

PRELIMINARY REPORT OF 060908

last update on Fri Sep 8 16:38:24 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 2006-09-07 00:00:00 to 2006-09-08 16:38:24

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

| | | | | | |
|---|----|----|---|---|---|
| ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000 | 20 | 32 | 7 | 1 | 0 |
| ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000 | 20 | 32 | 7 | 1 | 0 |
| ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000 | 20 | 32 | 7 | 1 | 0 |
| ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 | 20 | 32 | 7 | 1 | 0 |

| PDHS-E | | | | | |
|---|-----|-----|-----|-----|-----|
| AUXILIARY FILE | WVS | GM1 | IMM | APM | WSM |
| ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000 | 17 | 29 | 10 | 12 | 35 |
| ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000 | 17 | 29 | 10 | 12 | 35 |
| ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000 | 17 | 29 | 10 | 12 | 35 |
| ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 | 17 | 29 | 10 | 12 | 35 |

2.3 - Browse Visual Inspection

No anomalies observed on available browse products

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 | 20060906 170159 |
| H | 20060907 062647 |

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

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 | -3.942023 | 0.009767 | 0.000488 |
| 7 | P1 | -3.067343 | 0.038780 | 0.060514 |
| 11 | P1 | -4.079653 | 0.066231 | 0.113026 |
| 15 | P1 | -6.204939 | 0.096353 | 0.104333 |
| 19 | P1 | -3.497144 | 0.045634 | -0.138735 |
| 22 | P1 | -4.565599 | 0.024776 | 0.004771 |
| 26 | P1 | -3.934251 | 0.020336 | -0.040952 |
| 30 | P1 | -5.784006 | 0.132331 | -0.101495 |
| 3 | P1 | -16.562737 | 0.264124 | -0.130299 |
| 7 | P1 | -16.842371 | 0.640555 | -0.137417 |
| 11 | P1 | -16.813152 | 0.316237 | 0.099490 |
| 15 | P1 | -12.940948 | 0.143349 | 0.056007 |
| 19 | P1 | -14.582968 | 0.402813 | -0.275703 |
| 22 | P1 | -15.782385 | 0.554395 | 0.379314 |
| 26 | P1 | -15.190305 | 0.205941 | -0.122943 |
| 30 | P1 | -16.971504 | 0.400404 | 0.198061 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -20.849218 | 0.083304 | 0.091412 |
| 7 | P2 | -21.861370 | 0.098195 | -0.019218 |
| 11 | P2 | -15.749198 | 0.111008 | -0.002270 |
| 15 | P2 | -7.098092 | 0.097754 | 0.015214 |
| 19 | P2 | -9.114714 | 0.091037 | -0.004298 |
| 22 | P2 | -18.128979 | 0.085005 | 0.024306 |
| 26 | P2 | -16.400688 | 0.091930 | -0.015411 |
| 30 | P2 | -19.474554 | 0.090006 | 0.011901 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.175634 | 0.004052 | -0.012869 |
| 7 | P3 | -8.175634 | 0.004052 | -0.012869 |
| 11 | P3 | -8.175634 | 0.004052 | -0.012869 |
| 15 | P3 | -8.175634 | 0.004052 | -0.012869 |
| 19 | P3 | -8.175634 | 0.004052 | -0.012869 |
| 22 | P3 | -8.175634 | 0.004052 | -0.012869 |
| 26 | P3 | -8.175685 | 0.004051 | -0.012725 |
| 30 | P3 | -8.175685 | 0.004051 | -0.012725 |

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 | -3.838346 | 0.021550 | -0.017506 |
| 7 | P1 | -2.487602 | 0.260635 | 0.093504 |
| 11 | P1 | -2.905164 | 0.142836 | 0.140652 |
| 15 | P1 | -3.670019 | 0.146003 | 0.094925 |
| 19 | P1 | -3.451293 | 0.074365 | -0.105252 |
| 22 | P1 | -5.089695 | 0.035052 | -0.037920 |
| 26 | P1 | -5.869729 | 0.028335 | 0.018793 |
| 30 | P1 | -5.197048 | 0.079283 | -0.049388 |
| 3 | P1 | -11.630272 | 0.067933 | -0.003778 |
| 7 | P1 | -9.924622 | 0.190267 | -0.004721 |
| 11 | P1 | -10.320330 | 0.084960 | -0.039947 |
| 15 | P1 | -10.848889 | 0.177860 | -0.107349 |
| 19 | P1 | -15.656438 | 3.260866 | -0.592726 |
| 22 | P1 | -20.859446 | 1.708966 | 0.253779 |

| | | | | |
|----|----|------------|----------|-----------|
| 26 | P1 | -16.032818 | 0.414582 | 0.325095 |
| 30 | P1 | -18.006296 | 0.788677 | -0.129346 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -16.441402 | 0.080246 | 0.092869 |
| 7 | P2 | -22.228329 | 0.192883 | 0.098990 |
| 11 | P2 | -10.920860 | 0.056101 | 0.074569 |
| 15 | P2 | -4.871504 | 0.040773 | 0.040617 |
| 19 | P2 | -6.852535 | 0.040687 | 0.012740 |
| 22 | P2 | -8.171485 | 0.061961 | 0.052267 |
| 26 | P2 | -24.165546 | 0.127156 | -0.013578 |
| 30 | P2 | -21.963097 | 0.077441 | 0.013677 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.018125 | 0.003631 | -0.013721 |
| 7 | P3 | -8.017945 | 0.003628 | -0.013476 |
| 11 | P3 | -8.017953 | 0.003636 | -0.013096 |
| 15 | P3 | -8.017964 | 0.003644 | -0.013125 |
| 19 | P3 | -8.018044 | 0.003653 | -0.013458 |
| 22 | P3 | -8.018167 | 0.003619 | -0.013569 |
| 26 | P3 | -8.018014 | 0.003635 | -0.013977 |
| 30 | P3 | -8.017969 | 0.003633 | -0.013558 |

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 | 0.000549672 |
| | stdev | 1.78041e-07 |
| MEAN Q | mean | 0.000530131 |
| | stdev | 2.16695e-07 |



5.2 - Input stdev I/Q

| channel | stat | DSS-B |
|---------|-------|------------|
| STDEV I | mean | 0.135995 |
| | stdev | 0.00108453 |
| STDEV Q | mean | 0.136338 |
| | stdev | 0.00110062 |



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006090[678]

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_1PNPDE20060906_004518_000001932051_00016_23617_5564.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20060906_010159_000000692051_00017_23618_5567.N1 | 1 | 0 |
| ASA_GM1_1PNPDK20060906_174208_000007252051_00027_23628_4299.N1 | 0 | 8 |
| ASA_WSM_1PNPDE20060906_131931_000001472051_00024_23625_1280.N1 | 0 | 33 |
| ASA_WSM_1PNPDE20060906_155552_000000852051_00026_23627_1281.N1 | 0 | 65 |



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)

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

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

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

7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX

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

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"/> |
|--------------------------|

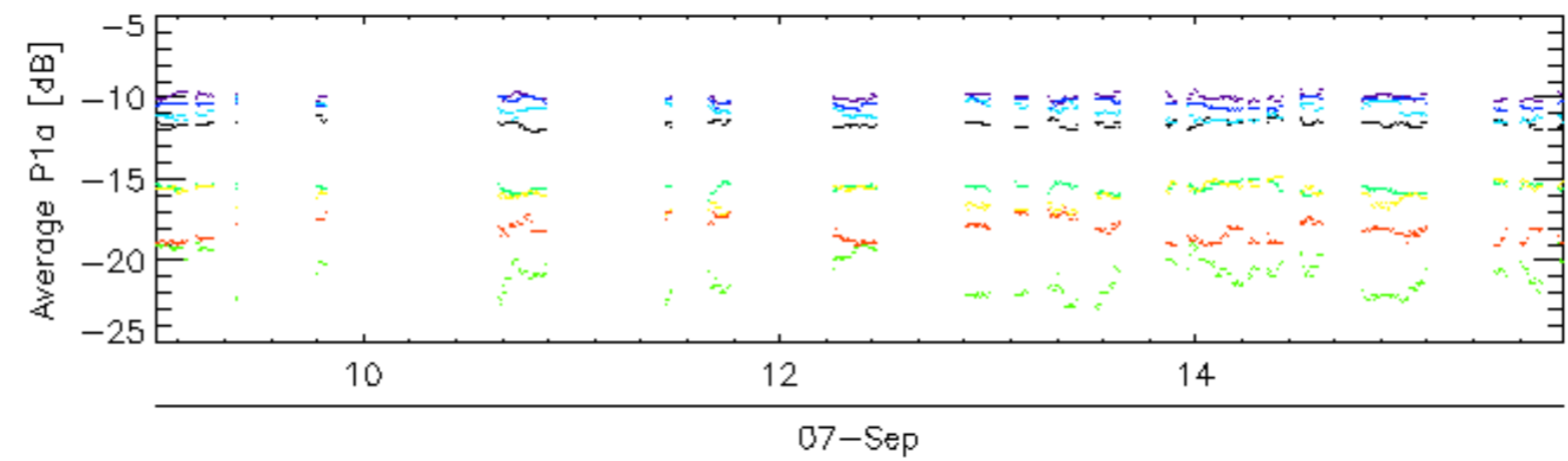
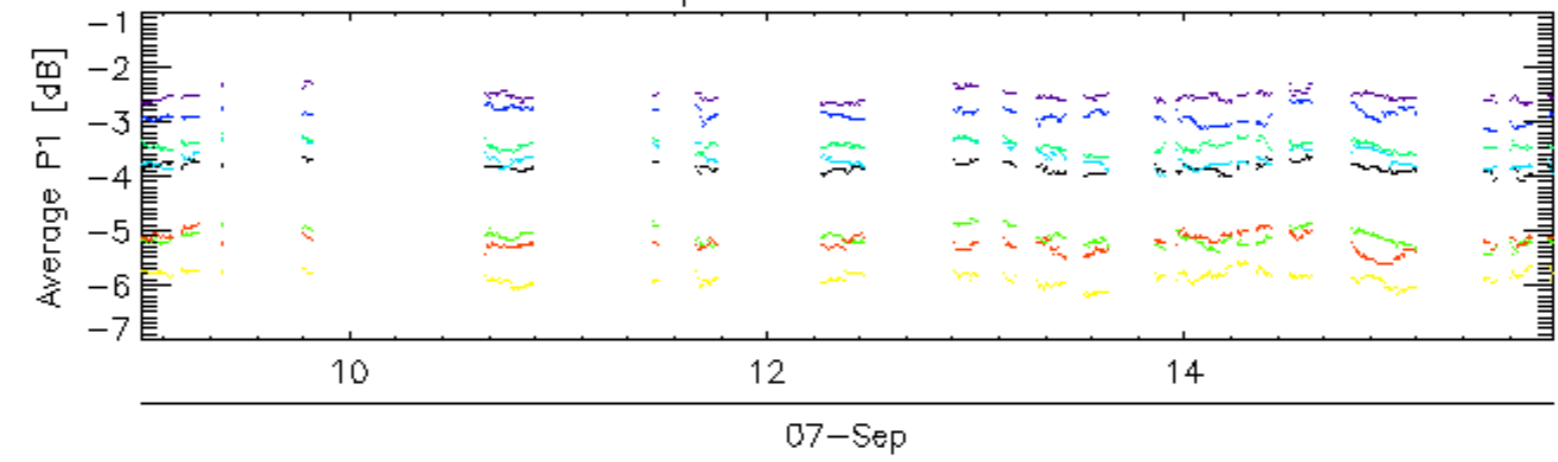
Descending

7.6 - Doppler evolution versus ANX for GM1

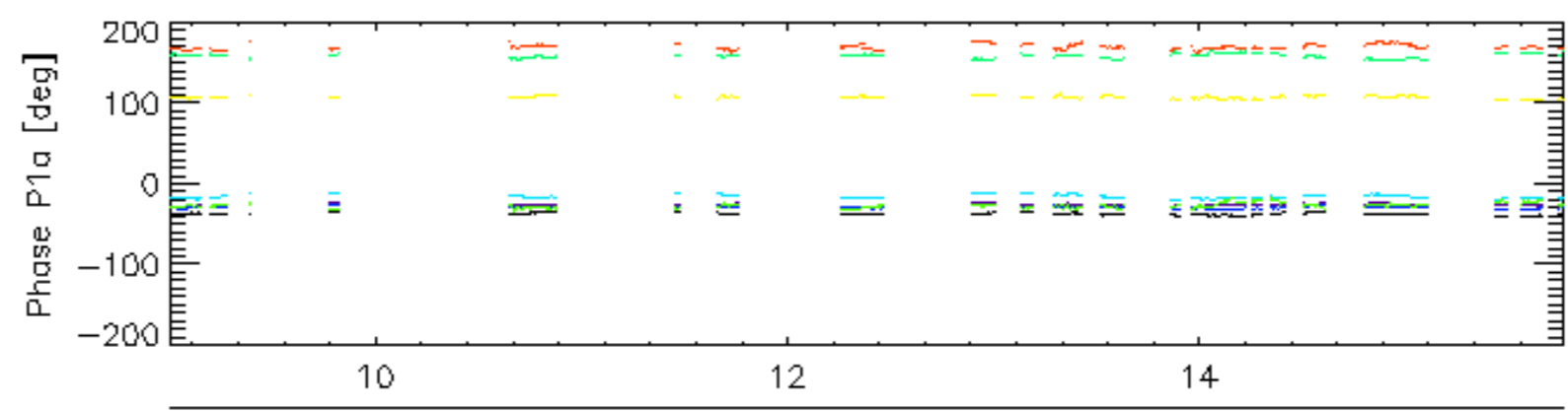
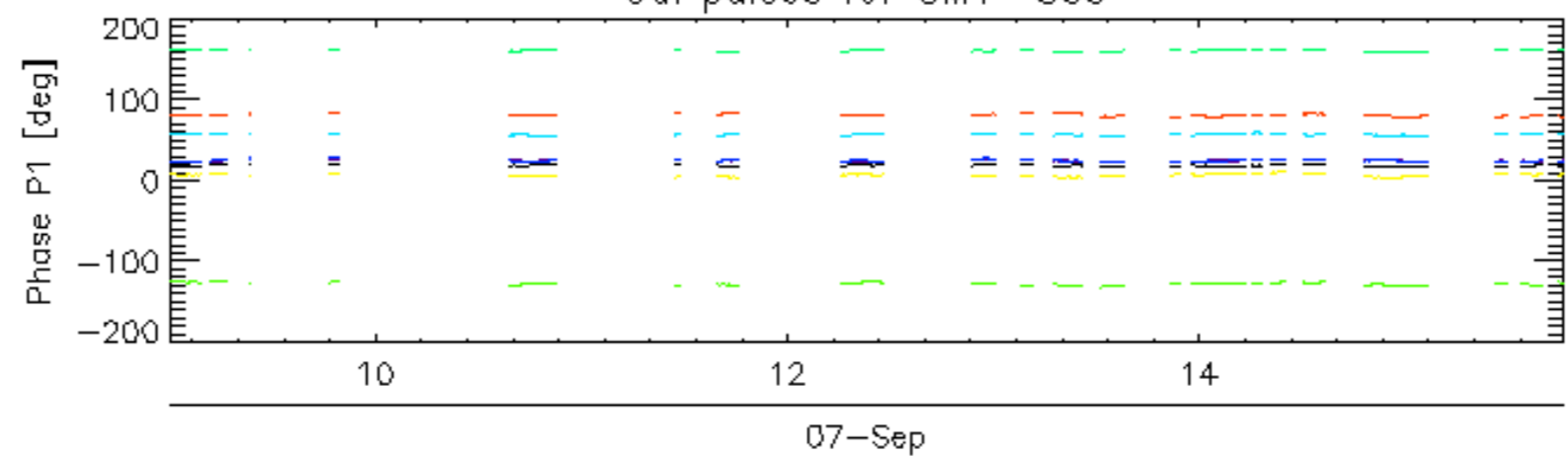
Evolution Doppler error versus ANX

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

Cal pulses for GM1 SS3

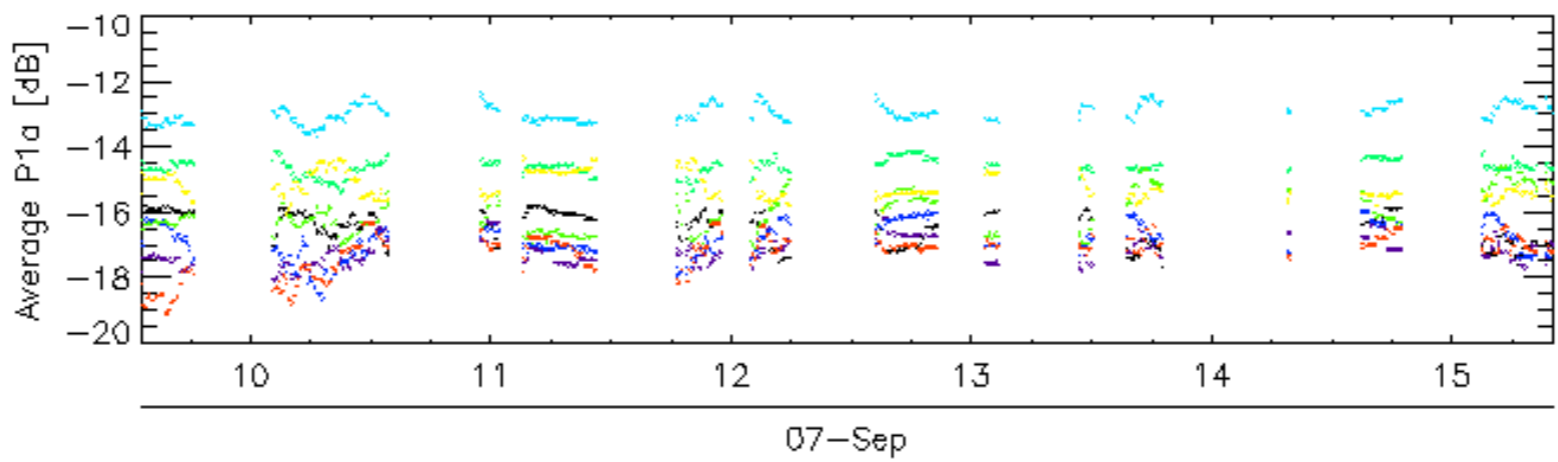
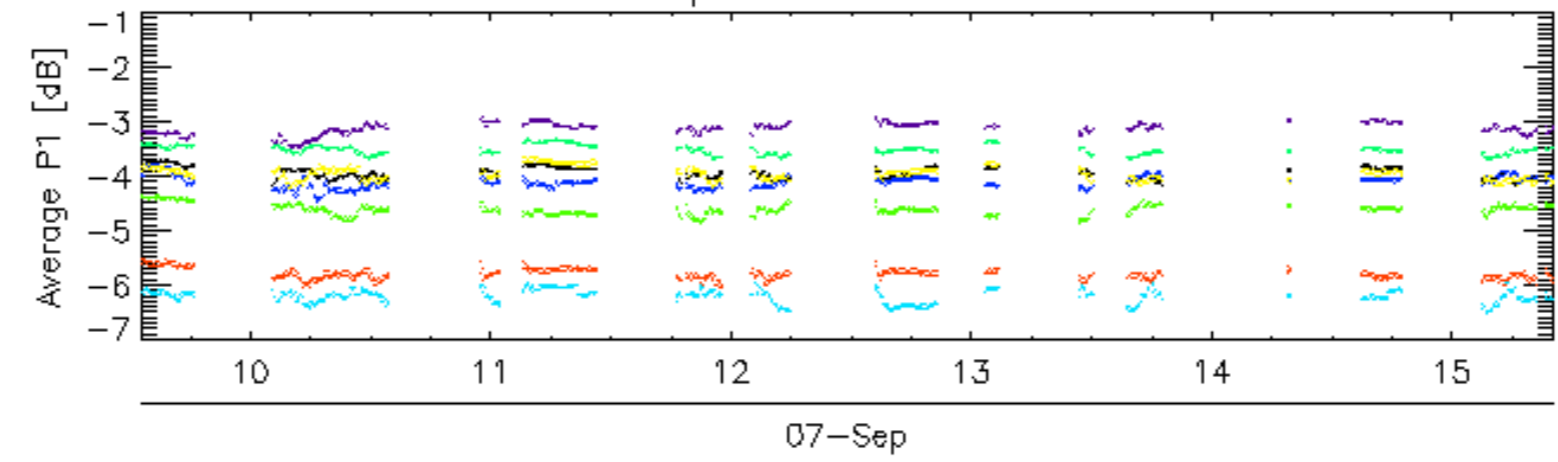


Cal pulses for GM1 SS3

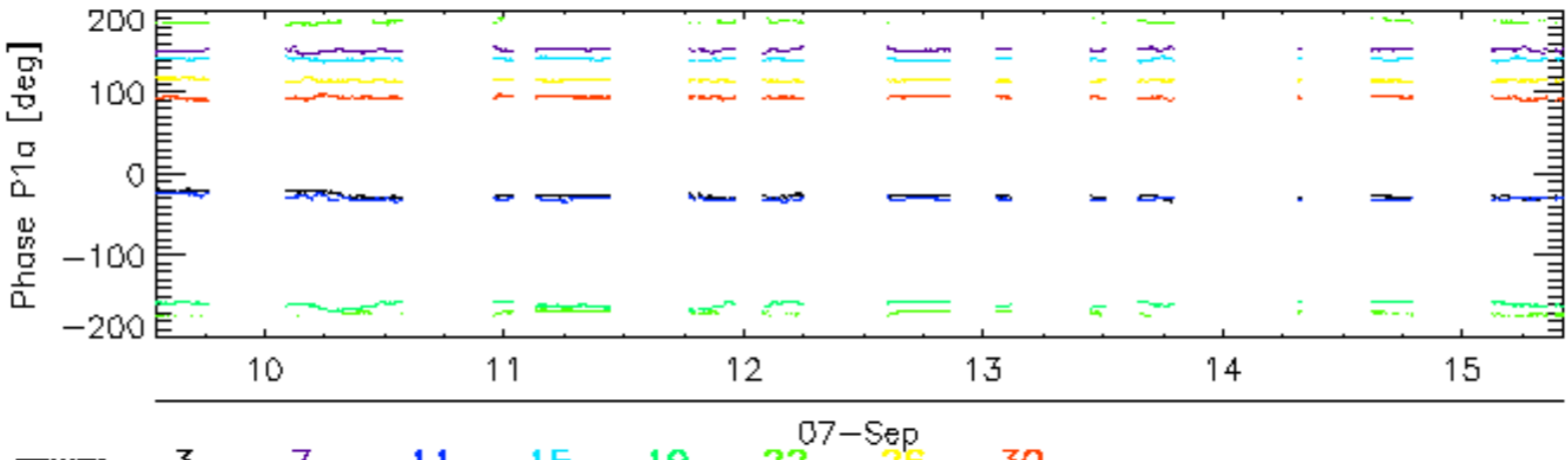
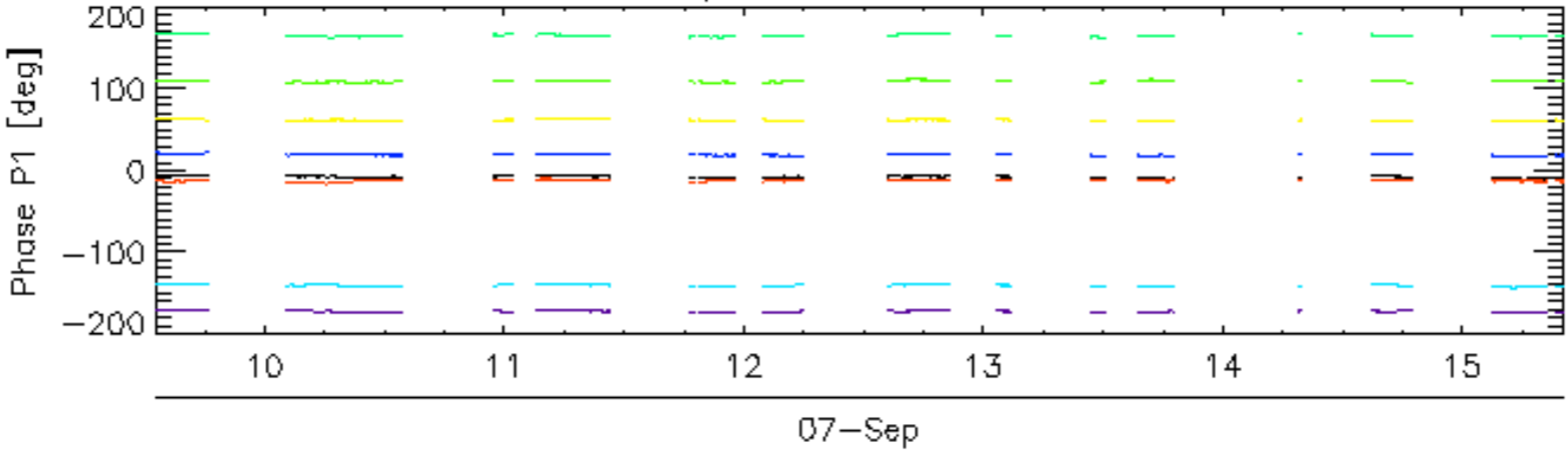


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

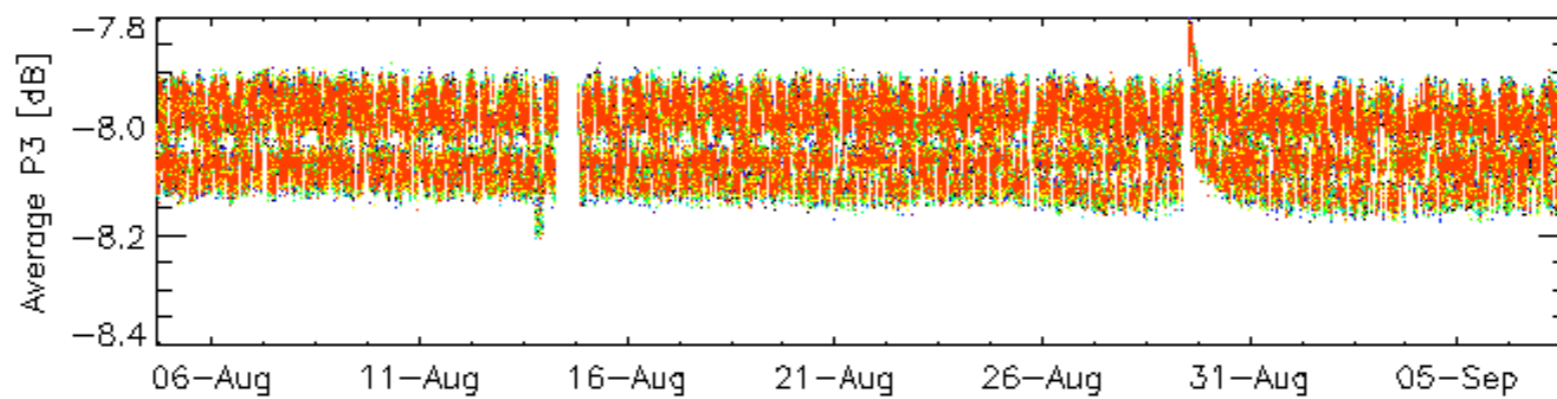
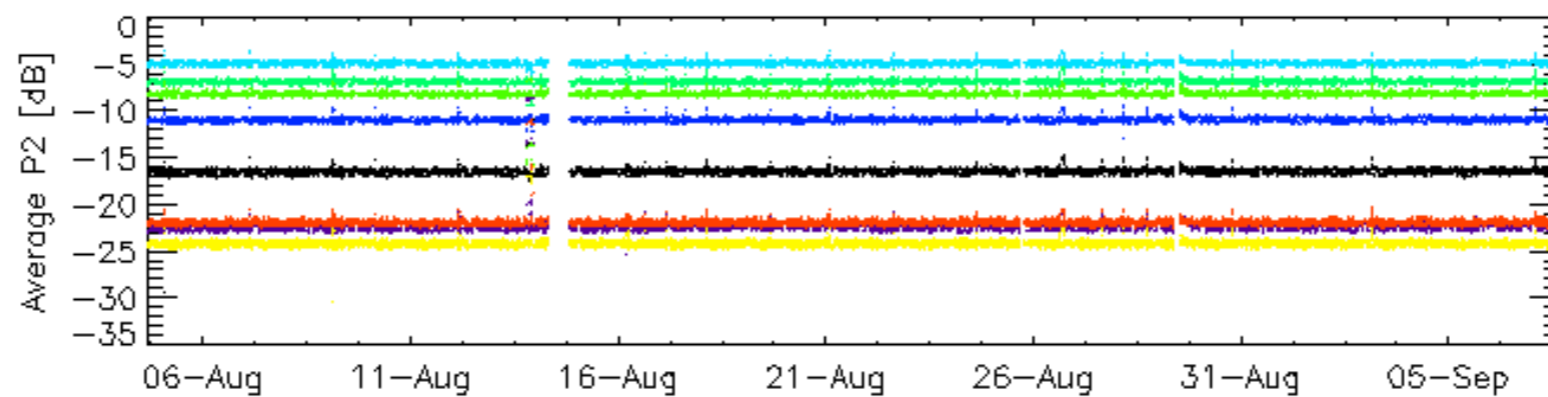
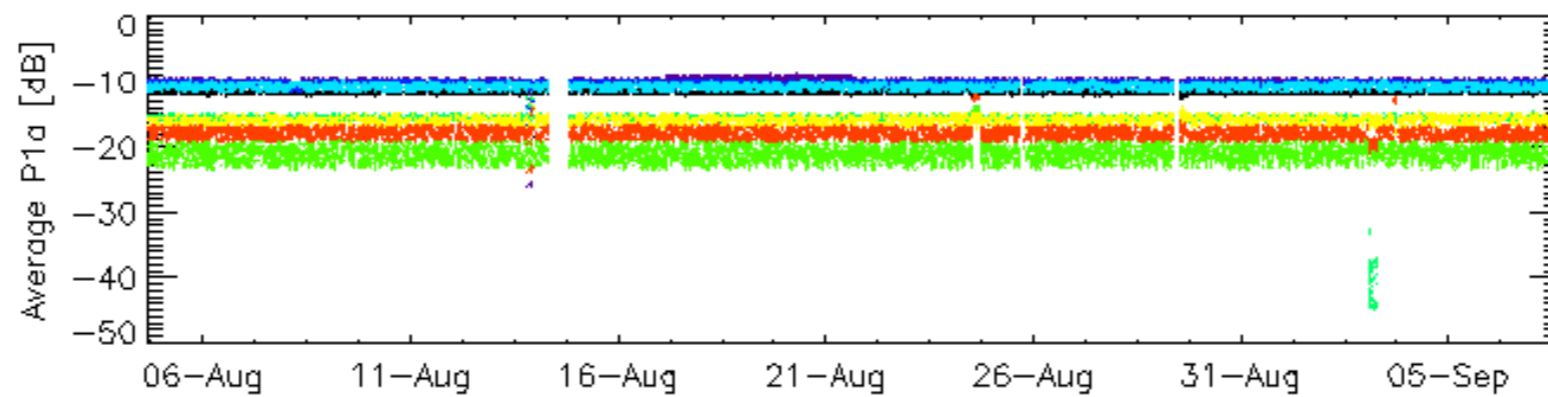
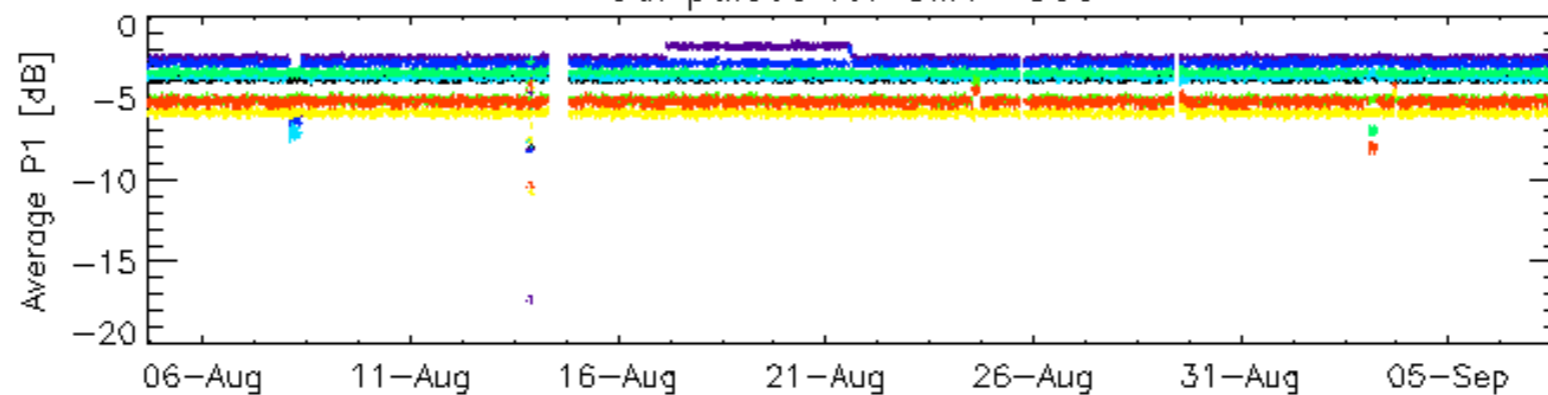


Cal pulses for WVS IS2



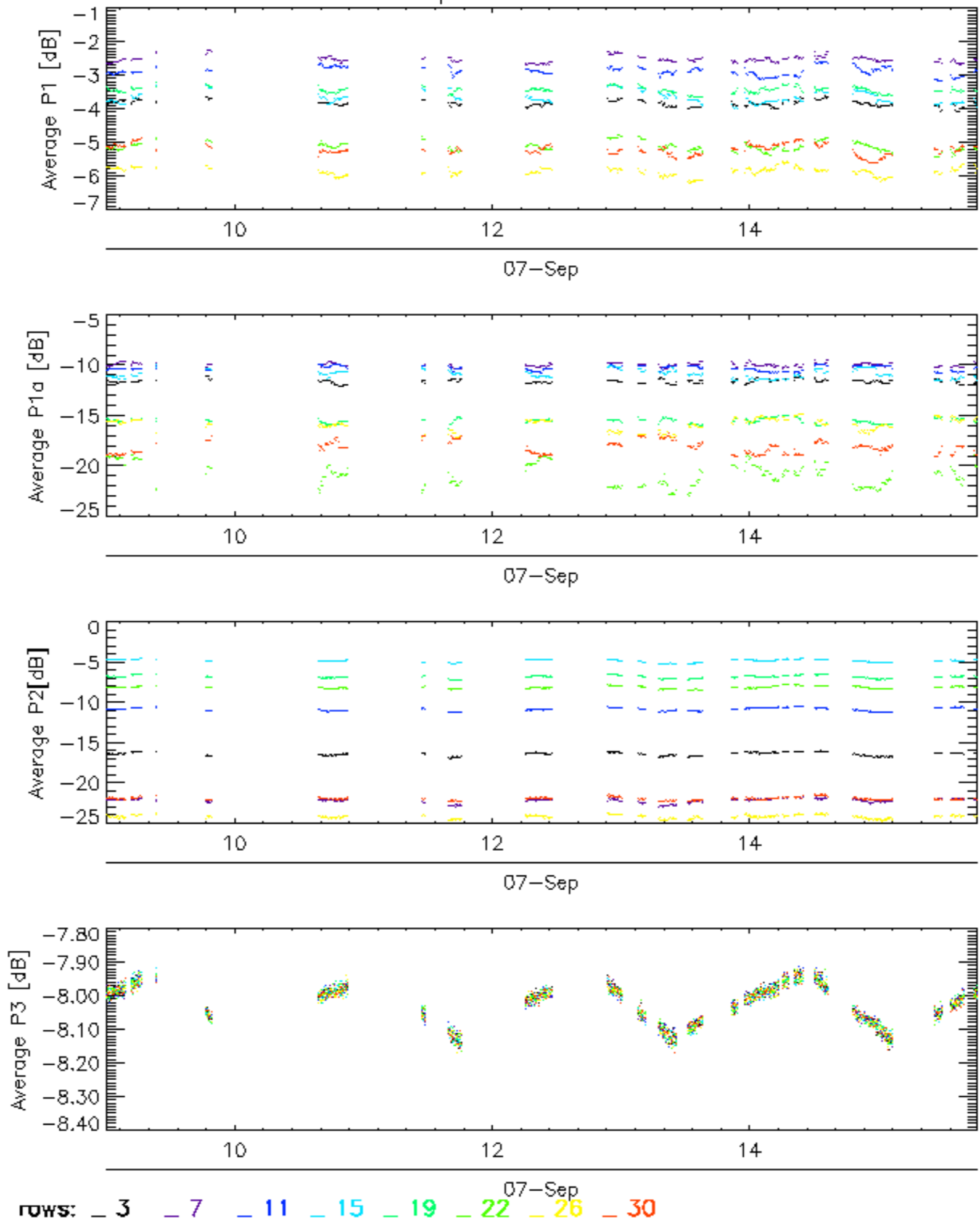
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

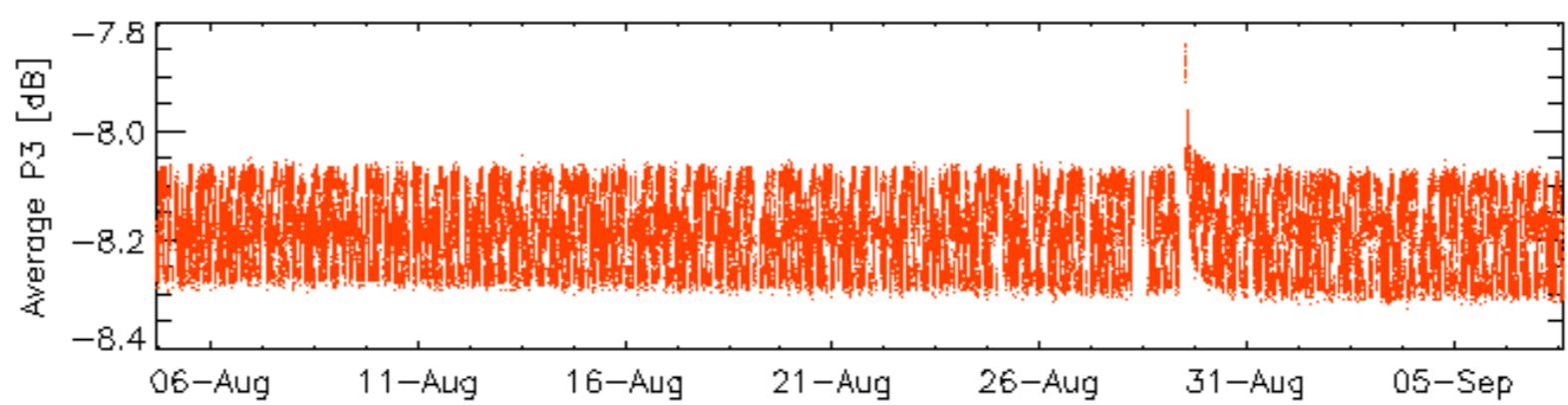
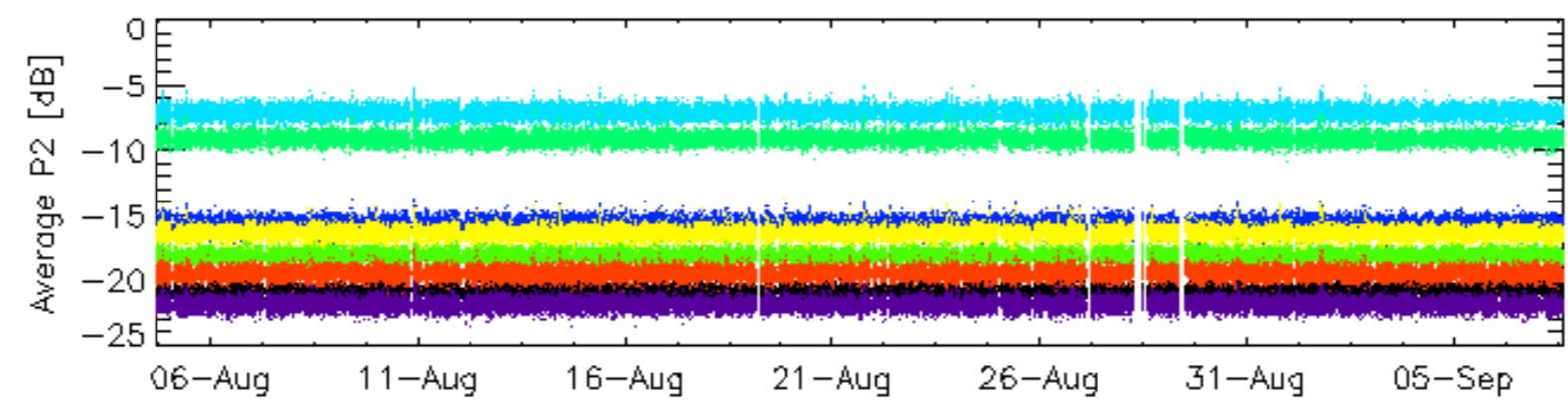
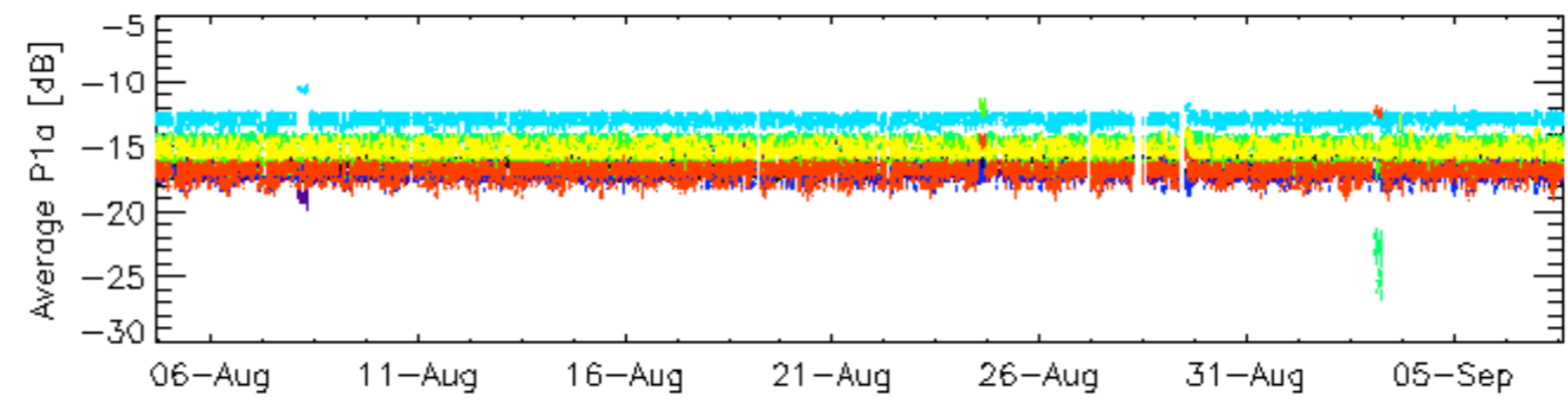
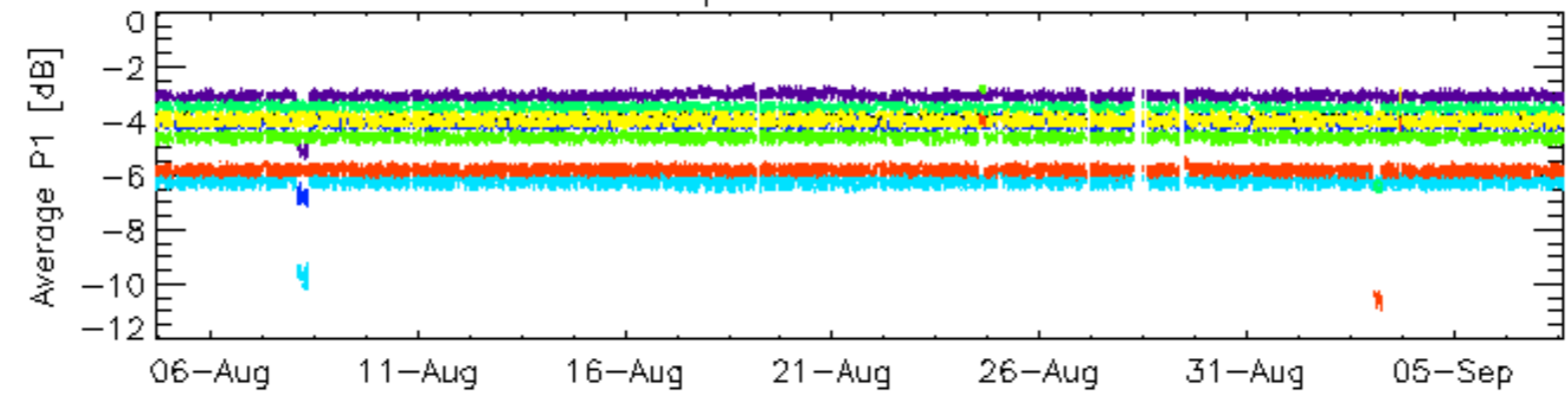


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

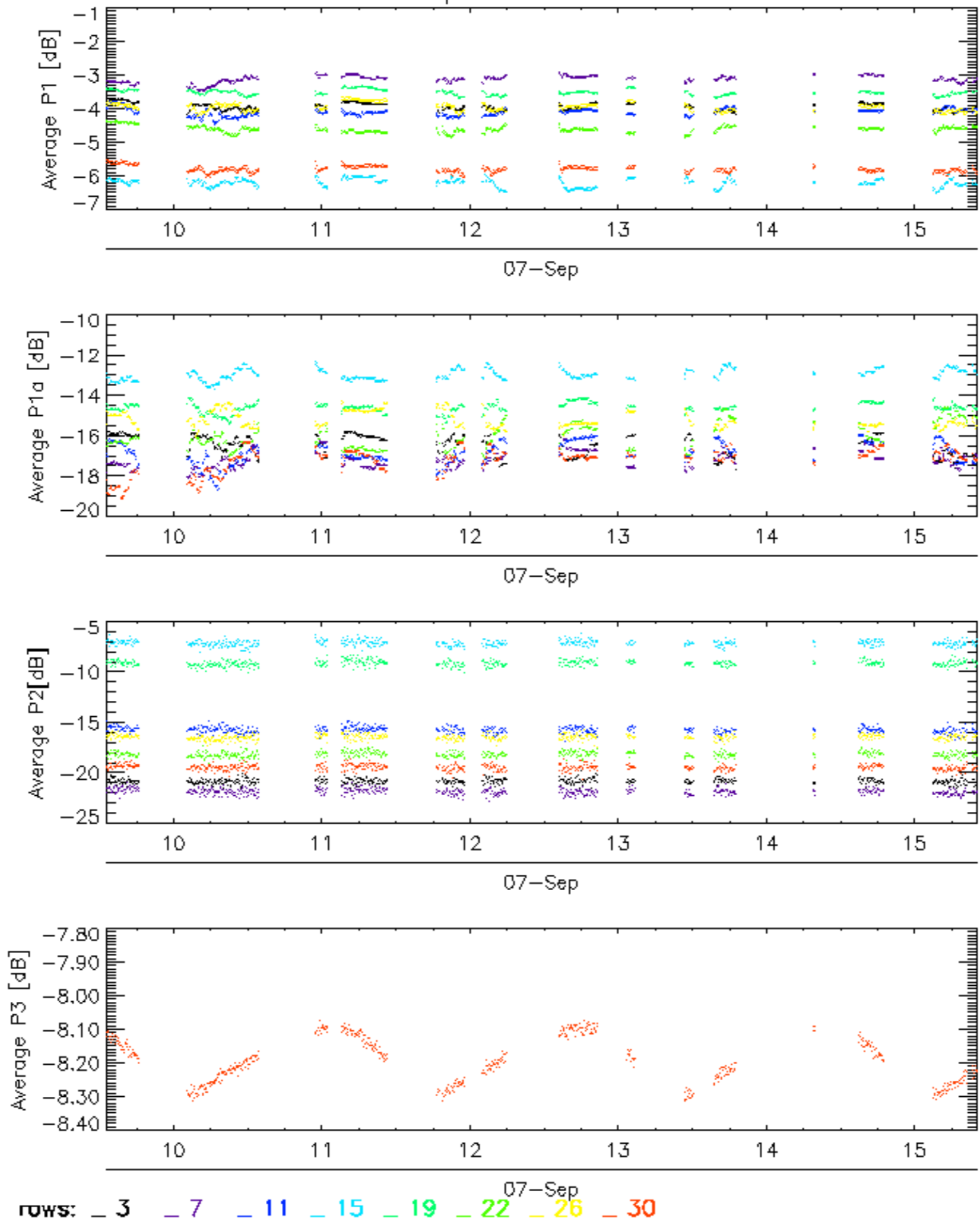


Cal pulses for WVS IS2



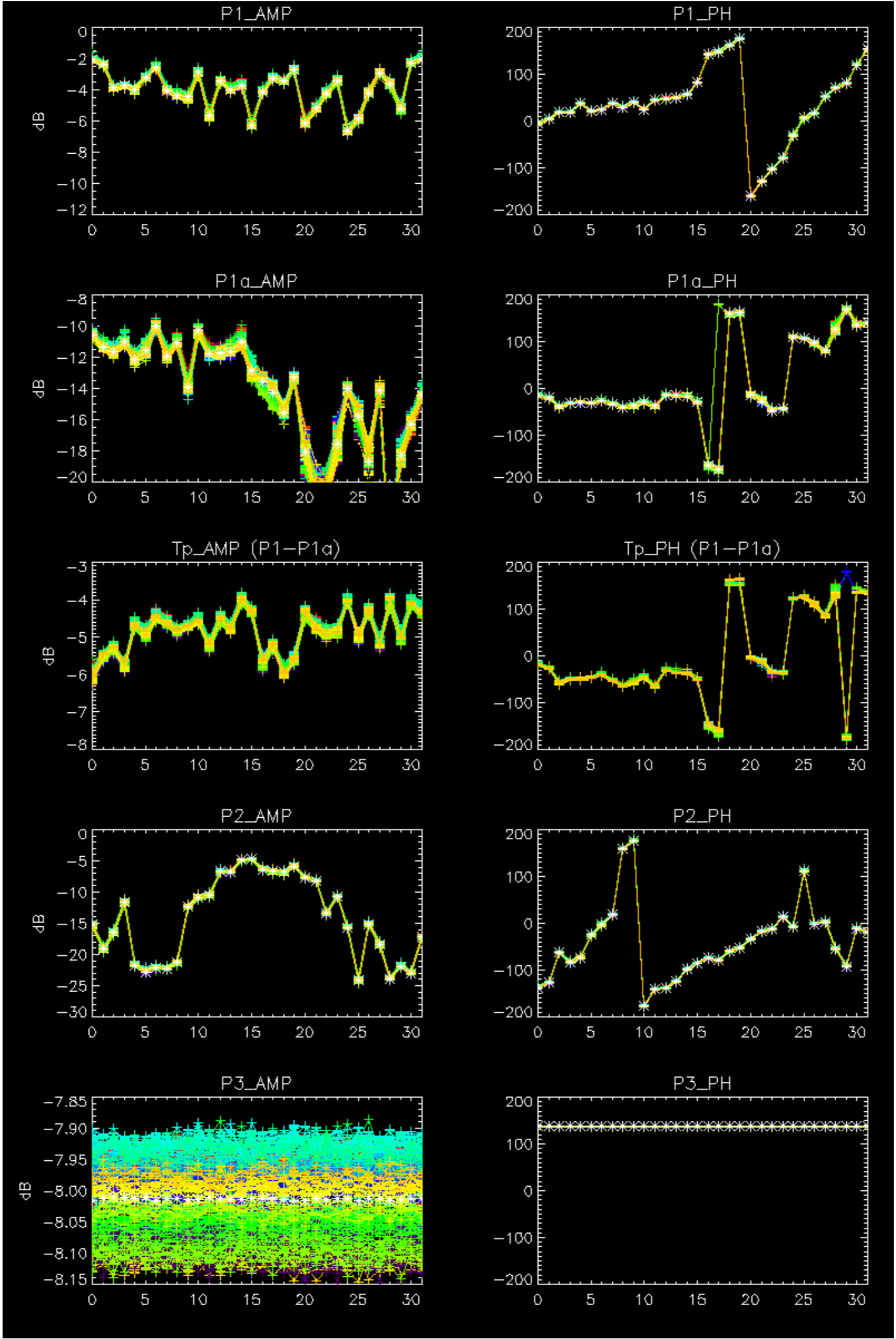
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

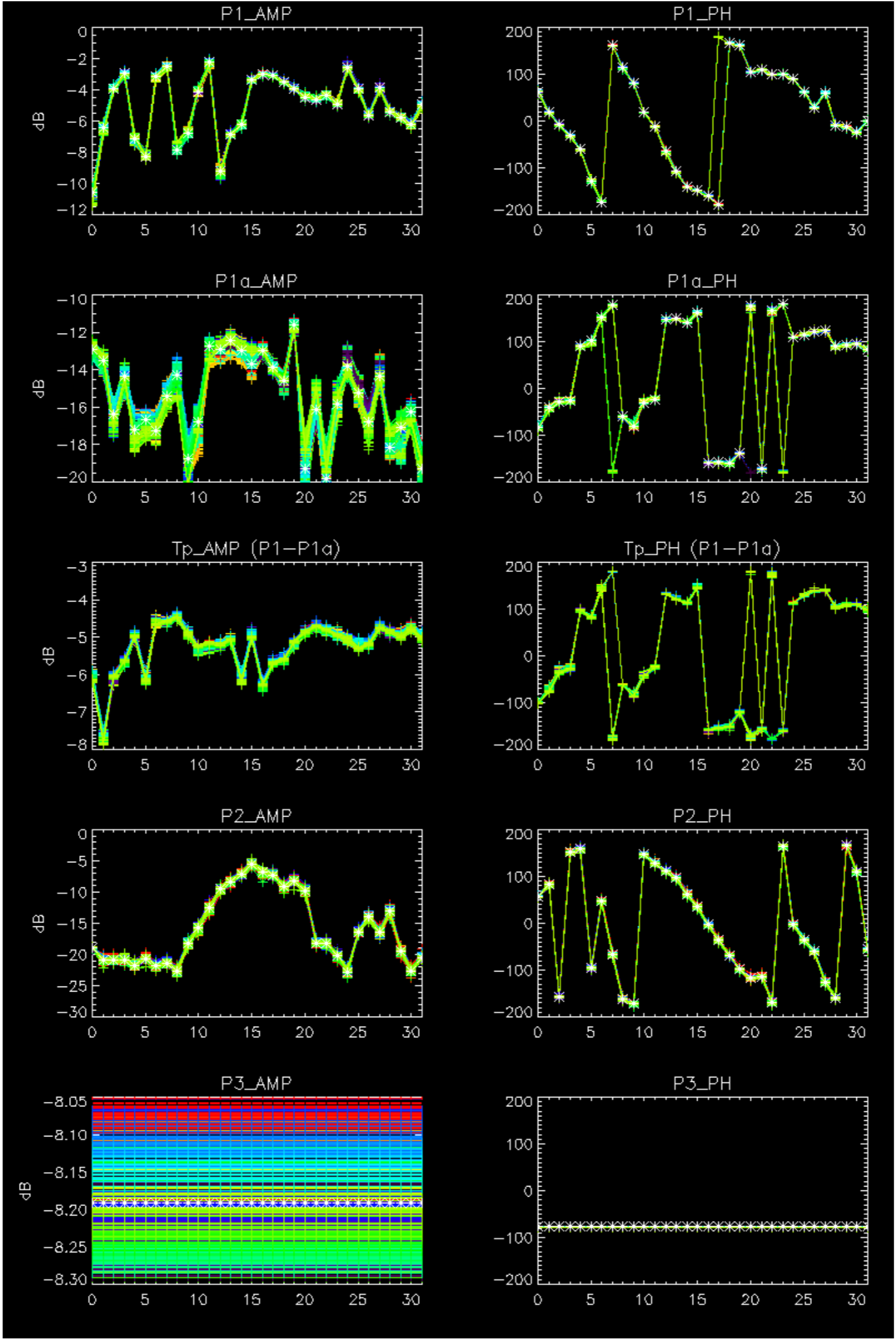
Cal pulses for WVS IS2



No anomalies observed on available browse products

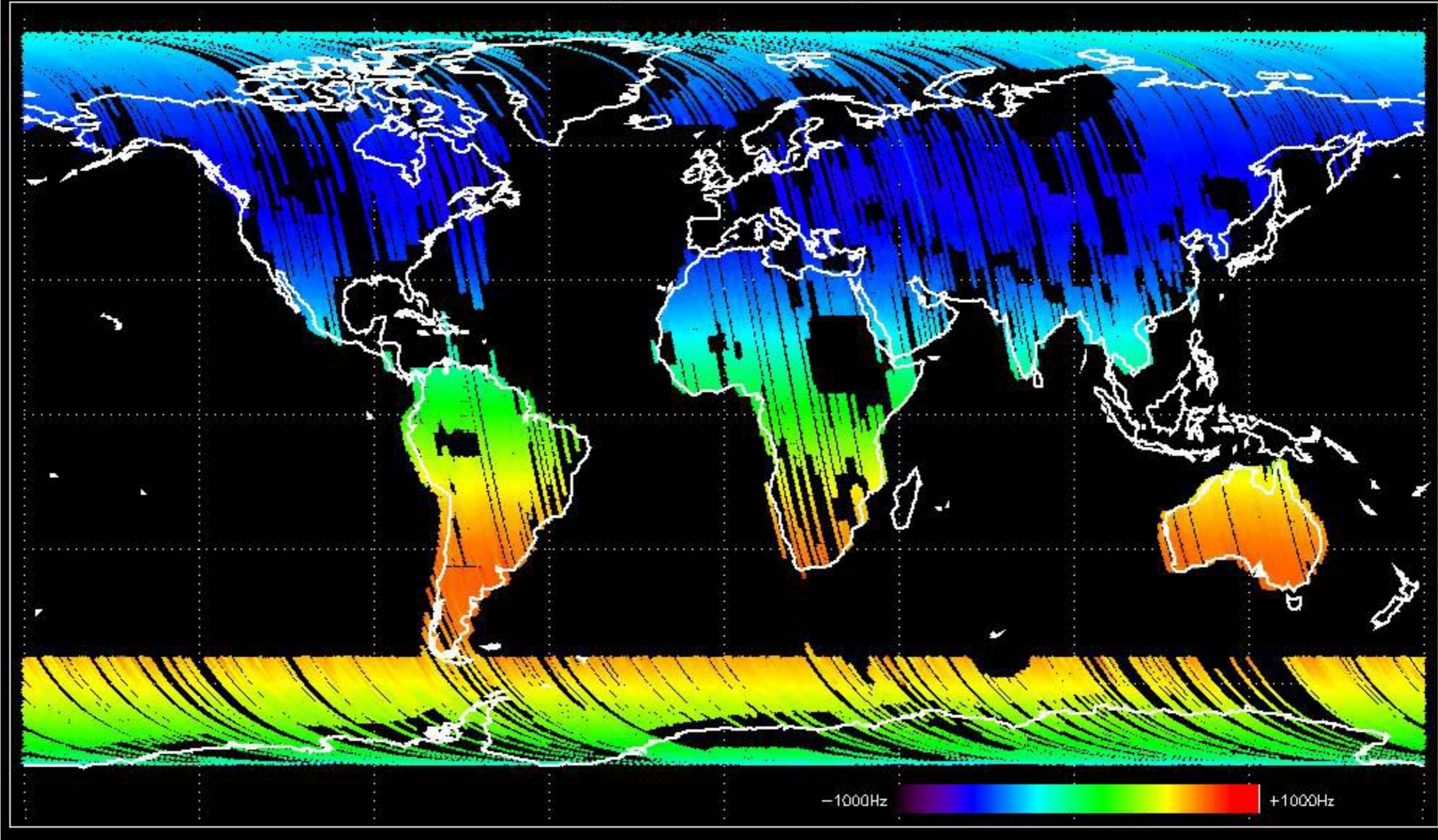
No anomalies observed.



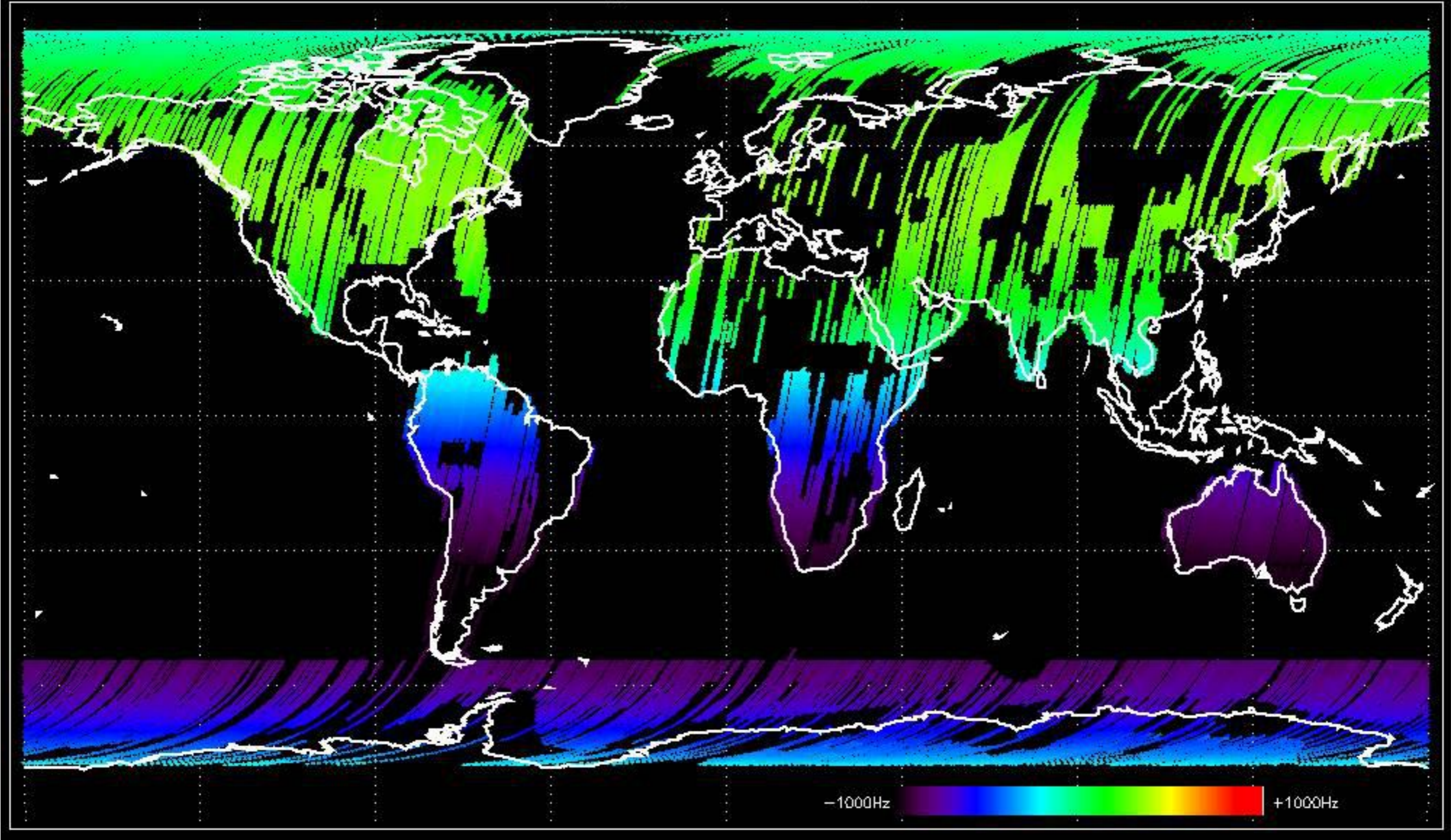


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

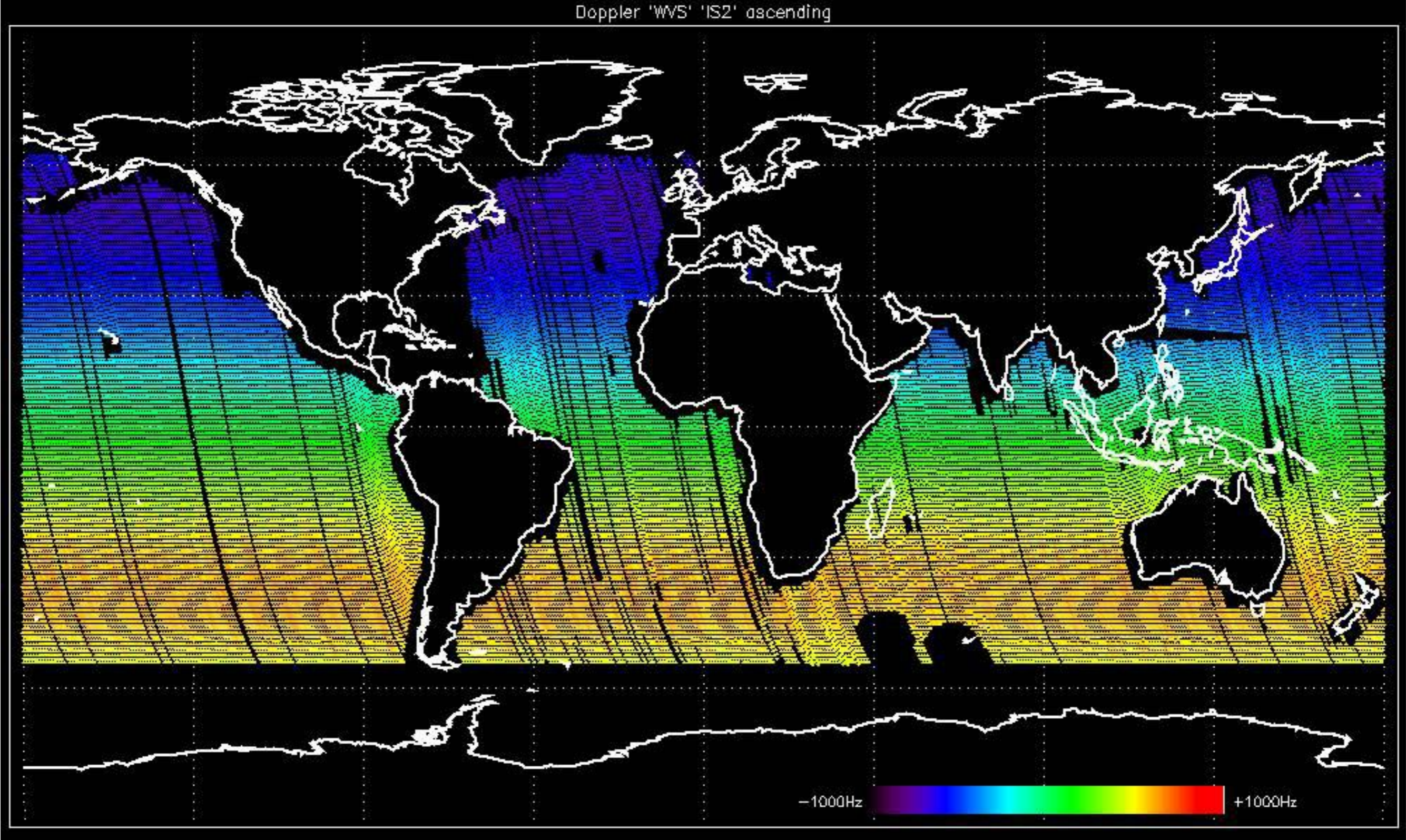
Doppler 'GM1' 'SS1' ascending



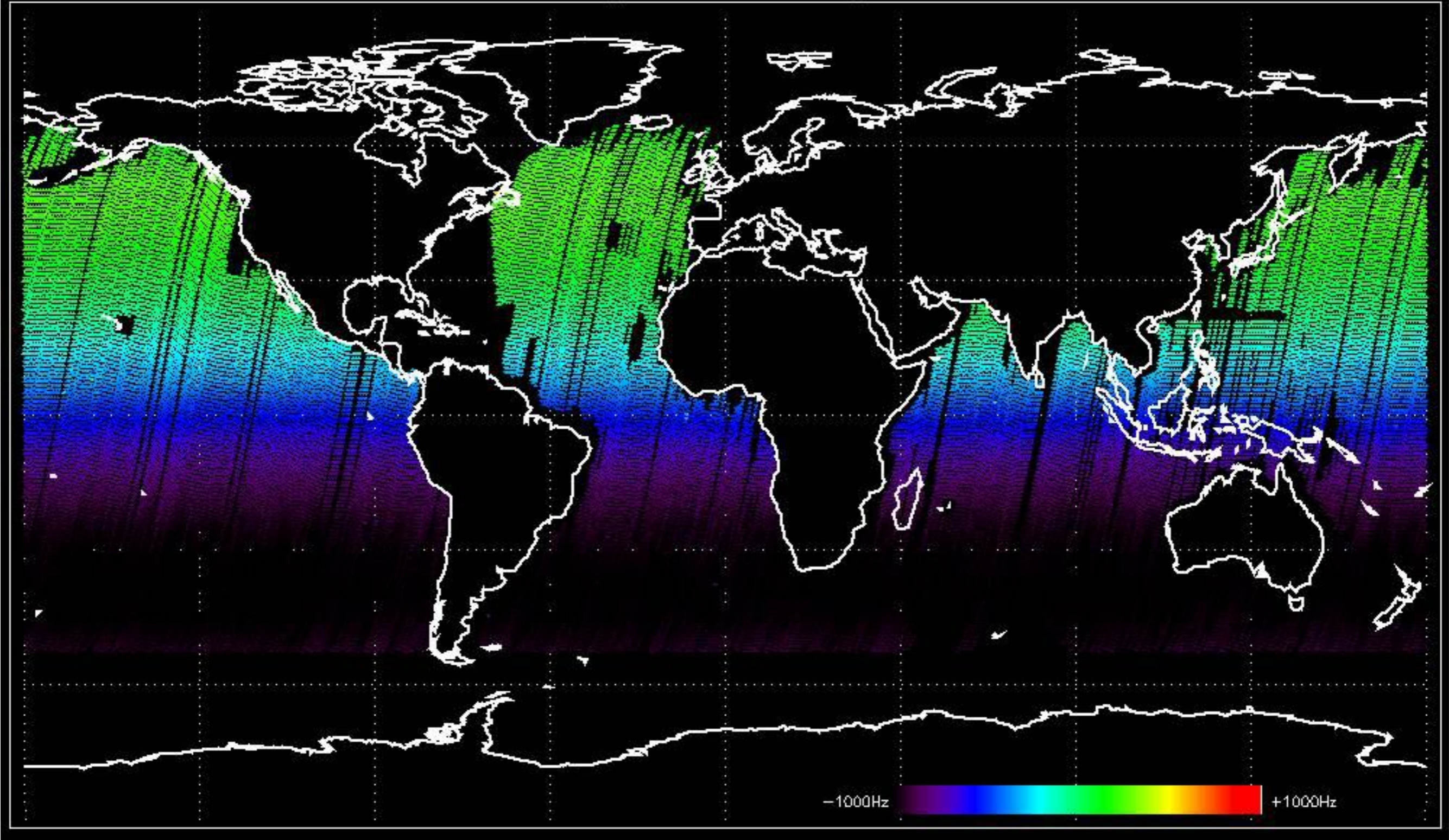
Doppler 'GM1' 'SS1' descending



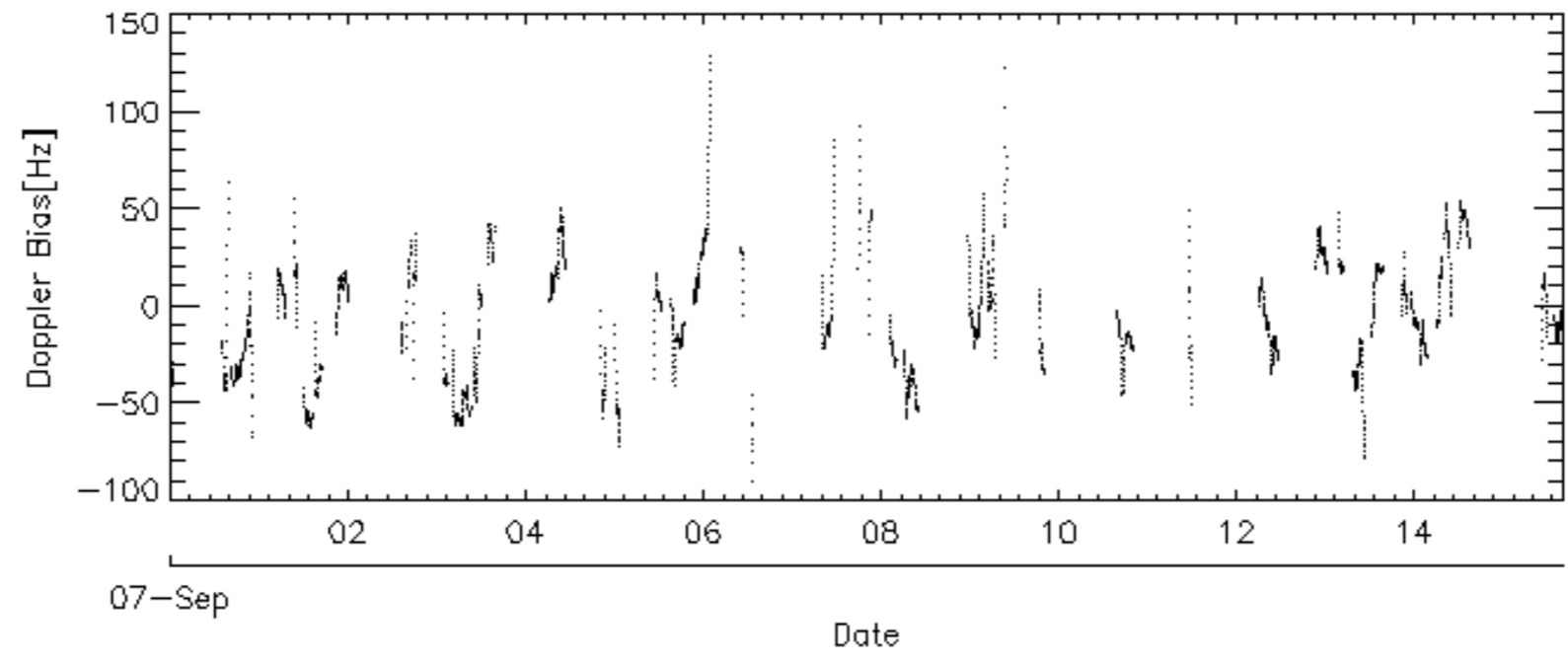
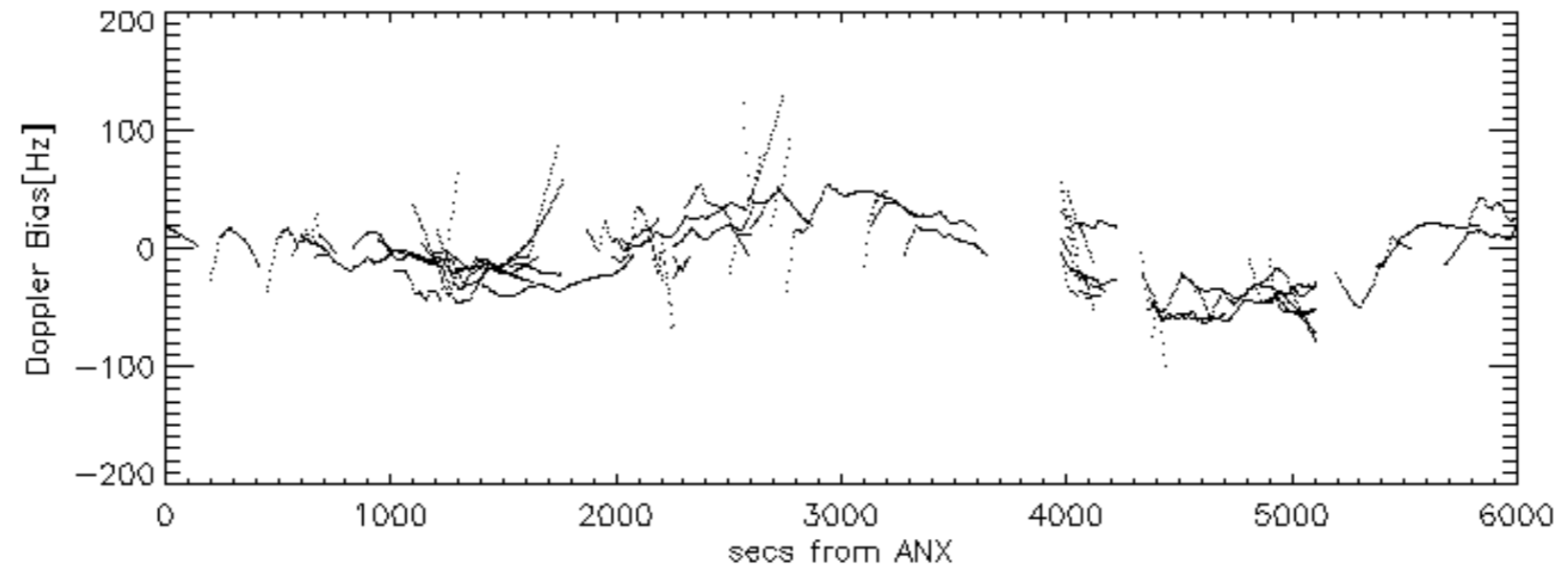
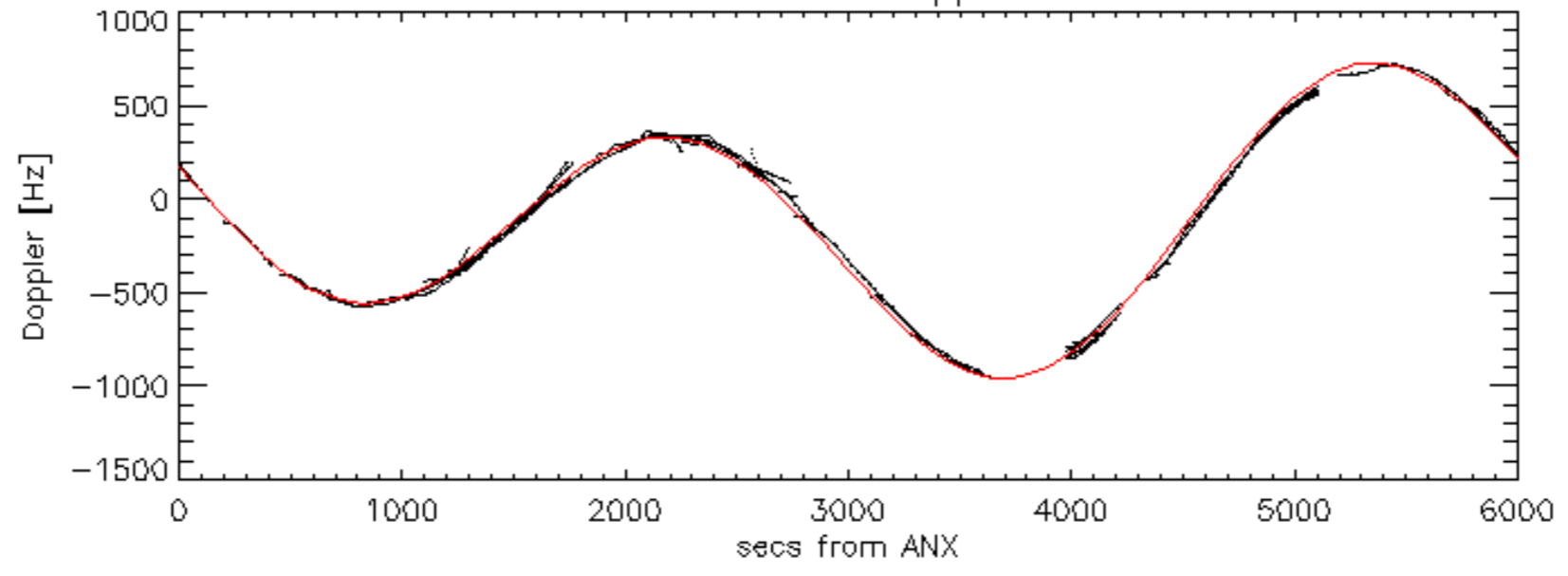
Doppler 'WVS' 'IS2' ascending

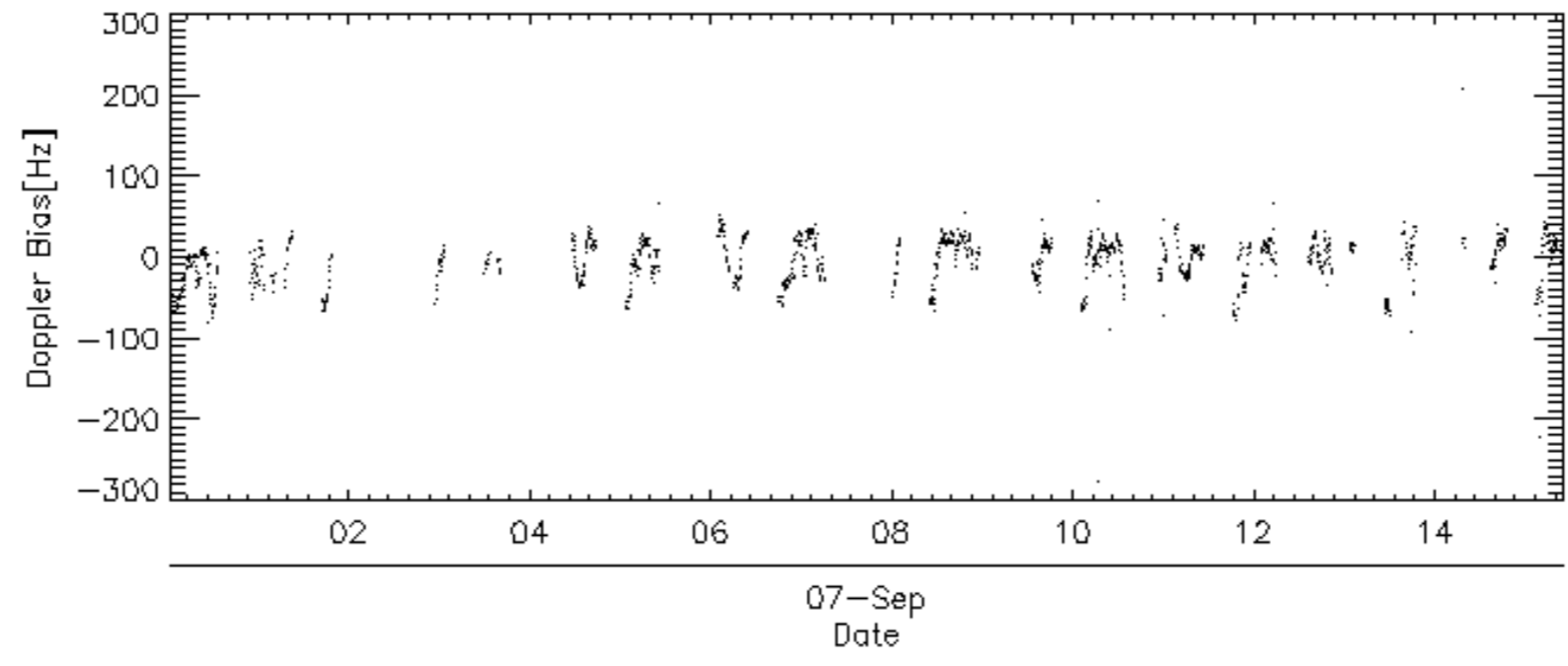
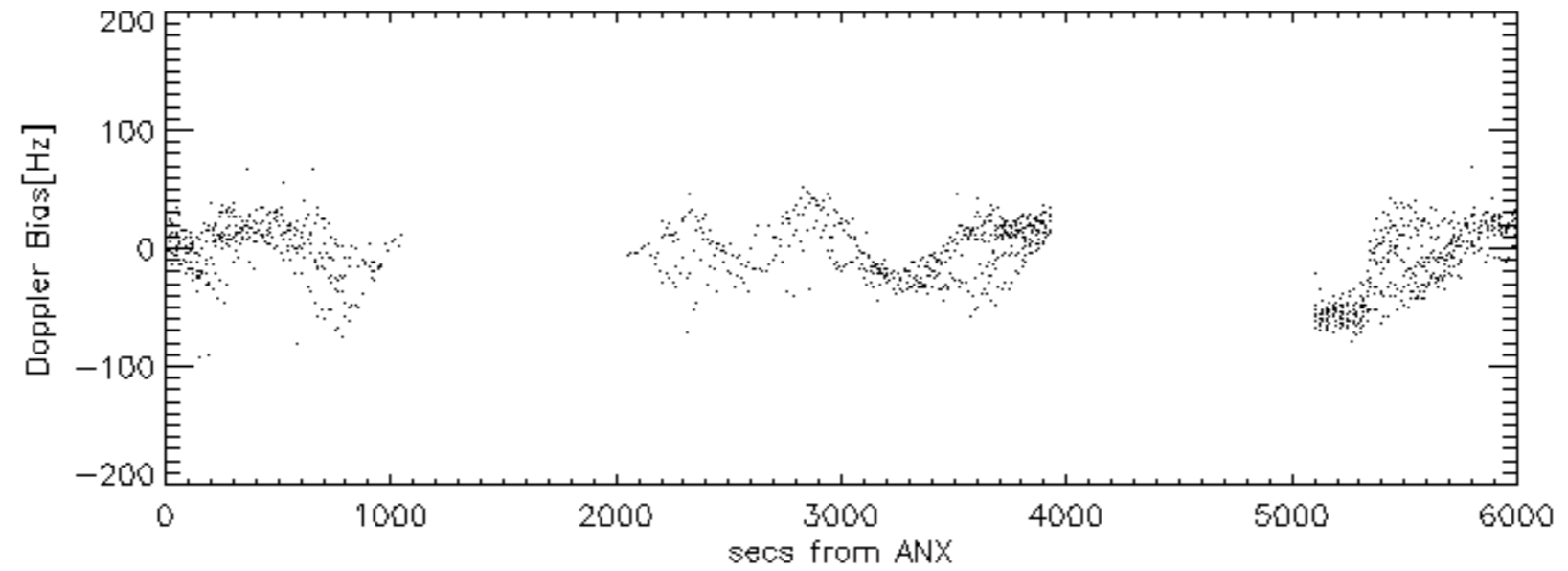
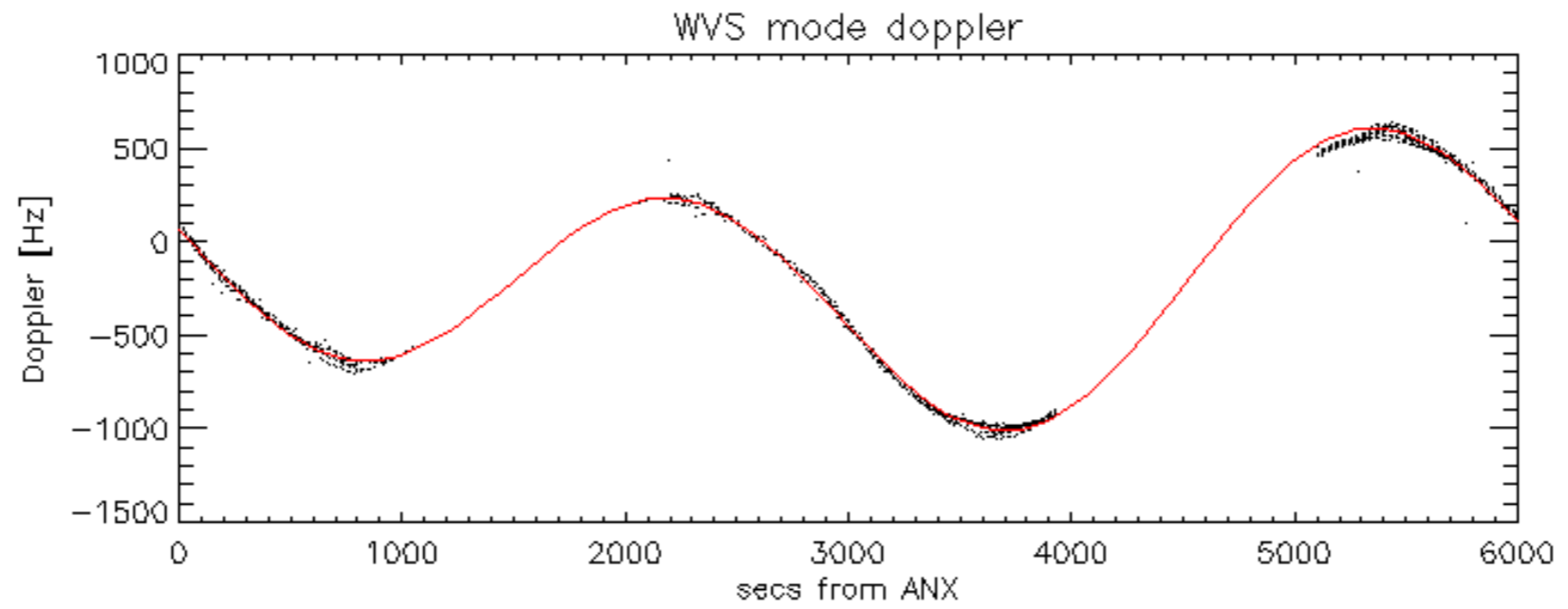


Doppler 'WVS' 'IS2' descending

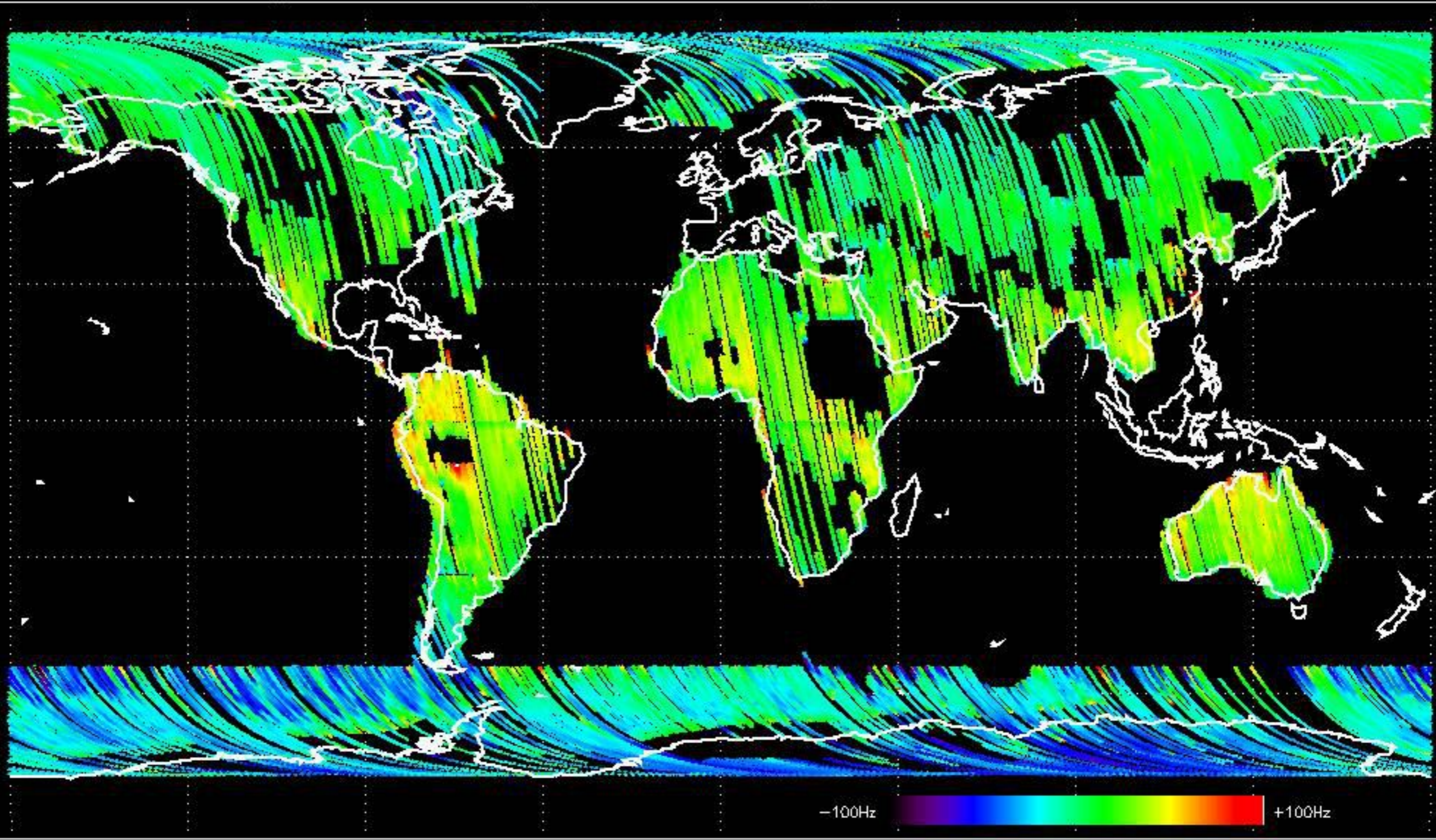


GM1 mode doppler

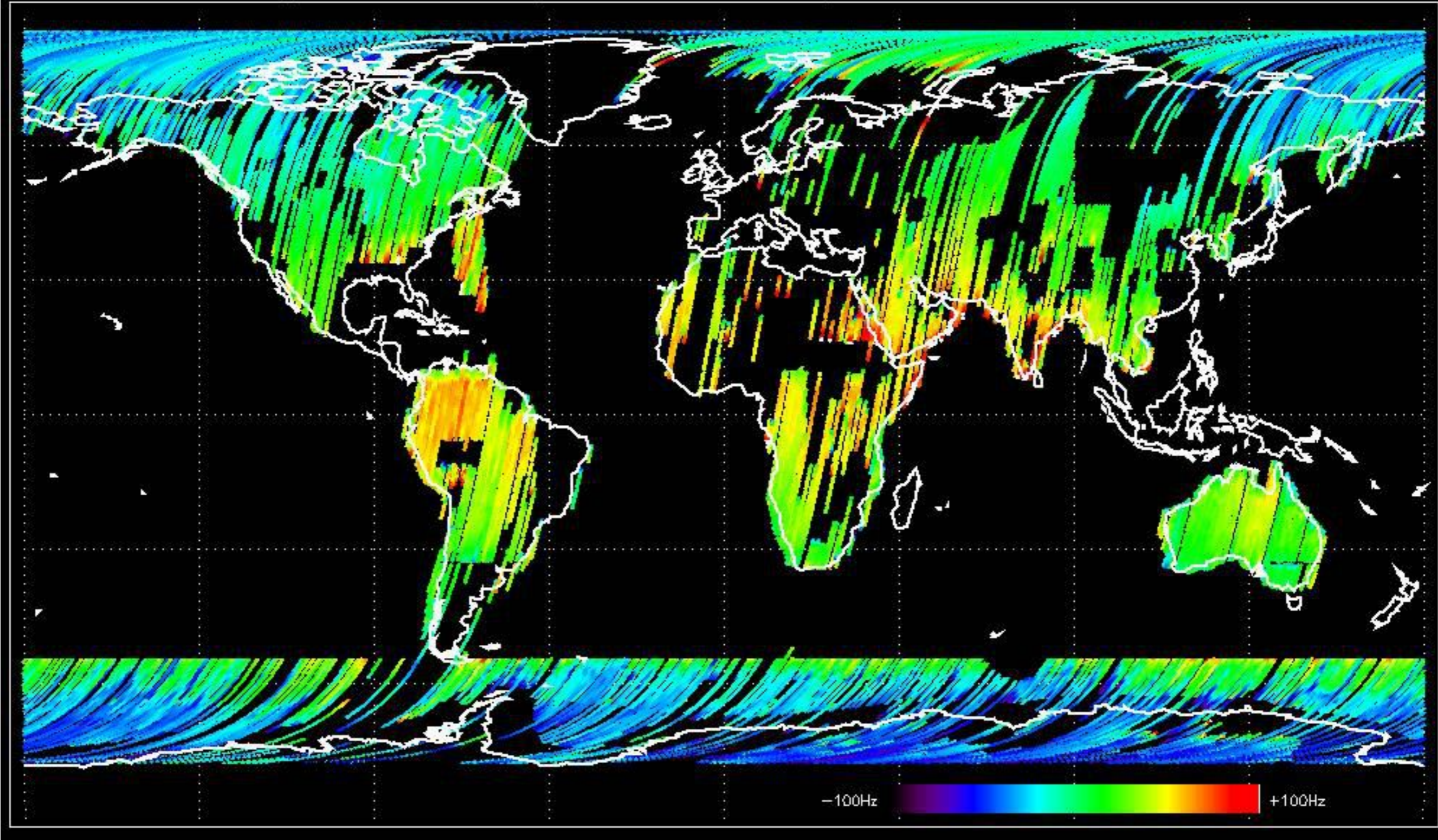




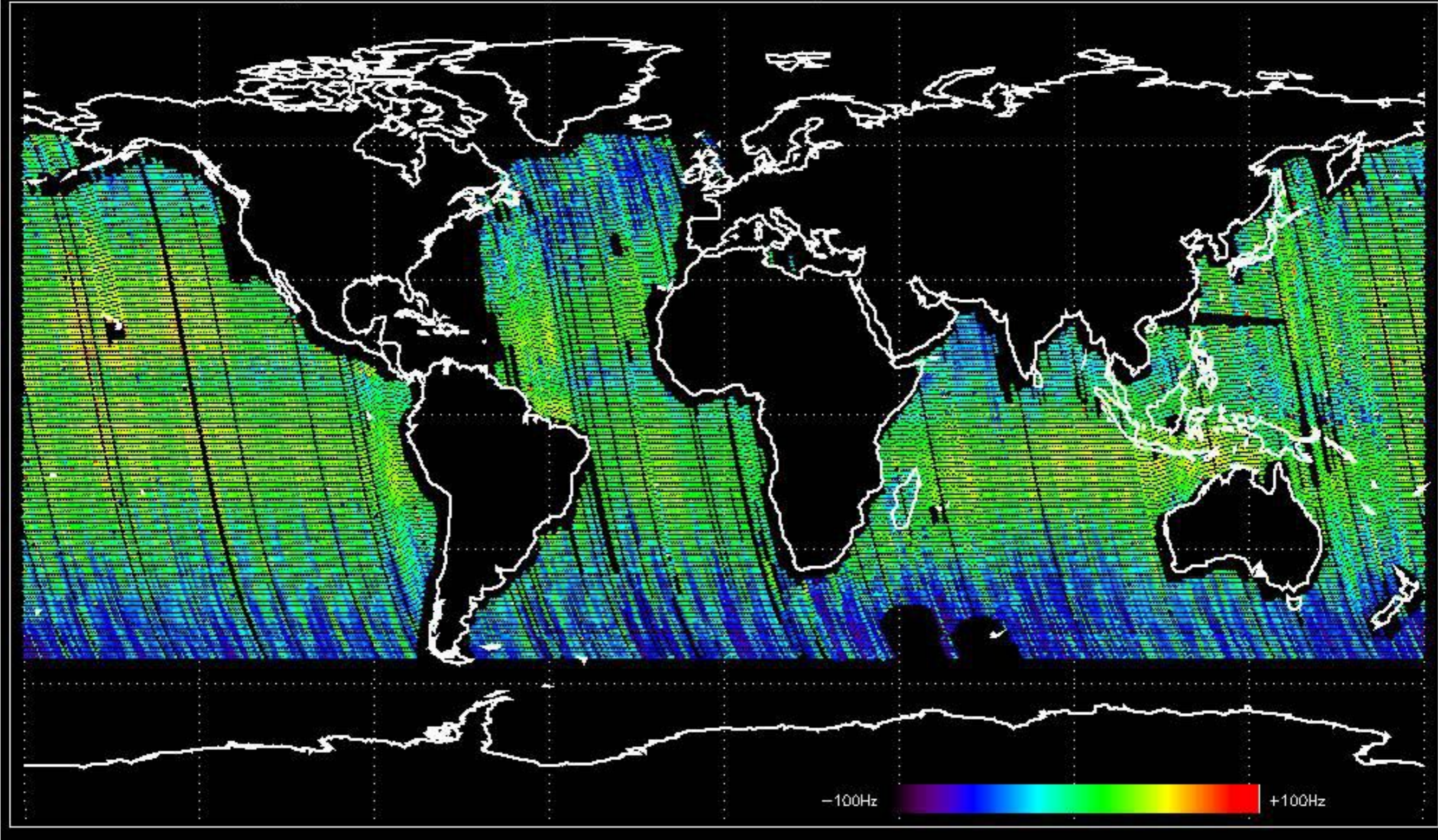
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.742566 Hz



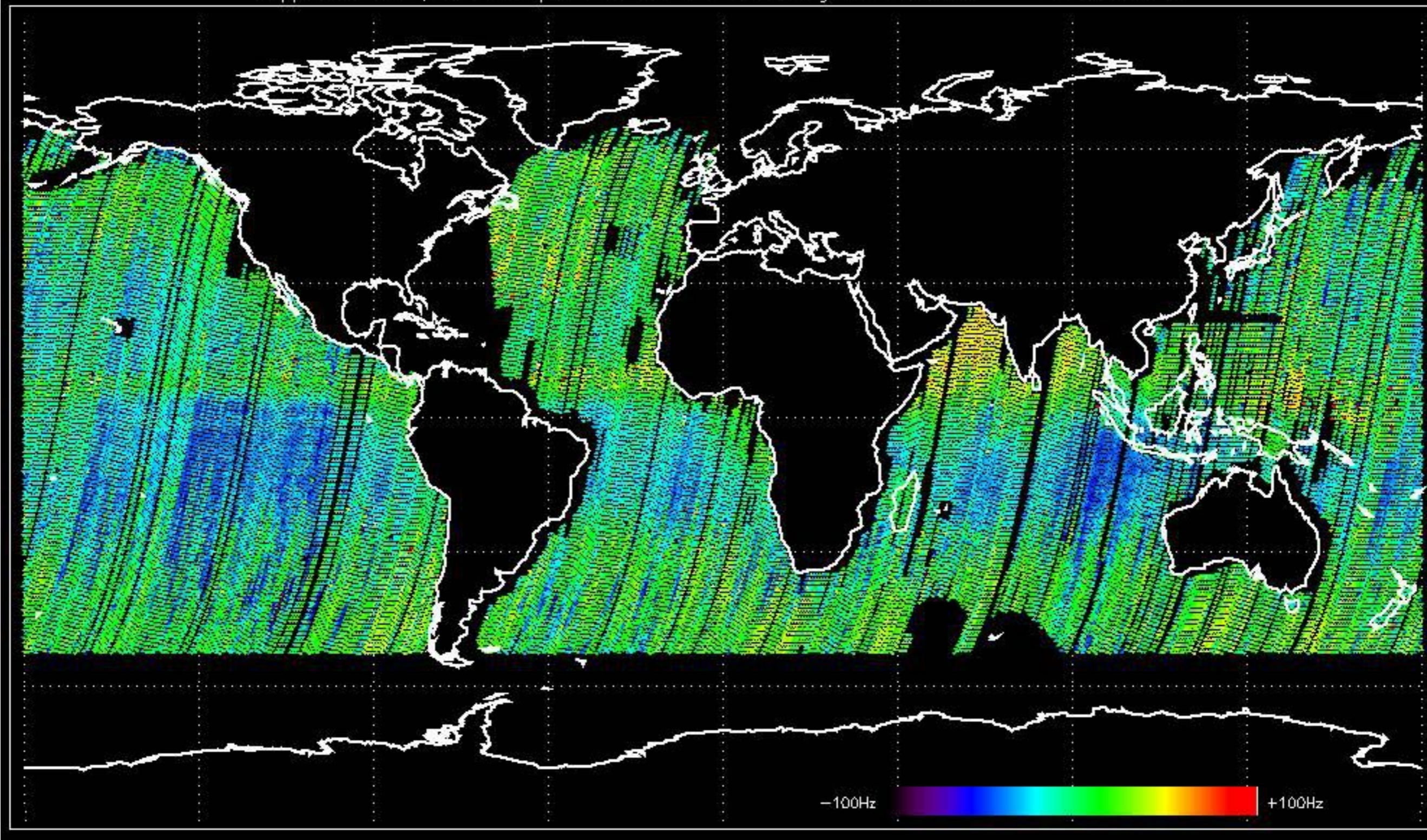
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -9.0372223 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -5.7524456 Hz

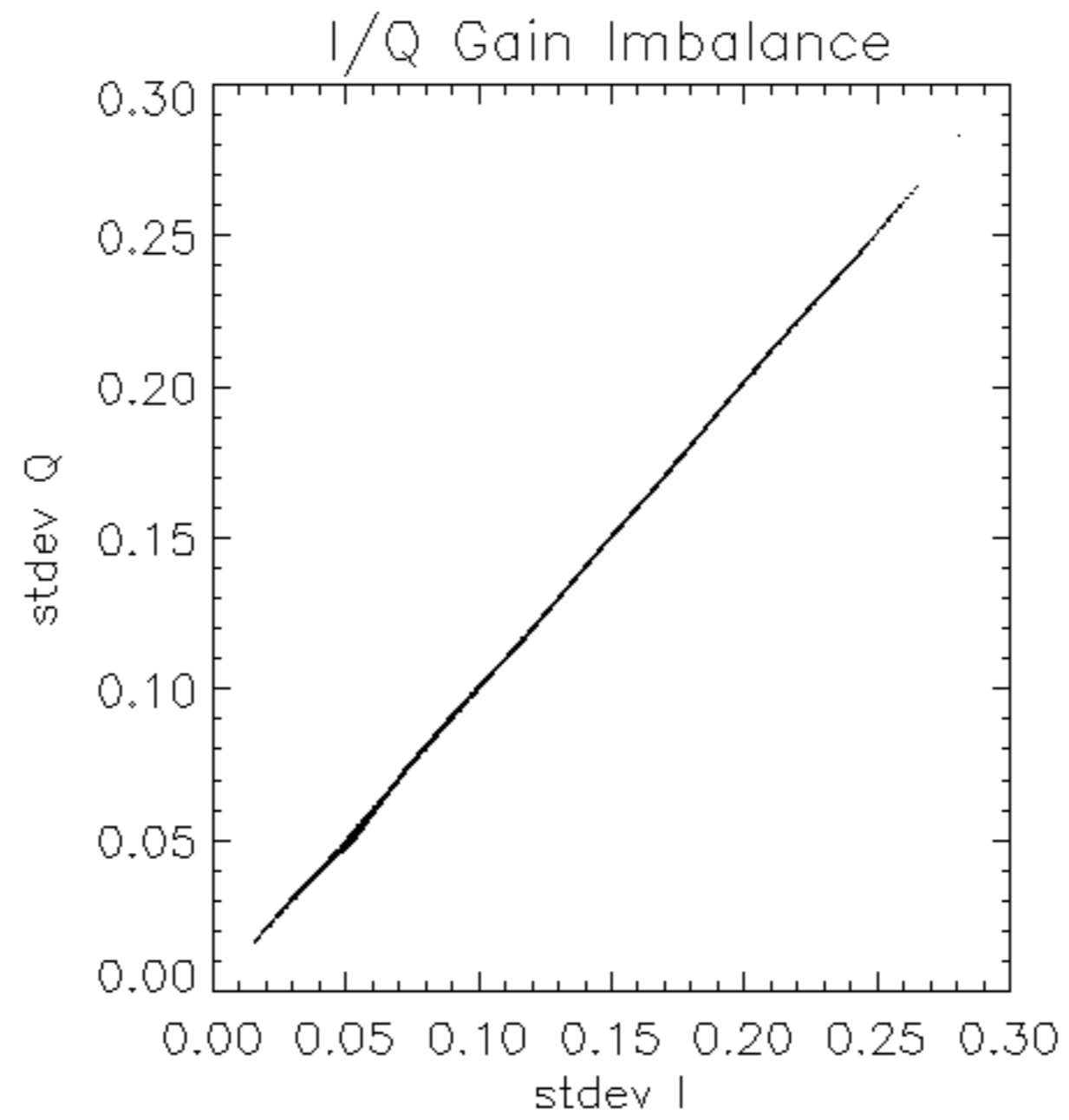


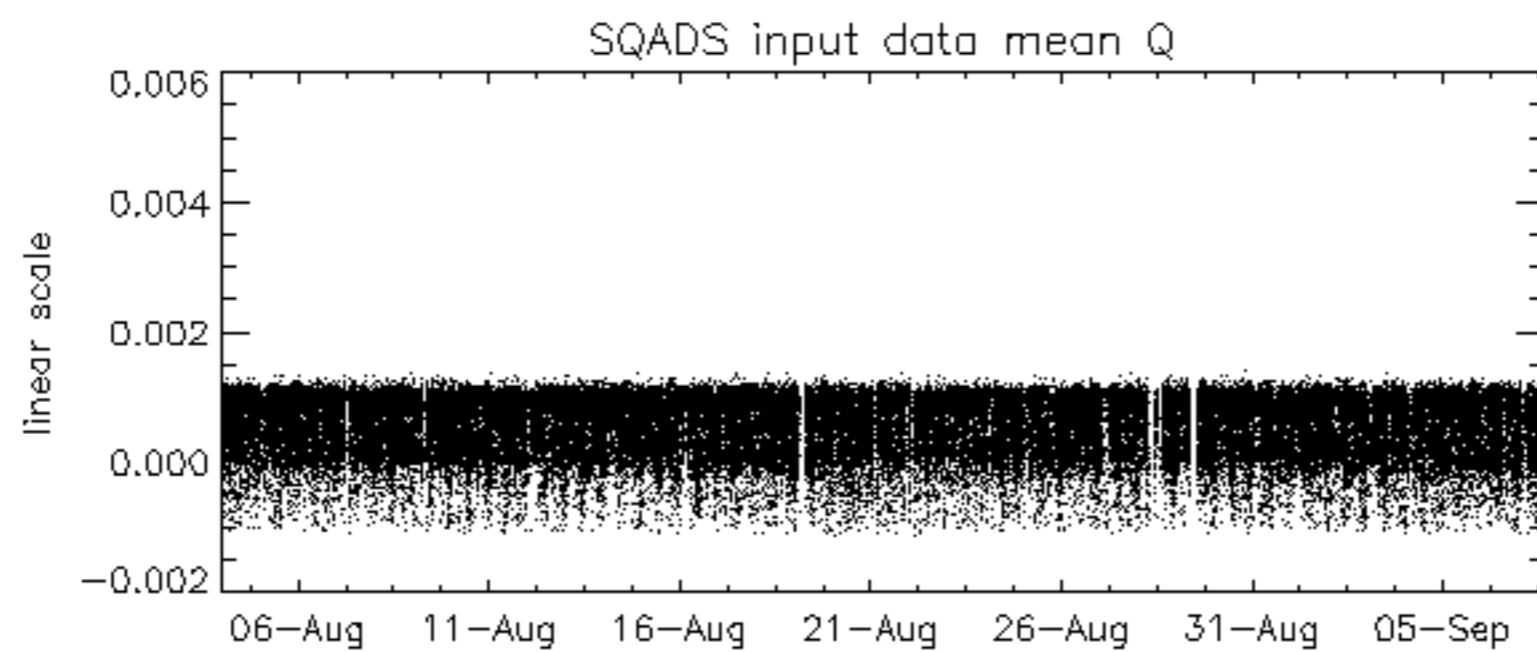
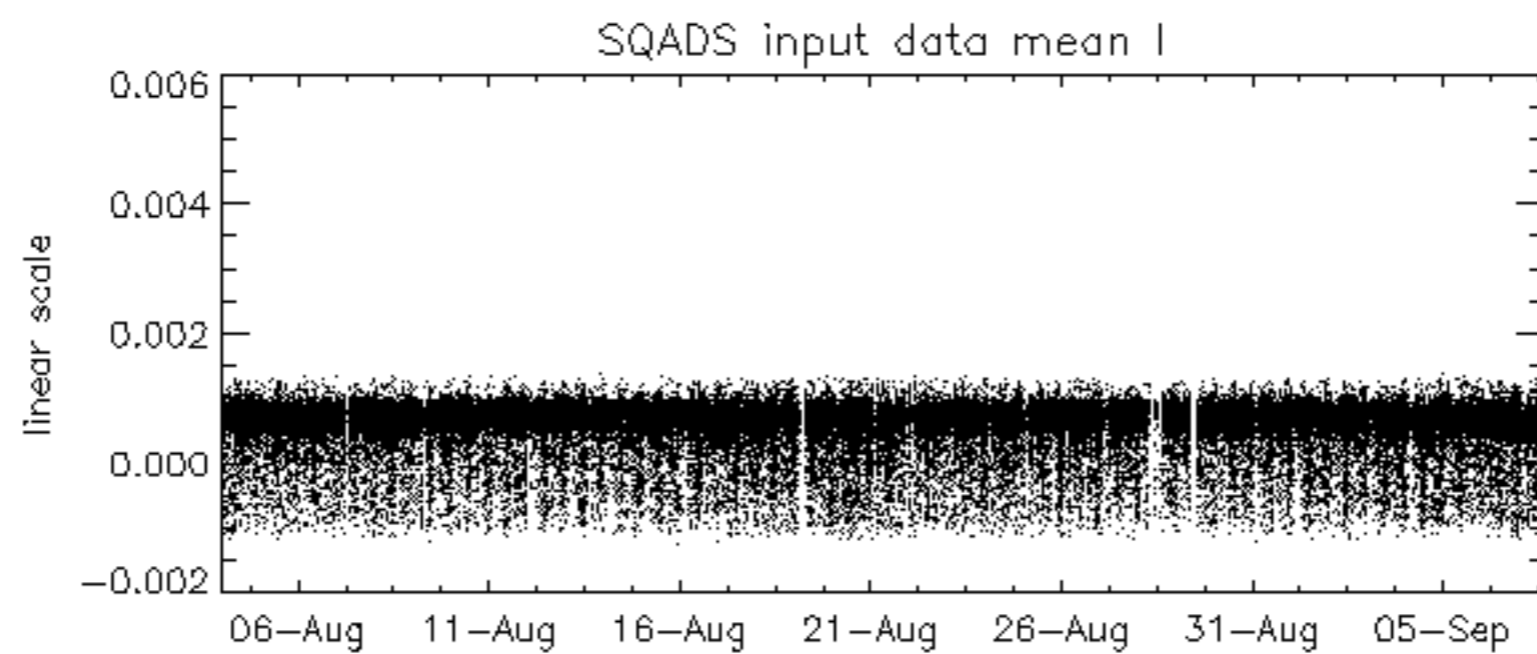
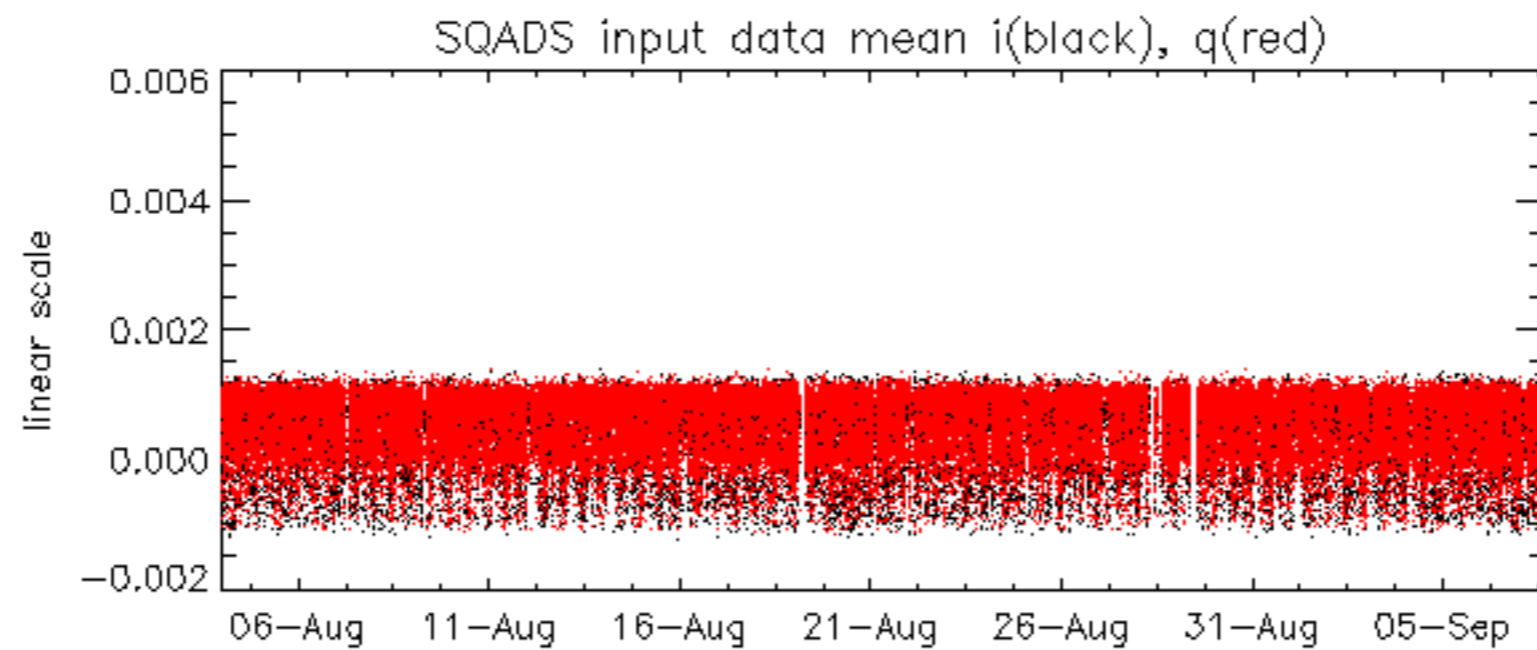
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -7.6324574 Hz

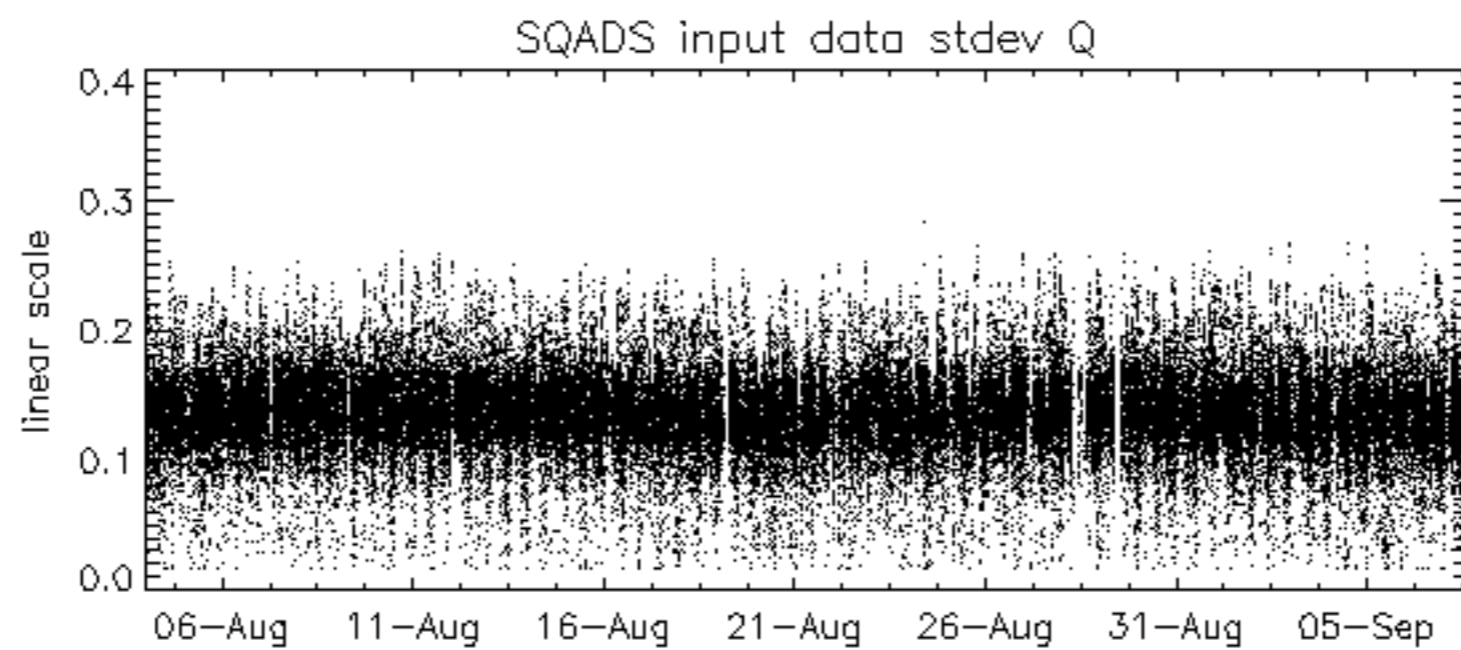
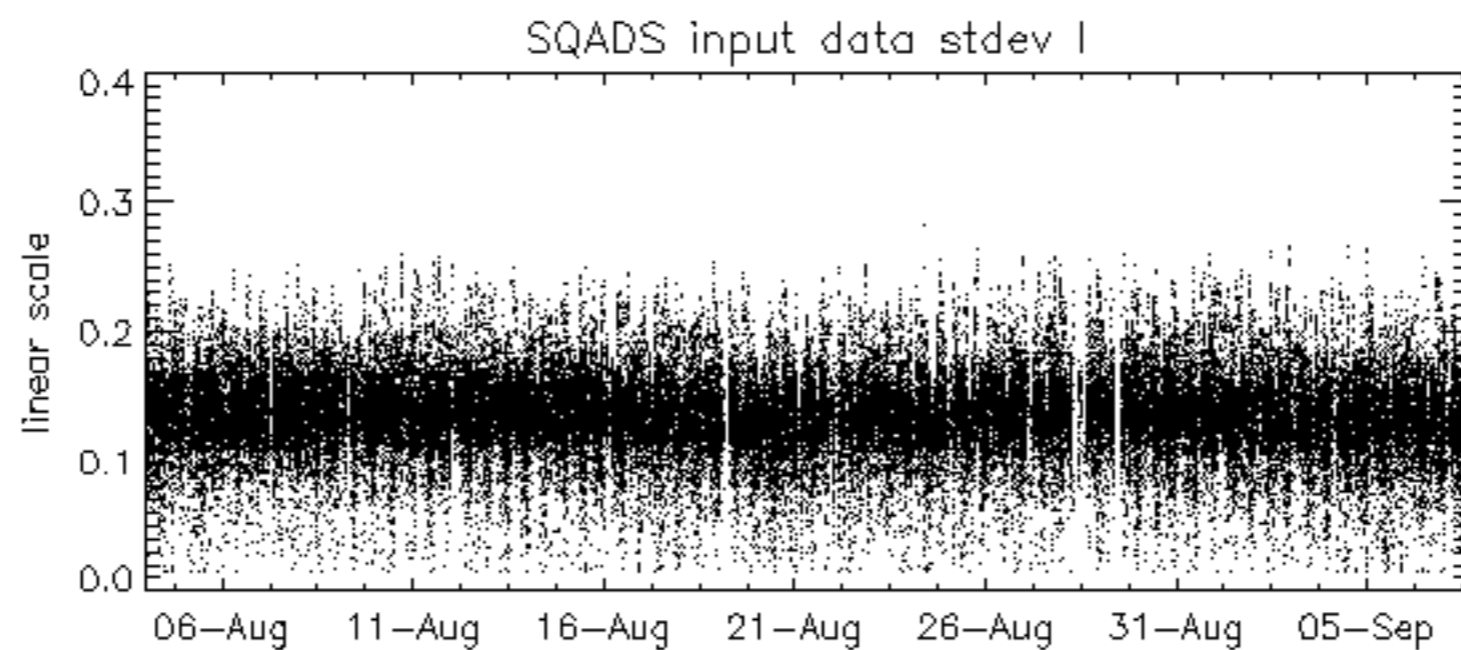
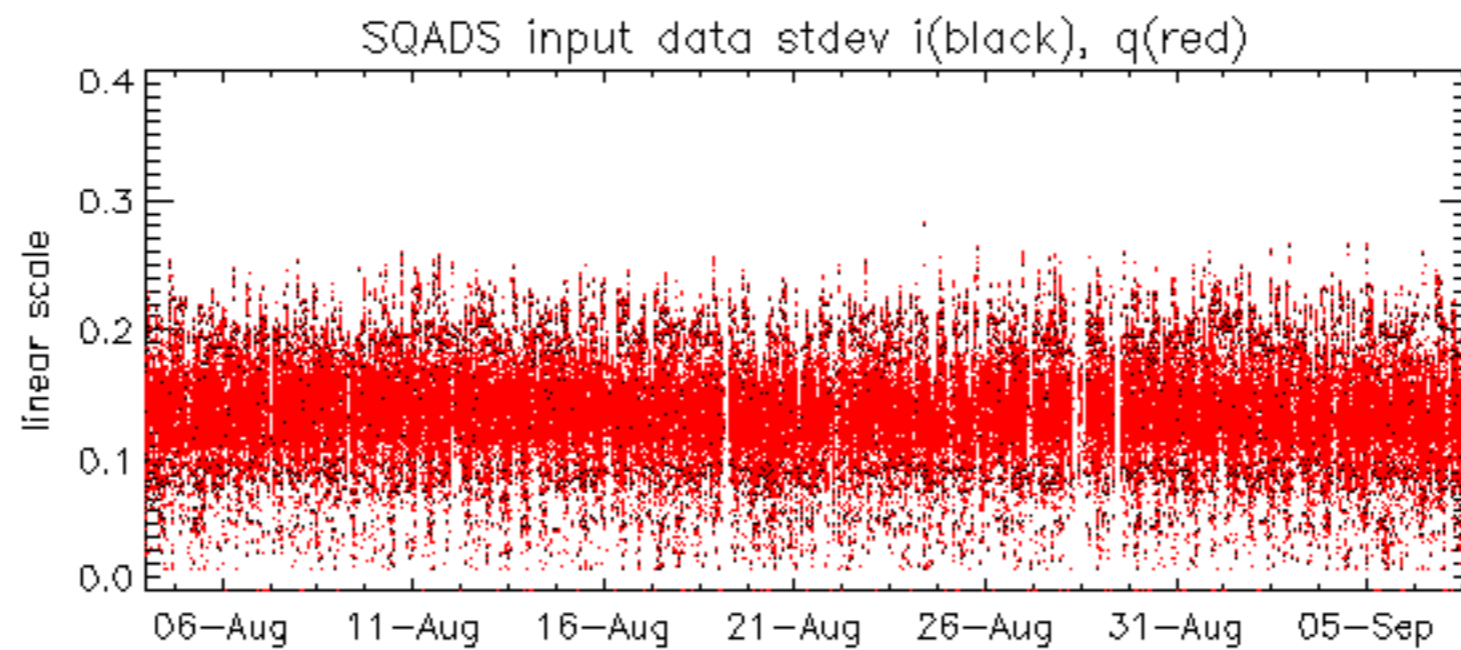


No anomalies observed on available MS products:

No anomalies observed.



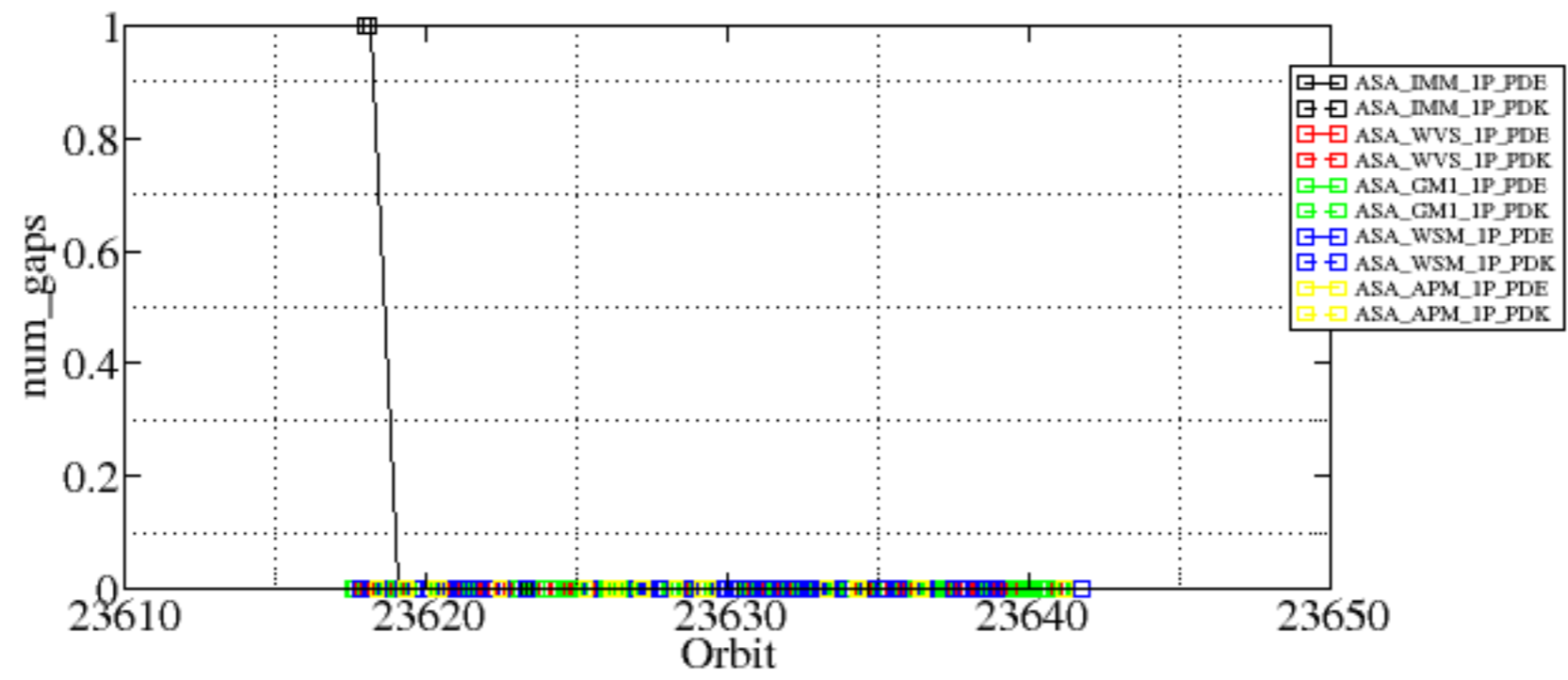


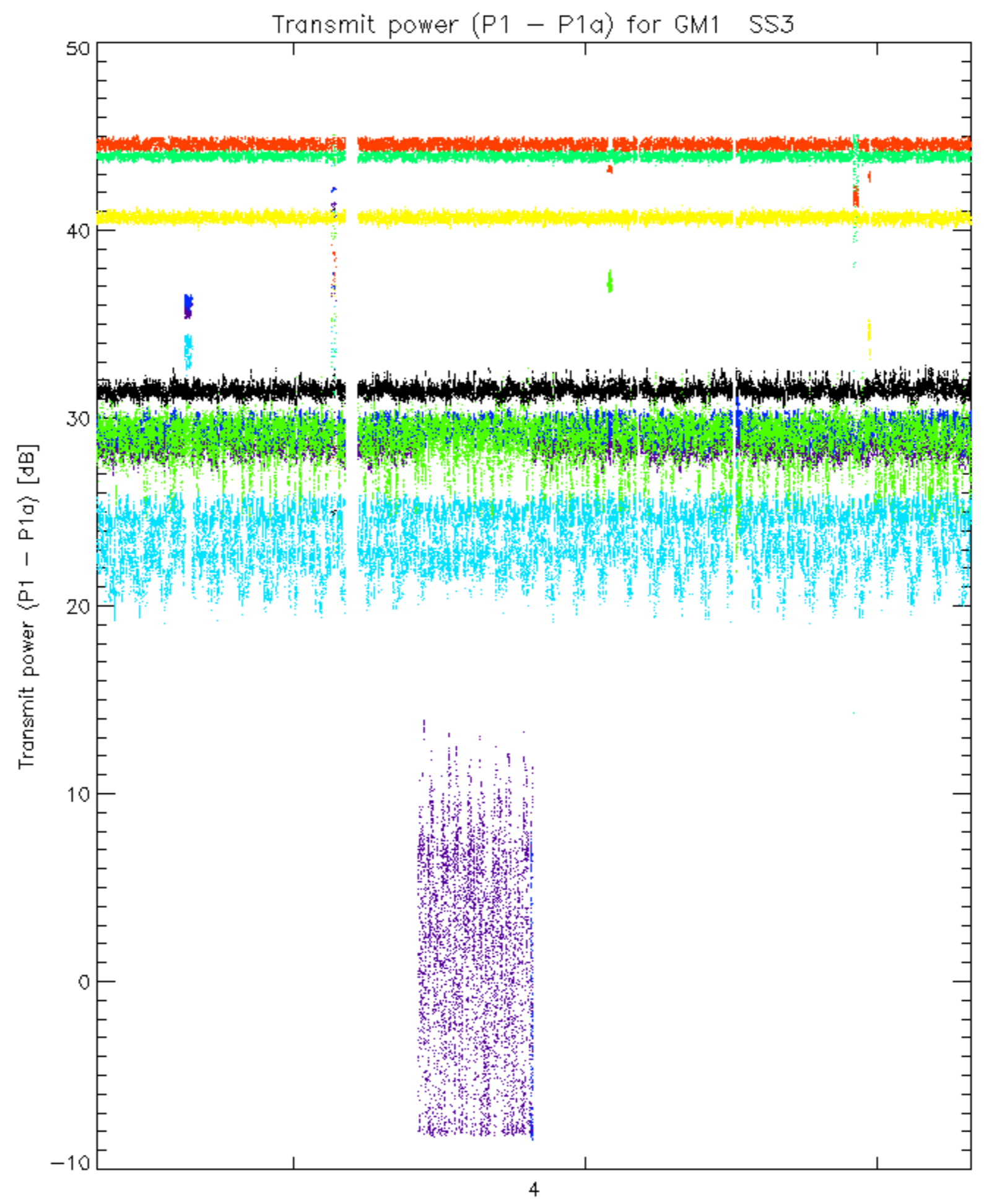


Summary of analysis for the last 3 days 2006090[678]

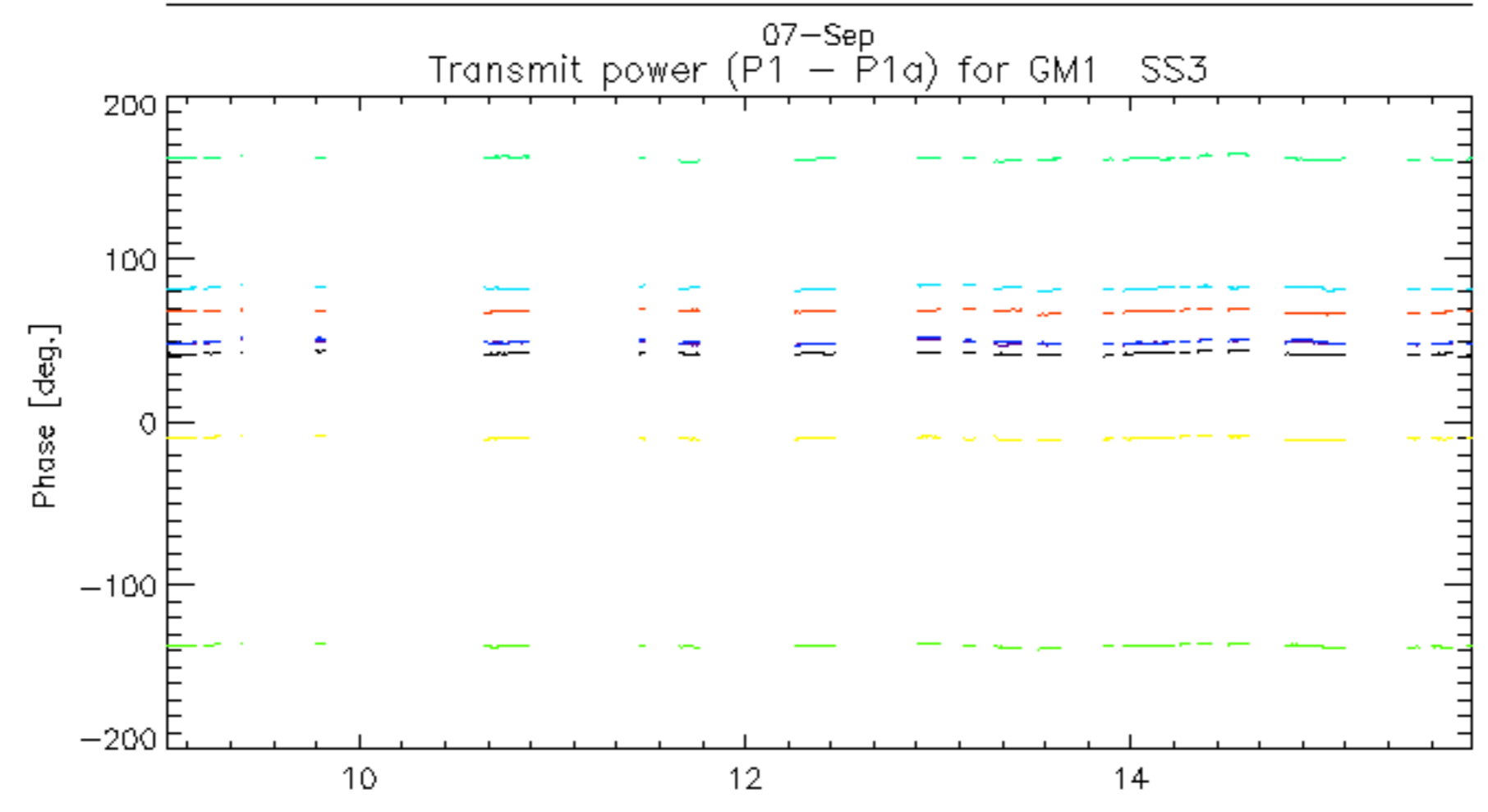
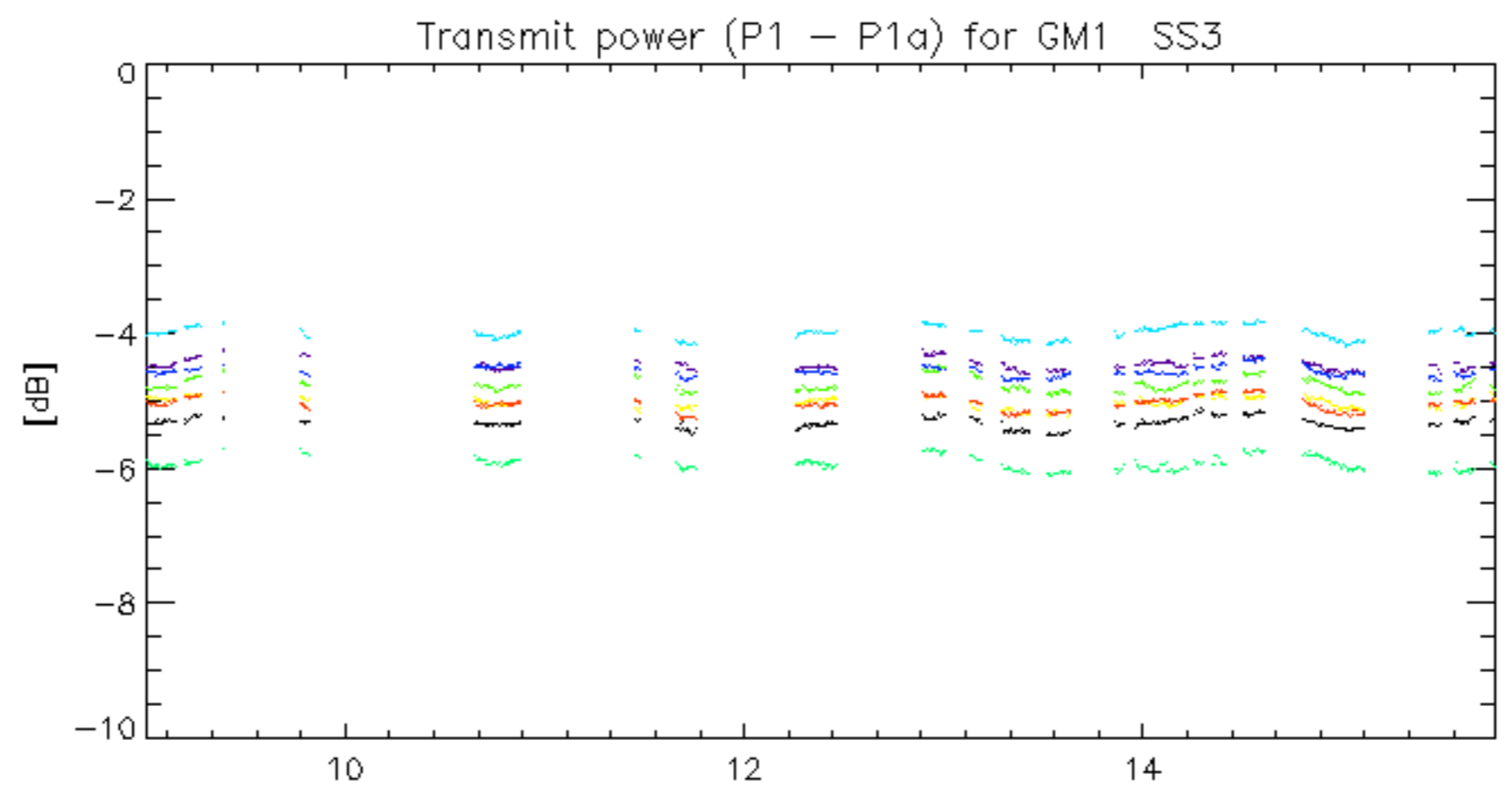
The assumption is taken that the SQUADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

| Filename | num_gaps | num_missing_lines |
|--|----------|-------------------|
| ASA_IMM_1PNPDE20060906_004518_000001932051_00016_23617_5564.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20060906_010159_000000692051_00017_23618_5567.N1 | 1 | 0 |
| ASA_GM1_1PNPDK20060906_174208_000007252051_00027_23628_4299.N1 | 0 | 8 |
| ASA_WSM_1PNPDE20060906_131931_000001472051_00024_23625_1280.N1 | 0 | 33 |
| ASA_WSM_1PNPDE20060906_155552_000000852051_00026_23627_1281.N1 | 0 | 65 |
| ASA_WSM_1PNPDE20060907_010442_000002632051_00031_23632_1387.N1 | 0 | 36 |

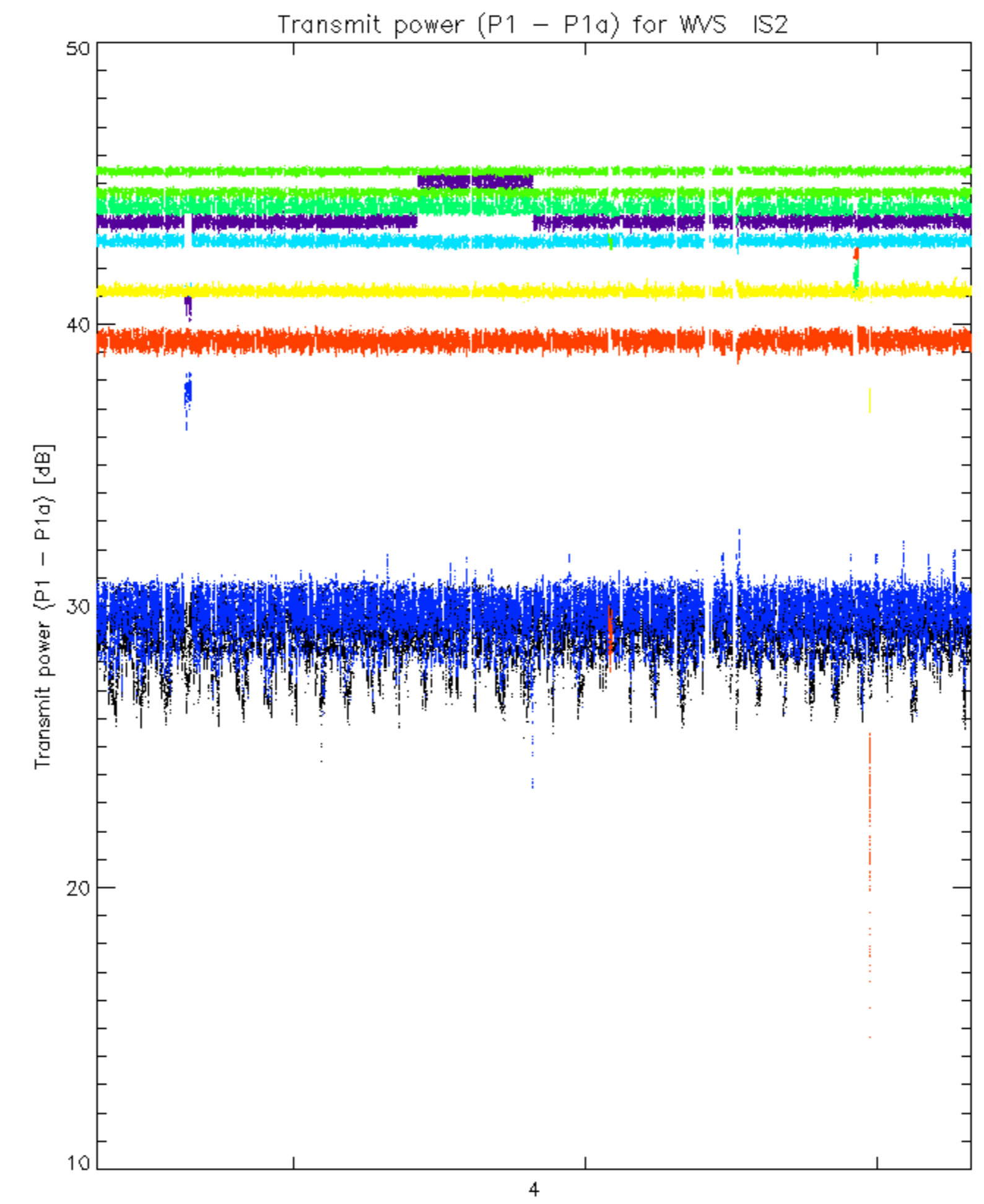




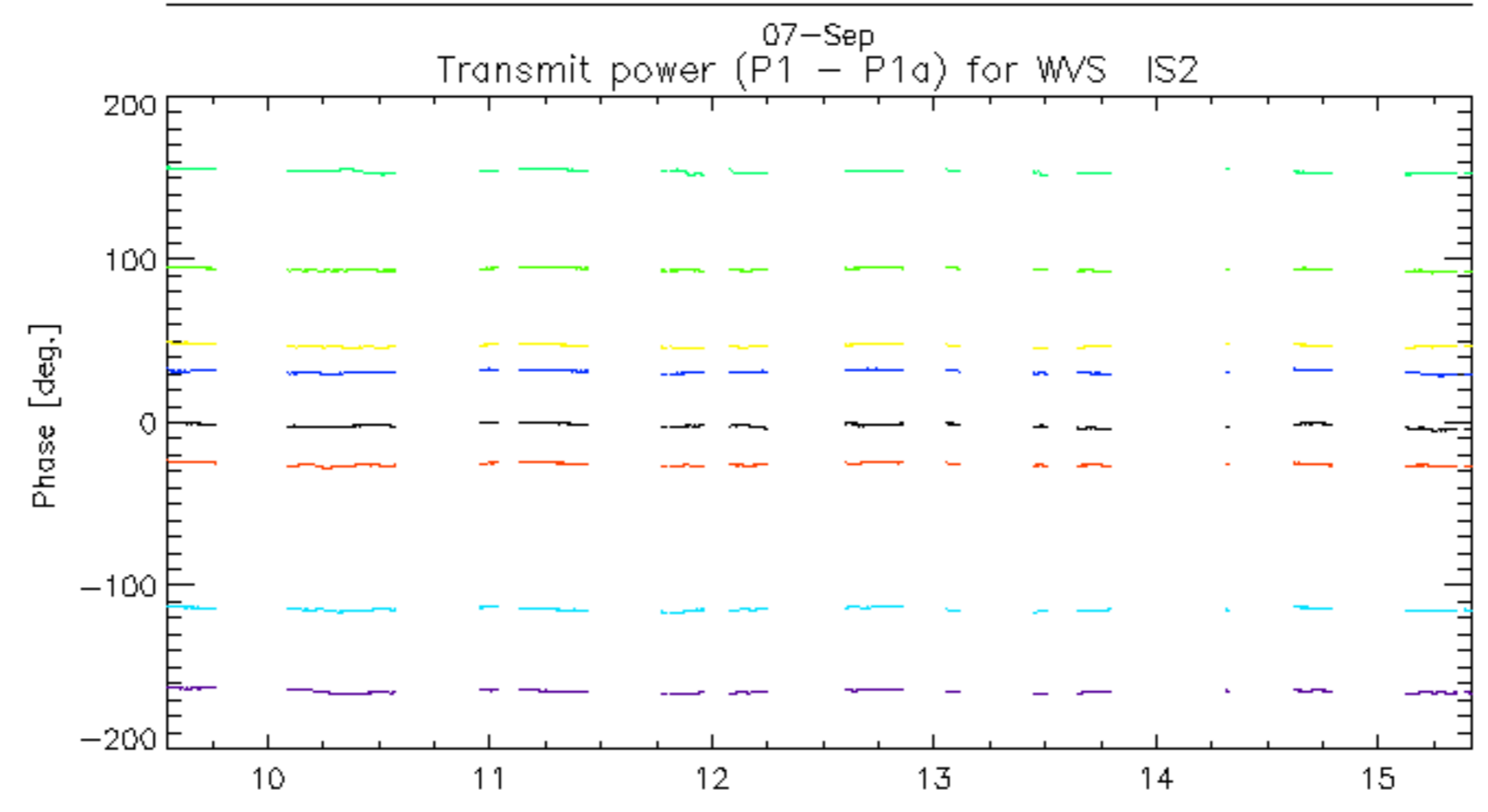
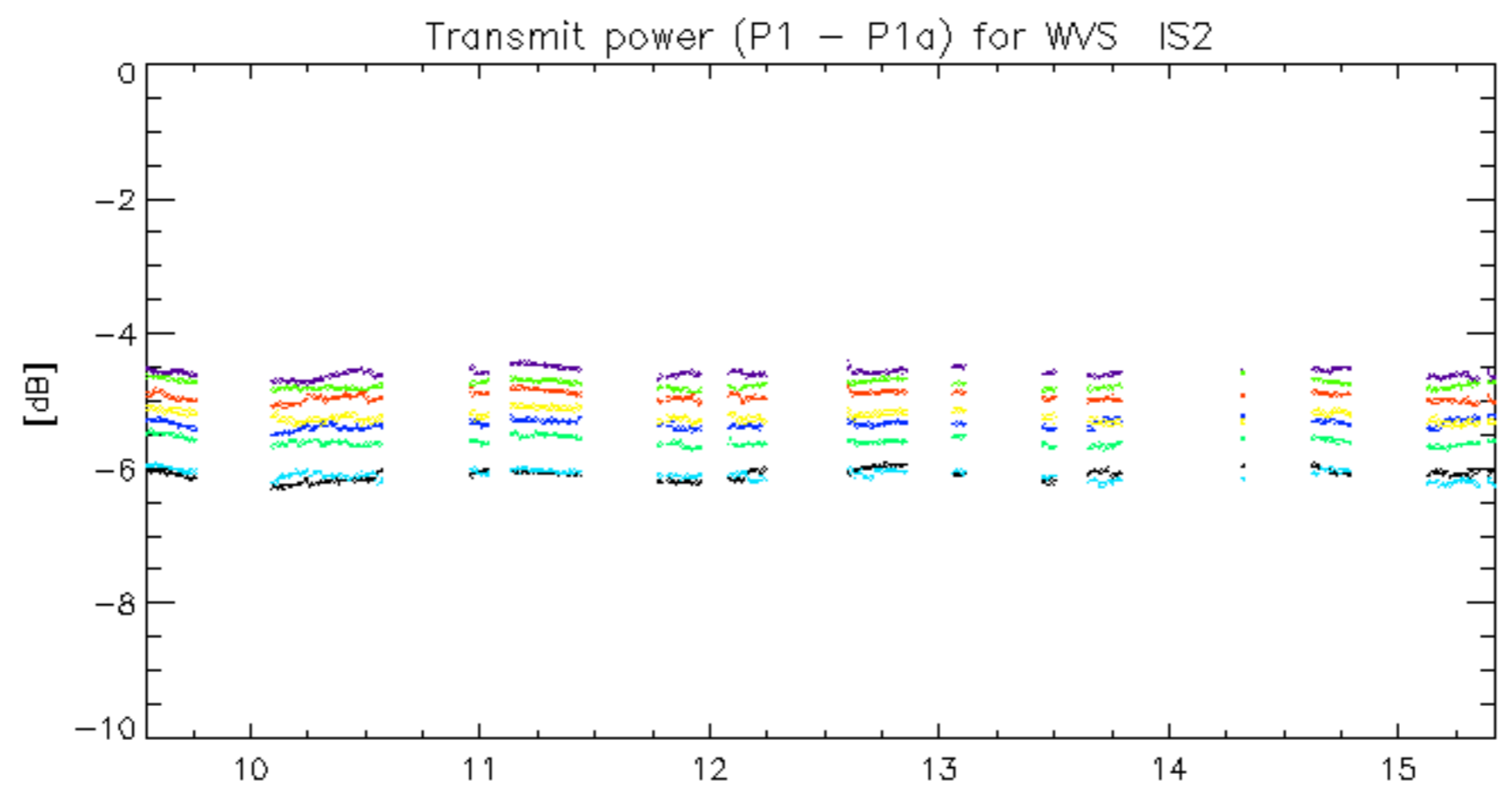
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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



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



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

No unavailabilities during the reported period.