

PRELIMINARY REPORT OF 050803

last update on Wed Aug 3 11:01:00 GMT 2005

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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 2005-08-02 00:00:00 to 2005-08-03 11:01:00

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

| | | | | | |
|---|----|----|----|---|---|
| ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000 | 24 | 47 | 21 | 9 | 0 |
| ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000 | 24 | 47 | 21 | 9 | 0 |
| ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000 | 24 | 47 | 21 | 9 | 0 |
| ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000 | 24 | 47 | 21 | 9 | 0 |

| PDHS-E | | | | | |
|---|-----|-----|-----|-----|-----|
| AUXILIARY FILE | WVS | GM1 | IMM | APM | WSM |
| ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000 | 42 | 53 | 36 | 3 | 48 |
| ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000 | 42 | 53 | 36 | 3 | 48 |
| ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000 | 42 | 53 | 36 | 3 | 48 |
| ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000 | 42 | 53 | 36 | 3 | 48 |

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 | 20050803 073845 |
| H | 20050802 081022 |

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 | -3.311023 | 0.006580 | 0.016066 |
| 7 | P1 | -3.138213 | 0.014825 | -0.011860 |
| 11 | P1 | -4.696113 | 0.033005 | -0.045681 |
| 15 | P1 | -5.565996 | 0.048971 | -0.048523 |
| 19 | P1 | -3.796516 | 0.046798 | 0.013338 |
| 22 | P1 | -4.641425 | 0.142922 | -0.044340 |
| 26 | P1 | -4.864193 | 0.169196 | 0.013656 |
| 30 | P1 | -7.248140 | 0.255754 | -0.010847 |
| 3 | P1 | -15.560958 | 0.078458 | 0.054226 |
| 7 | P1 | -15.523469 | 0.104419 | 0.017485 |
| 11 | P1 | -21.671936 | 0.262924 | -0.245912 |
| 15 | P1 | -11.294735 | 0.039505 | -0.036373 |
| 19 | P1 | -14.501582 | 0.266860 | 0.073146 |
| 22 | P1 | -15.734303 | 0.352780 | 0.055837 |
| 26 | P1 | -17.405264 | 0.230037 | 0.228314 |
| 30 | P1 | -17.723154 | 0.510988 | -0.052995 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -21.845367 | 0.084531 | 0.071457 |
| 7 | P2 | -22.002462 | 0.104337 | 0.091165 |
| 11 | P2 | -13.633232 | 0.107506 | 0.222328 |
| 15 | P2 | -7.077937 | 0.093982 | 0.022248 |
| 19 | P2 | -9.589422 | 0.096660 | -0.000371 |
| 22 | P2 | -16.846636 | 0.098380 | 0.023044 |
| 26 | P2 | -16.501928 | 0.100049 | -0.020260 |
| 30 | P2 | -18.791830 | 0.086967 | -0.015819 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.154811 | 0.002719 | -0.005214 |
| 7 | P3 | -8.154811 | 0.002719 | -0.005214 |
| 11 | P3 | -8.154811 | 0.002719 | -0.005214 |
| 15 | P3 | -8.154811 | 0.002719 | -0.005214 |
| 19 | P3 | -8.154811 | 0.002719 | -0.005214 |
| 22 | P3 | -8.154811 | 0.002719 | -0.005214 |
| 26 | P3 | -8.154811 | 0.002719 | -0.005214 |
| 30 | P3 | -8.154811 | 0.002719 | -0.005214 |

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 | -2.784448 | 0.013284 | -0.003642 |
| 7 | P1 | -2.951884 | 0.030514 | -0.000184 |
| 11 | P1 | -4.001120 | 0.016061 | -0.018341 |
| 15 | P1 | -3.580694 | 0.022926 | -0.054000 |
| 19 | P1 | -3.661602 | 0.113305 | 0.125914 |
| 22 | P1 | -5.698133 | 0.159403 | -0.000594 |
| 26 | P1 | -7.417936 | 0.320973 | 0.035053 |
| 30 | P1 | -6.346341 | 0.151029 | 0.016283 |
| 3 | P1 | -10.849472 | 0.041378 | -0.124104 |
| 7 | P1 | -10.452529 | 0.149949 | -0.048912 |
| 11 | P1 | -12.623439 | 0.107163 | -0.057000 |
| 15 | P1 | -11.612948 | 0.070020 | 0.003228 |
| 19 | P1 | -15.627917 | 1.312543 | 0.464300 |
| 22 | P1 | -25.673611 | 3.681459 | 0.236684 |
| 26 | P1 | -15.355267 | 0.421159 | 0.182070 |
| 30 | P1 | -20.046263 | 1.341946 | 0.156519 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -17.588099 | 0.046118 | 0.101177 |
| 7 | P2 | -22.039757 | 0.040681 | 0.054526 |
| 11 | P2 | -9.665087 | 0.064801 | 0.187107 |
| 15 | P2 | -5.118986 | 0.045226 | 0.045802 |
| 19 | P2 | -6.899740 | 0.065533 | 0.032137 |
| 22 | P2 | -7.073342 | 0.038914 | 0.051837 |
| 26 | P2 | -23.972980 | 0.044110 | 0.005316 |
| 30 | P2 | -21.953077 | 0.043897 | 0.016569 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -7.997805 | 0.004243 | 0.002186 |
| 7 | P3 | -7.997688 | 0.004237 | 0.002651 |
| 11 | P3 | -7.997667 | 0.004237 | 0.002469 |
| 15 | P3 | -7.997787 | 0.004239 | 0.002808 |
| 19 | P3 | -7.997886 | 0.004243 | 0.002566 |
| 22 | P3 | -7.997828 | 0.004229 | 0.002611 |
| 26 | P3 | -7.997885 | 0.004225 | 0.002359 |
| 30 | P3 | -7.997689 | 0.004227 | 0.002709 |

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 | 0.000473807 |
| | stdev | 2.14723e-07 |
| MEAN Q | mean | 0.000500978 |
| | stdev | 2.32863e-07 |



5.2 - Input stdev I/Q

| channel | stat | DSS-B |
|---------|-------|-------------|
| STDEV I | mean | 0.128708 |
| | stdev | 0.000995798 |
| STDEV Q | mean | 0.128963 |
| | stdev | 0.00100644 |



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2005080[123]

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_1PNPDE20050801_155734_000002312039_00298_17887_1240.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20050801_174612_000001062039_00299_17888_1253.N1 | 1 | 0 |
| ASA_GM1_1PNPDK20050802_090138_000007122039_00308_17897_1198.N1 | 0 | 15 |
| ASA_WSM_1PNPDE20050801_063104_000002132039_00292_17881_2374.N1 | 0 | 1 |
| ASA_WSM_1PNPDE20050802_010559_000000852039_00303_17892_2489.N1 | 0 | 19 |
| ASA_WSM_1PNPDE20050802_021824_000003002039_00304_17893_2504.N1 | 5 | 0 |





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)

| |
|--------------------------|
| <input type="checkbox"/> |
| Ascending |
| <input type="checkbox"/> |
| Descending |

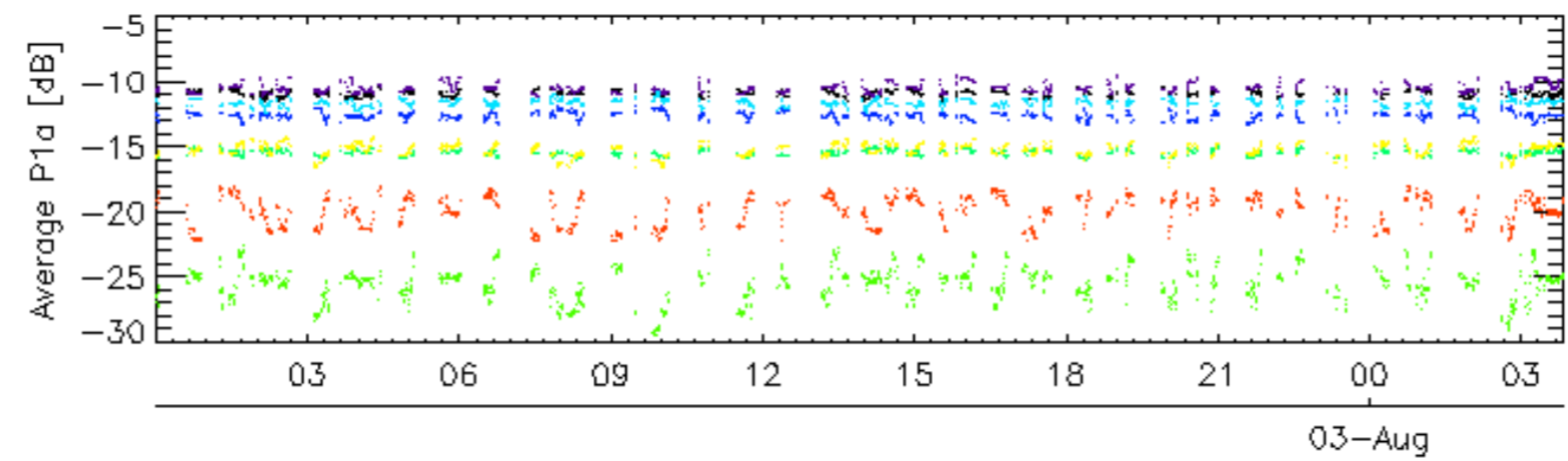
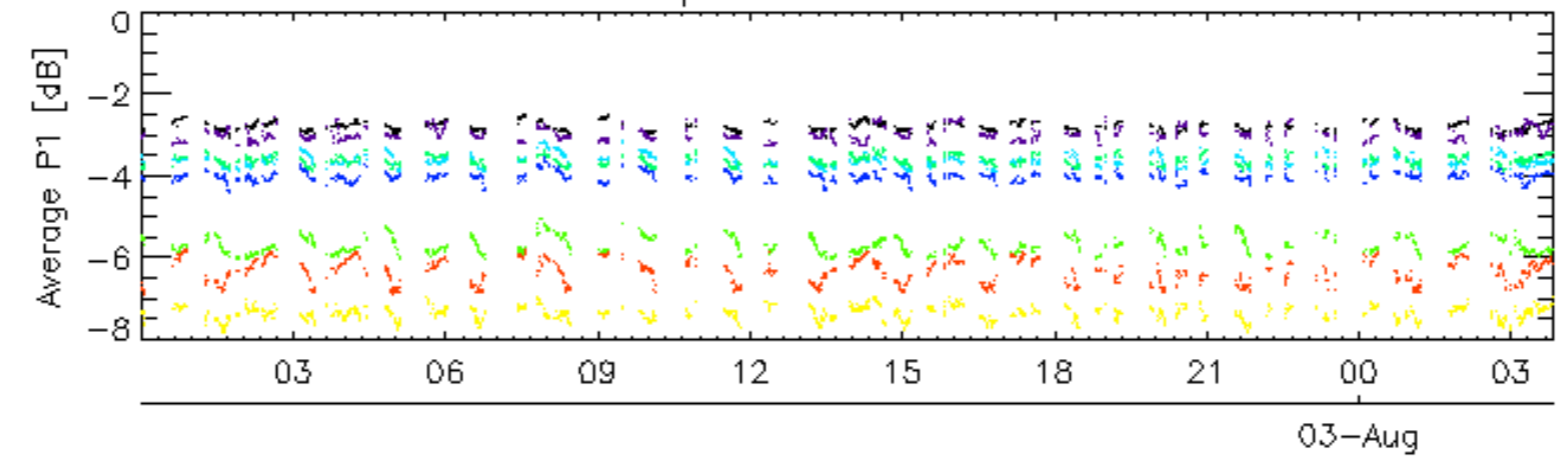
7.5 - Absolute Doppler for GM1

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

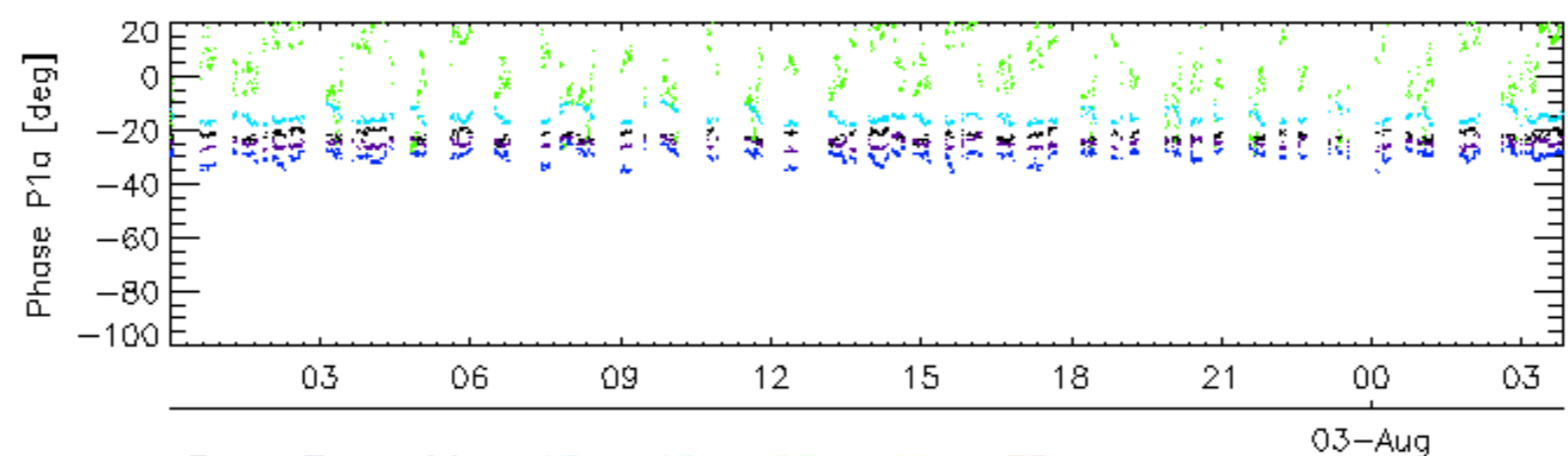
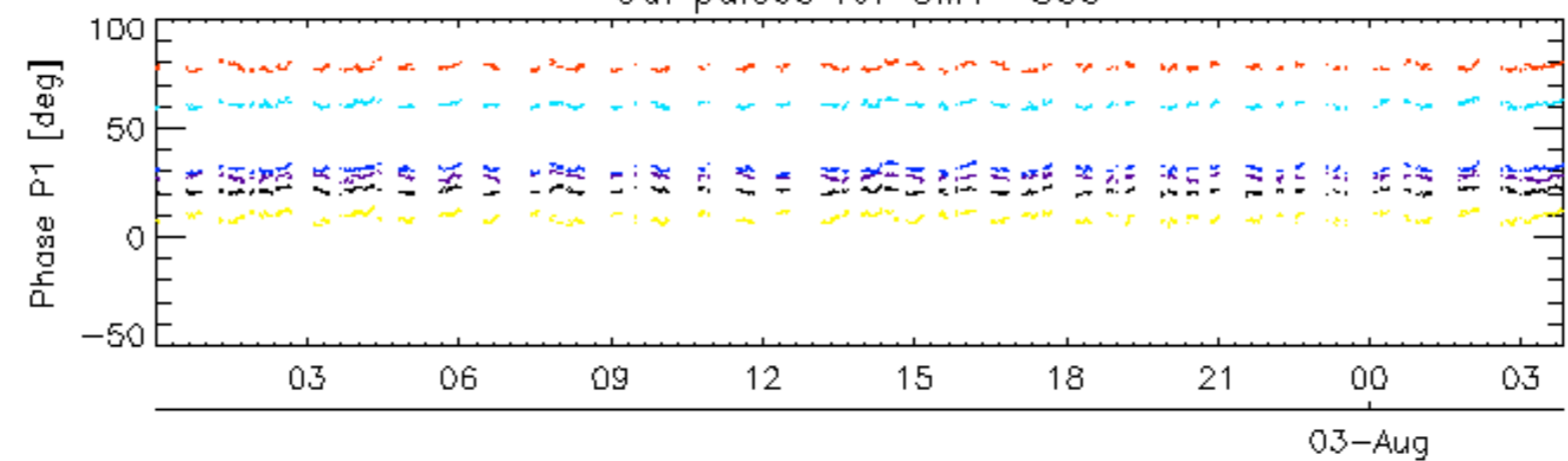
7.6 - Doppler evolution versus ANX for GM1

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

Cal pulses for GM1 SS3

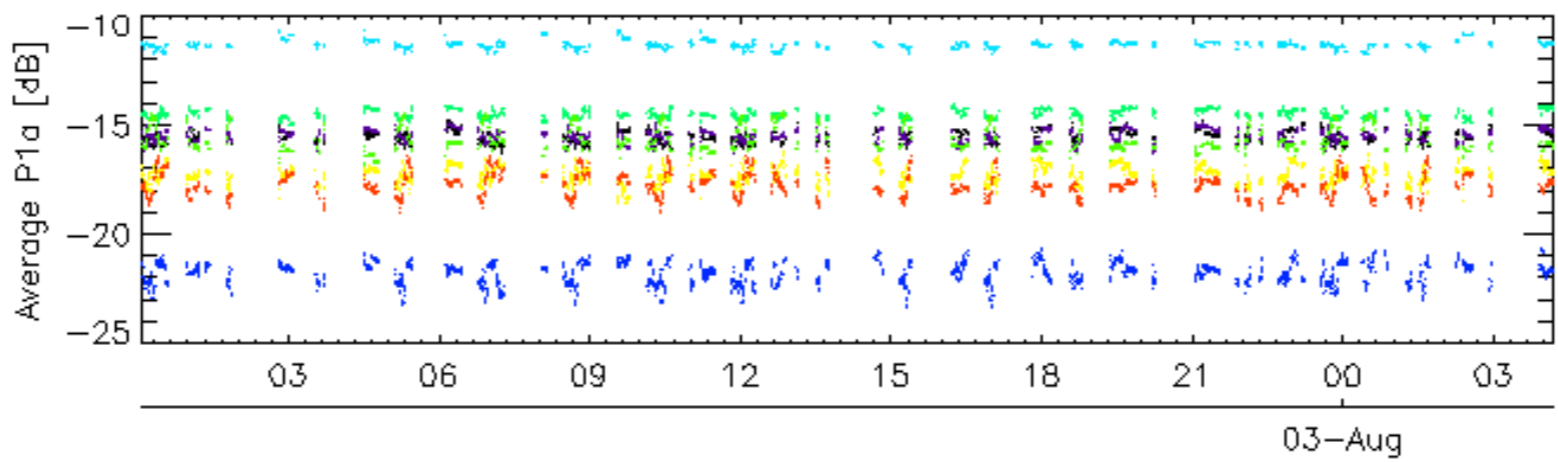
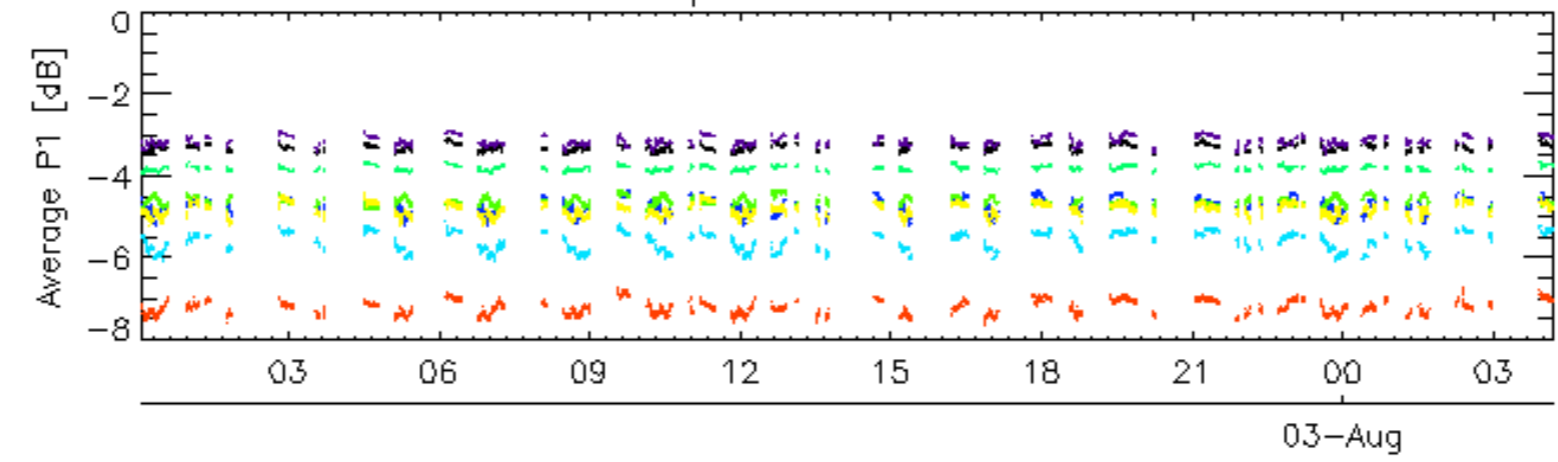


Cal pulses for GM1 SS3

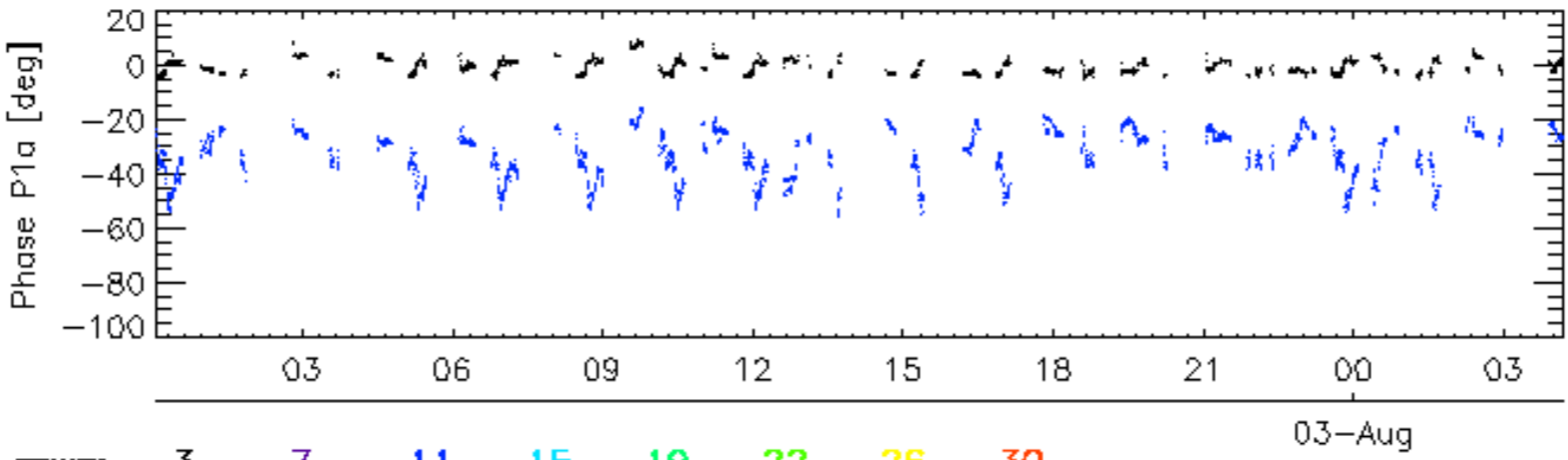
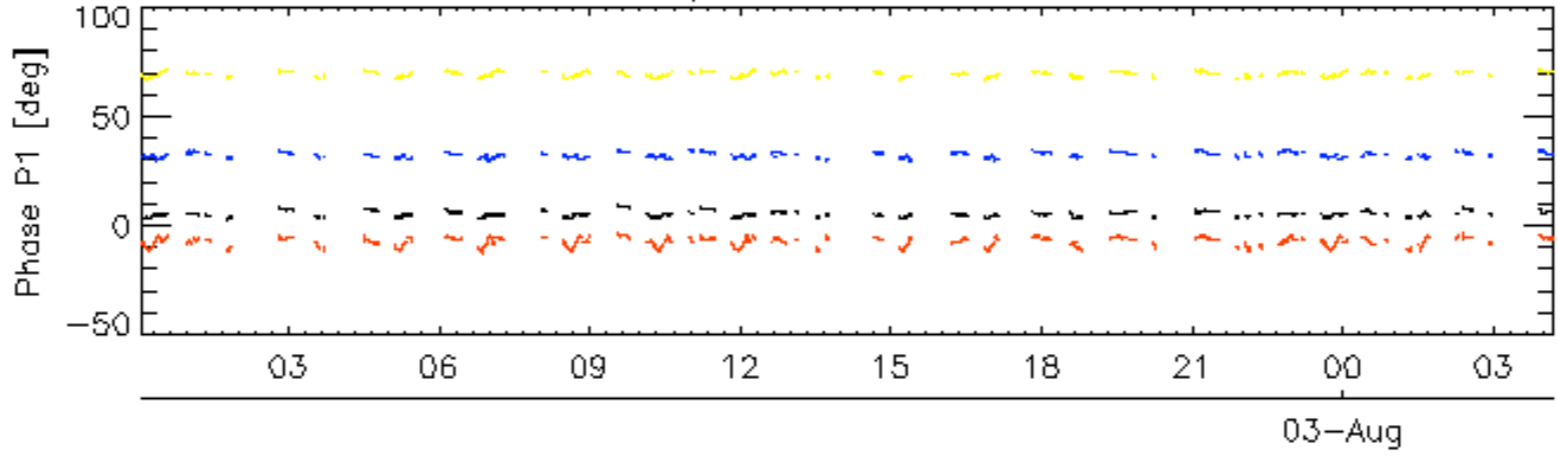


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

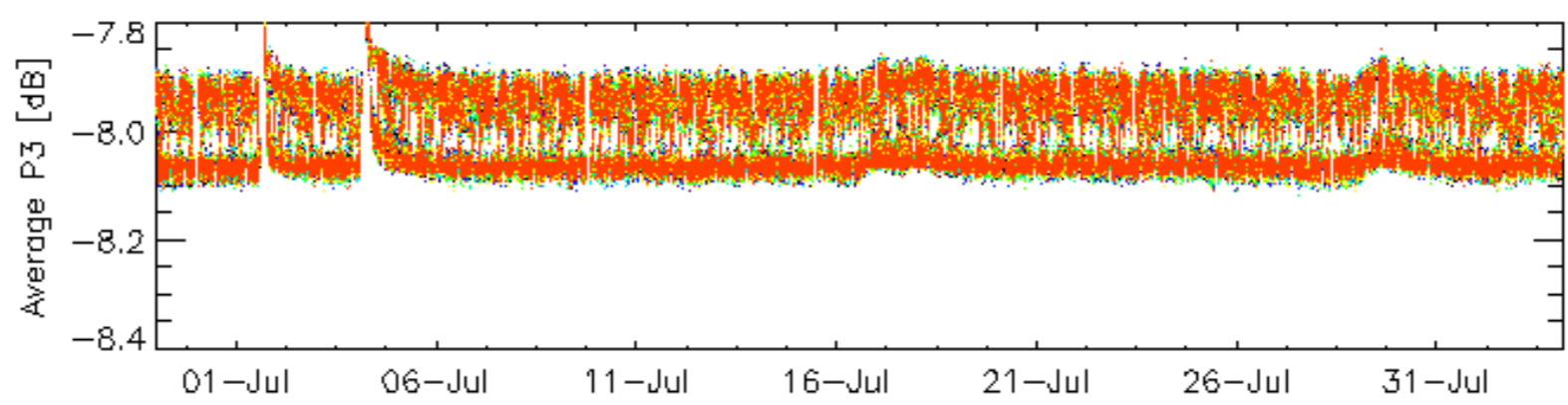
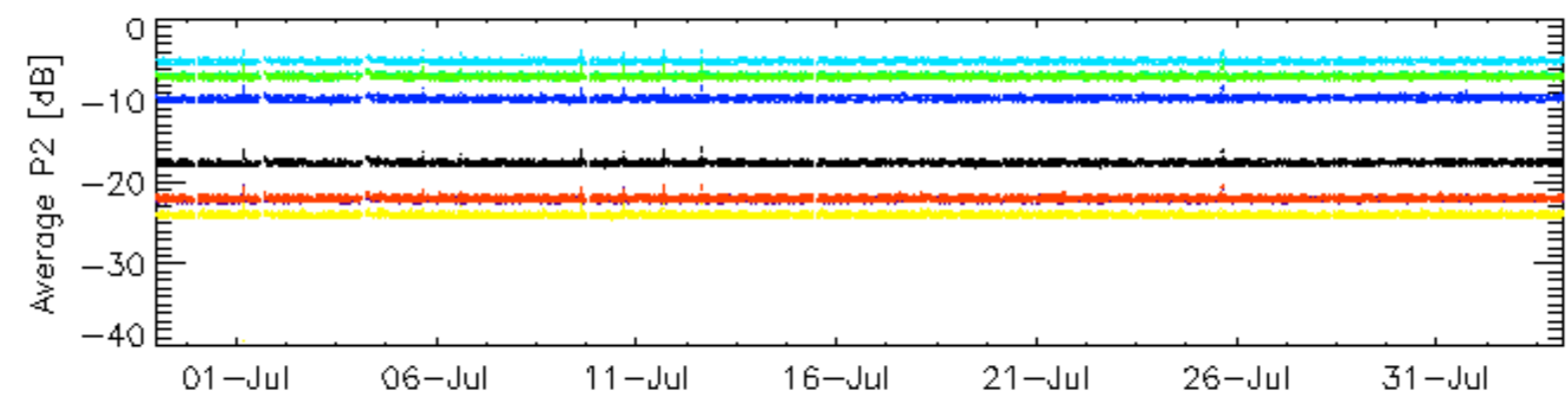
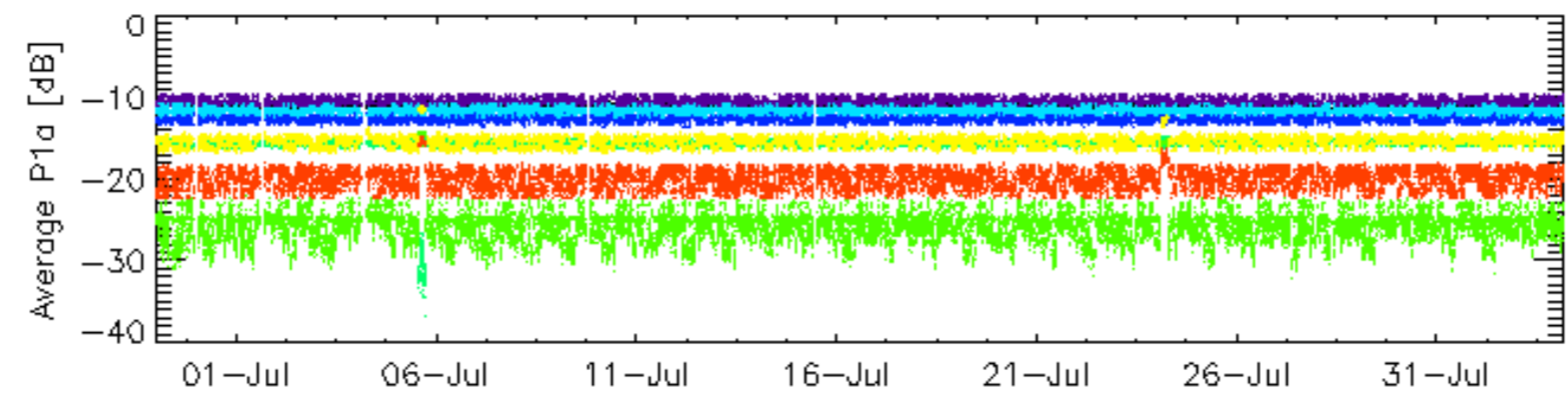
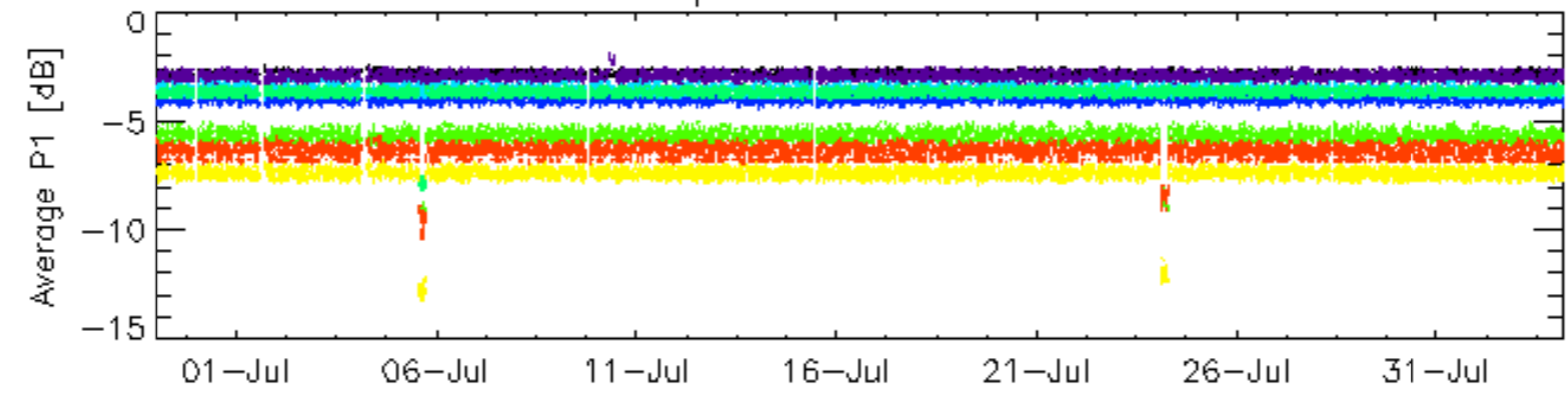


Cal pulses for WVS IS2



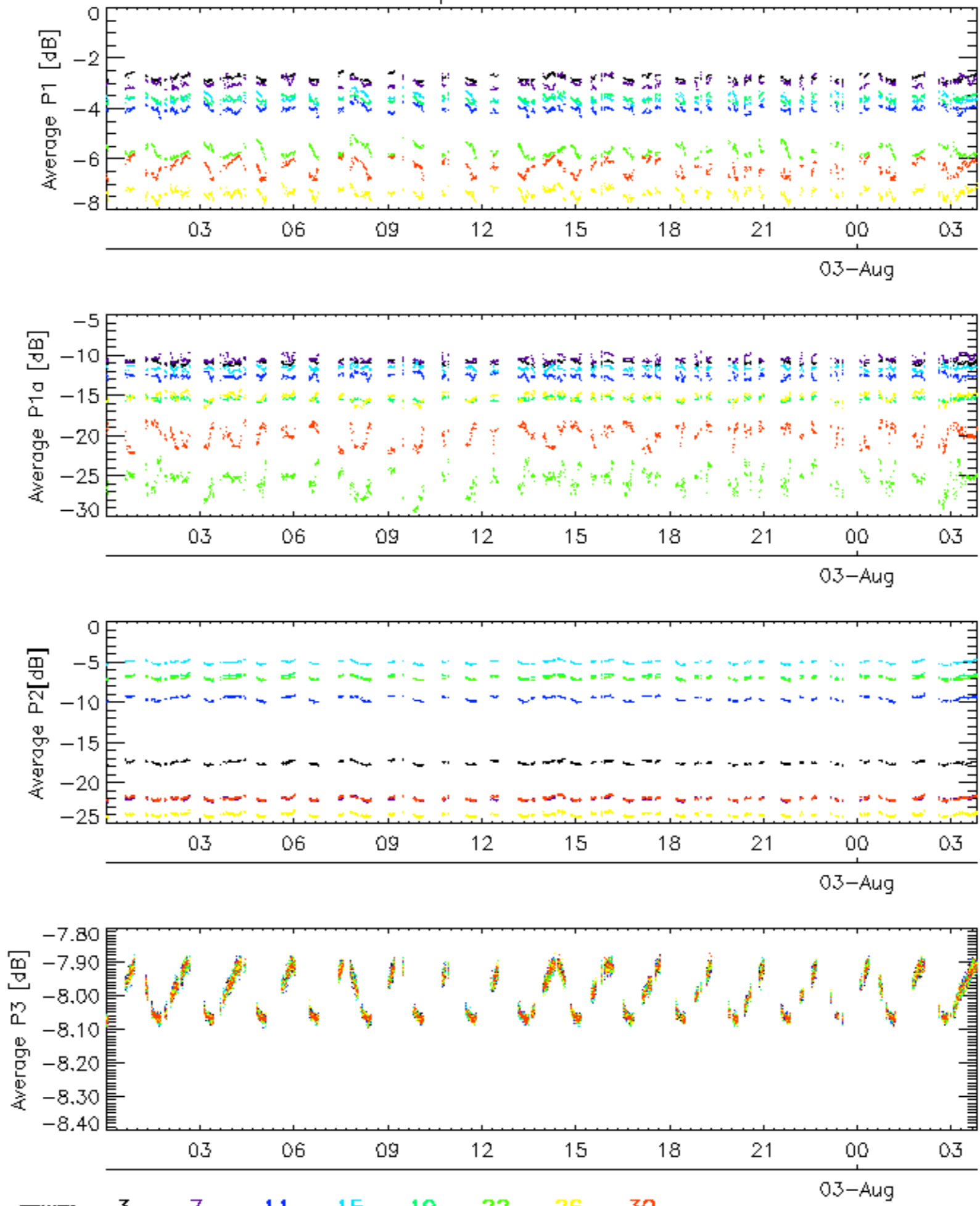
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3



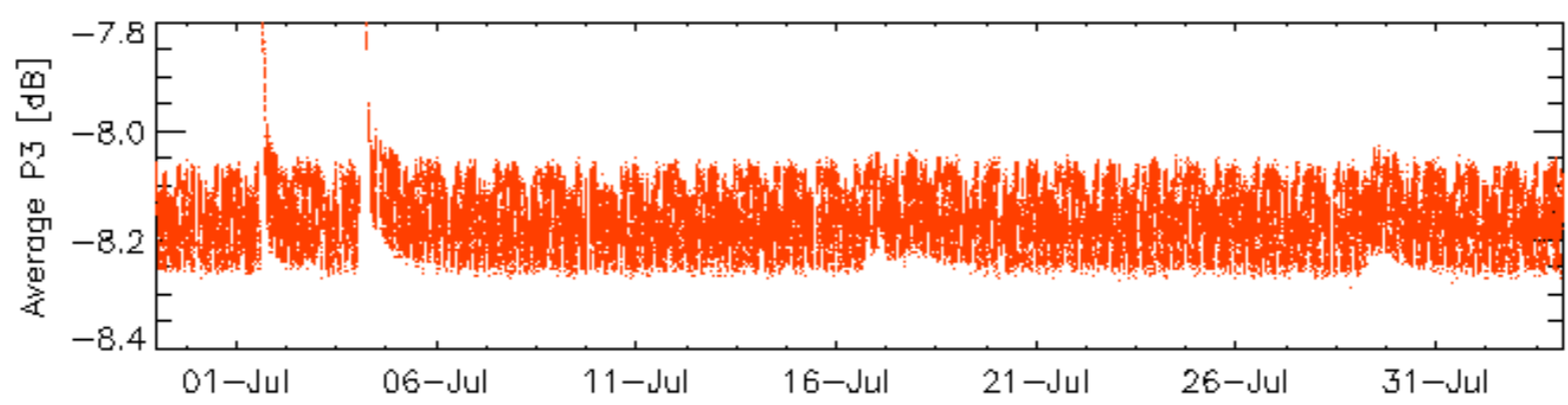
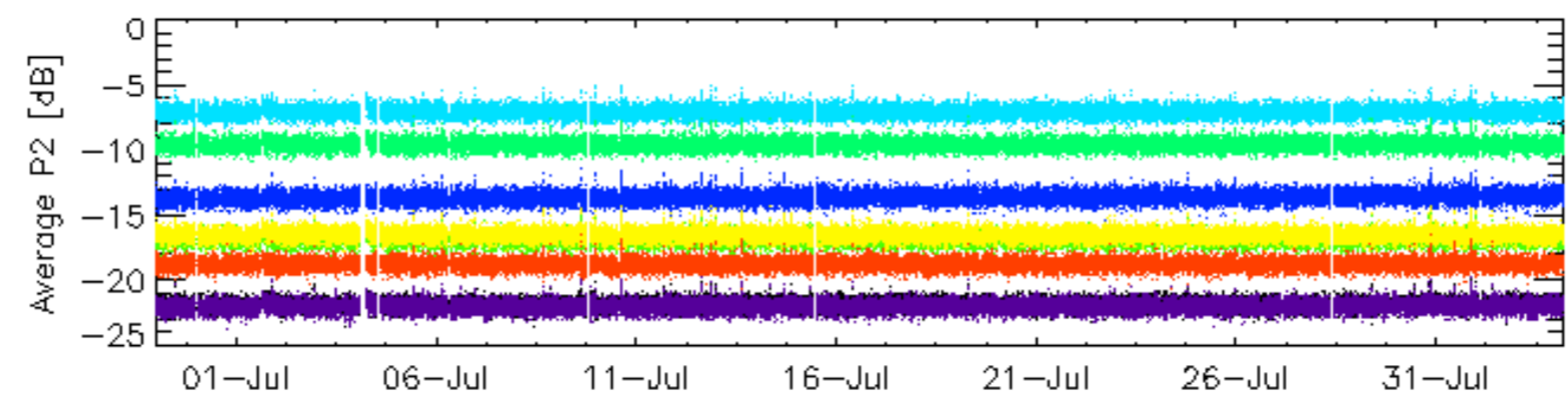
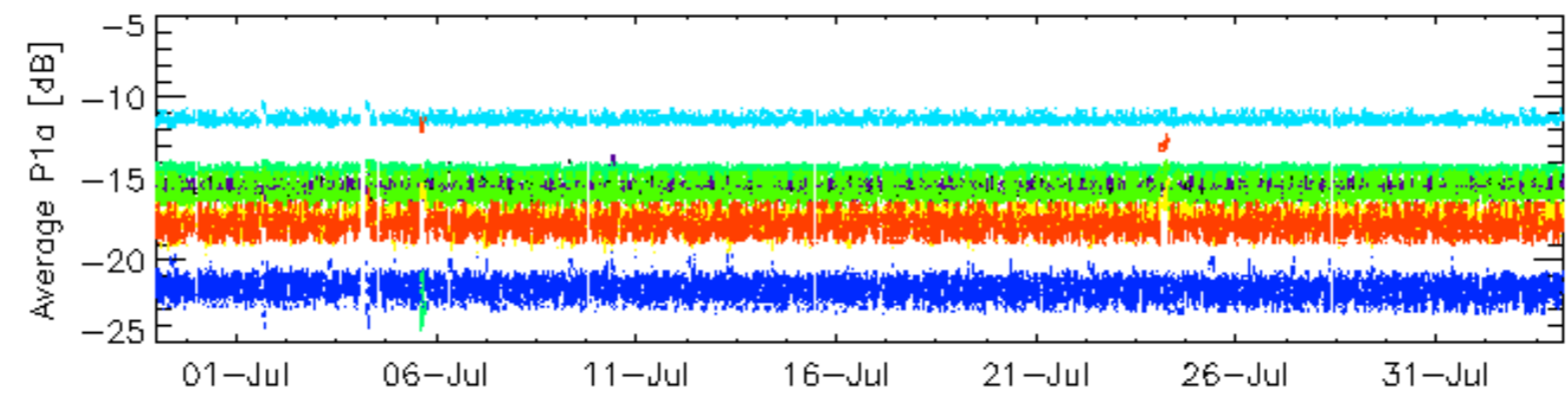
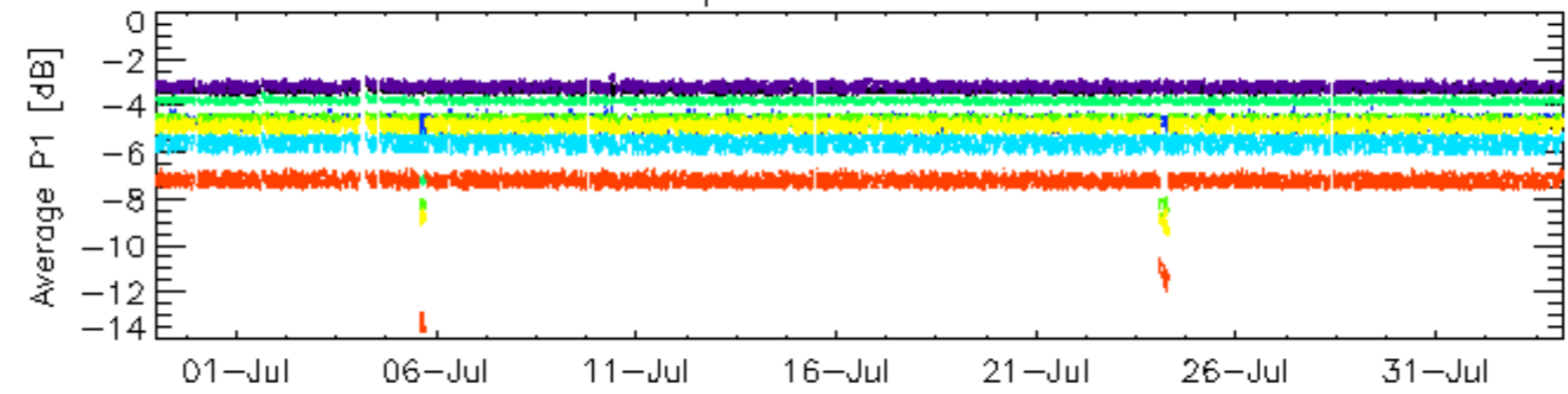
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3



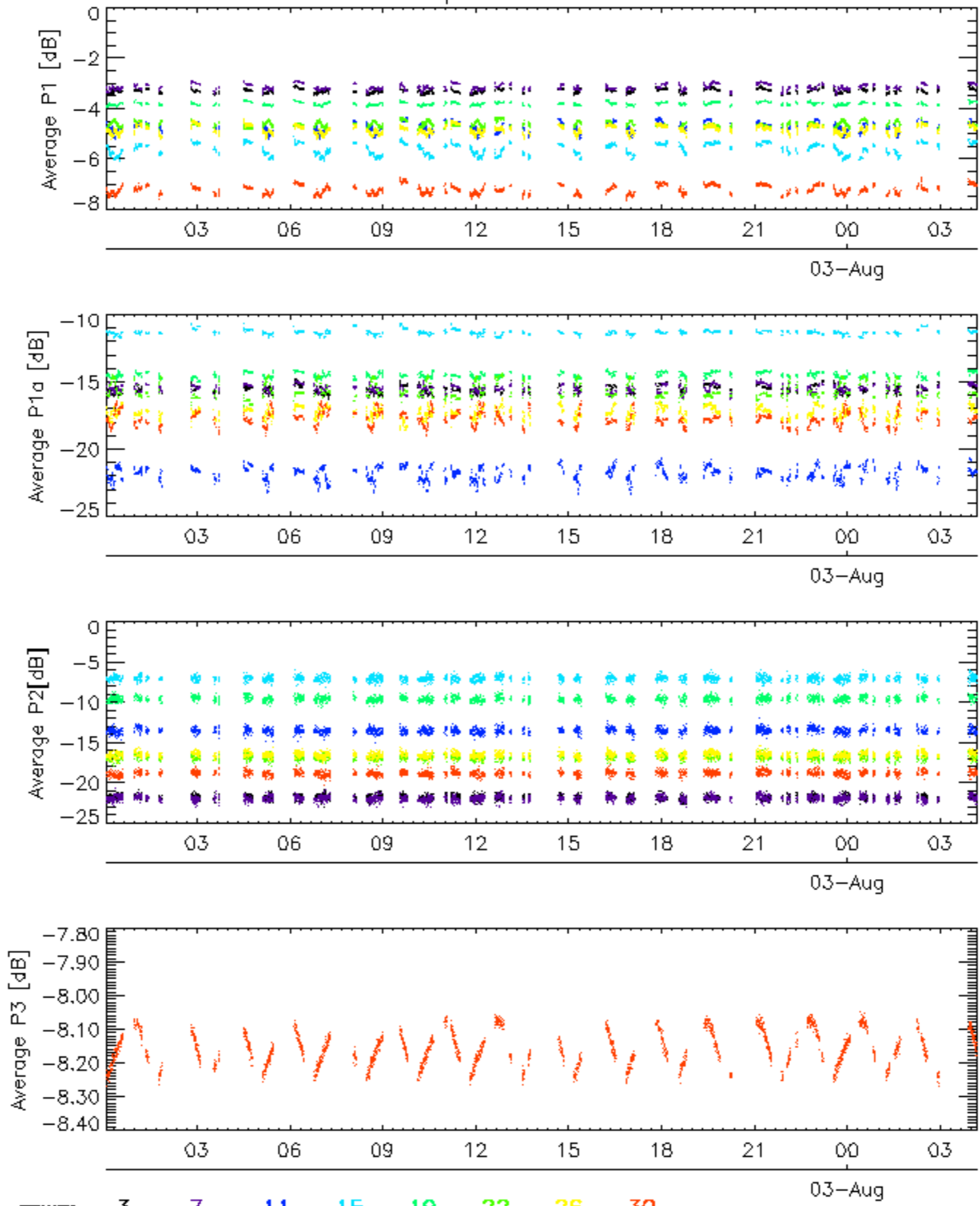
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



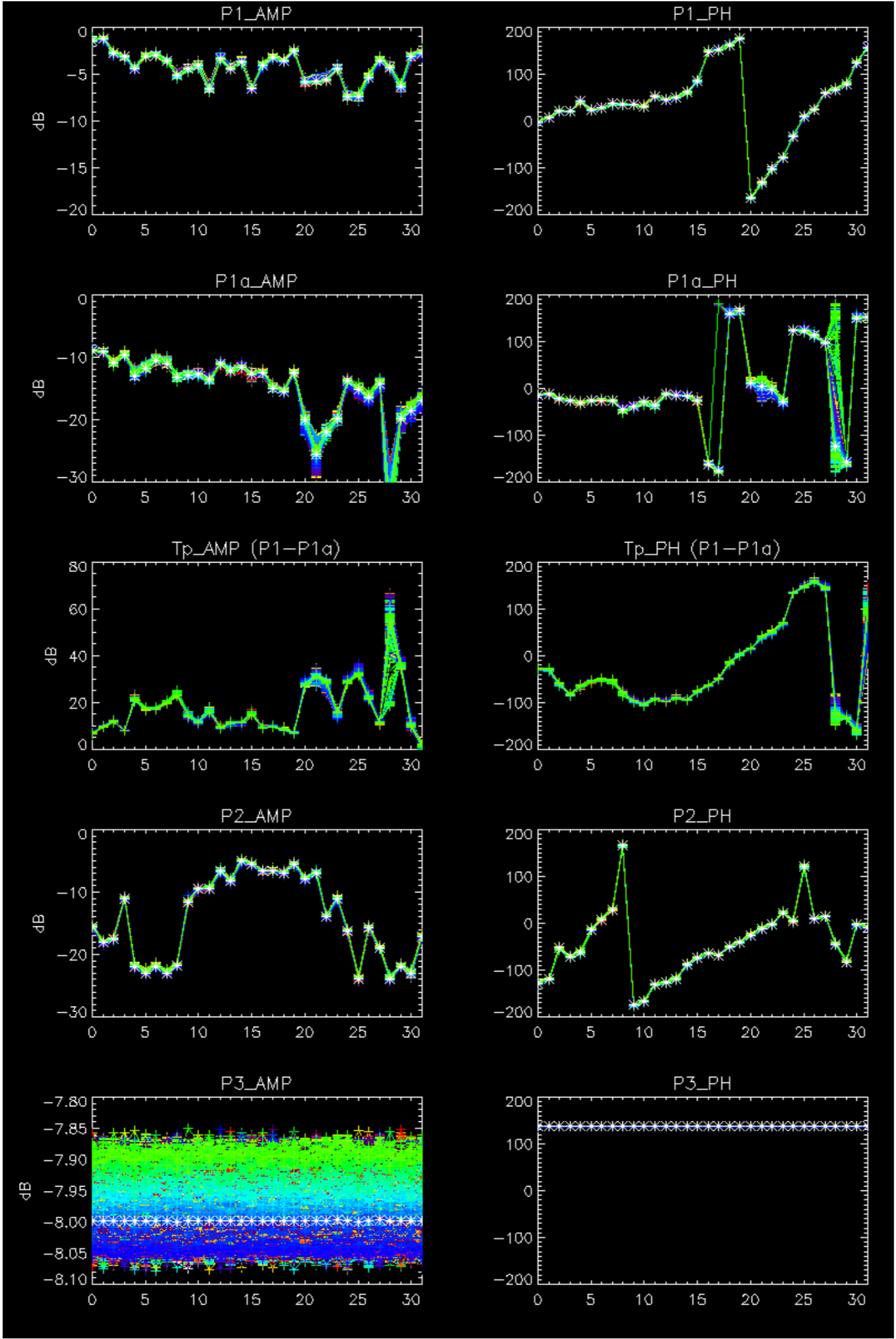
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

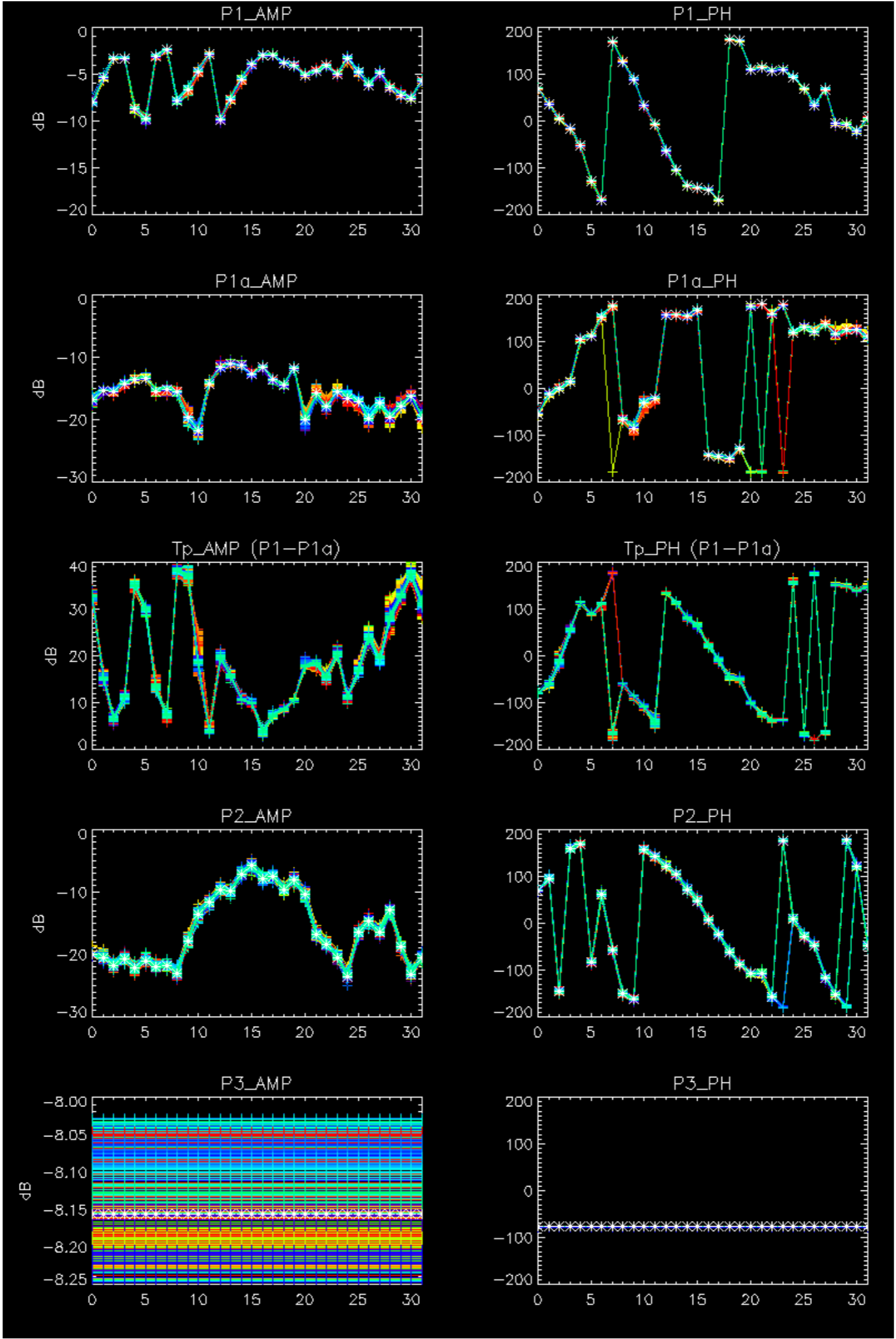
Cal pulses for WVS IS2



rows: 3 7 11 15 19 22 26 30

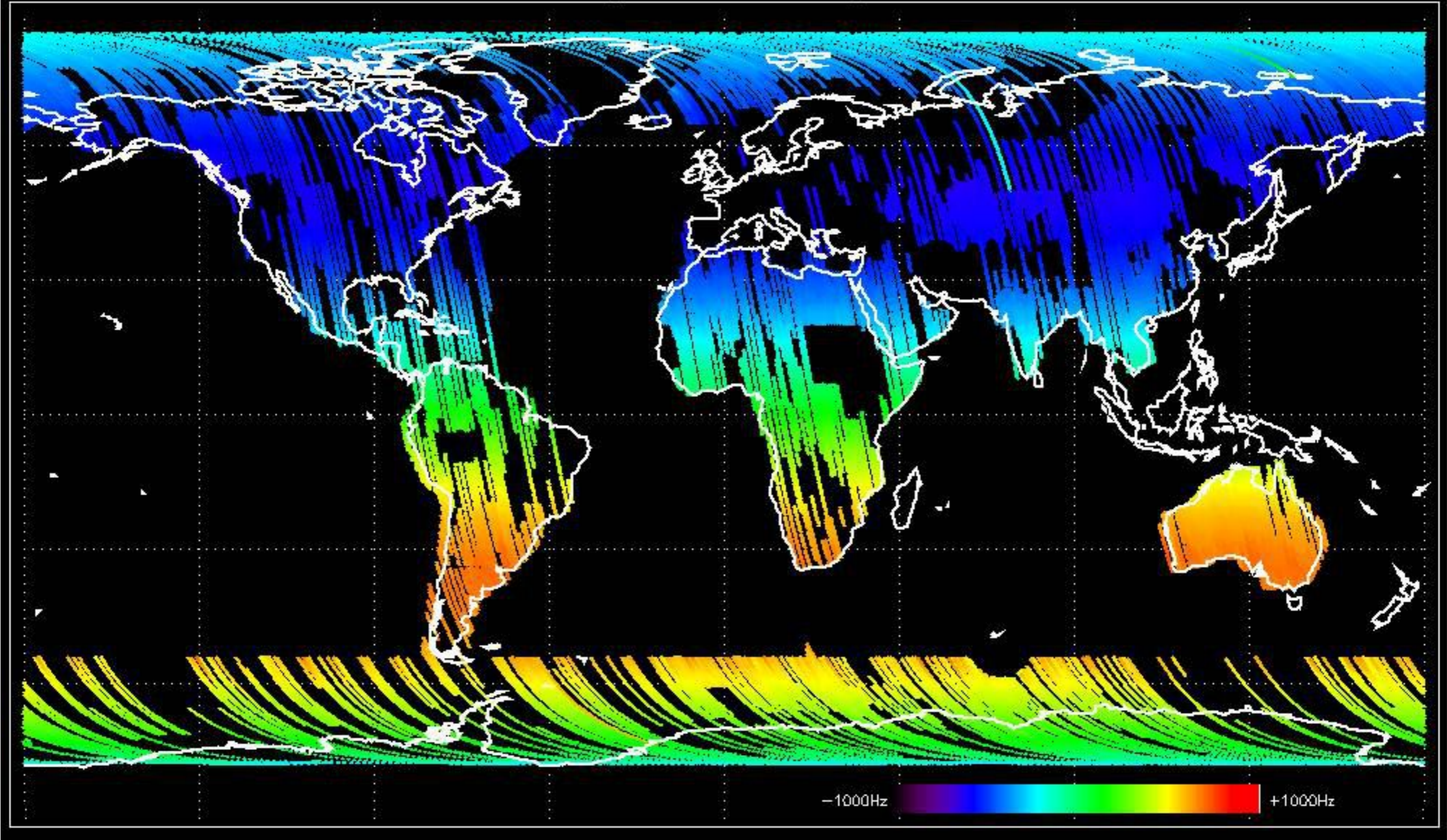
No anomalies observed.



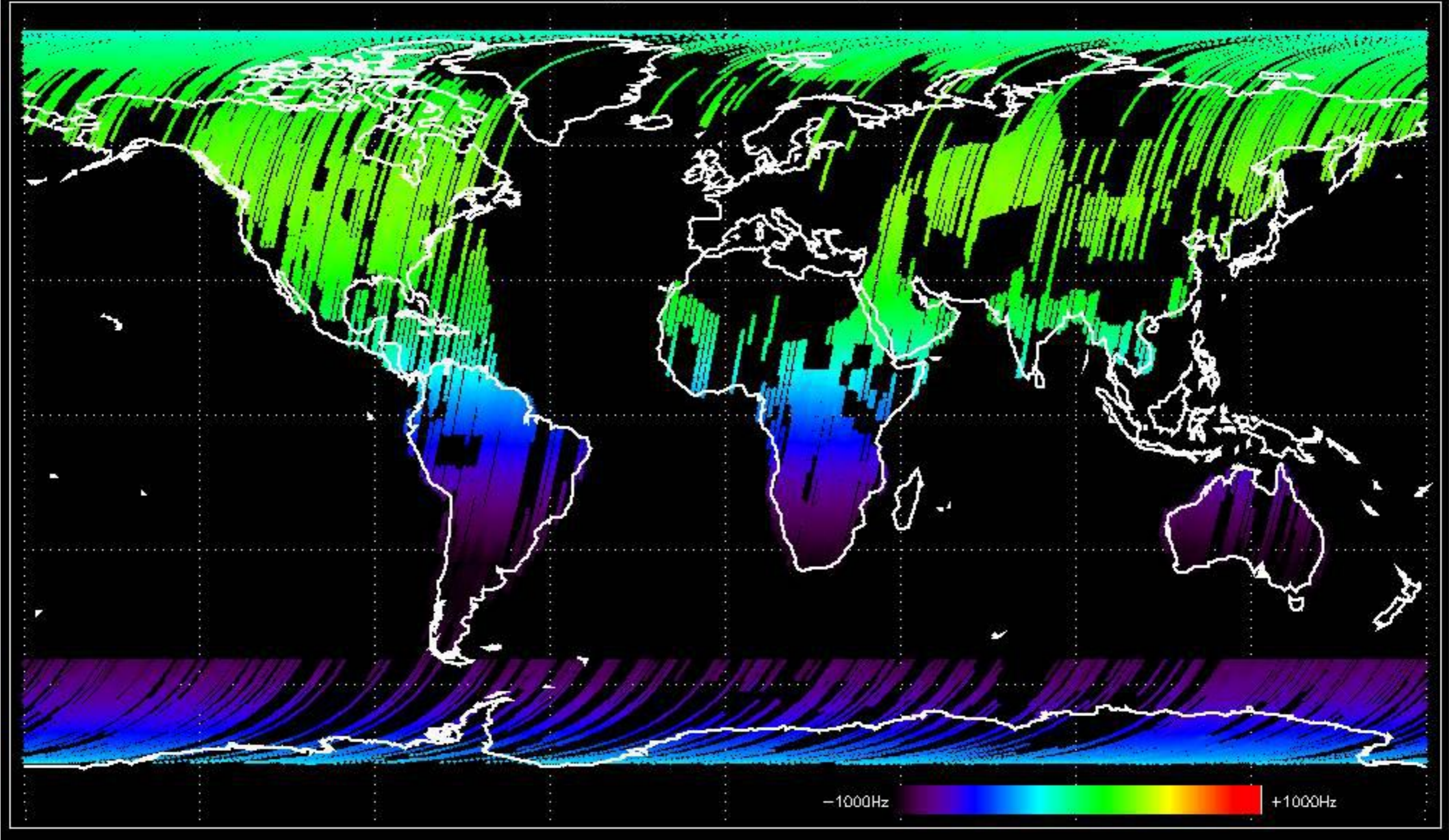


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

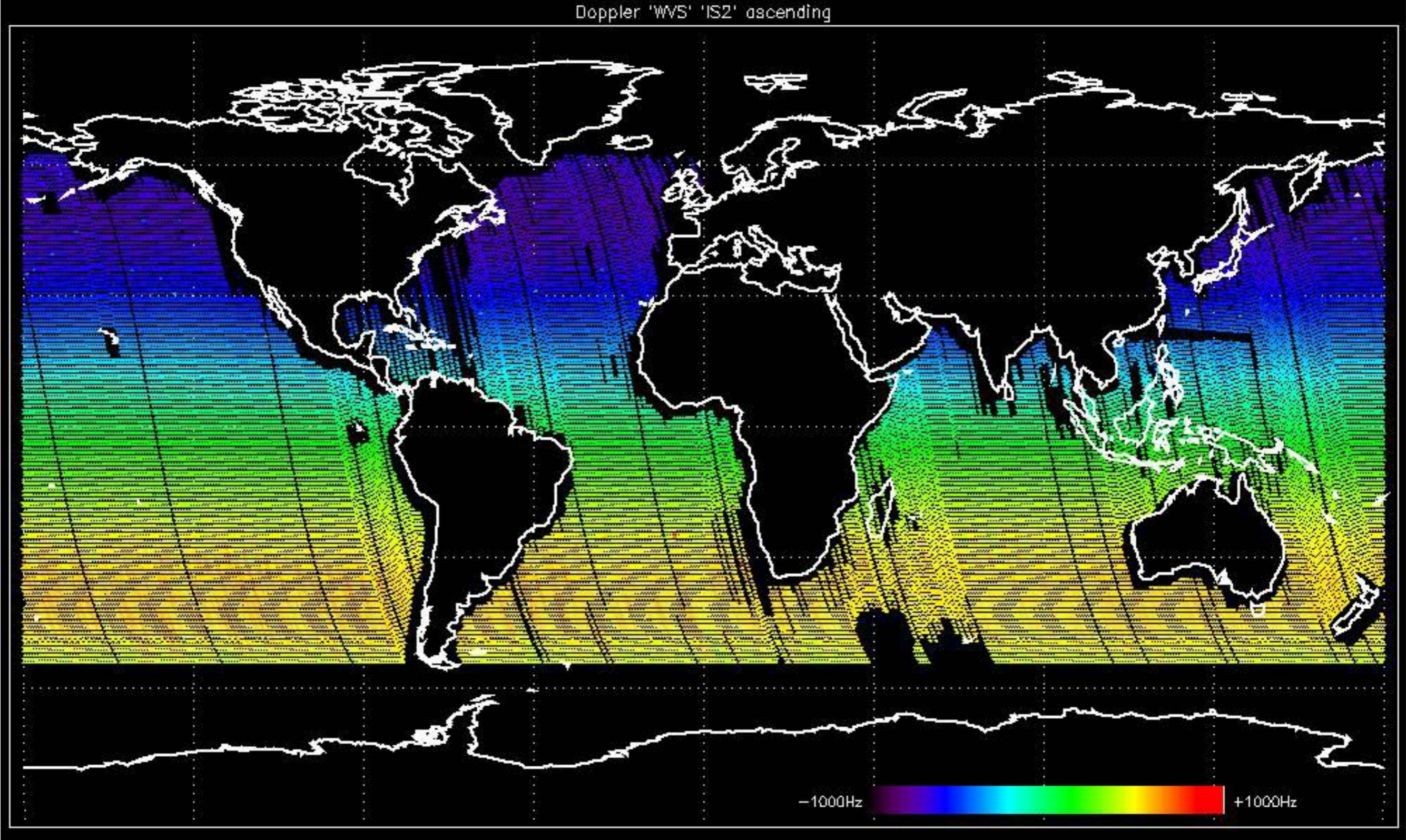
Doppler 'GM1' 'SS1' ascending



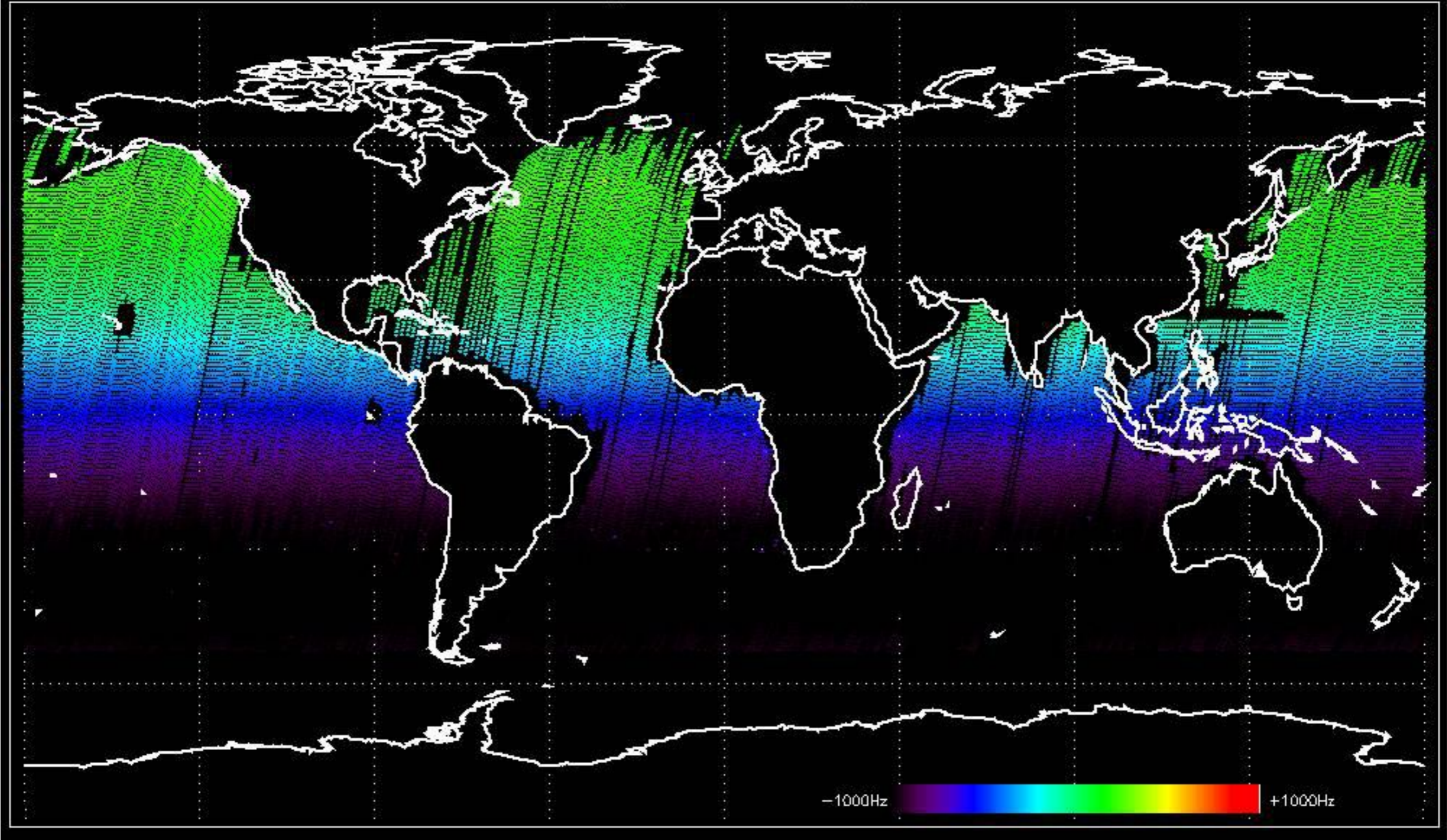
Doppler 'GM1' 'SS1' descending



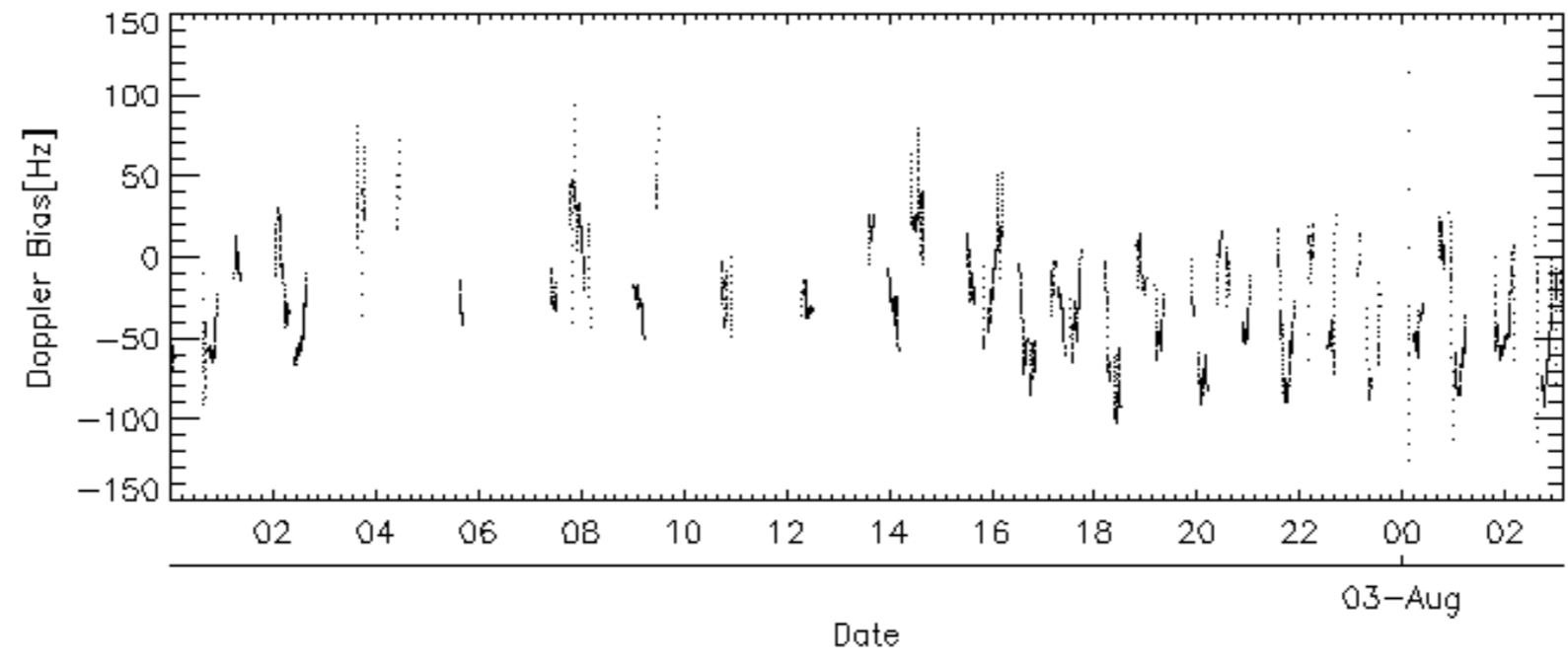
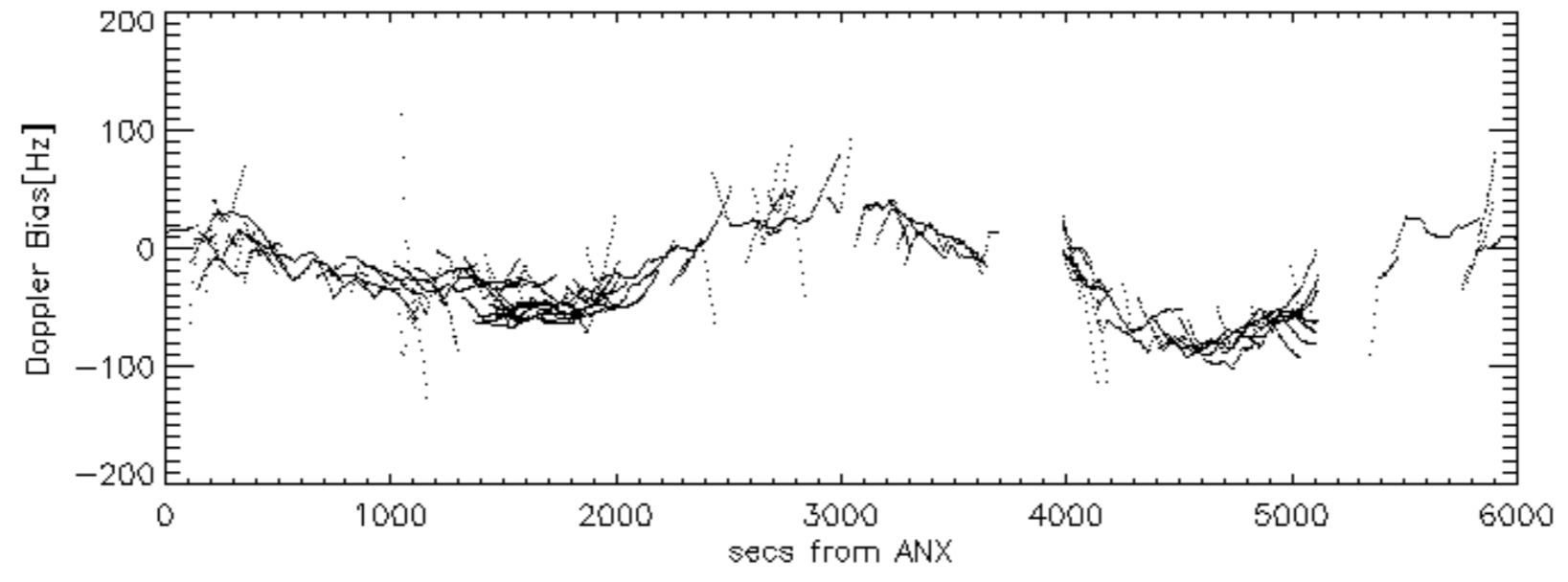
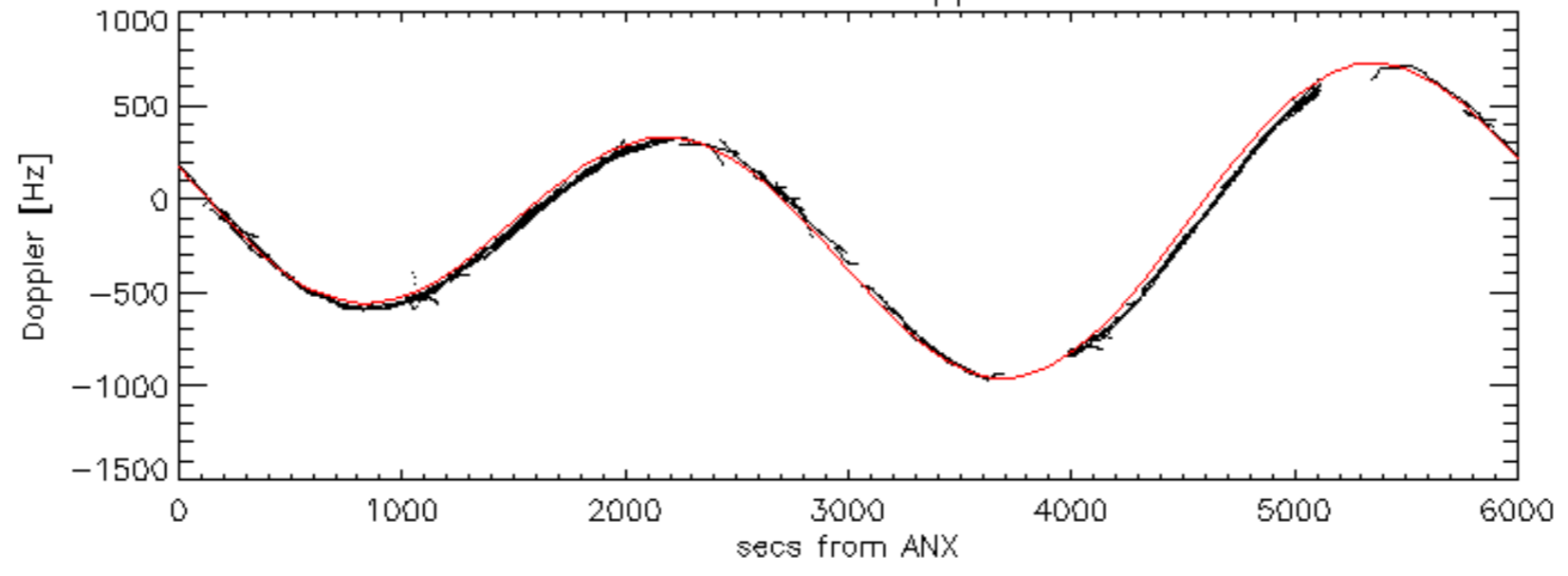
Doppler 'WVS' 'IS2' ascending

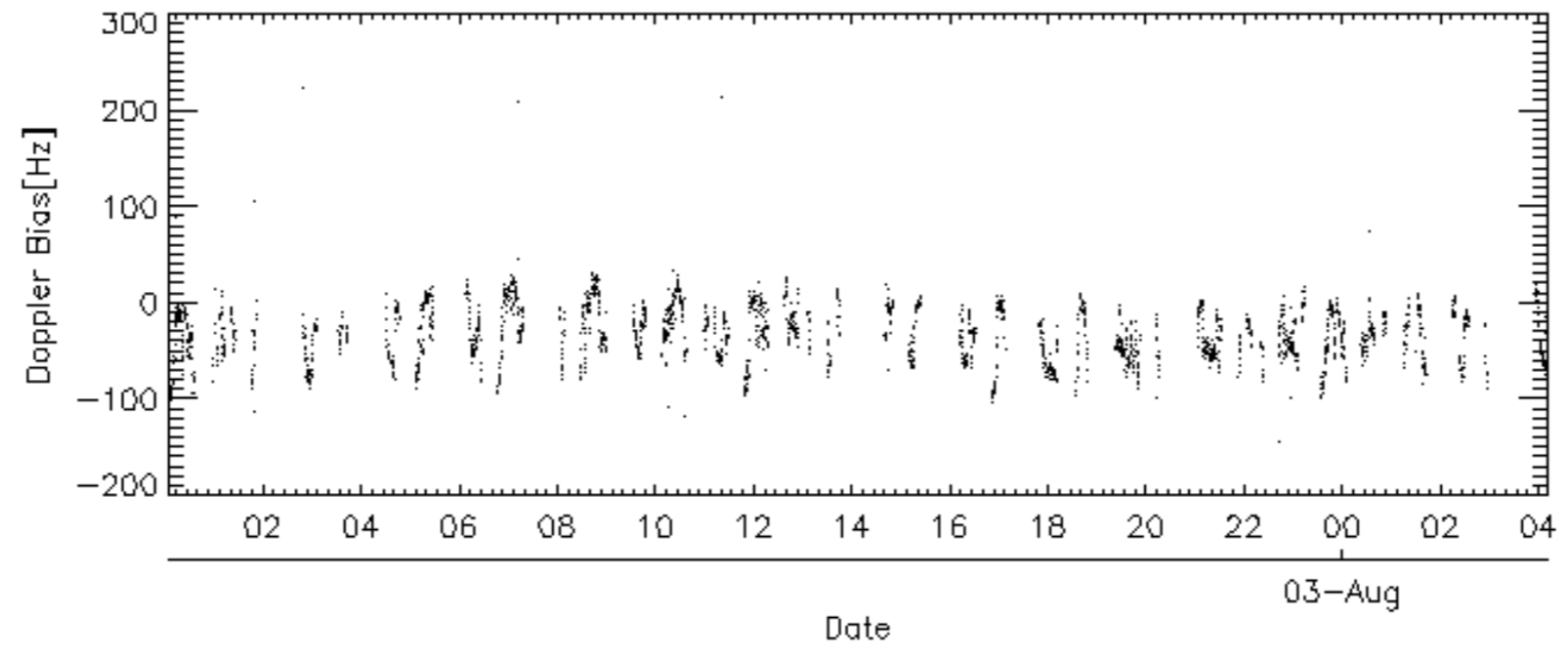
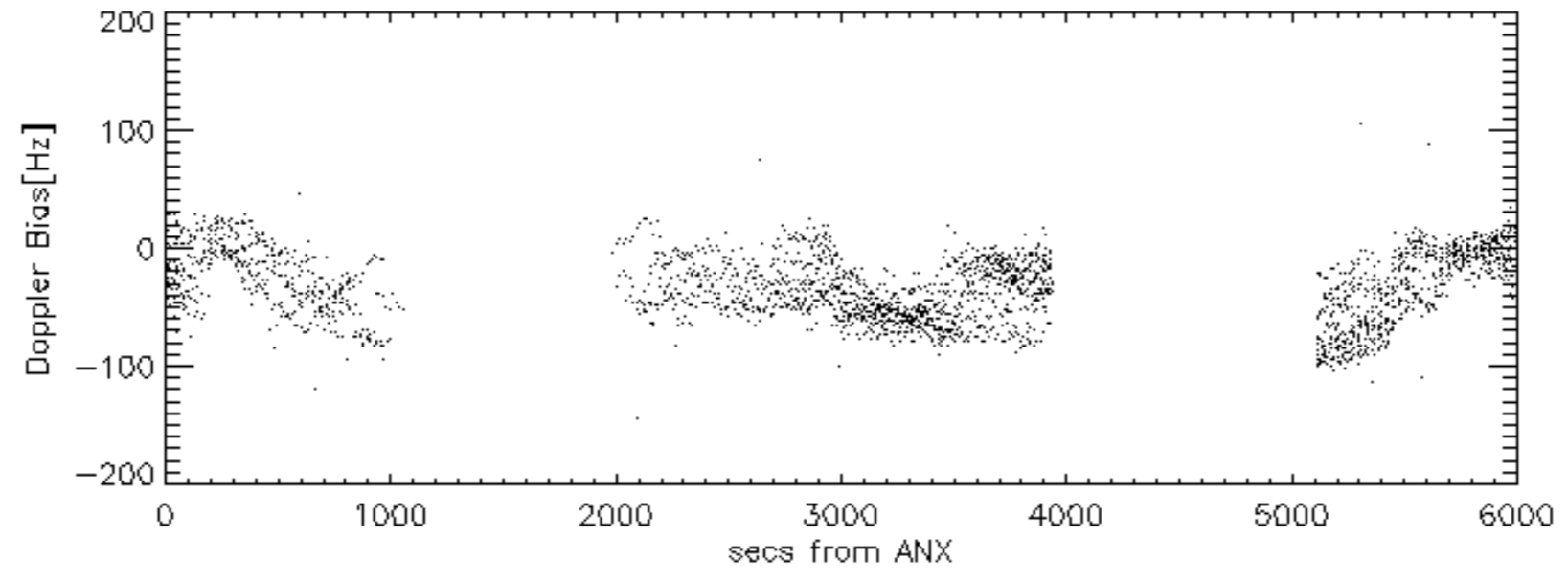
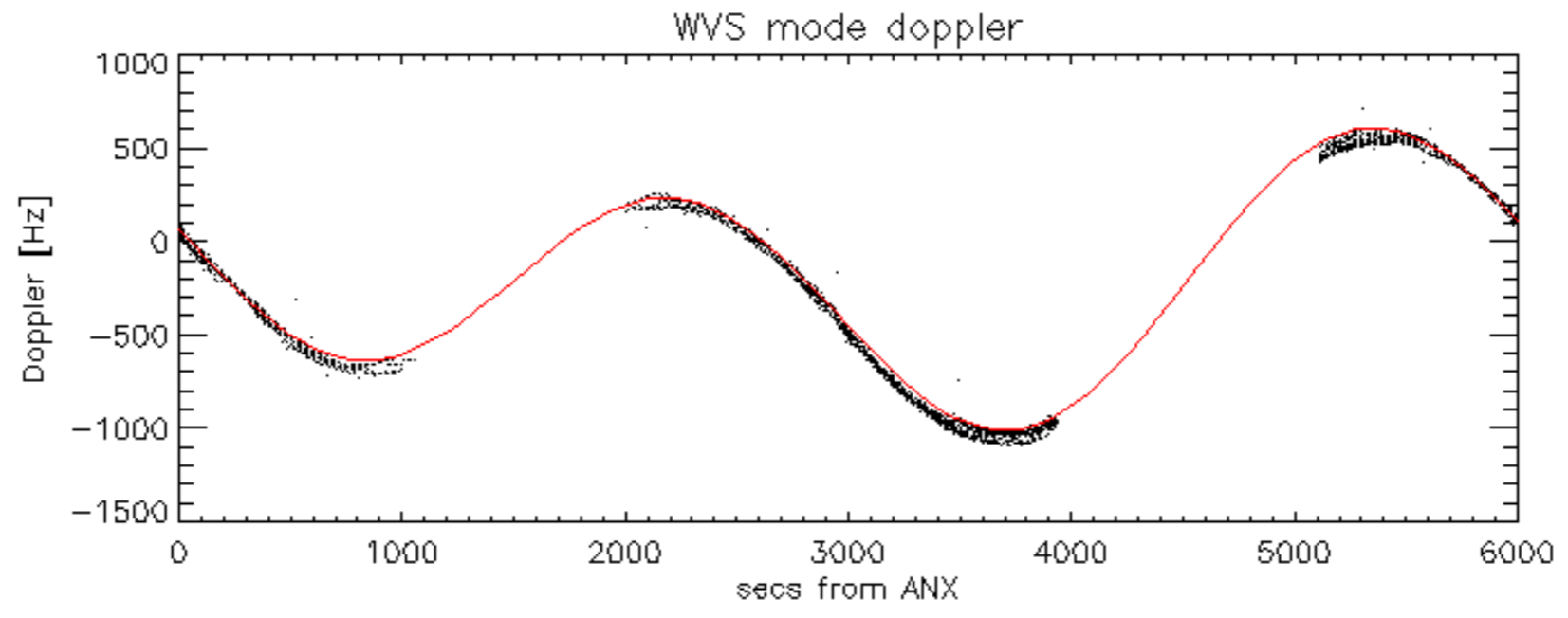


Doppler 'WVS' 'IS2' descending

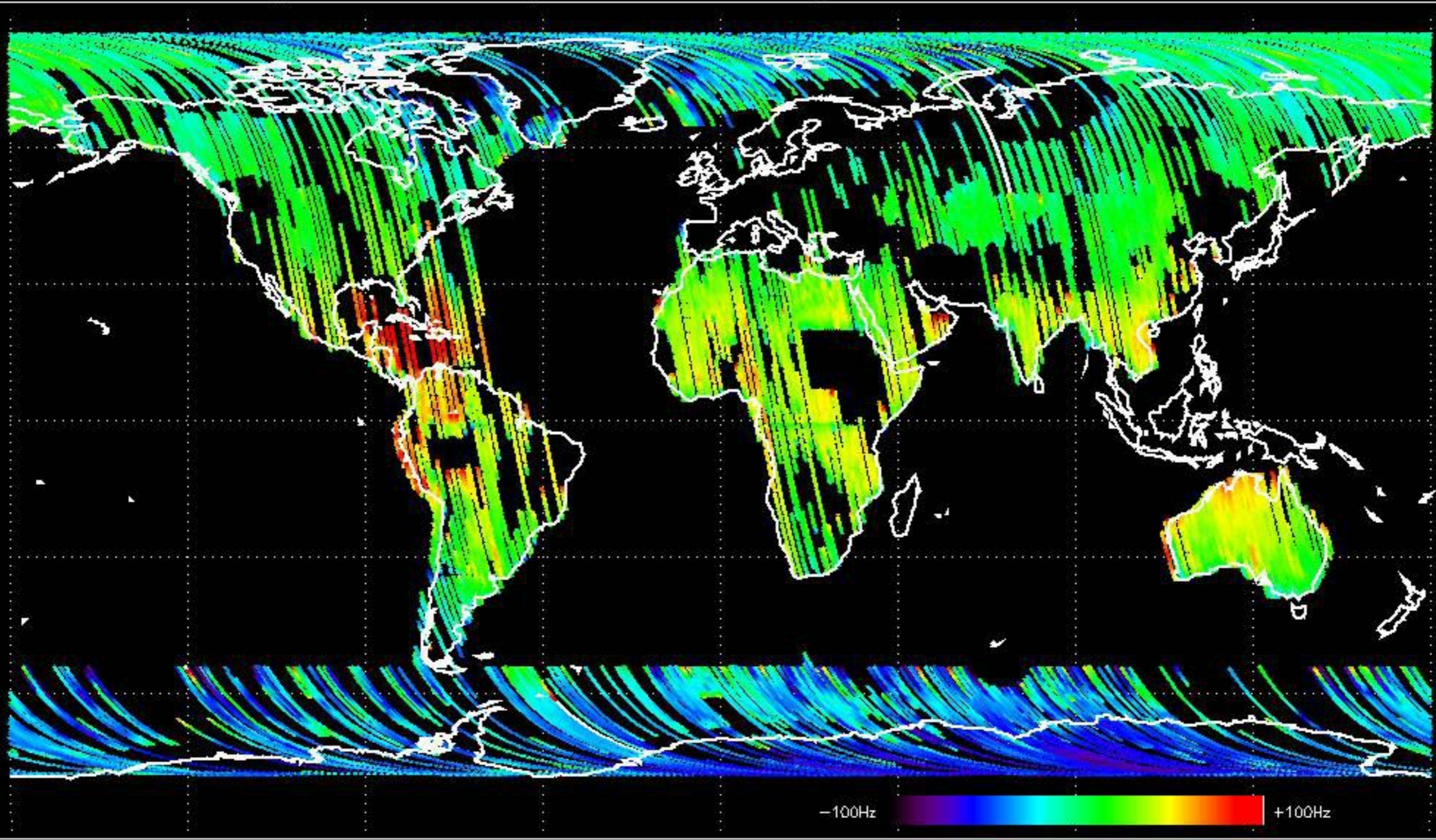


GM1 mode doppler

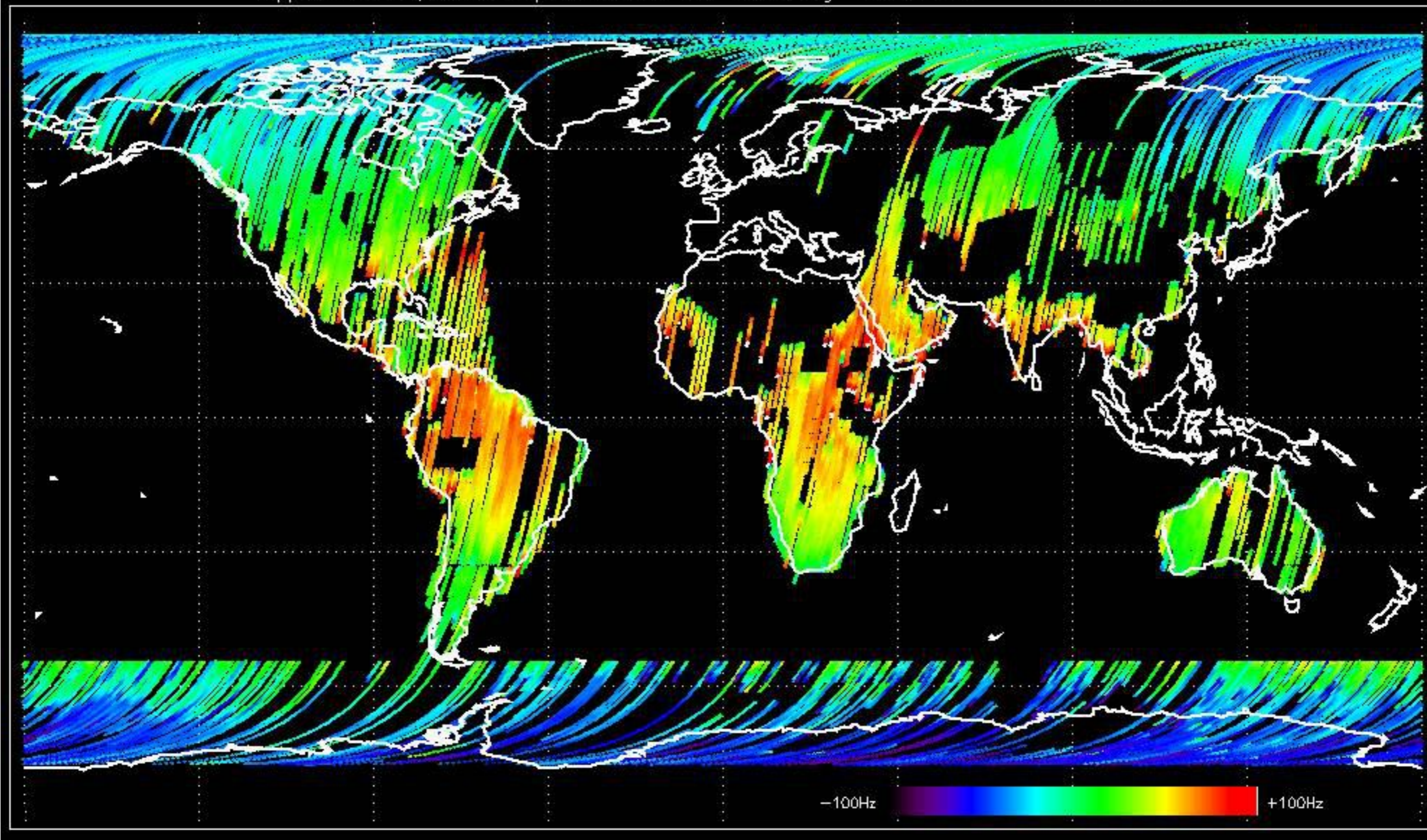




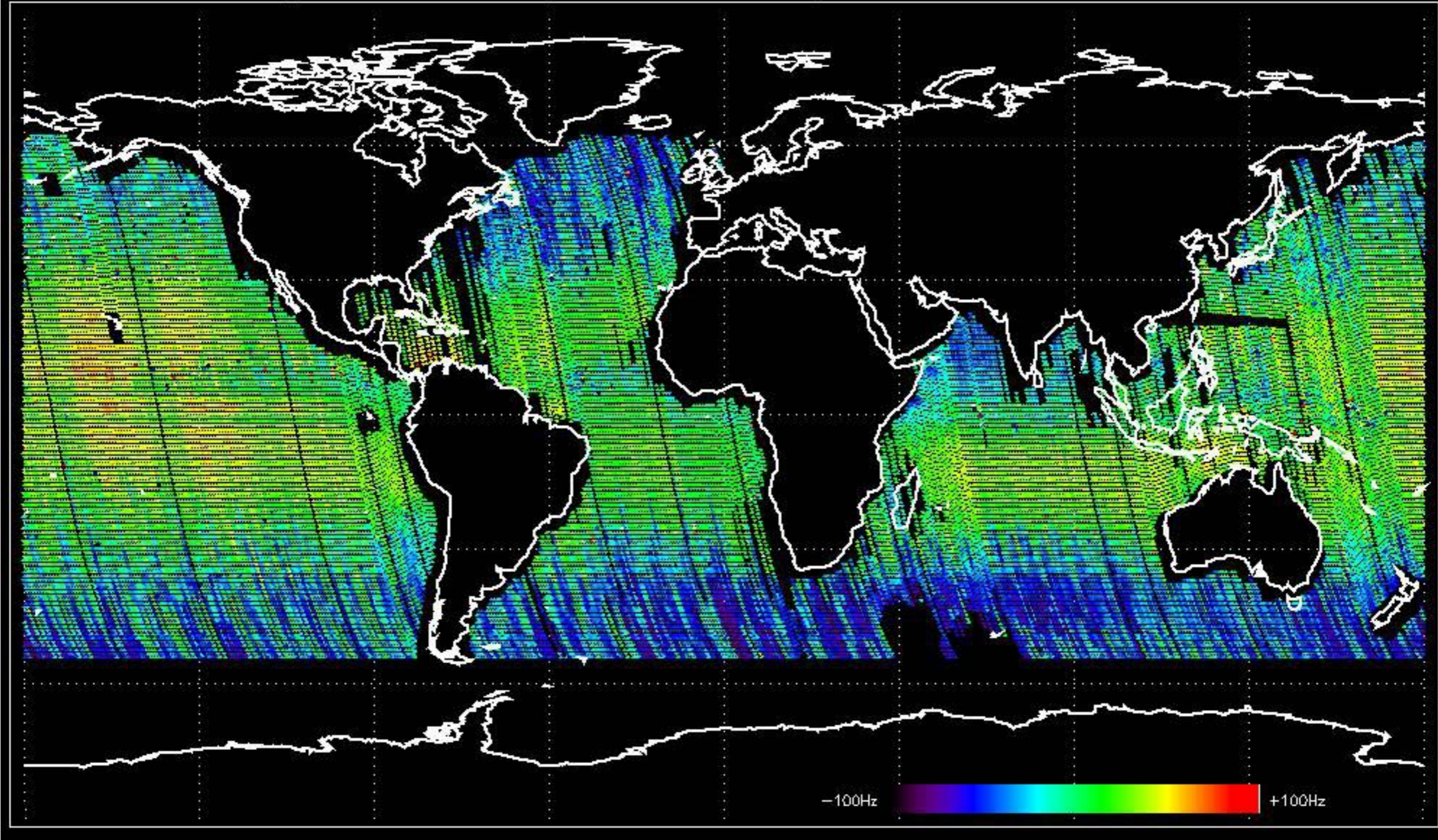
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -34.846772 Hz



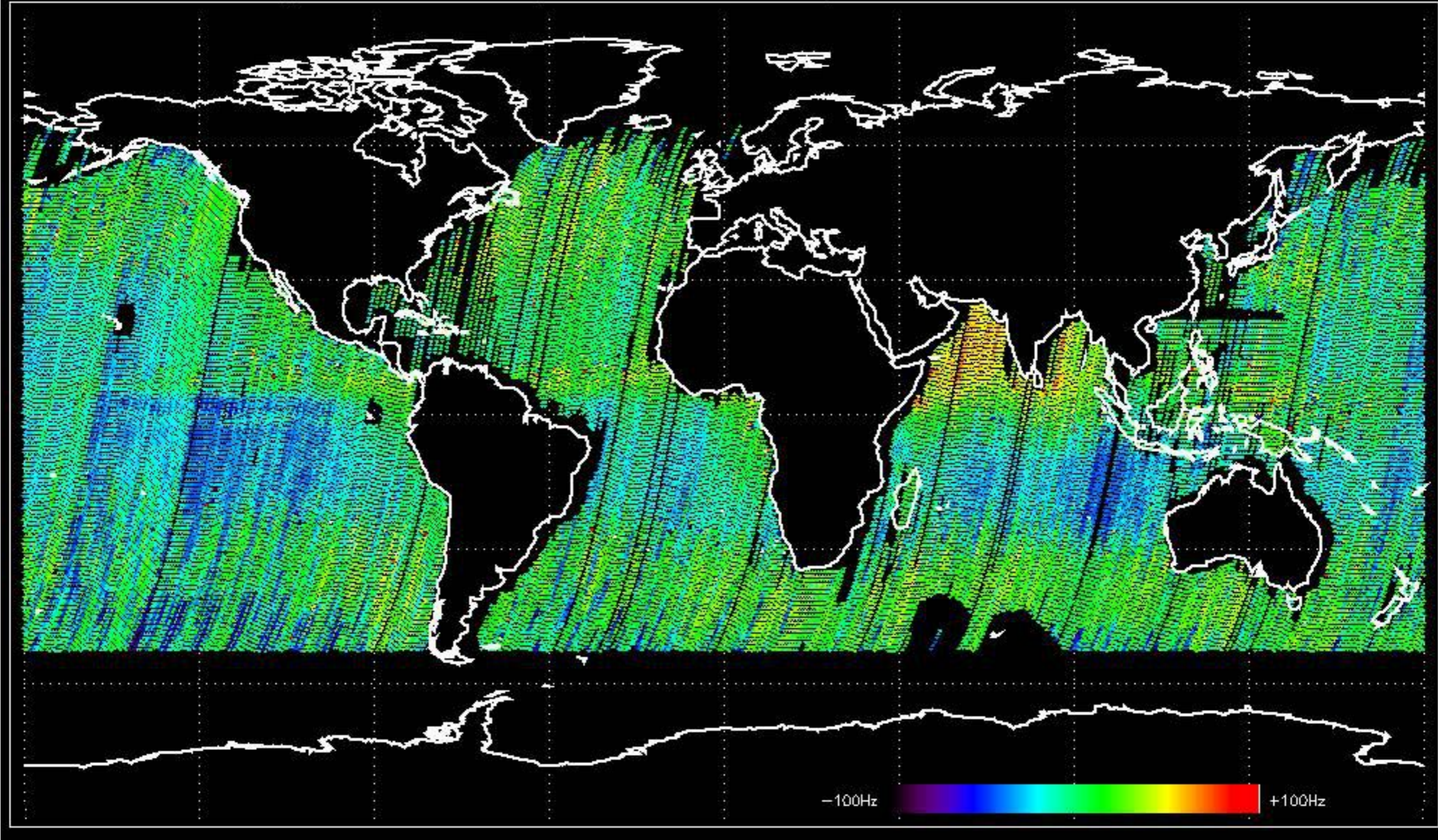
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -27.798656 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -32.525810 Hz

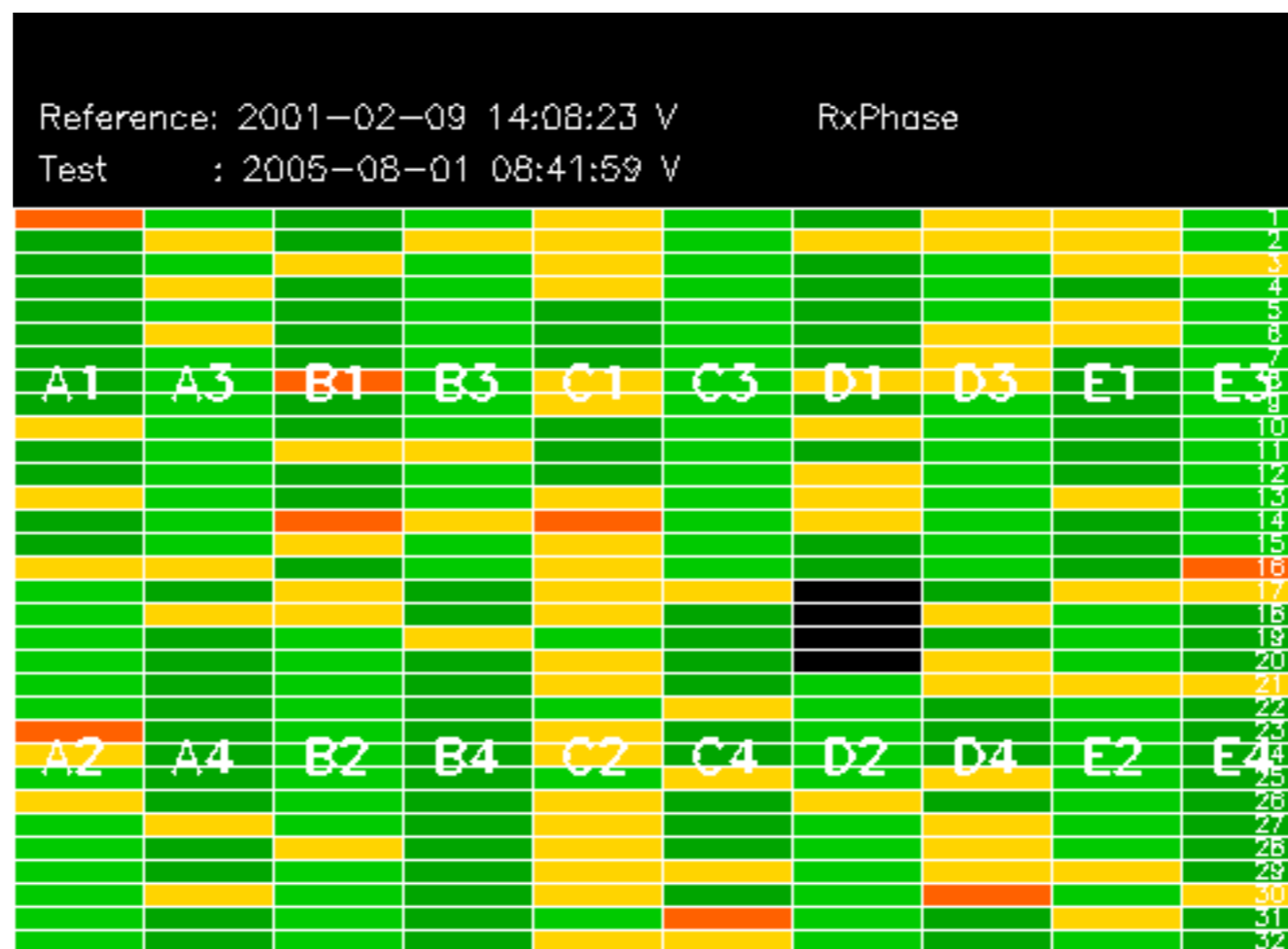


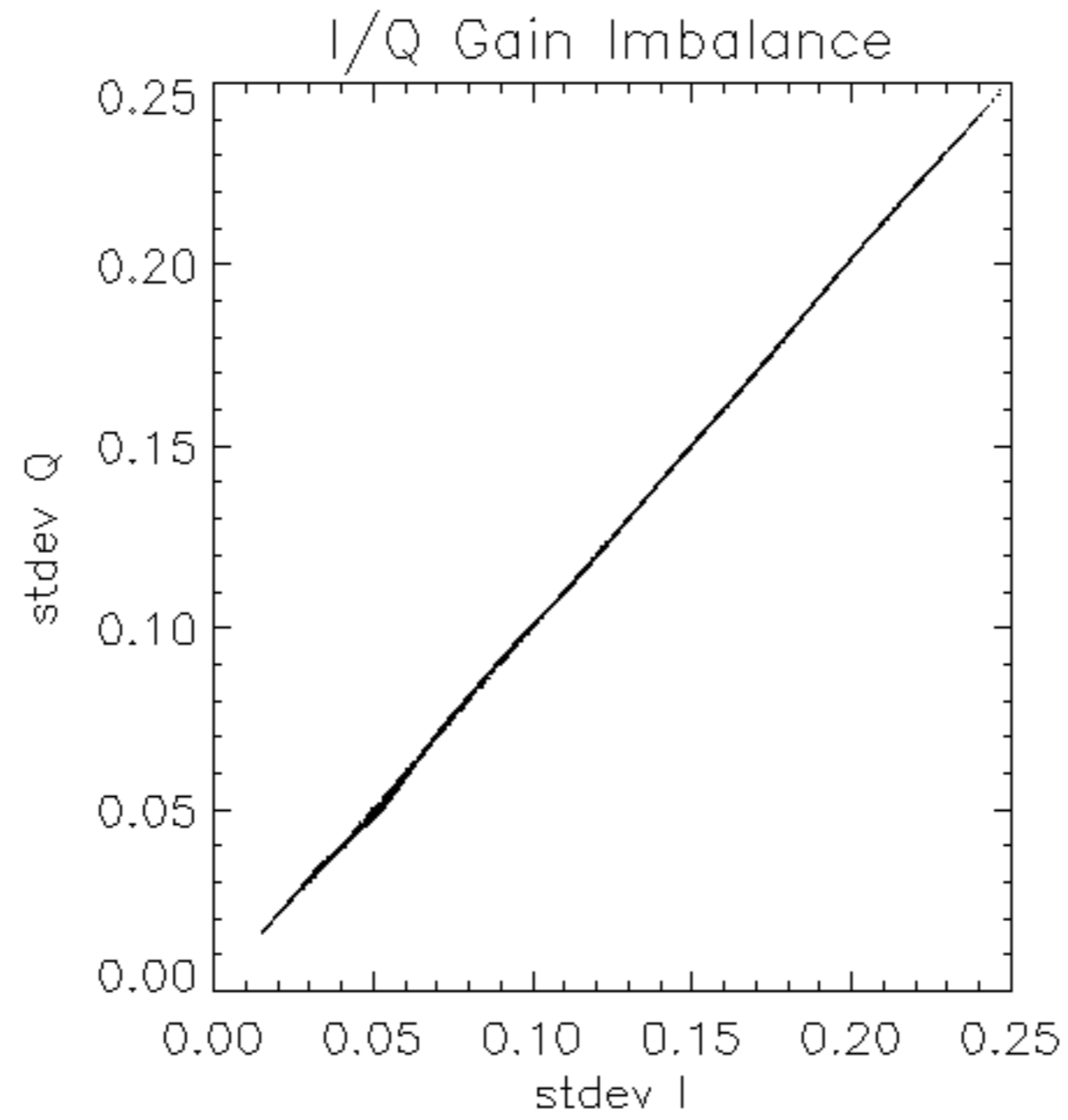
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -35.599506 Hz

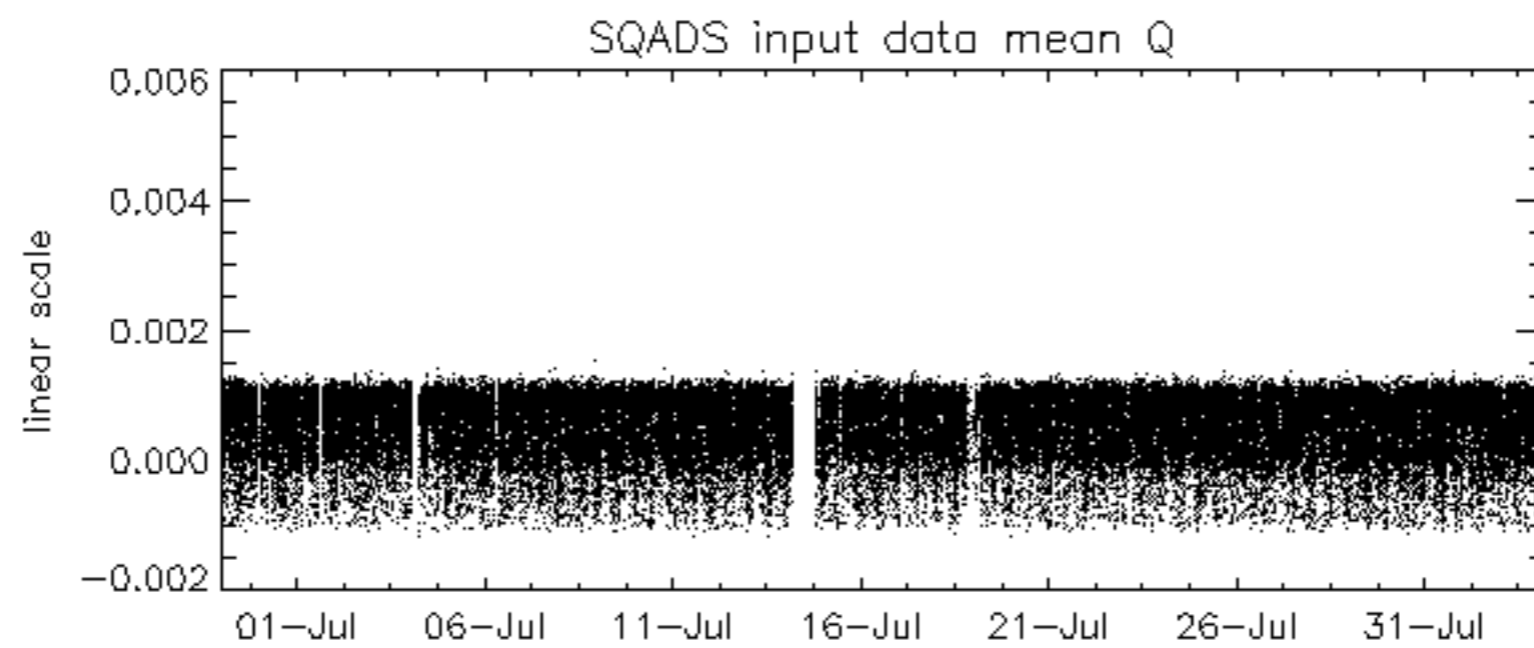
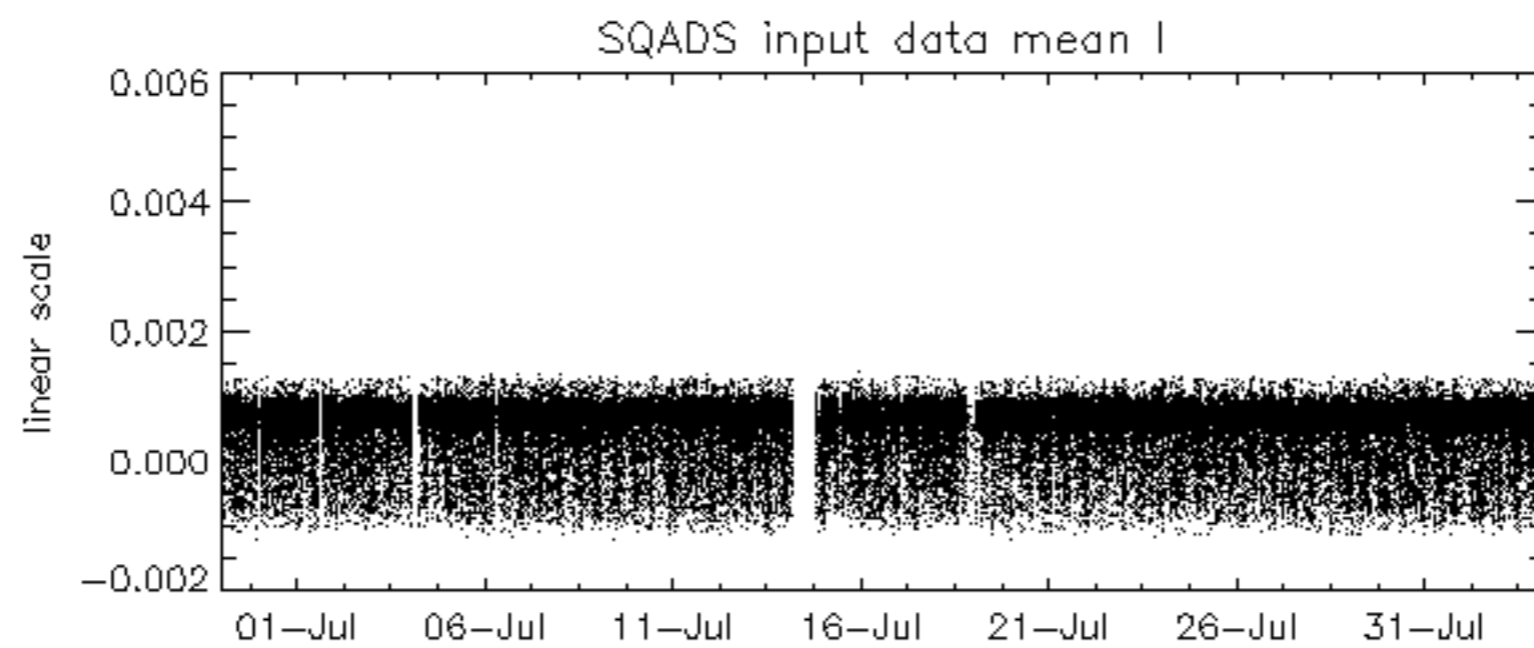
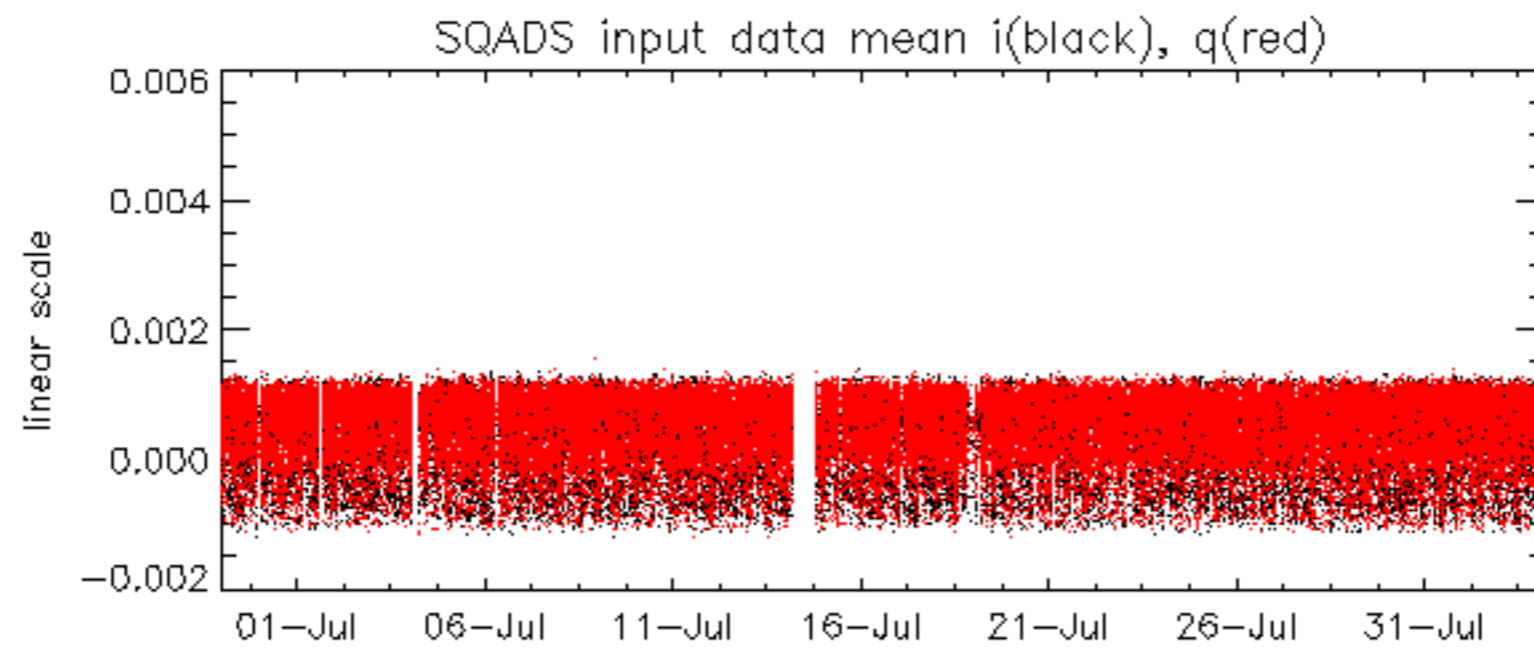


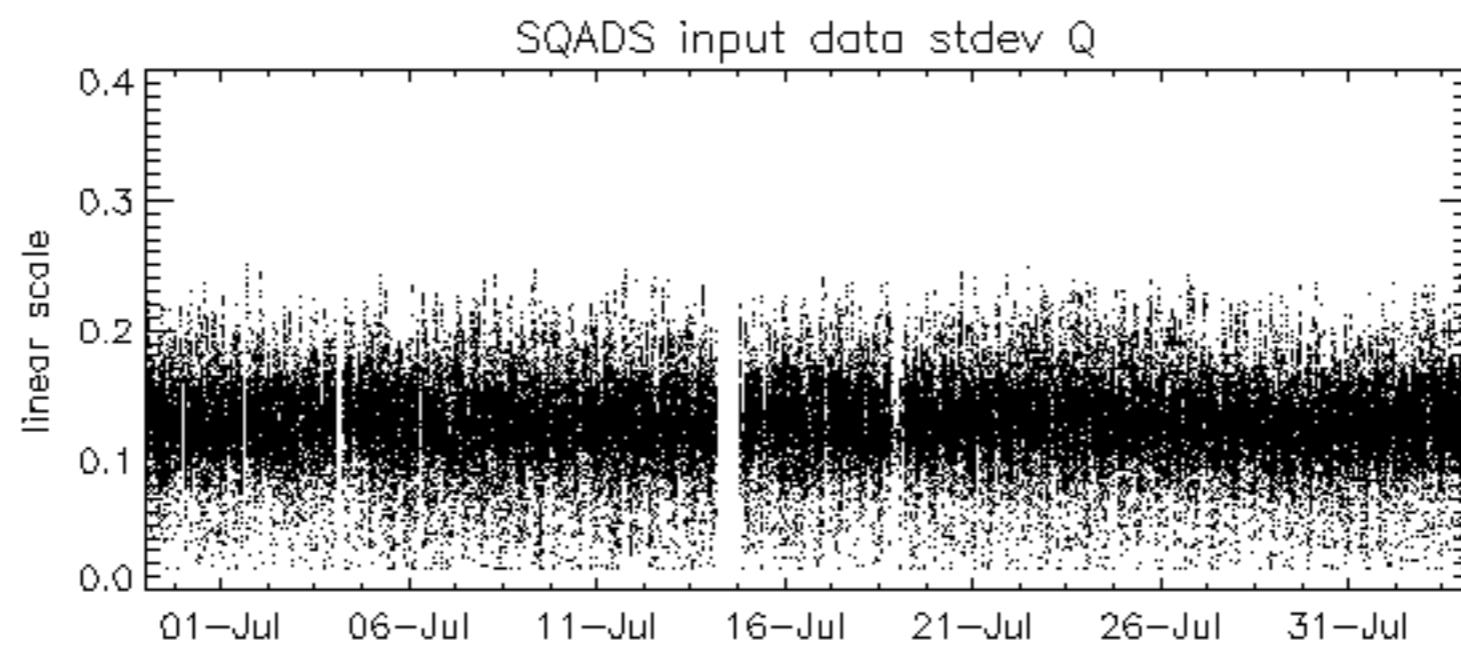
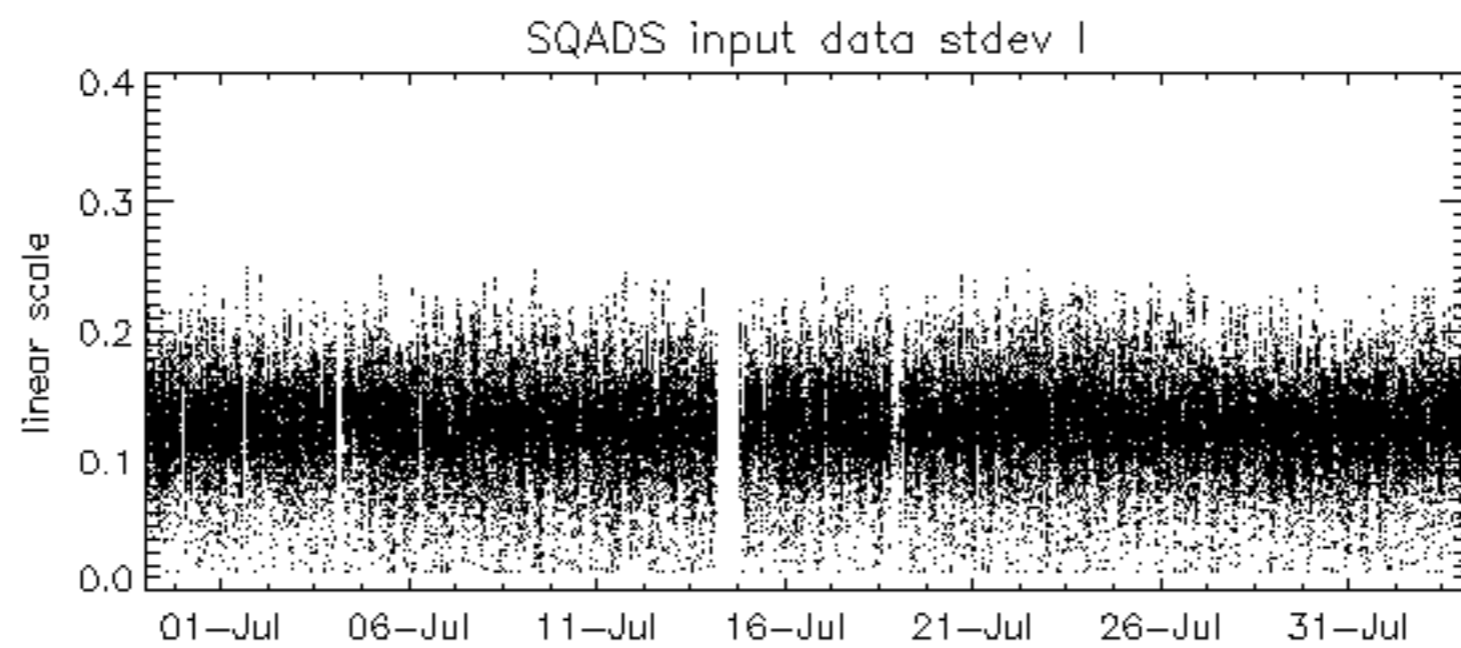
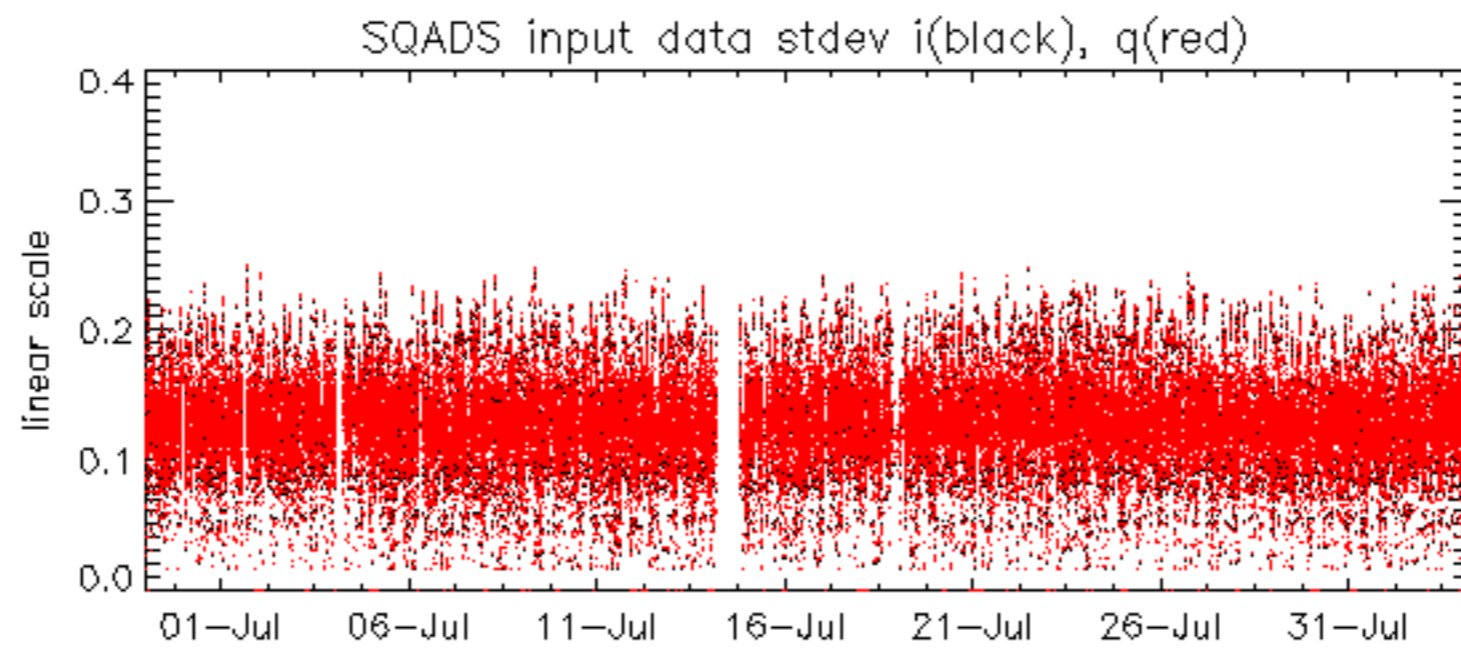
No anomalies observed on available MS products:

No anomalies observed.





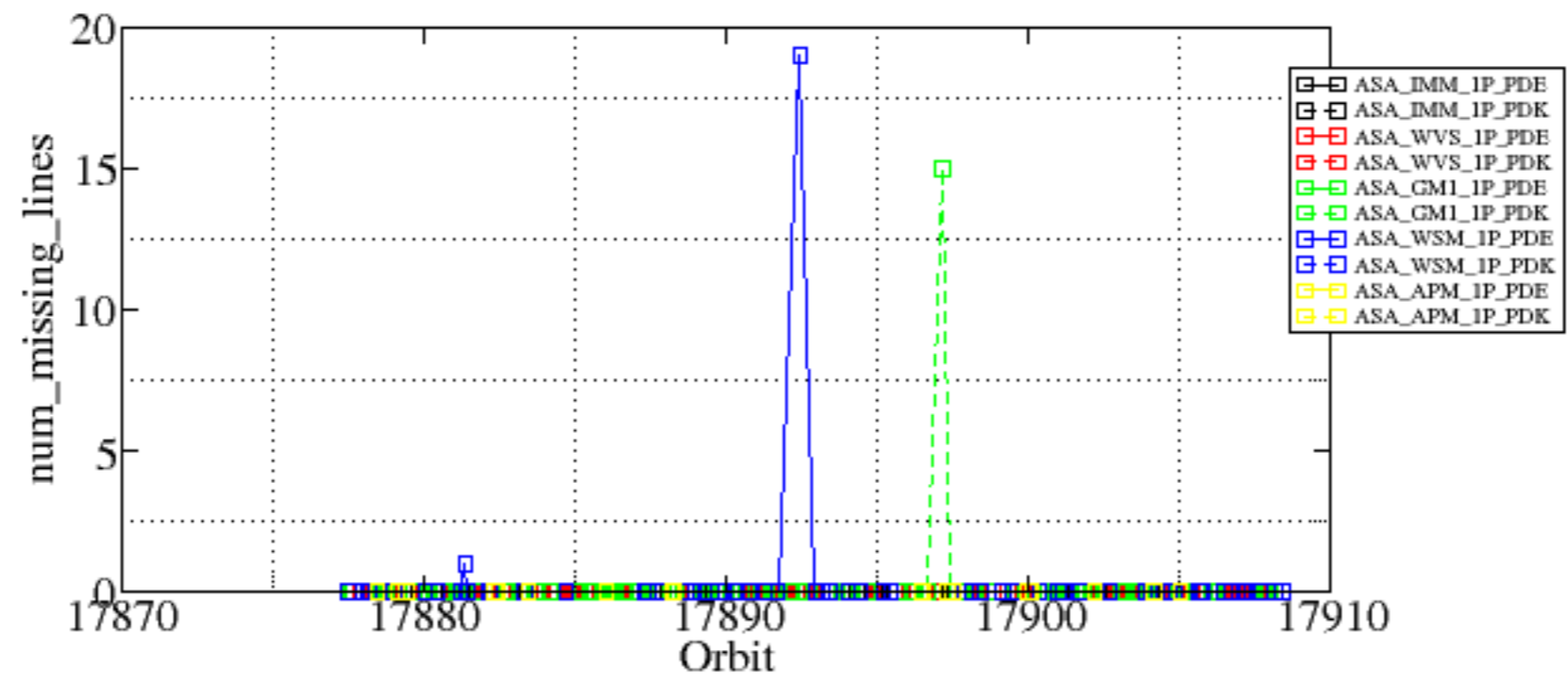


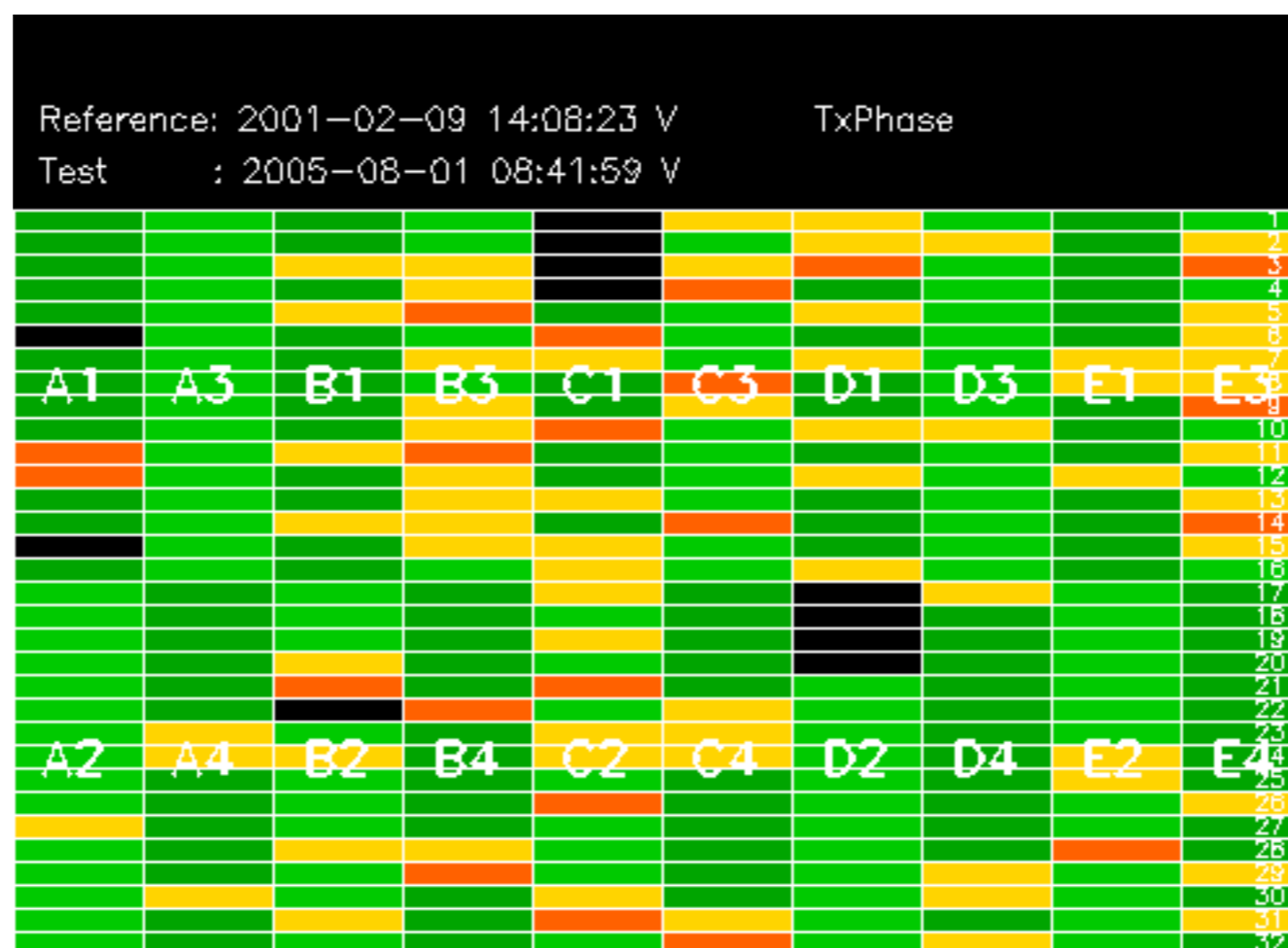


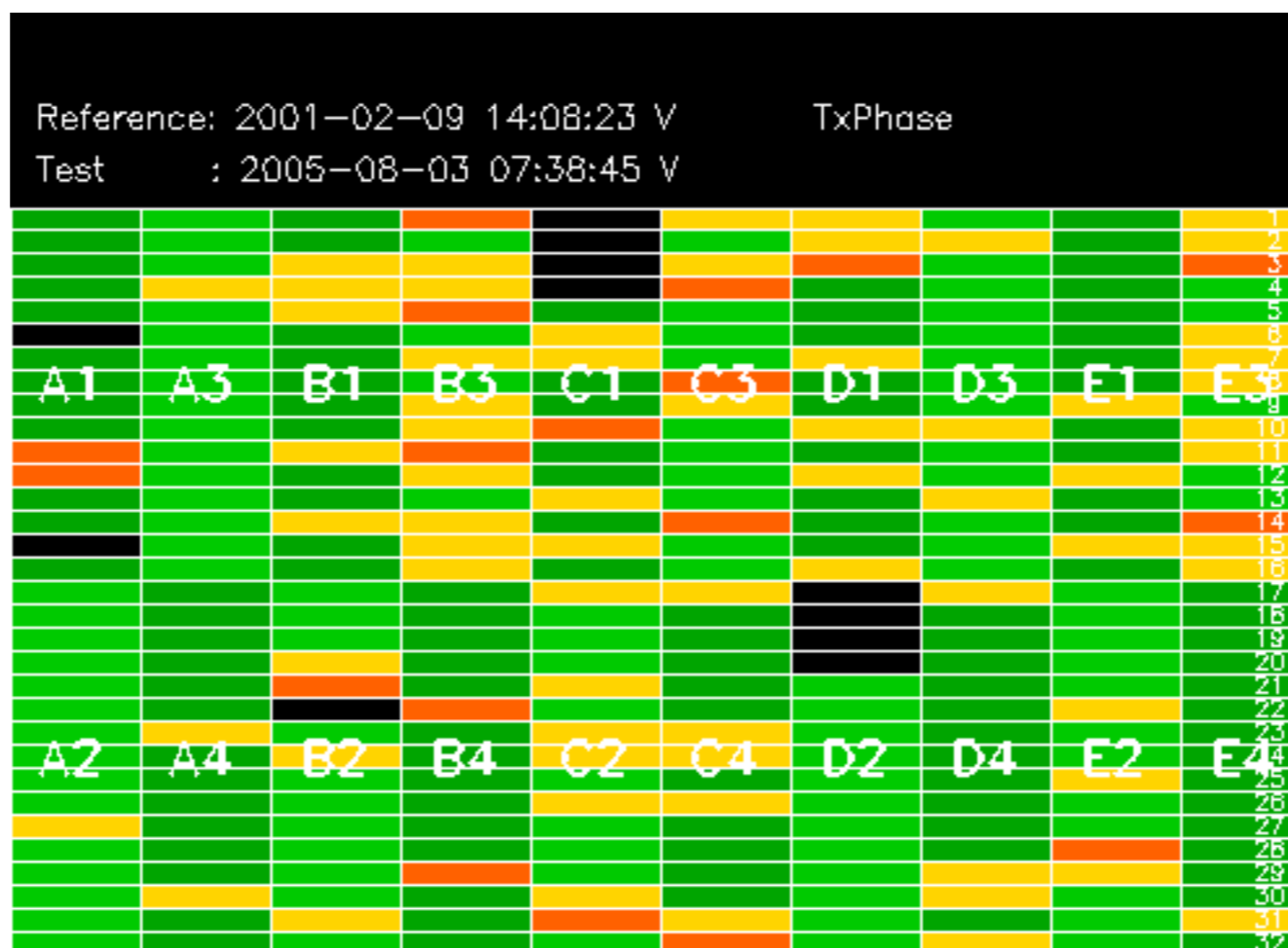
Summary of analysis for the last 3 days 2005080[123]

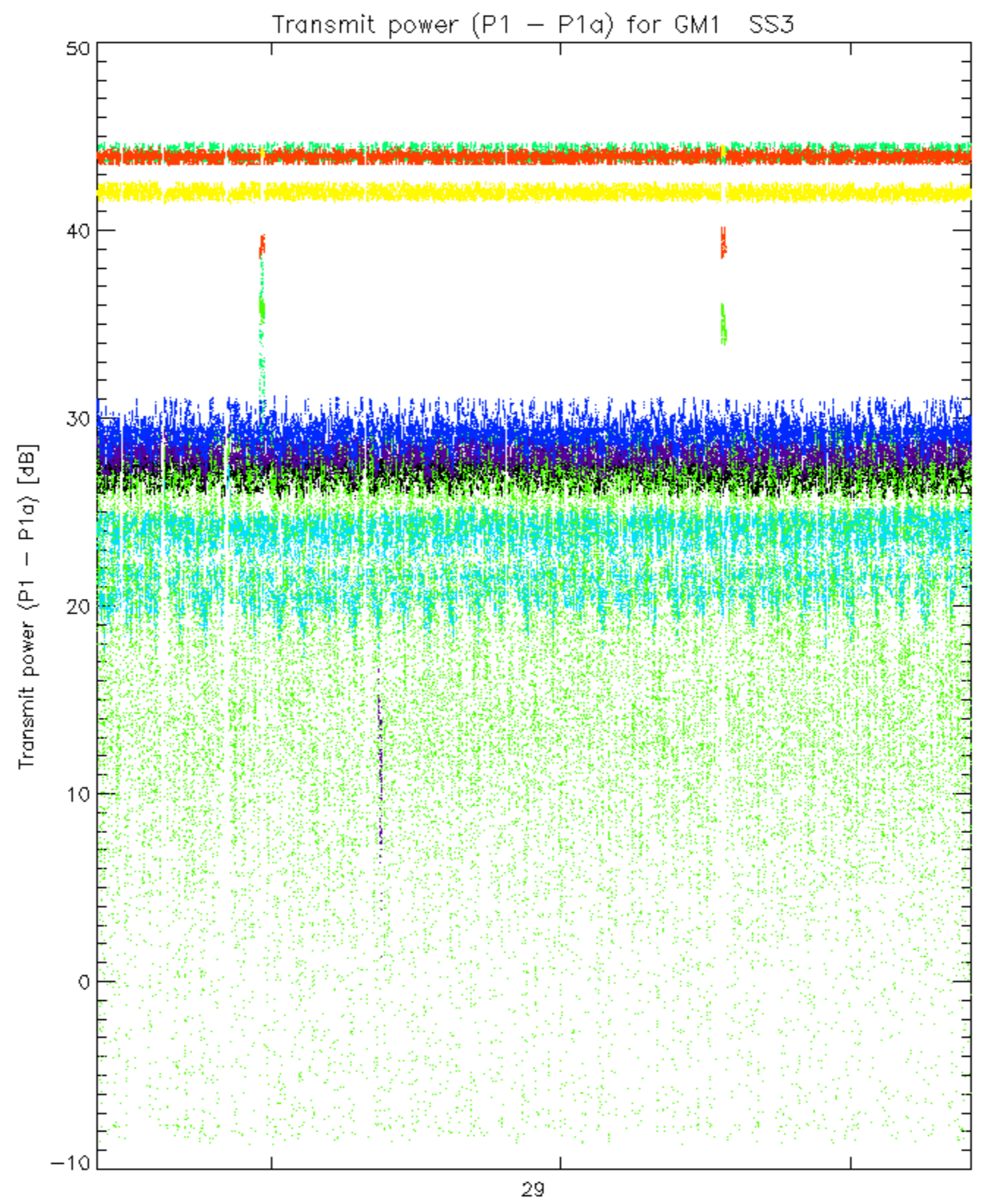
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

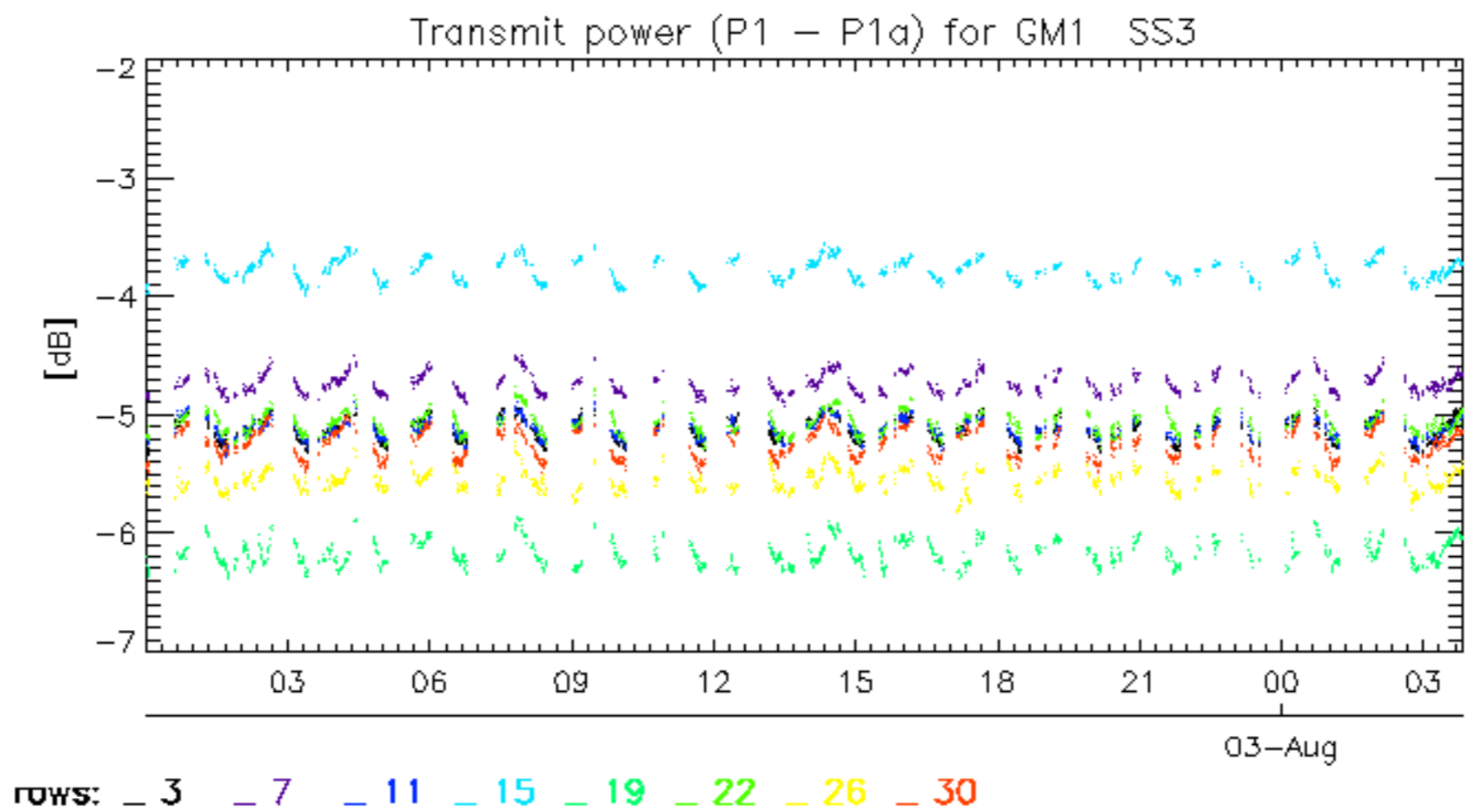
| Filename | num_gaps | num_missing_lines |
|--|----------|-------------------|
| ASA_IMM_1PNPDE20050801_155734_000002312039_00298_17887_1240.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20050801_174612_000001062039_00299_17888_1253.N1 | 1 | 0 |
| ASA_GM1_1PNPDK20050802_090138_000007122039_00308_17897_1198.N1 | 0 | 15 |
| ASA_WSM_1PNPDE20050801_063104_000002132039_00292_17881_2374.N1 | 0 | 1 |
| ASA_WSM_1PNPDE20050802_010559_000000852039_00303_17892_2489.N1 | 0 | 19 |
| ASA_WSM_1PNPDE20050802_021824_000003002039_00304_17893_2504.N1 | 5 | 0 |

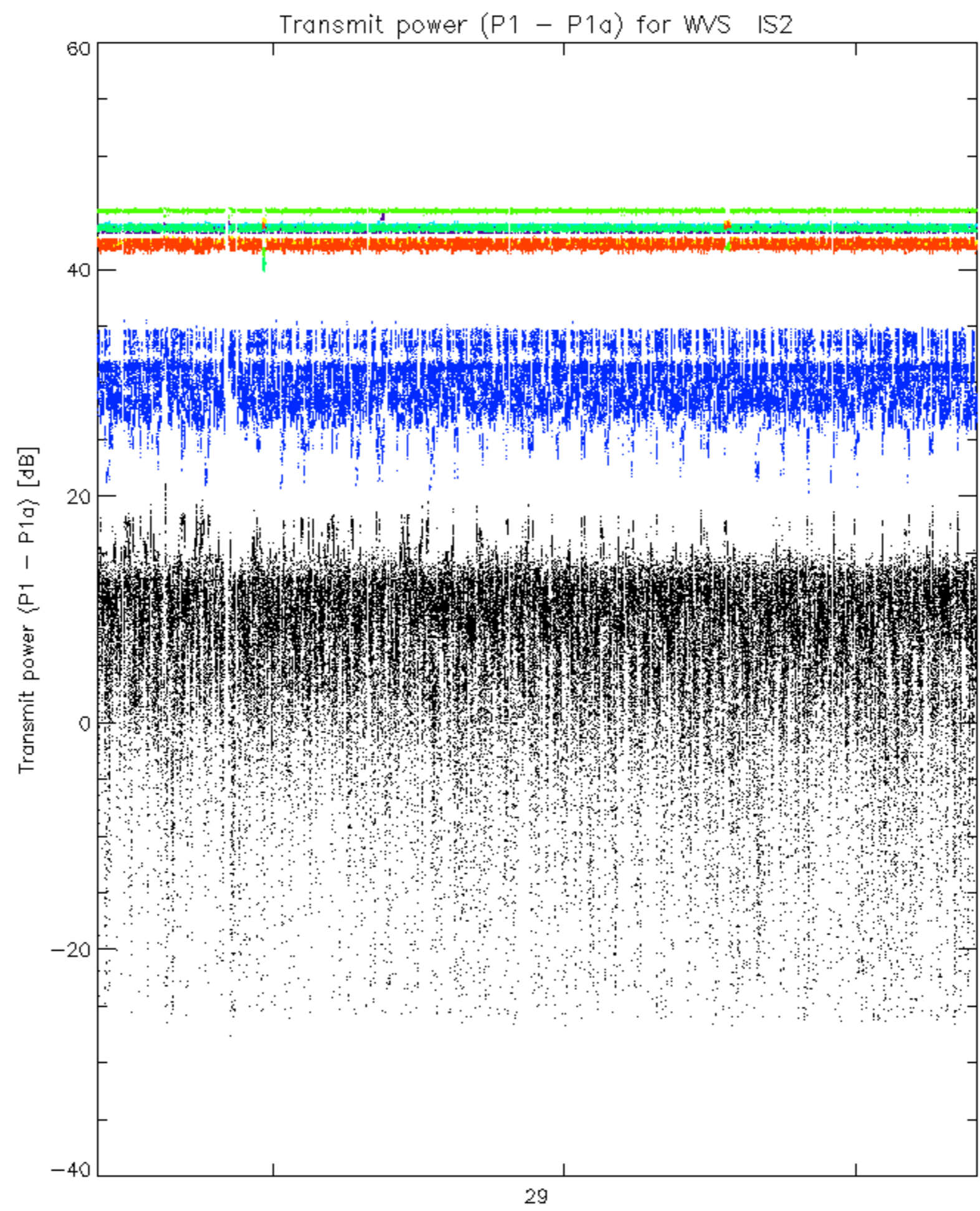




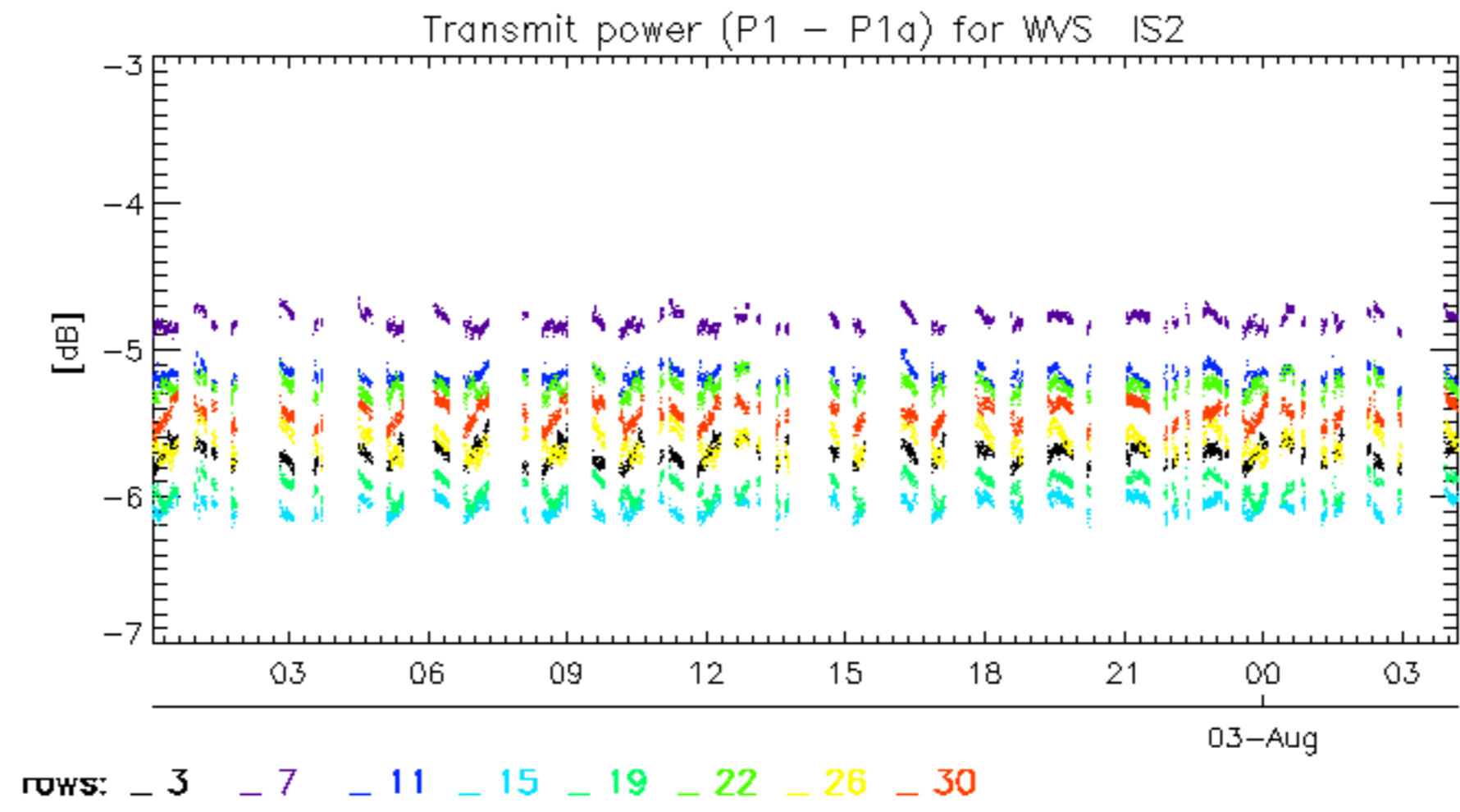








rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



No unavailabilities during the reported period.