

PRELIMINARY REPORT OF 060925

last update on Mon Sep 25 16:38:43 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 2006-09-24 00:00:00 to 2006-09-25 16:38:43

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

| | | | | | |
|---|----|----|---|---|---|
| ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000 | 26 | 19 | 6 | 5 | 0 |
| ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000 | 26 | 19 | 6 | 5 | 0 |
| ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000 | 26 | 19 | 6 | 5 | 0 |
| ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 | 26 | 19 | 6 | 5 | 0 |

| PDHS-E | | | | | |
|---|-----|-----|-----|-----|-----|
| AUXILIARY FILE | WVS | GM1 | IMM | APM | WSM |
| ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000 | 33 | 53 | 25 | 13 | 27 |
| ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000 | 33 | 53 | 25 | 13 | 27 |
| ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000 | 33 | 53 | 25 | 13 | 27 |
| ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 | 33 | 53 | 25 | 13 | 27 |

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 | 20060922 033419 |
| H | 20060925 015929 |

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 | -3.942786 | 0.009968 | -0.017617 |
| 7 | P1 | -3.068446 | 0.010175 | -0.013423 |
| 11 | P1 | -4.063237 | 0.018937 | -0.026660 |
| 15 | P1 | -6.185401 | 0.015691 | -0.025171 |
| 19 | P1 | -3.532437 | 0.050573 | -0.042037 |
| 22 | P1 | -4.575716 | 0.028667 | -0.092469 |
| 26 | P1 | -3.955445 | 0.019051 | -0.043357 |
| 30 | P1 | -5.805892 | 0.155307 | -0.079083 |
| 3 | P1 | -16.610041 | 0.251121 | -0.048426 |
| 7 | P1 | -17.107450 | 0.108278 | -0.024252 |
| 11 | P1 | -16.804171 | 0.341303 | -0.083798 |
| 15 | P1 | -12.888847 | 0.103979 | 0.084049 |
| 19 | P1 | -14.646320 | 0.464089 | -0.093461 |
| 22 | P1 | -15.682732 | 0.564459 | -0.089972 |
| 26 | P1 | -15.223386 | 0.204234 | -0.003954 |
| 30 | P1 | -16.938822 | 0.393758 | -0.126814 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -20.818888 | 0.084539 | 0.019541 |
| 7 | P2 | -21.845146 | 0.097121 | 0.061143 |
| 11 | P2 | -15.746310 | 0.108142 | 0.005151 |
| 15 | P2 | -7.094173 | 0.101181 | -0.008531 |
| 19 | P2 | -9.122200 | 0.092979 | -0.037924 |
| 22 | P2 | -18.125053 | 0.089008 | -0.033076 |
| 26 | P2 | -16.413681 | 0.096145 | -0.059282 |
| 30 | P2 | -19.471697 | 0.091045 | -0.022924 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.183657 | 0.005436 | -0.035332 |
| 7 | P3 | -8.183657 | 0.005436 | -0.035332 |
| 11 | P3 | -8.183657 | 0.005436 | -0.035332 |
| 15 | P3 | -8.183657 | 0.005436 | -0.035332 |
| 19 | P3 | -8.183657 | 0.005436 | -0.035332 |
| 22 | P3 | -8.183657 | 0.005436 | -0.035332 |
| 26 | P3 | -8.183630 | 0.005435 | -0.035222 |
| 30 | P3 | -8.183630 | 0.005435 | -0.035222 |

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 | -3.852332 | 0.010102 | -0.044303 |
| 7 | P1 | -2.544058 | 0.018830 | 0.003740 |
| 11 | P1 | -2.885966 | 0.018963 | -0.019545 |
| 15 | P1 | -3.657266 | 0.029786 | -0.028675 |
| 19 | P1 | -3.468786 | 0.078473 | -0.014938 |
| 22 | P1 | -5.097023 | 0.035993 | -0.044143 |
| 26 | P1 | -5.873271 | 0.025512 | -0.033839 |
| 30 | P1 | -5.205109 | 0.078907 | -0.058996 |
| 3 | P1 | -11.641912 | 0.048641 | -0.040313 |
| 7 | P1 | -10.000375 | 0.056318 | -0.068261 |
| 11 | P1 | -10.350212 | 0.062068 | -0.057253 |
| 15 | P1 | -10.857475 | 0.149933 | 0.040308 |
| 19 | P1 | -15.695291 | 3.599674 | 0.116563 |
| 22 | P1 | -20.805565 | 1.703304 | -0.476582 |
| 26 | P1 | -15.931190 | 0.384771 | 0.022286 |
| 30 | P1 | -18.056702 | 0.812358 | -0.266872 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -16.406202 | 0.054683 | 0.023644 |
| 7 | P2 | -22.189421 | 0.090897 | 0.062593 |
| 11 | P2 | -10.900302 | 0.042452 | -0.012127 |
| 15 | P2 | -4.860698 | 0.036939 | -0.018796 |
| 19 | P2 | -6.848882 | 0.037871 | -0.032425 |
| 22 | P2 | -8.158477 | 0.032825 | -0.023934 |
| 26 | P2 | -24.173847 | 0.060741 | -0.051991 |
| 30 | P2 | -21.961697 | 0.048008 | -0.018247 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.030005 | 0.004022 | -0.049277 |
| 7 | P3 | -8.029882 | 0.004018 | -0.049203 |
| 11 | P3 | -8.029885 | 0.004031 | -0.049441 |
| 15 | P3 | -8.029882 | 0.004047 | -0.049501 |
| 19 | P3 | -8.029982 | 0.004044 | -0.049195 |
| 22 | P3 | -8.030035 | 0.004014 | -0.049356 |
| 26 | P3 | -8.030053 | 0.004037 | -0.049155 |
| 30 | P3 | -8.029884 | 0.004024 | -0.049535 |

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 | 0.000552278 |
| | stdev | 1.74768e-07 |
| MEAN Q | mean | 0.000523338 |
| | stdev | 2.18256e-07 |



5.2 - Input stdev I/Q

| channel | stat | DSS-B |
|---------|-------|------------|
| STDEV I | mean | 0.136624 |
| | stdev | 0.00113779 |
| STDEV Q | mean | 0.136980 |
| | stdev | 0.00115522 |



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006092[345]

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_1PNPDE20060923_002304_000002162051_00260_23861_6274.N1 | 1 | 0 |
| ASA_GM1_1PNPDK20060924_132252_000006402051_00282_23883_5084.N1 | 0 | 15 |
| ASA_WSM_1PNPDE20060923_015903_000001462051_00261_23862_3490.N1 | 0 | 76 |
| ASA_WSM_1PNPDE20060923_170154_000002452051_00270_23871_3584.N1 | 0 | 9 |
| ASA_WSM_1PNPDE20060923_184505_000003062051_00271_23872_3602.N1 | 0 | 60 |
| ASA_WSM_1PNPDE20060924_163151_000001282051_00284_23885_3698.N1 | 0 | 70 |
| ASA_WSM_1PNPDE20060924_181428_000002142051_00285_23886_3707.N1 | 0 | 60 |
| ASA_WSM_1PNPDE20060924_231433_000000972051_00288_23889_3734.N1 | 0 | 50 |



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 |

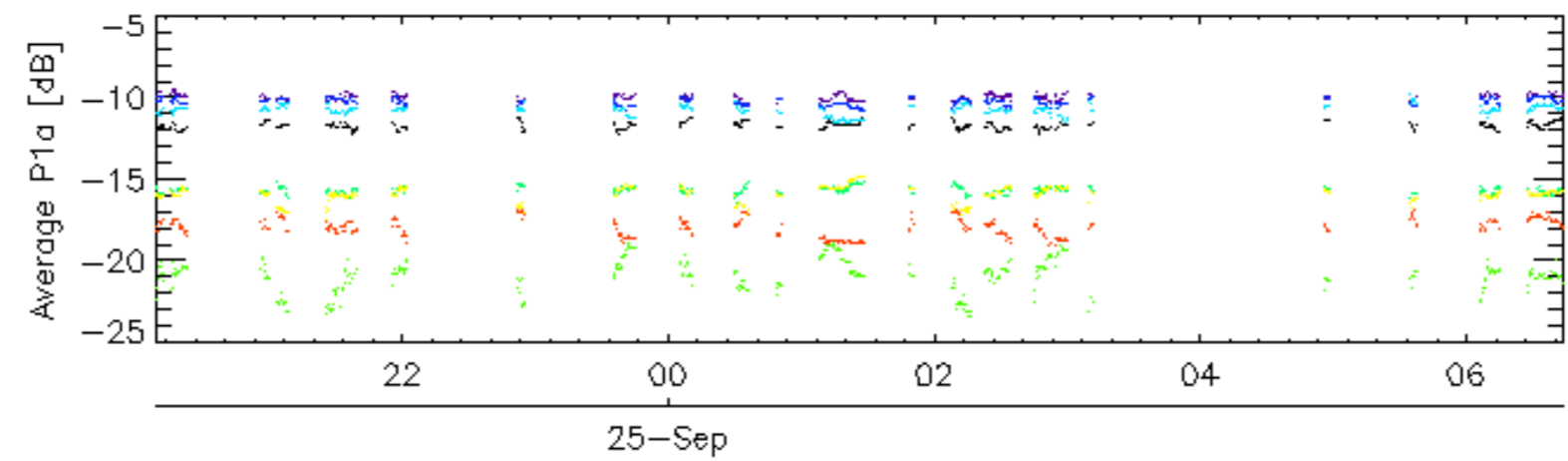
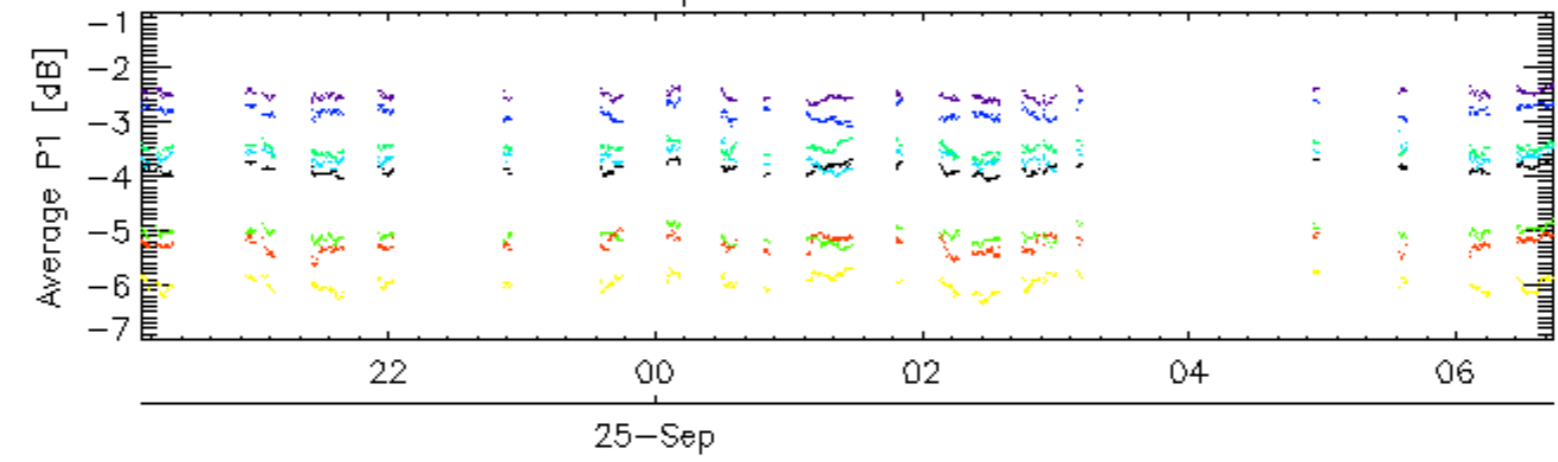
7.5 - Absolute Doppler for GM1**Evolution of Absolute Doppler**

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

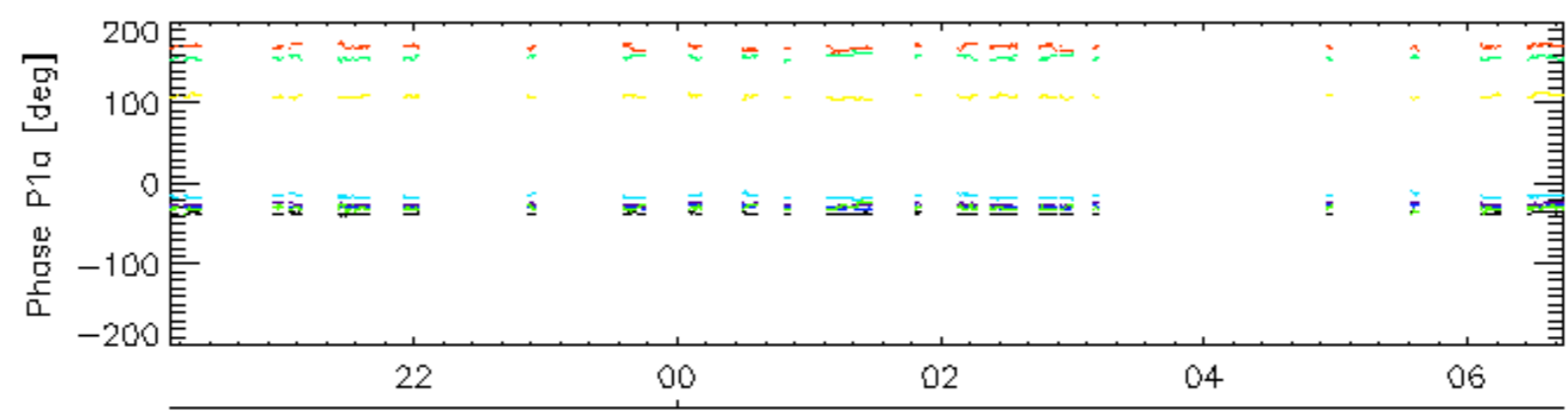
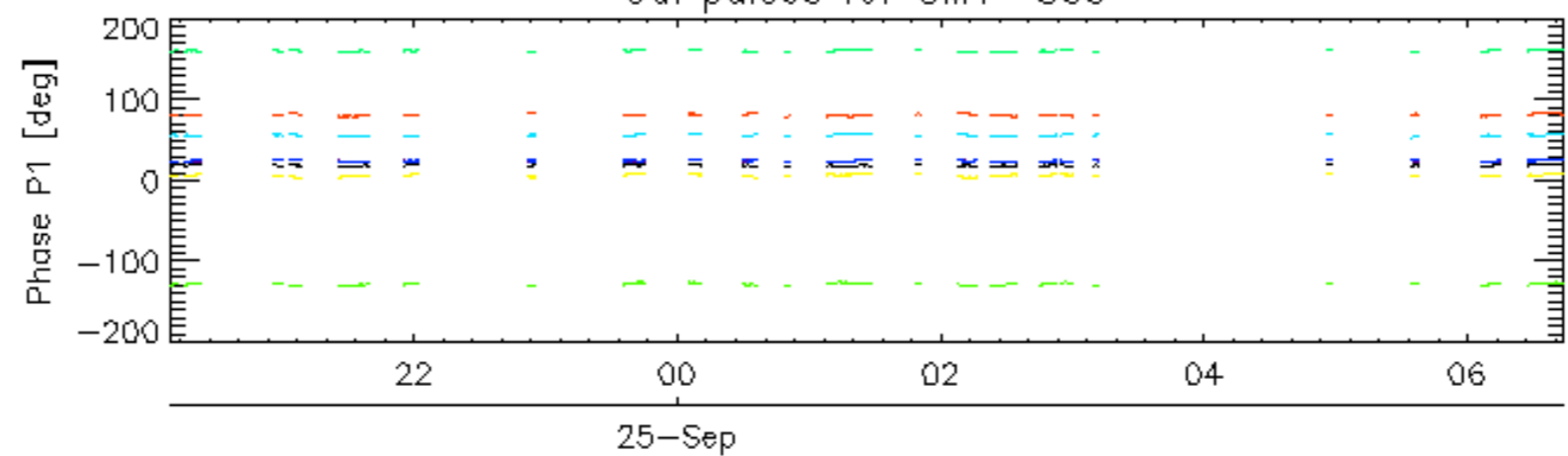
7.6 - Doppler evolution versus ANX for GM1**Evolution Doppler error versus ANX**

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

Cal pulses for GM1 SS3

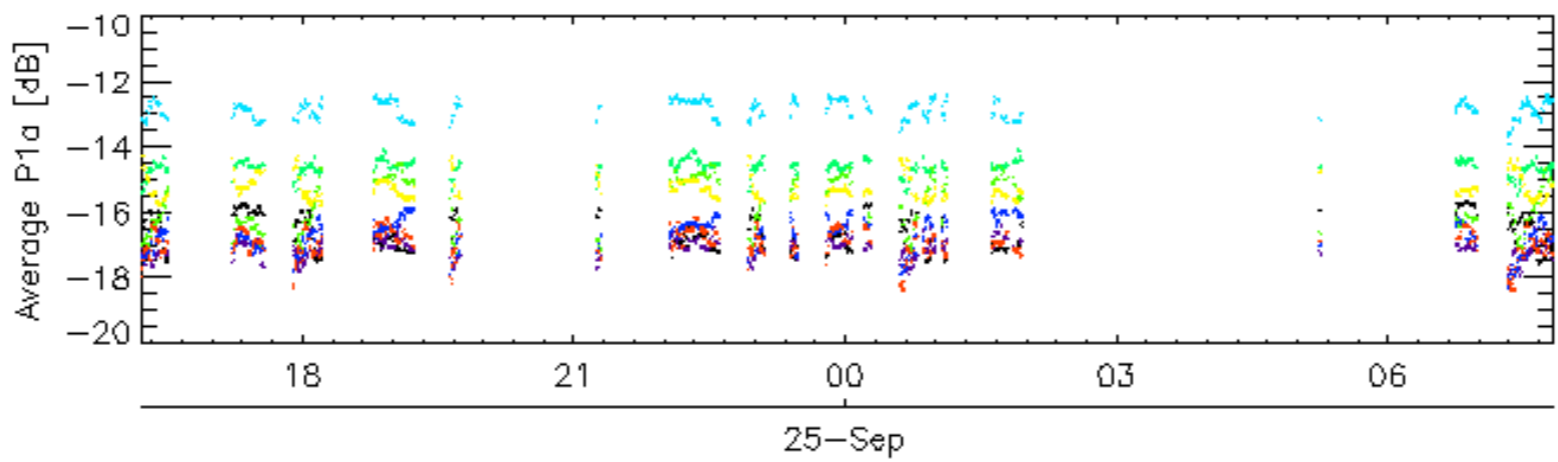
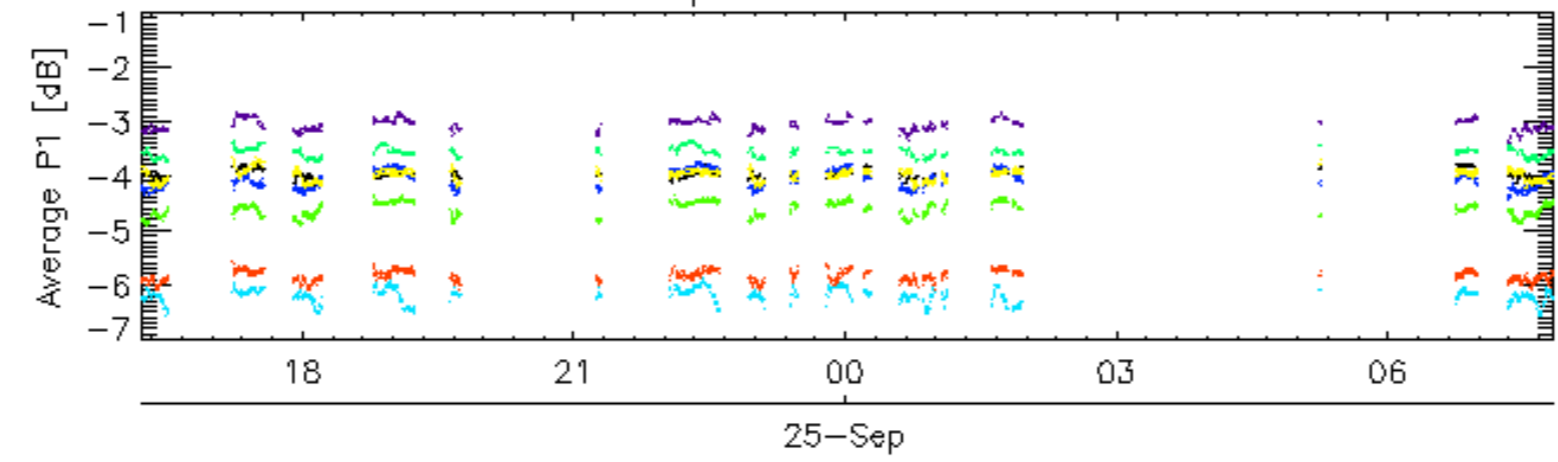


Cal pulses for GM1 SS3

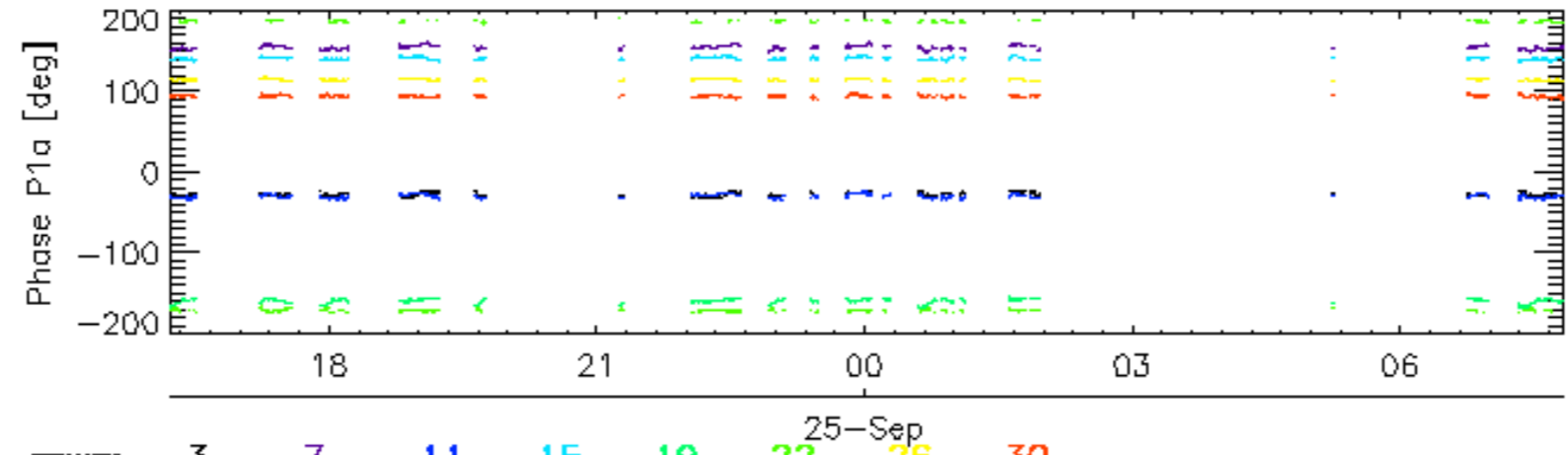
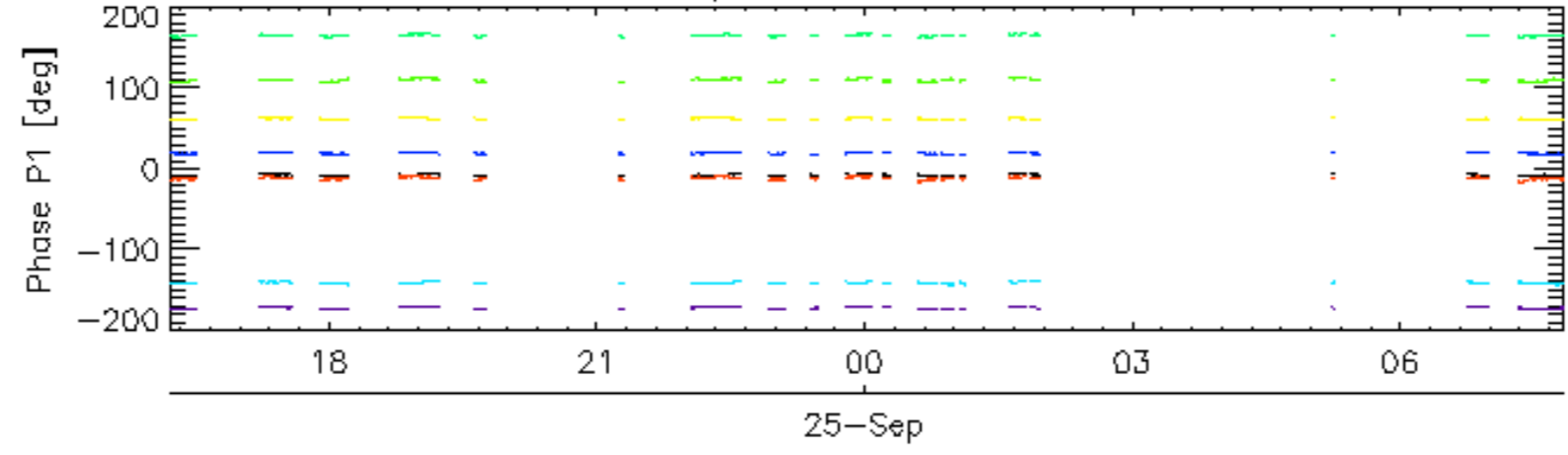


rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

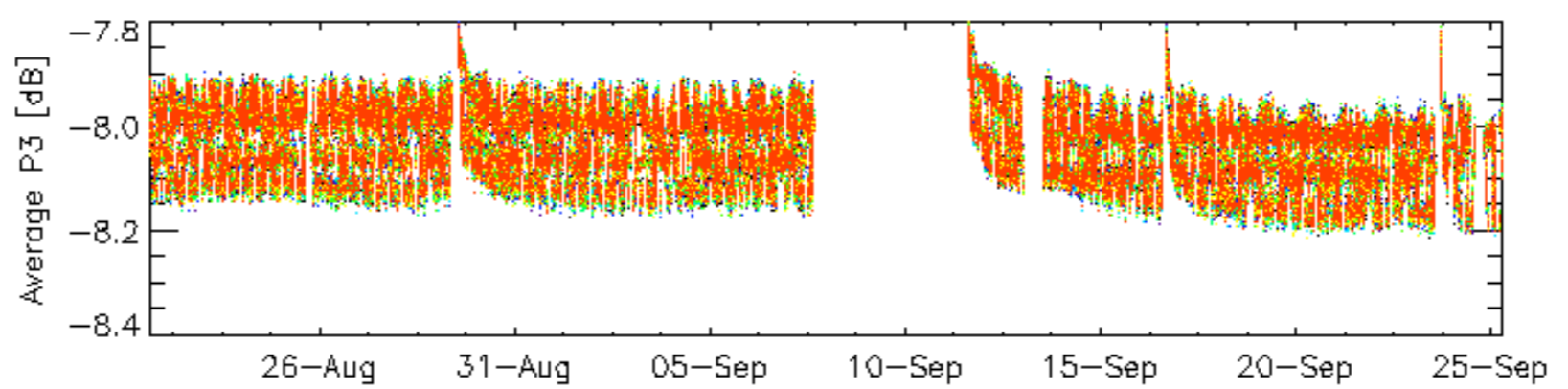
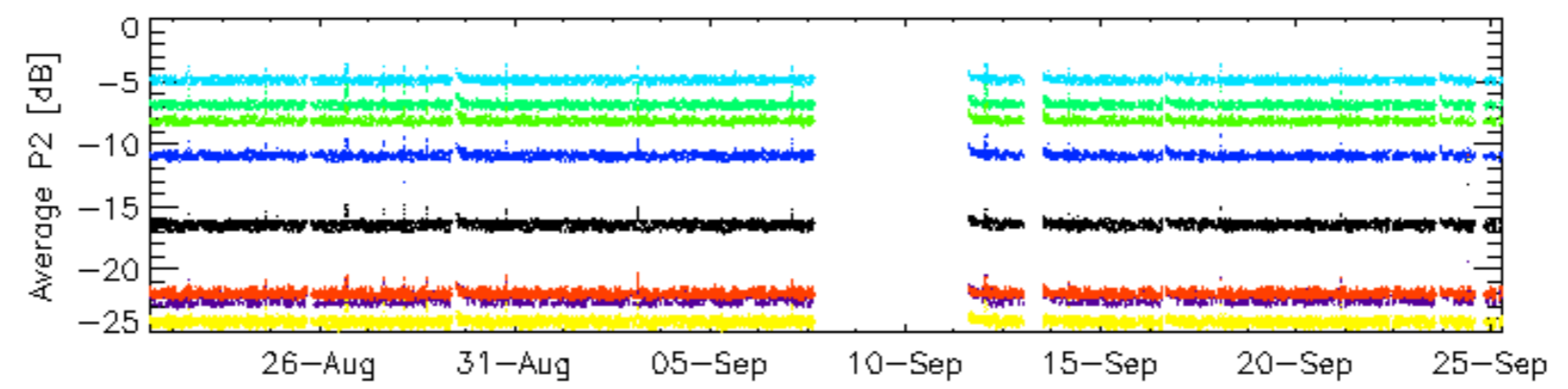
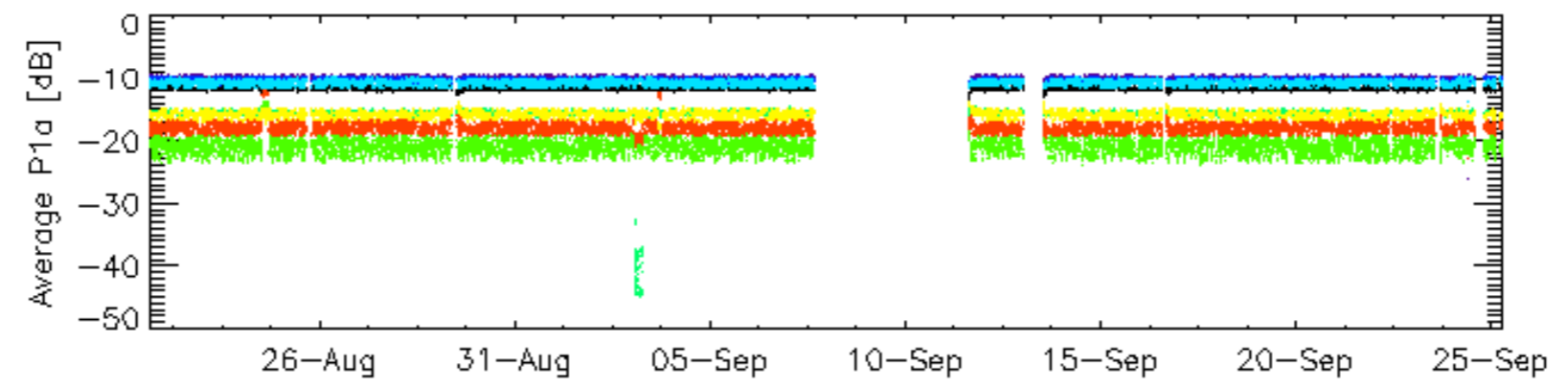
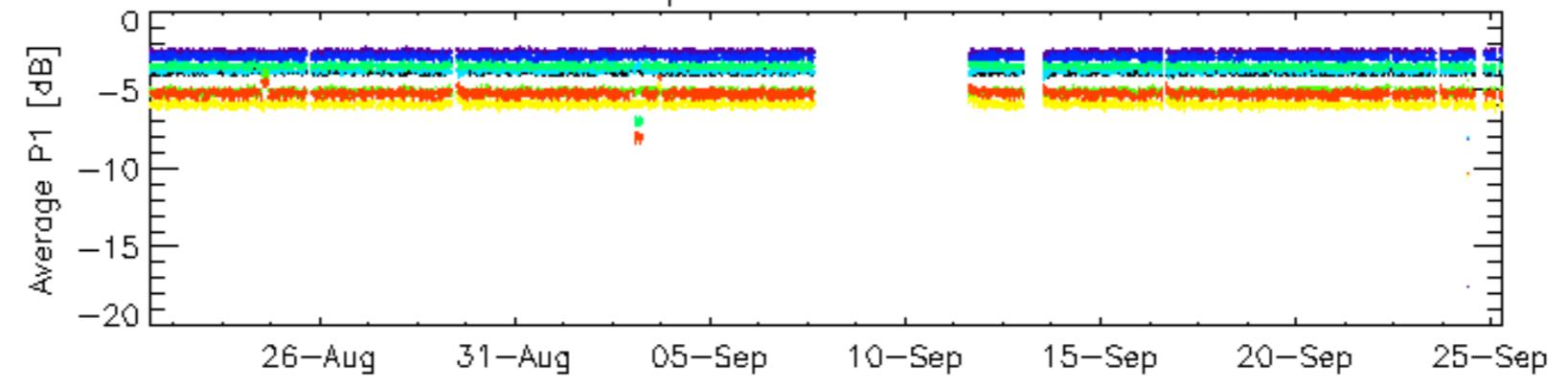


Cal pulses for WVS IS2



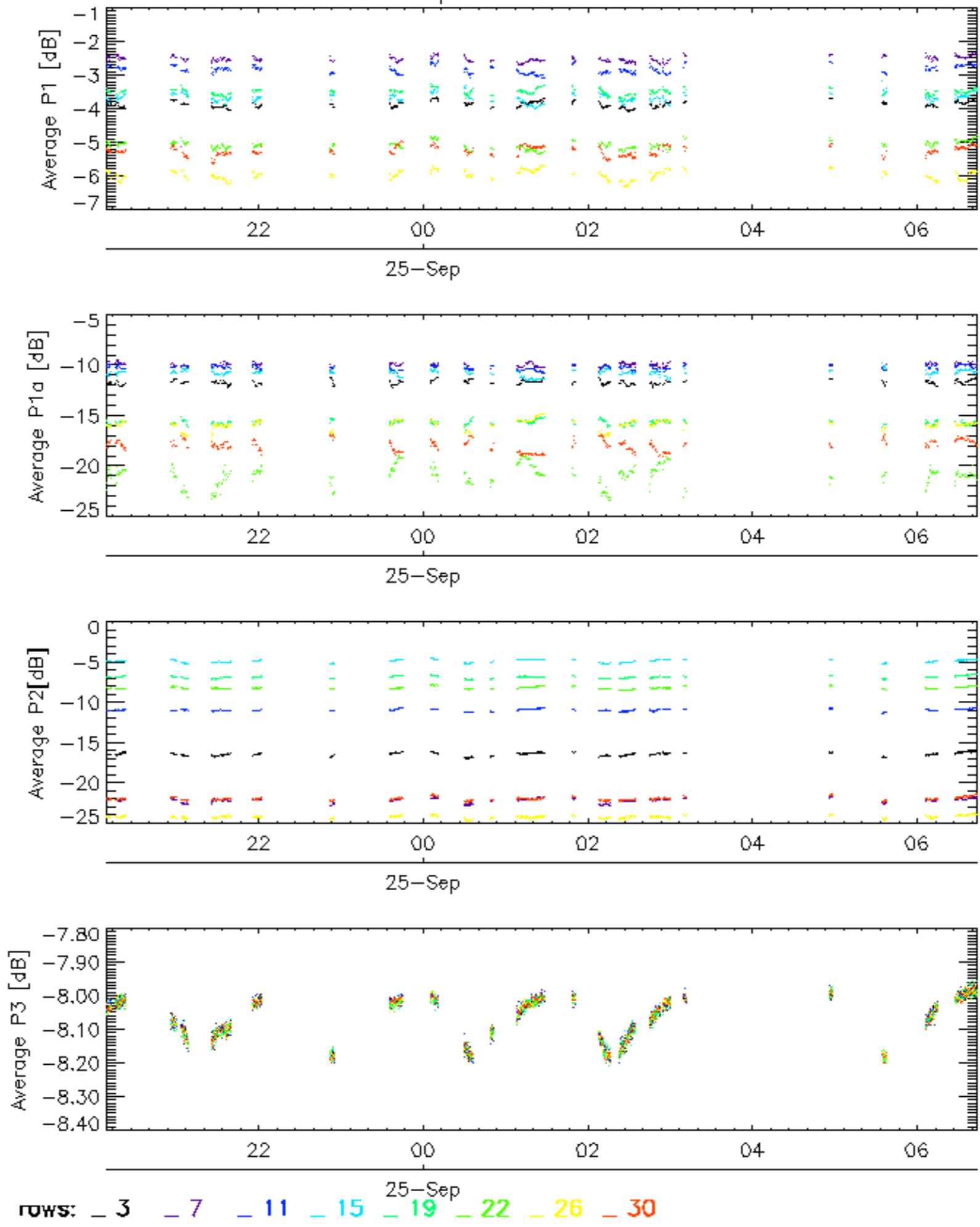
rows: 3 7 11 15 19 22 26 30

Cal pulses for GM1 SS3

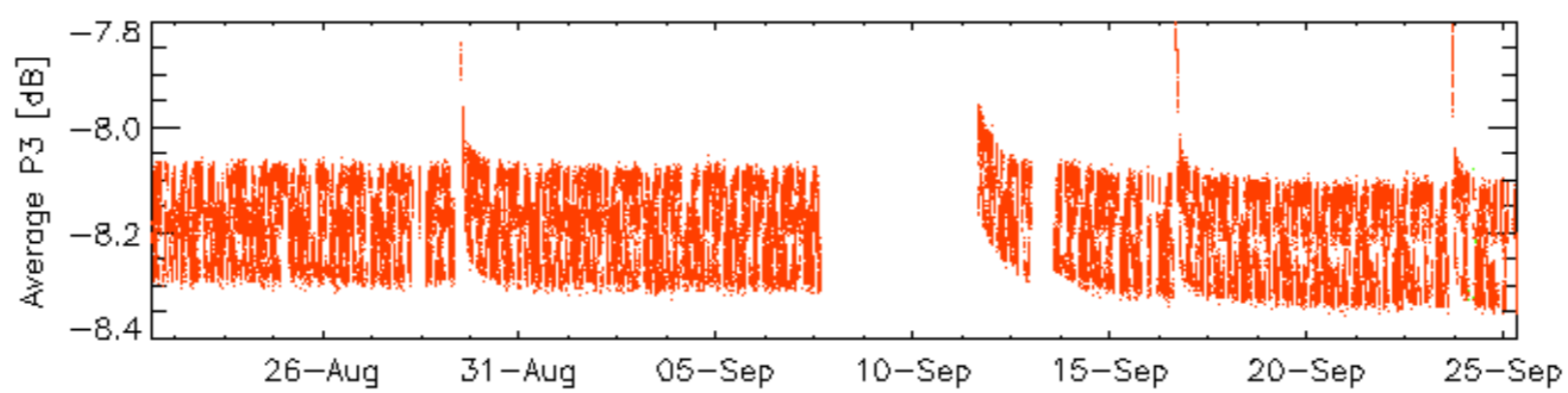
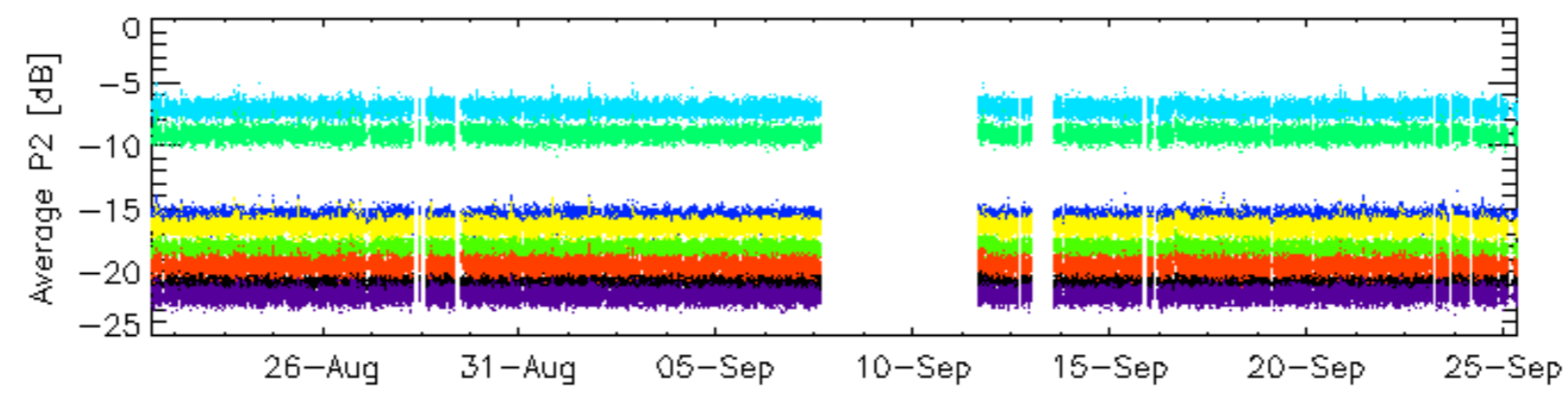
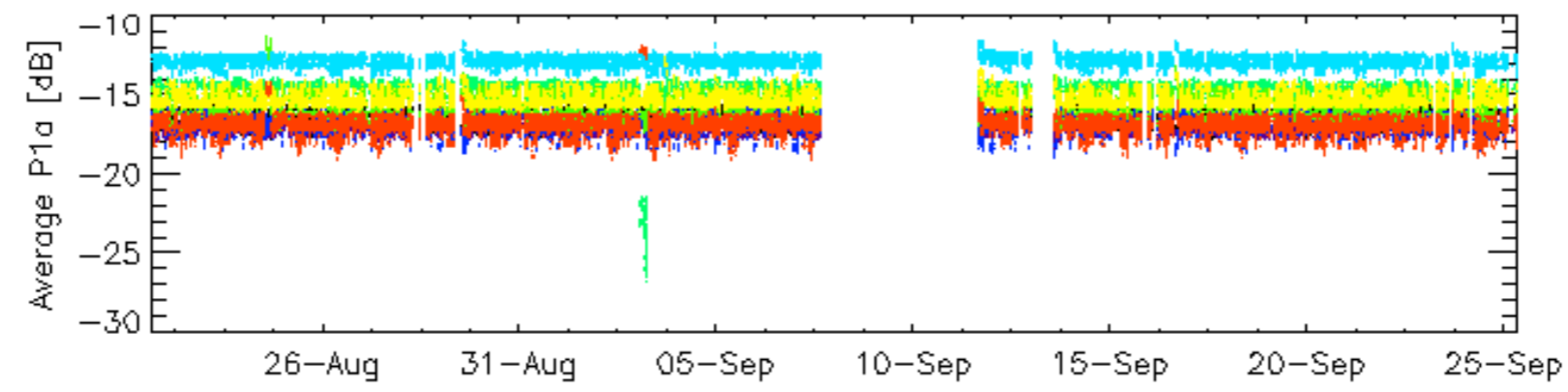
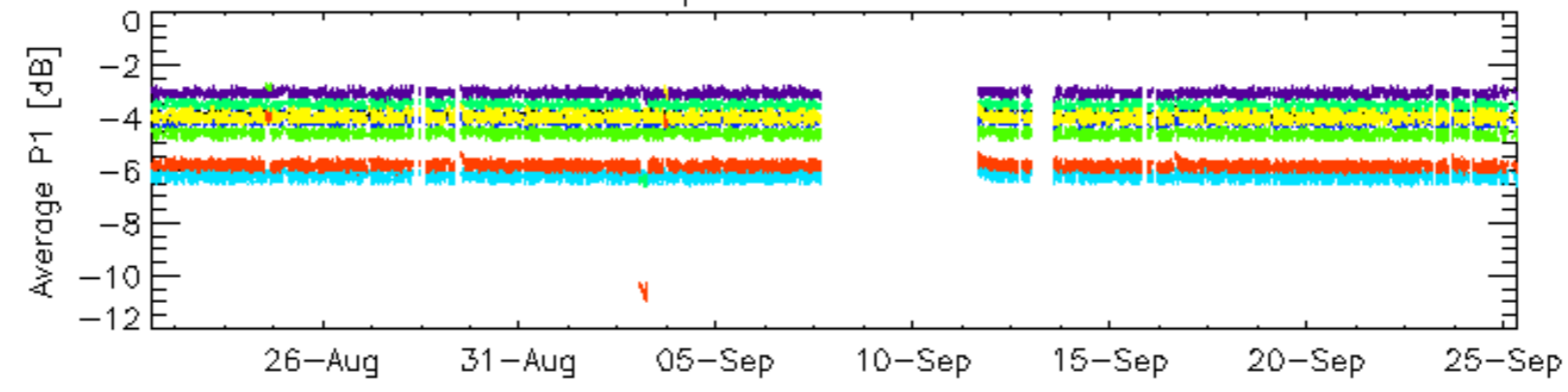


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

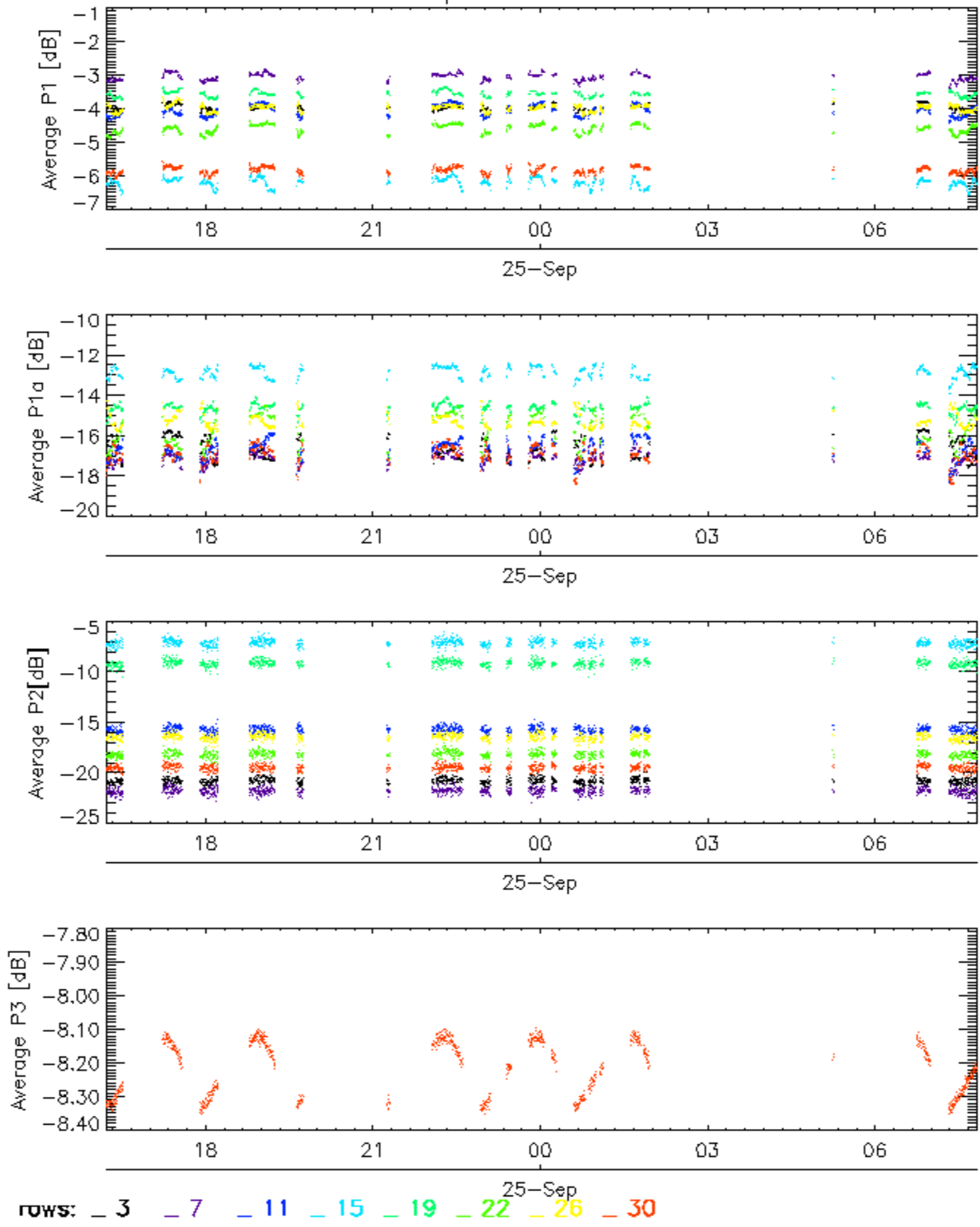


Cal pulses for WVS IS2

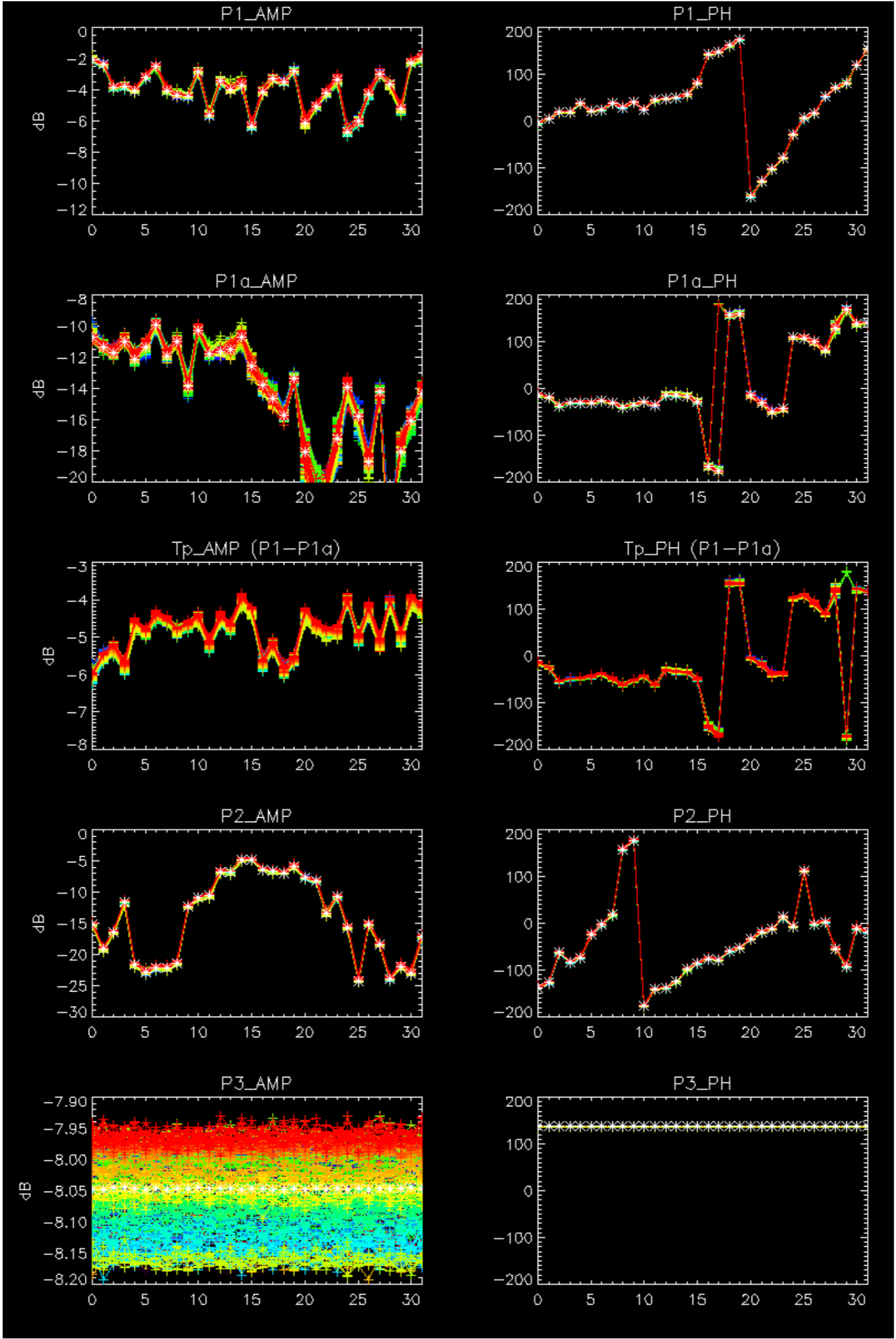


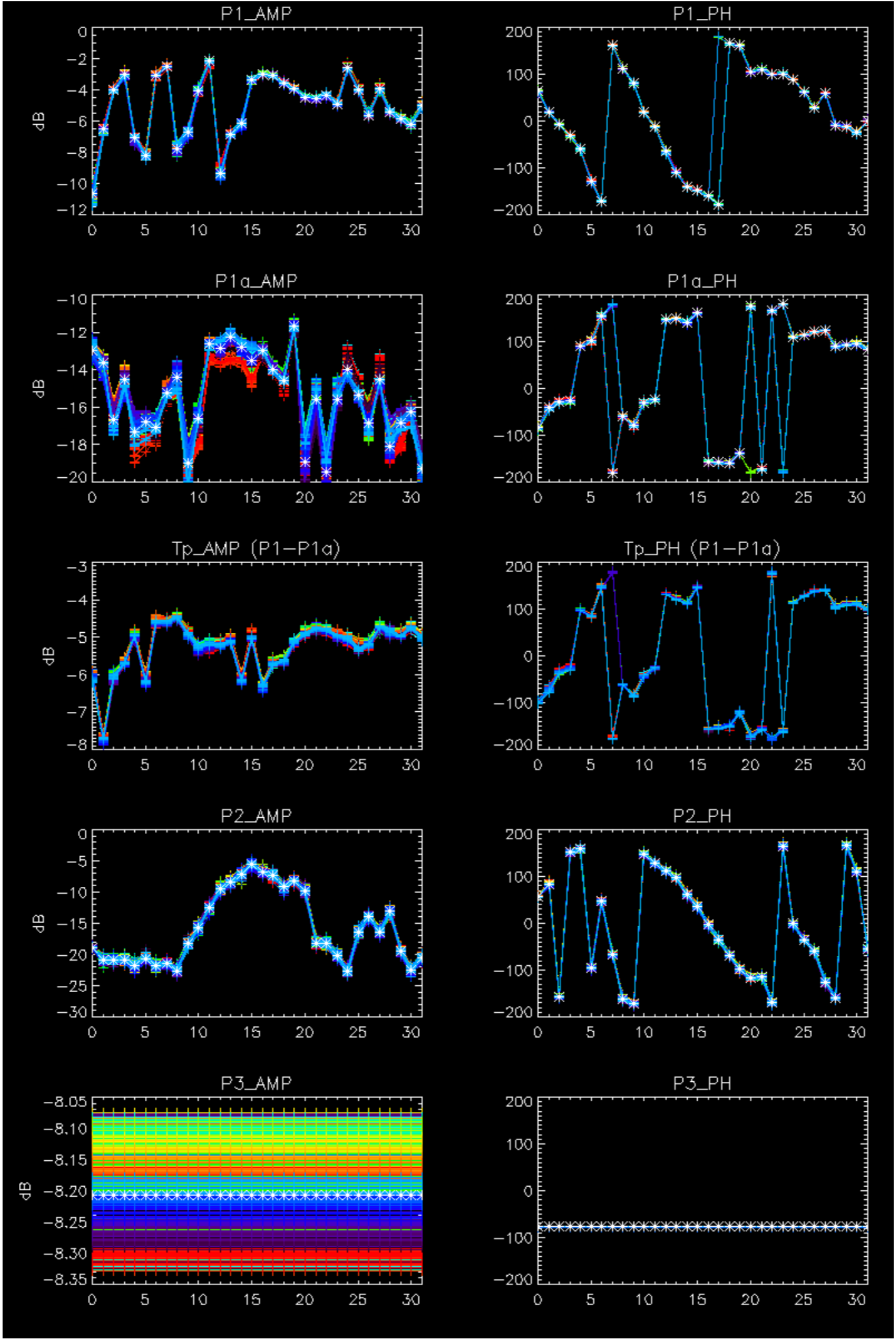
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



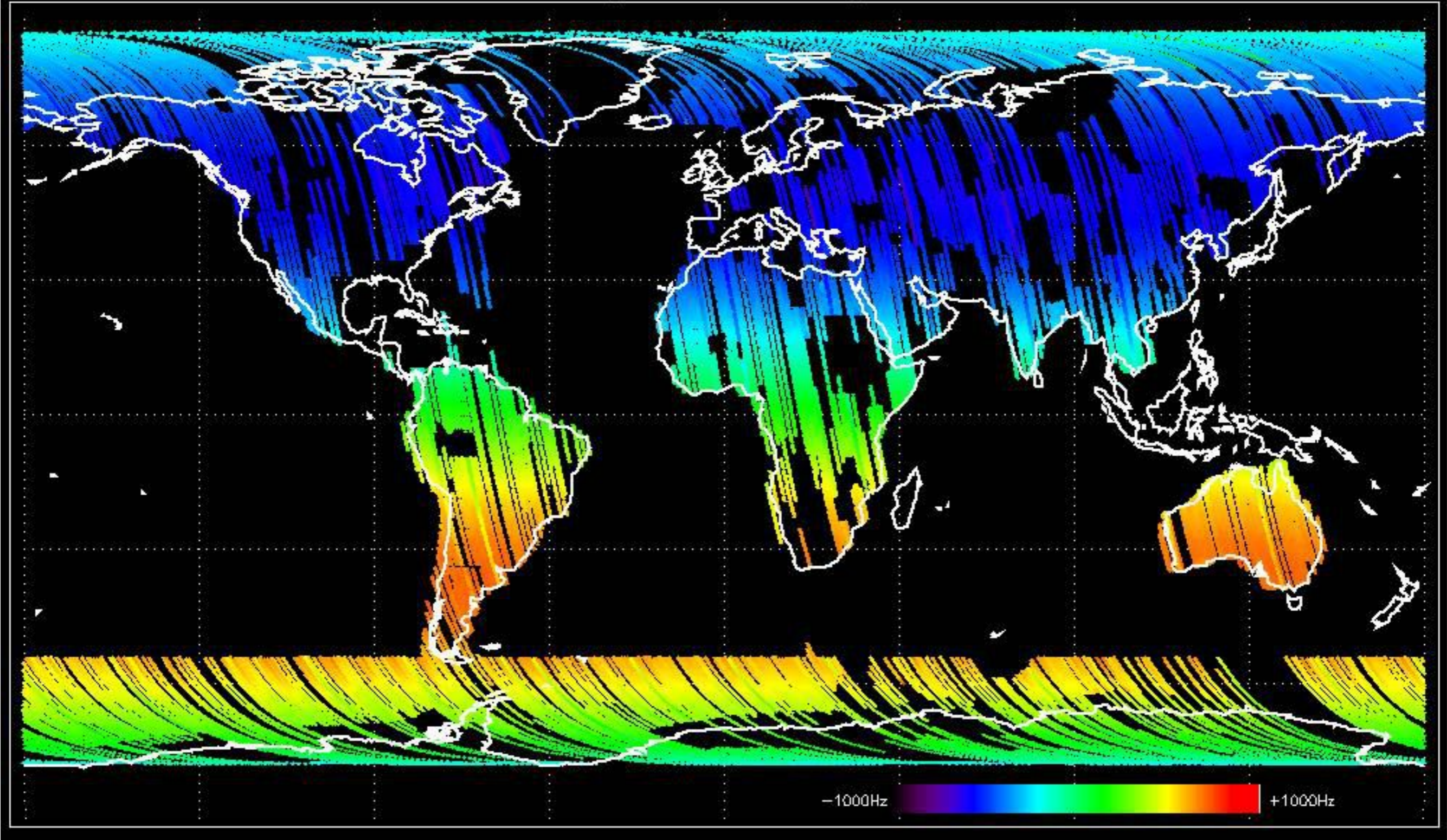
No anomalies observed.



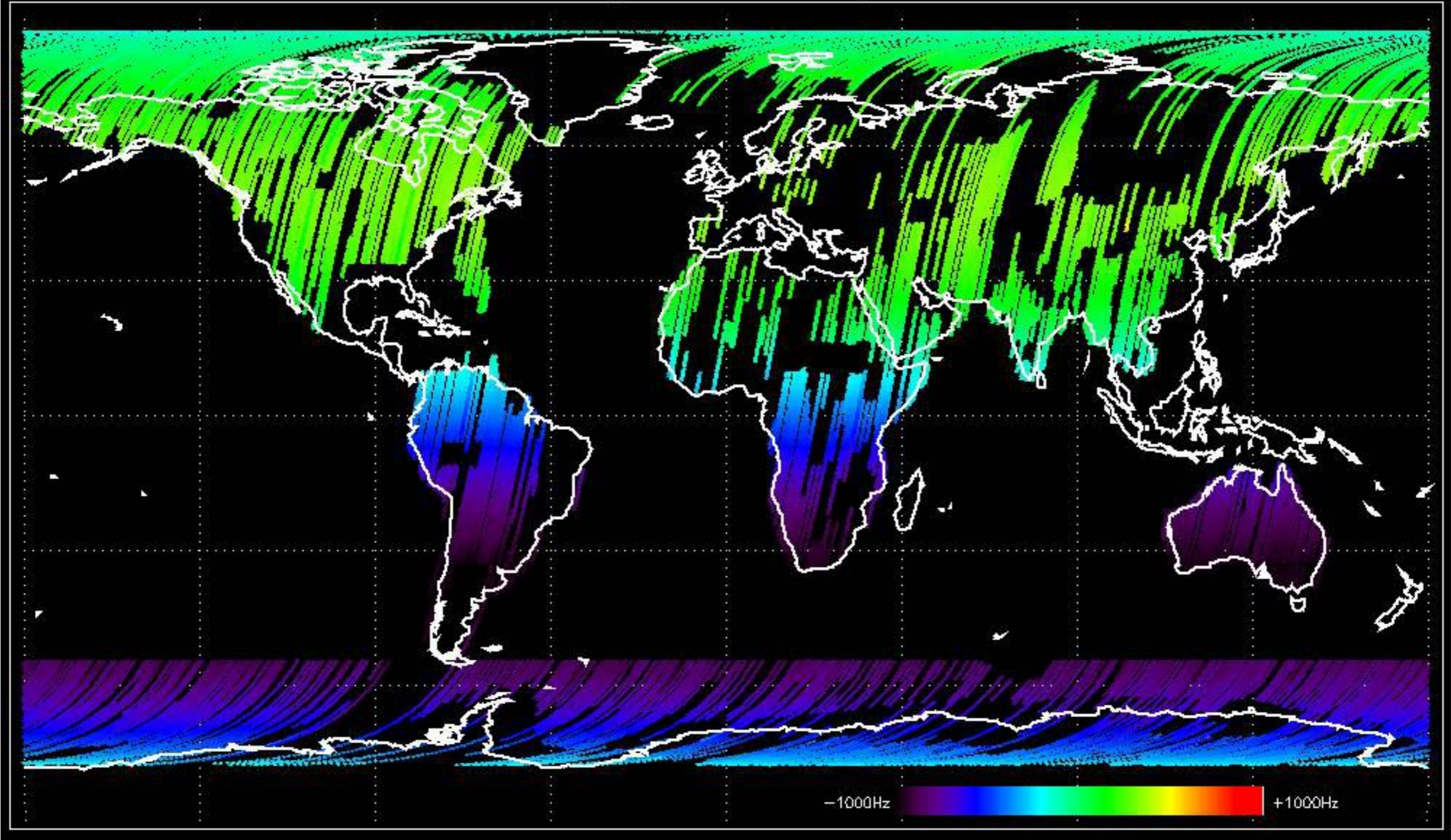


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

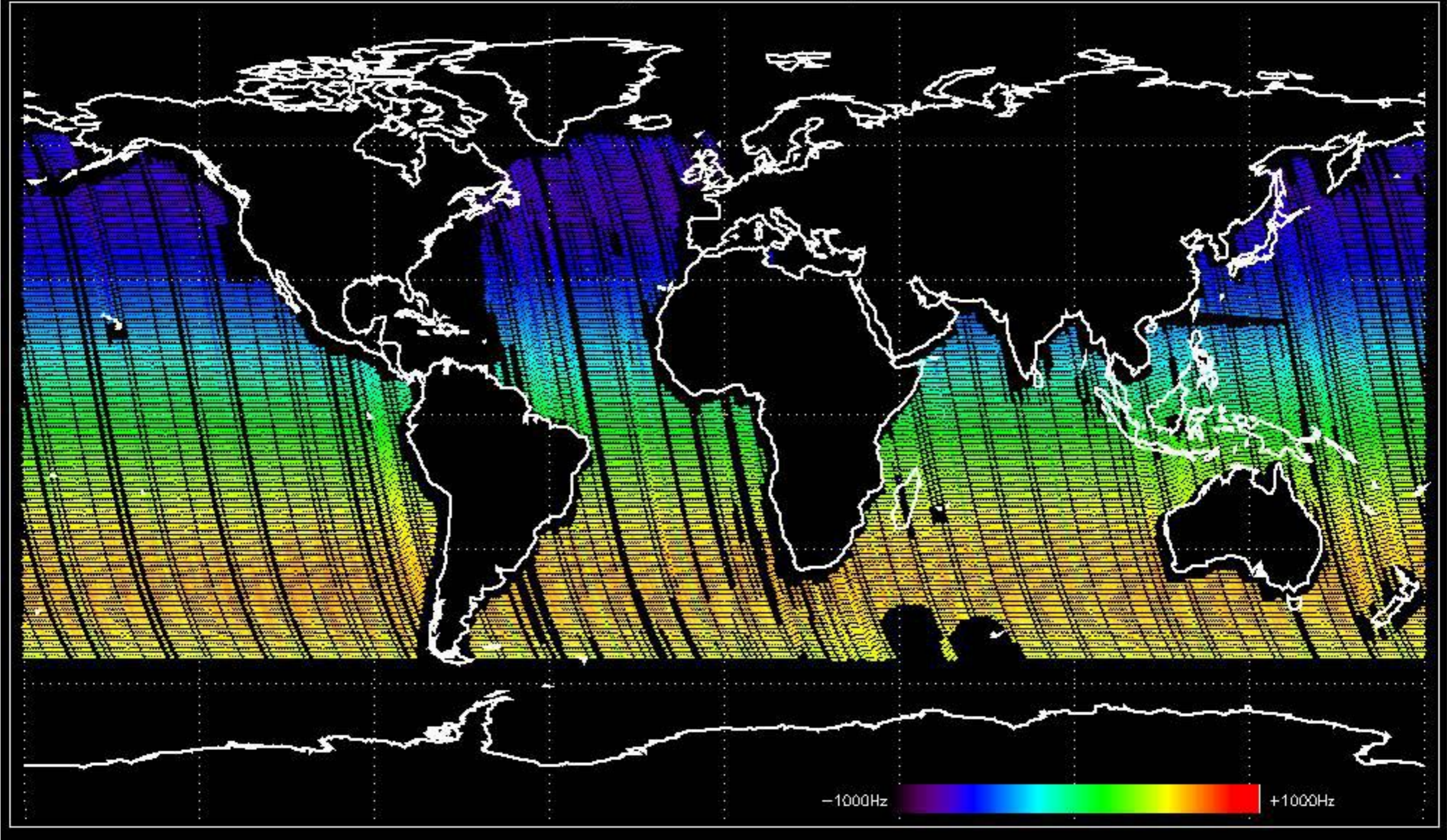
Doppler 'GM1' 'SS1' ascending



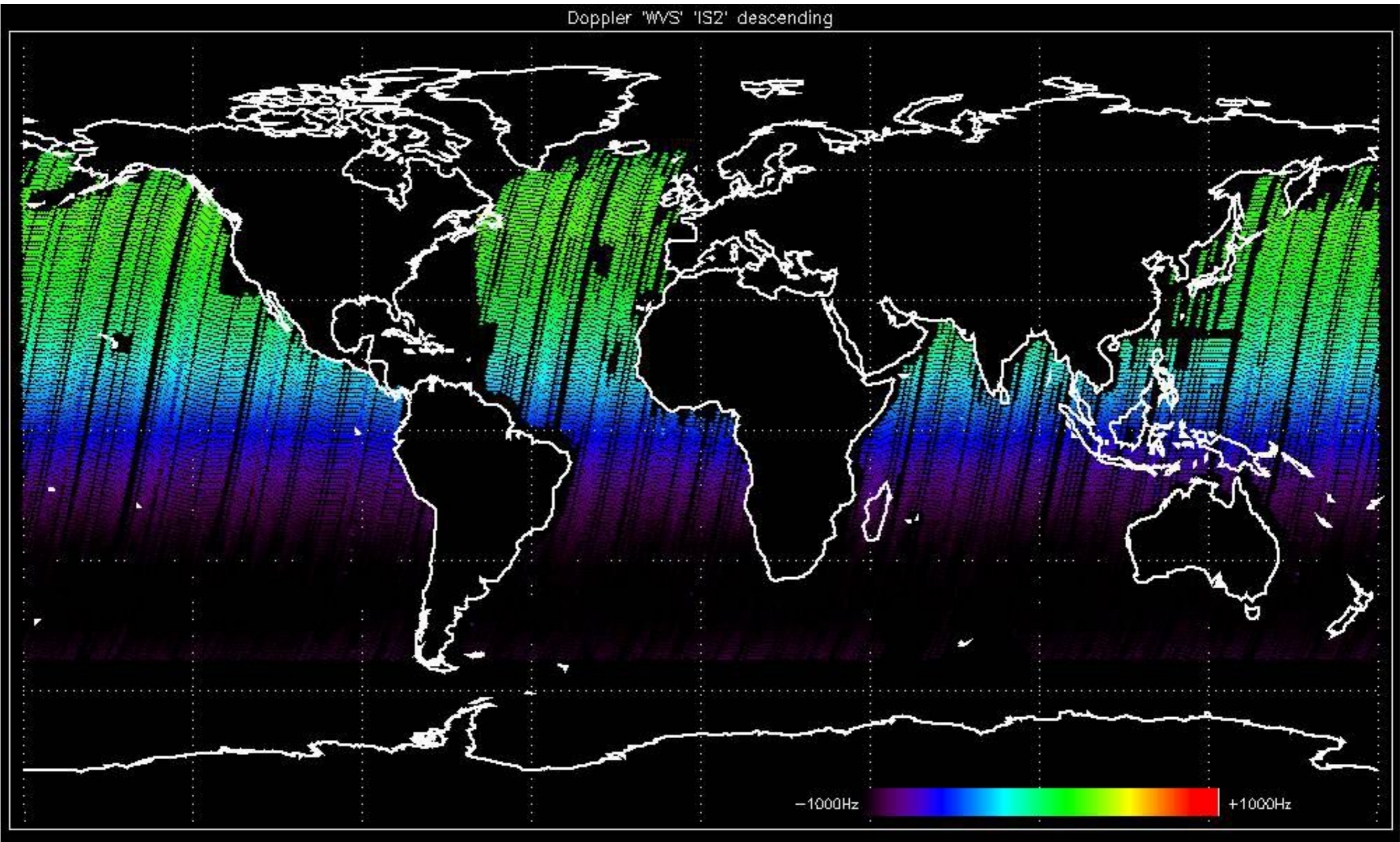
Doppler 'GM1' 'SS1' descending



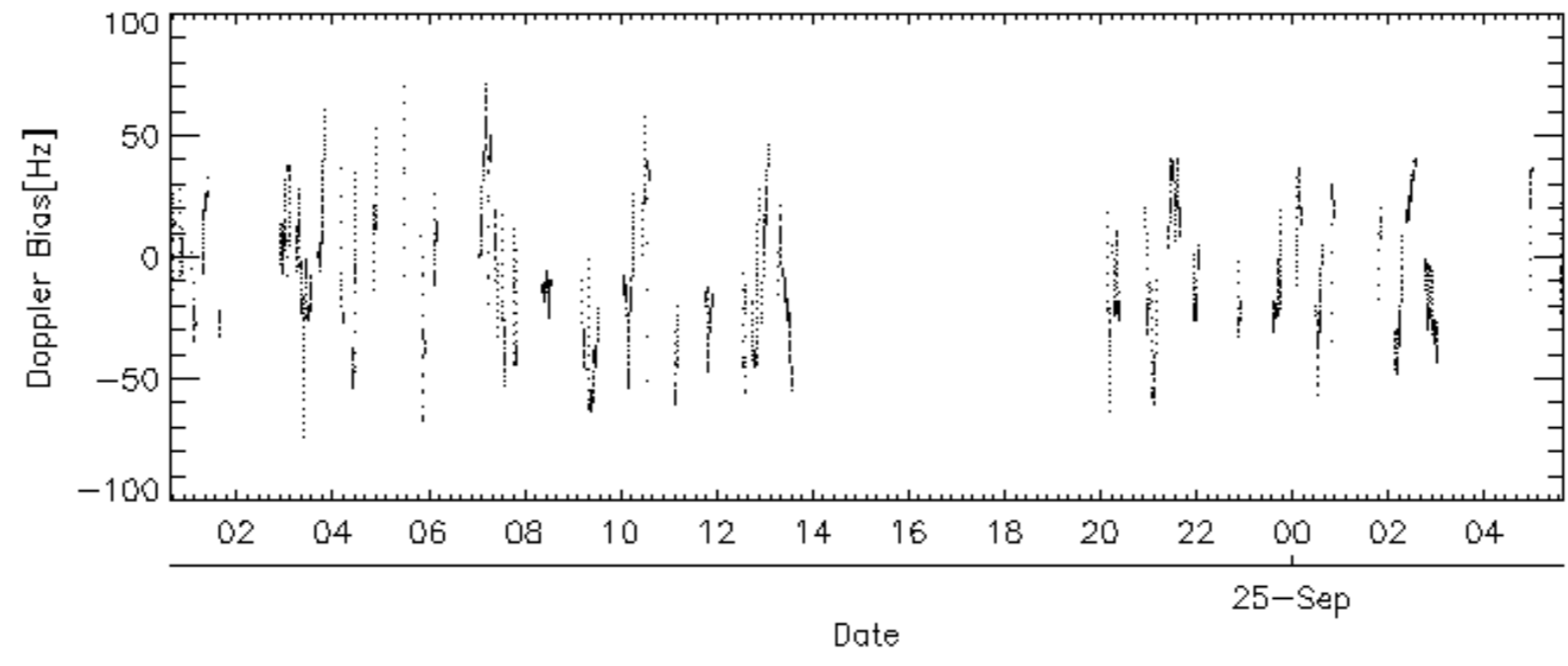
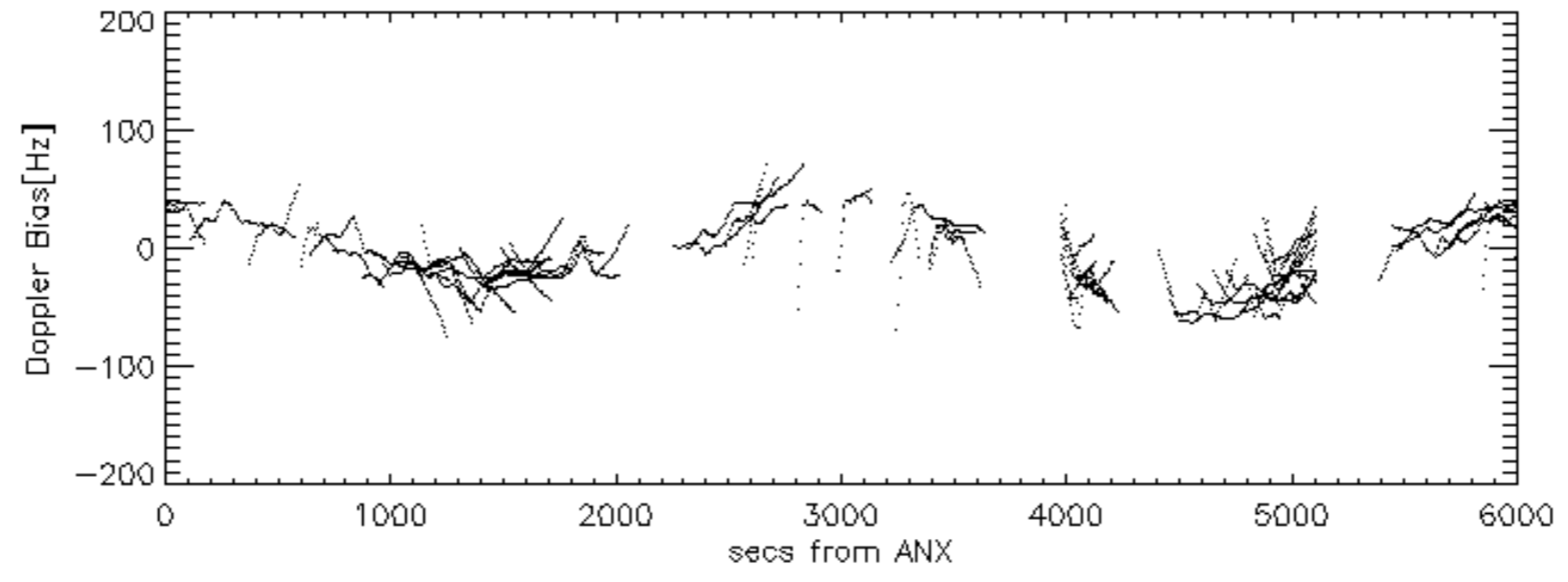
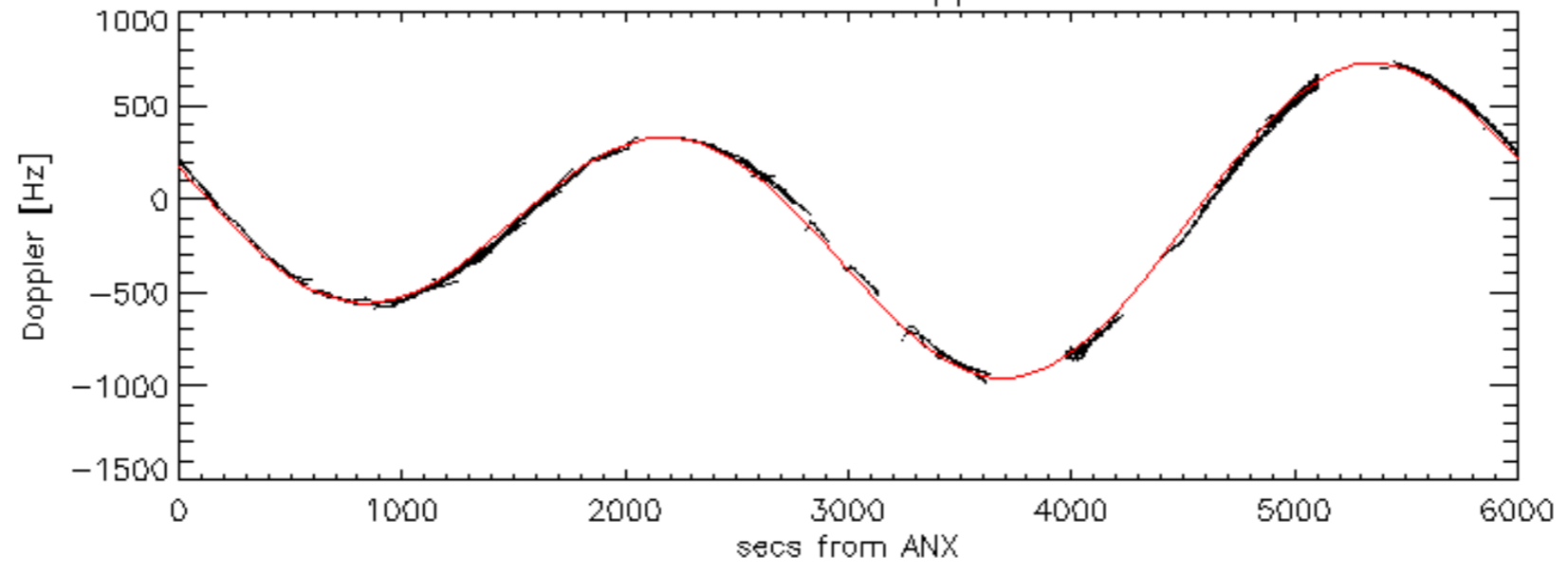
Doppler 'WVS' 'IS2' ascending

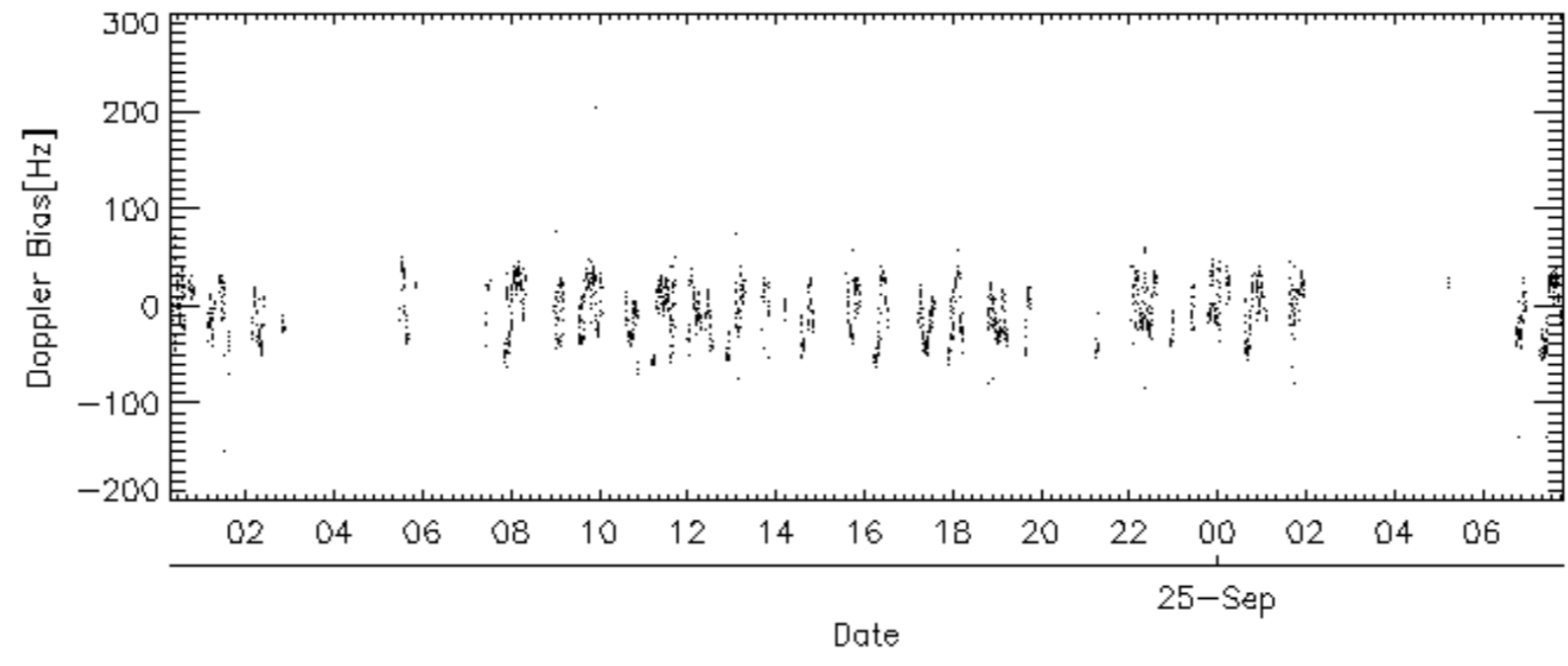
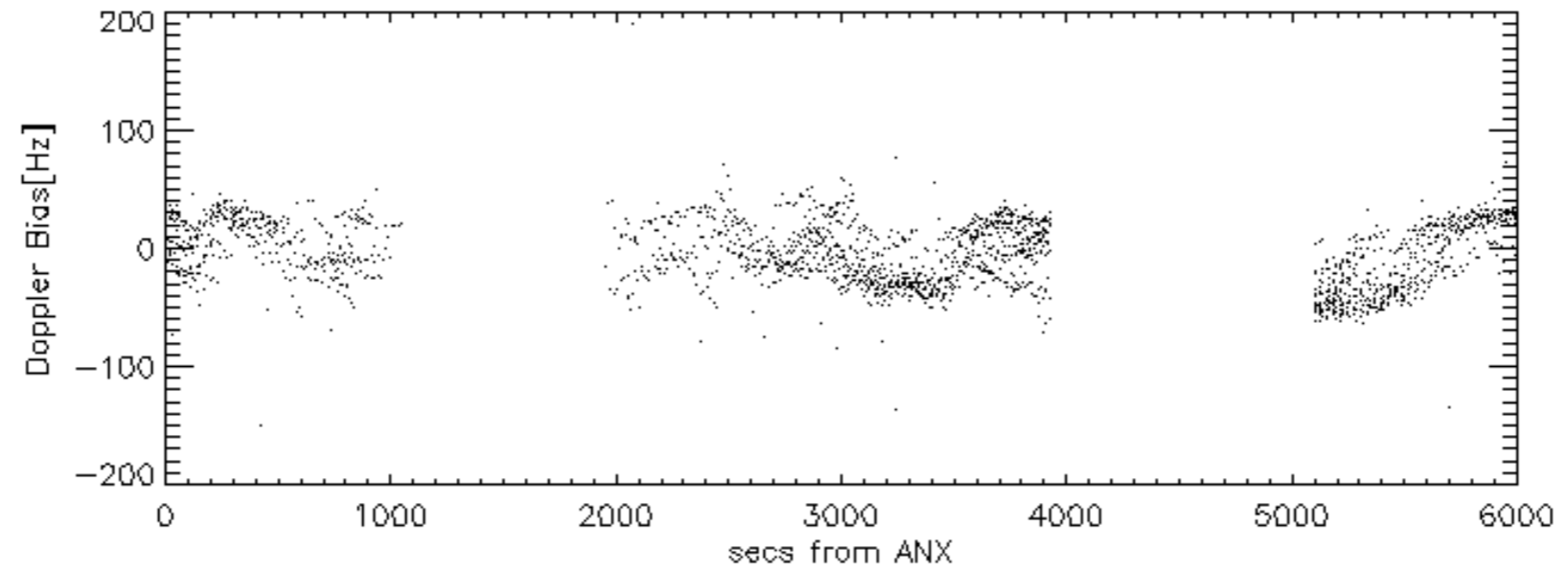
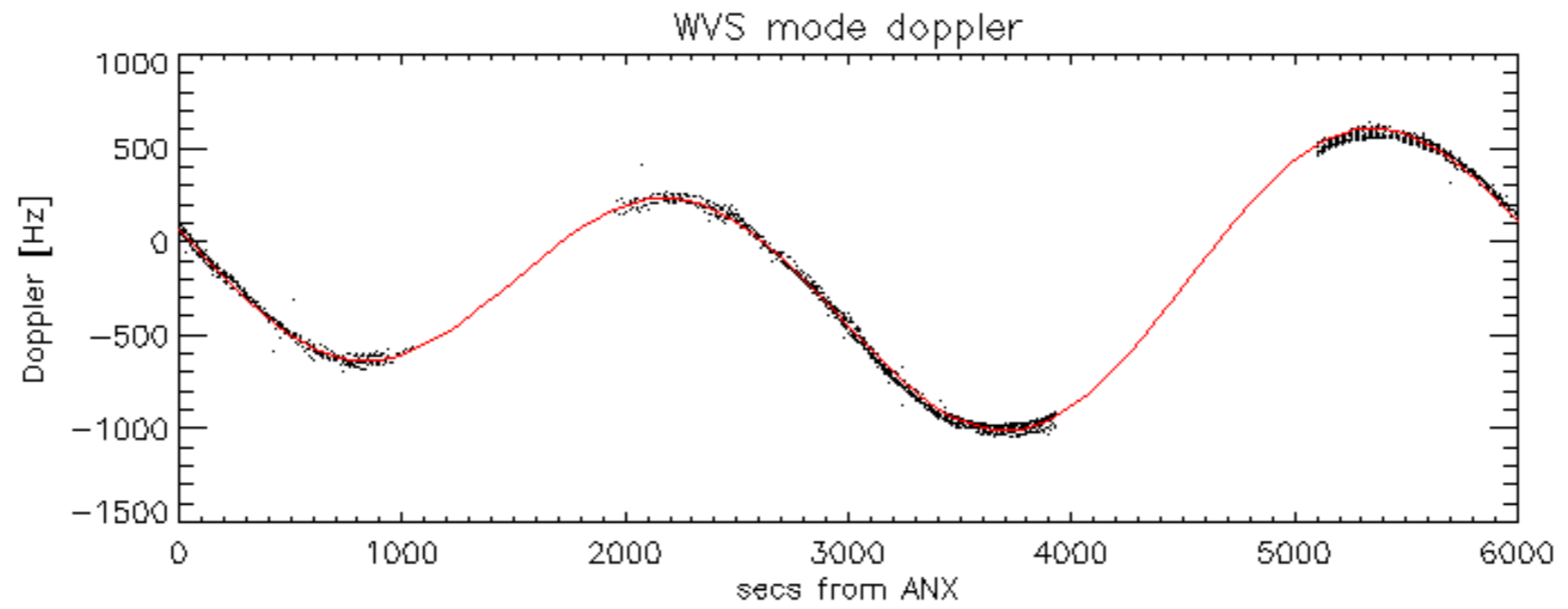


Doppler 'WVS' 'IS2' descending

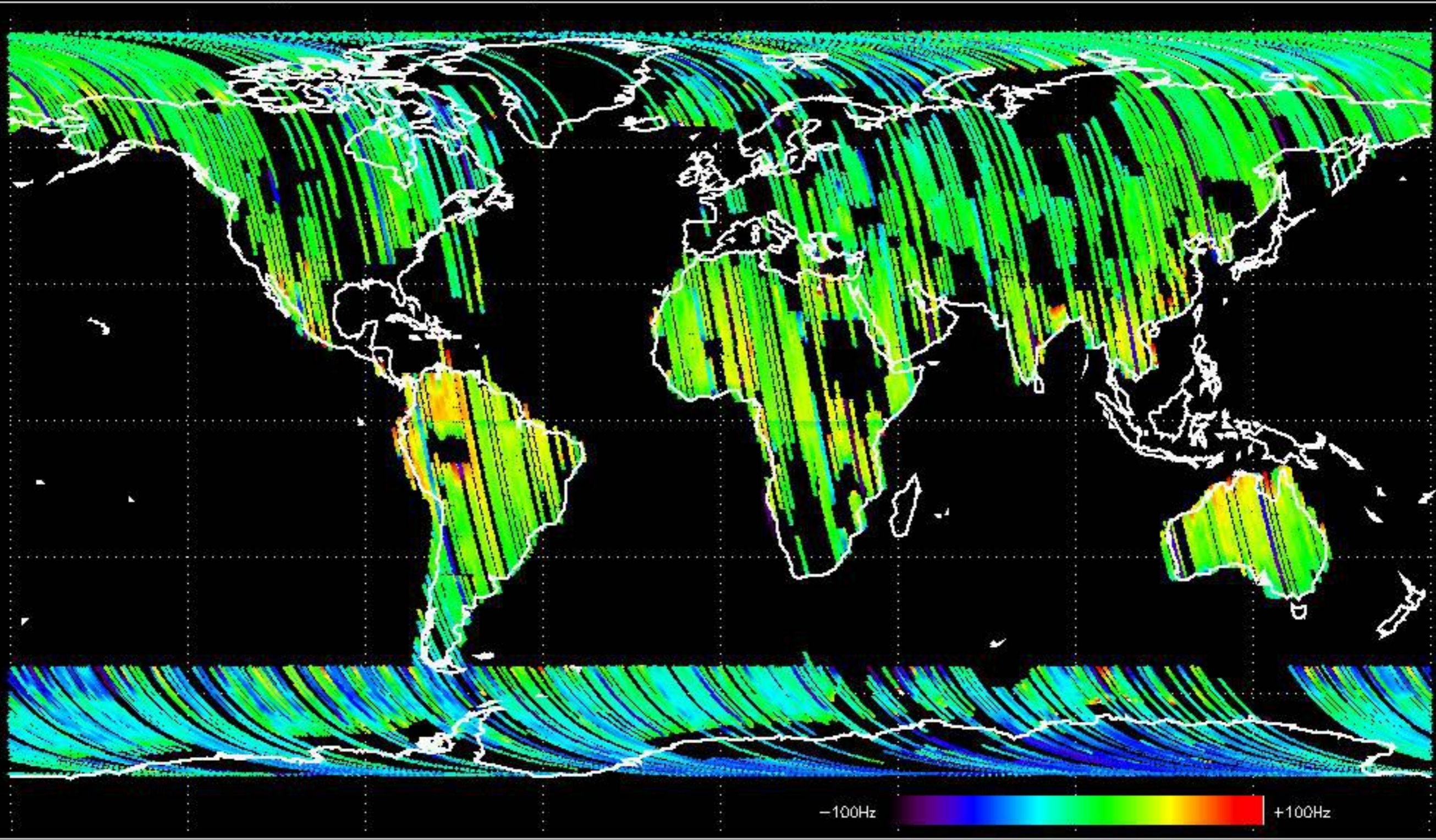


GM1 mode doppler

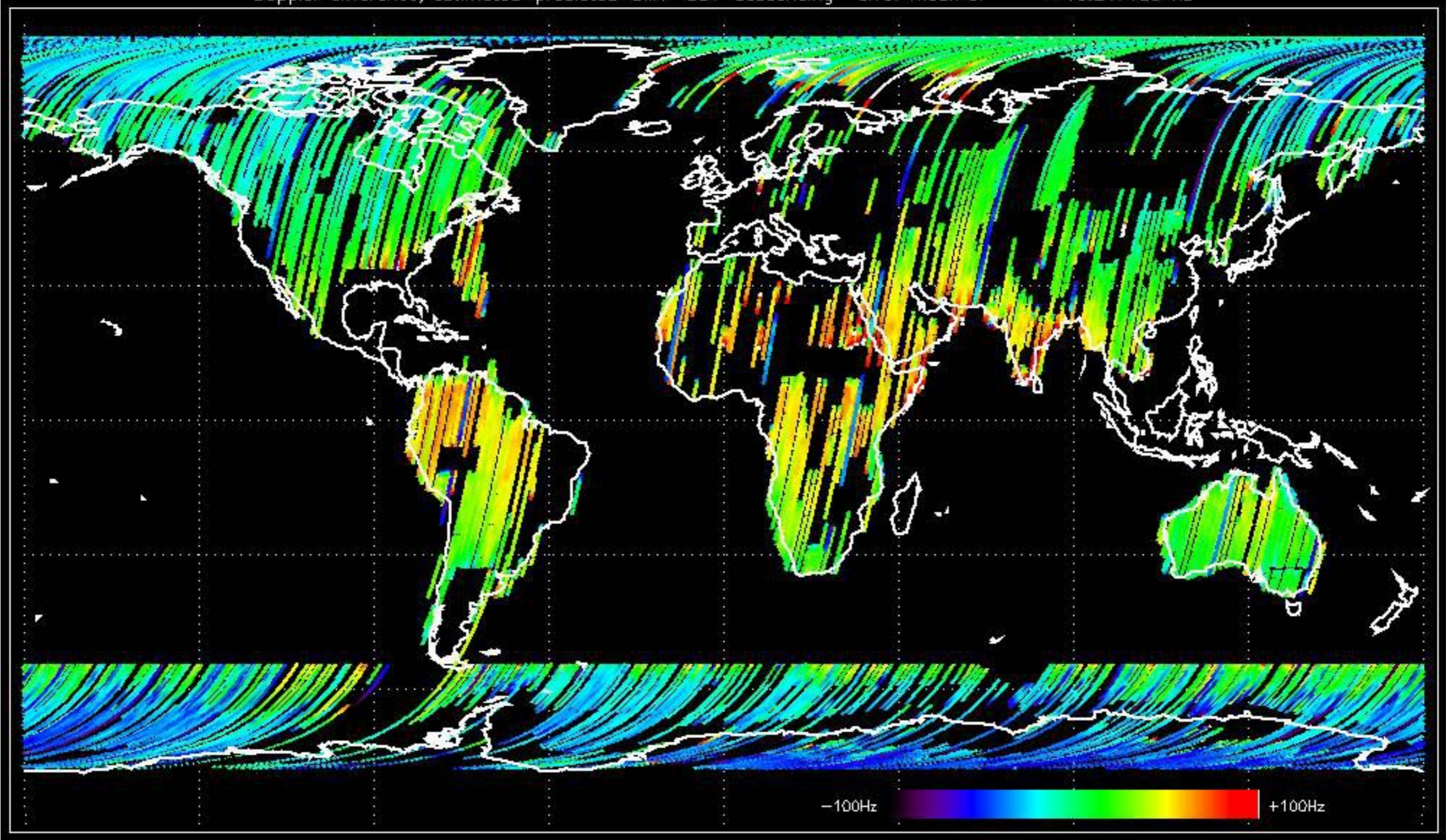




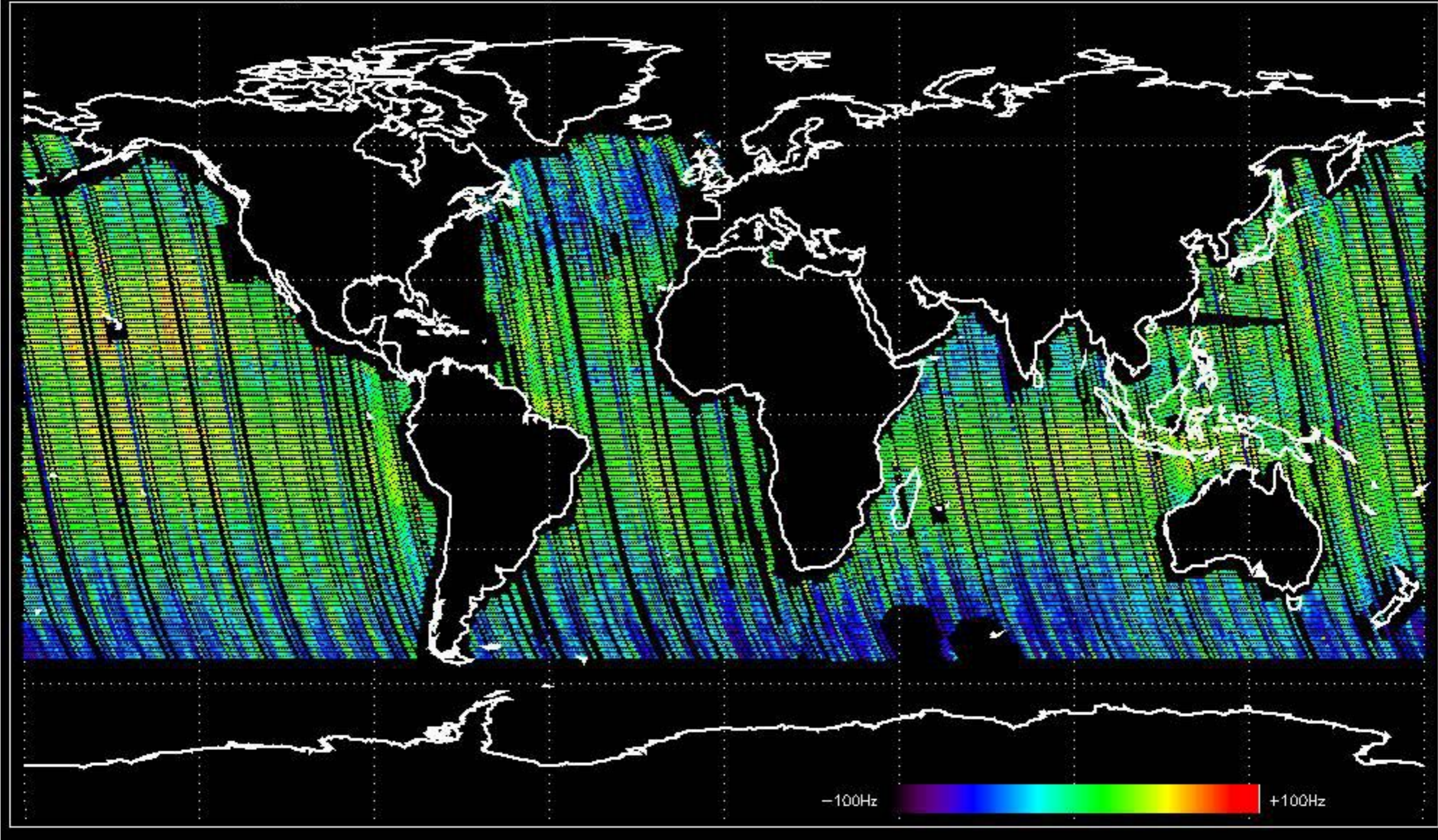
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -22.274792 Hz



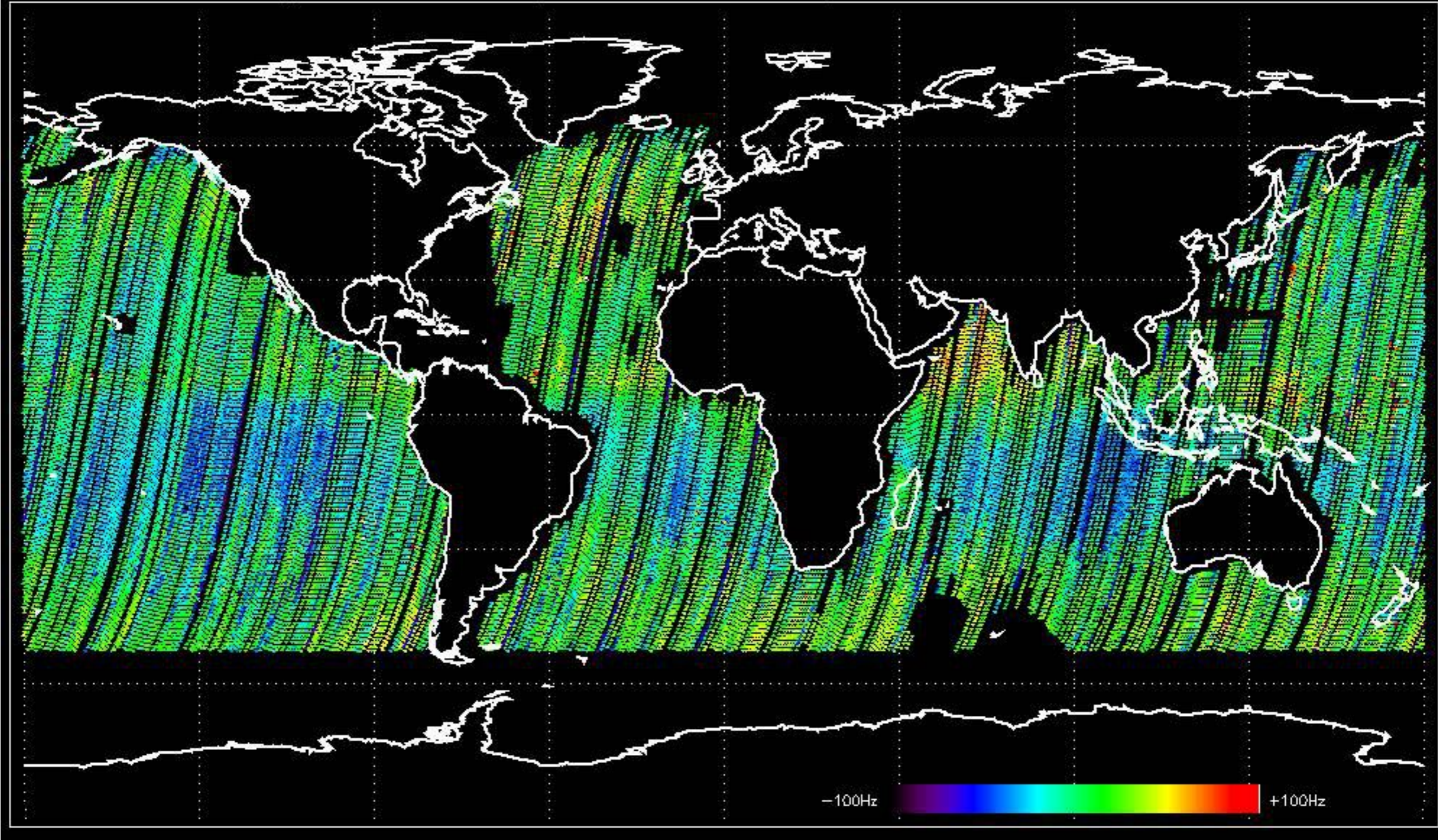
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -13.247135 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -10.735596 Hz

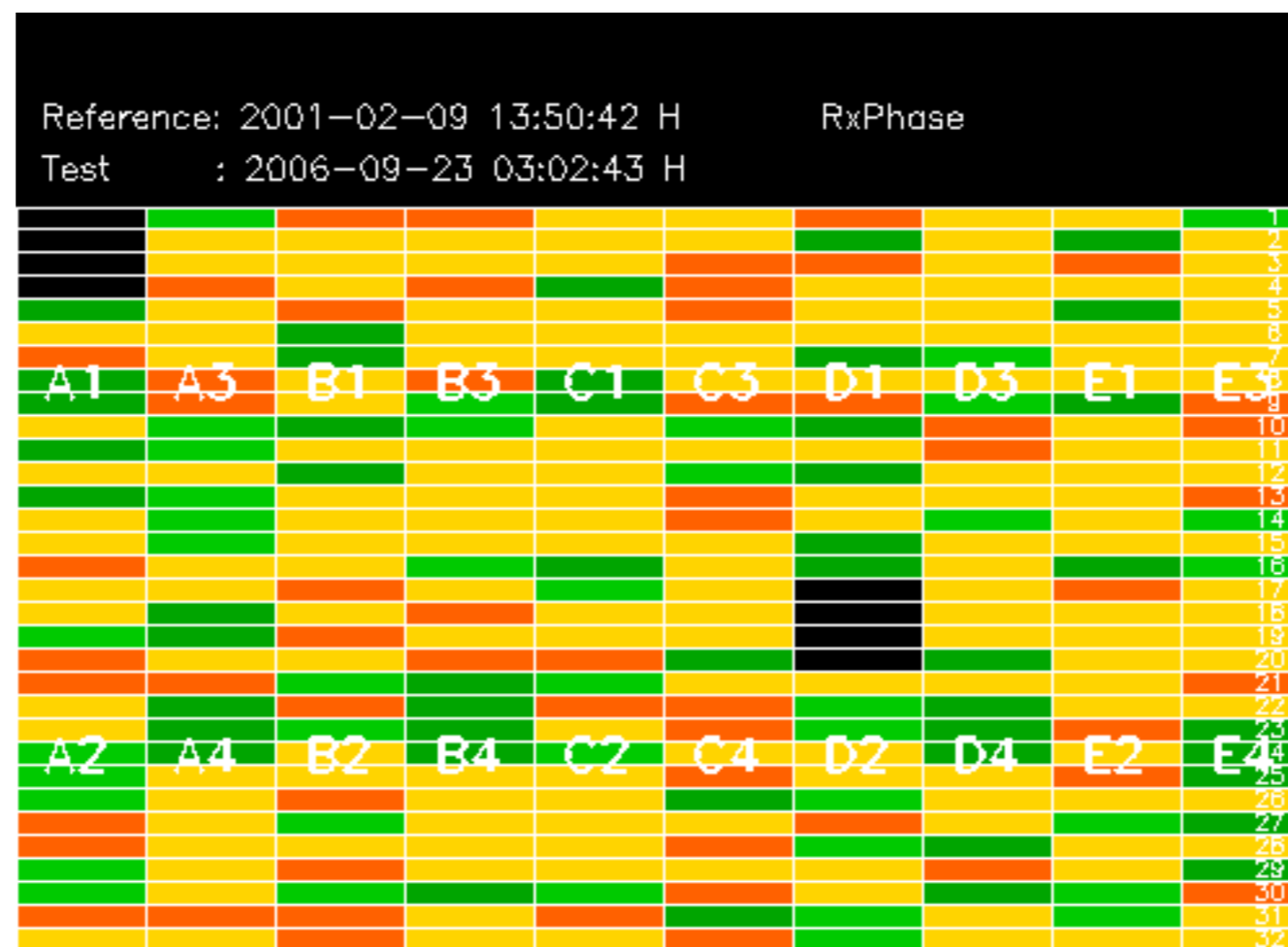


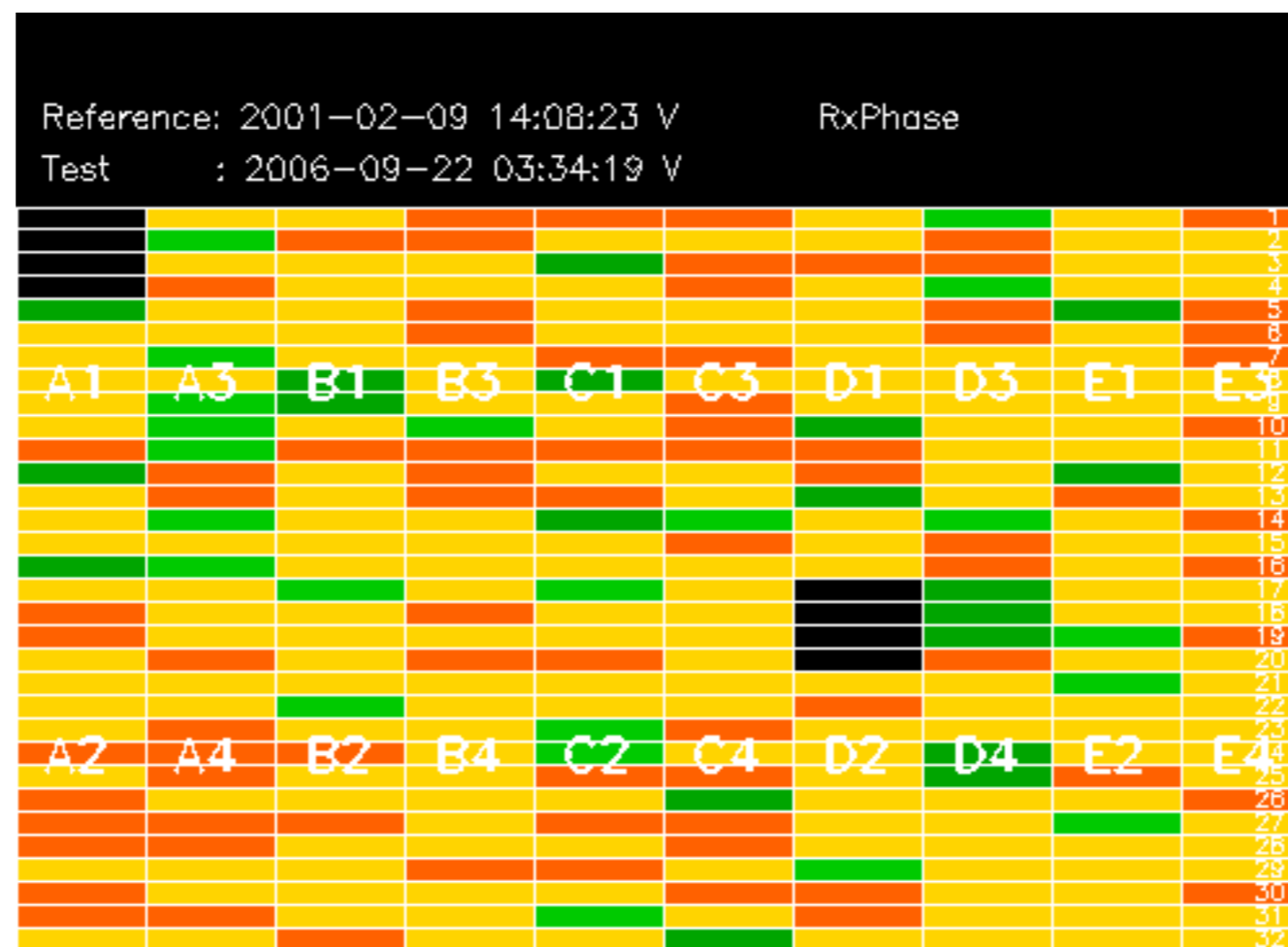
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -14.202159 Hz

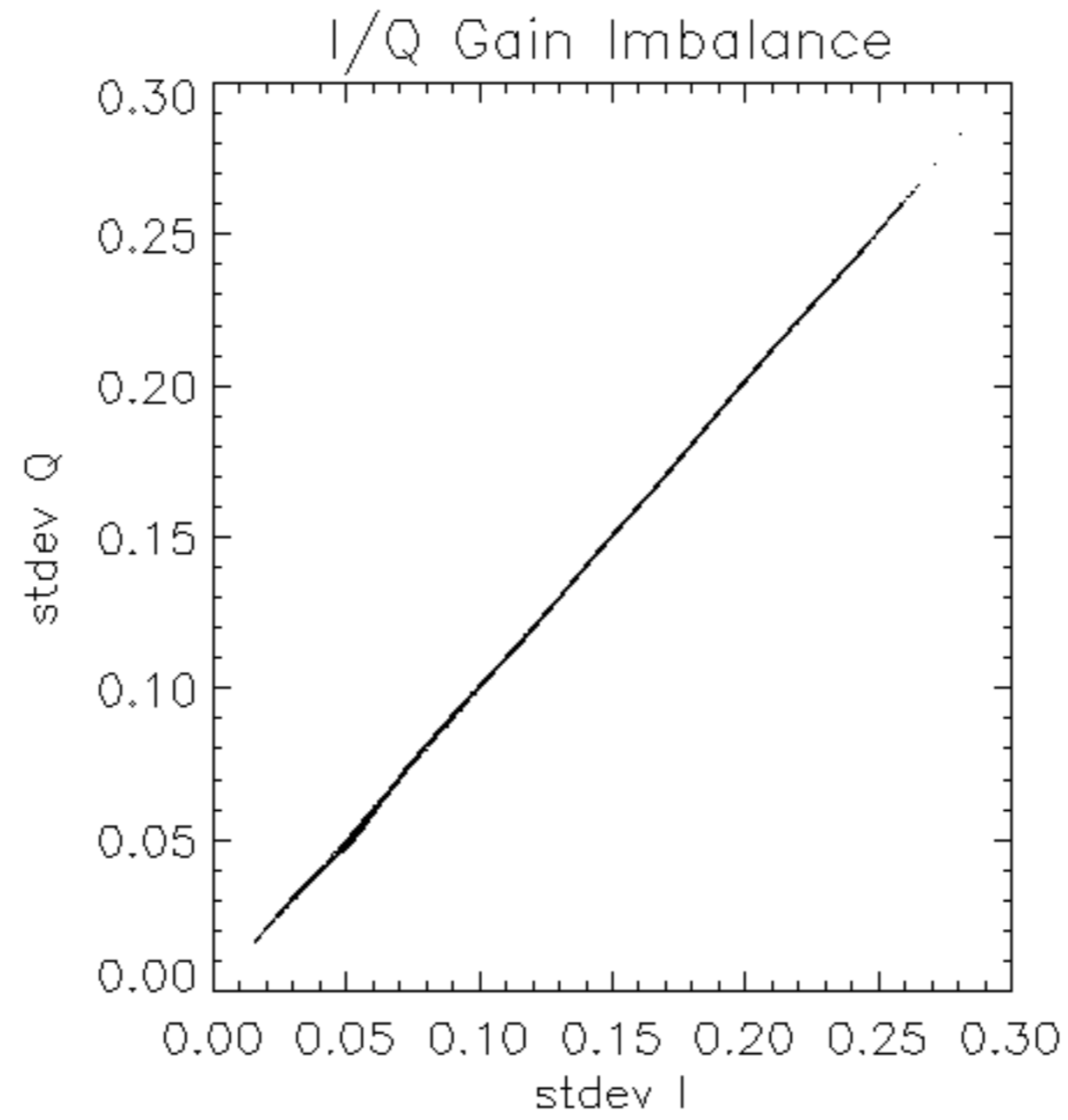


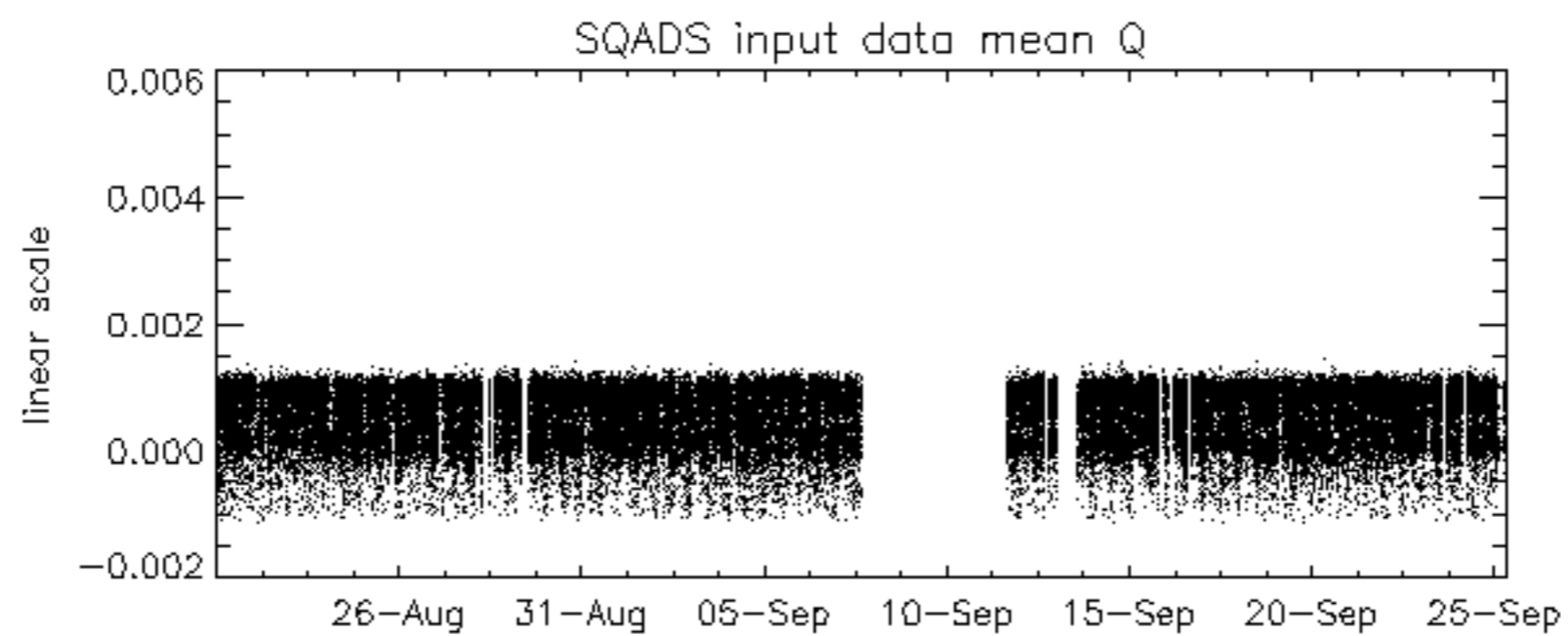
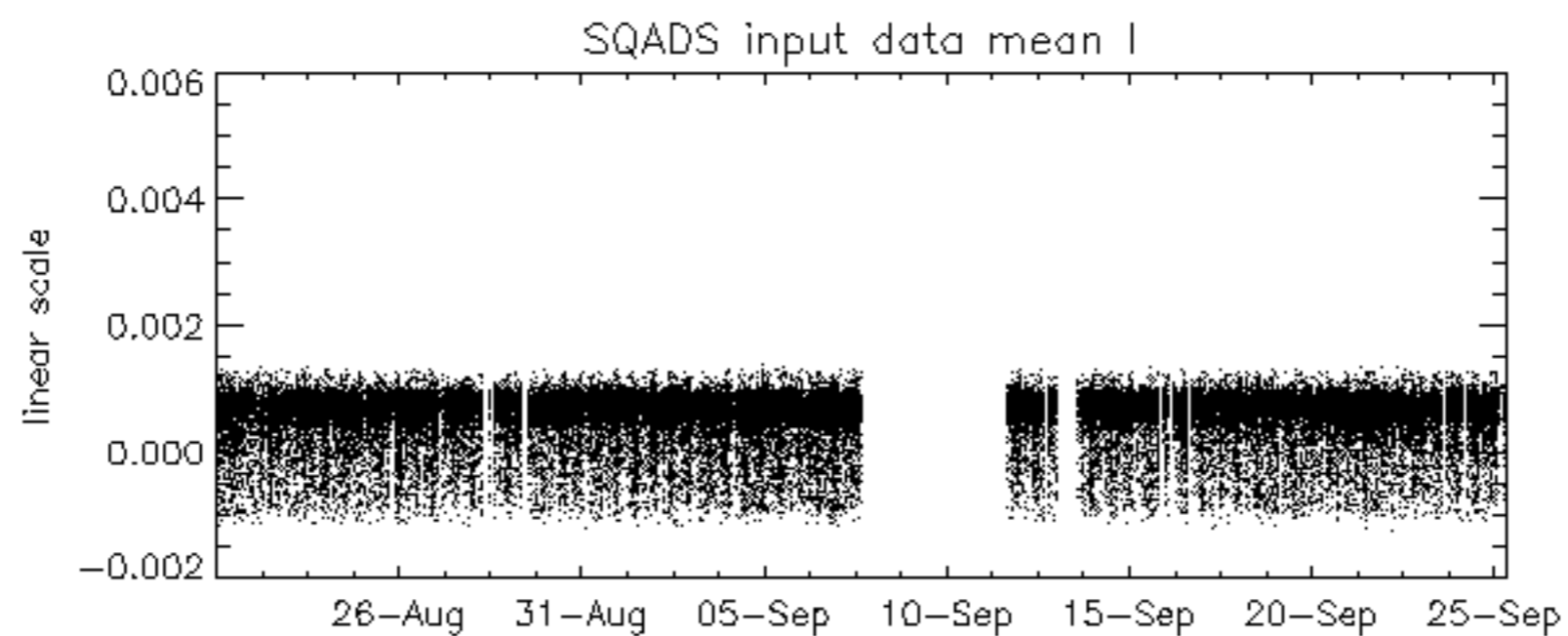
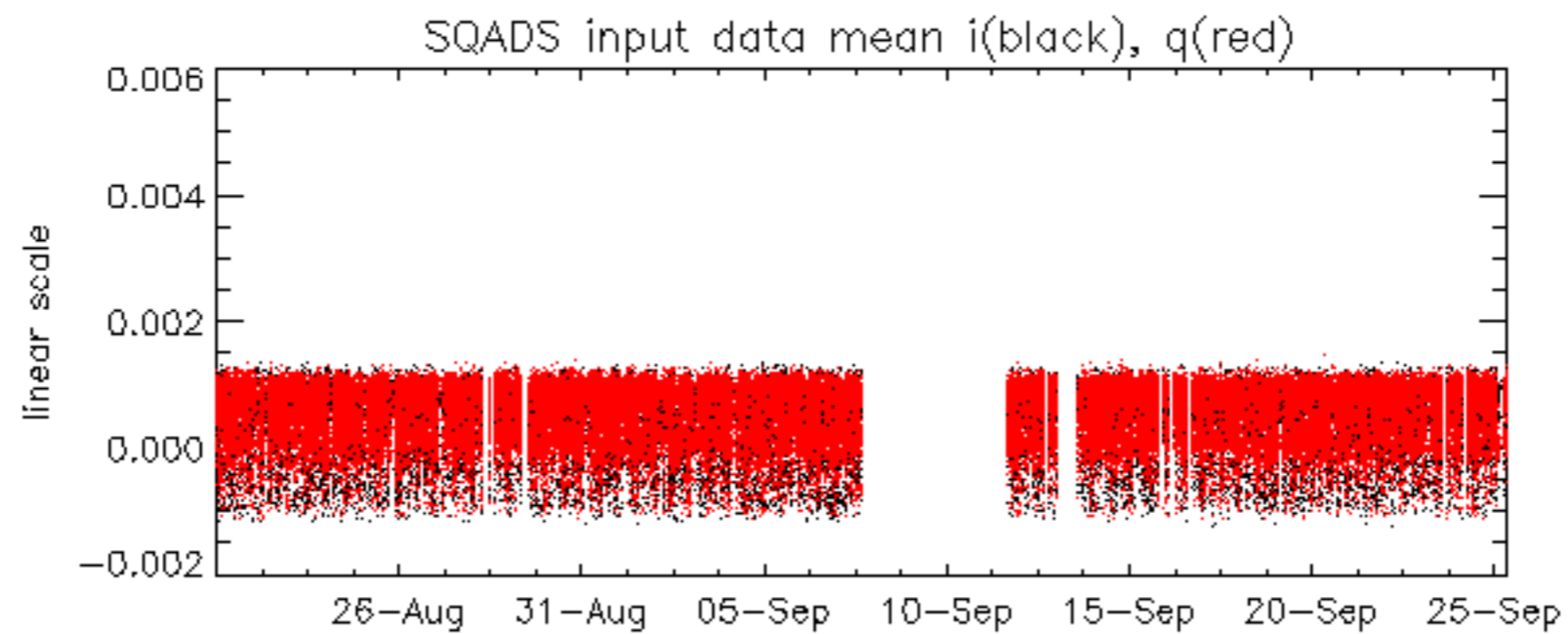
No anomalies observed on available MS products:

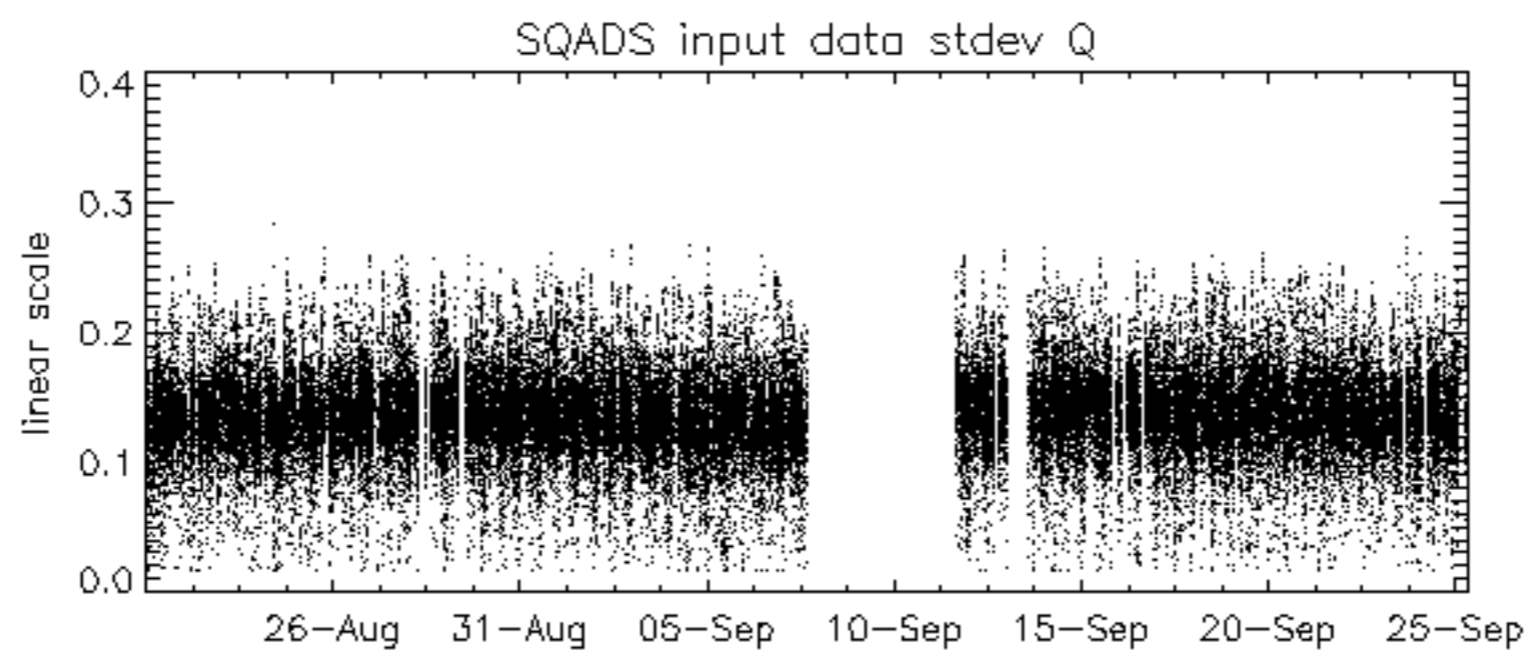
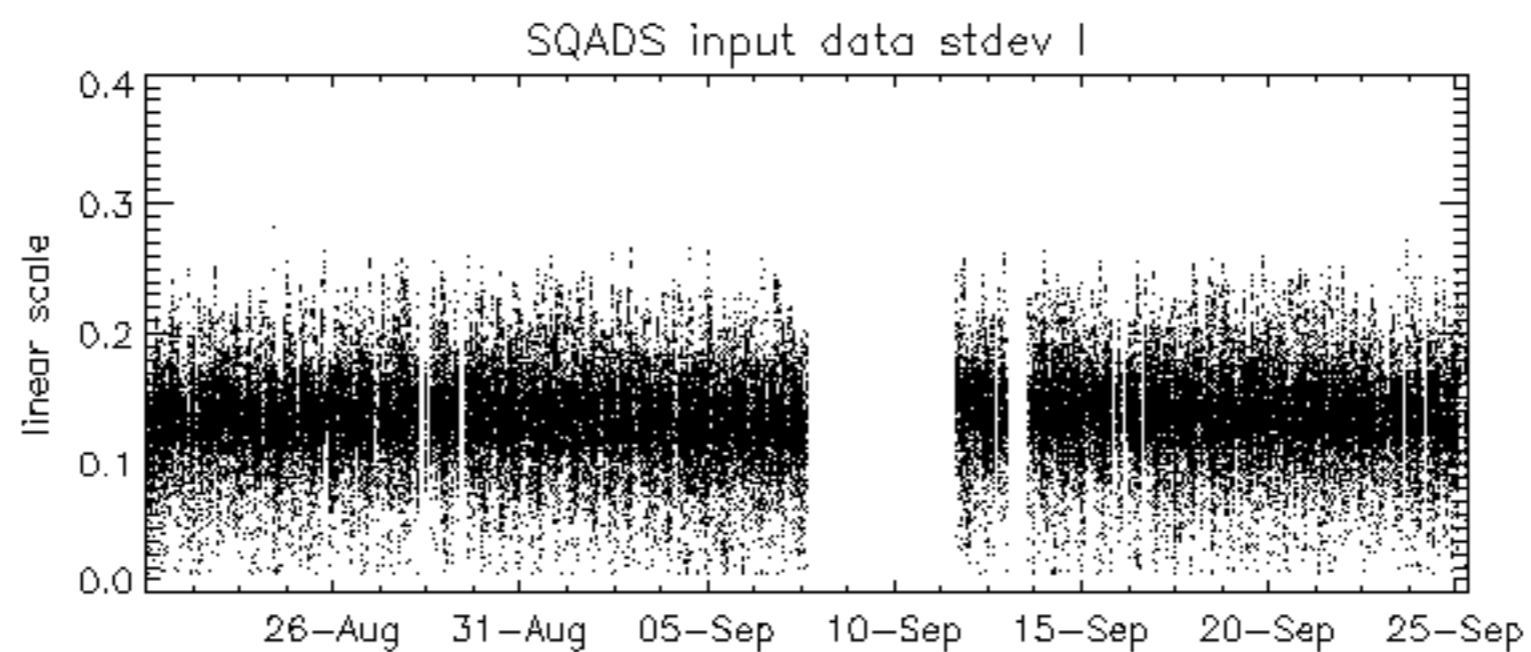
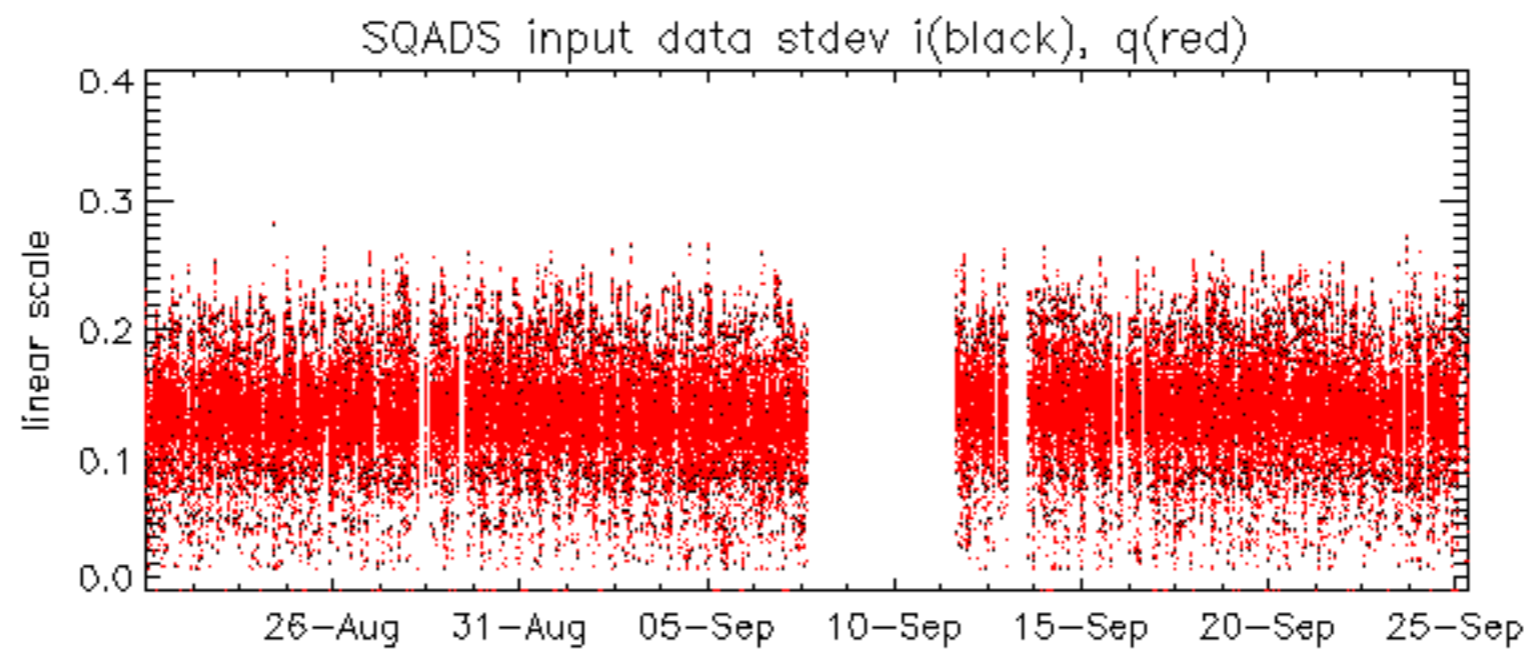
No anomalies observed.







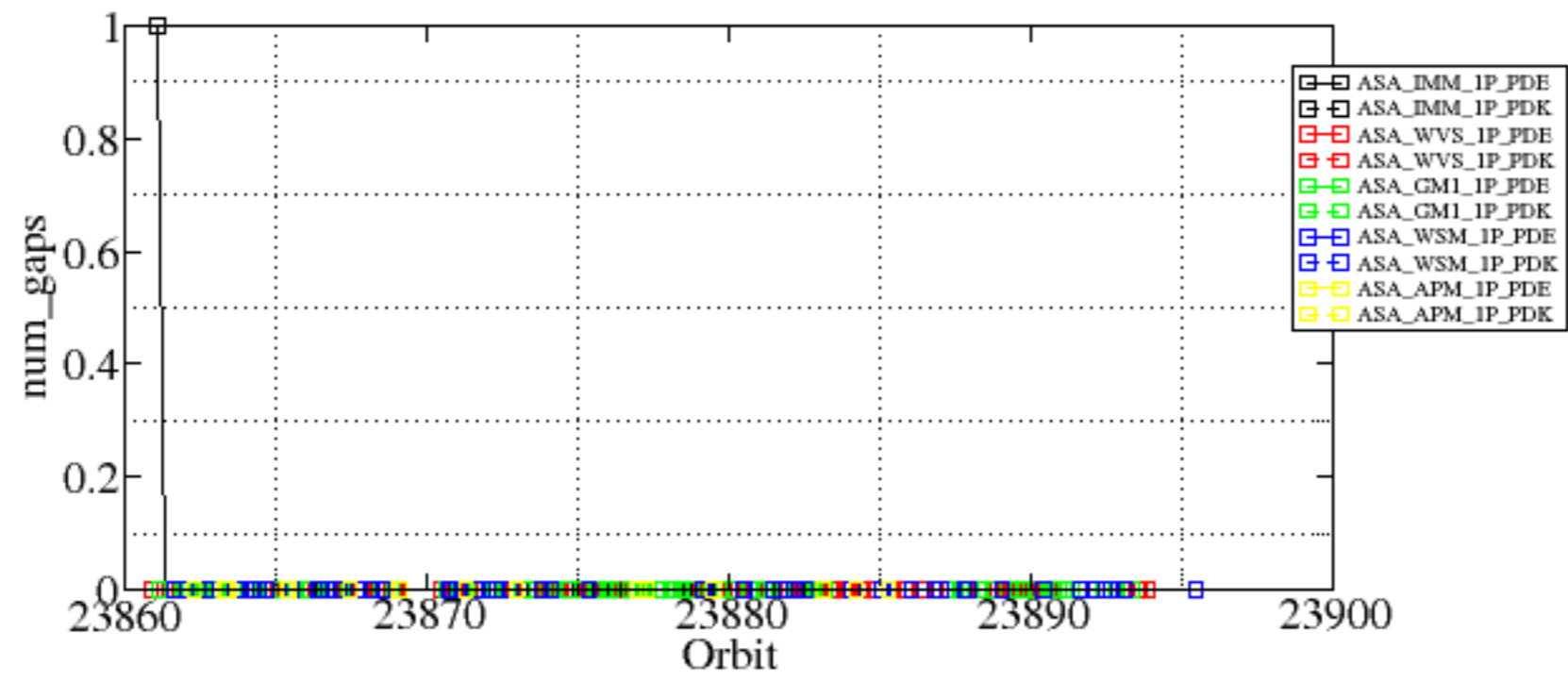


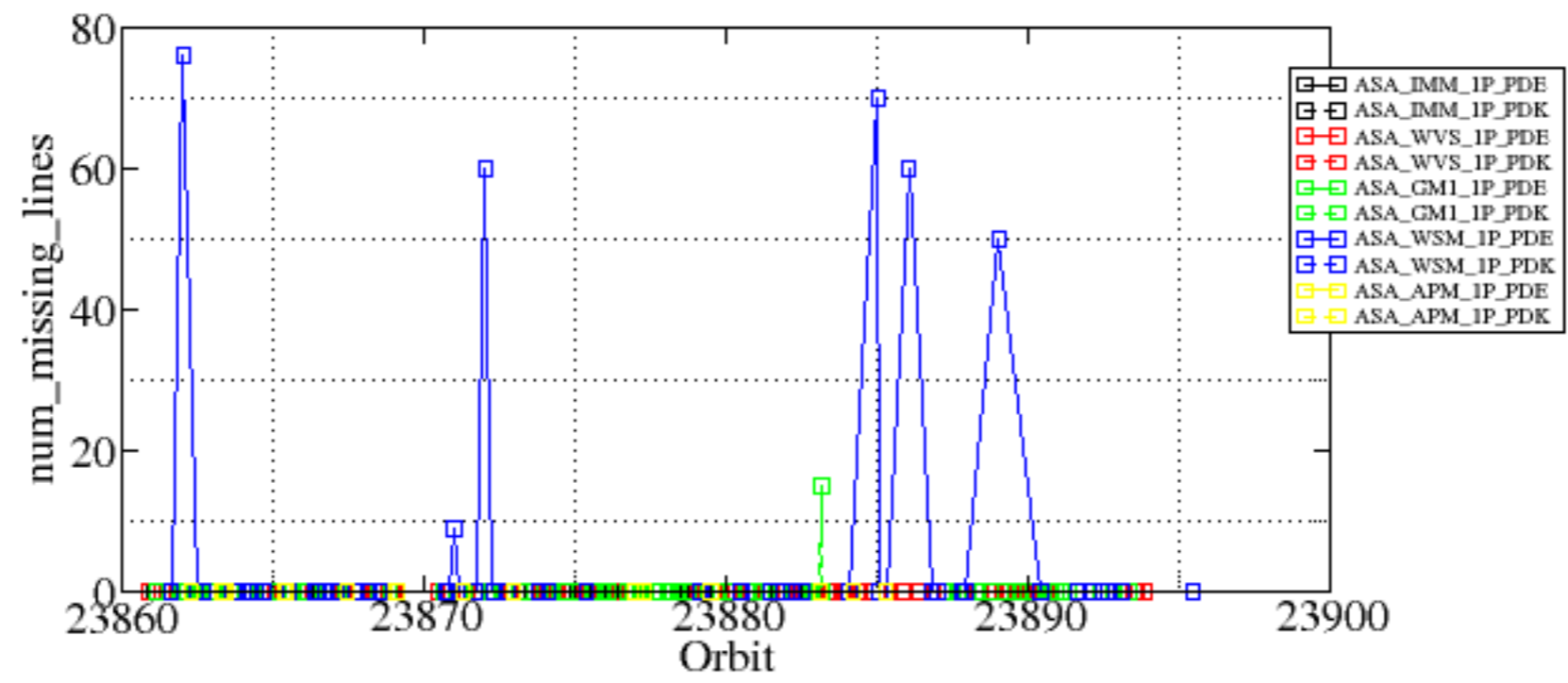


Summary of analysis for the last 3 days 2006092[345]

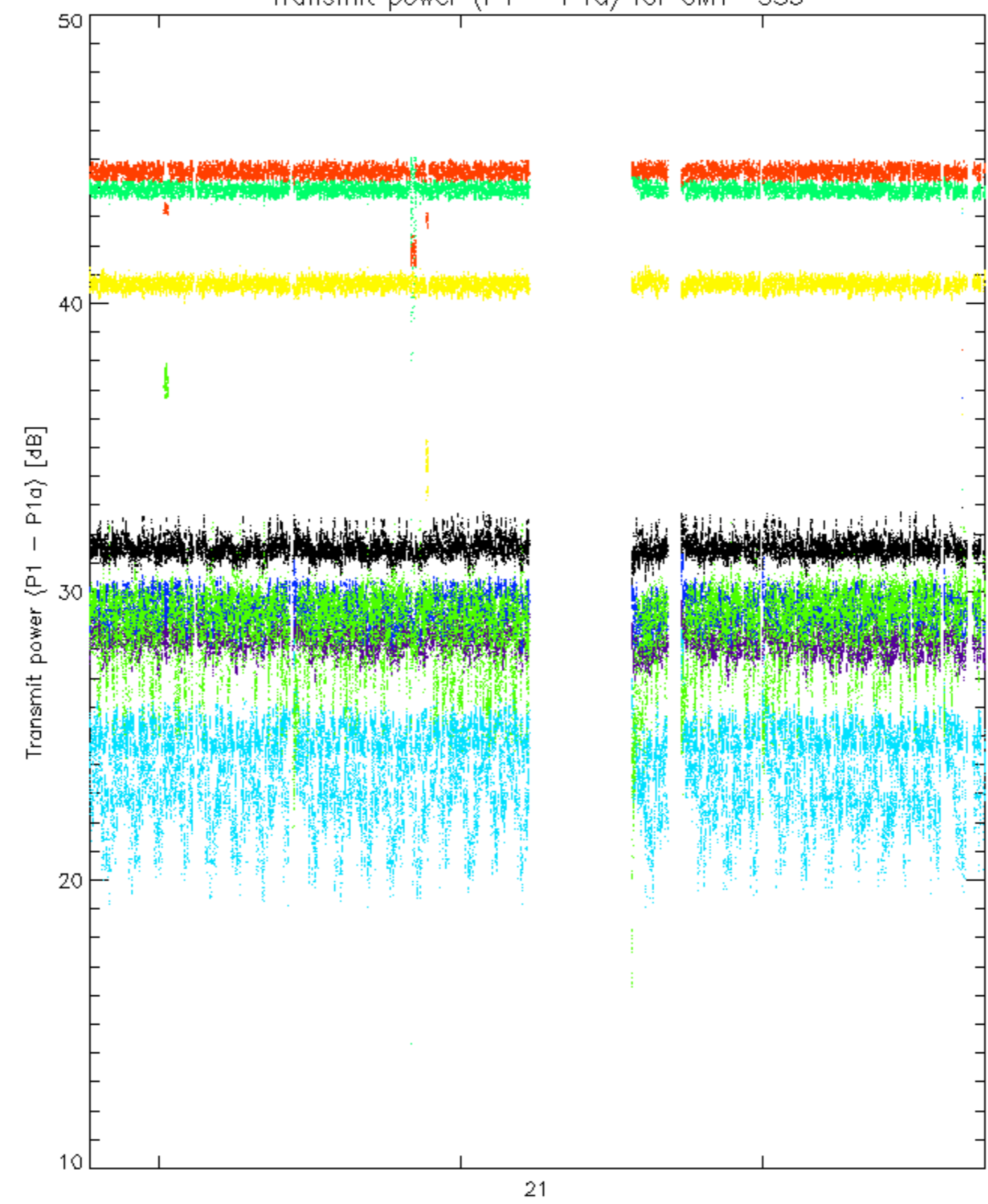
The assumption is taken that the SQUADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

| Filename | num_gaps | num_missing_lines |
|--|----------|-------------------|
| ASA_IMM_1PNPDE20060923_002304_000002162051_00260_23861_6274.N1 | 1 | 0 |
| ASA_GM1_1PNPDK20060924_132252_000006402051_00282_23883_5084.N1 | 0 | 15 |
| ASA_WSM_1PNPDE20060923_015903_000001462051_00261_23862_3490.N1 | 0 | 76 |
| ASA_WSM_1PNPDE20060923_170154_000002452051_00270_23871_3584.N1 | 0 | 9 |
| ASA_WSM_1PNPDE20060923_184505_000003062051_00271_23872_3602.N1 | 0 | 60 |
| ASA_WSM_1PNPDE20060924_163151_000001282051_00284_23885_3698.N1 | 0 | 70 |
| ASA_WSM_1PNPDE20060924_181428_000002142051_00285_23886_3707.N1 | 0 | 60 |
| ASA_WSM_1PNPDE20060924_231433_000000972051_00288_23889_3734.N1 | 0 | 50 |

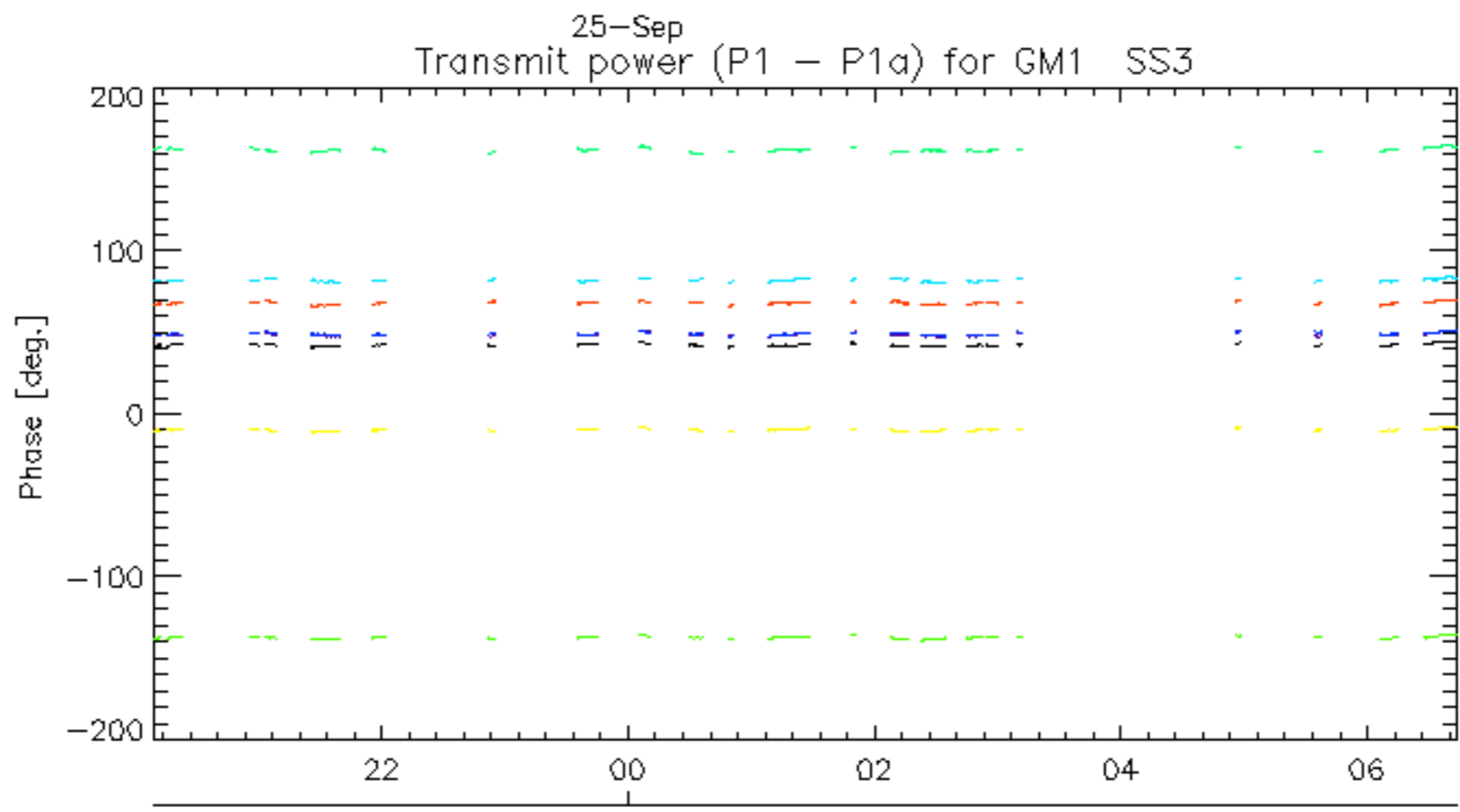
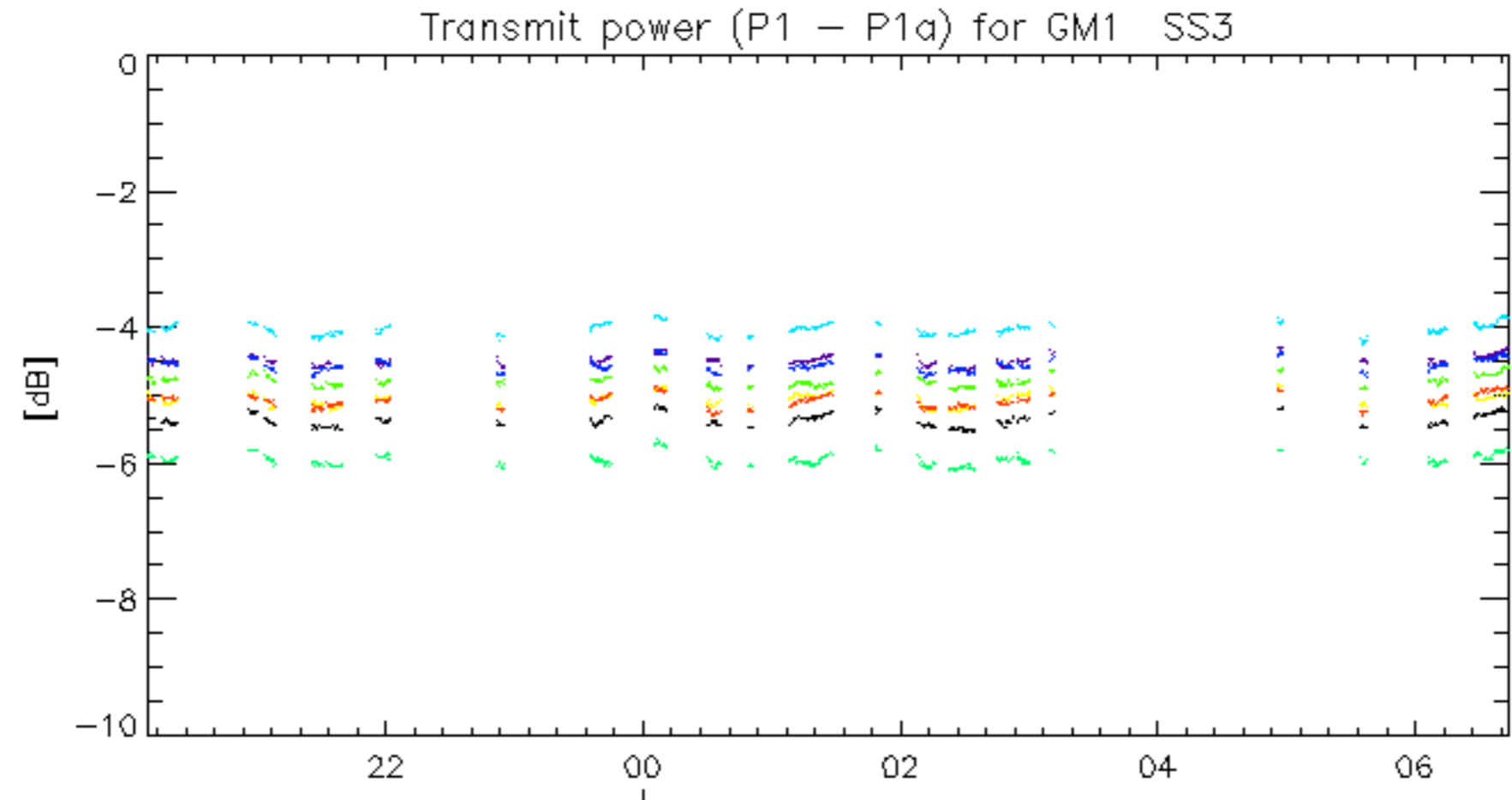




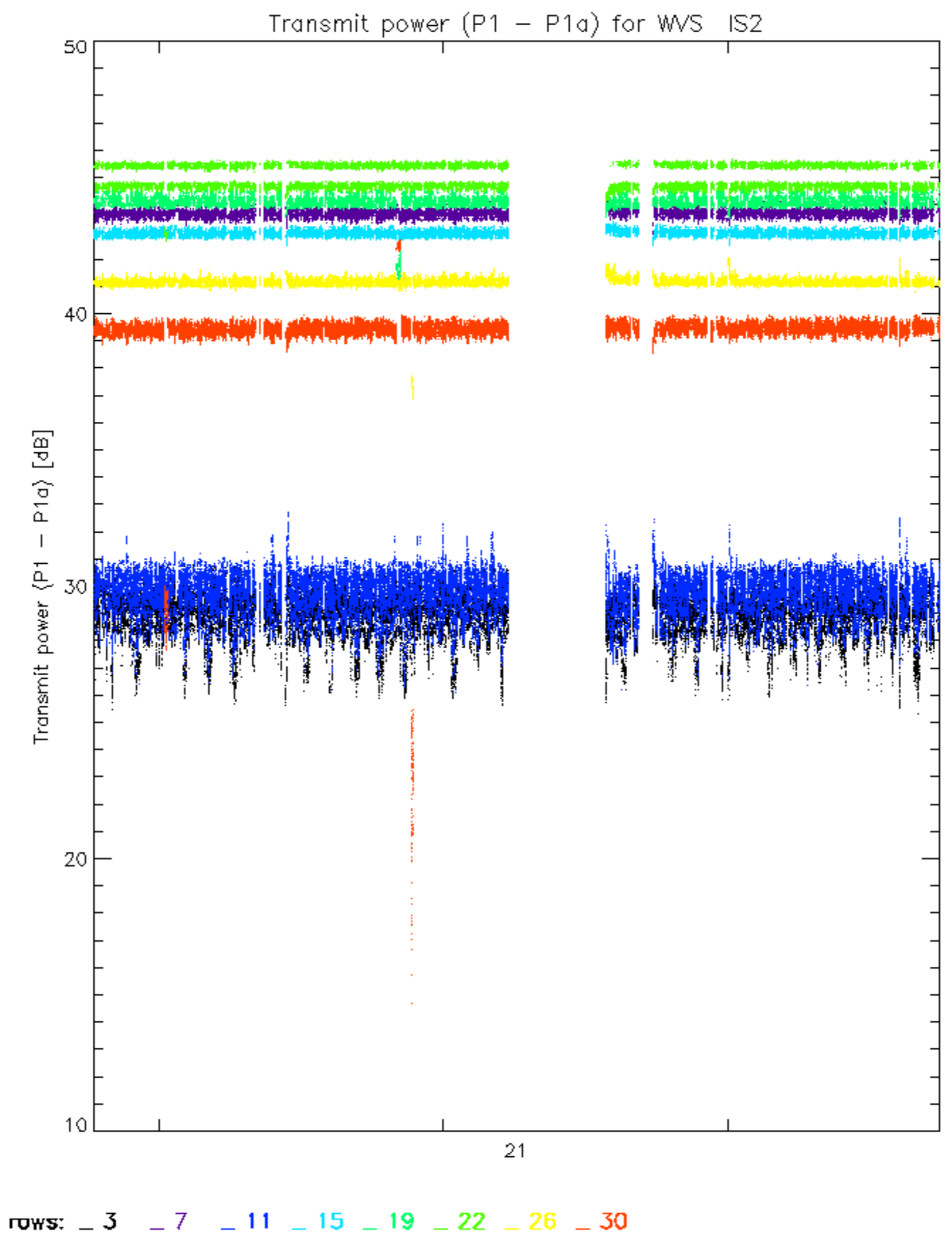
Transmit power (P1 - P1a) for GM1 SS3

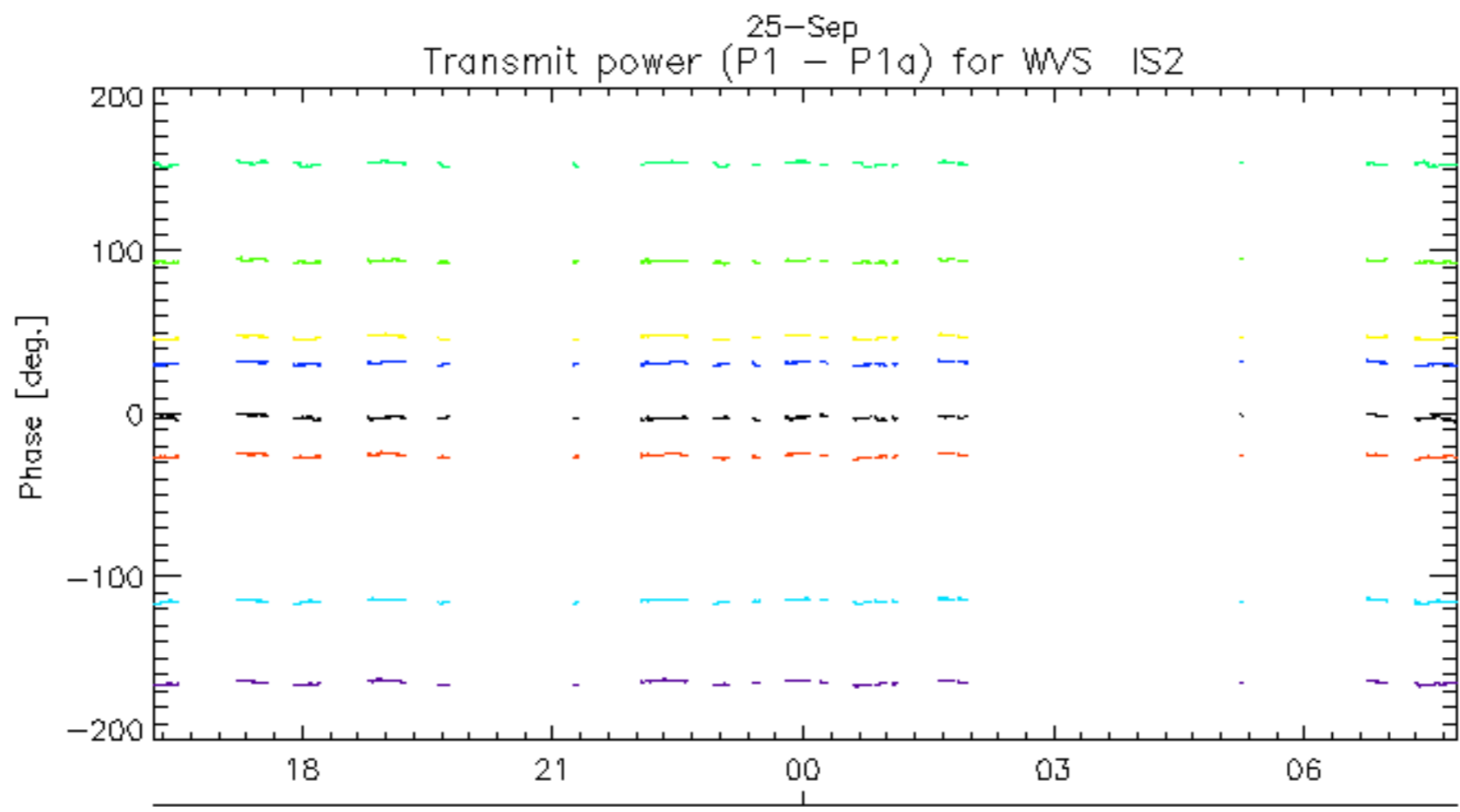
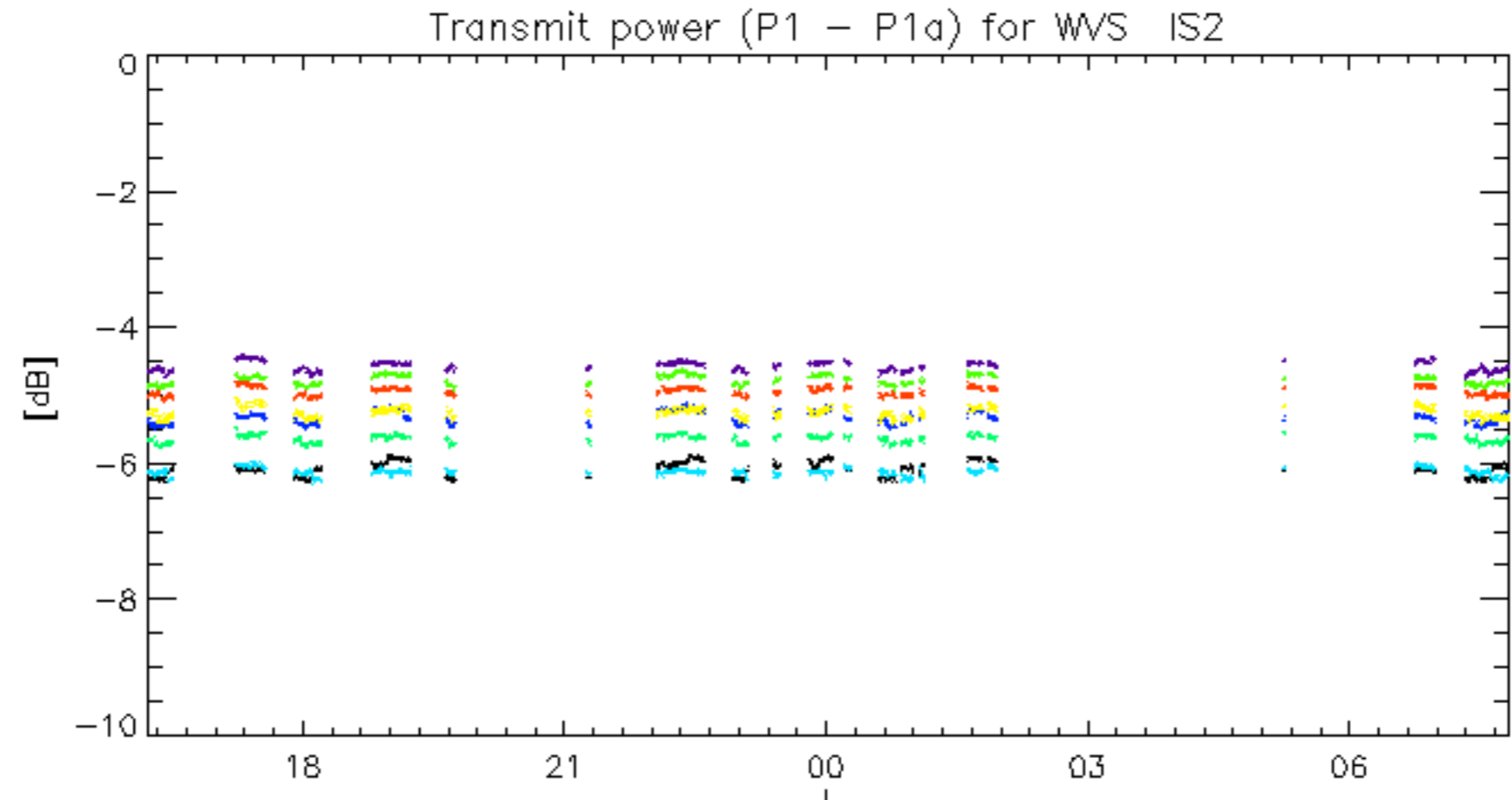


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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





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

No unavailabilities during the reported period.