

PRELIMINARY REPORT OF 060508

last update on Mon May 8 16:33:59 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 2006-05-07 00:00:00 to 2006-05-08 16:33:59

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

| | | | | | |
|---|----|----|---|---|---|
| ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000 | 40 | 60 | 9 | 0 | 0 |
| ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000 | 40 | 60 | 9 | 0 | 0 |
| ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000 | 40 | 60 | 9 | 0 | 0 |
| ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 | 40 | 60 | 9 | 0 | 0 |

| PDHS-E | | | | | |
|---|-----|-----|-----|-----|-----|
| AUXILIARY FILE | WVS | GM1 | IMM | APM | WSM |
| ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000 | 41 | 23 | 17 | 16 | 9 |
| ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000 | 41 | 23 | 17 | 16 | 9 |
| ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000 | 41 | 23 | 17 | 16 | 9 |
| ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 | 41 | 23 | 17 | 16 | 9 |

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 | 20060508 084152 |
| H | 20060504 040556 |

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 |
|----------------------|------------------------------|
| ☒ | ☒ |
| ☒ | ☒ |
| ☒ | ☒ |
| ☒ | ☒ |

4 - Internal calibration Results

No anomalies observed.

4.1 - Daily statistics

4.1.1 - Evolution for WVS

| Evolution of cal pulses for WVS |
|---------------------------------|
| ☒ |
| ☒ |

4.1.2 - Evolution for GM1

| Evolution of cal pulses for GM1 |
|---------------------------------|
| ☒ |
| ☒ |

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 | -3.974124 | 0.011682 | 0.008158 |
| 7 | P1 | -3.054075 | 0.011541 | -0.069216 |
| 11 | P1 | -4.088608 | 0.015946 | -0.052997 |
| 15 | P1 | -6.101740 | 0.012646 | -0.067863 |
| 19 | P1 | -3.309002 | 0.007674 | 0.012310 |
| 22 | P1 | -4.519871 | 0.011231 | -0.042422 |
| 26 | P1 | -4.041542 | 0.020233 | 0.117831 |
| 30 | P1 | -5.736985 | 0.021976 | -0.019047 |
| 3 | P1 | -16.692068 | 0.304852 | 0.118793 |
| 7 | P1 | -16.962978 | 0.149211 | -0.229794 |
| 11 | P1 | -16.731083 | 0.325323 | -0.475678 |
| 15 | P1 | -13.102118 | 0.135300 | -0.267874 |
| 19 | P1 | -14.142179 | 0.048758 | -0.260123 |
| 22 | P1 | -16.039289 | 0.481910 | -0.367967 |
| 26 | P1 | -15.452274 | 0.269767 | 0.501116 |
| 30 | P1 | -16.775410 | 0.307802 | -0.539060 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -21.291496 | 0.086577 | 0.075387 |
| 7 | P2 | -22.194885 | 0.101066 | 0.099035 |
| 11 | P2 | -16.036913 | 0.111952 | 0.163989 |
| 15 | P2 | -7.163117 | 0.097357 | -0.026024 |
| 19 | P2 | -9.150456 | 0.090268 | -0.047566 |
| 22 | P2 | -18.051575 | 0.089650 | -0.142975 |
| 26 | P2 | -16.306068 | 0.094568 | -0.117238 |
| 30 | P2 | -19.606346 | 0.088212 | -0.012631 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.189583 | 0.004494 | -0.011840 |
| 7 | P3 | -8.189583 | 0.004494 | -0.011840 |
| 11 | P3 | -8.189583 | 0.004494 | -0.011840 |
| 15 | P3 | -8.189583 | 0.004494 | -0.011840 |
| 19 | P3 | -8.189583 | 0.004494 | -0.011840 |
| 22 | P3 | -8.189583 | 0.004494 | -0.011840 |
| 26 | P3 | -8.189598 | 0.004495 | -0.011840 |
| 30 | P3 | -8.189598 | 0.004495 | -0.011840 |

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 | -3.749705 | 0.028799 | 0.004822 |
| 7 | P1 | -2.668719 | 0.116819 | 0.096426 |
| 11 | P1 | -2.886300 | 0.034808 | 0.067760 |
| 15 | P1 | -3.518925 | 0.031738 | 0.053677 |
| 19 | P1 | -3.382581 | 0.013514 | -0.015482 |
| 22 | P1 | -5.125101 | 0.023054 | 0.068164 |
| 26 | P1 | -5.814697 | 0.024518 | -0.040895 |
| 30 | P1 | -5.178312 | 0.048312 | 0.012341 |
| 3 | P1 | -11.595335 | 0.112721 | -0.025119 |
| 7 | P1 | -9.978948 | 0.175713 | 0.037054 |
| 11 | P1 | -10.232240 | 0.087800 | 0.085549 |
| 15 | P1 | -10.698695 | 0.135834 | 0.135235 |
| 19 | P1 | -15.447389 | 0.090490 | -0.082990 |
| 22 | P1 | -20.661074 | 1.267154 | -0.428626 |

| | | | | |
|----|----|------------|----------|-----------|
| 26 | P1 | -16.378084 | 0.413758 | -0.198282 |
| 30 | P1 | -18.257229 | 0.494620 | 0.381618 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -16.960106 | 0.071411 | 0.076548 |
| 7 | P2 | -22.510464 | 0.189606 | -0.088136 |
| 11 | P2 | -11.194057 | 0.052049 | -0.009469 |
| 15 | P2 | -4.866361 | 0.042851 | -0.067725 |
| 19 | P2 | -6.860635 | 0.042759 | -0.045275 |
| 22 | P2 | -8.155080 | 0.056270 | -0.073862 |
| 26 | P2 | -24.049068 | 0.137239 | -0.105161 |
| 30 | P2 | -22.050844 | 0.092484 | -0.008780 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.024914 | 0.003771 | -0.005613 |
| 7 | P3 | -8.024764 | 0.003788 | -0.005524 |
| 11 | P3 | -8.024979 | 0.003759 | -0.004875 |
| 15 | P3 | -8.024814 | 0.003782 | -0.004969 |
| 19 | P3 | -8.025035 | 0.003775 | -0.005398 |
| 22 | P3 | -8.024963 | 0.003780 | -0.005270 |
| 26 | P3 | -8.024812 | 0.003768 | -0.004731 |
| 30 | P3 | -8.024852 | 0.003777 | -0.005243 |

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 | 0.000549646 |
| | stdev | 1.82053e-07 |
| MEAN Q | mean | 0.000519737 |
| | stdev | 2.23986e-07 |



5.2 - Input stdev I/Q

| channel | stat | DSS-B |
|---------|-------|------------|
| STDEV I | mean | 0.136490 |
| | stdev | 0.00116408 |
| STDEV Q | mean | 0.136848 |
| | stdev | 0.00118147 |



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006050[678]

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_WSM_1PNPDE20060506_184504_000003042047_00271_21868_8331.N1 | 0 | 57 |







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)

| |
|---|
|  |
| Acsending |

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

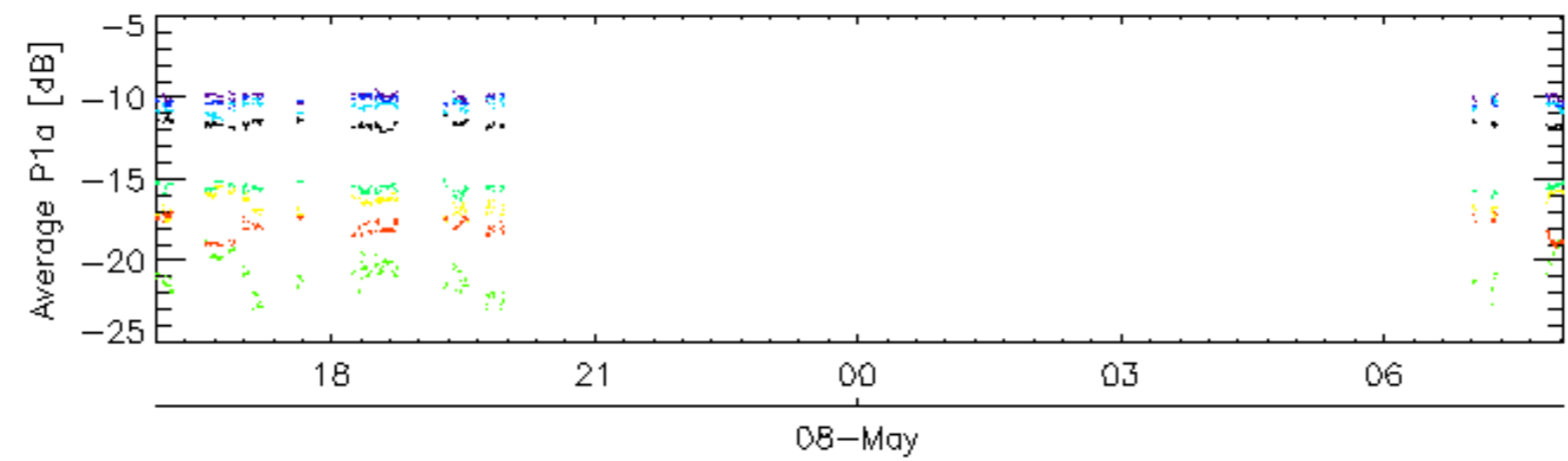
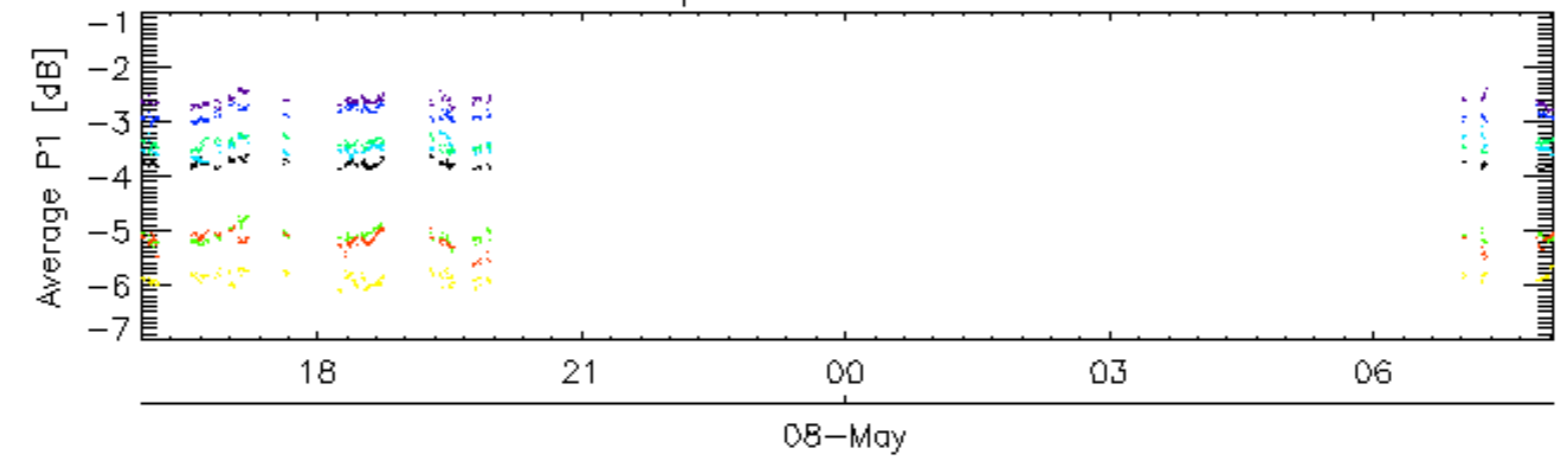
7.5 - Absolute Doppler for GM1

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

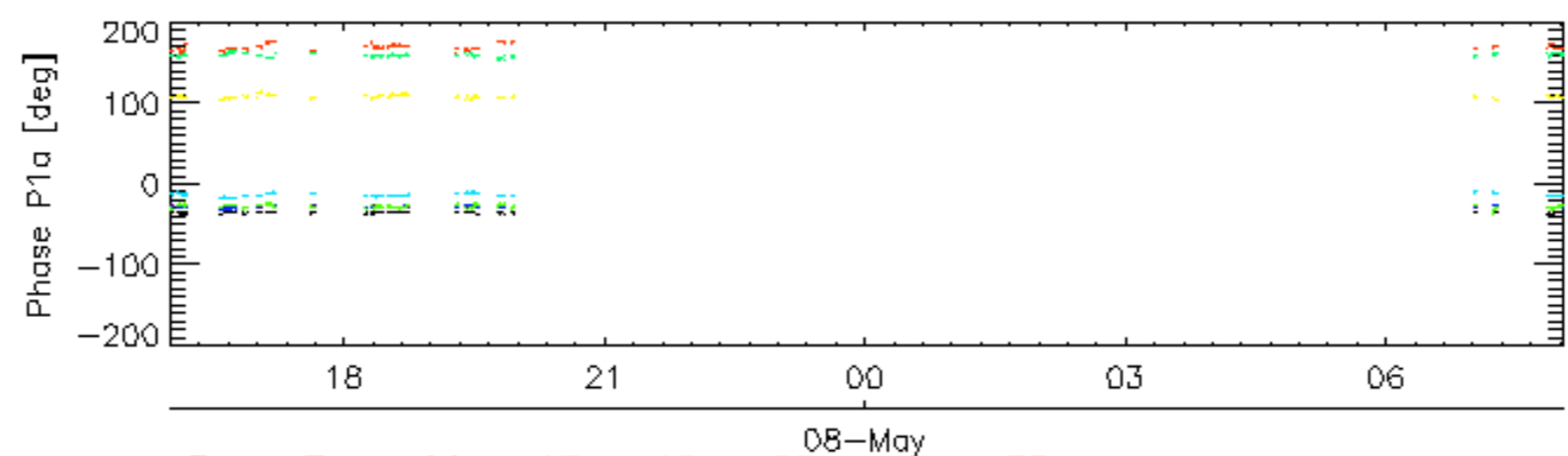
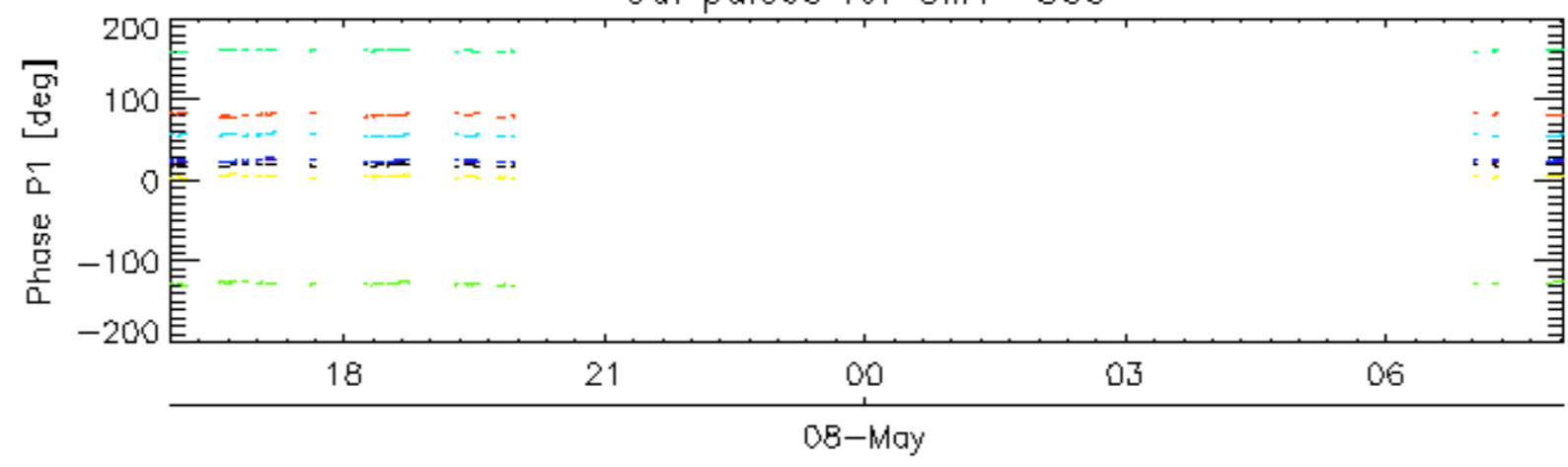
7.6 - Doppler evolution versus ANX for GM1

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

Cal pulses for GM1 SS3

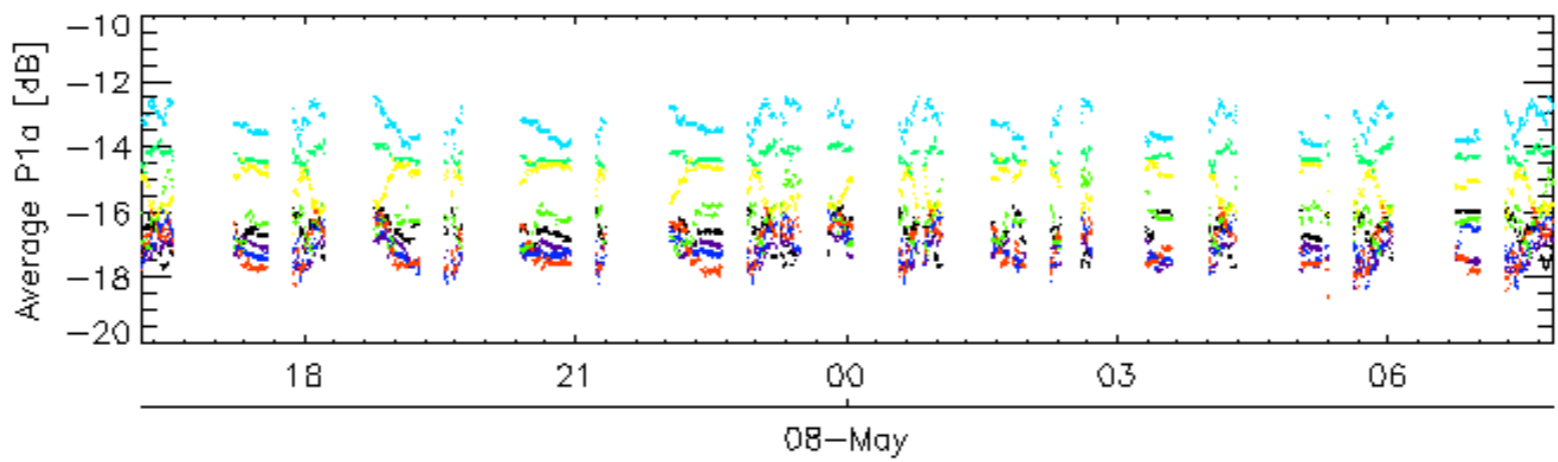
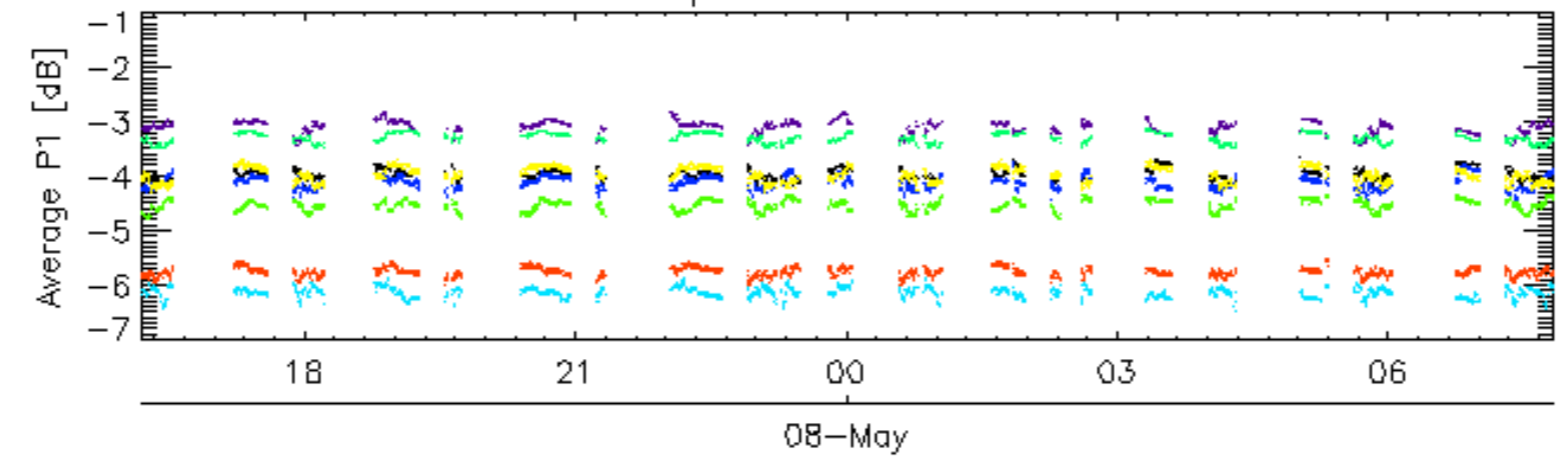


Cal pulses for GM1 SS3

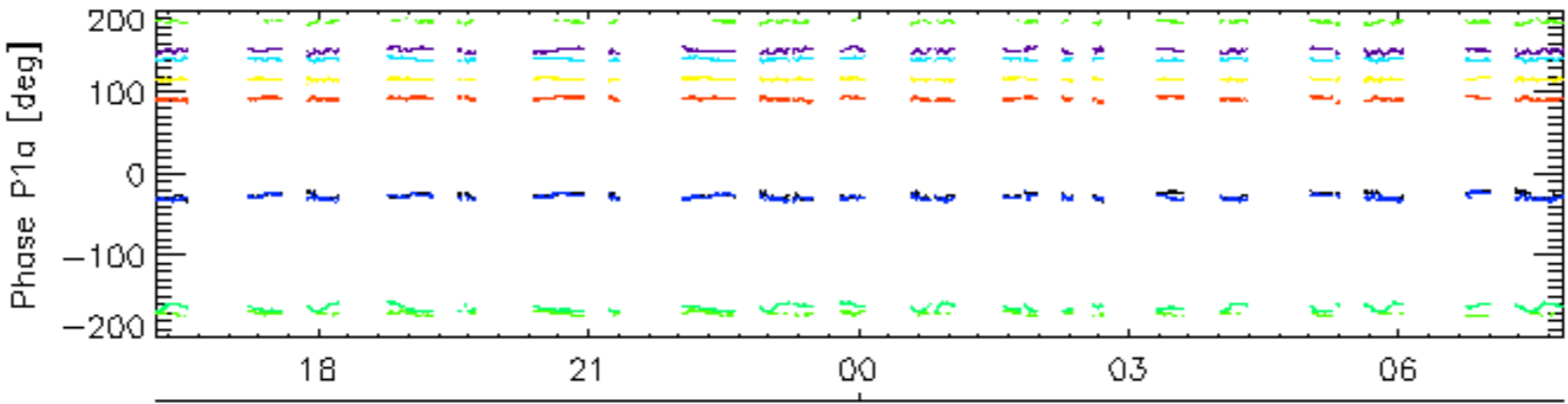
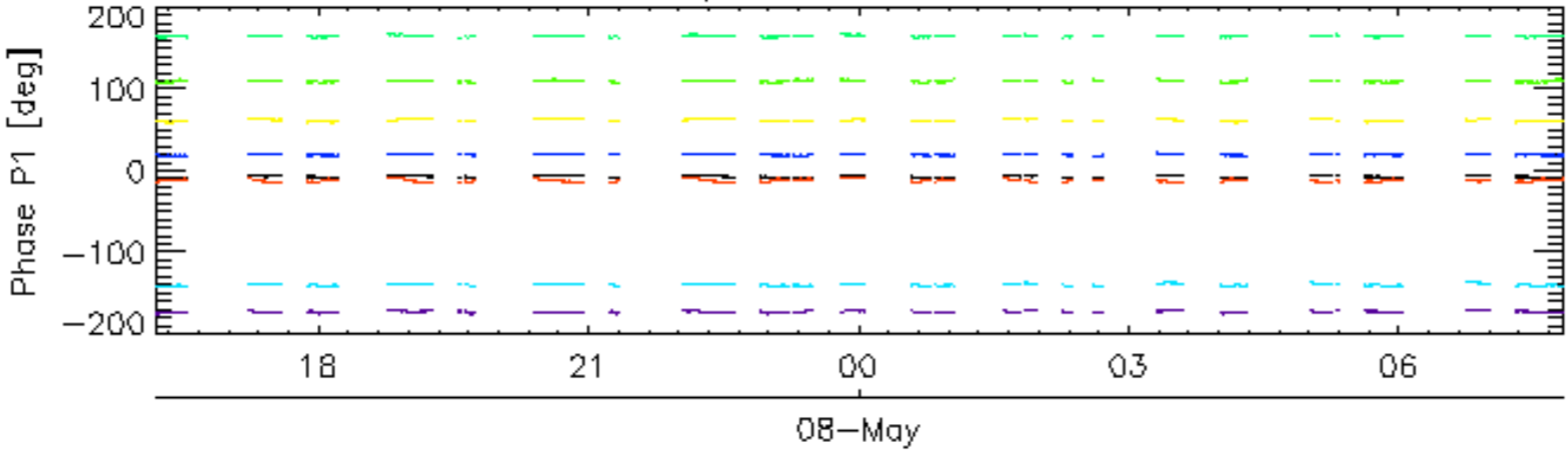


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2

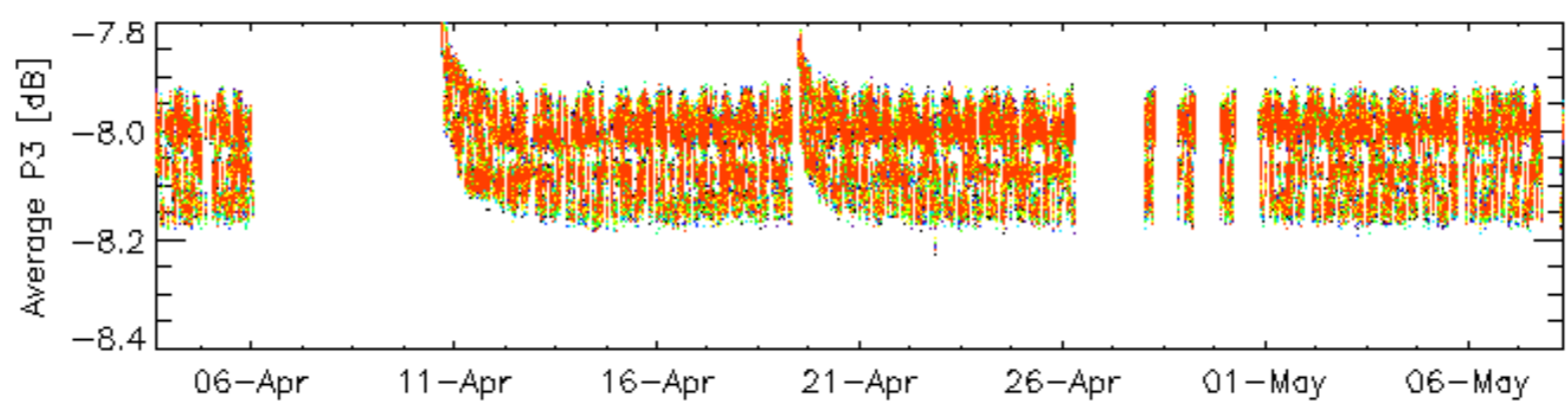
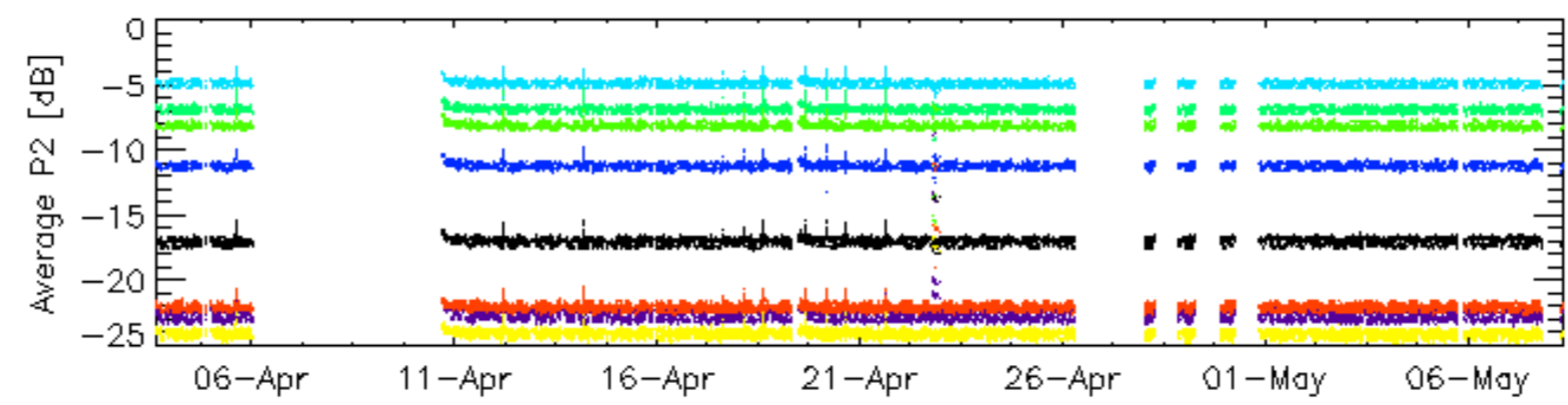
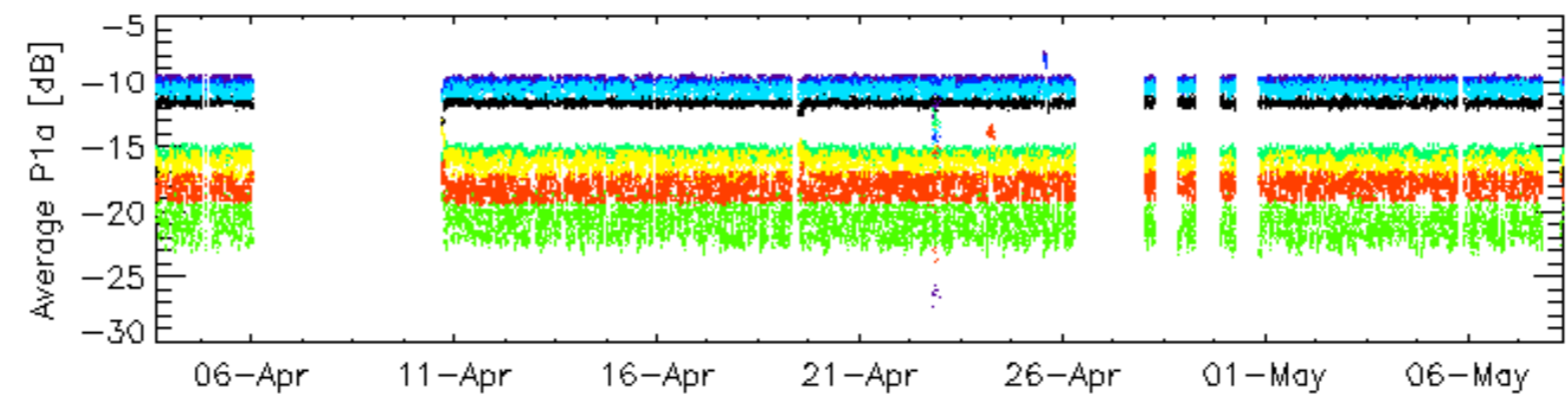
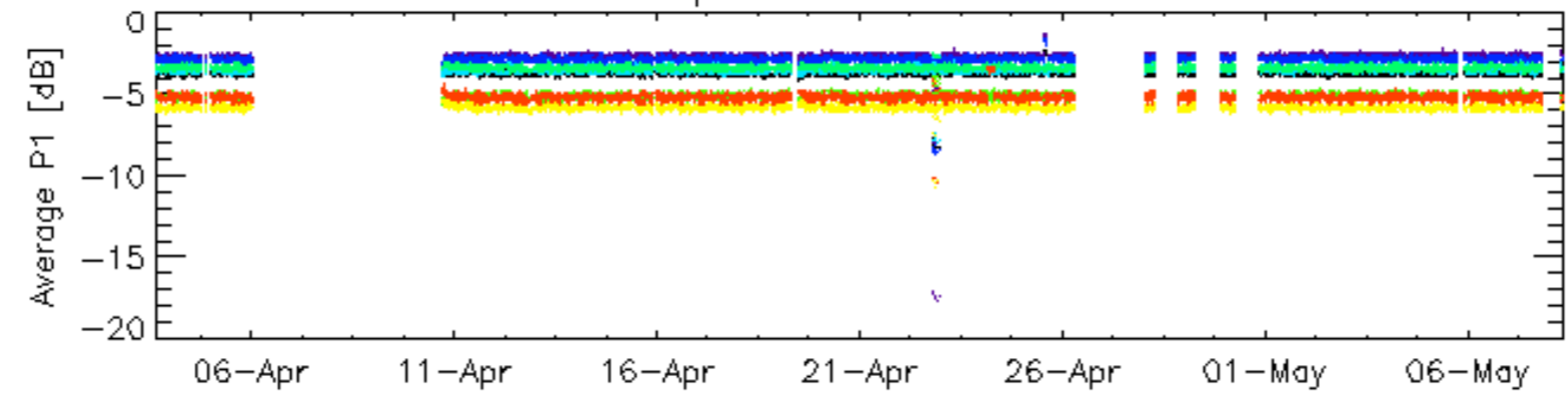


Cal pulses for WVS IS2



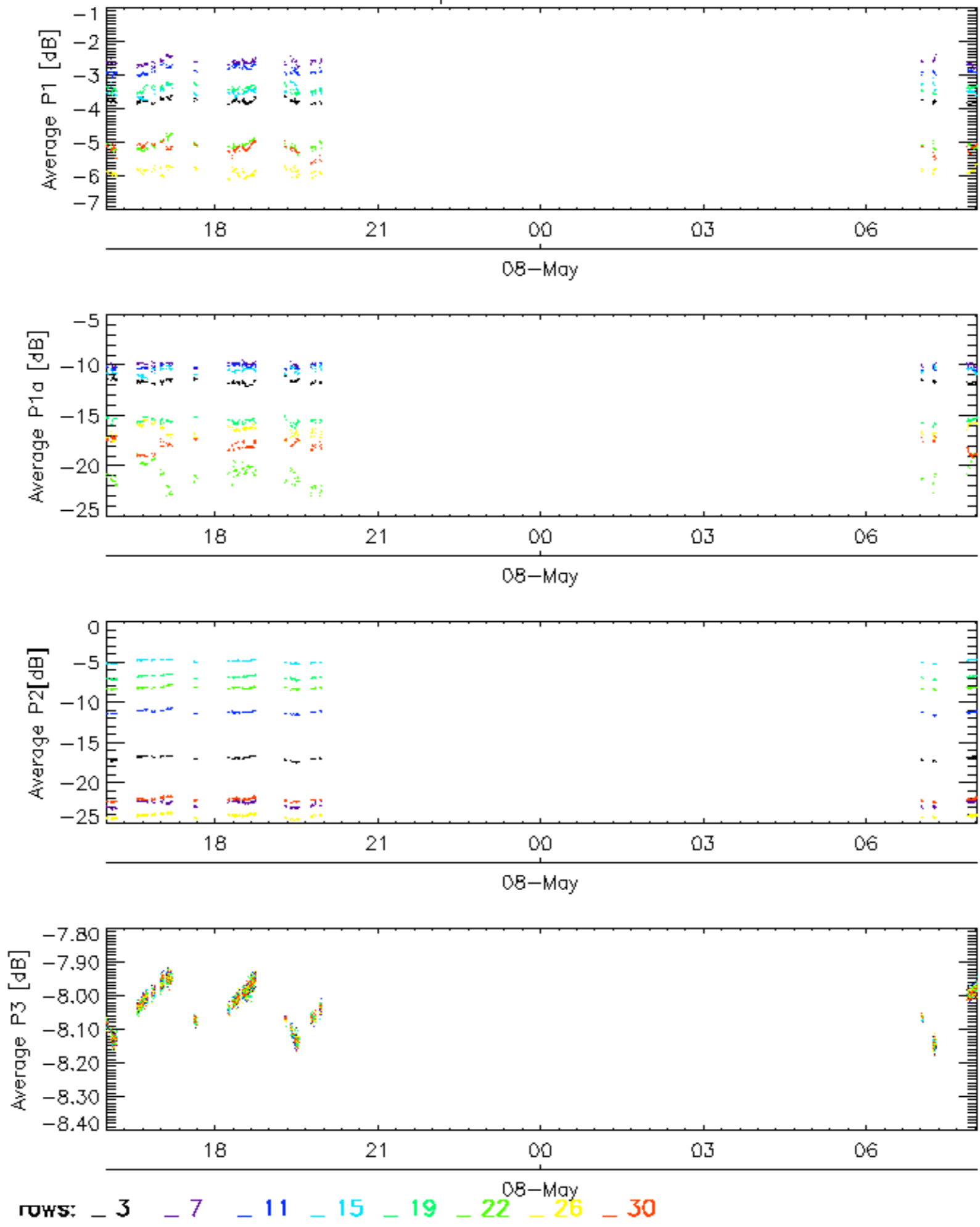
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

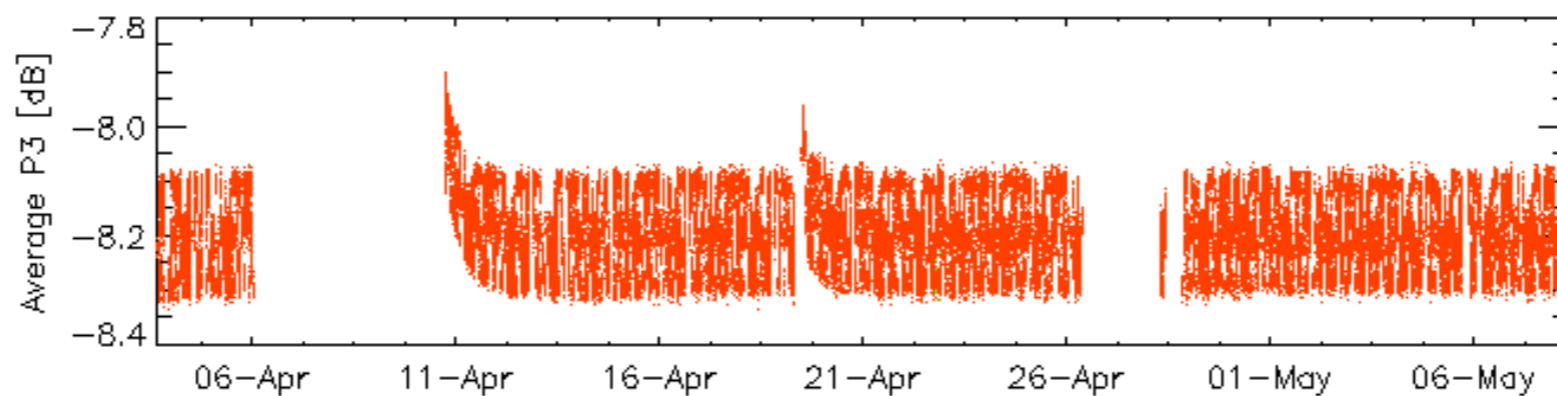
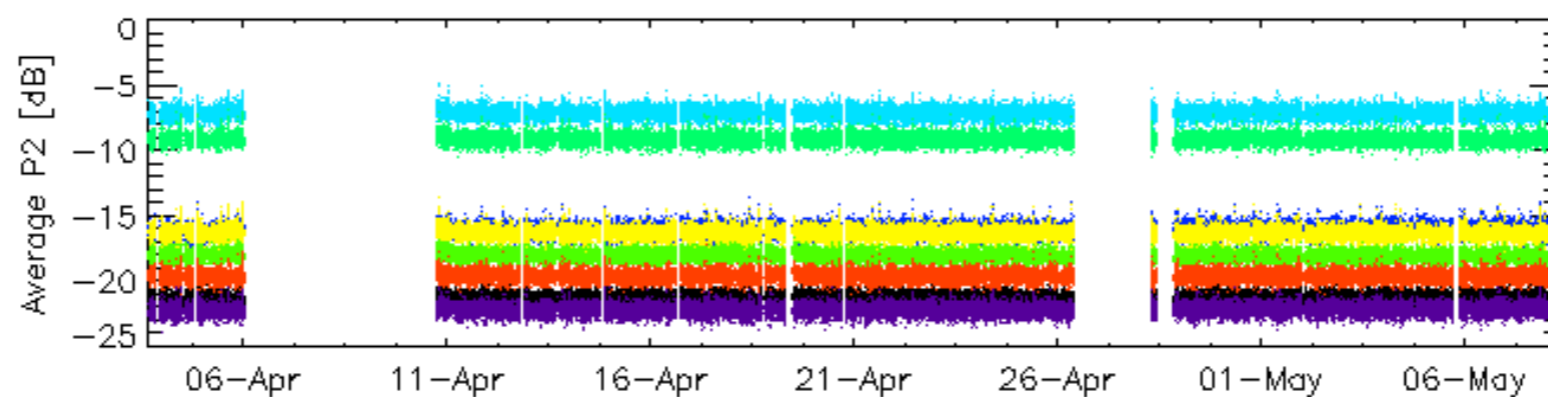
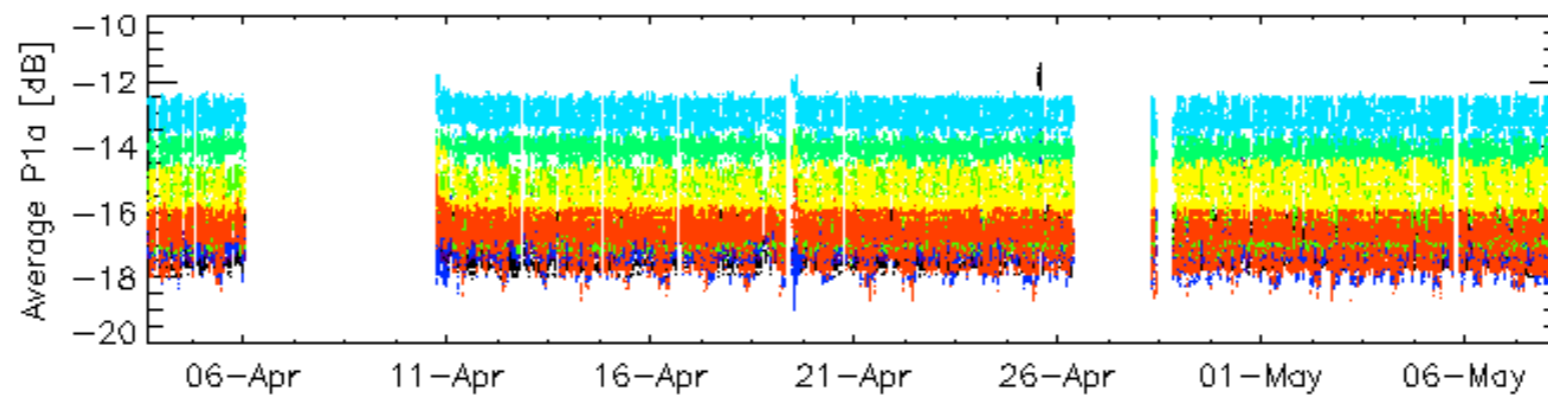
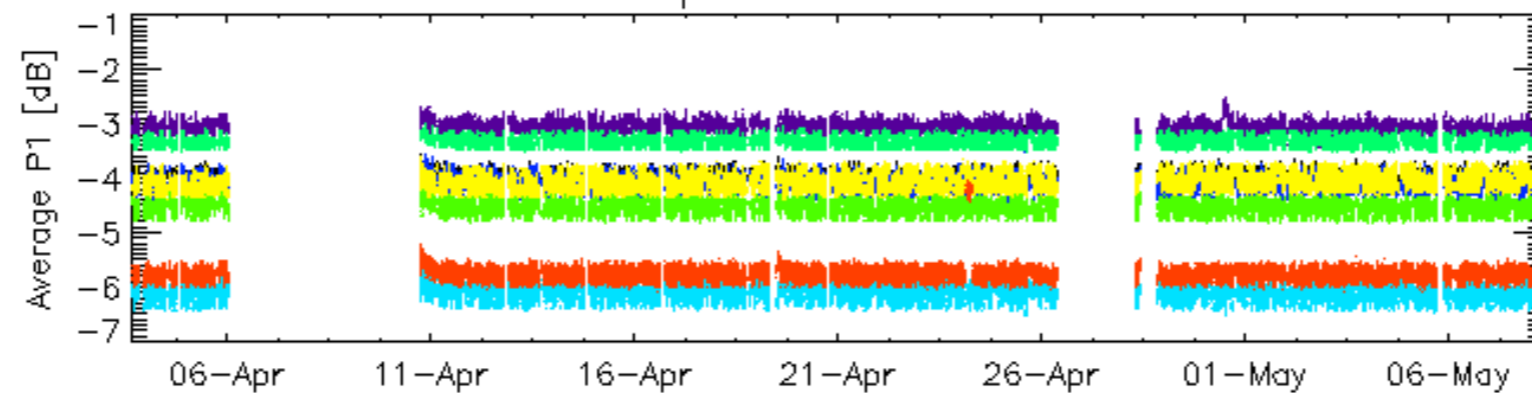


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

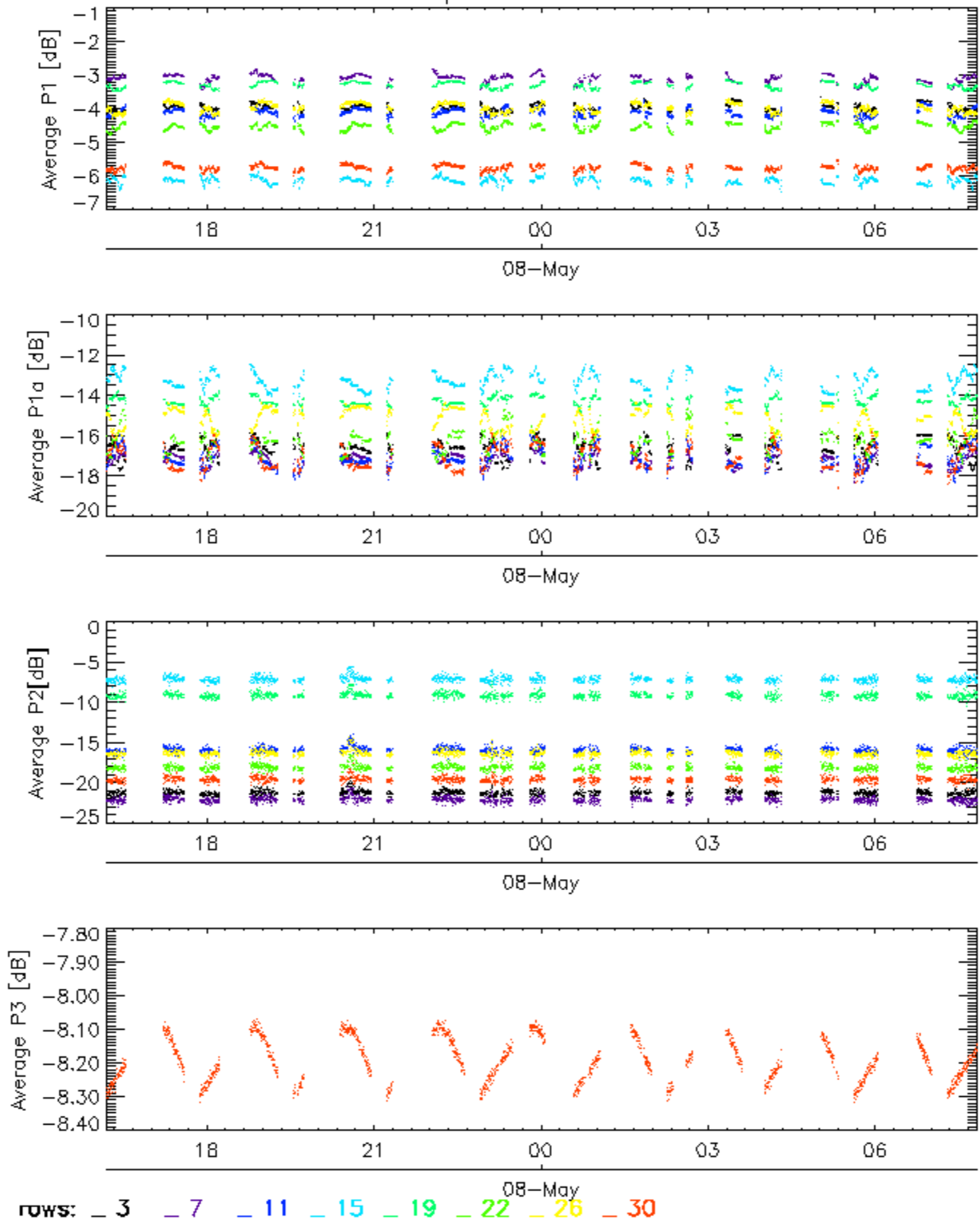


Cal pulses for WVS IS2



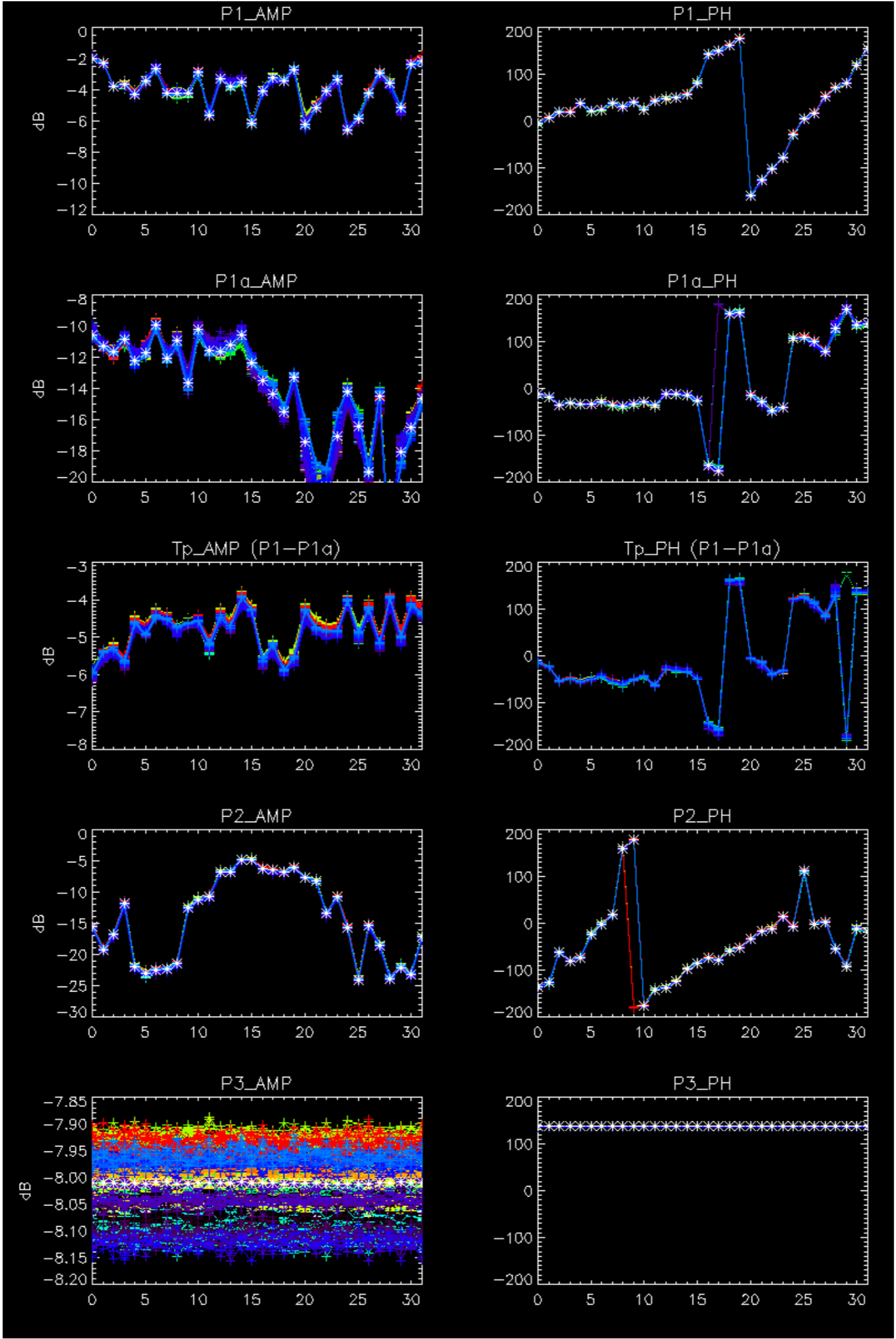
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

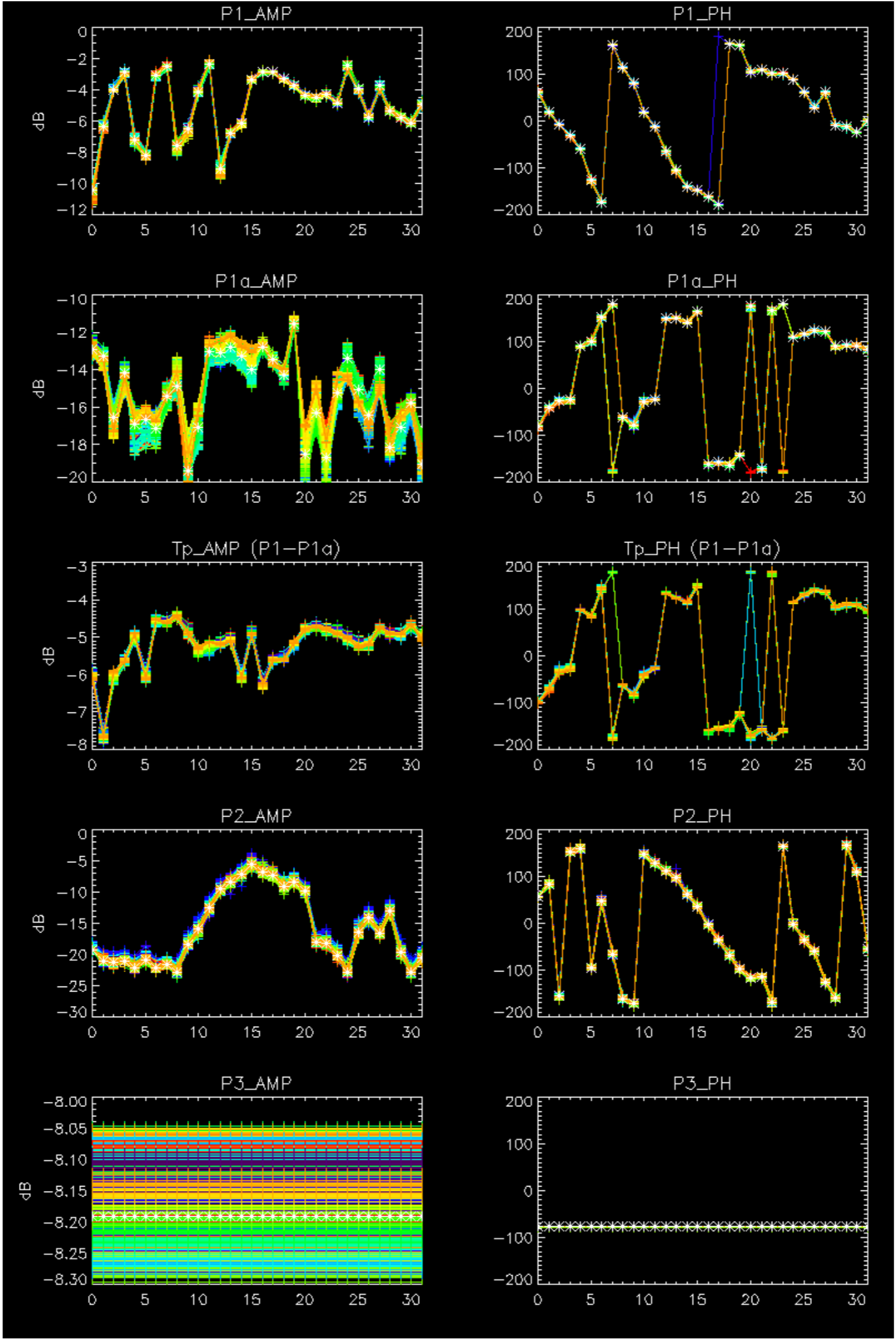
Cal pulses for WVS IS2



No anomalies observed on available browse products

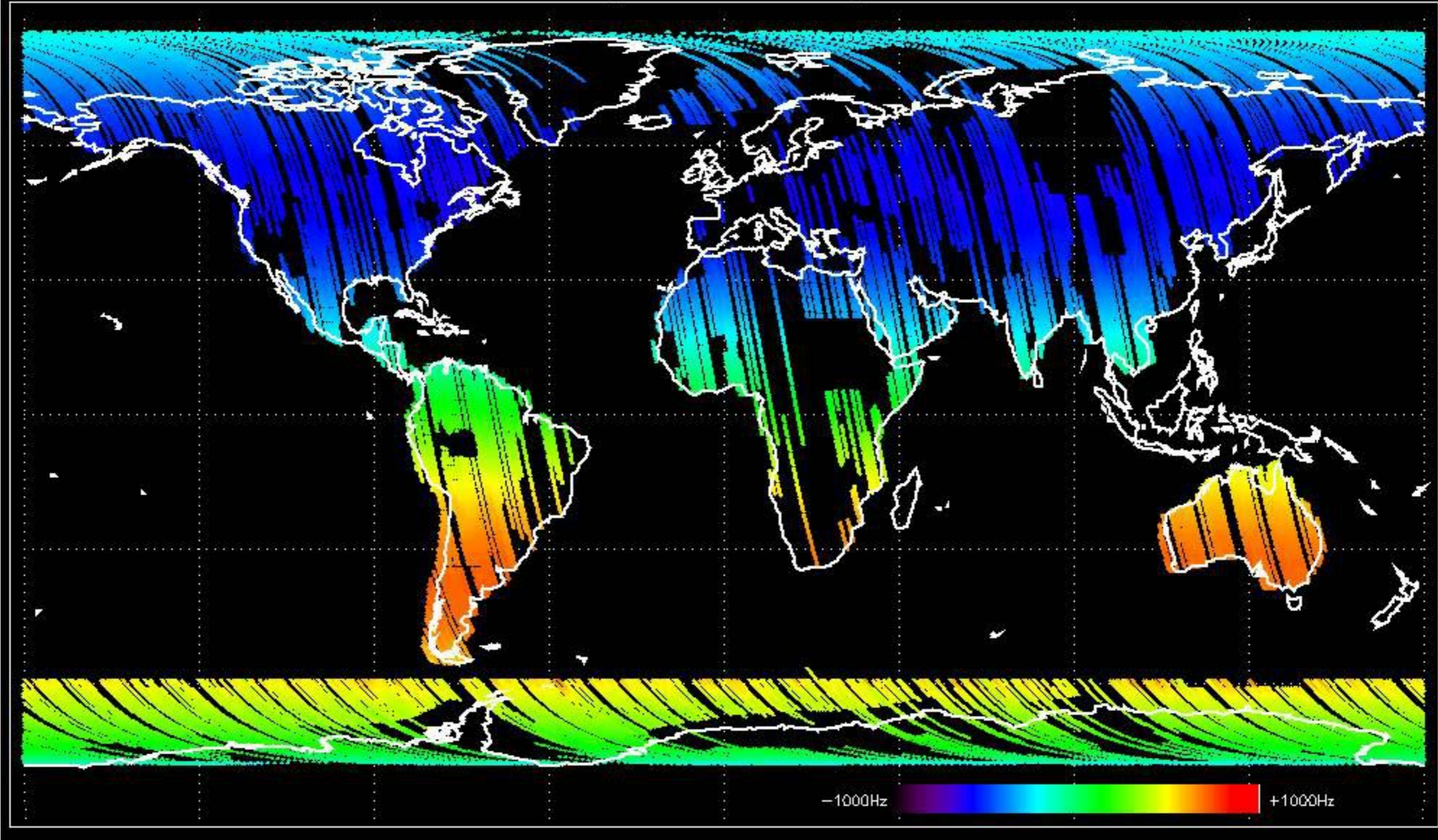
No anomalies observed.



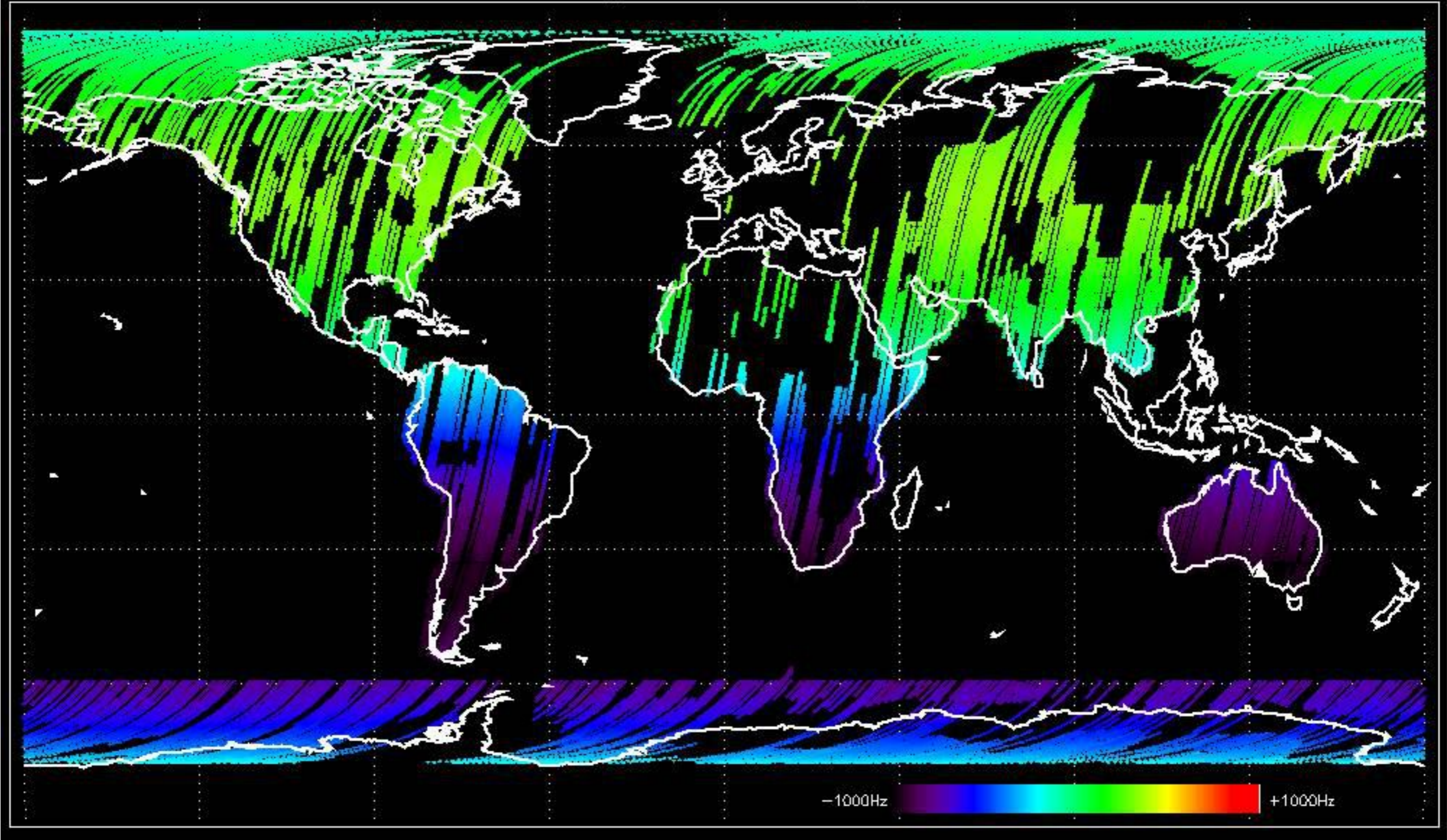


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

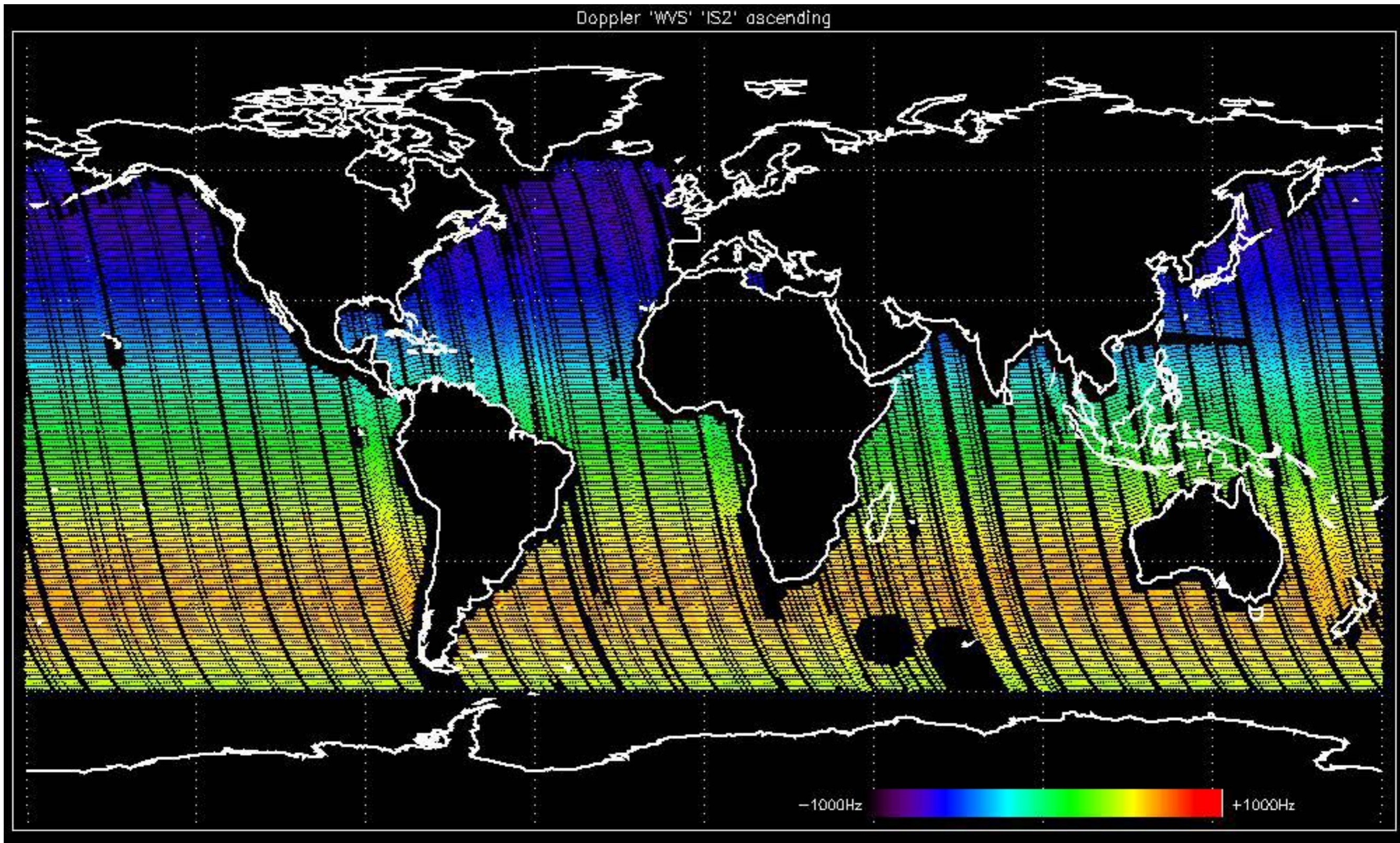
Doppler 'GM1' 'SS1' ascending



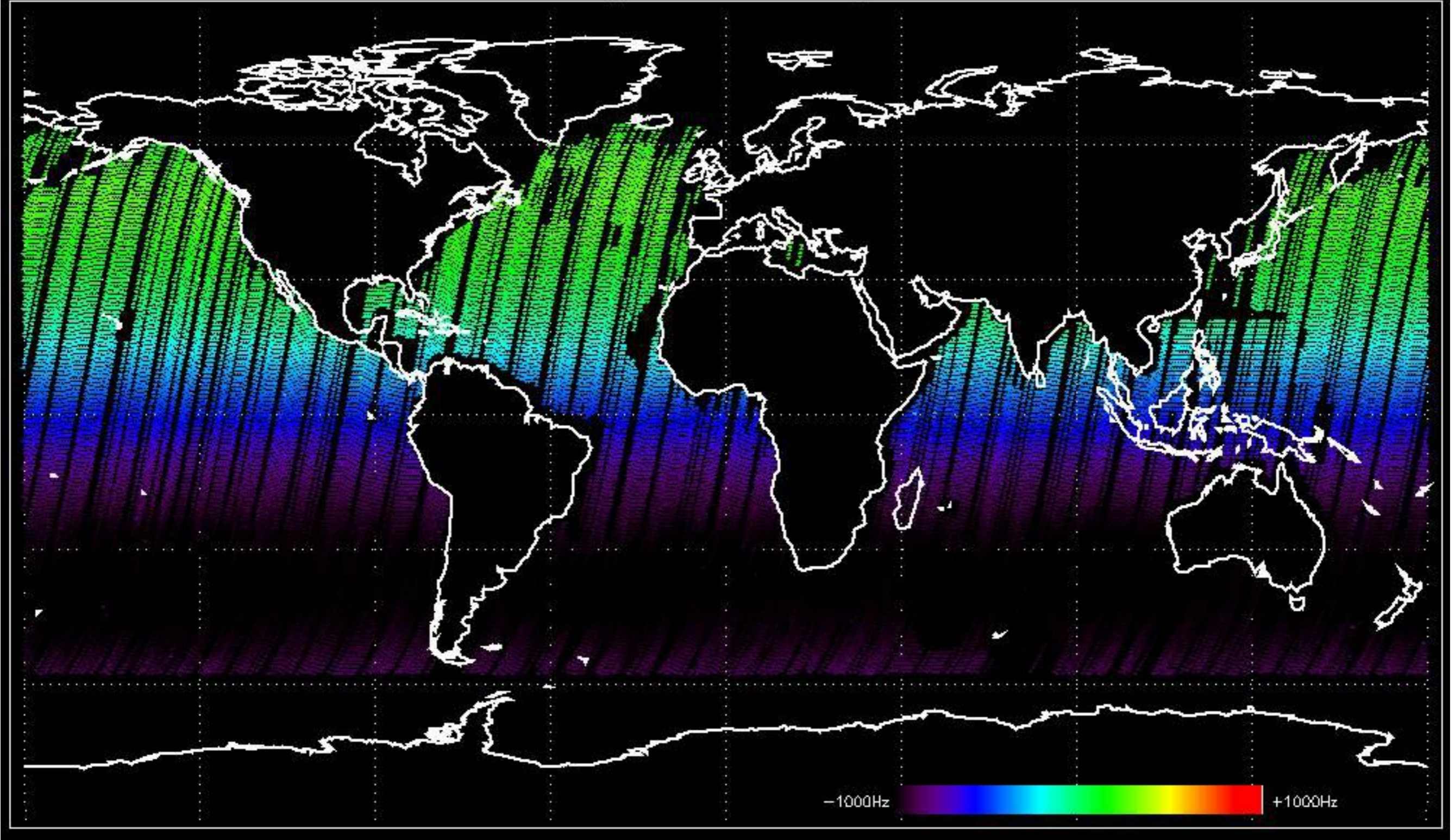
Doppler 'GM1' 'SS1' descending



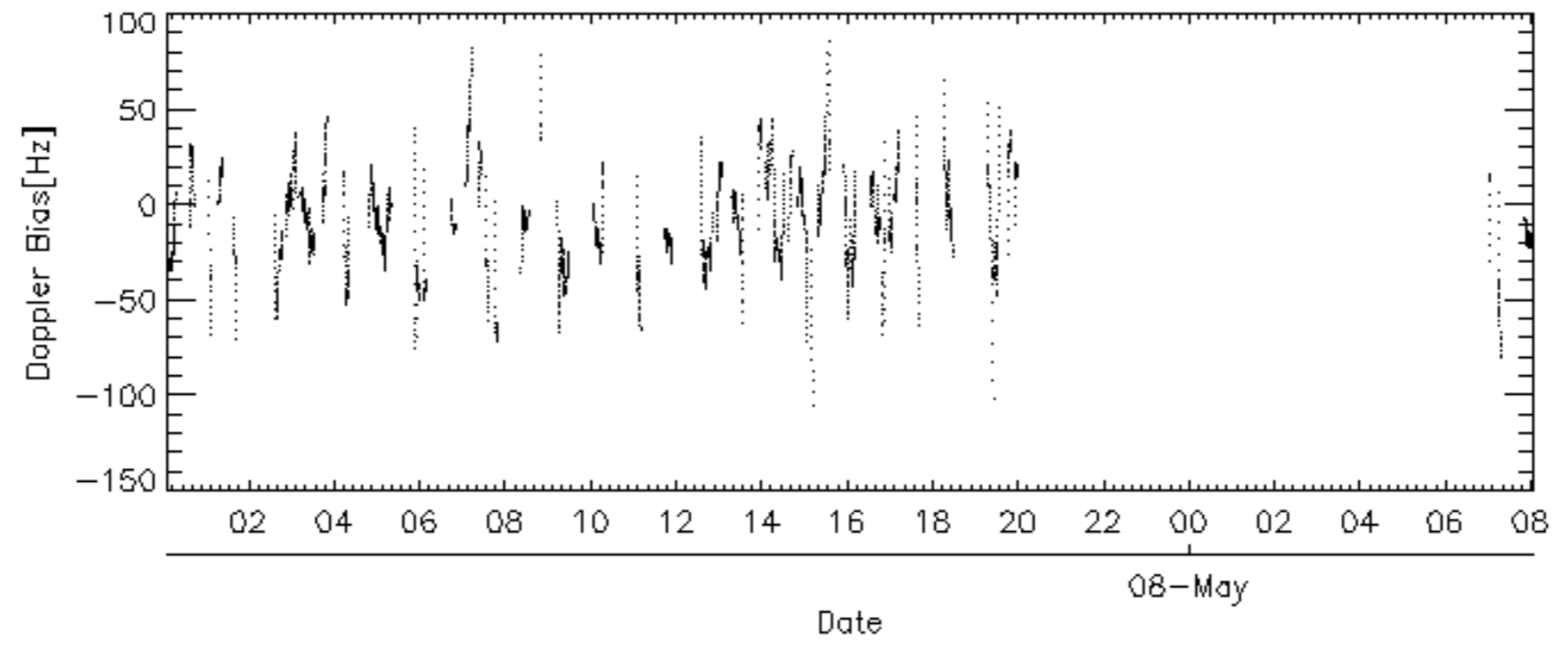
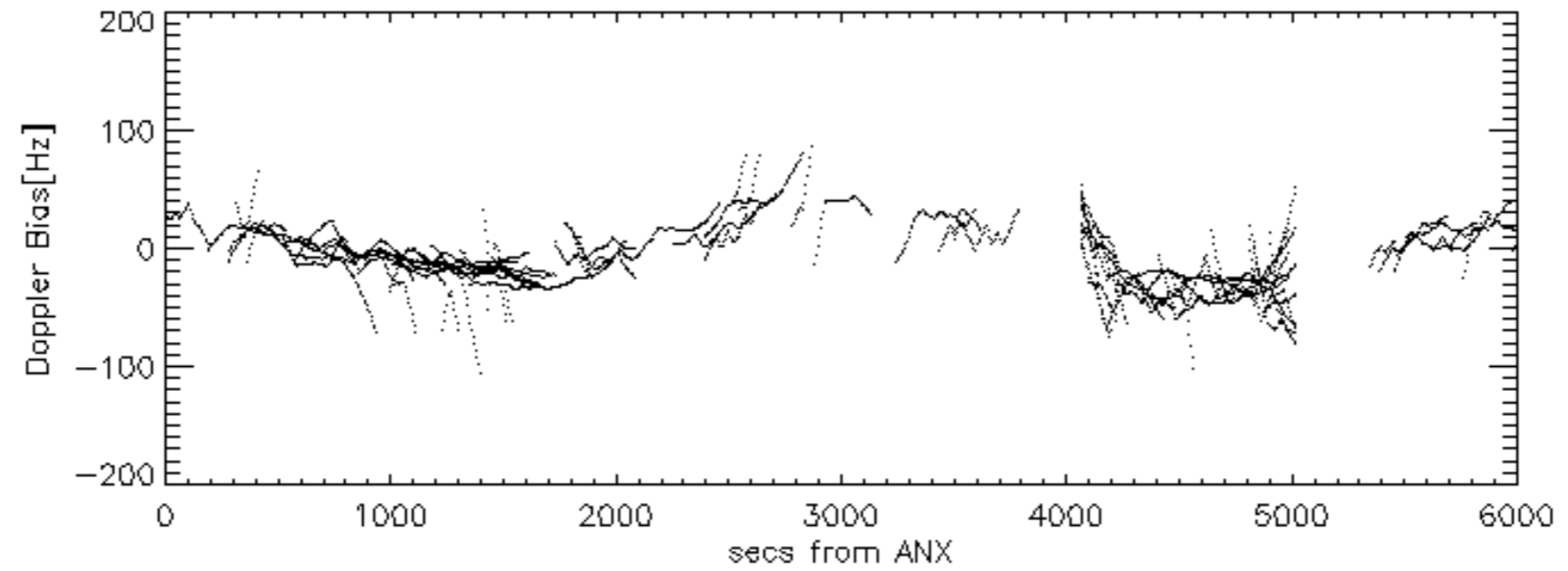
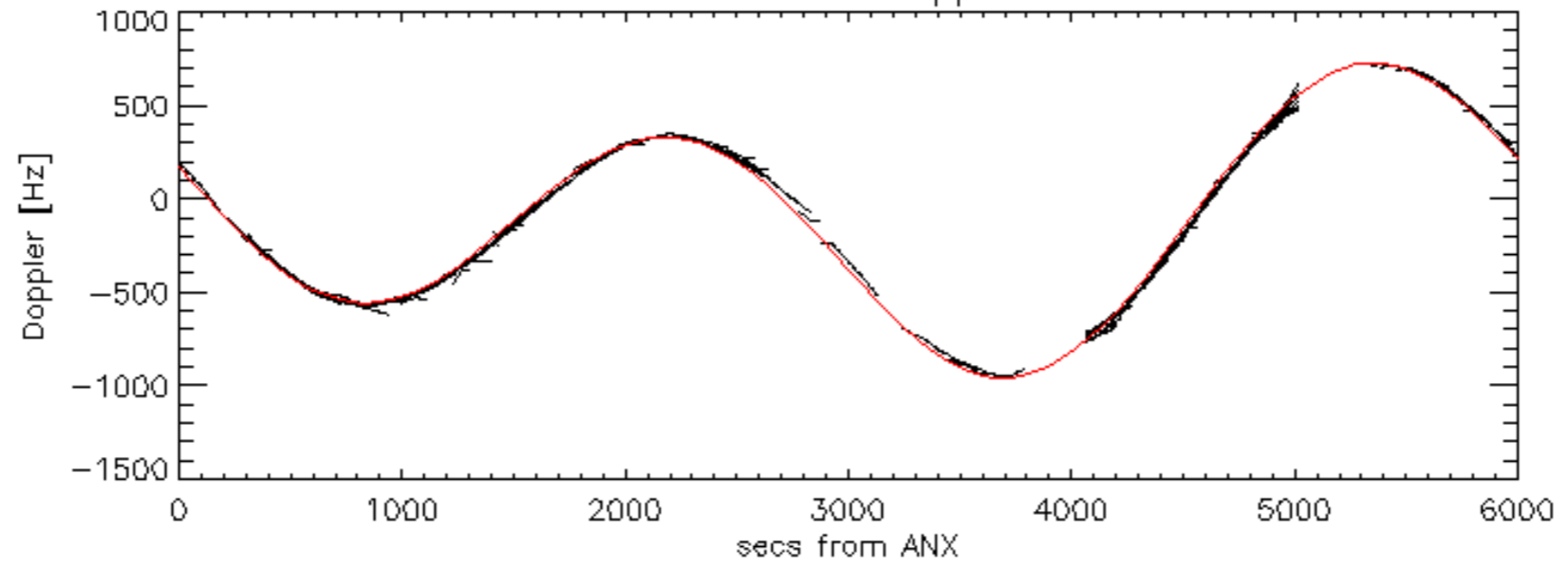
Doppler 'WVS' 'IS2' ascending

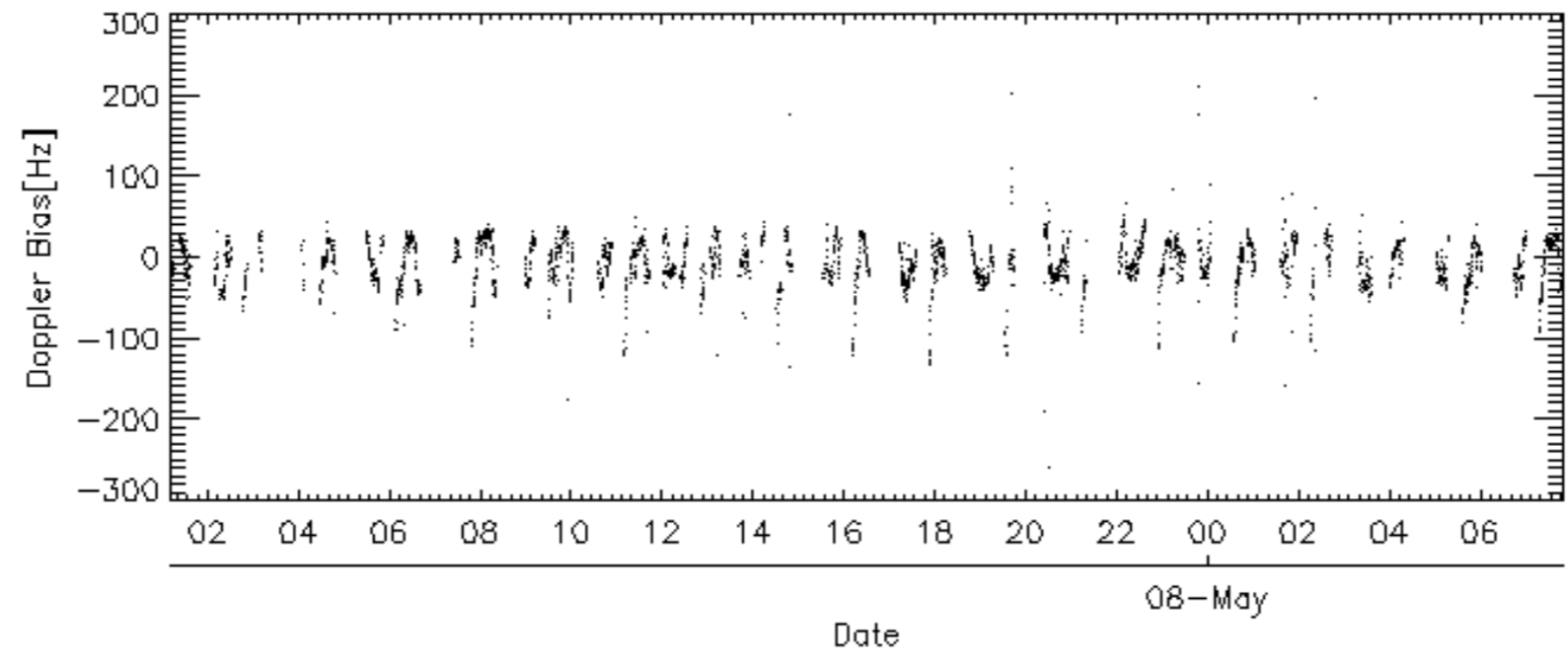
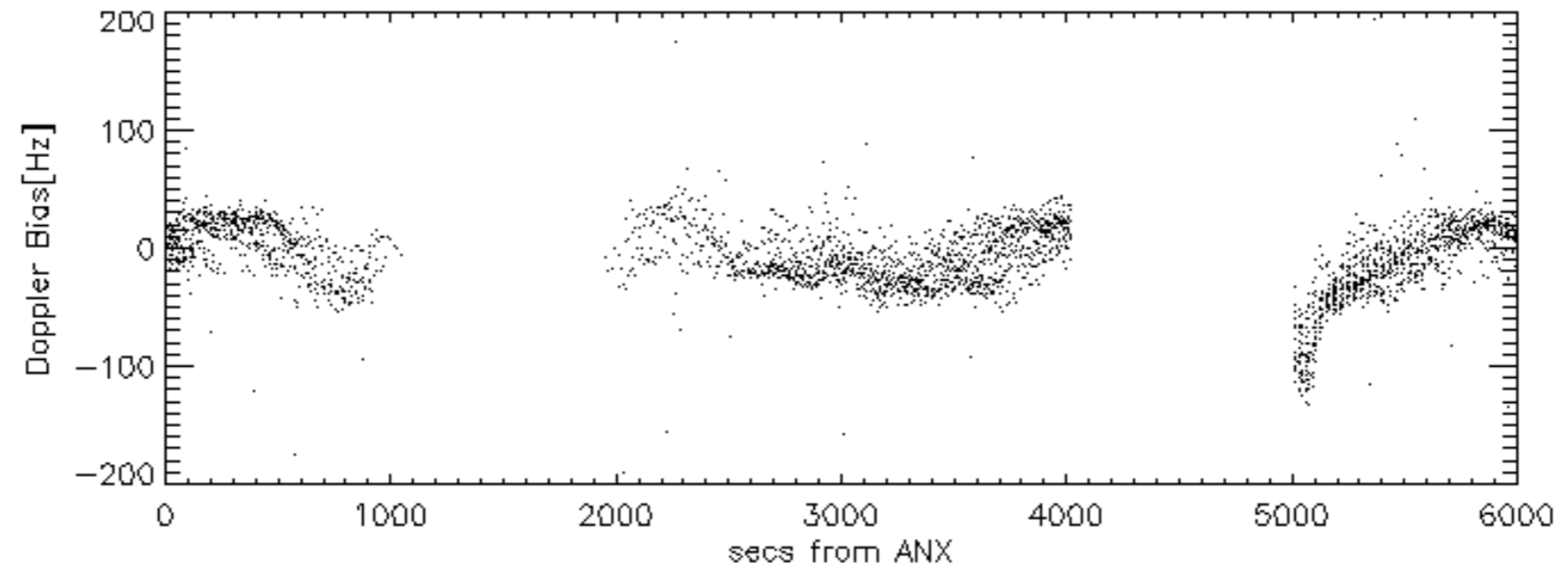
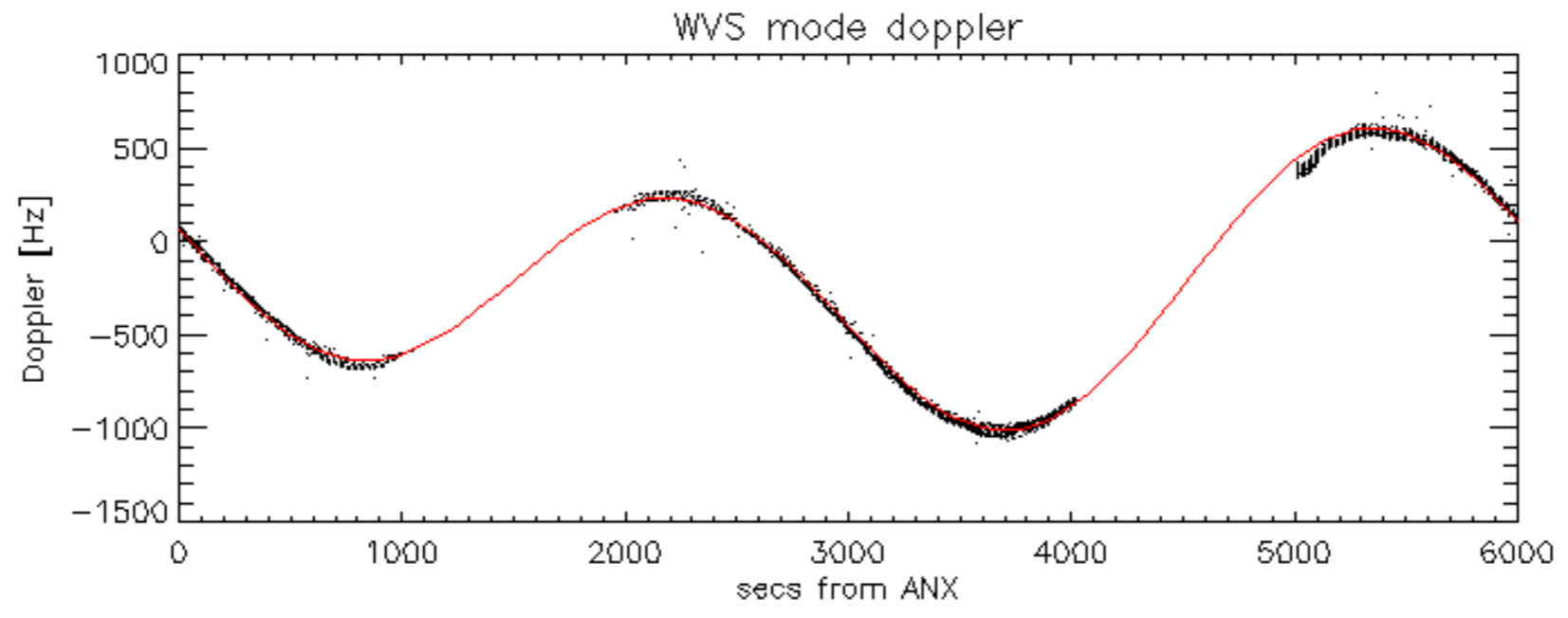


Doppler 'WVS' 'IS2' descending

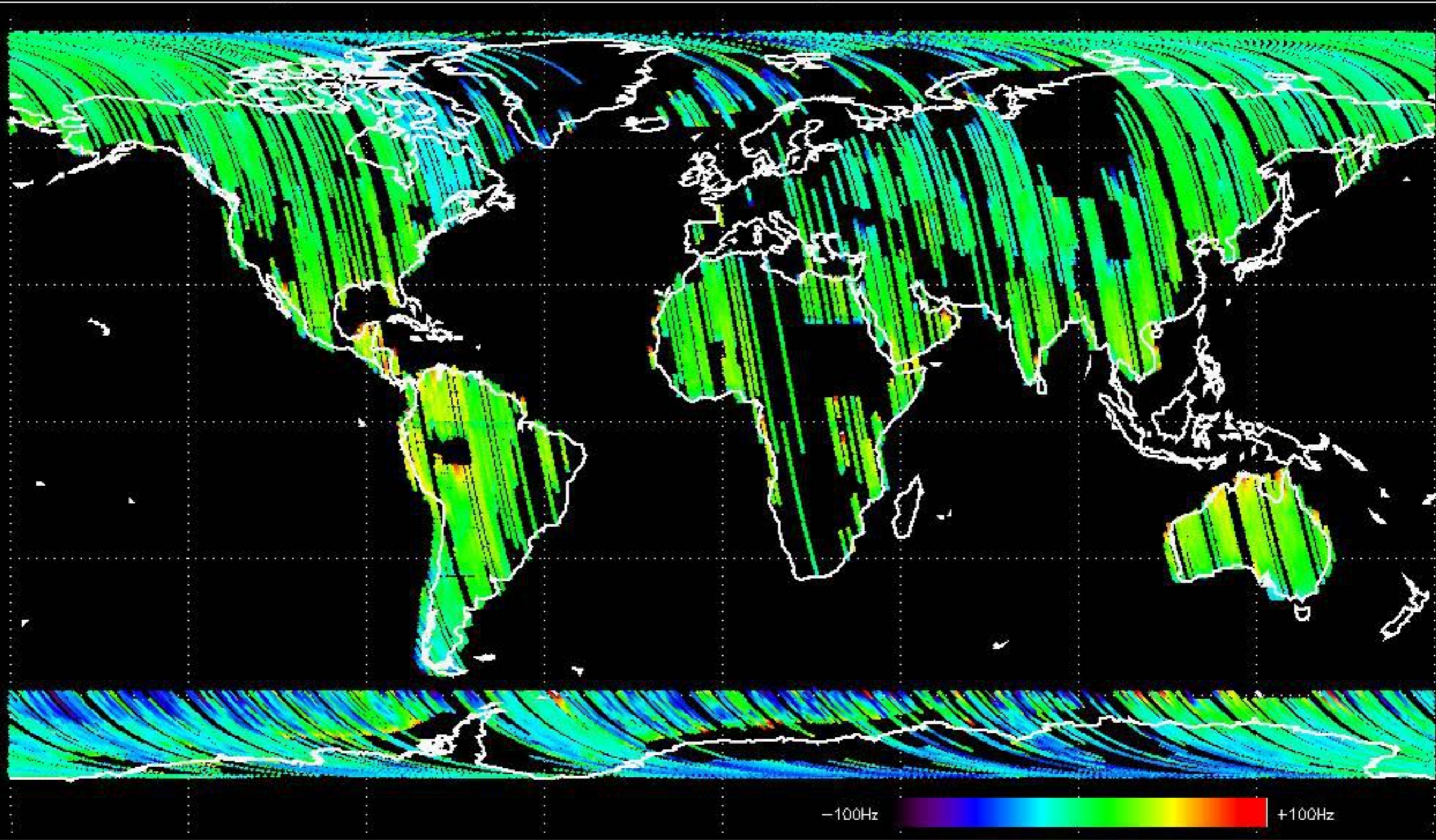


GM1 mode doppler

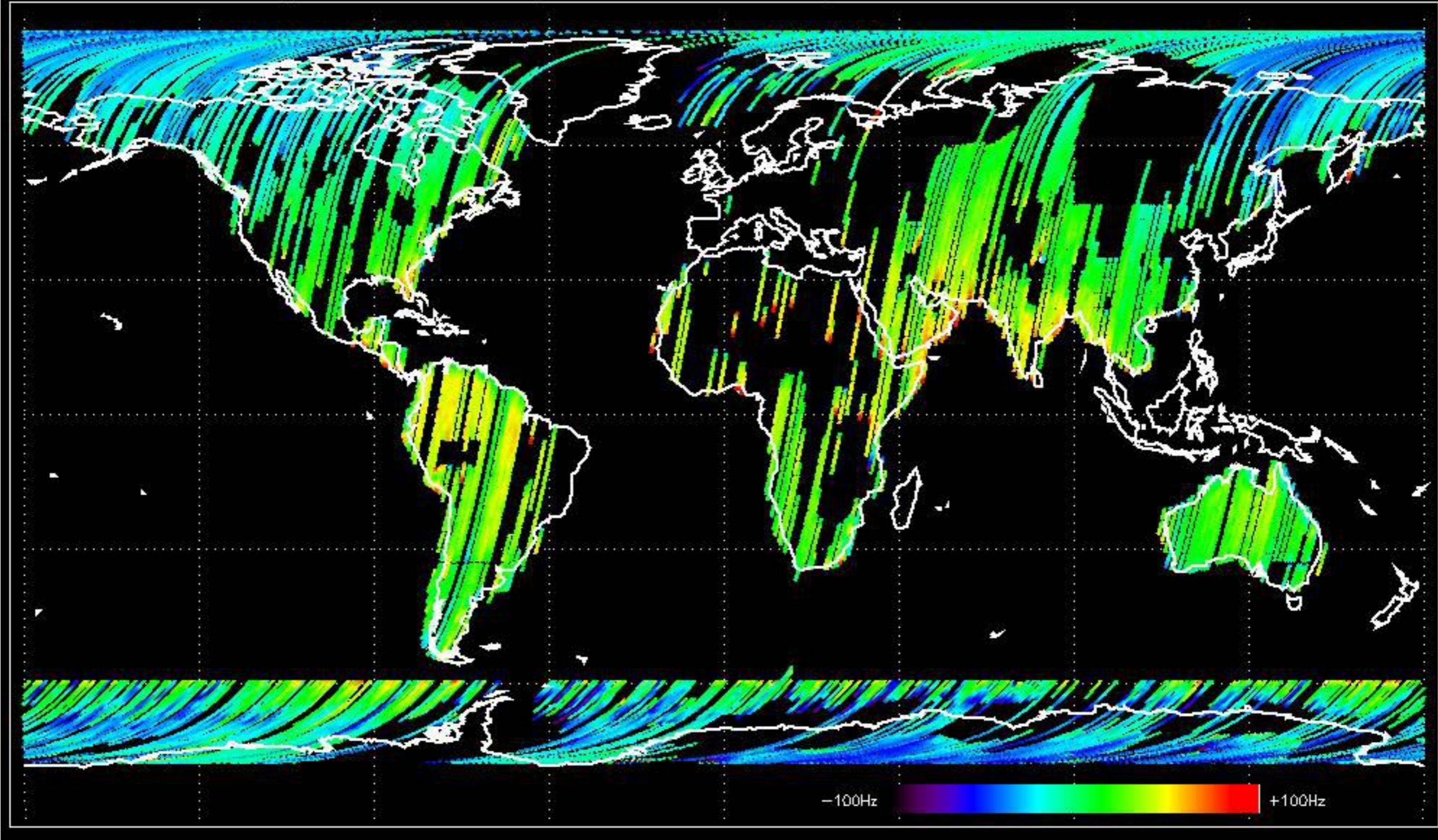




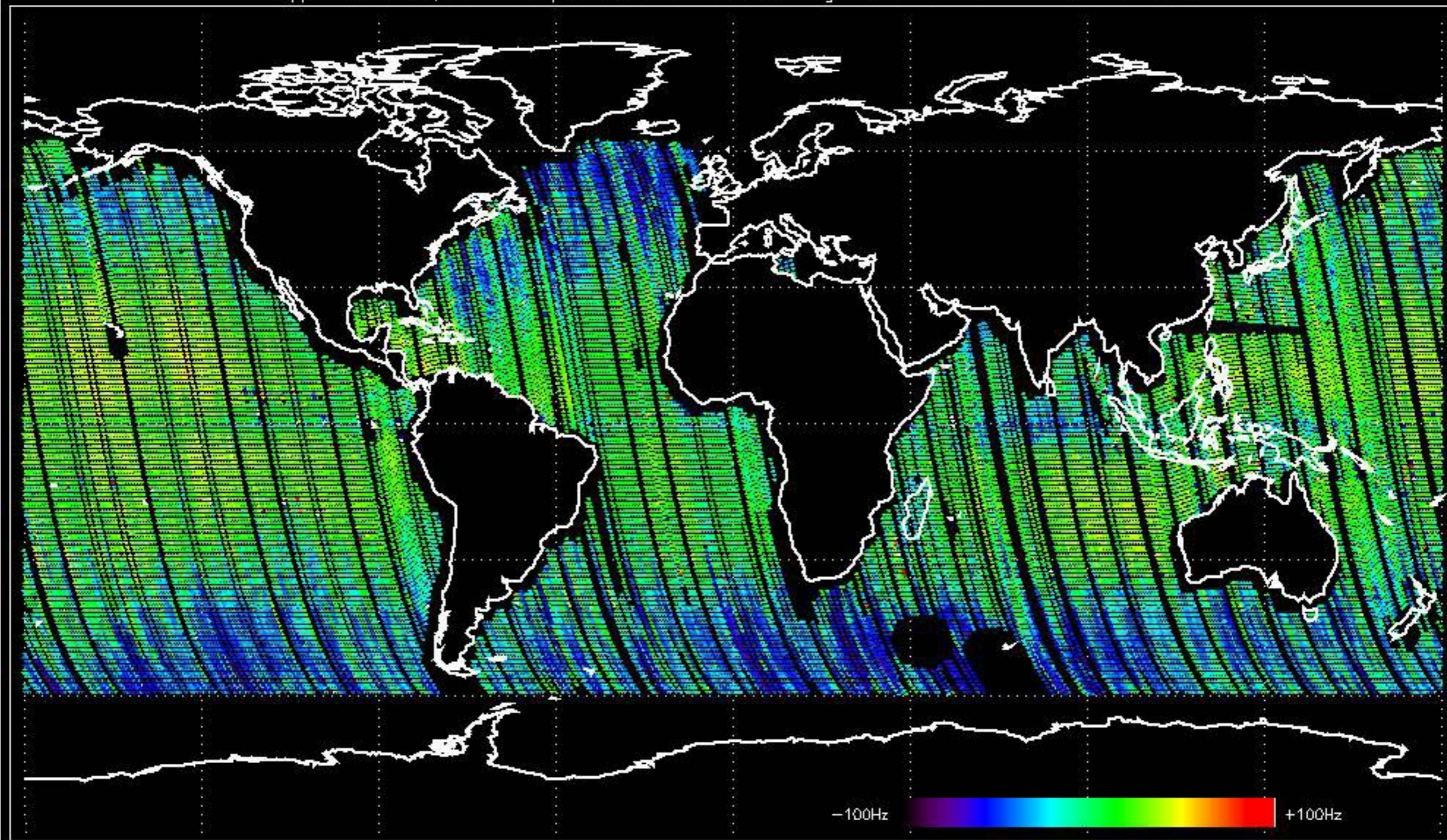
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -12.366840 Hz



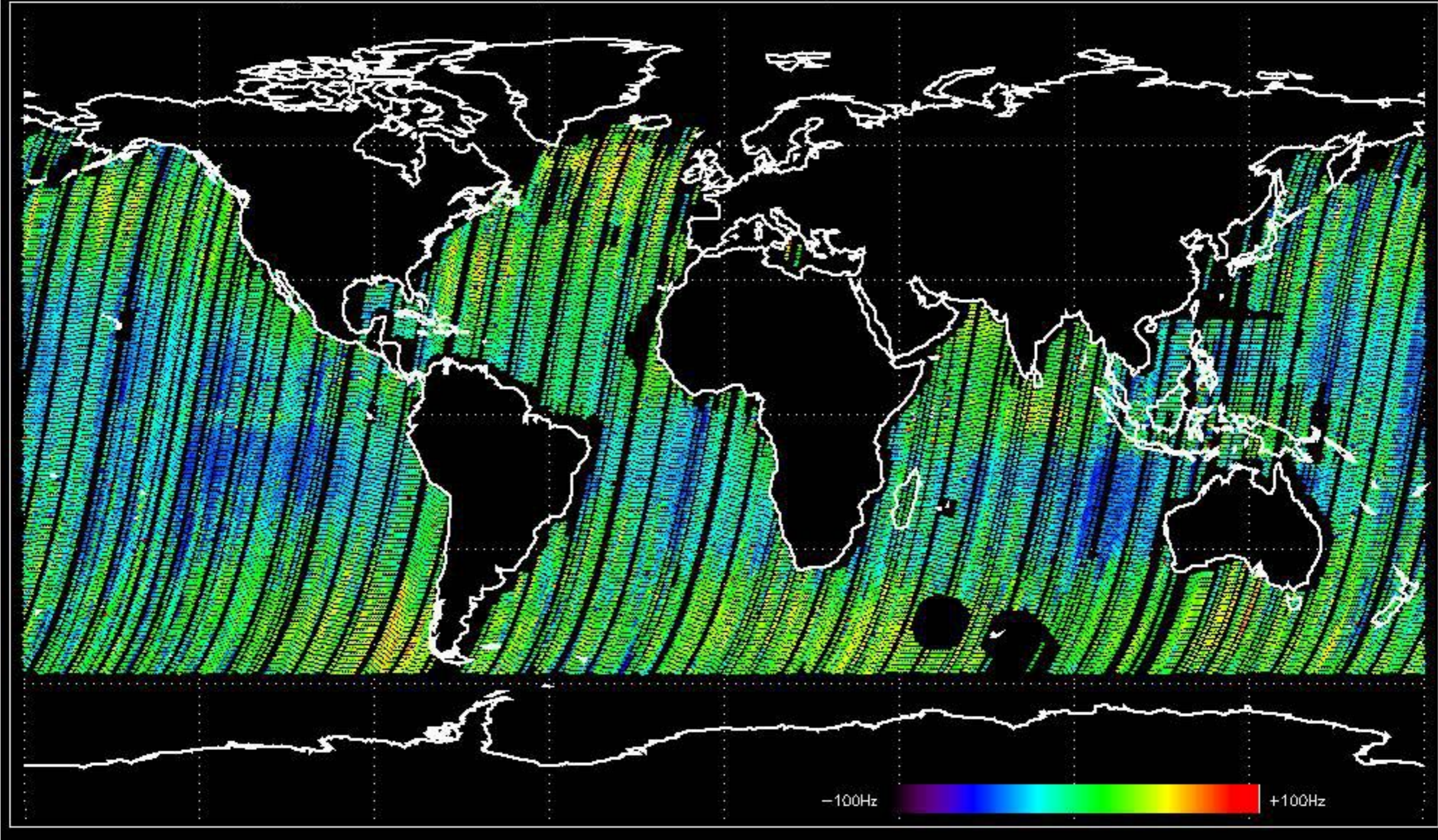
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -3.4683918 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -5.9381440 Hz

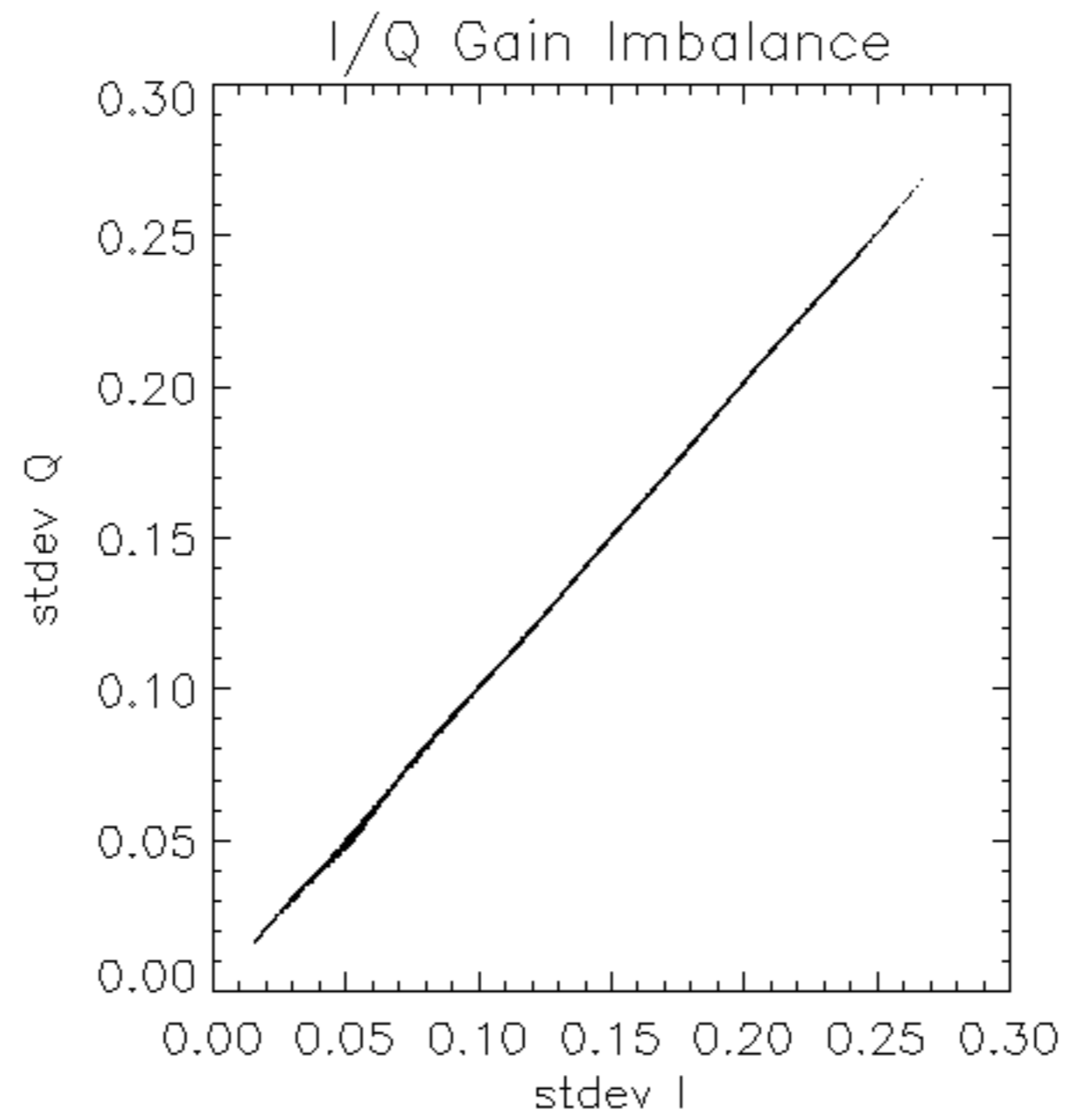


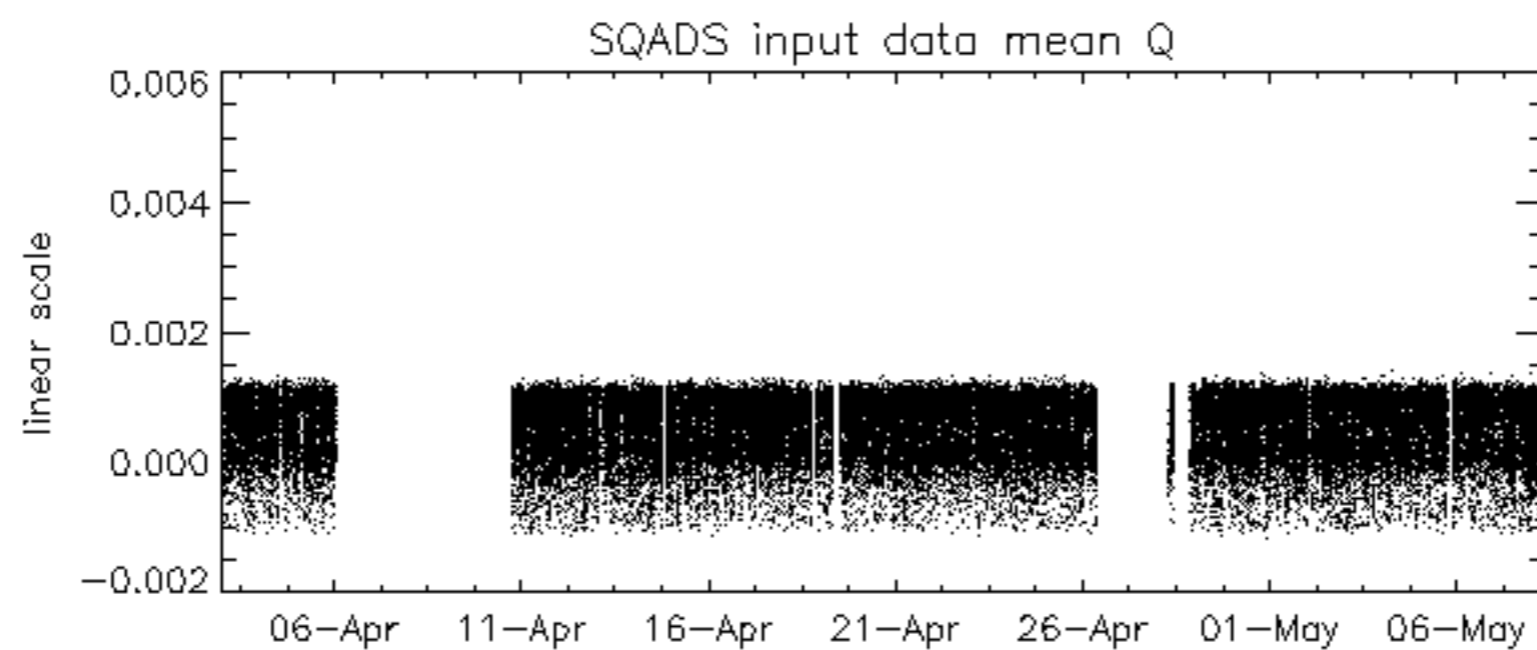
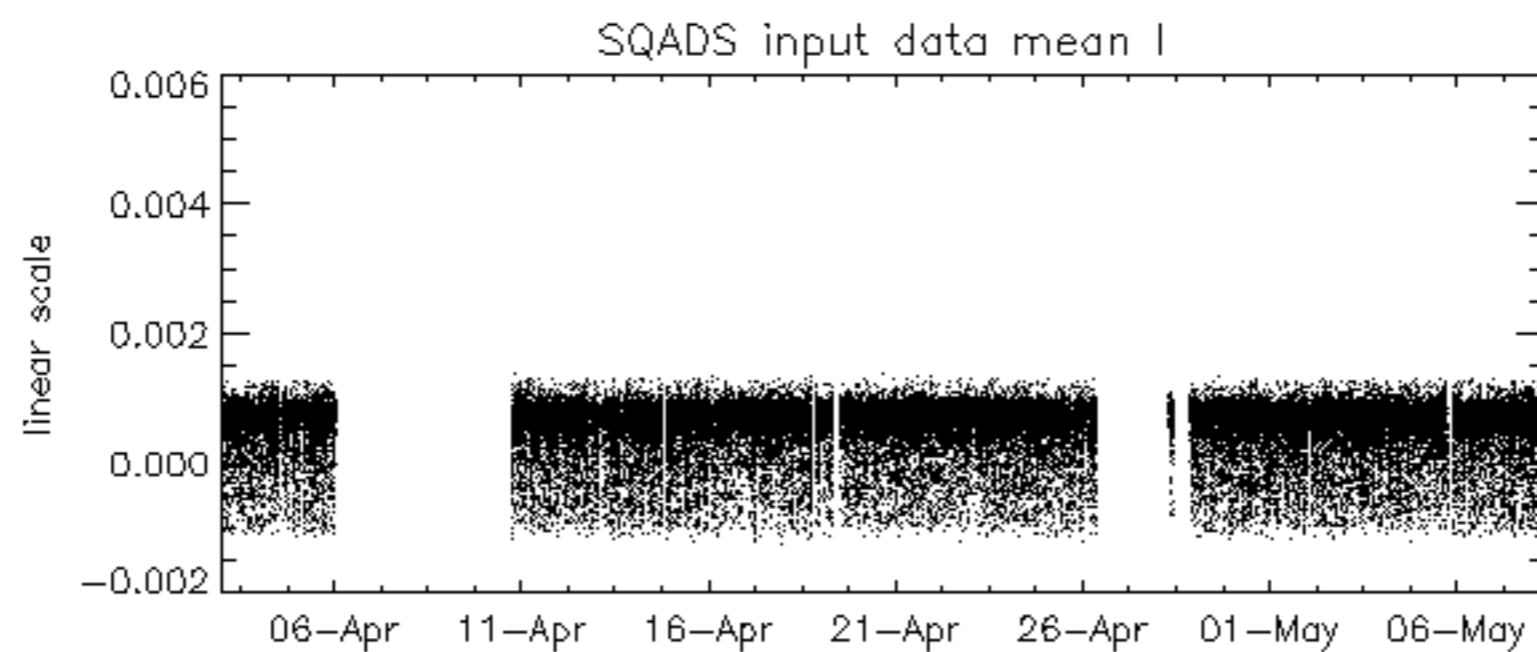
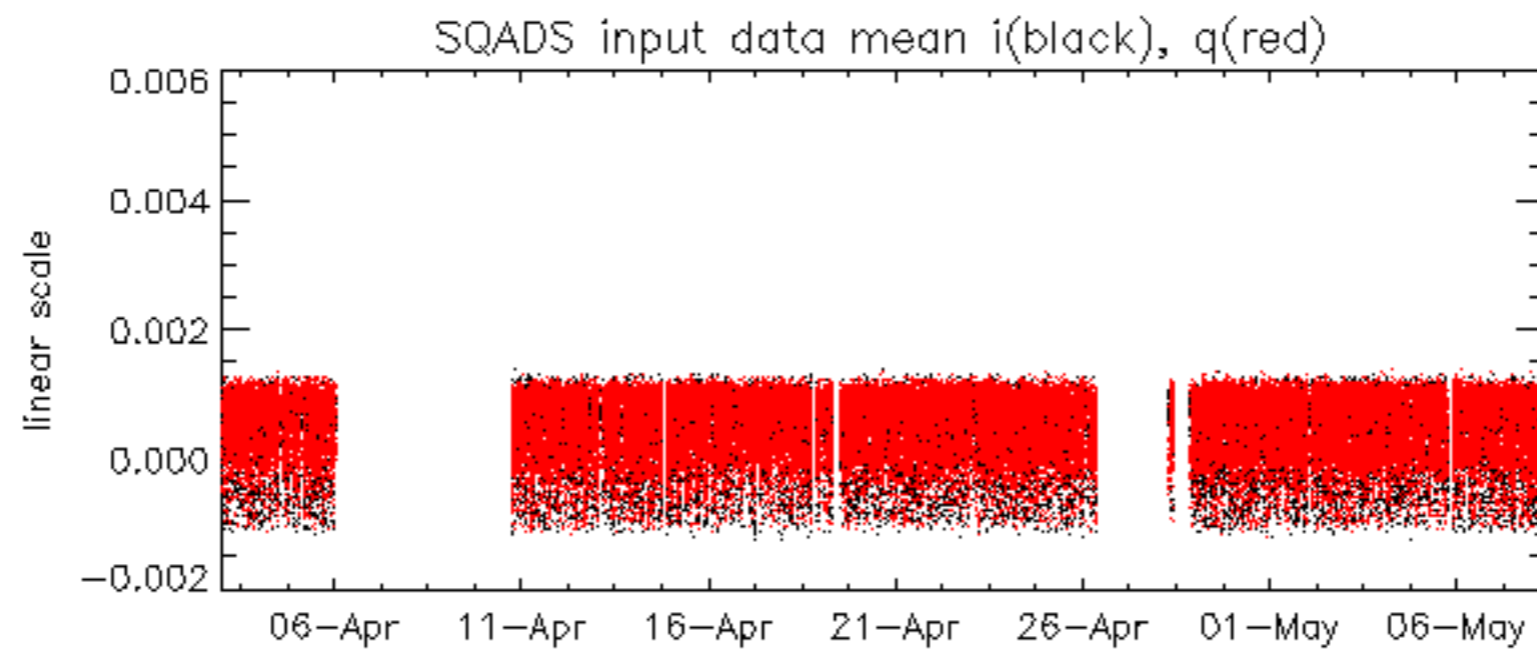
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -11.348304 Hz

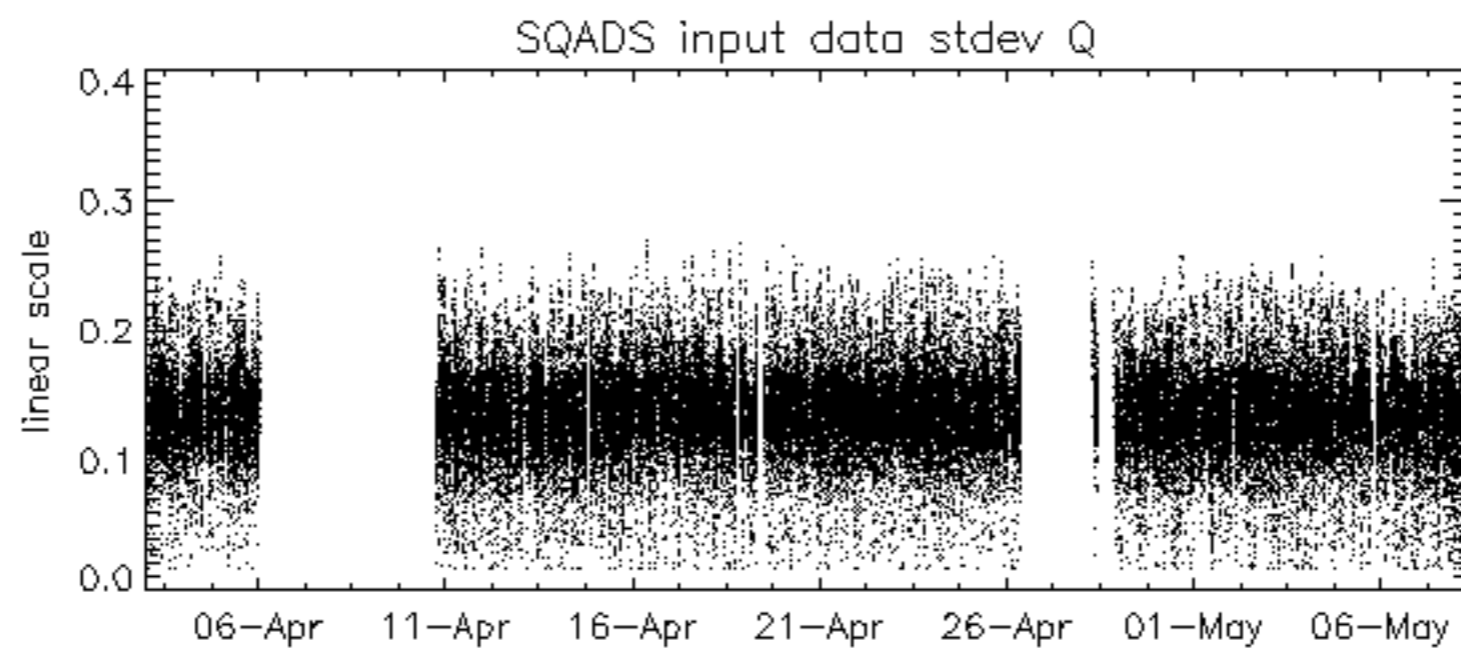
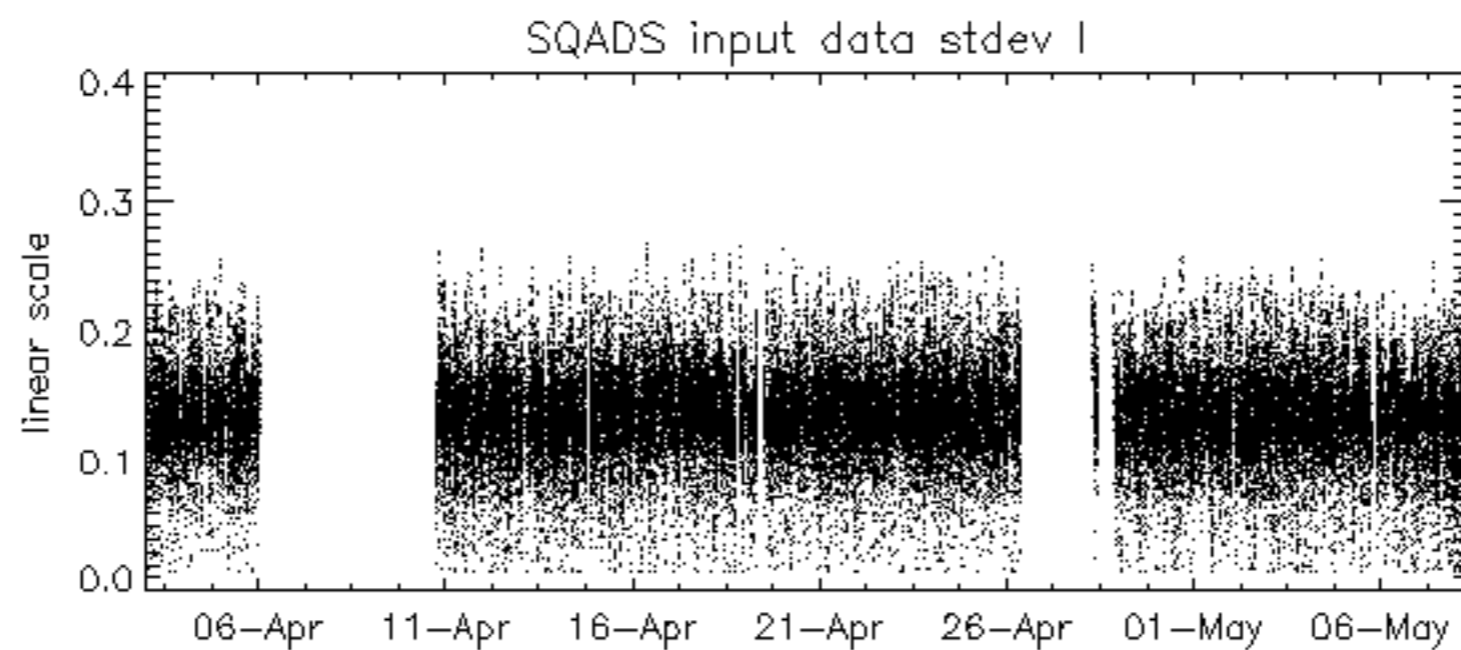
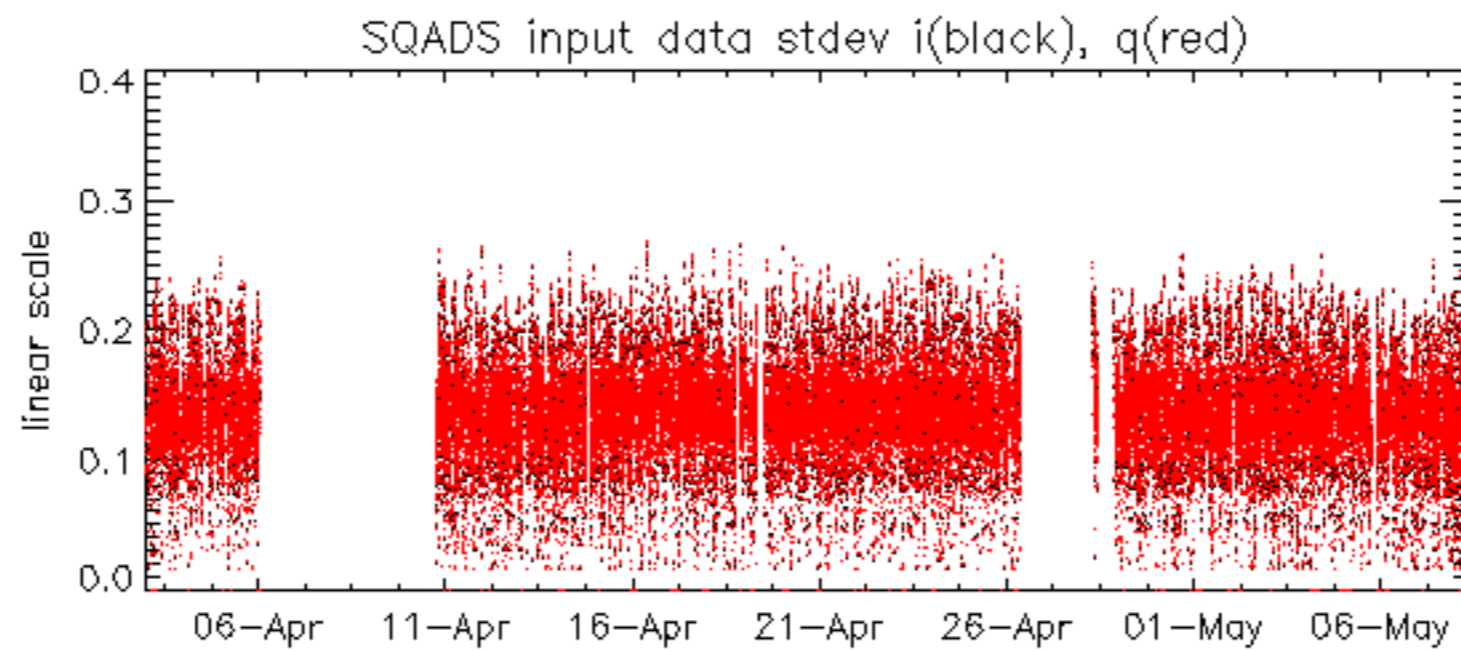


No anomalies observed on available MS products:

No anomalies observed.



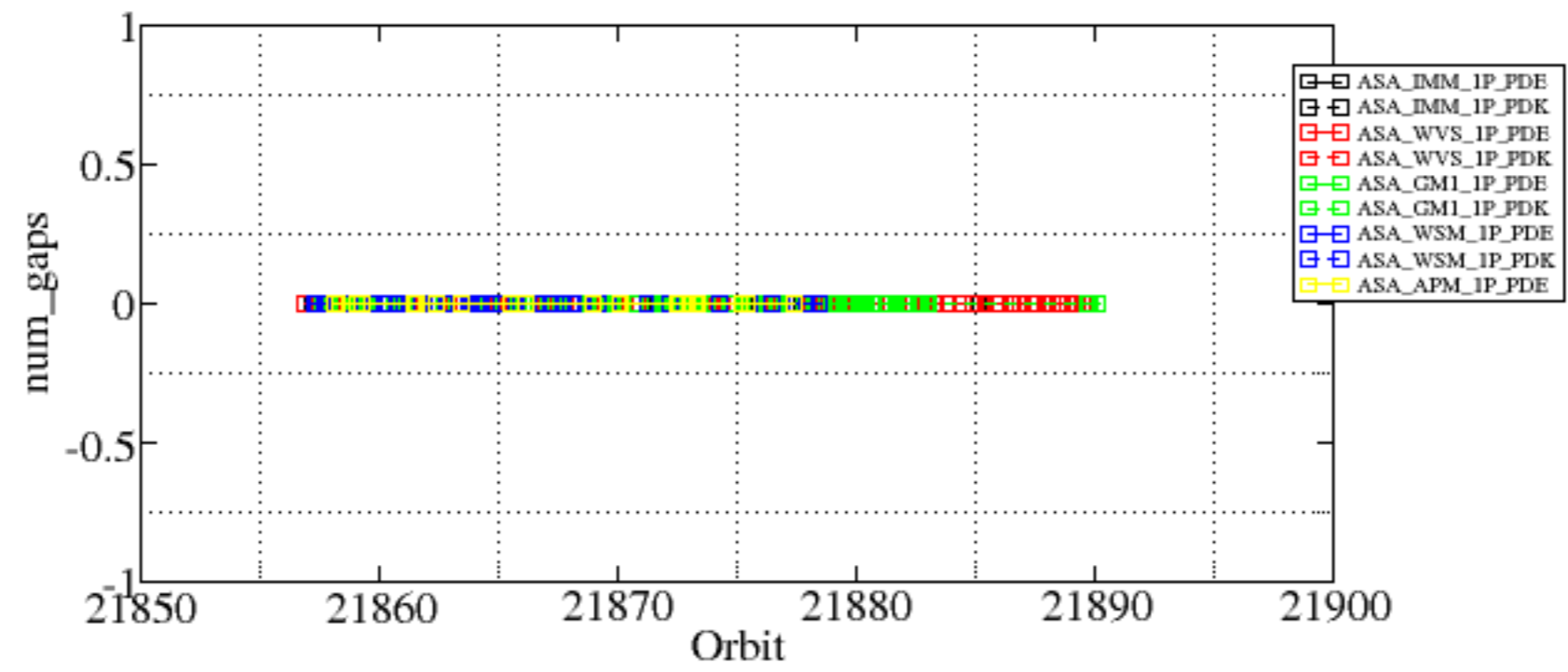




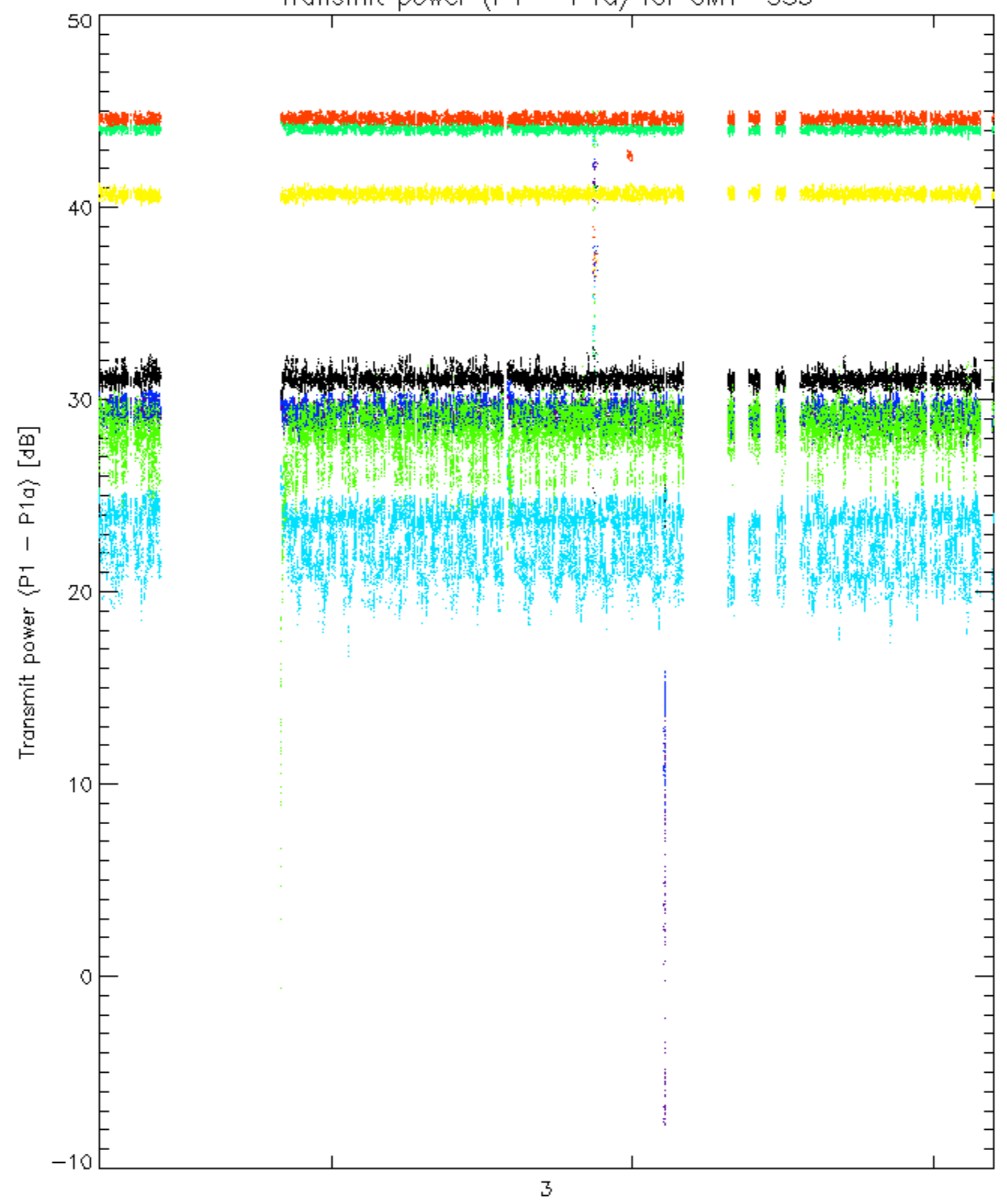
Summary of analysis for the last 3 days 2006050[678]

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

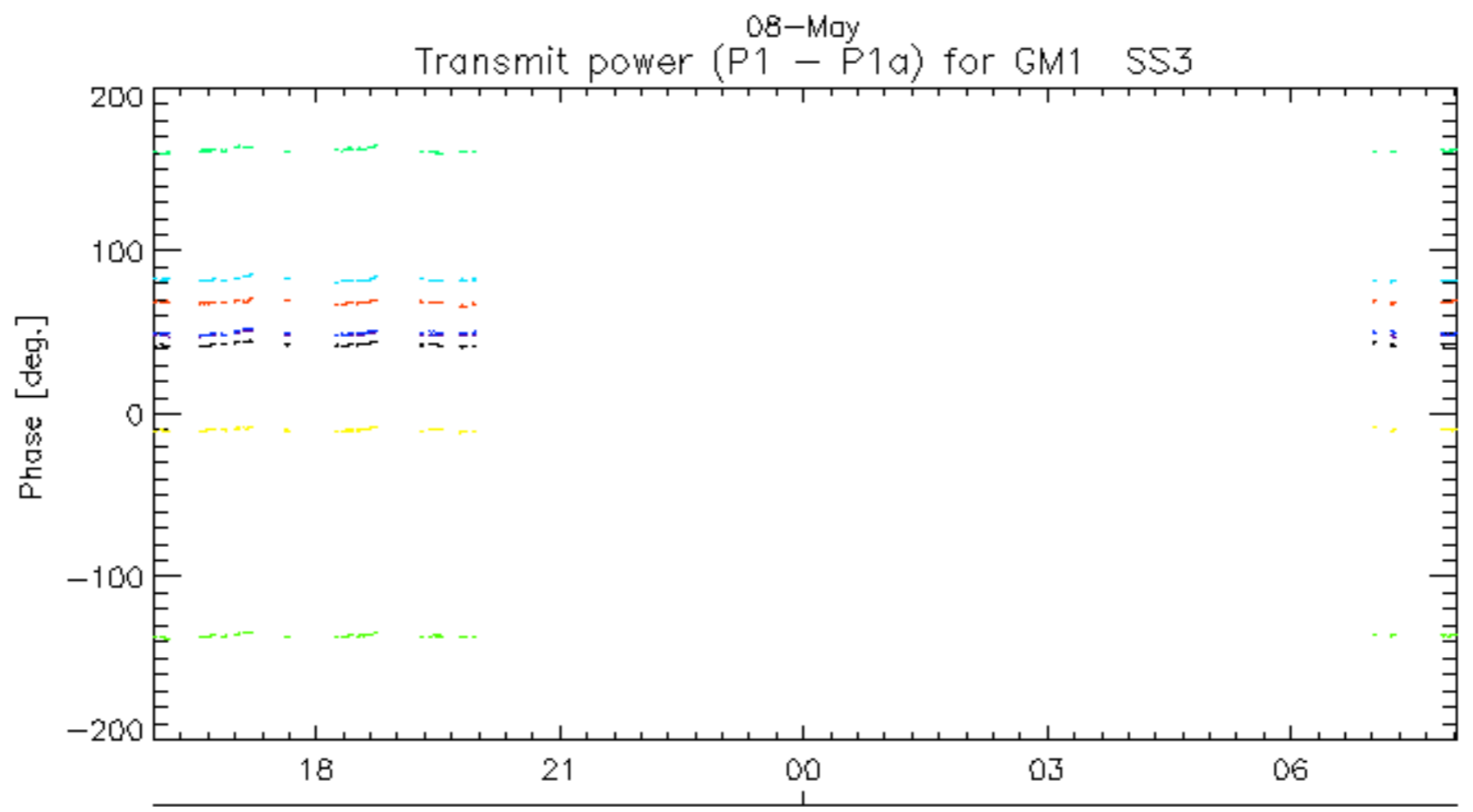
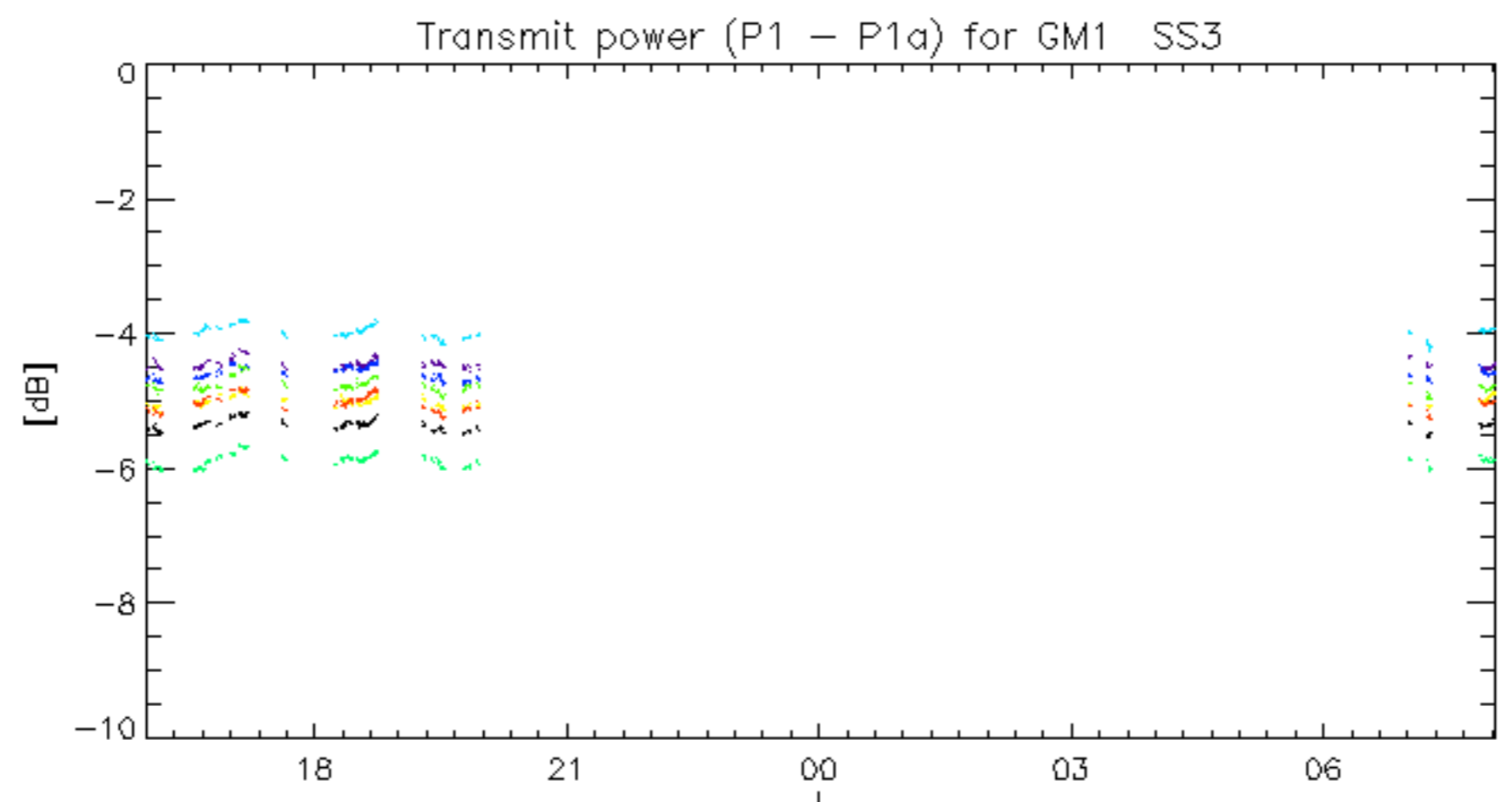
| Filename | num_gaps | num_missing_lines |
|--|----------|-------------------|
| ASA_WSM_1PNPDE20060506_184504_000003042047_00271_21868_8331.N1 | 0 | 57 |



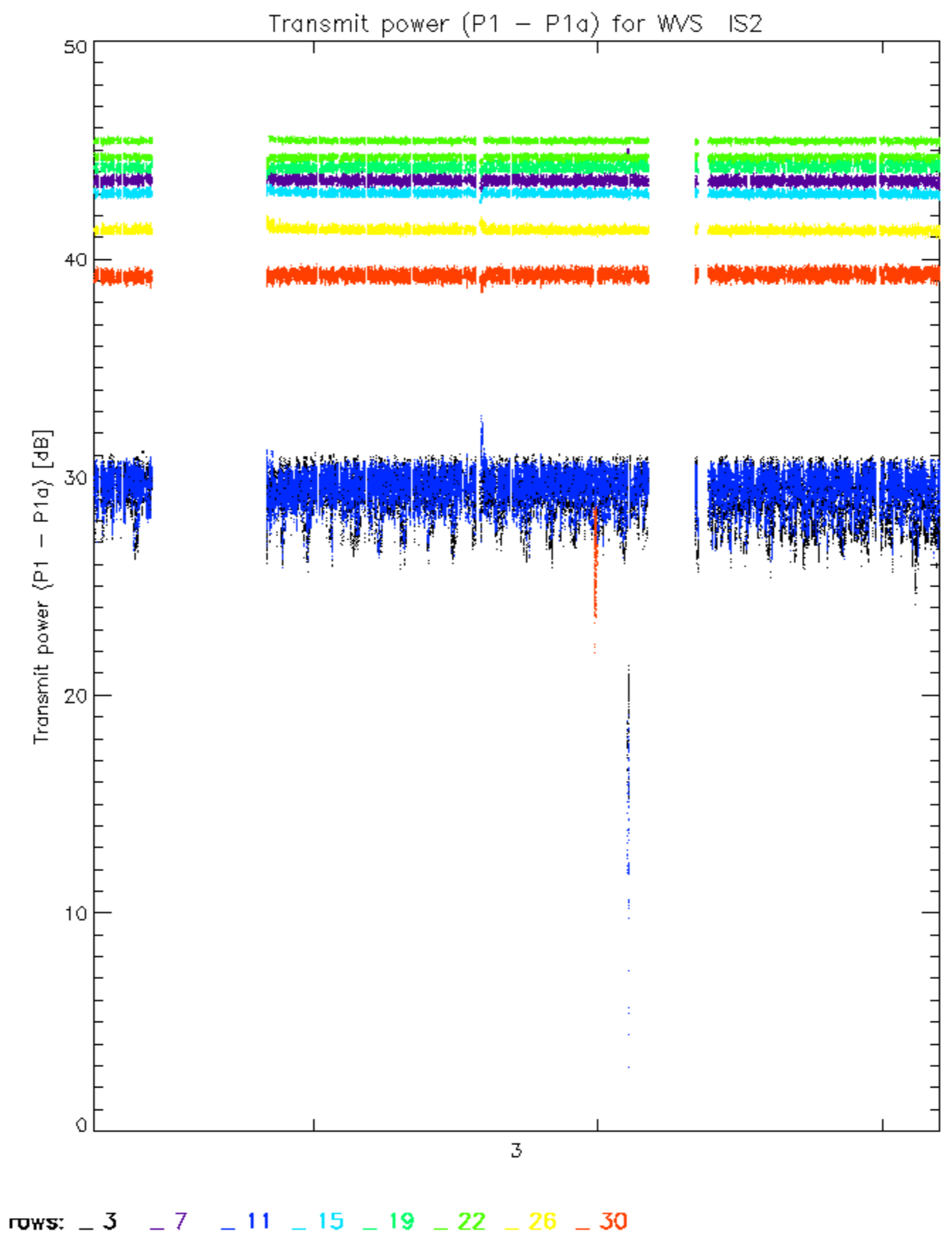
Transmit power (P1 - P1a) for GM1 SS3

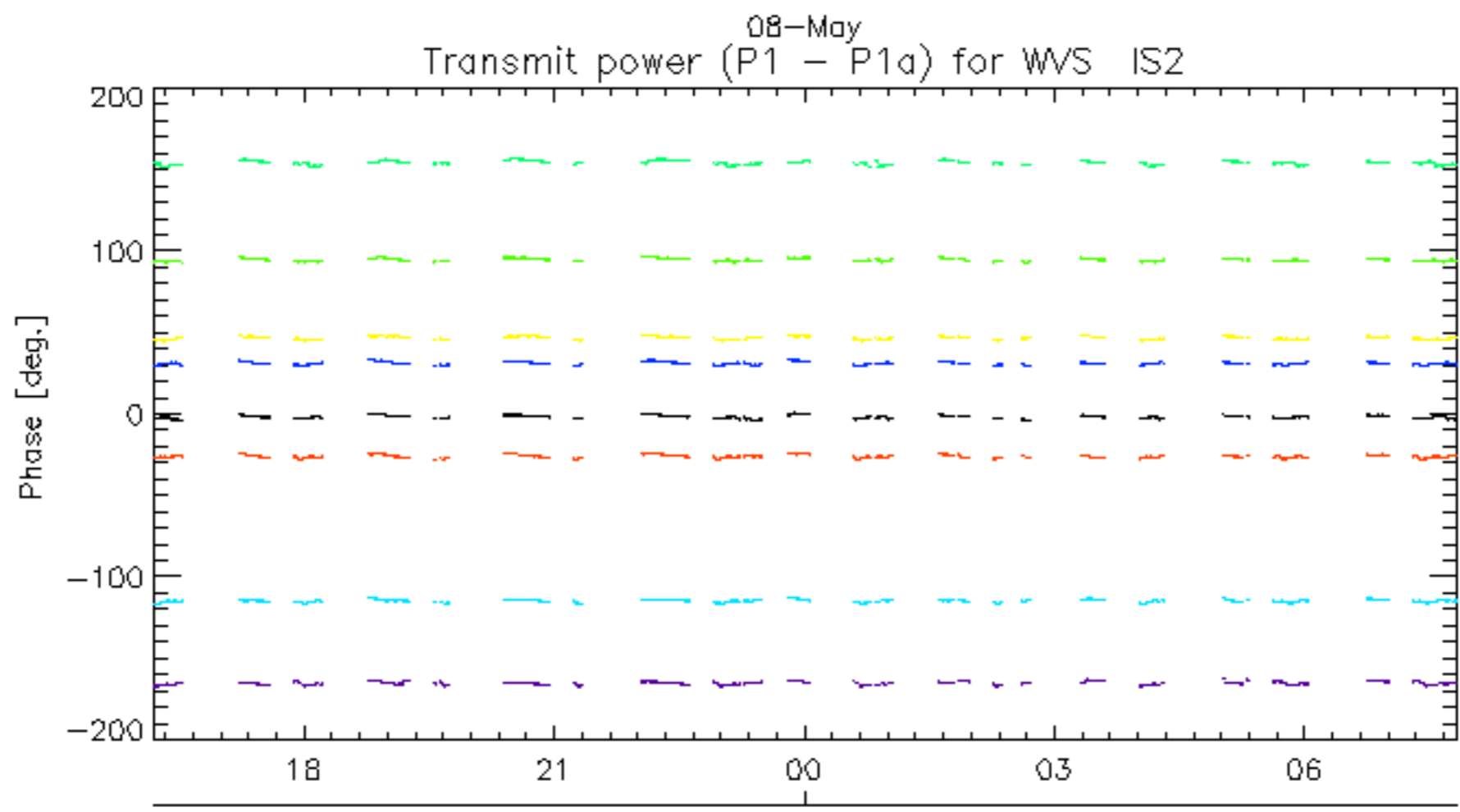
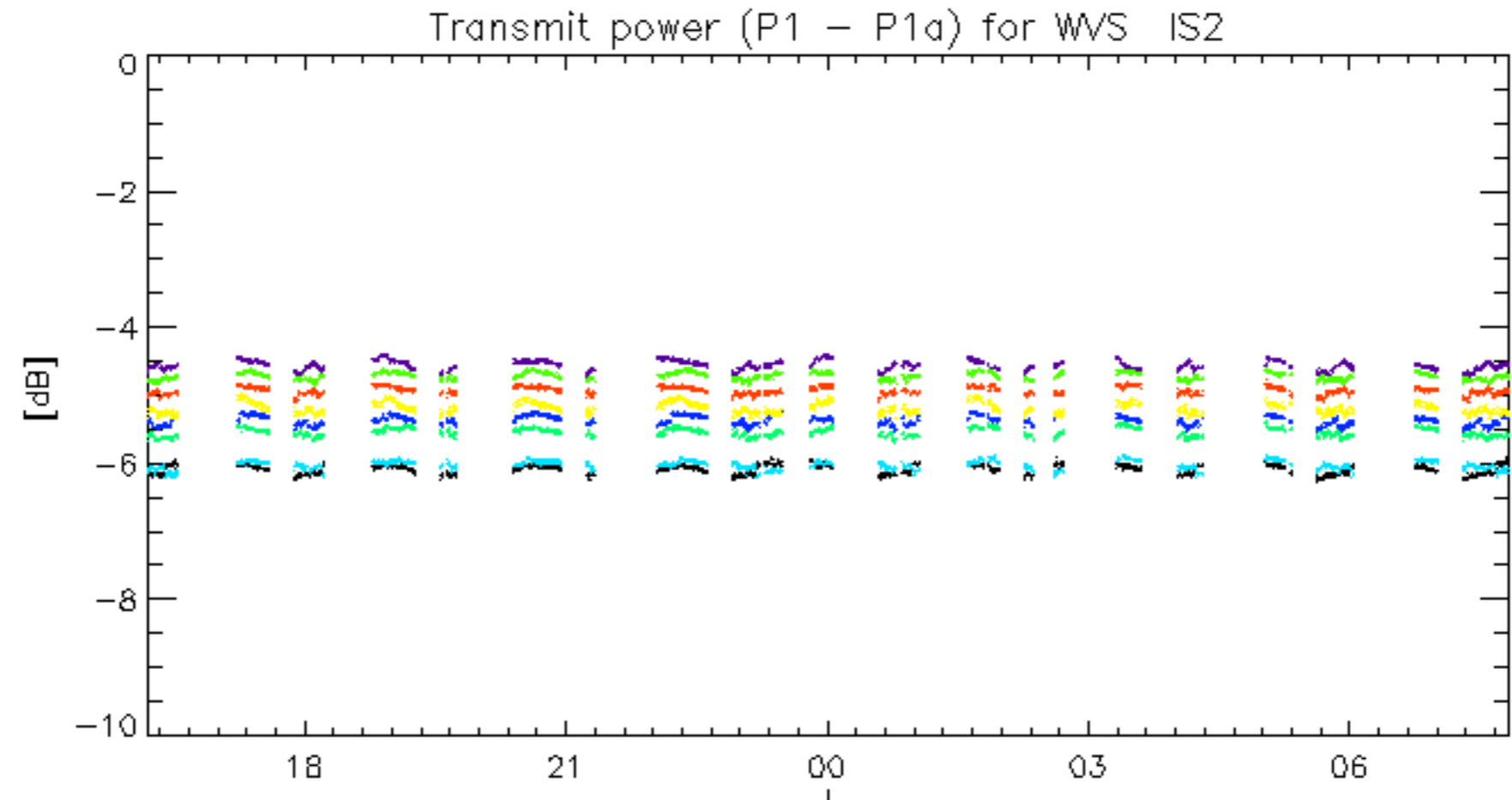


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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





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

No unavailabilities during the reported period.