

PRELIMINARY REPORT OF 060919

last update on Tue Sep 19 16:41:07 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 2006-09-18 00:00:00 to 2006-09-19 16:41:07

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

| | | | | | |
|---|----|----|---|---|---|
| ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000 | 40 | 65 | 9 | 7 | 0 |
| ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000 | 40 | 65 | 9 | 7 | 0 |
| ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000 | 40 | 65 | 9 | 7 | 0 |
| ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 | 40 | 65 | 9 | 7 | 0 |

| PDHS-E | | | | | |
|---|-----|-----|-----|-----|-----|
| AUXILIARY FILE | WVS | GM1 | IMM | APM | WSM |
| ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000 | 31 | 47 | 39 | 18 | 94 |
| ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000 | 31 | 47 | 39 | 18 | 94 |
| ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000 | 31 | 47 | 39 | 18 | 94 |
| ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 | 31 | 47 | 39 | 18 | 94 |

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 | 20060918 054047 |
| H | 20060917 061223 |

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 | -3.940115 | 0.009824 | 0.001424 |
| 7 | P1 | -3.047305 | 0.011586 | -0.075483 |
| 11 | P1 | -4.054524 | 0.017935 | -0.013798 |
| 15 | P1 | -6.181007 | 0.015463 | 0.002597 |
| 19 | P1 | -3.518219 | 0.050212 | -0.077801 |
| 22 | P1 | -4.567999 | 0.027438 | -0.036845 |
| 26 | P1 | -3.947115 | 0.019384 | -0.057124 |
| 30 | P1 | -5.794640 | 0.152371 | -0.092046 |
| 3 | P1 | -16.594585 | 0.255359 | -0.157427 |
| 7 | P1 | -16.772720 | 0.672880 | -1.346194 |
| 11 | P1 | -16.793158 | 0.344085 | -0.033732 |
| 15 | P1 | -12.907321 | 0.105317 | 0.194446 |
| 19 | P1 | -14.620486 | 0.457114 | -0.175026 |
| 22 | P1 | -15.698220 | 0.560255 | 0.222495 |
| 26 | P1 | -15.215847 | 0.205175 | -0.062893 |
| 30 | P1 | -16.934626 | 0.398359 | 0.063146 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -20.823624 | 0.082667 | 0.059105 |
| 7 | P2 | -21.860765 | 0.095488 | 0.032447 |
| 11 | P2 | -15.746540 | 0.106630 | -0.017111 |
| 15 | P2 | -7.089634 | 0.098490 | 0.008046 |
| 19 | P2 | -9.115189 | 0.091001 | -0.017220 |
| 22 | P2 | -18.120588 | 0.086036 | 0.019527 |
| 26 | P2 | -16.403776 | 0.093211 | -0.032751 |
| 30 | P2 | -19.469631 | 0.089809 | -0.002549 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.176595 | 0.004756 | -0.011461 |
| 7 | P3 | -8.176595 | 0.004756 | -0.011461 |
| 11 | P3 | -8.176595 | 0.004756 | -0.011461 |
| 15 | P3 | -8.176595 | 0.004756 | -0.011461 |
| 19 | P3 | -8.176595 | 0.004756 | -0.011461 |
| 22 | P3 | -8.176595 | 0.004756 | -0.011461 |
| 26 | P3 | -8.176595 | 0.004756 | -0.011461 |
| 30 | P3 | -8.176595 | 0.004756 | -0.011461 |

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 | -3.843633 | 0.009007 | -0.039542 |
| 7 | P1 | -2.437834 | 0.073140 | -0.453521 |
| 11 | P1 | -2.878894 | 0.022613 | -0.047189 |
| 15 | P1 | -3.650900 | 0.028896 | -0.037645 |
| 19 | P1 | -3.460815 | 0.079047 | -0.050213 |
| 22 | P1 | -5.097296 | 0.036122 | -0.051684 |
| 26 | P1 | -5.866495 | 0.023649 | 0.014334 |
| 30 | P1 | -5.198380 | 0.078167 | -0.037929 |
| 3 | P1 | -11.632387 | 0.046832 | -0.033212 |
| 7 | P1 | -9.910213 | 0.082234 | -0.398046 |
| 11 | P1 | -10.337961 | 0.063183 | -0.126987 |
| 15 | P1 | -10.857285 | 0.152804 | -0.008480 |
| 19 | P1 | -15.681723 | 3.615506 | -0.181503 |
| 22 | P1 | -20.806450 | 1.719480 | 0.031841 |
| 26 | P1 | -15.953013 | 0.401998 | 0.270478 |
| 30 | P1 | -18.046465 | 0.818555 | -0.316315 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -16.414219 | 0.057483 | 0.103484 |
| 7 | P2 | -22.197355 | 0.090095 | 0.095121 |
| 11 | P2 | -10.897668 | 0.043338 | 0.049996 |
| 15 | P2 | -4.858797 | 0.038447 | 0.037848 |
| 19 | P2 | -6.845618 | 0.038819 | 0.026209 |
| 22 | P2 | -8.155020 | 0.033352 | 0.036672 |
| 26 | P2 | -24.166296 | 0.053104 | 0.022121 |
| 30 | P2 | -21.960760 | 0.043159 | 0.008831 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.021505 | 0.003772 | -0.017102 |
| 7 | P3 | -8.021369 | 0.003774 | -0.016909 |
| 11 | P3 | -8.021392 | 0.003778 | -0.016985 |
| 15 | P3 | -8.021355 | 0.003798 | -0.016822 |
| 19 | P3 | -8.021434 | 0.003797 | -0.016624 |
| 22 | P3 | -8.021511 | 0.003766 | -0.016733 |
| 26 | P3 | -8.021536 | 0.003786 | -0.016788 |
| 30 | P3 | -8.021392 | 0.003777 | -0.016984 |

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 | 0.000545187 |
| | stdev | 1.80226e-07 |
| MEAN Q | mean | 0.000521700 |
| | stdev | 2.18807e-07 |



5.2 - Input stdev I/Q

| channel | stat | DSS-B |
|---------|-------|------------|
| STDEV I | mean | 0.135796 |
| | stdev | 0.00112820 |
| STDEV Q | mean | 0.136142 |
| | stdev | 0.00114526 |



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006091[789]

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_1PNPDE20060918_012434_00000802051_00189_23790_5910.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20060919_004855_00001852051_00203_23804_5979.N1 | 1 | 0 |
| ASA_GM1_1PNPDK20060918_154300_000006402051_00197_23798_4732.N1 | 0 | 7 |
| ASA_WSM_1PNPDE20060917_005119_00001462051_00174_23775_2423.N1 | 0 | 34 |
| ASA_WSM_1PNPDE20060917_162919_00000672051_00183_23784_2716.N1 | 1 | 331 |
| ASA_WSM_1PNPDE20060918_034044_00000852051_00190_23791_2633.N1 | 0 | 6 |
| ASA_WSM_1PNPDE20060918_034046_00000852051_00190_23791_2718.N1 | 0 | 6 |
| ASA_WSM_1PNPDE20060918_180337_00001712051_00199_23800_2739.N1 | 0 | 8 |



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)

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

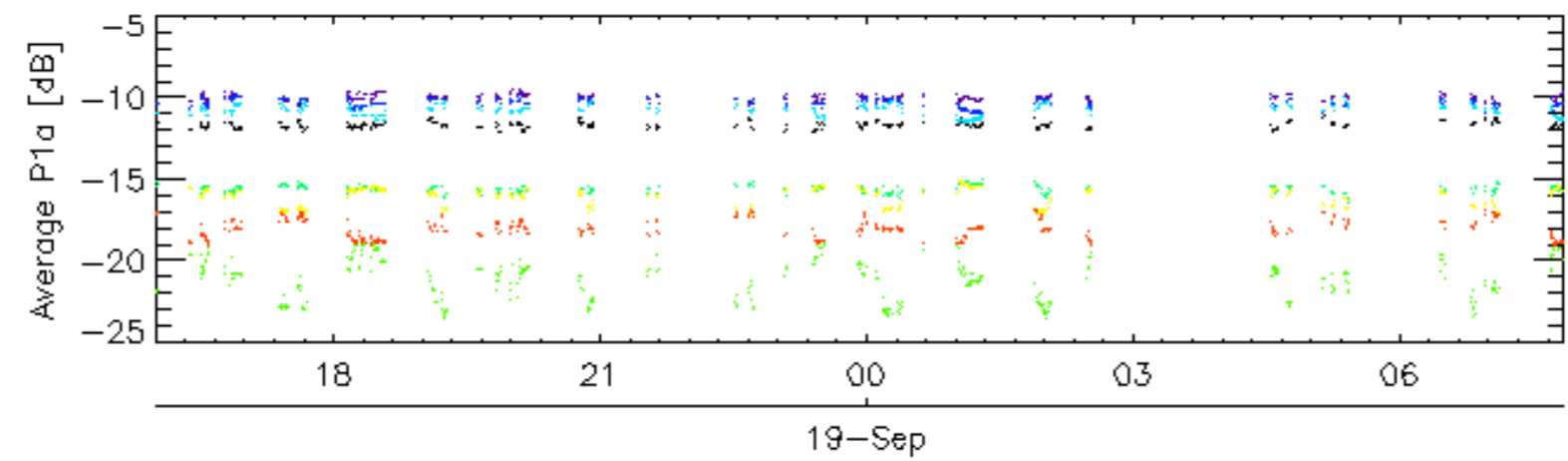
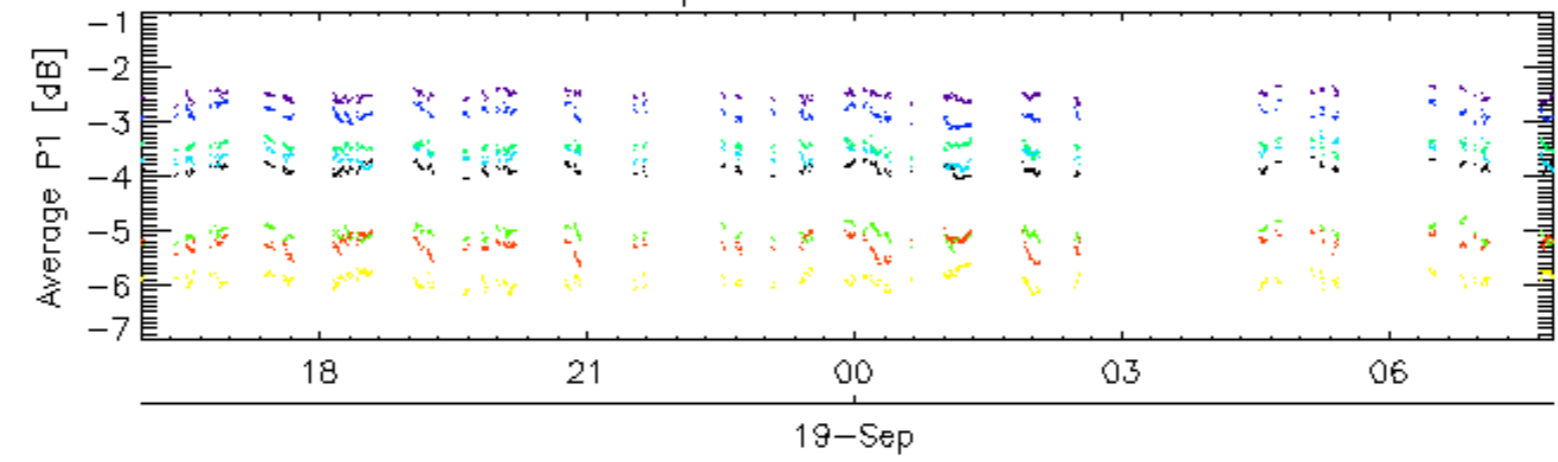
7.5 - Absolute Doppler for GM1**Evolution of Absolute Doppler**

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

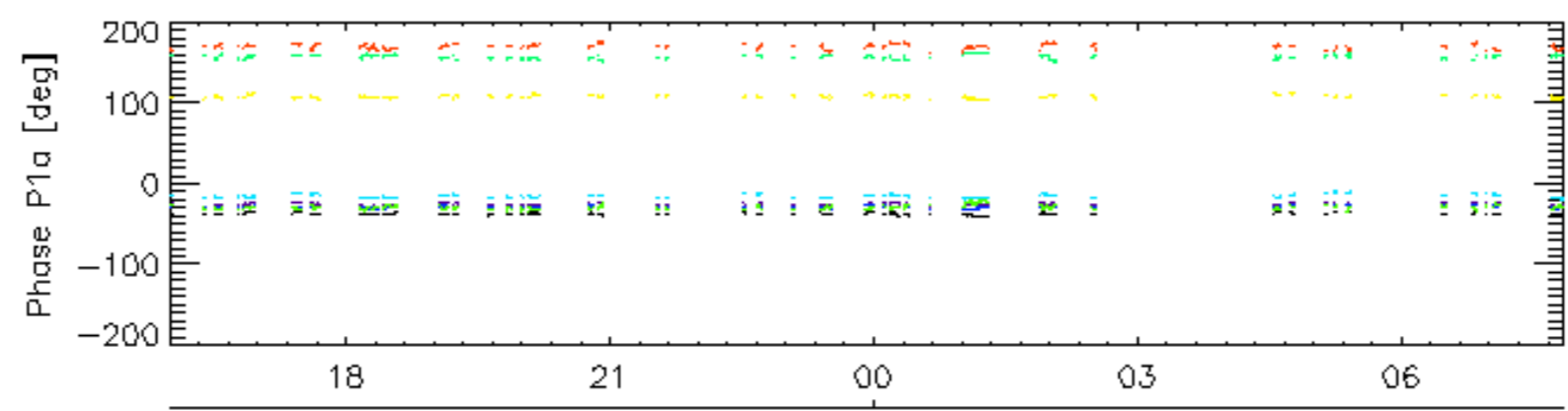
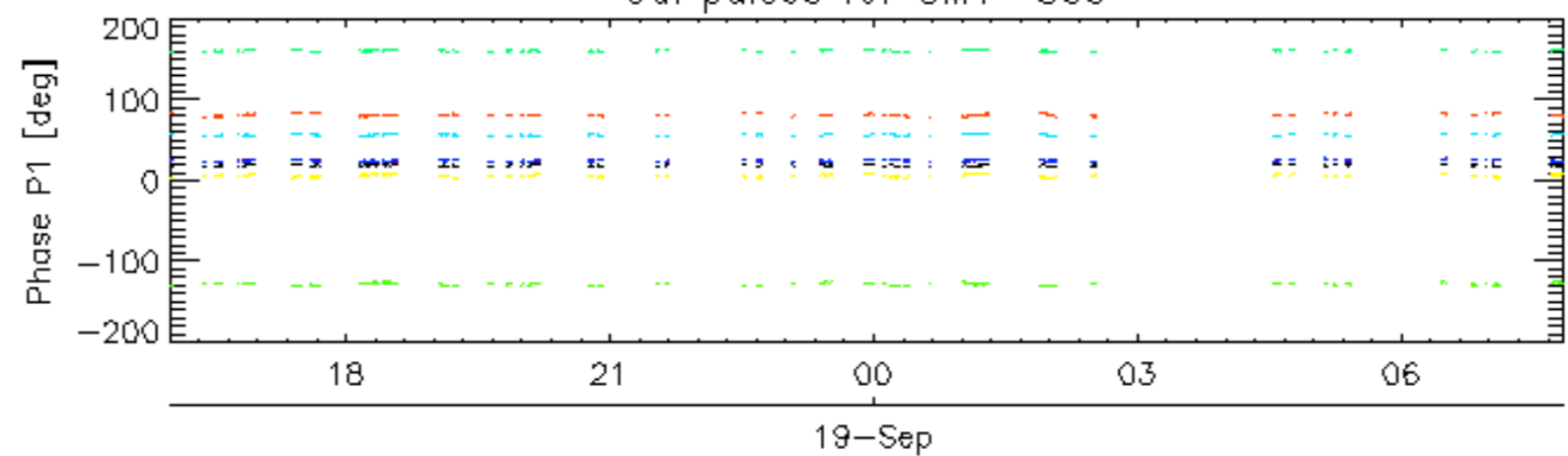
7.6 - Doppler evolution versus ANX for GM1**Evolution Doppler error versus ANX**

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

Cal pulses for GM1 SS3

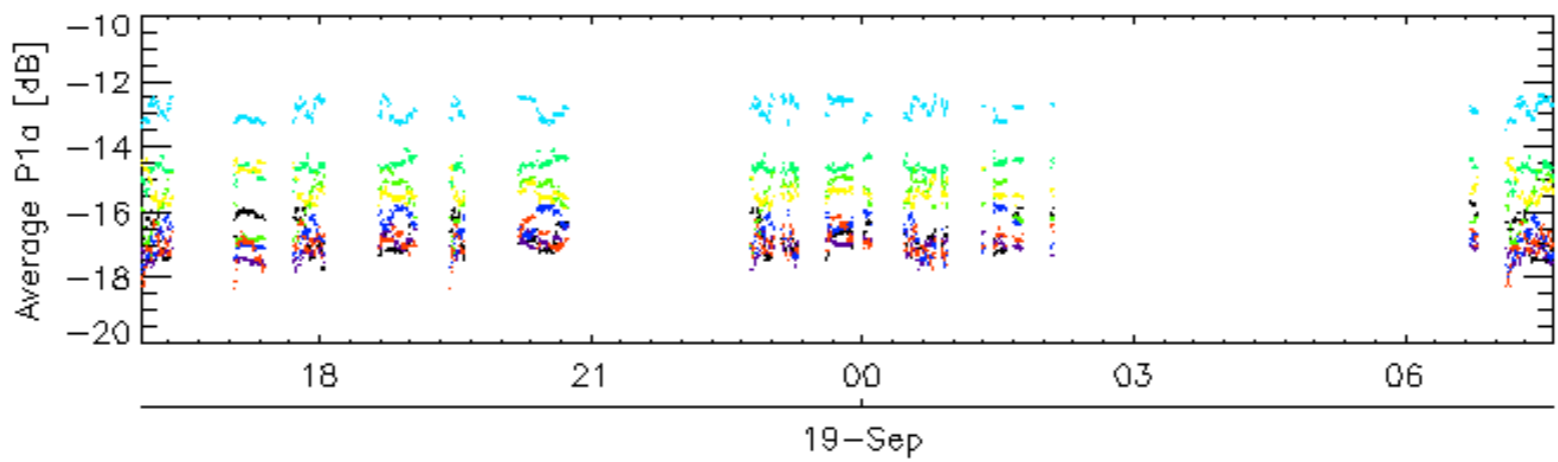
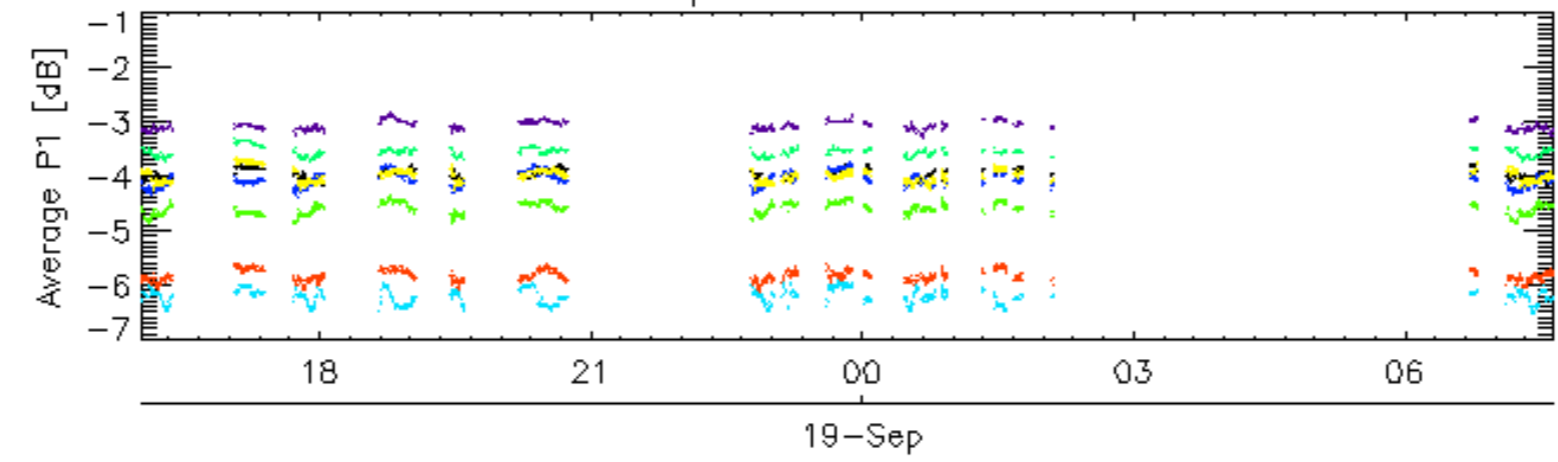


Cal pulses for GM1 SS3

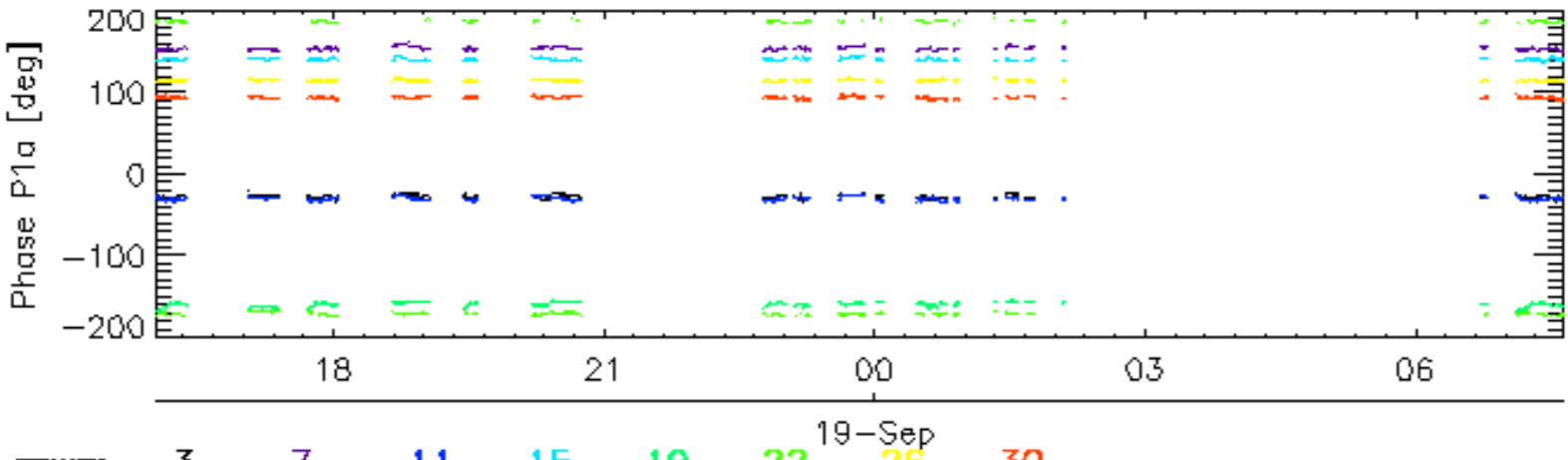
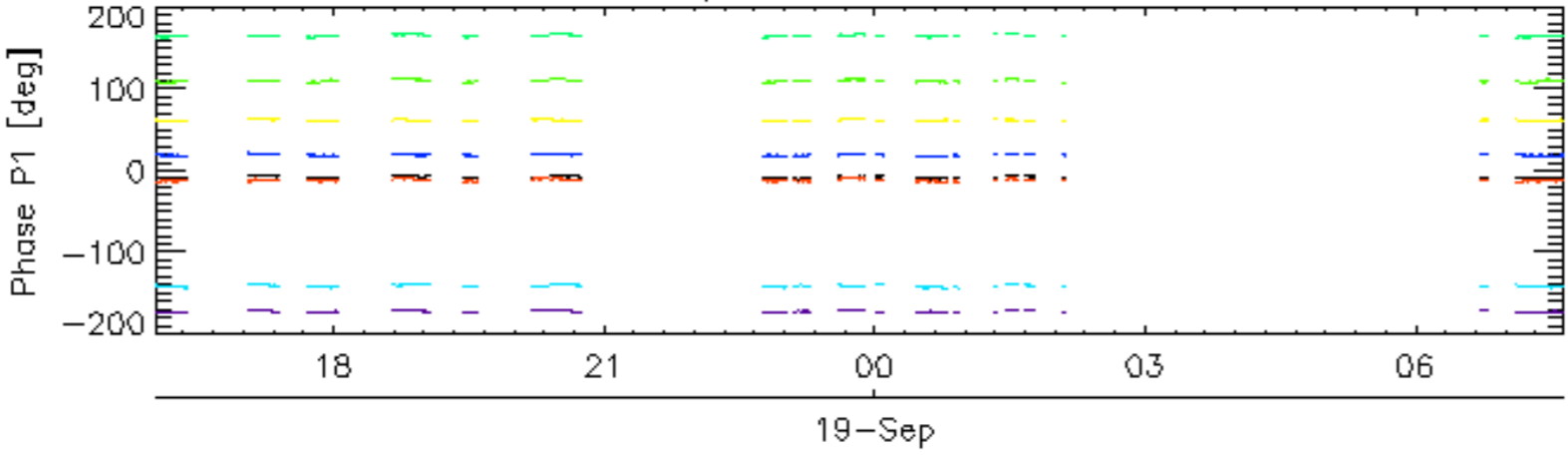


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

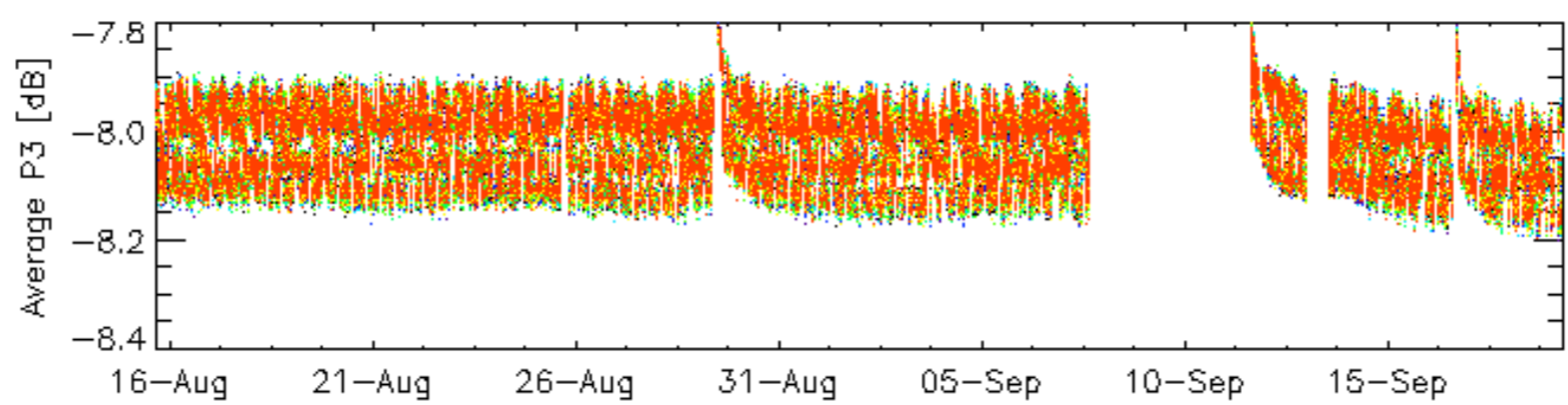
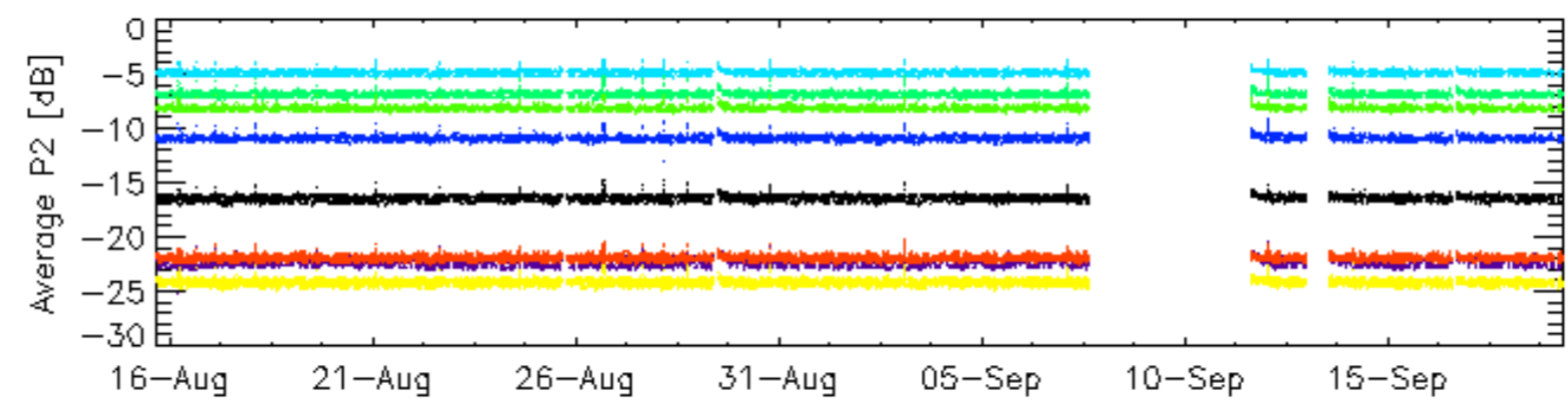
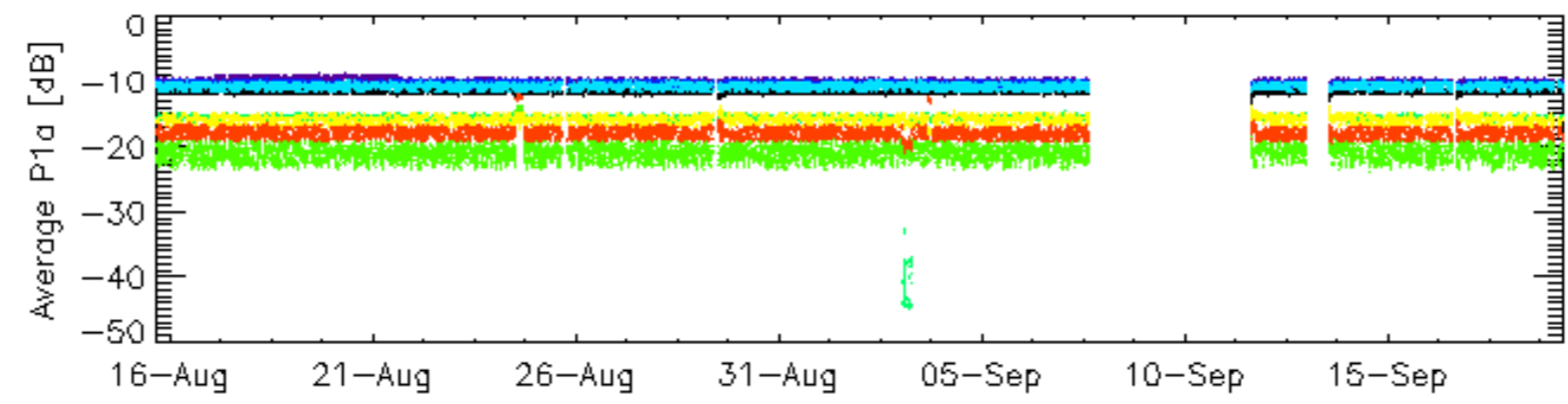
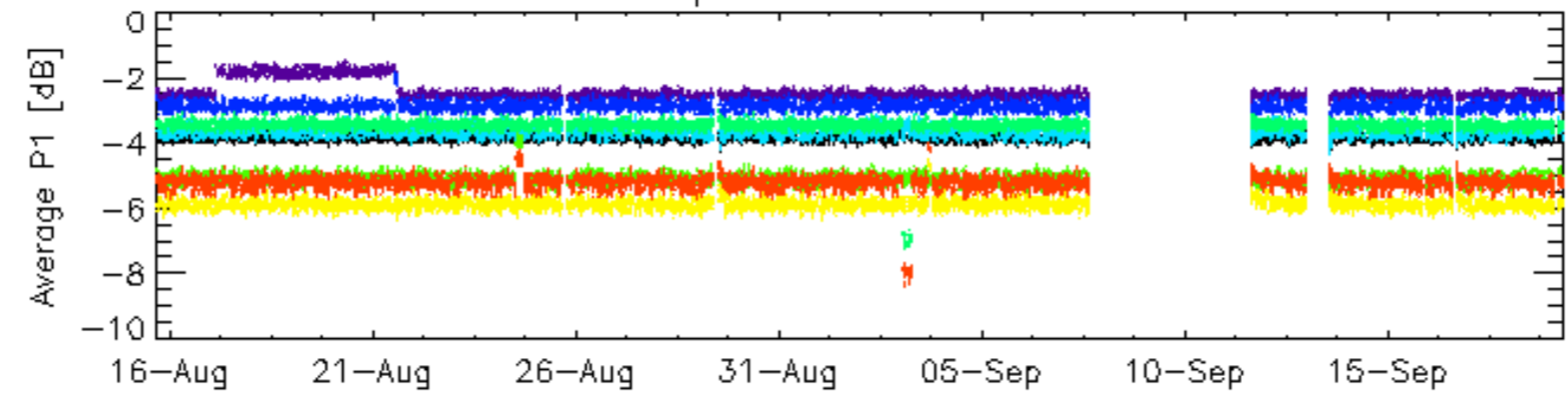


Cal pulses for WVS IS2



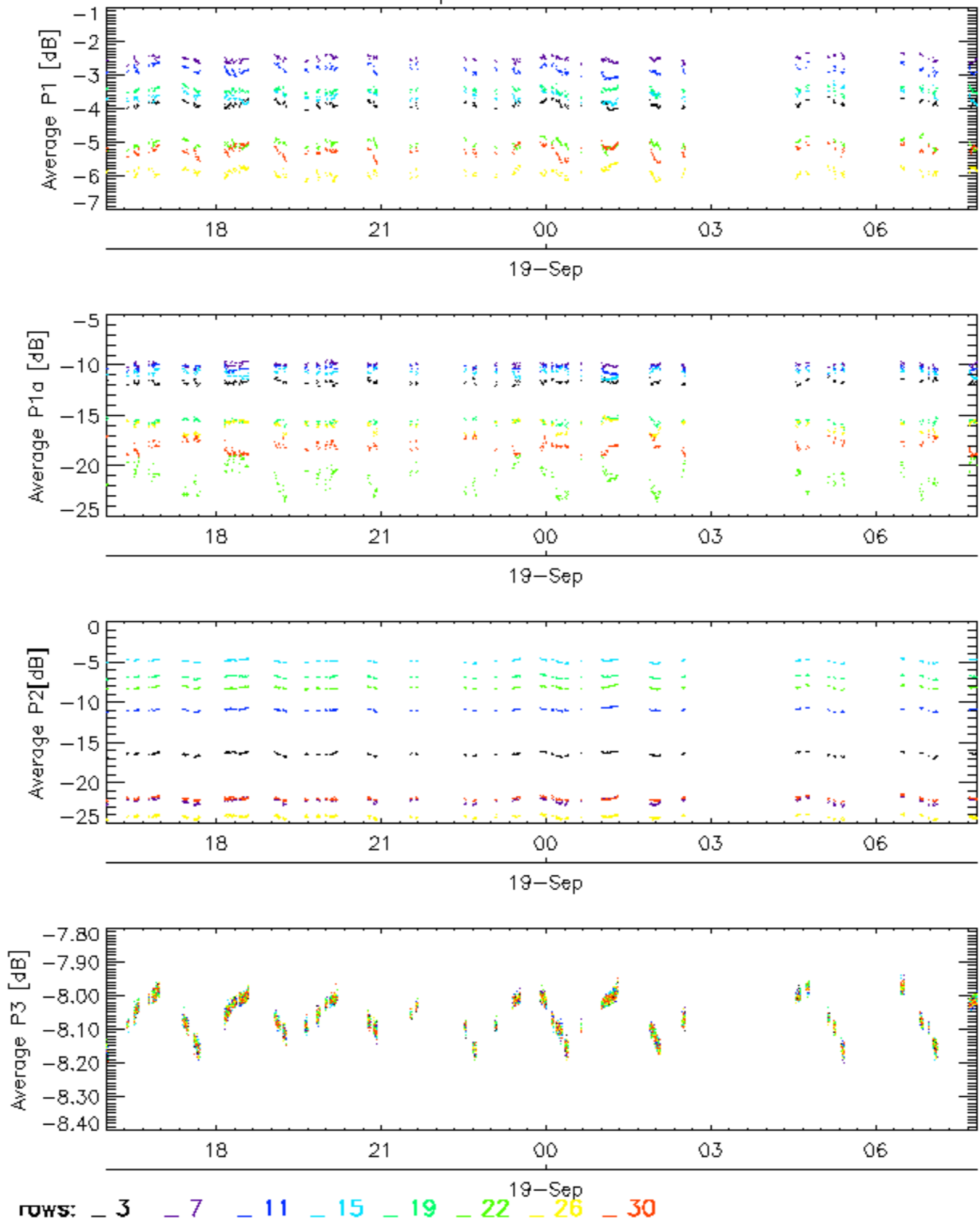
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

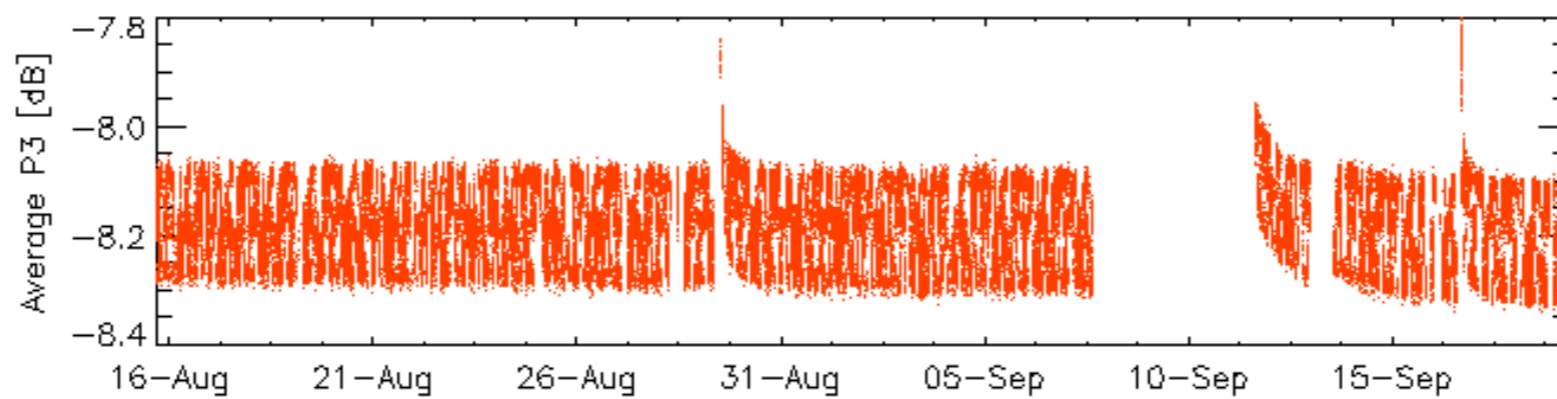
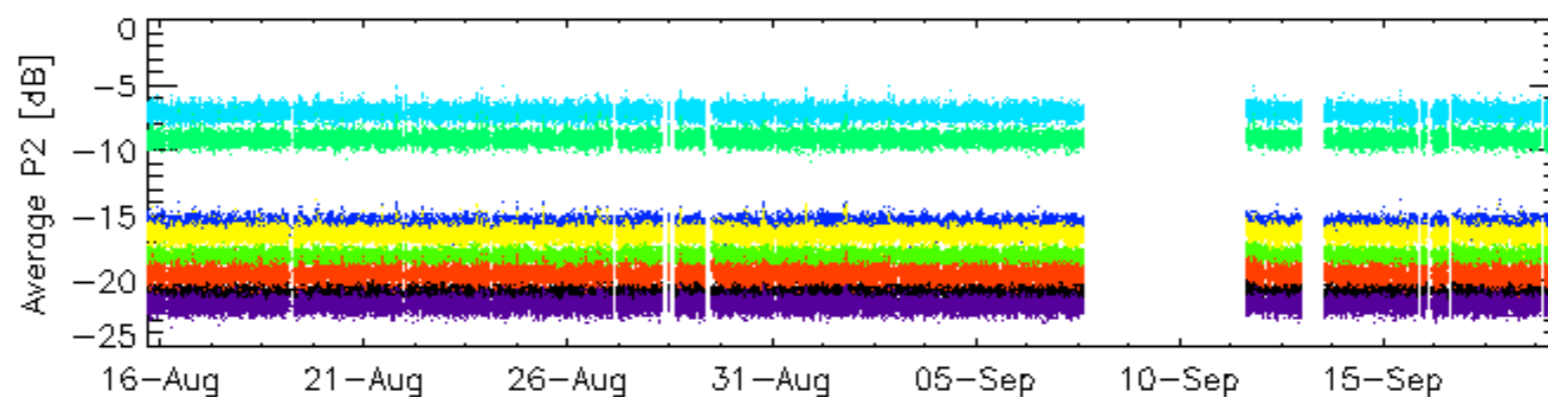
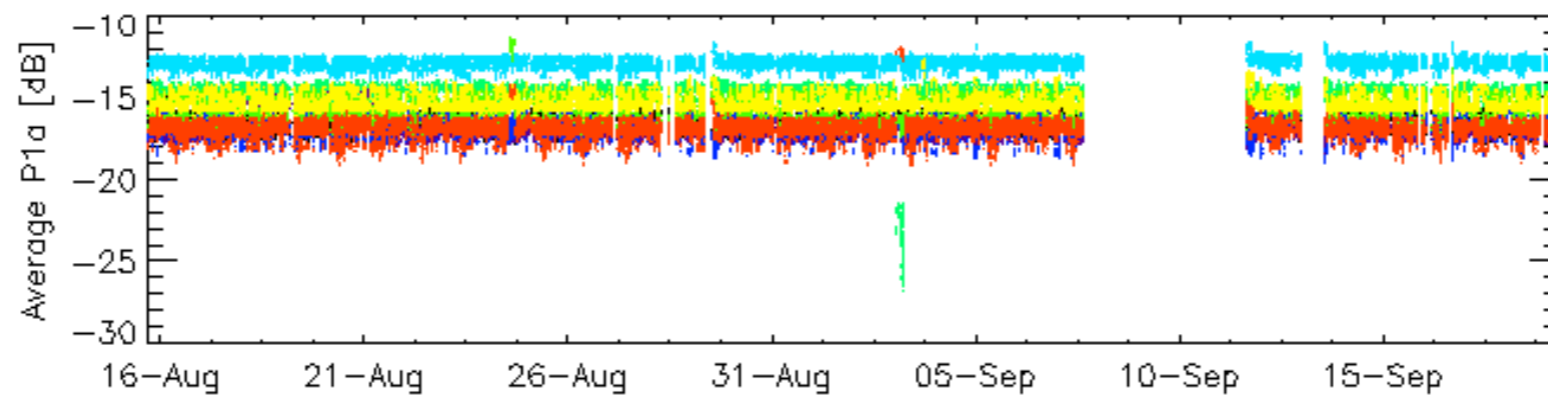
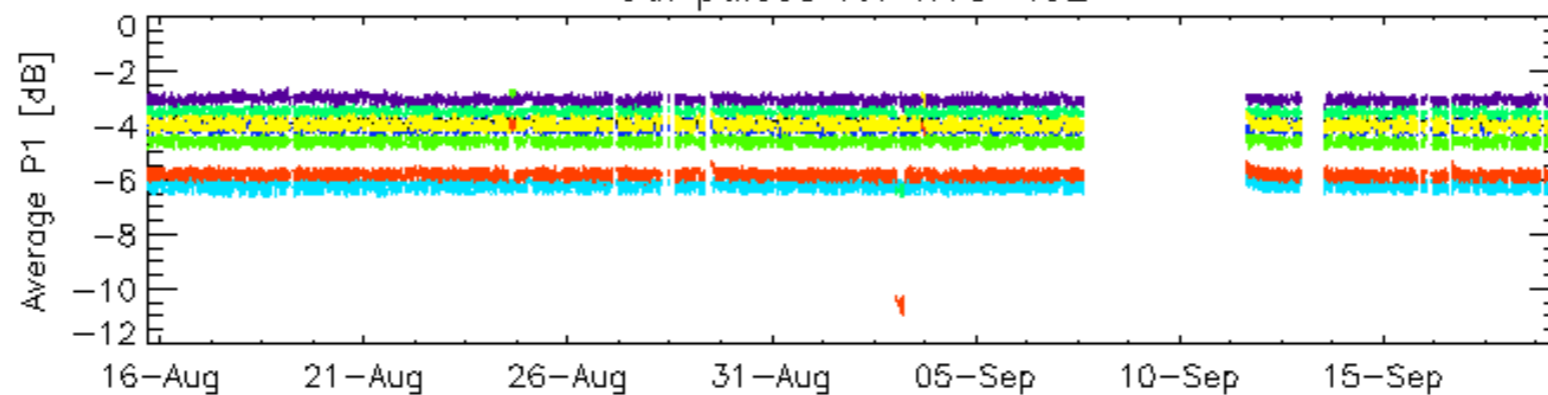


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

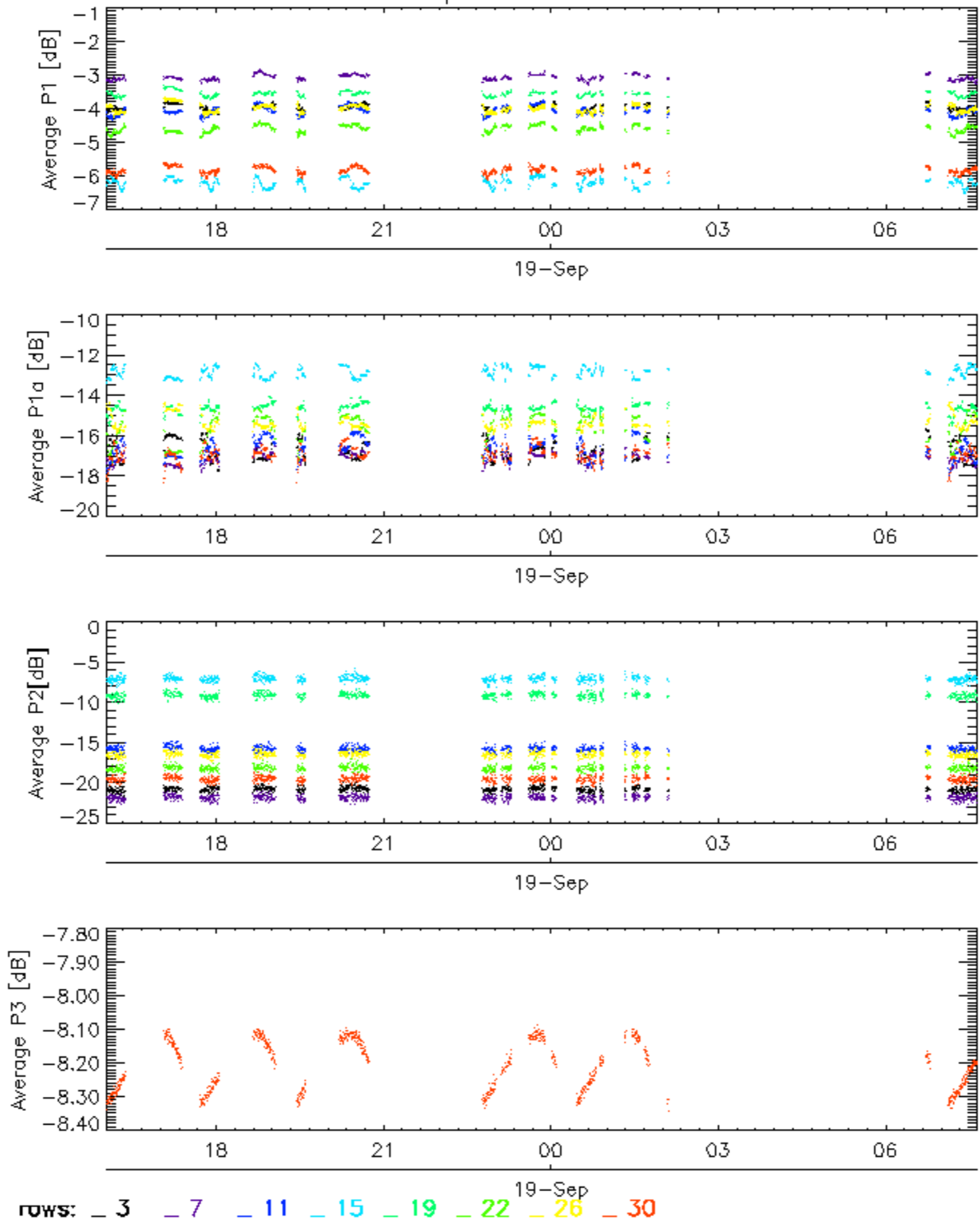


Cal pulses for WVS IS2

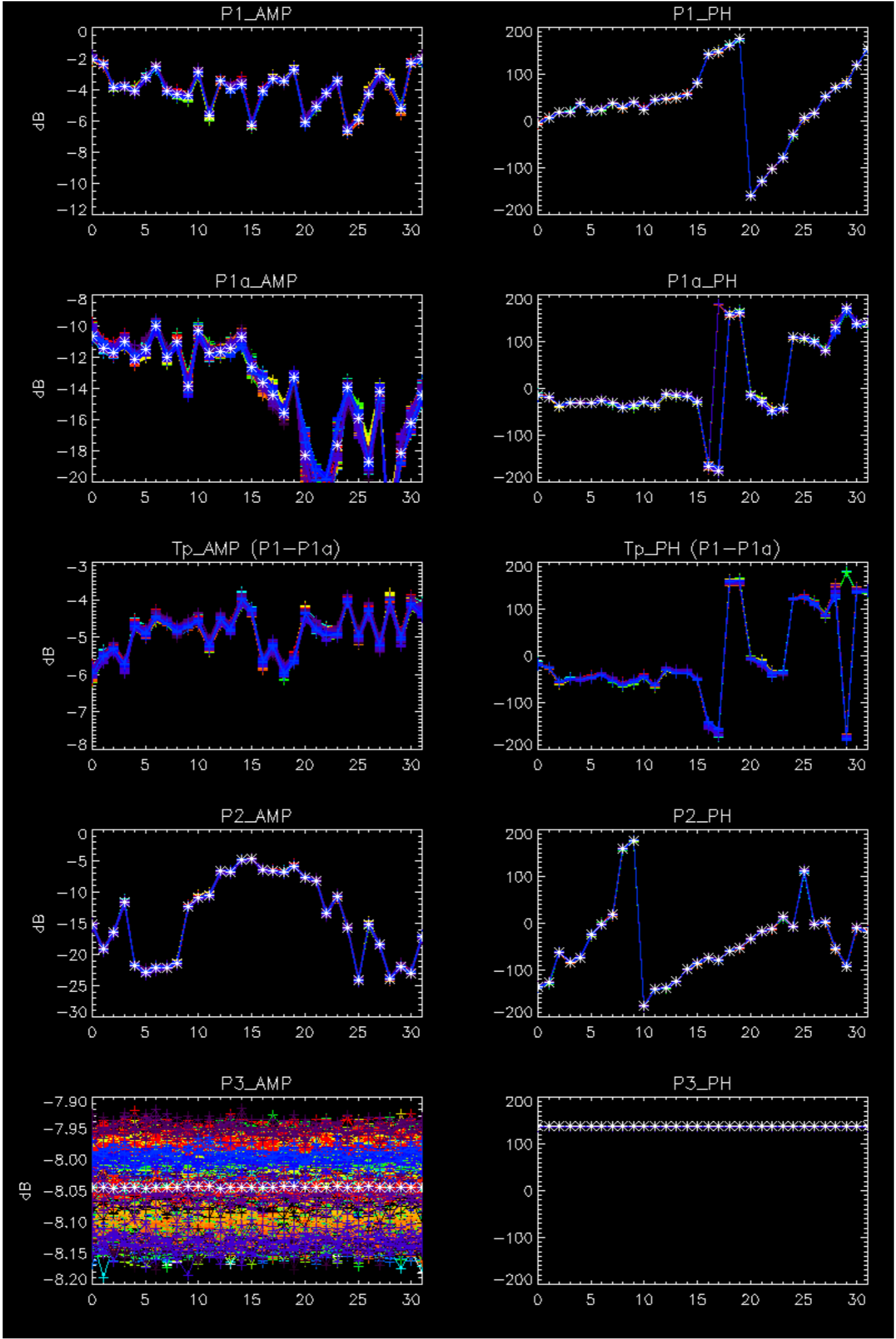


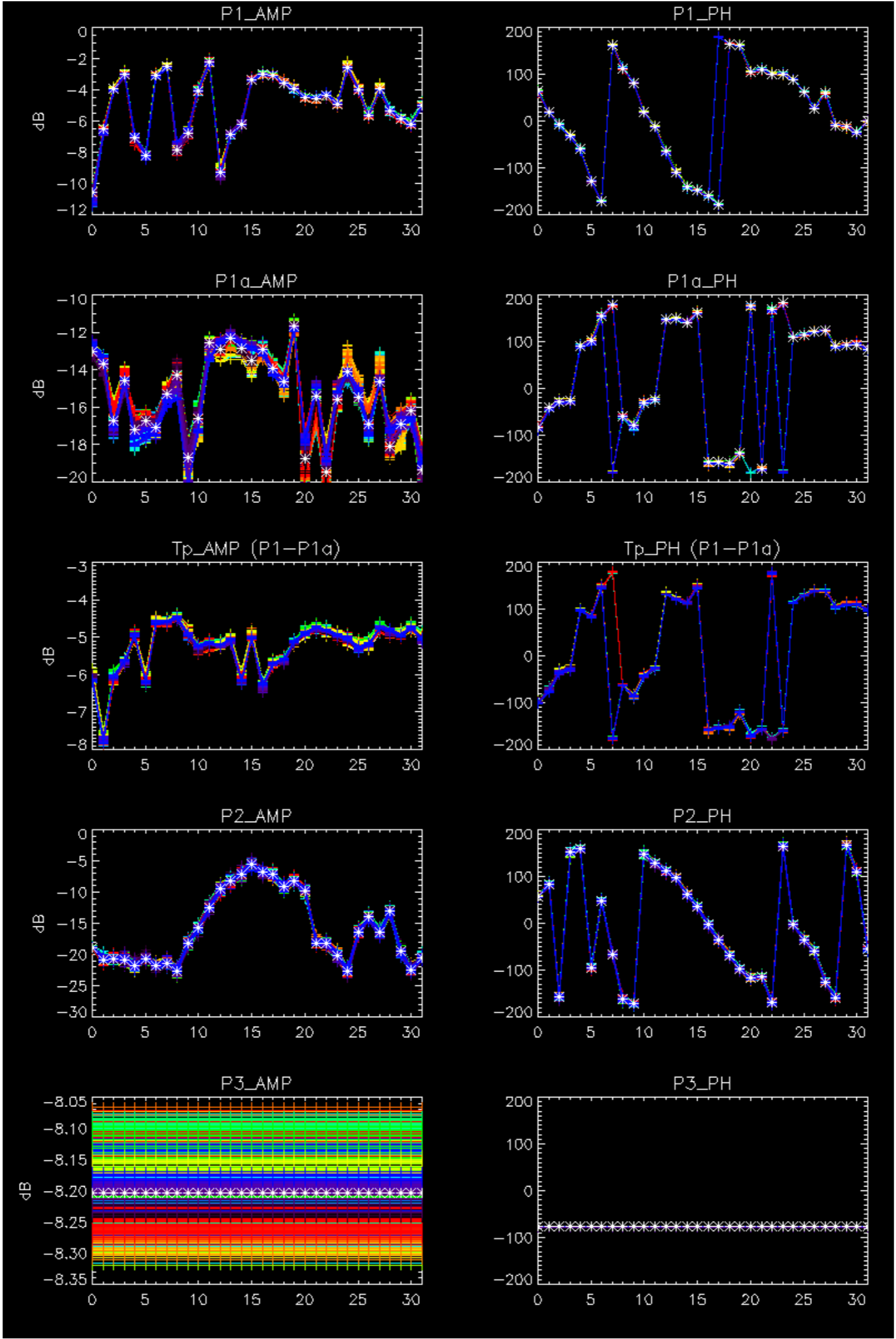
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



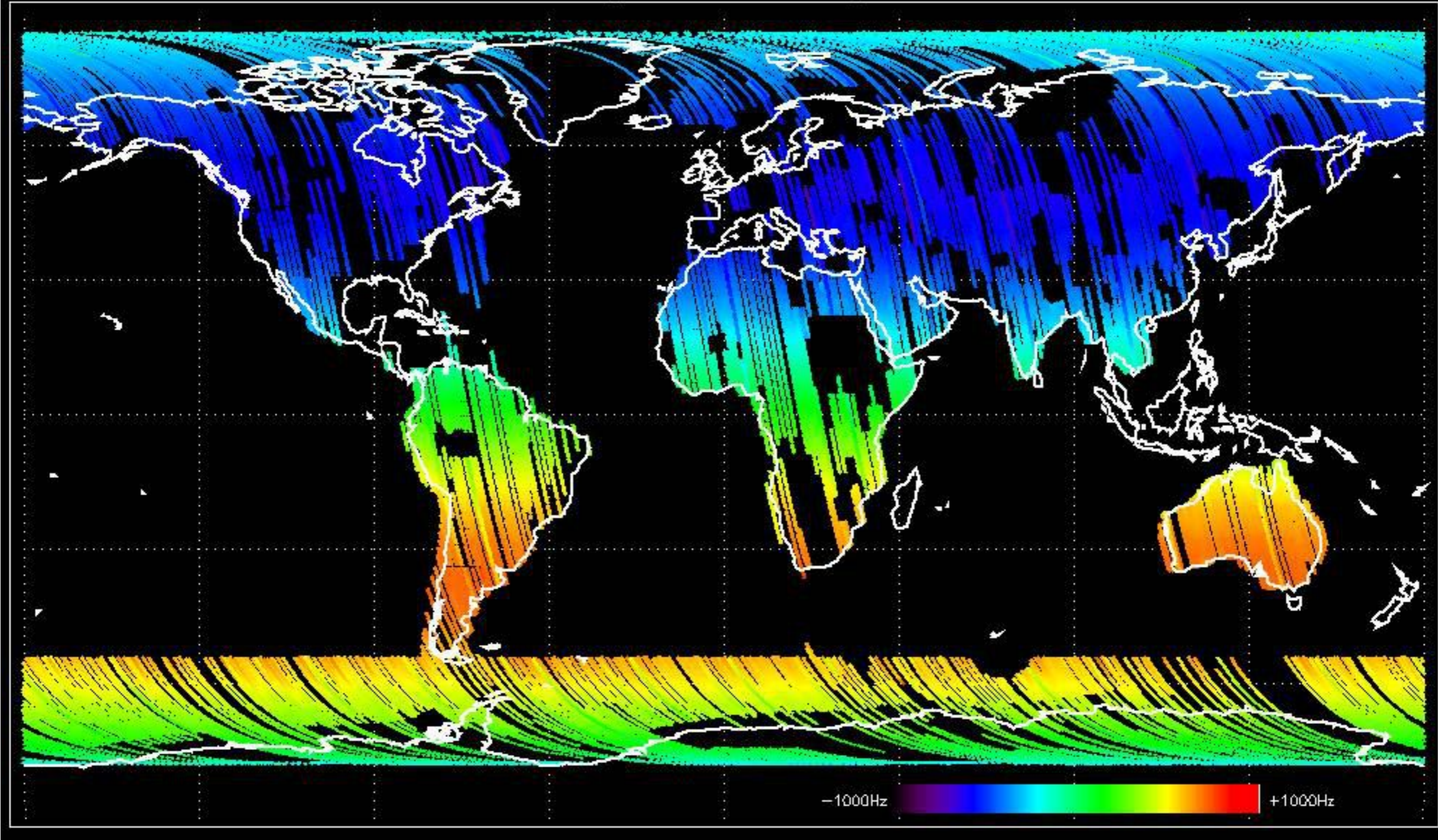
No anomalies observed.



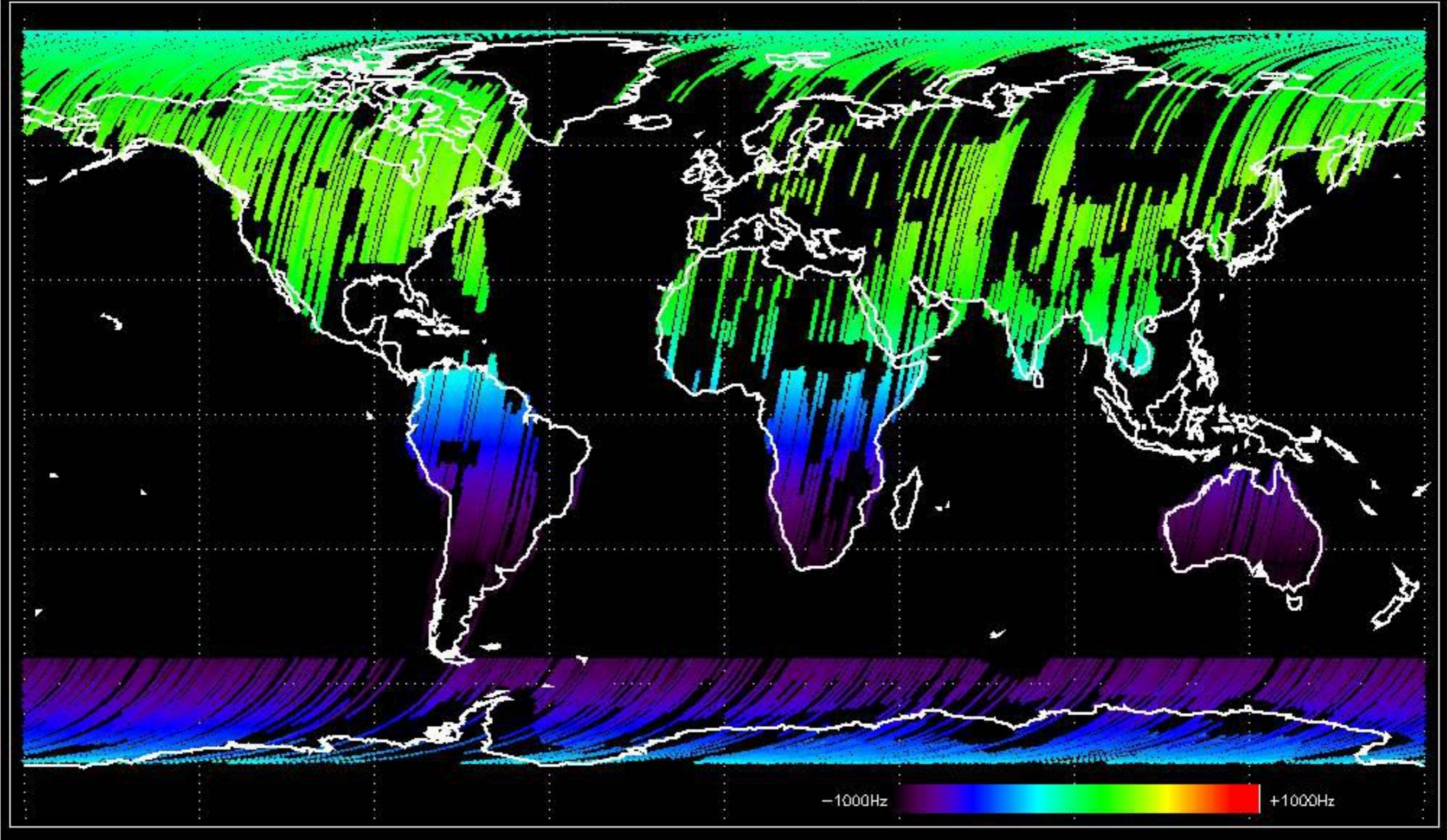


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

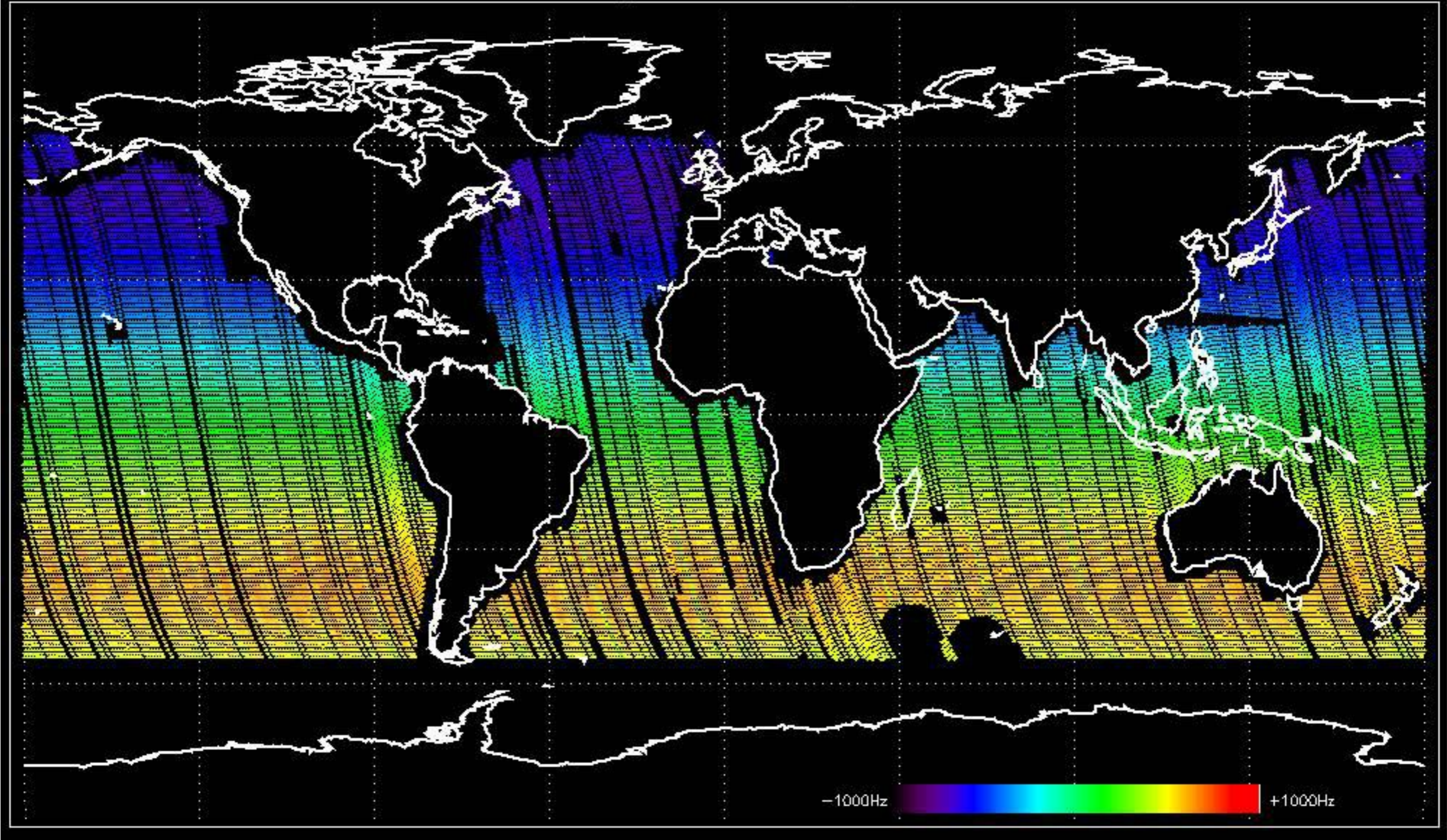
Doppler 'GM1' 'SS1' ascending



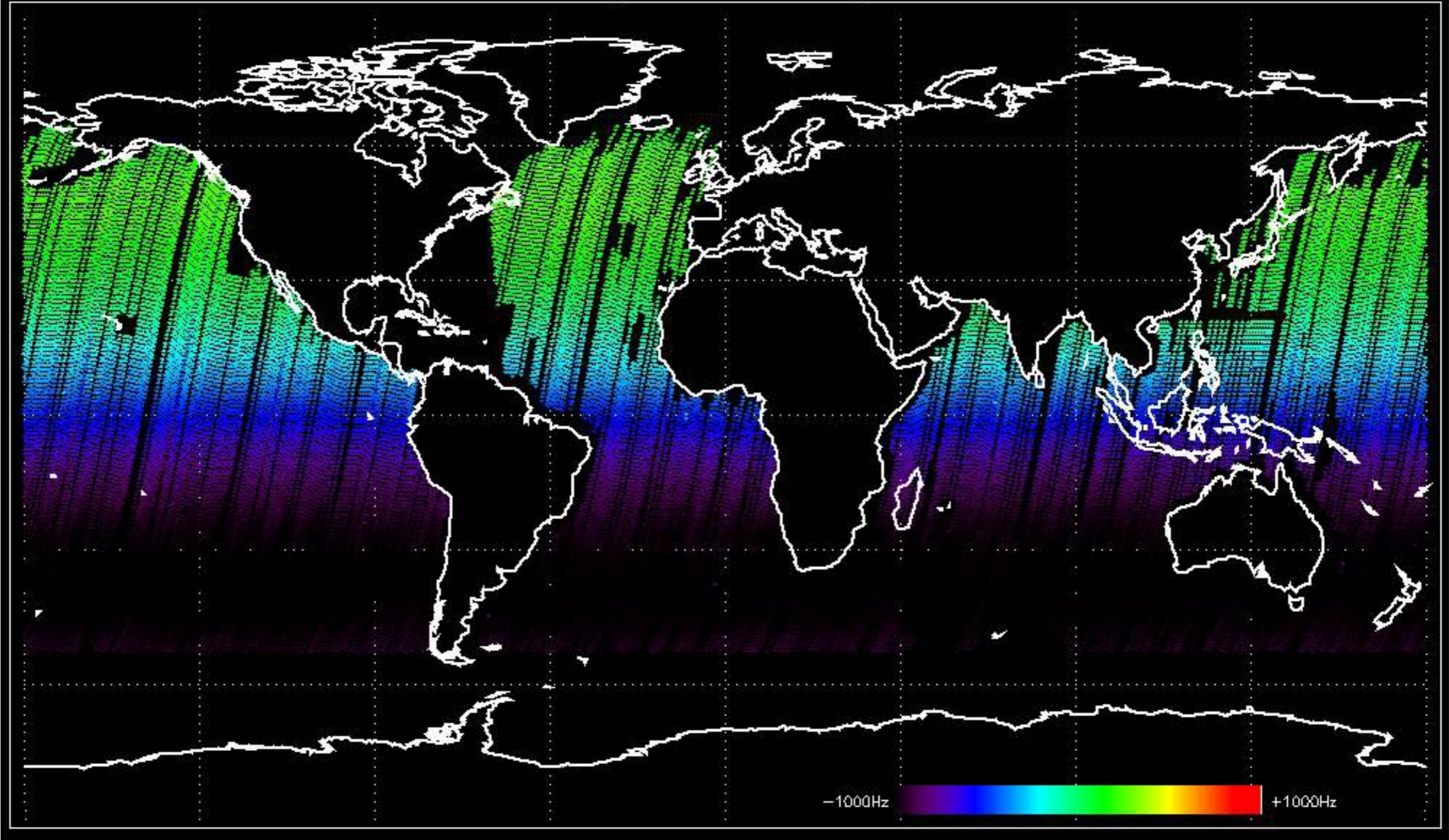
Doppler 'GM1' 'SS1' descending



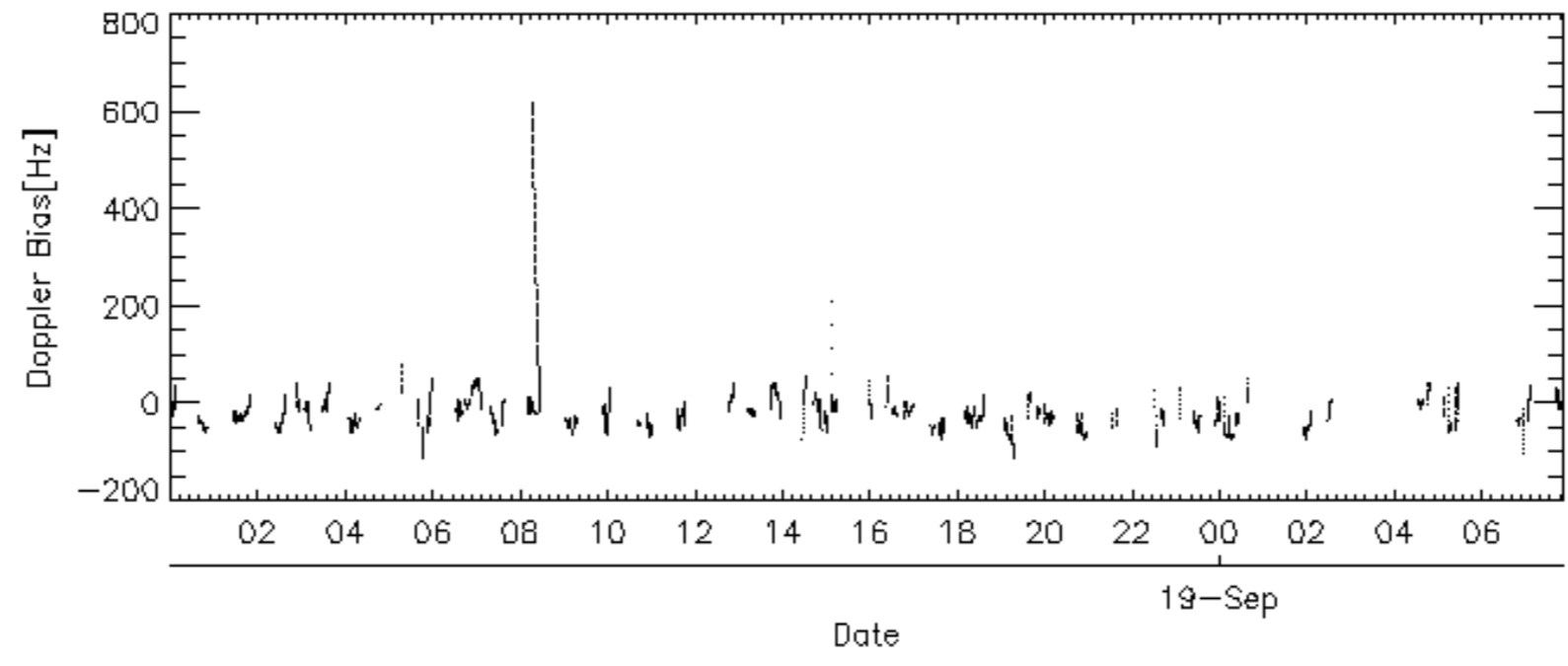
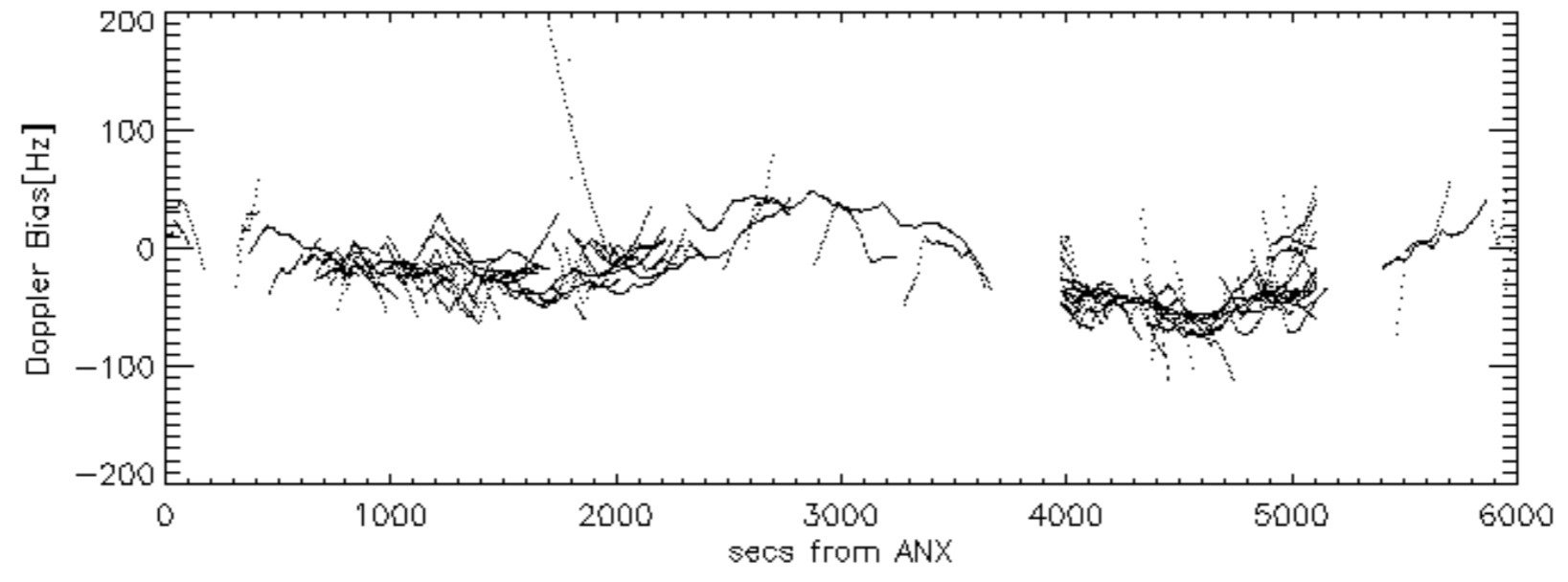
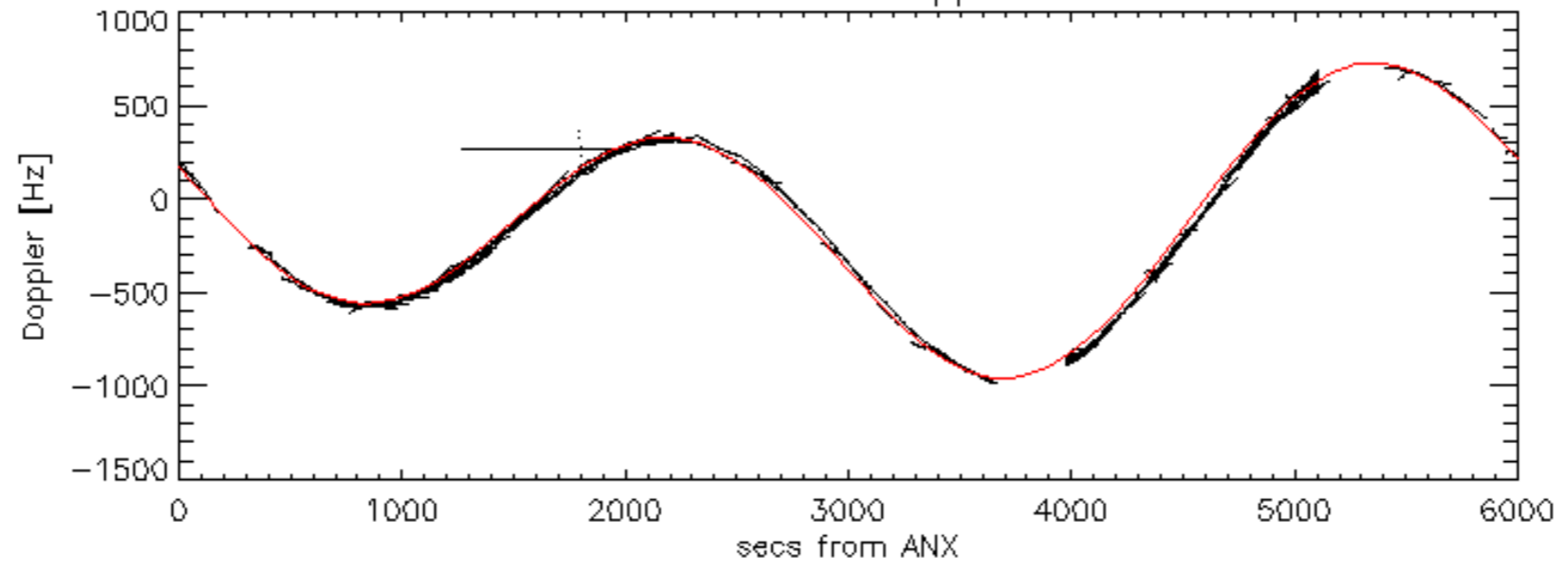
Doppler 'WVS' 'IS2' ascending

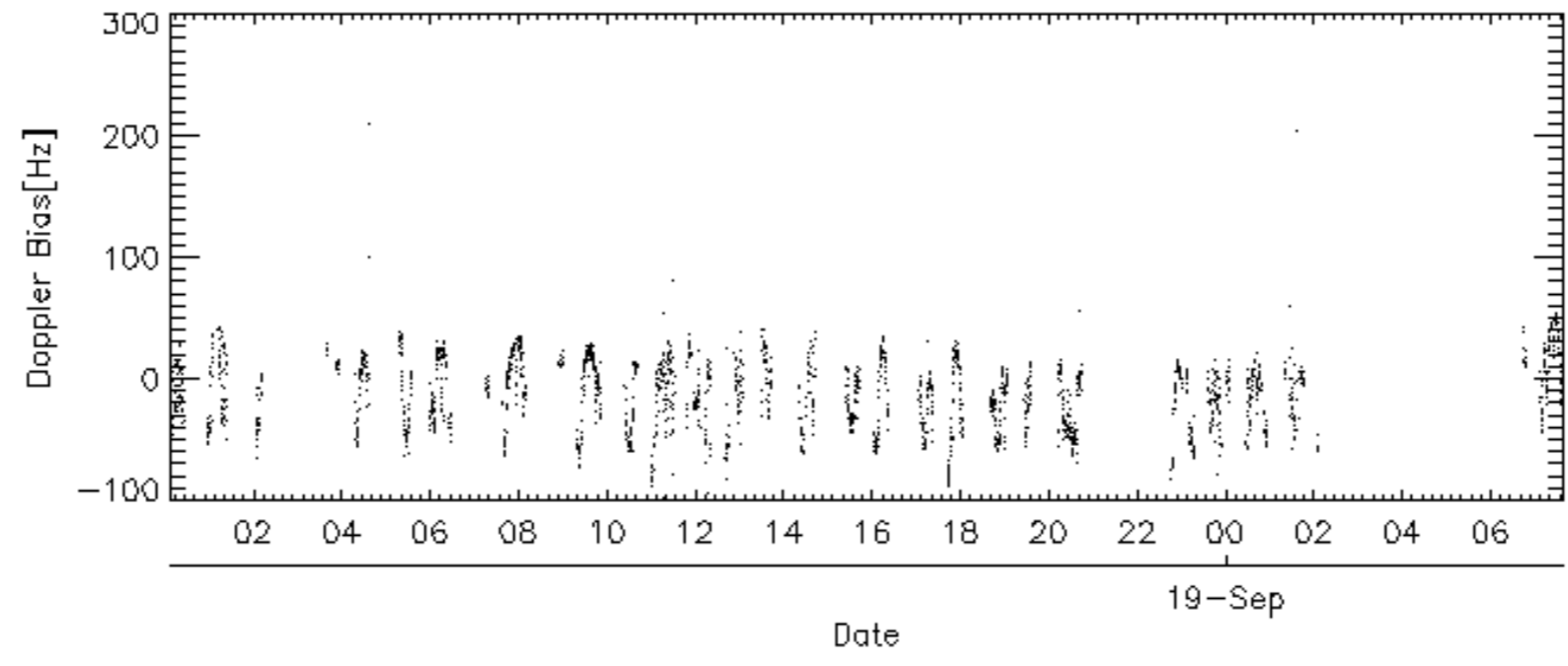
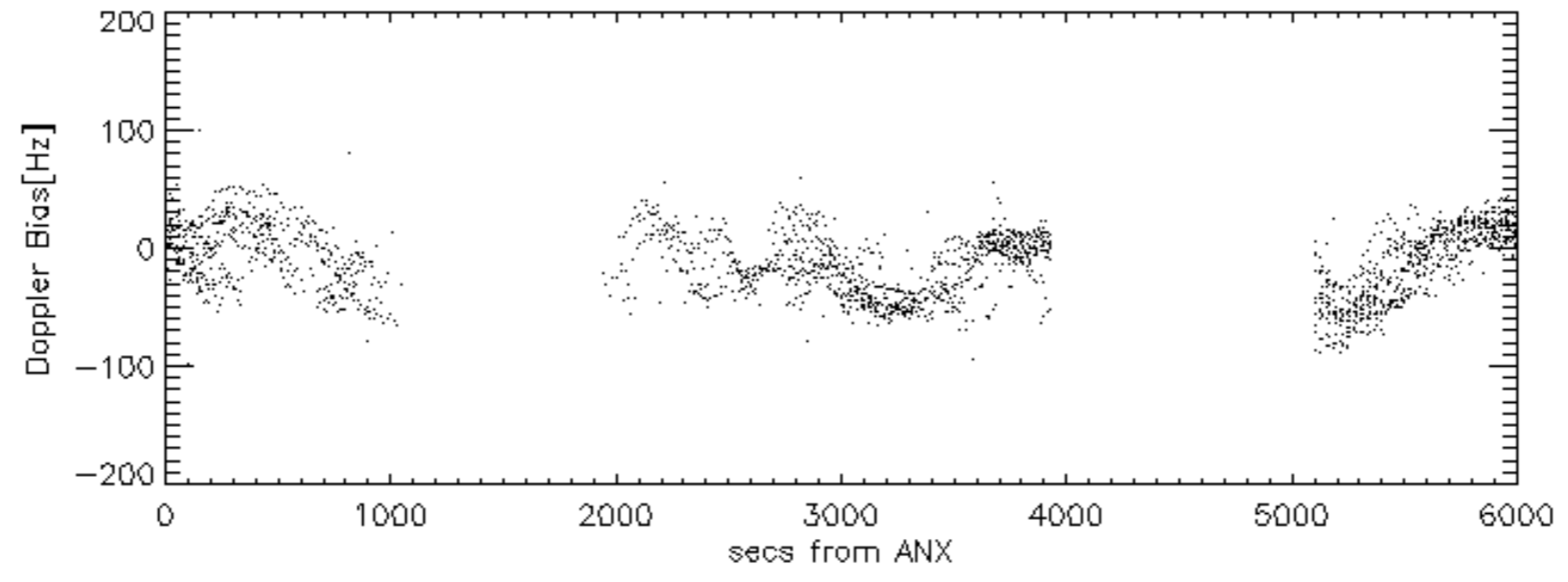
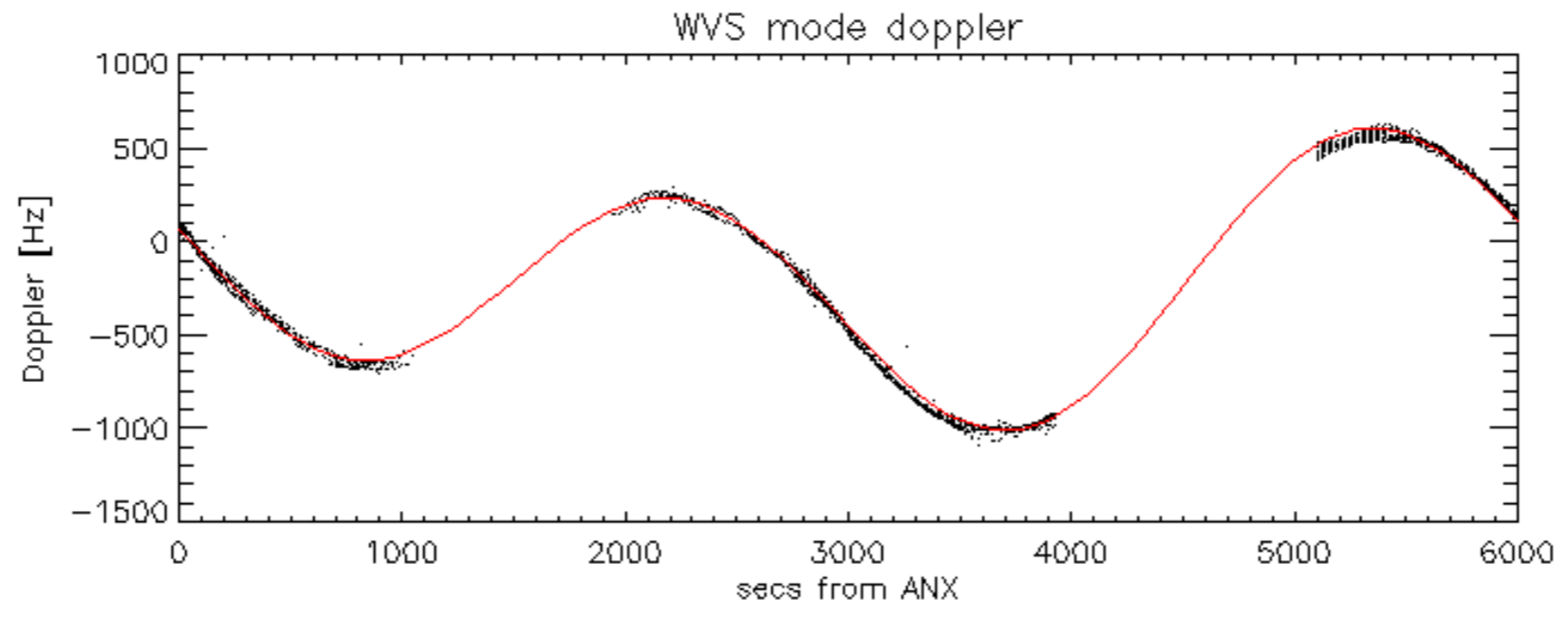


Doppler 'WVS' 'IS2' descending

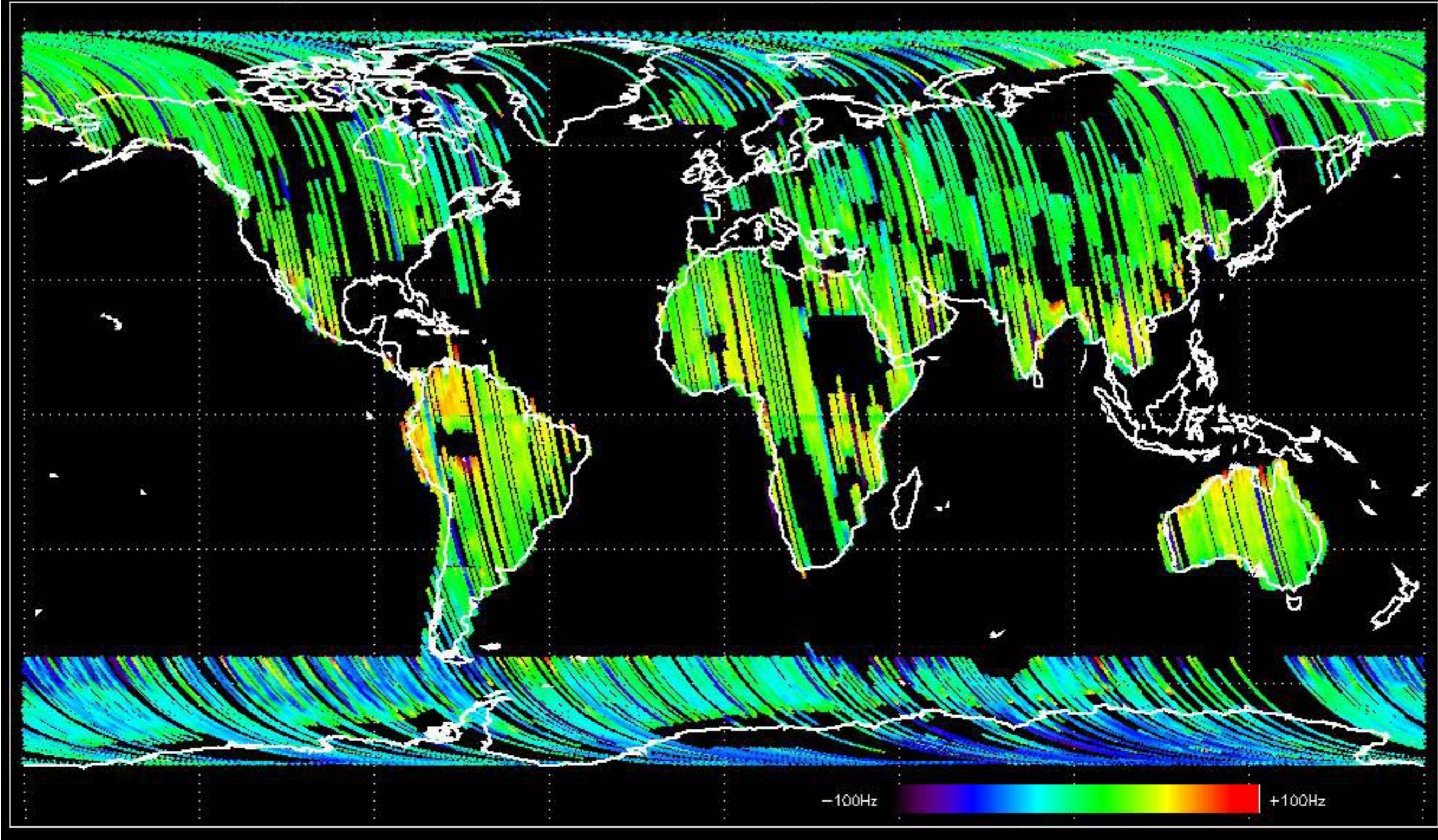


GM1 mode doppler

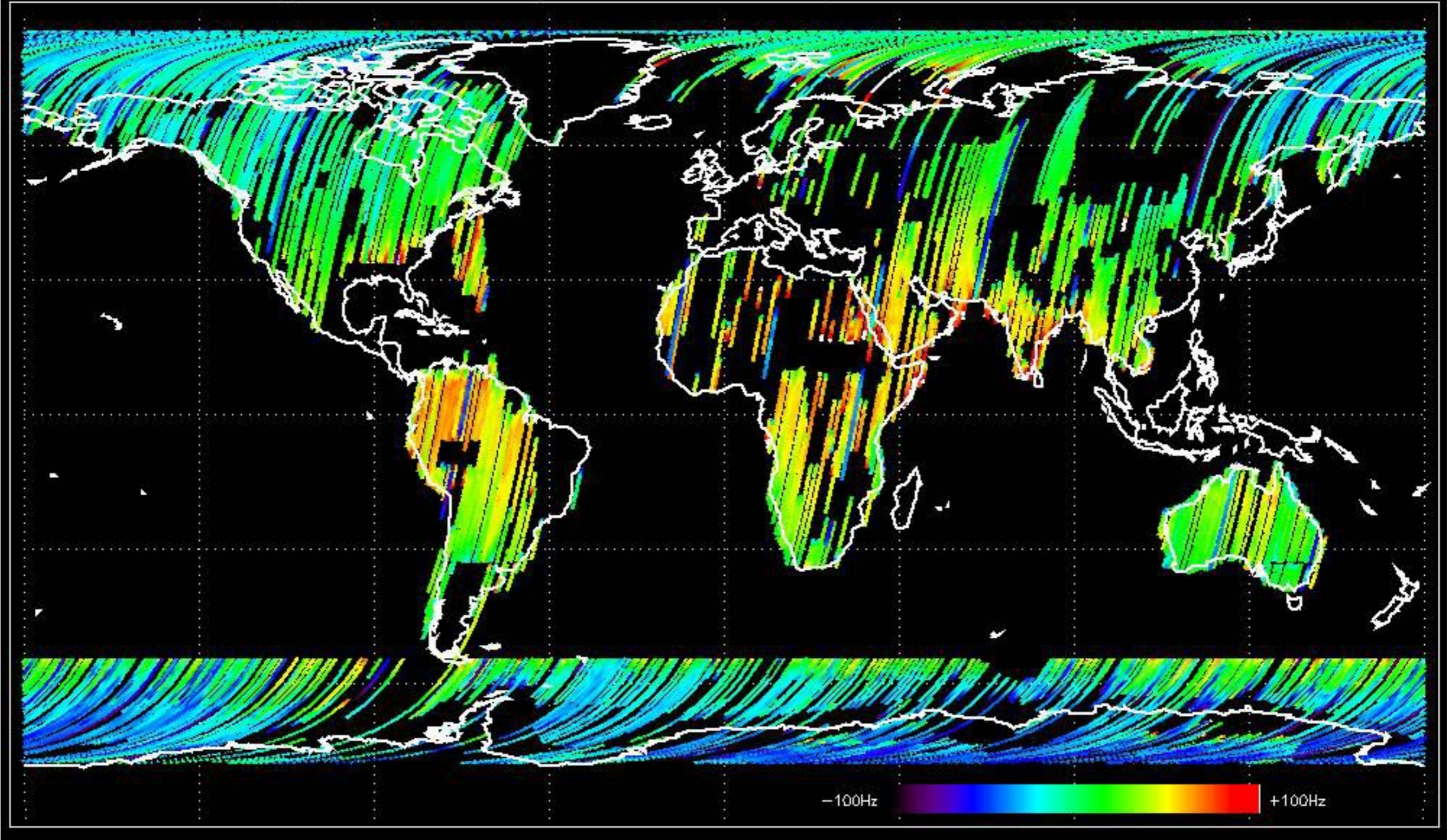




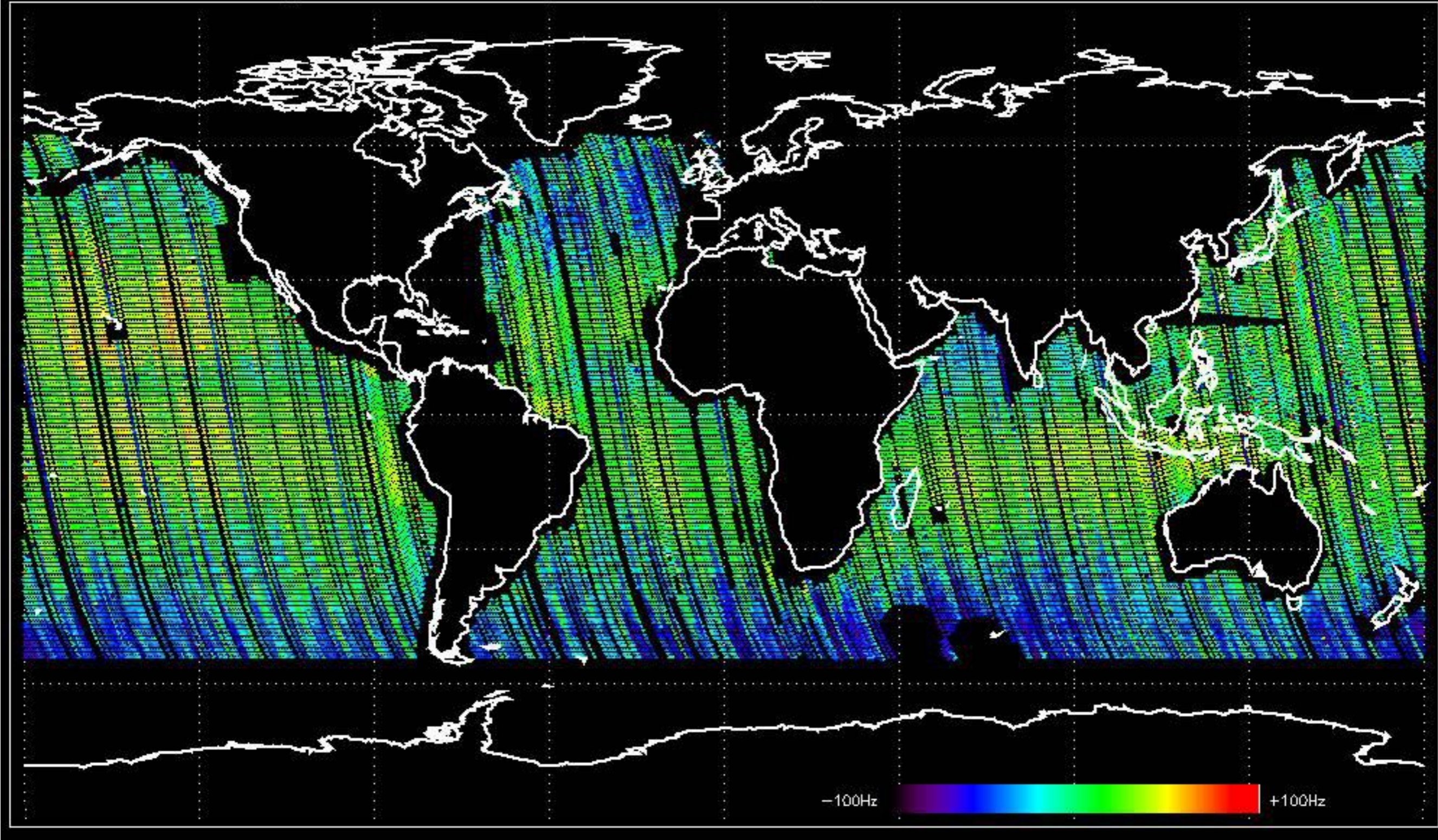
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -22.609689 Hz



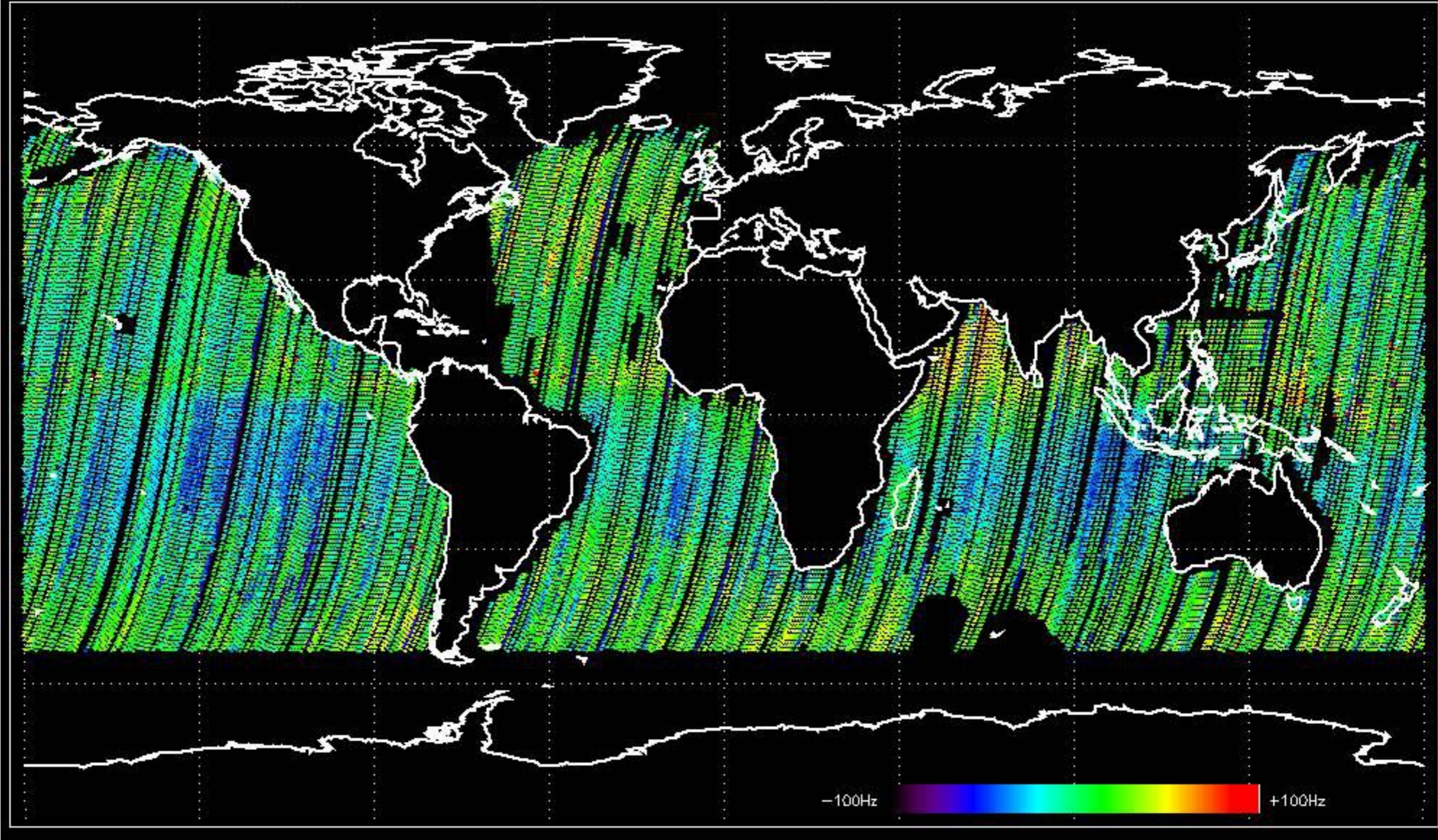
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -13.820021 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -10.862047 Hz

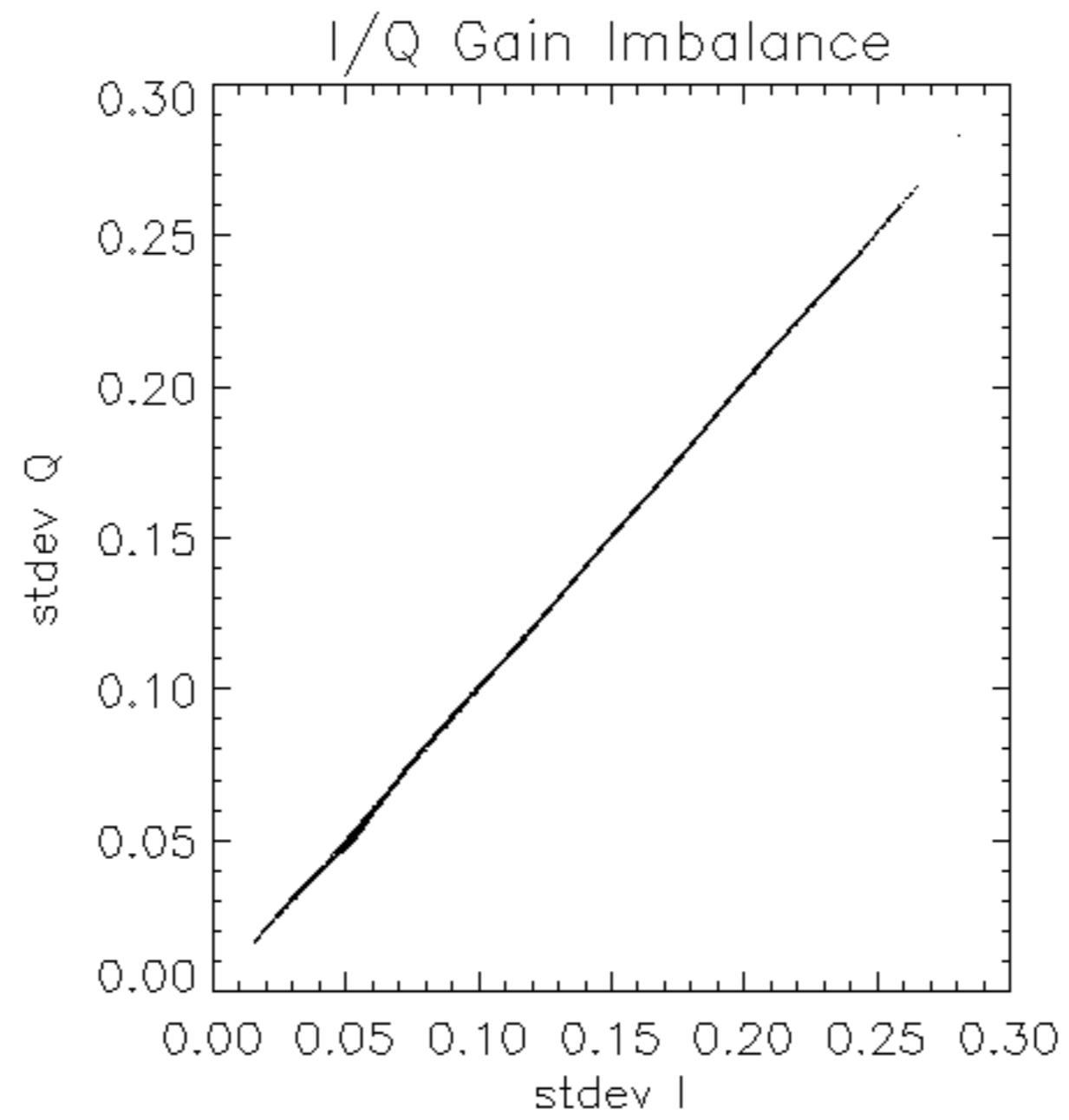


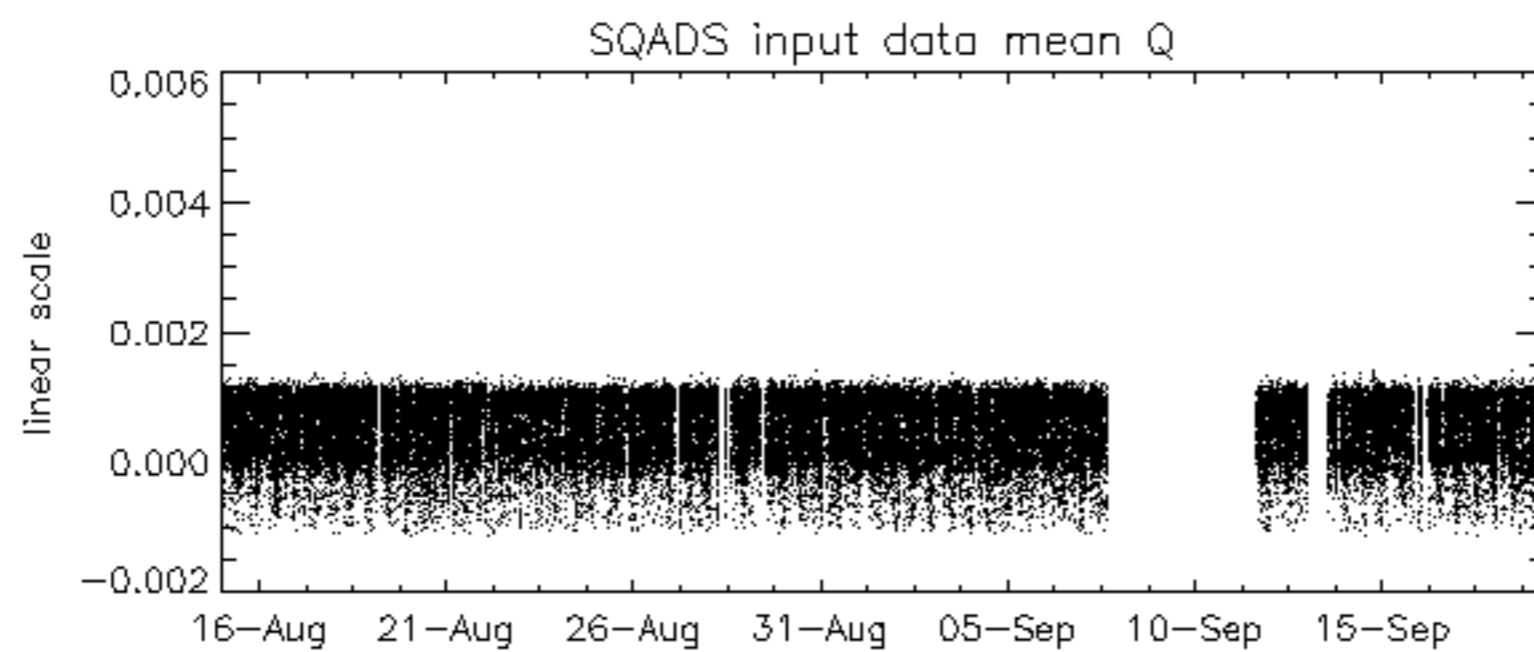
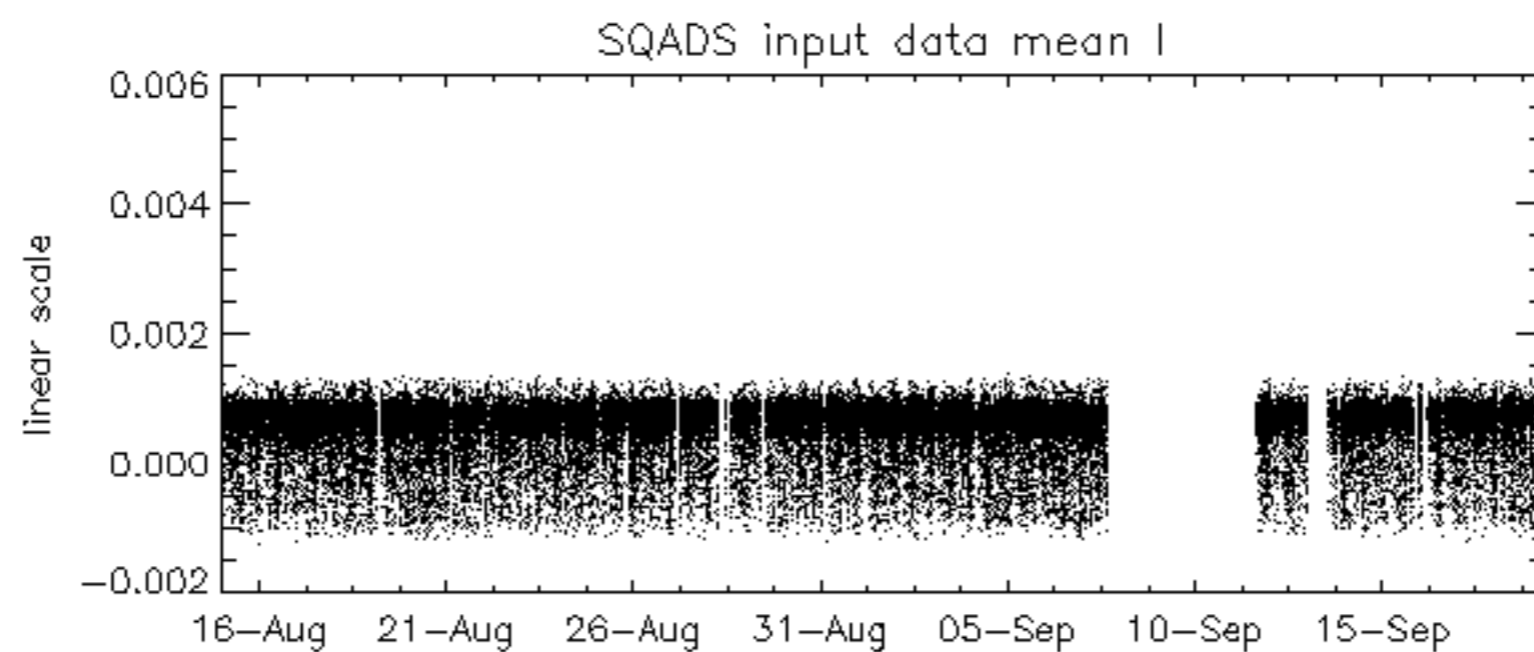
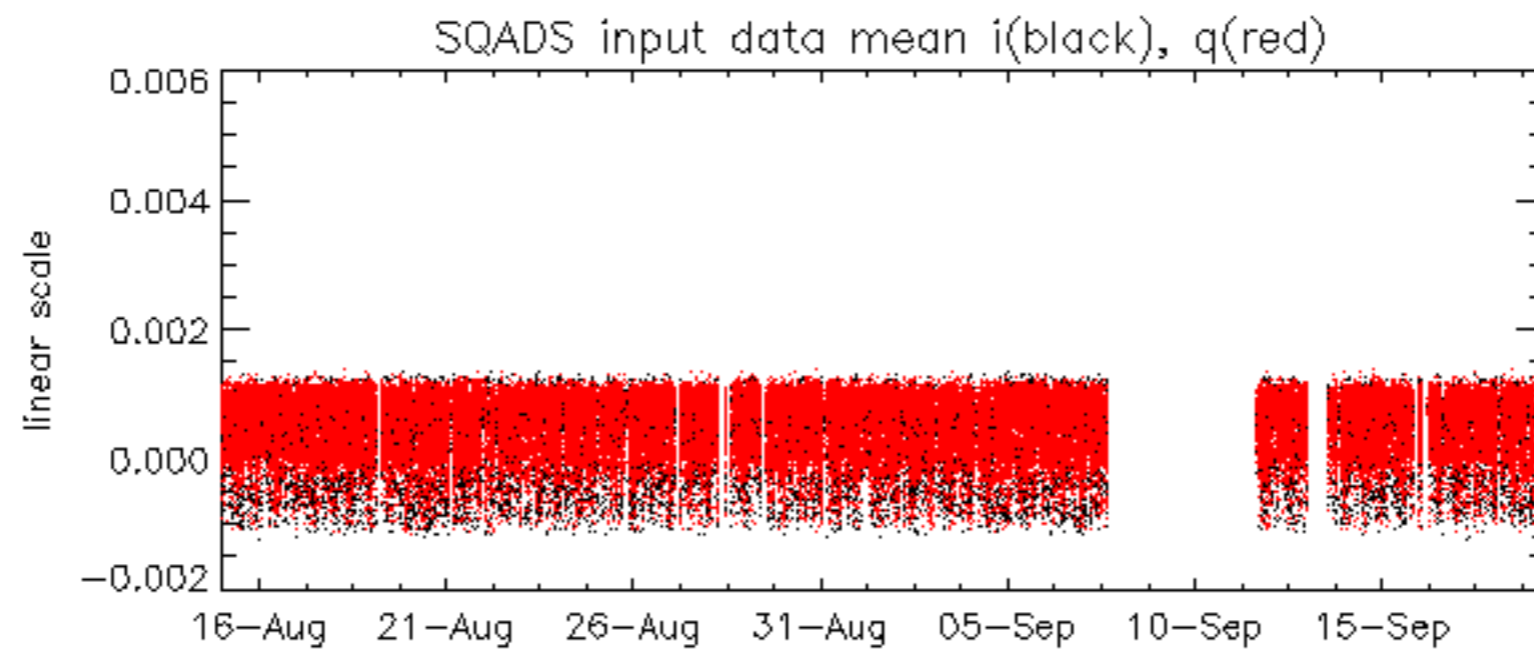
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -13.158318 Hz

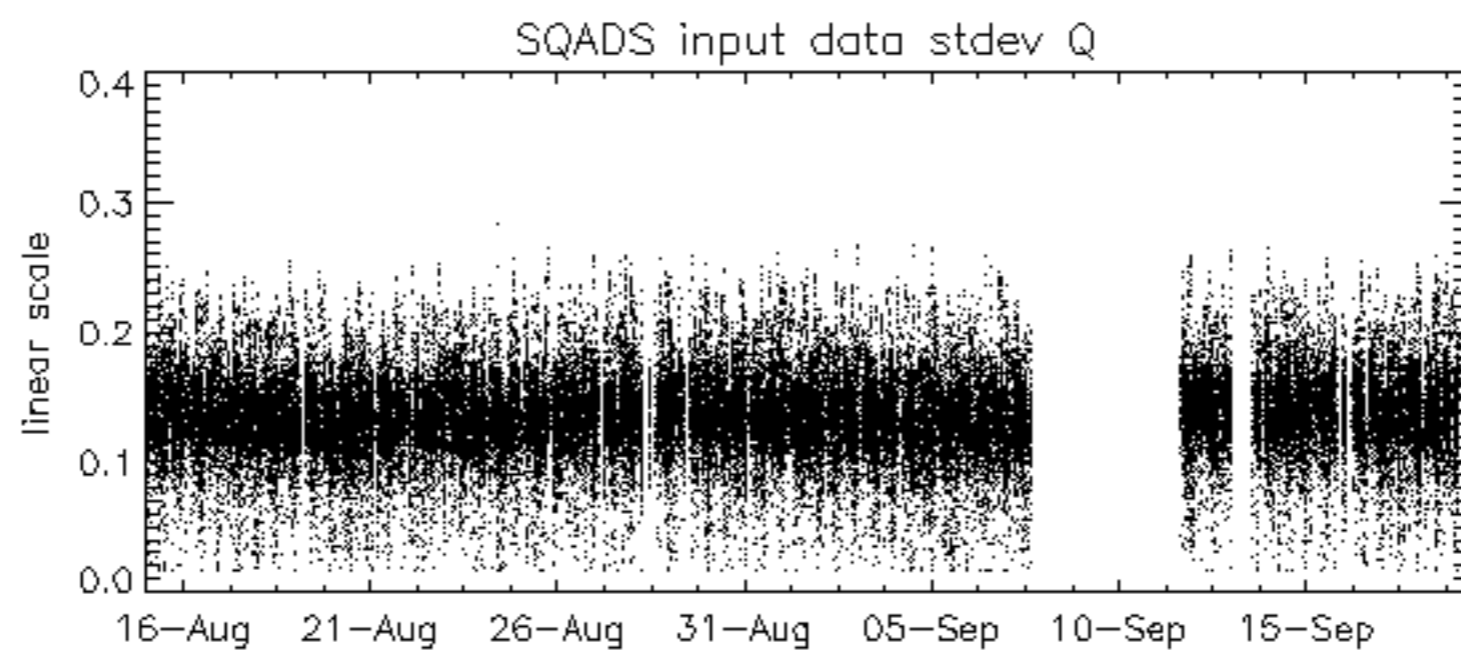
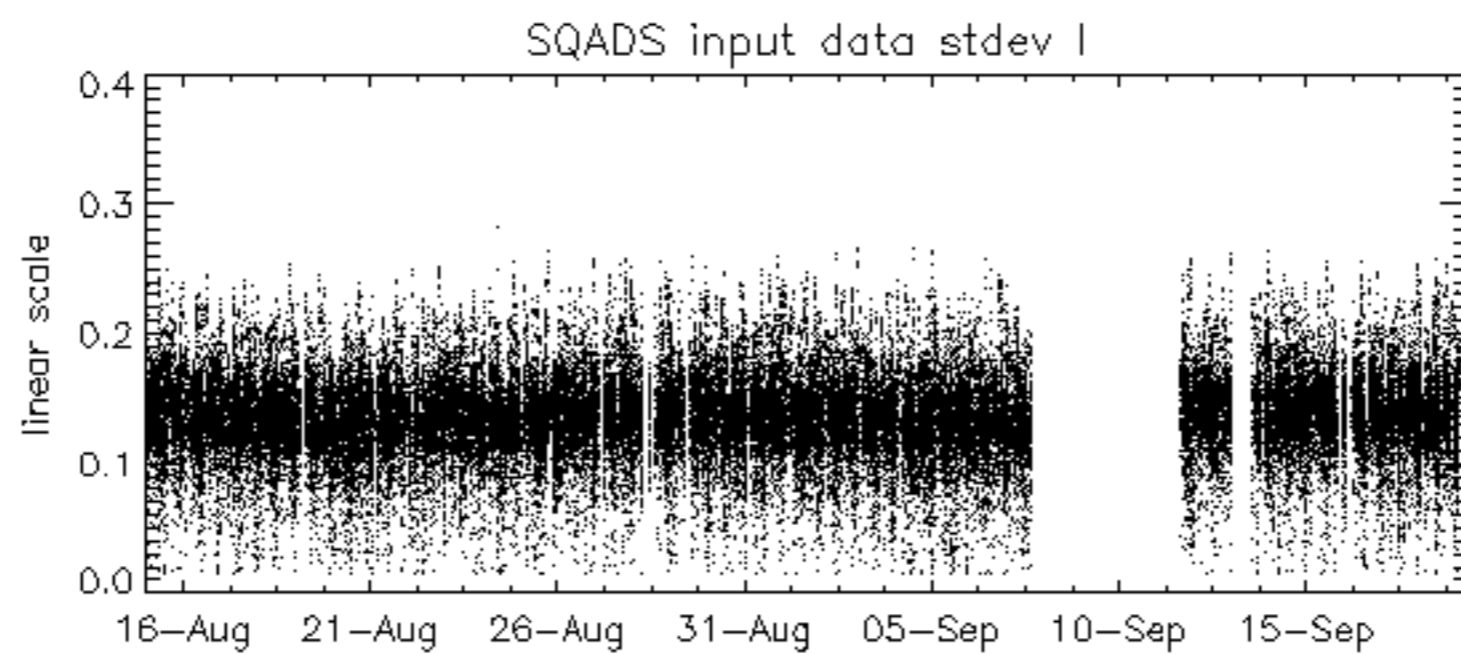
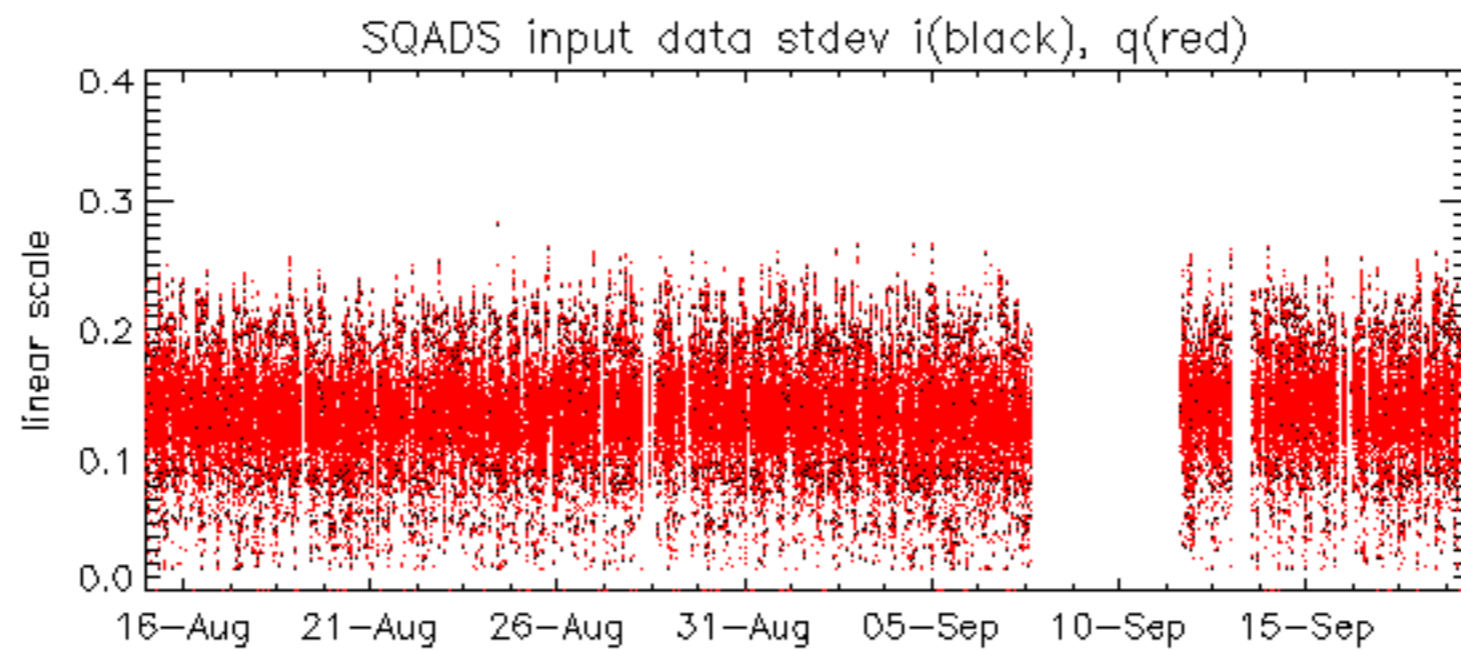


No anomalies observed on available MS products:

No anomalies observed.



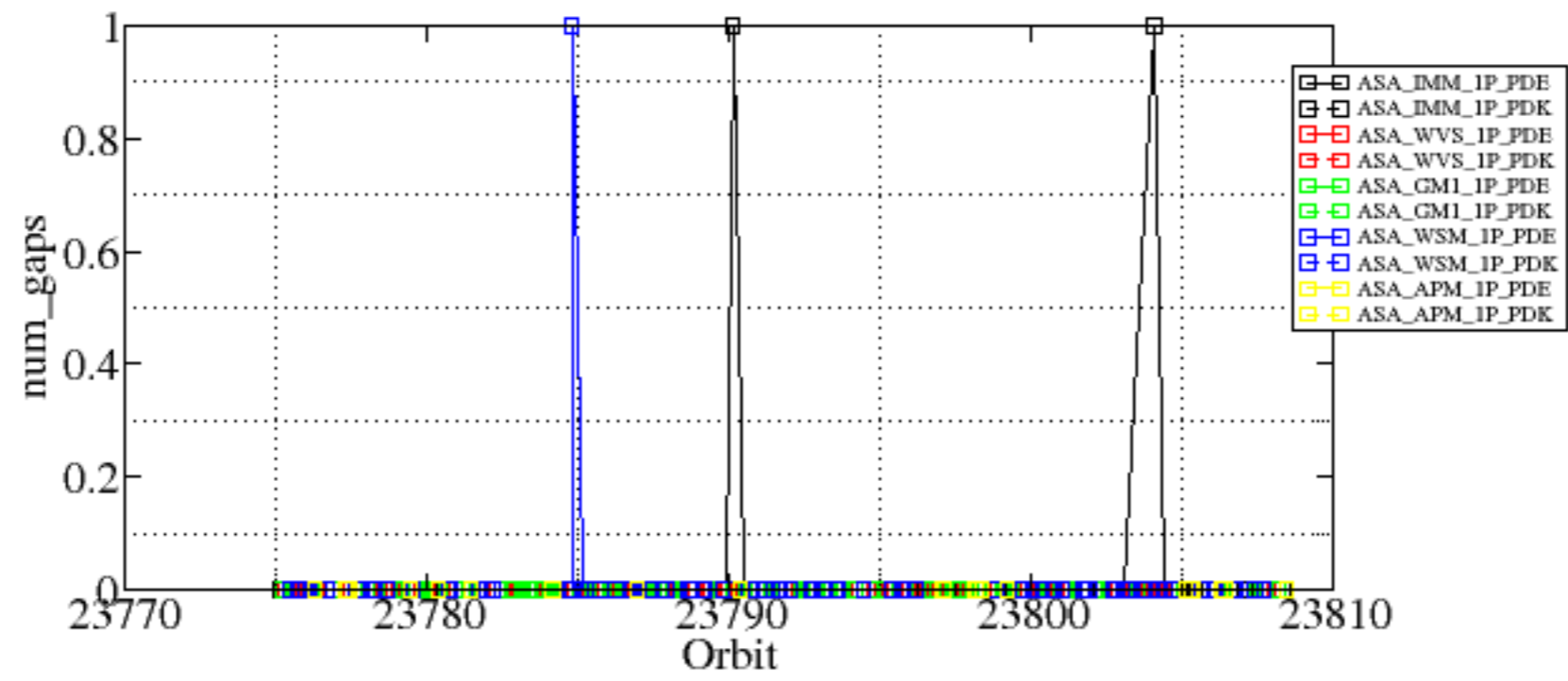


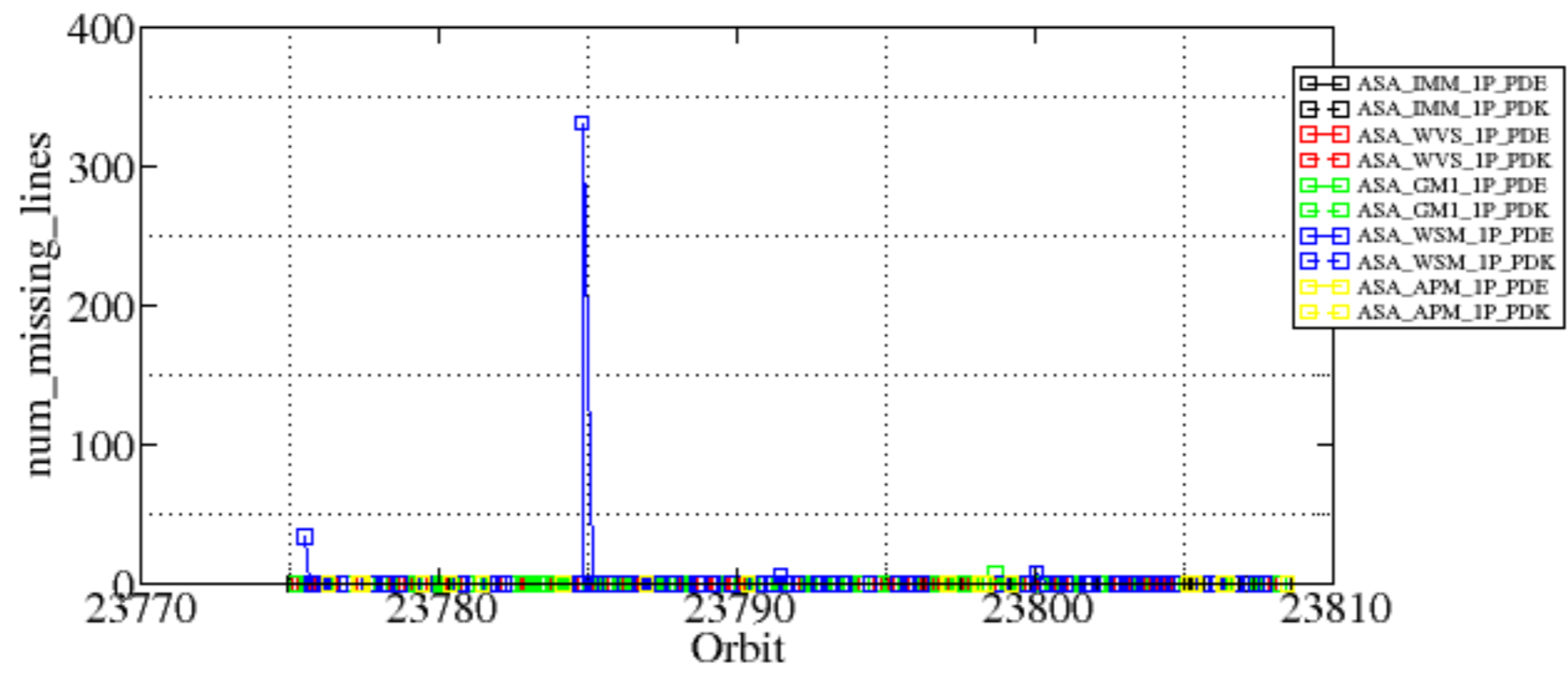


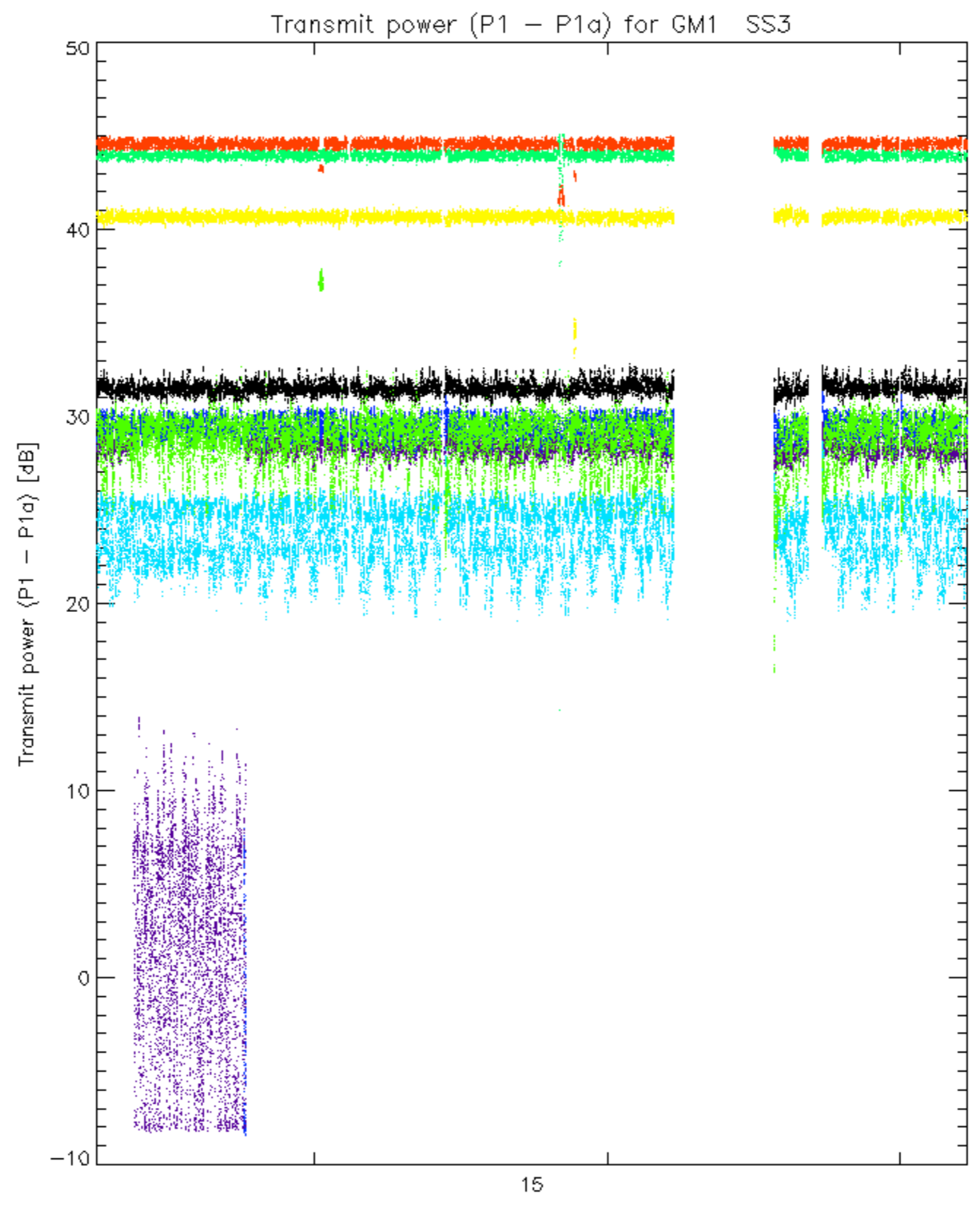
Summary of analysis for the last 3 days 2006091[789]

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

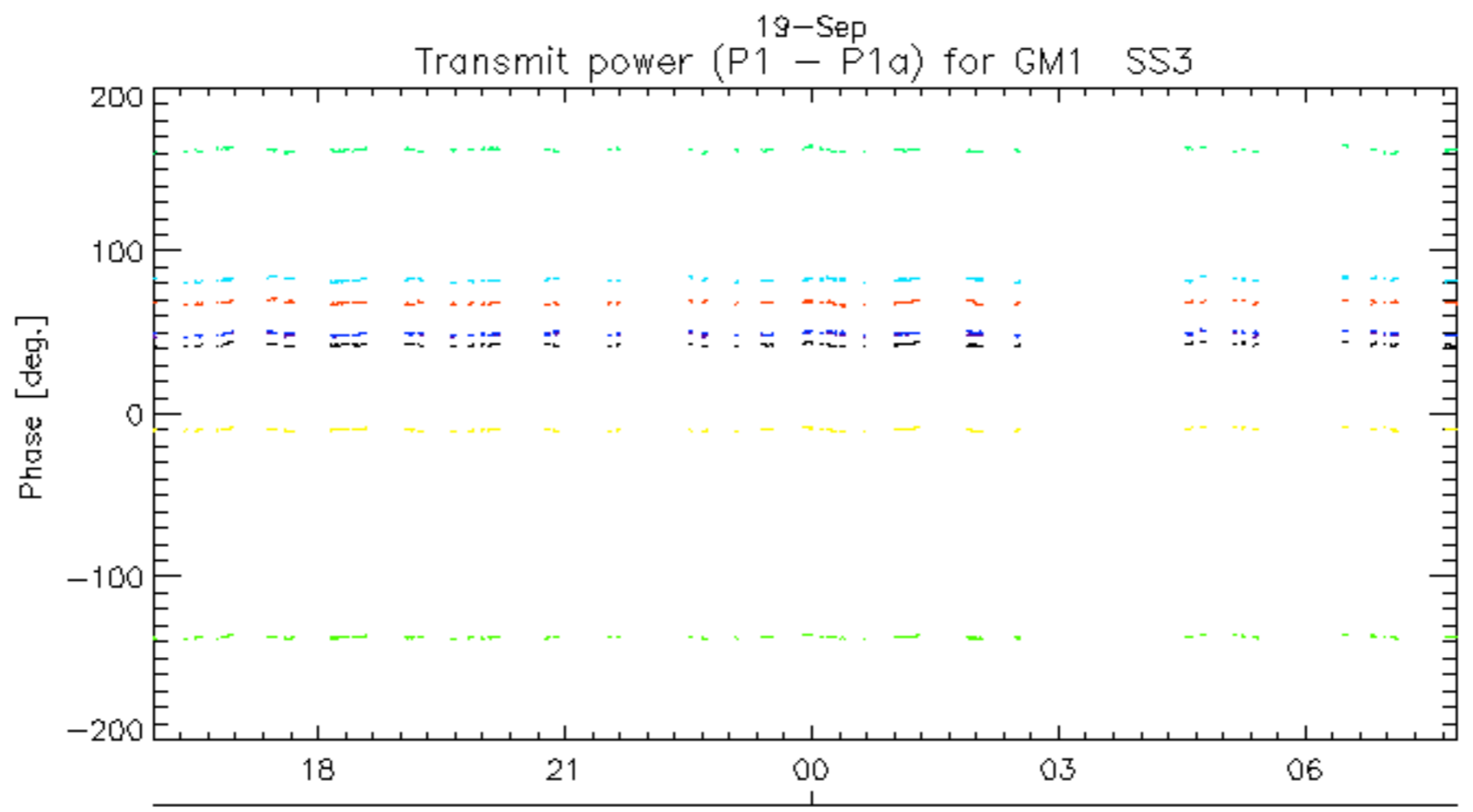
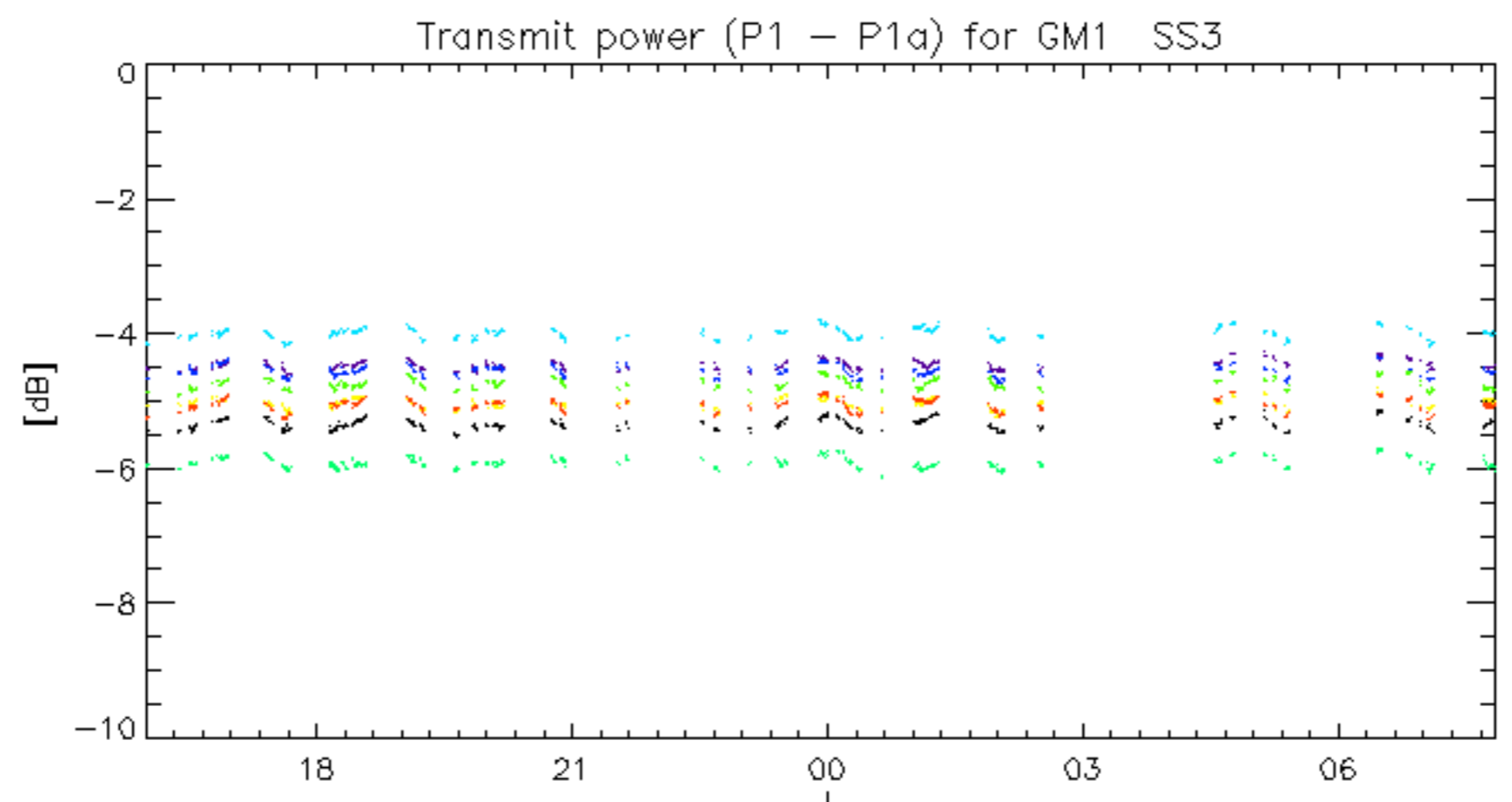
| Filename | num_gaps | num_missing_lines |
|--|----------|-------------------|
| ASA_IMM_1PNPDE20060918_012434_00000802051_00189_23790_5910.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20060919_004855_000001852051_00203_23804_5979.N1 | 1 | 0 |
| ASA_GM1_1PNPDK20060918_154300_000006402051_00197_23798_4732.N1 | 0 | 7 |
| ASA_WSM_1PNPDE20060917_005119_000001462051_00174_23775_2423.N1 | 0 | 34 |
| ASA_WSM_1PNPDE20060917_162919_000000672051_00183_23784_2716.N1 | 1 | 331 |
| ASA_WSM_1PNPDE20060918_034044_000000852051_00190_23791_2633.N1 | 0 | 6 |
| ASA_WSM_1PNPDE20060918_034046_000000852051_00190_23791_2718.N1 | 0 | 6 |
| ASA_WSM_1PNPDE20060918_180337_000001712051_00199_23800_2739.N1 | 0 | 8 |



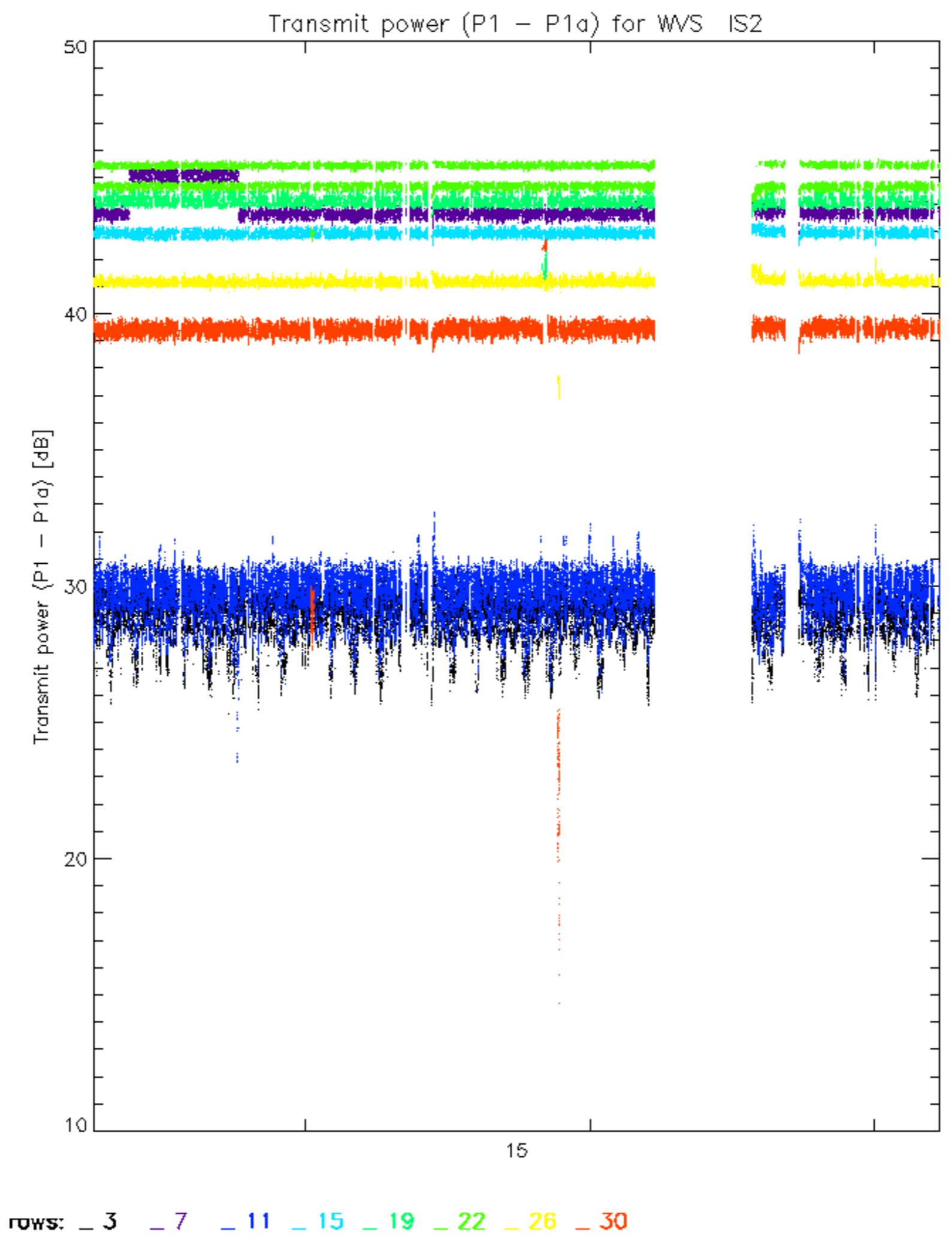


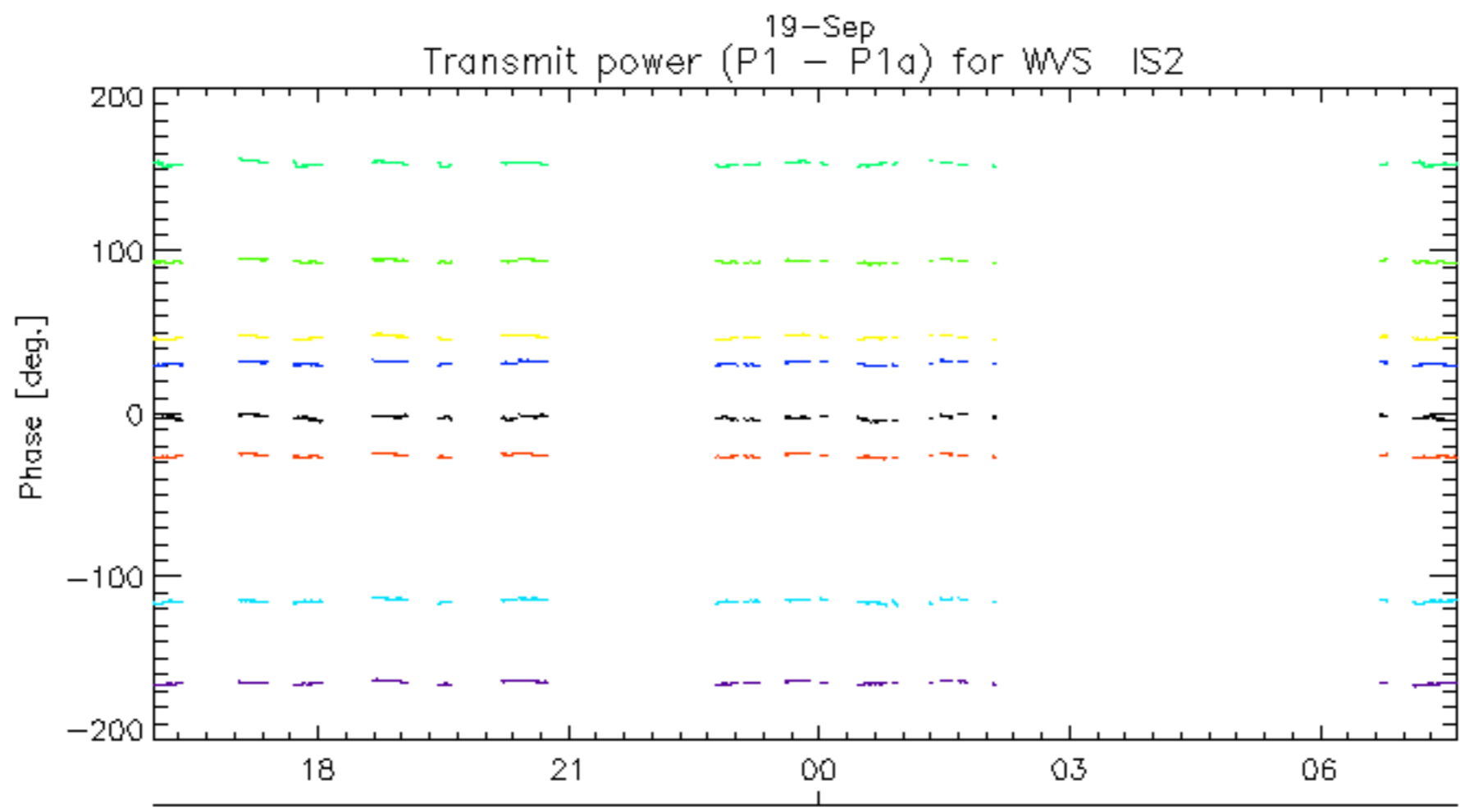
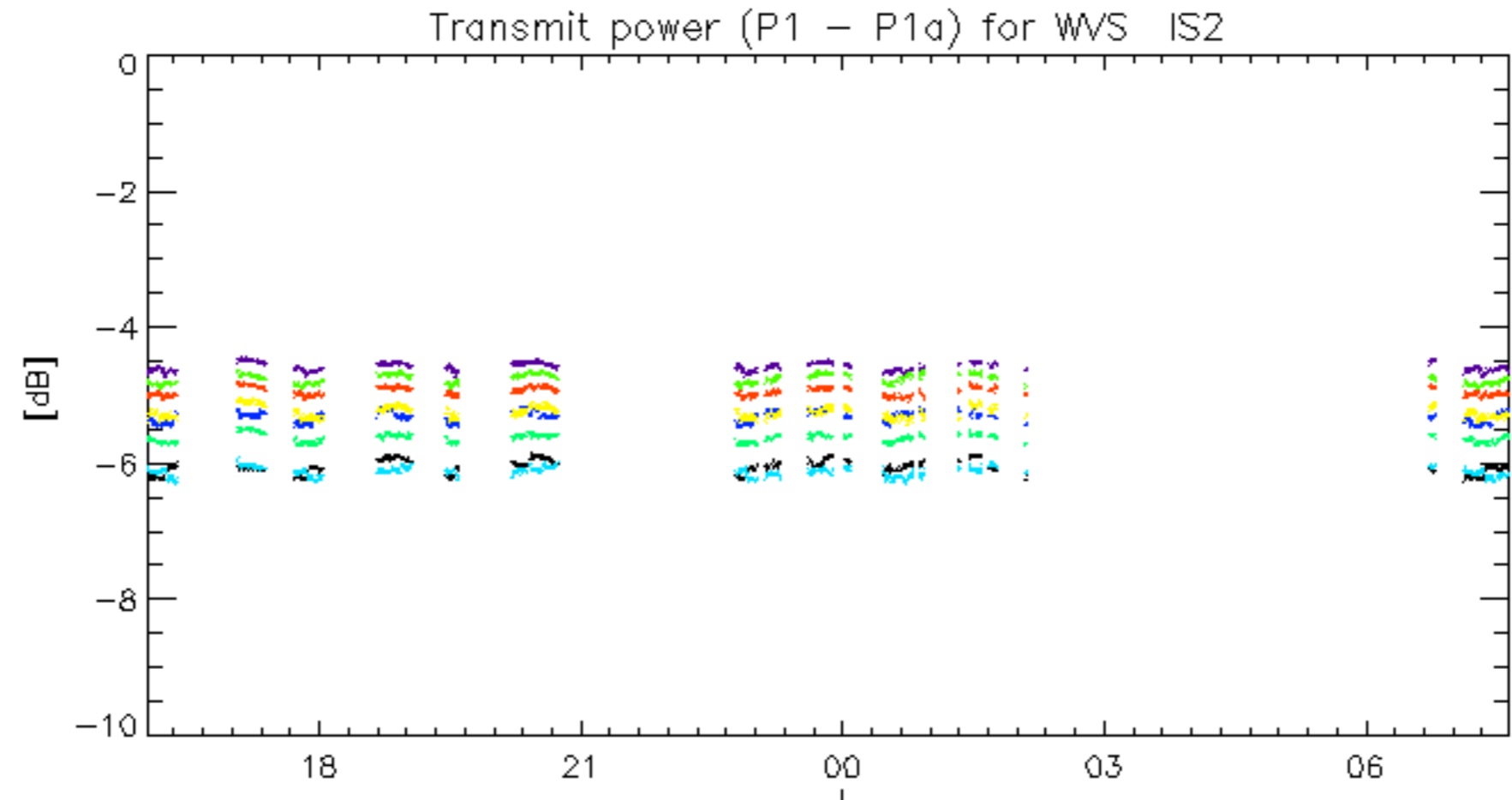


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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





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

No unavailabilities during the reported period.