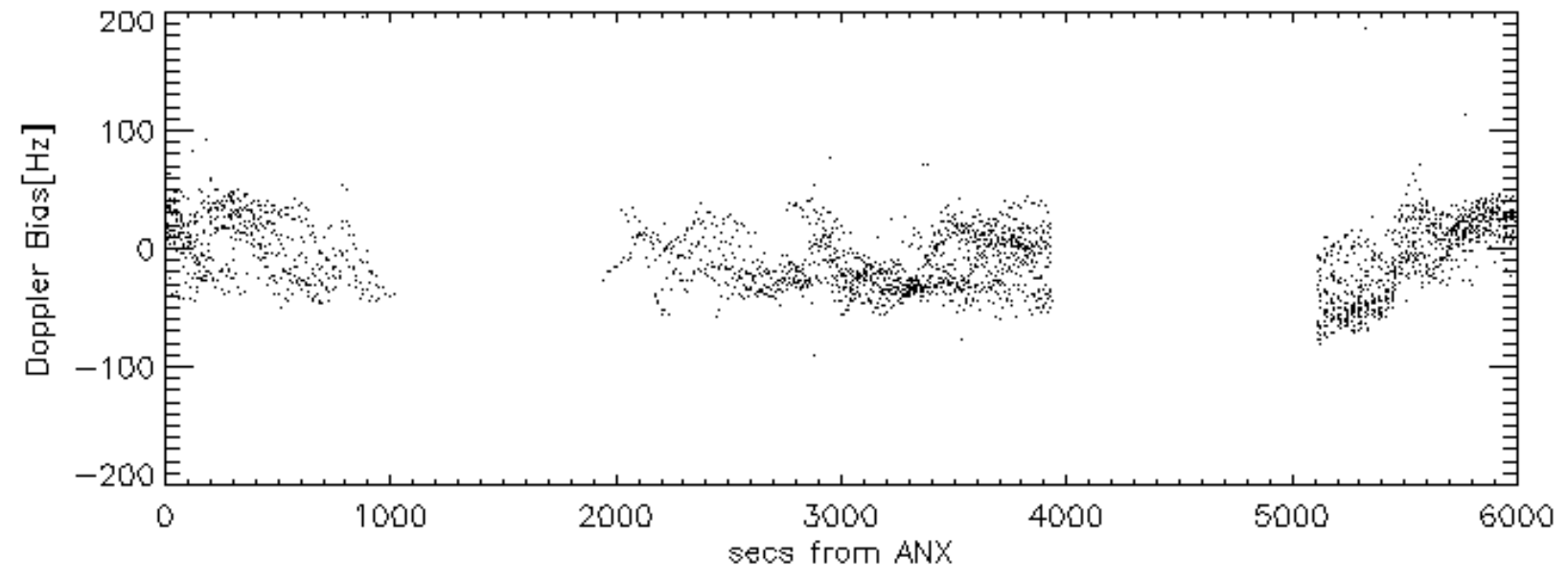
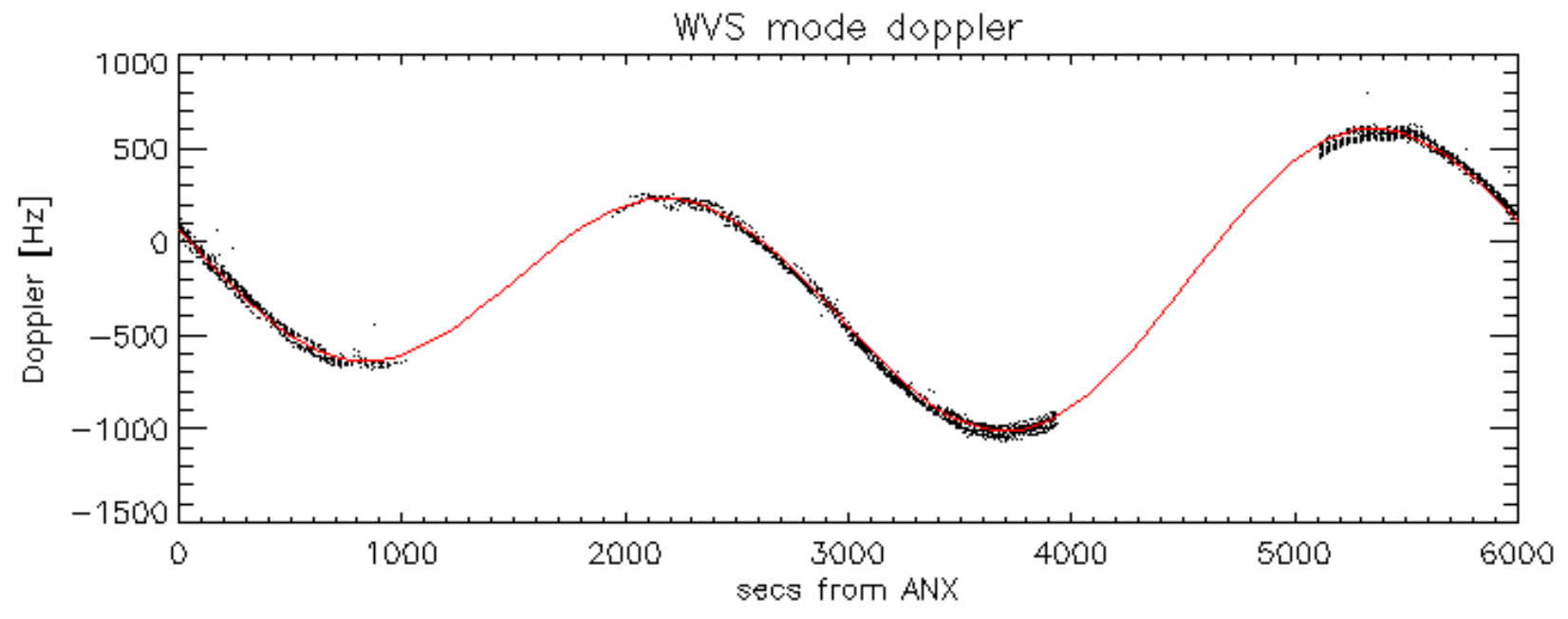
Doppler 'WVS' 'IS2' ascending



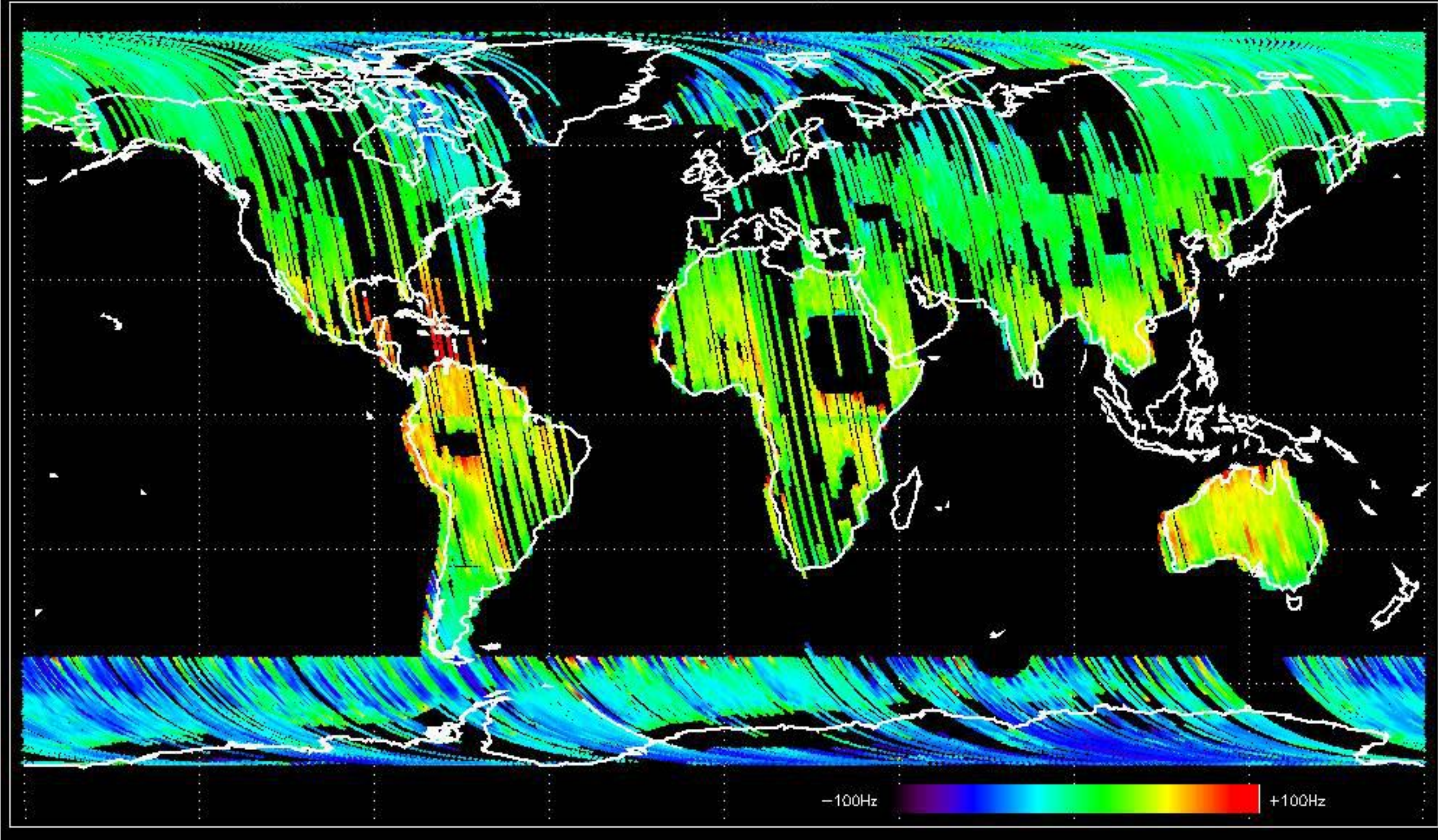
Doppler 'WVS' 'IS2' descending



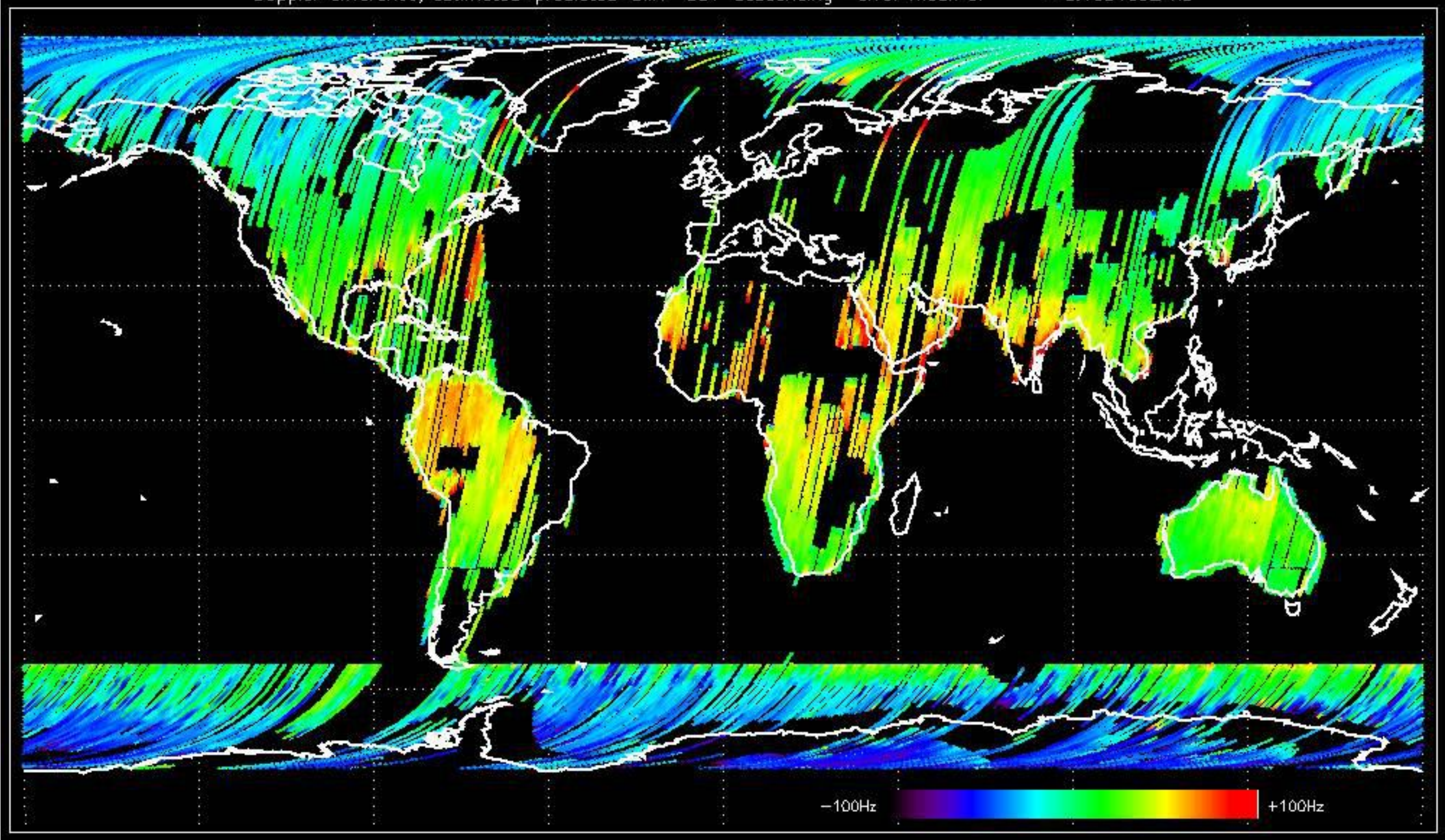




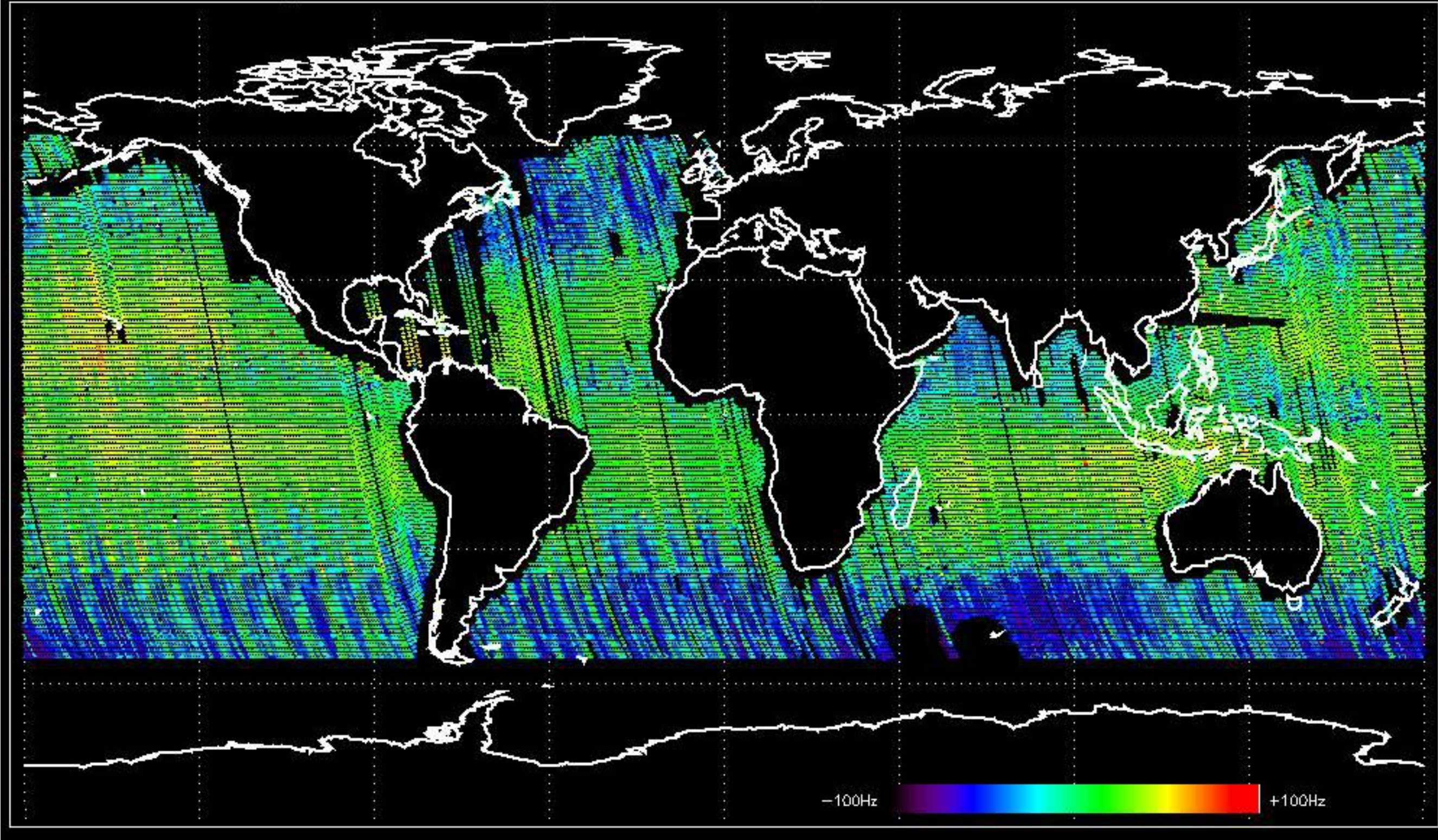
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -17.913405 Hz



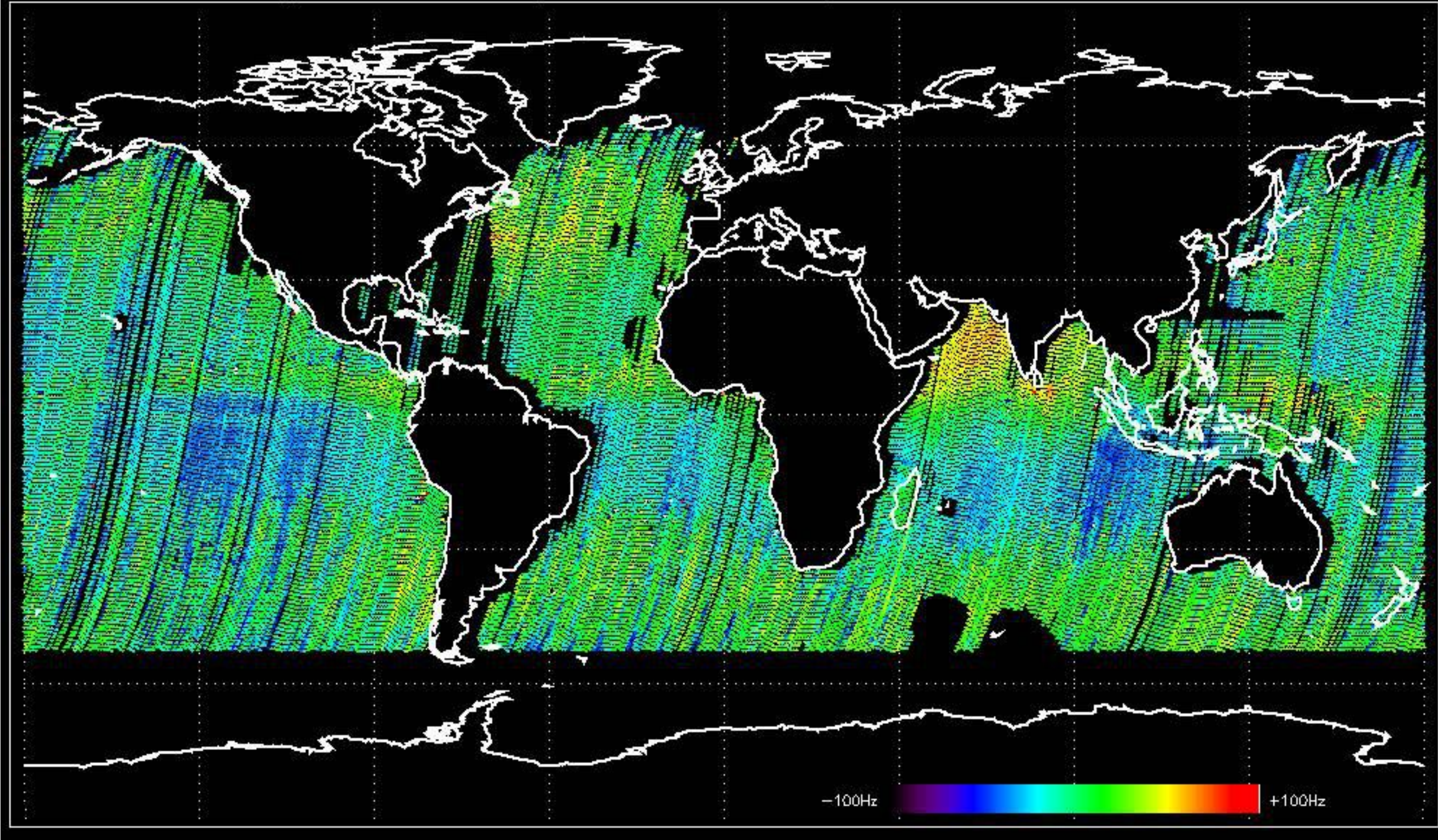
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -8.1654692 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -2.2678961 Hz

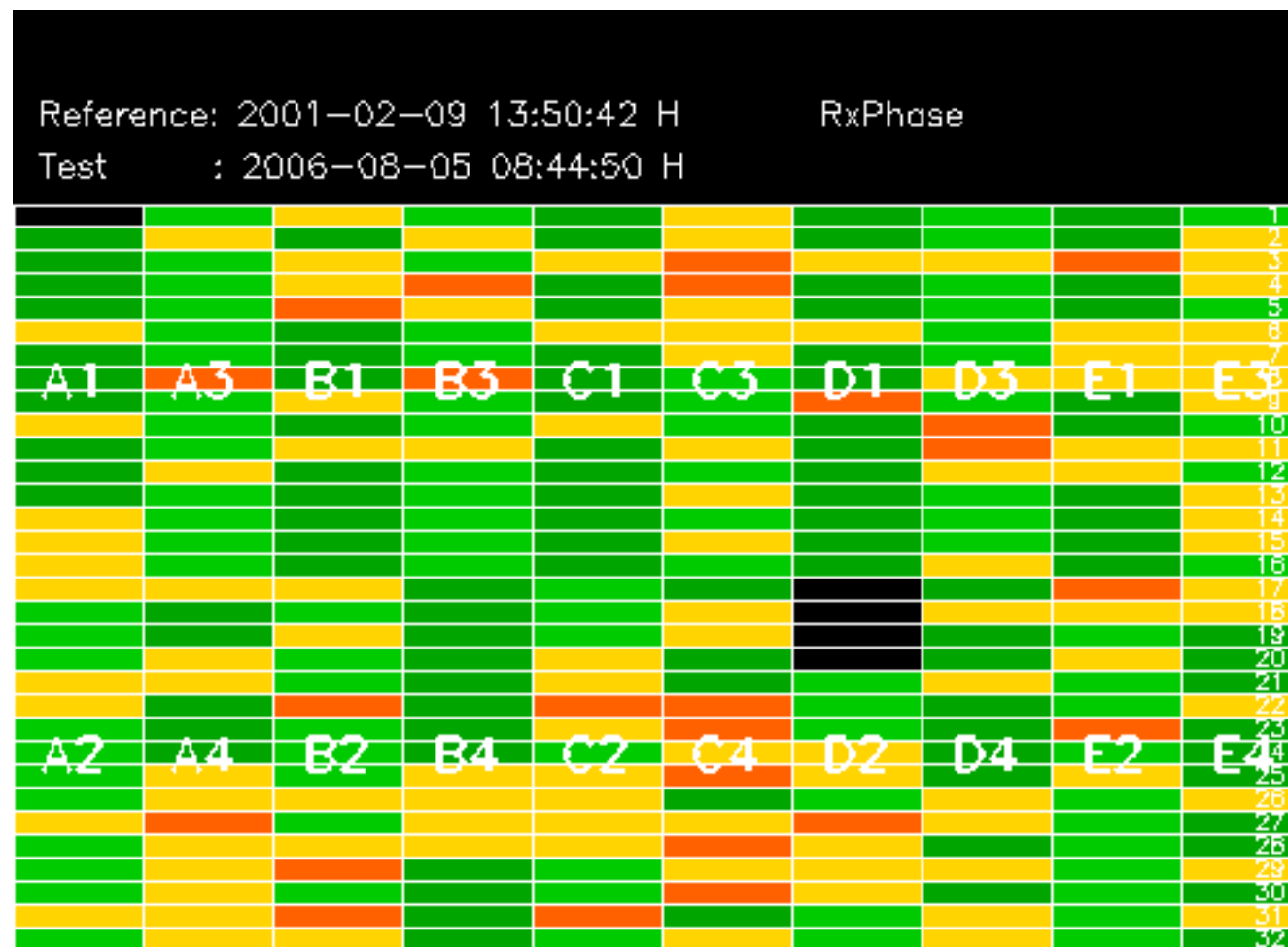


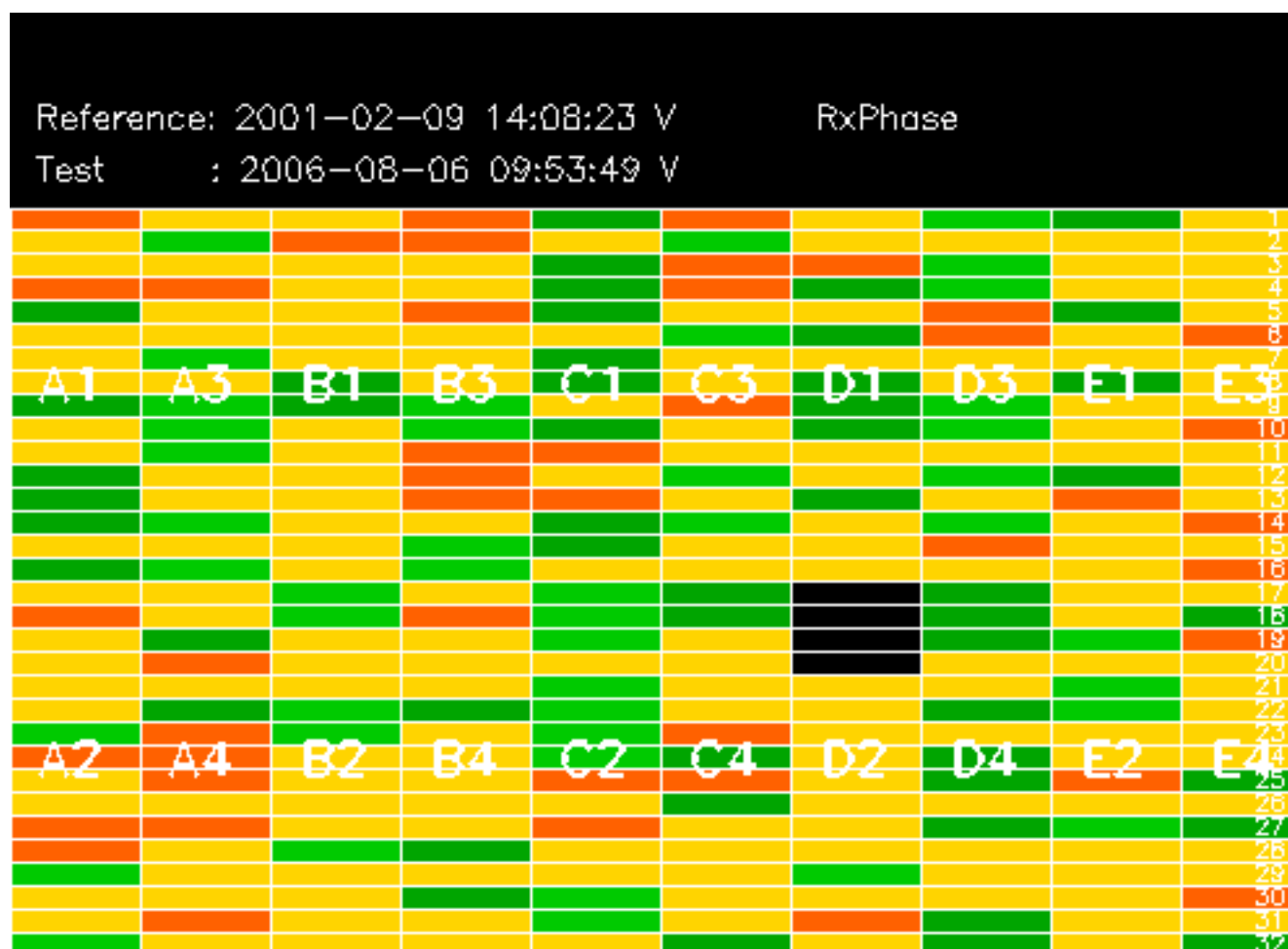
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -9.3715704 Hz

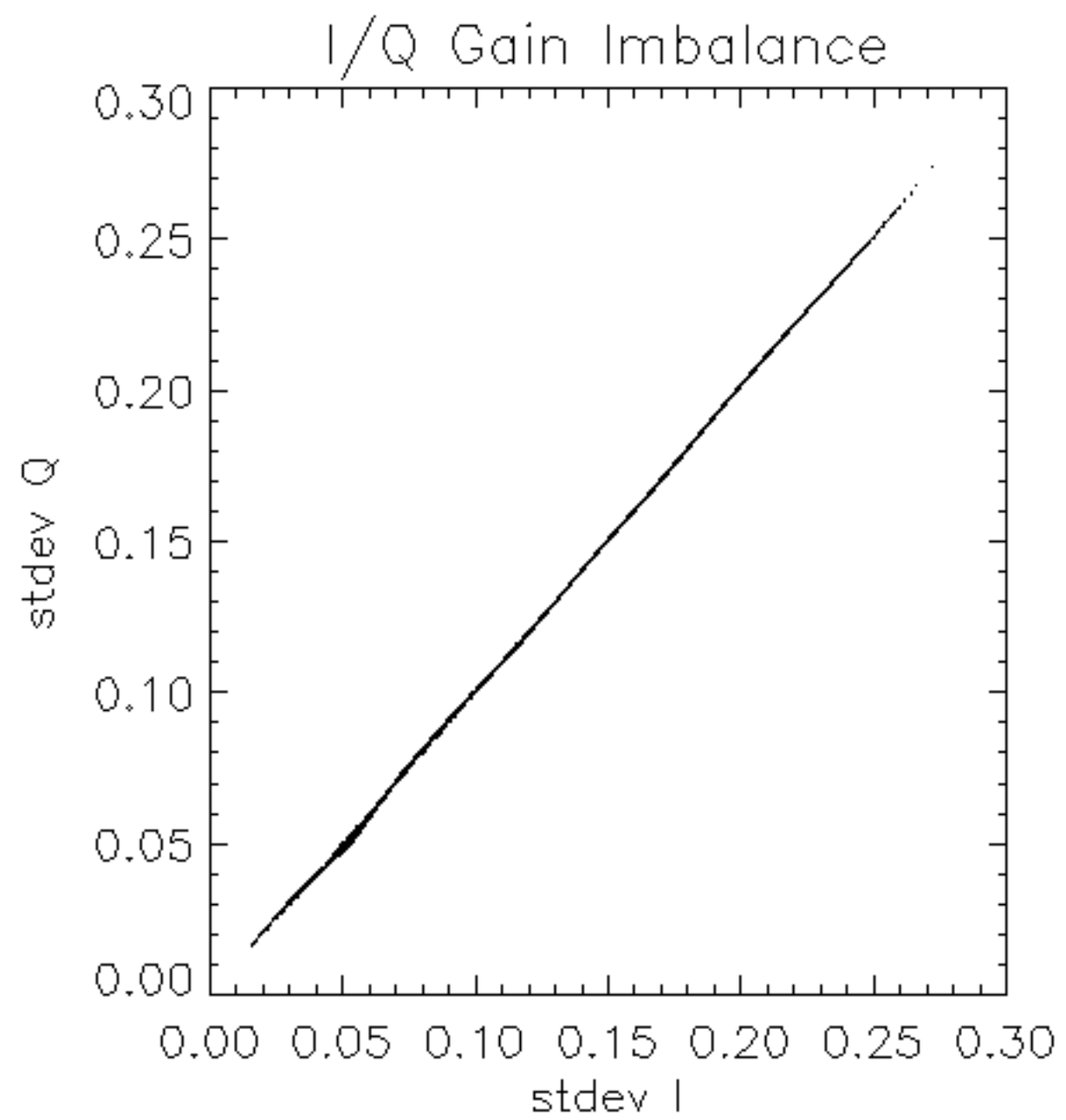


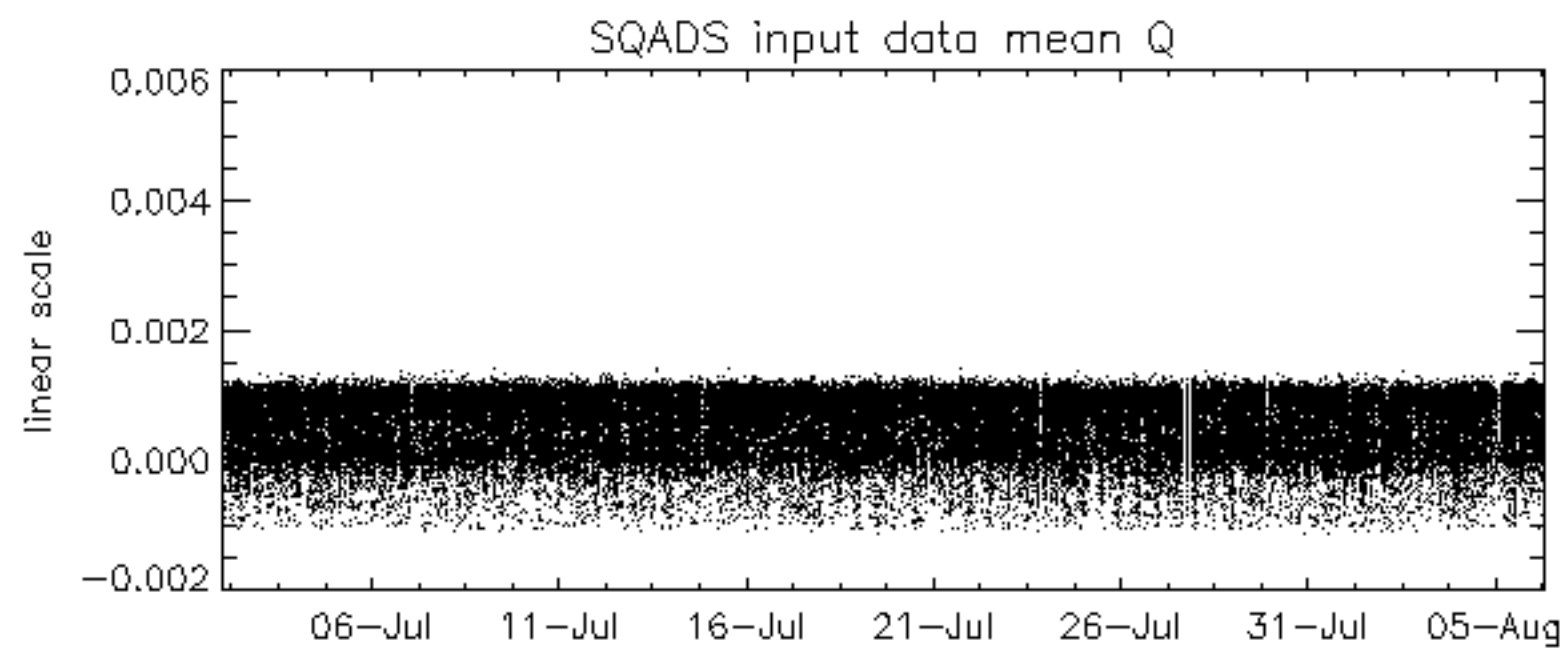
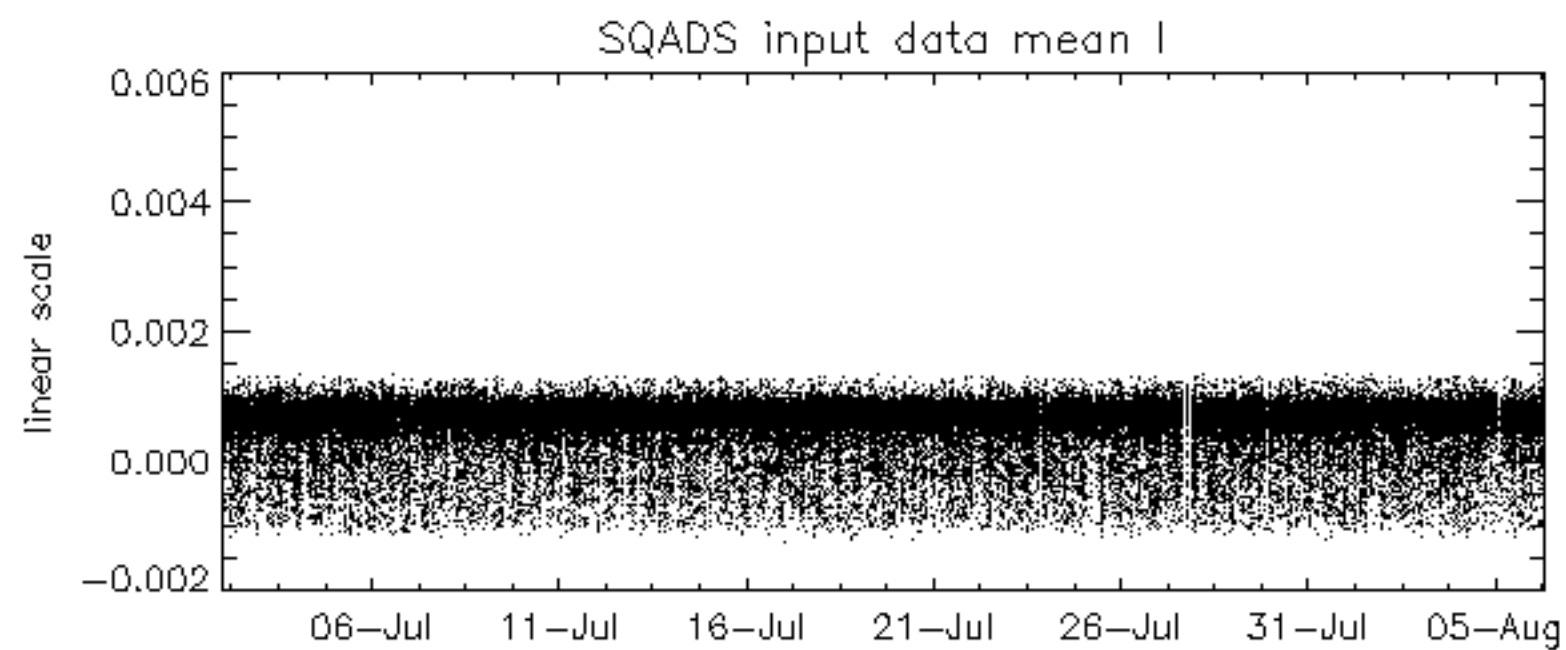
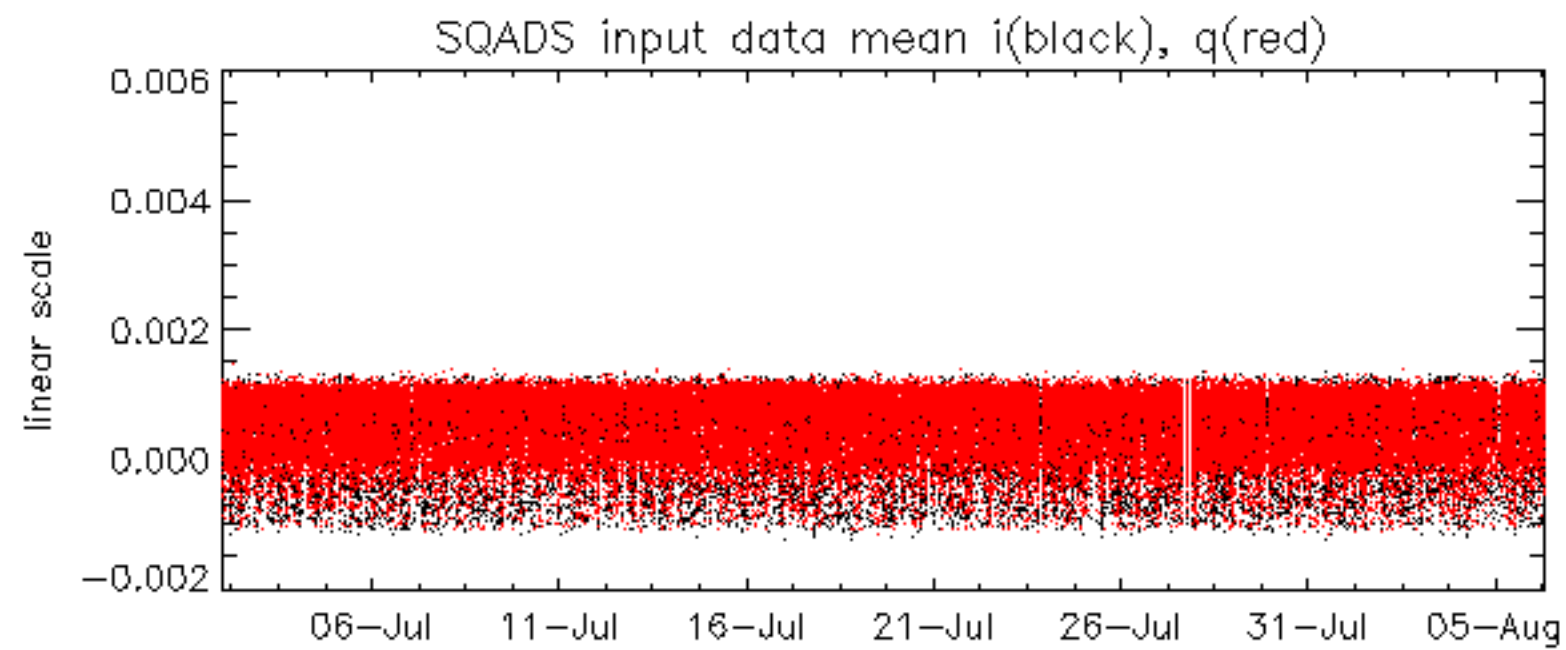
No anomalies observed on available MS products:

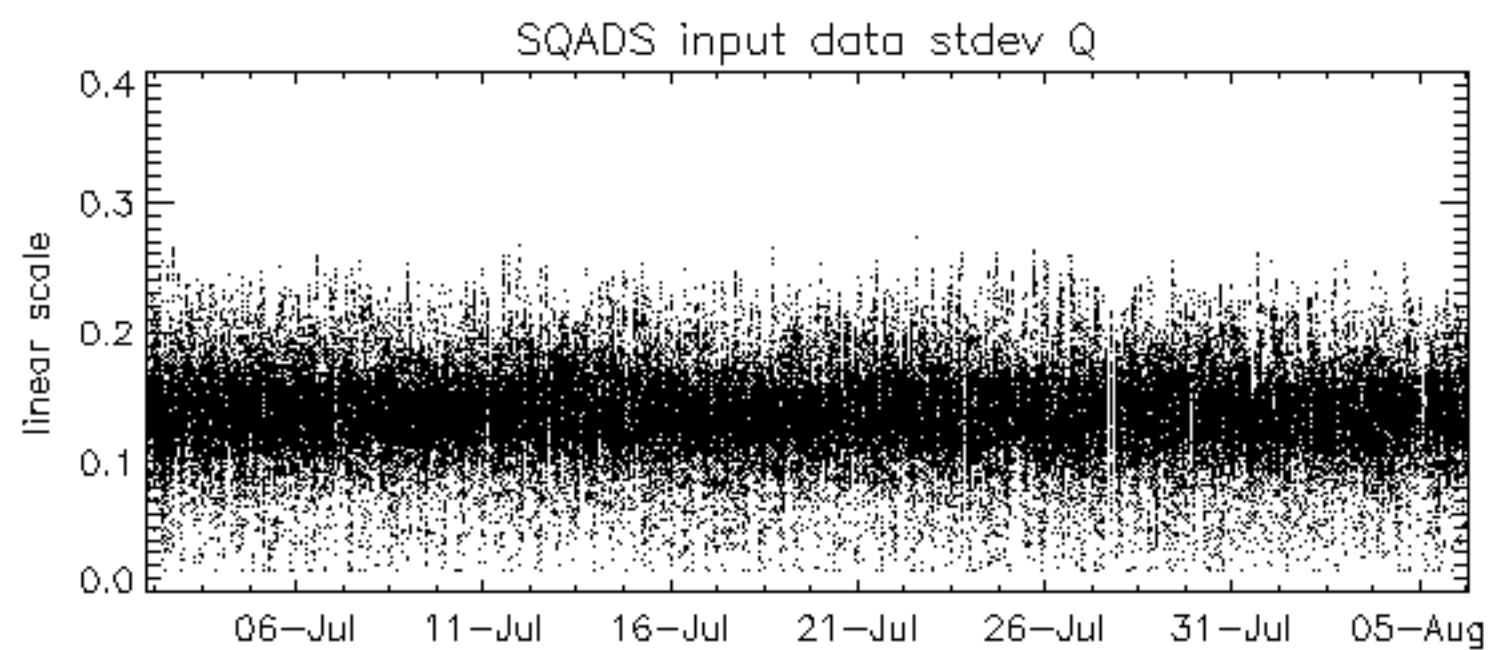
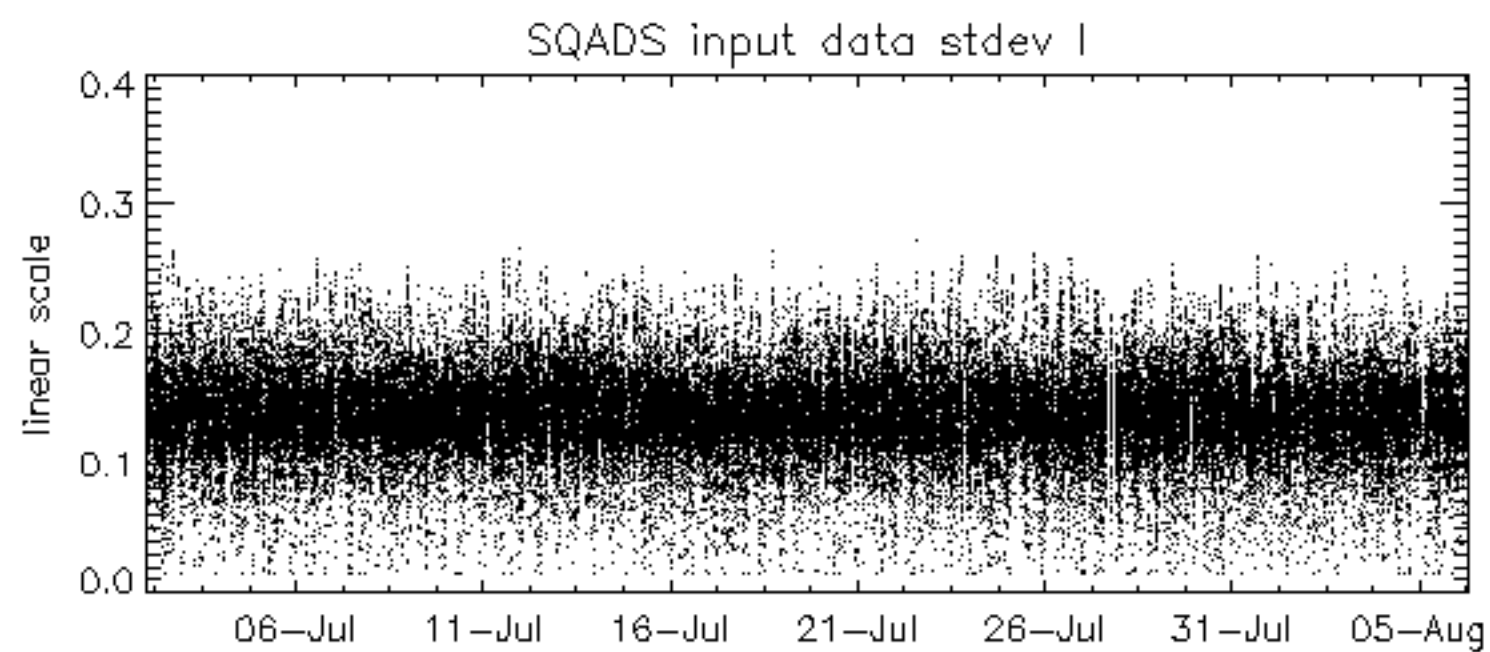
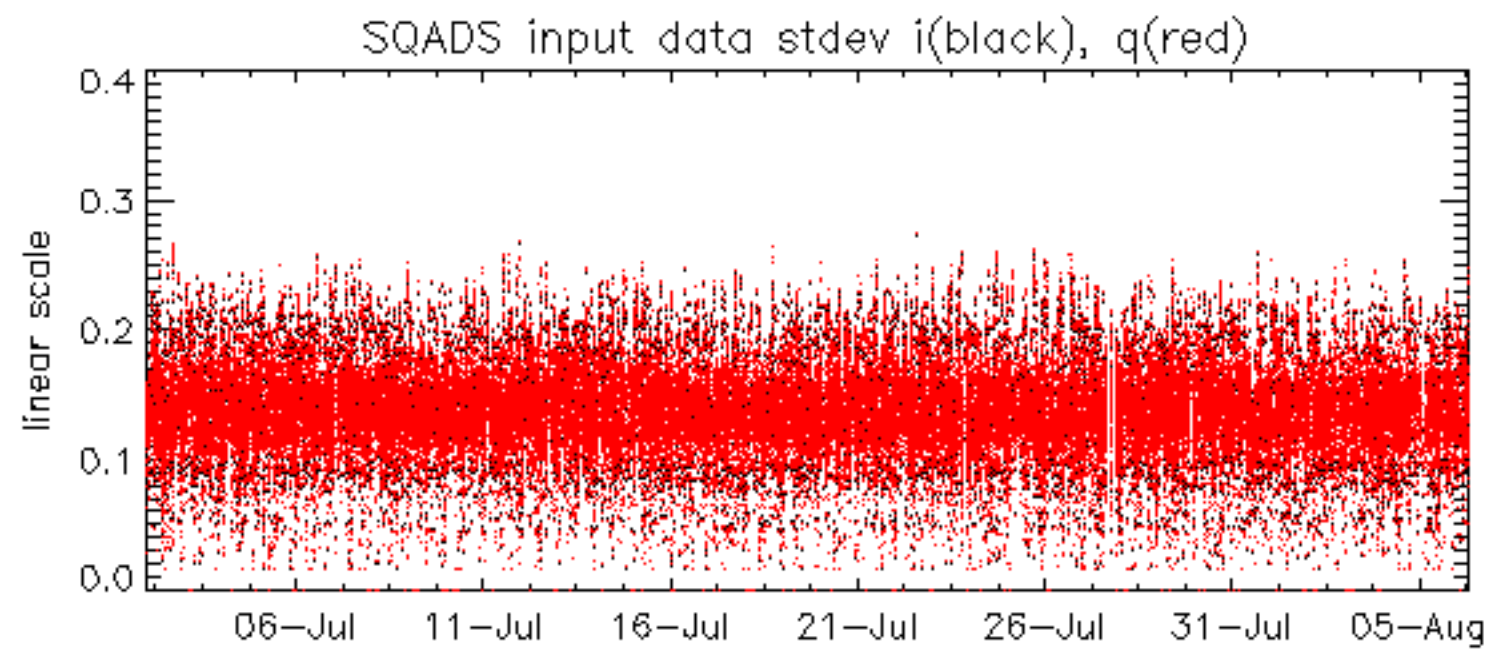
No anomalies observed.







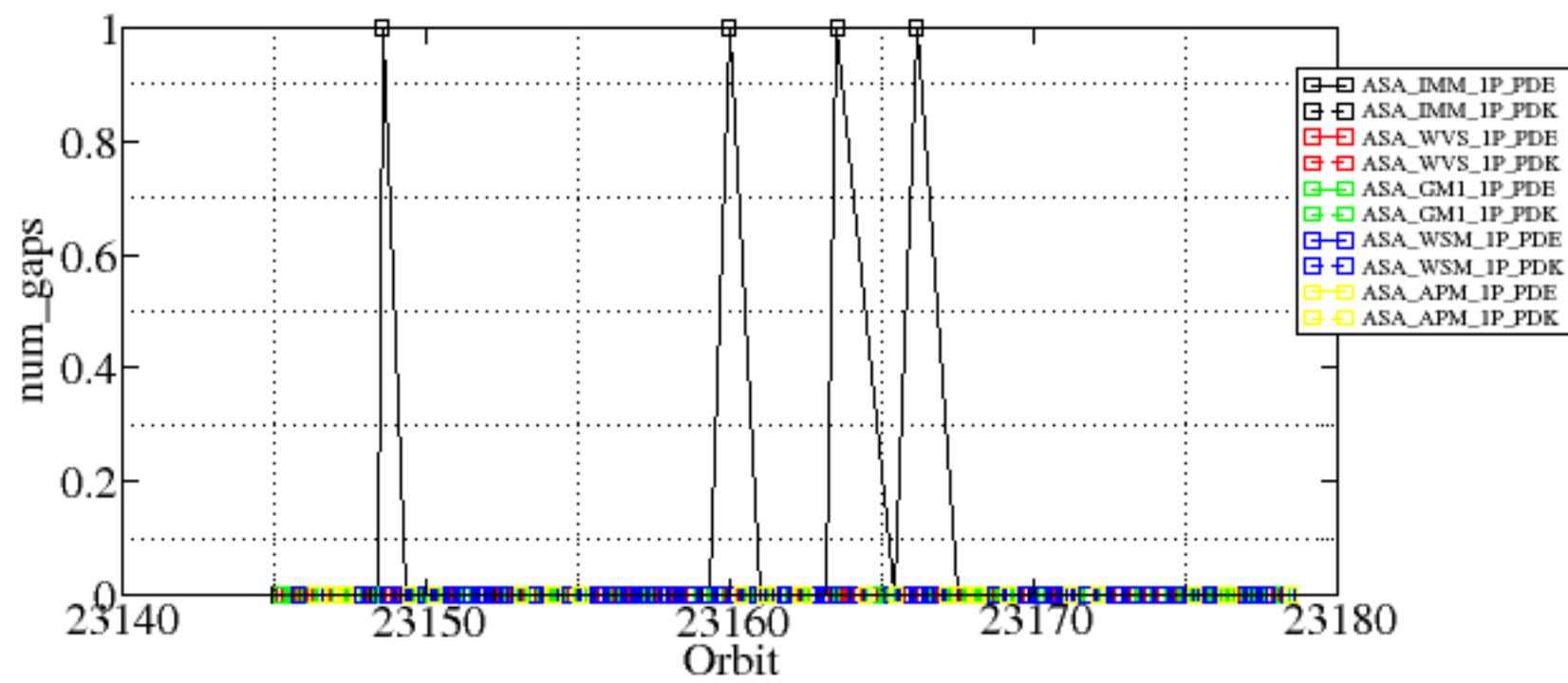


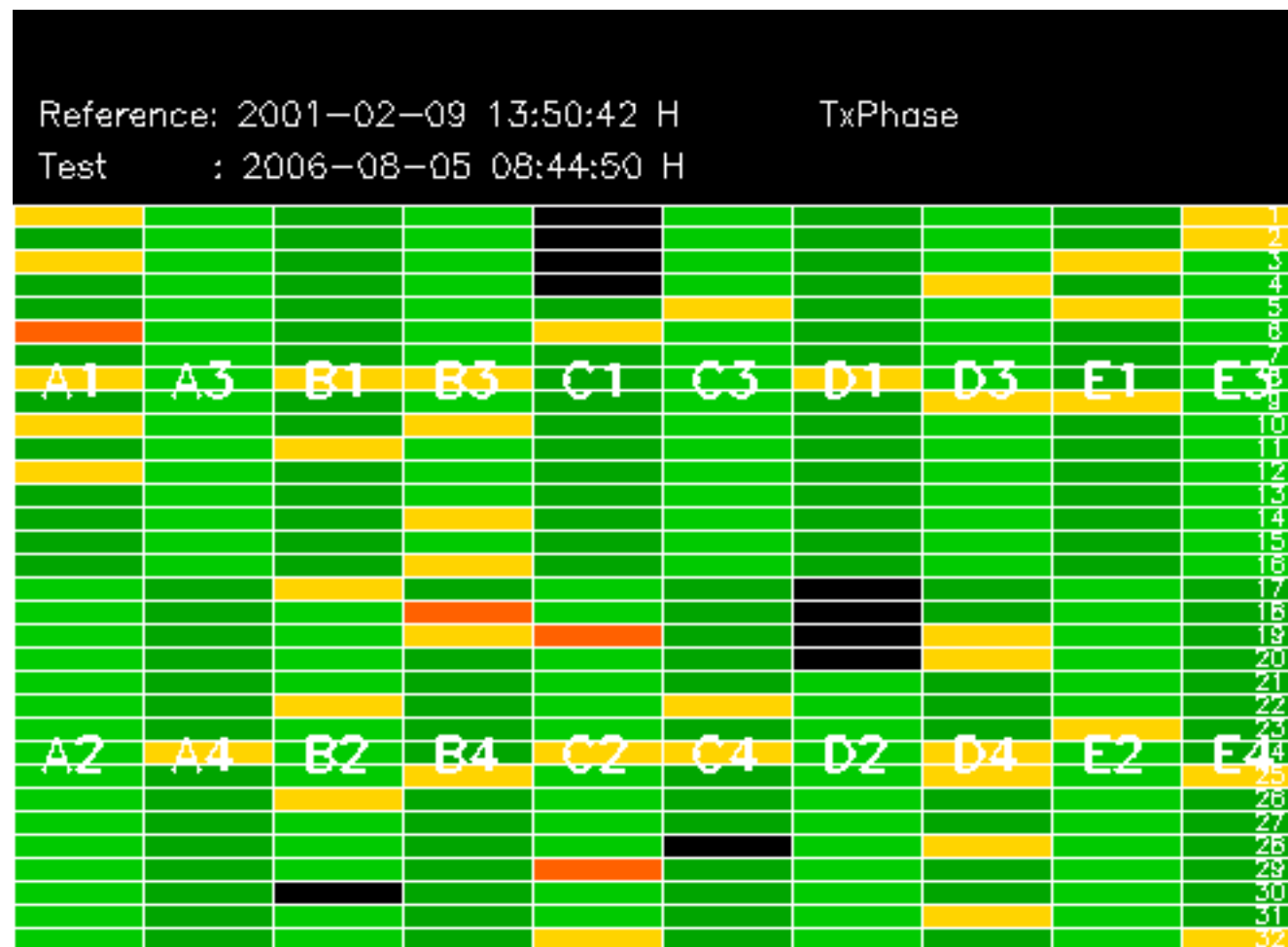


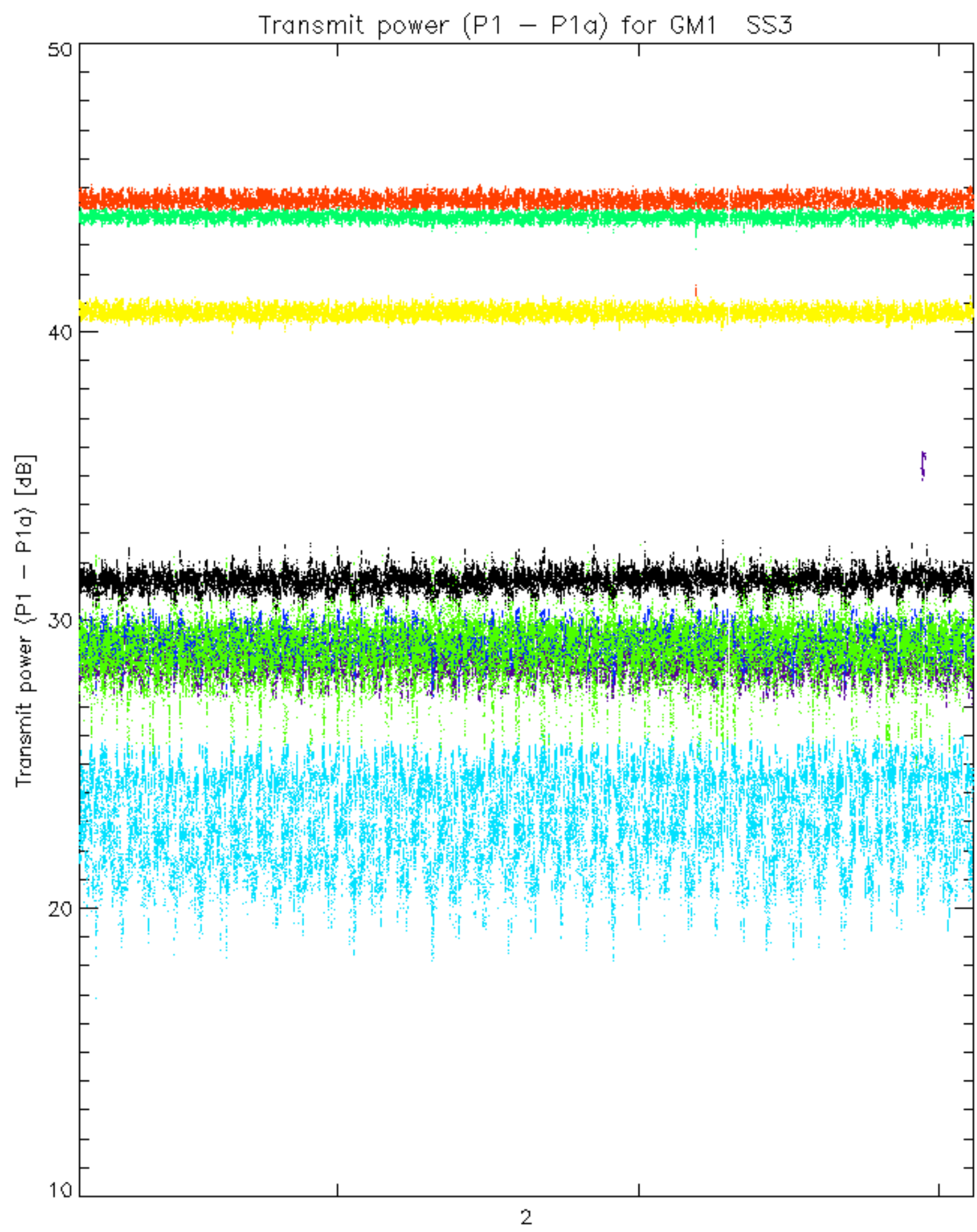
Summary of analysis for the last 3 days 2006080[456]

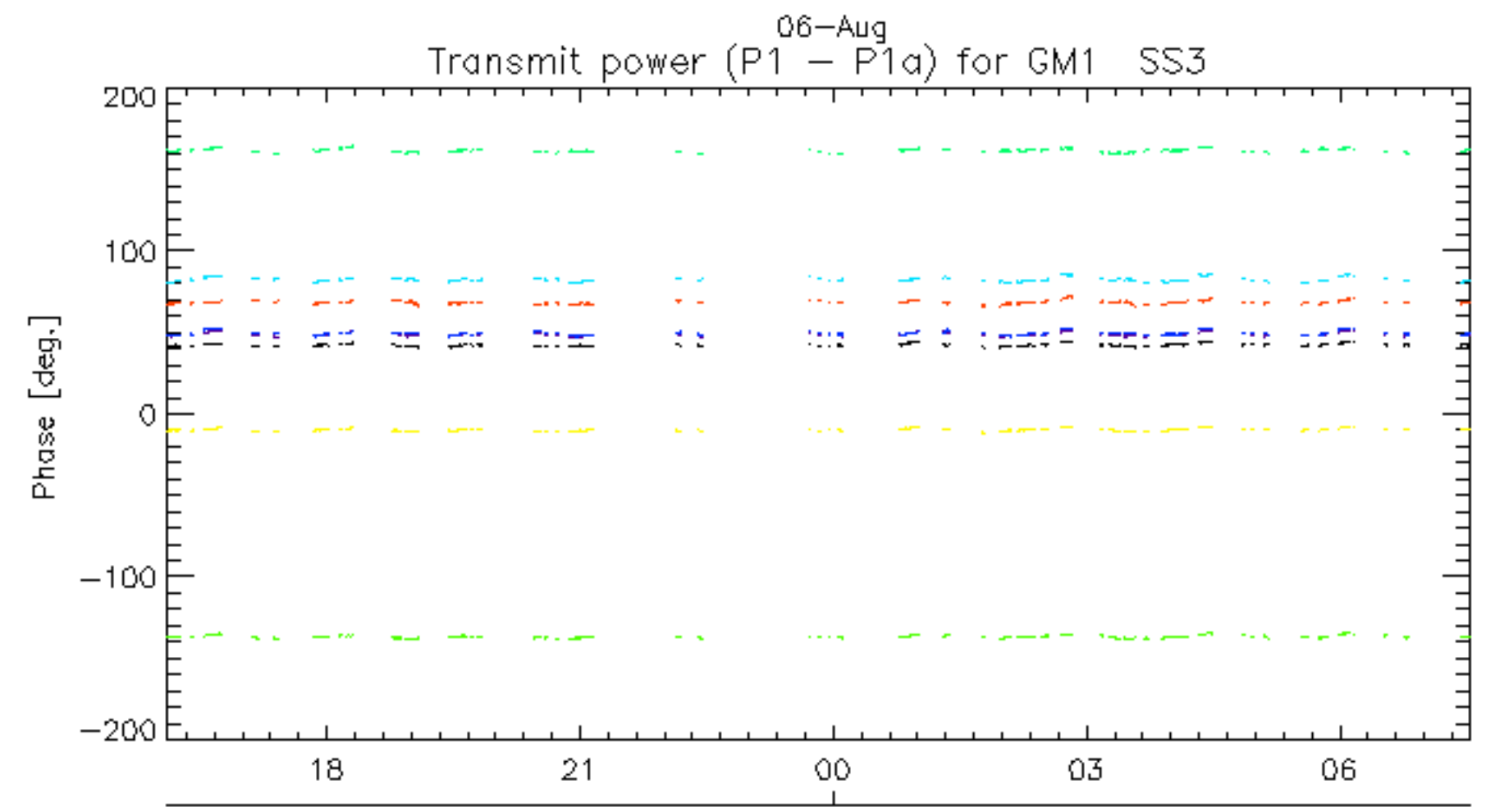
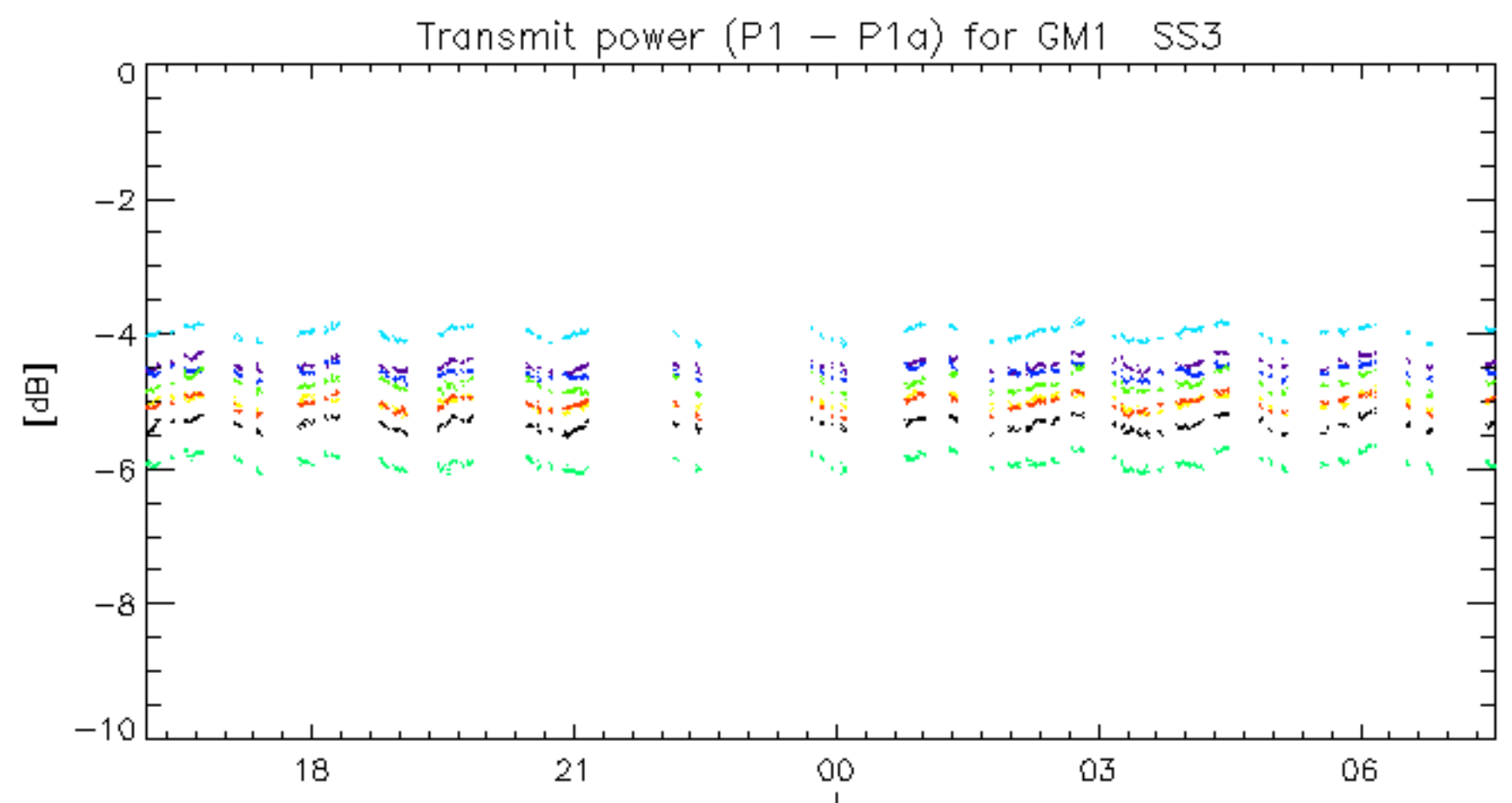
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

| Filename | num_gaps | num_missing_lines |
|--|----------|-------------------|
| ASA_IMM_1PNPDE20060804_054400_00000352050_00048_23148_2915.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20060805_005031_000002372050_00059_23159_2980.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20060805_065012_00000362050_00063_23163_2992.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20060805_111216_000002182050_00066_23166_2998.N1 | 1 | 0 |
| ASA_WSM_1PNPDE20060804_181615_000002202050_00056_23156_5846.N1 | 0 | 35 |

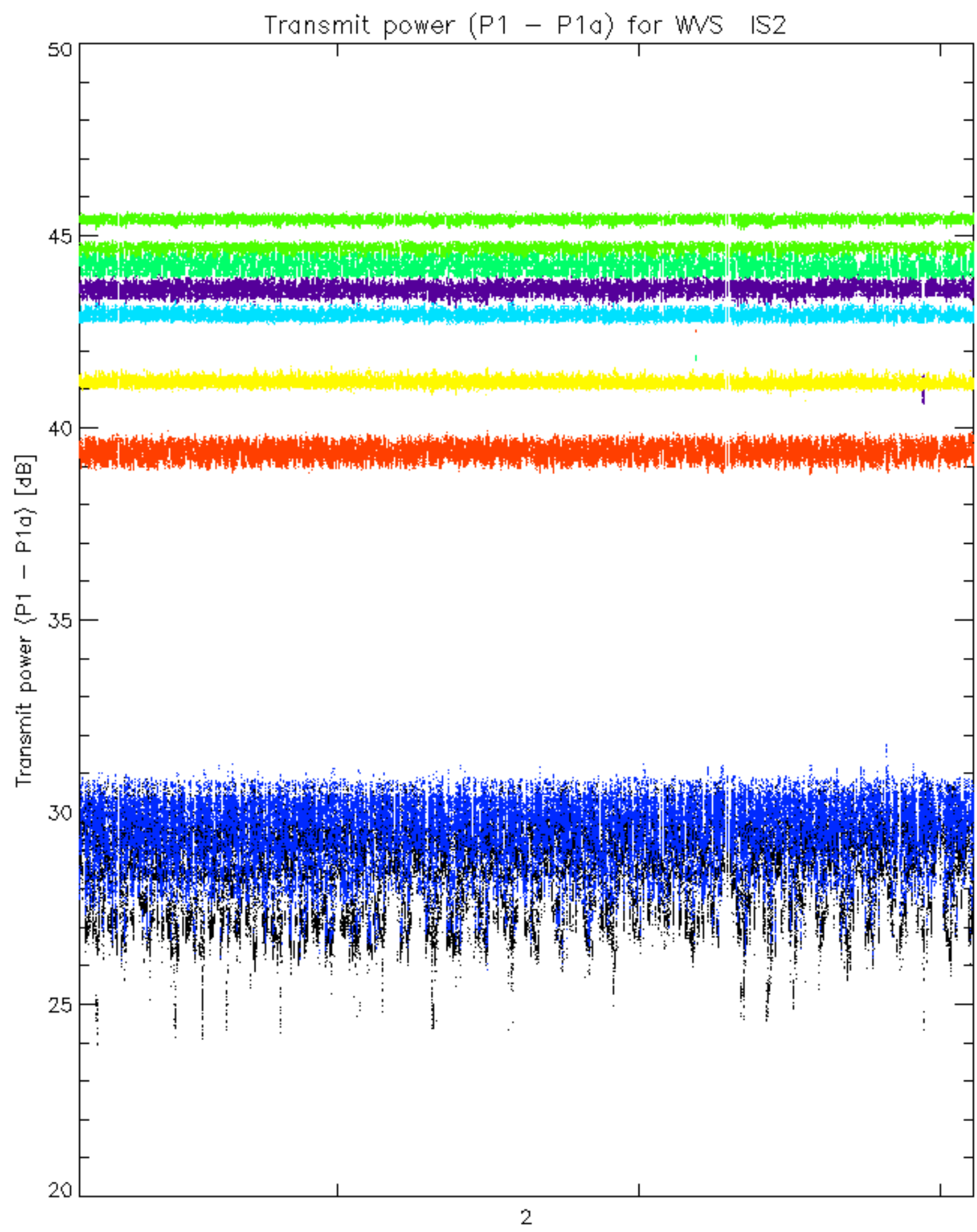




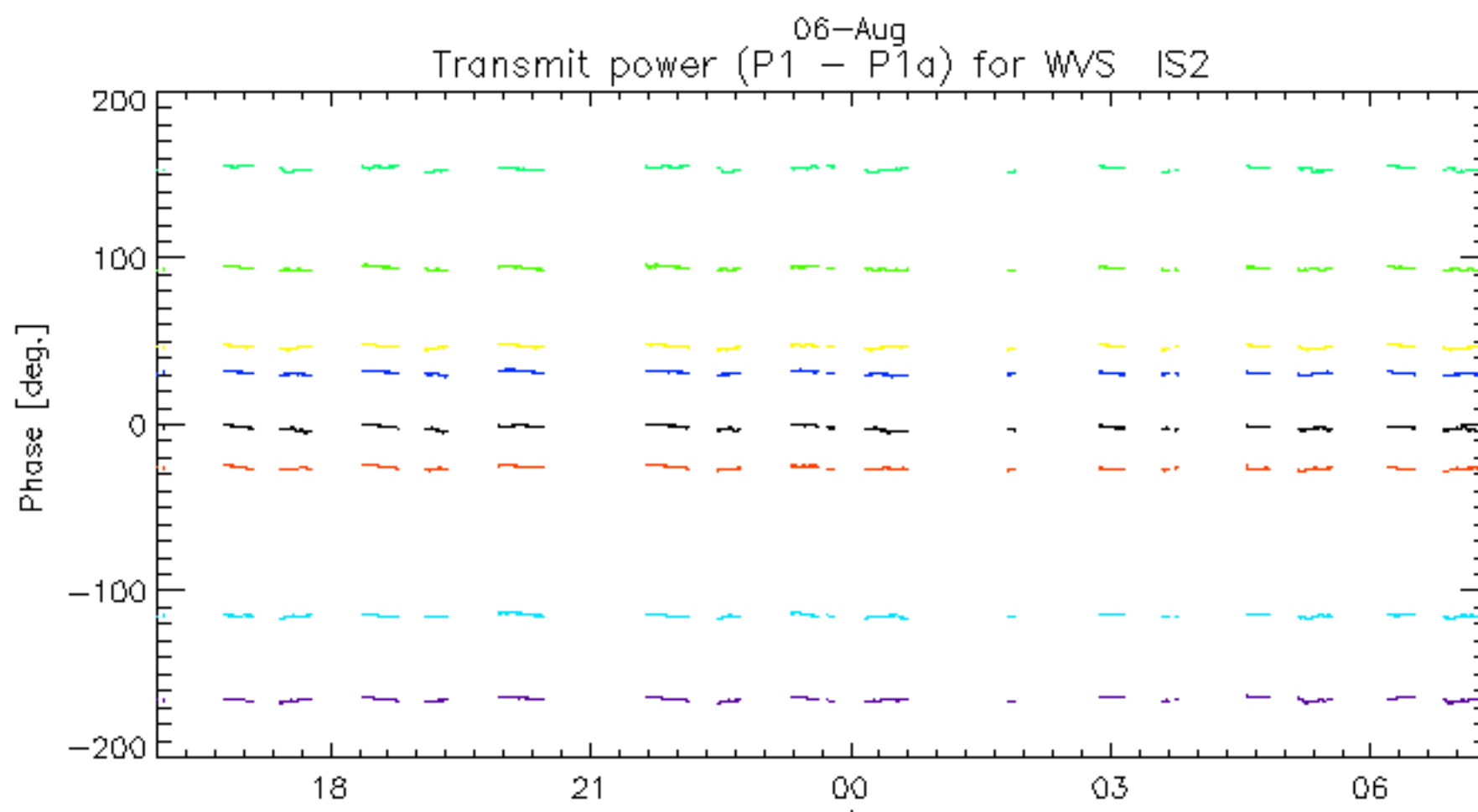
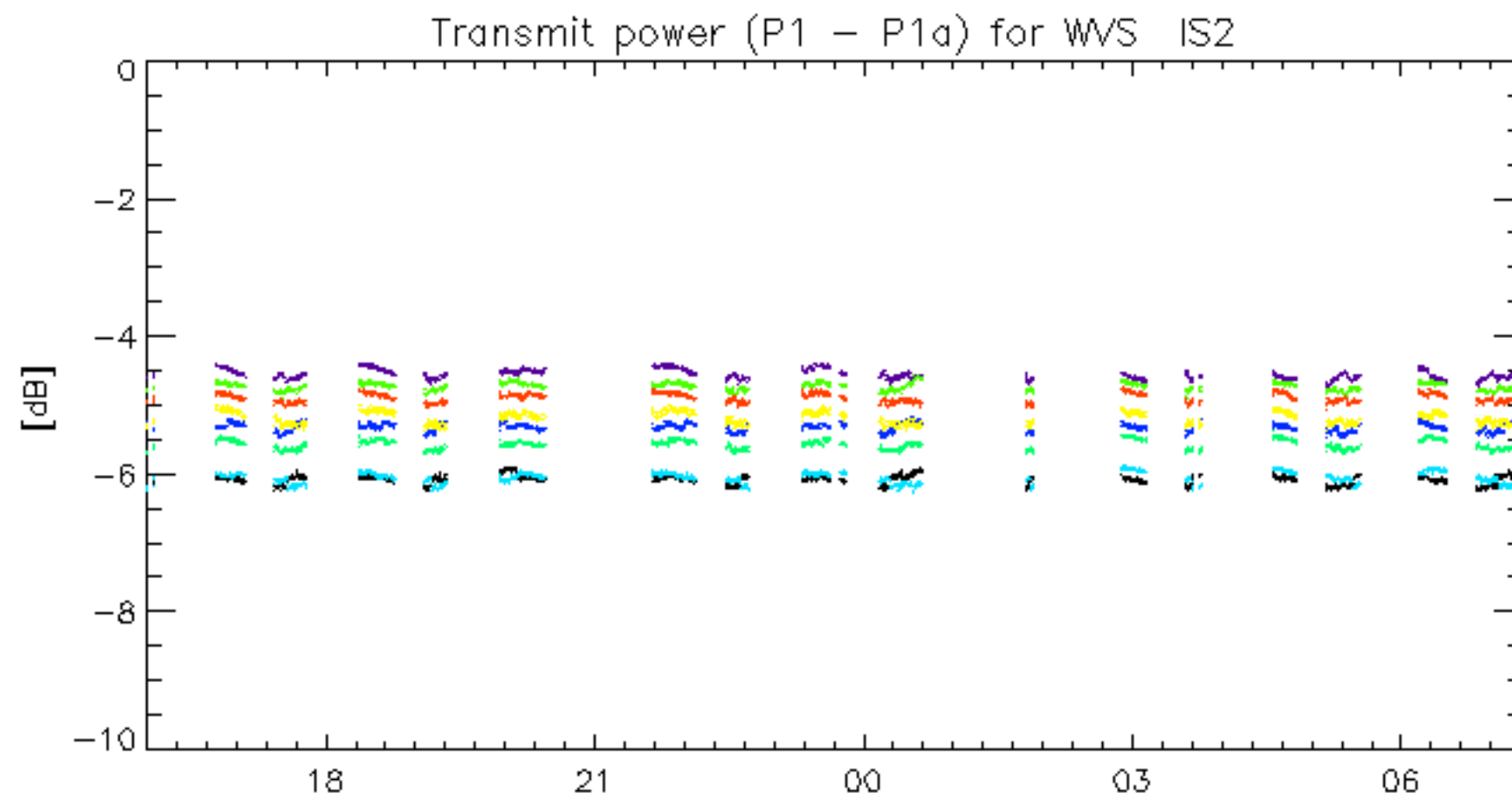




06-Aug
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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



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

No unavailabilities during the reported period.