

PRELIMINARY REPORT OF 060320

last update on Mon Mar 20 16:32:47 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 2006-03-19 00:00:00 to 2006-03-20 16:32:47

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

| | | | | | |
|---------------------------------------------------------------|----|----|---|---|----|
| ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000 | 52 | 61 | 5 | 1 | 22 |
| ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000 | 52 | 61 | 5 | 1 | 22 |
| ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000 | 52 | 61 | 5 | 1 | 22 |
| ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 | 52 | 61 | 5 | 1 | 22 |

| PDHS-E | | | | | |
|---------------------------------------------------------------|-----|-----|-----|-----|-----|
| AUXILIARY FILE | WVS | GM1 | IMM | APM | WSM |
| ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000 | 38 | 42 | 29 | 12 | 59 |
| ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000 | 38 | 42 | 29 | 12 | 59 |
| ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000 | 38 | 42 | 29 | 12 | 59 |
| ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 | 38 | 42 | 29 | 12 | 59 |

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 | 20060319 095336 |
| H | 20060320 092159 |

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 | -4.002468 | 0.009334 | -0.003903 |
| 7 | P1 | -3.008500 | 0.008489 | -0.028921 |
| 11 | P1 | -4.061723 | 0.019912 | 0.022145 |
| 15 | P1 | -6.086428 | 0.021013 | -0.058077 |
| 19 | P1 | -3.293048 | 0.006682 | -0.041720 |
| 22 | P1 | -4.459641 | 0.014424 | -0.023293 |
| 26 | P1 | -4.184522 | 0.110953 | 0.189534 |
| 30 | P1 | -5.790242 | 0.166909 | 0.097120 |
| 3 | P1 | -16.982939 | 0.247661 | 0.043213 |
| 7 | P1 | -16.725691 | 0.100710 | -0.123928 |
| 11 | P1 | -16.495829 | 0.324503 | 0.097763 |
| 15 | P1 | -13.053061 | 0.094364 | -0.027261 |
| 19 | P1 | -13.940966 | 0.053002 | -0.107903 |
| 22 | P1 | -15.574937 | 0.459114 | -0.076269 |
| 26 | P1 | -15.744078 | 0.374589 | 0.022128 |
| 30 | P1 | -16.494379 | 0.324382 | -0.132291 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -21.394381 | 0.086828 | 0.079885 |
| 7 | P2 | -22.366020 | 0.096326 | 0.120665 |
| 11 | P2 | -16.224586 | 0.100886 | 0.040592 |
| 15 | P2 | -7.163535 | 0.098714 | -0.004532 |
| 19 | P2 | -9.131966 | 0.091538 | -0.007579 |
| 22 | P2 | -17.942553 | 0.089310 | -0.068814 |
| 26 | P2 | -16.212664 | 0.095083 | -0.041533 |
| 30 | P2 | -19.648293 | 0.084585 | -0.036232 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.194030 | 0.005822 | -0.005528 |
| 7 | P3 | -8.194030 | 0.005822 | -0.005528 |
| 11 | P3 | -8.194030 | 0.005822 | -0.005528 |
| 15 | P3 | -8.194030 | 0.005822 | -0.005528 |
| 19 | P3 | -8.194030 | 0.005822 | -0.005528 |
| 22 | P3 | -8.194030 | 0.005822 | -0.005528 |
| 26 | P3 | -8.194030 | 0.005822 | -0.005528 |
| 30 | P3 | -8.194030 | 0.005822 | -0.005527 |

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 | -3.834582 | 2.856789 | 0.306656 |
| 7 | P1 | -2.821633 | 2.999196 | 0.379227 |
| 11 | P1 | -3.014596 | 3.019868 | 0.350473 |
| 15 | P1 | -3.659950 | 2.993696 | 0.374829 |
| 19 | P1 | -3.460971 | 2.900359 | 0.300565 |
| 22 | P1 | -5.257712 | 2.666284 | 0.288448 |
| 26 | P1 | -5.922903 | 2.855861 | 0.618507 |
| 30 | P1 | -5.266415 | 2.708501 | 0.408847 |
| 3 | P1 | -11.640903 | 1.879558 | 0.249984 |
| 7 | P1 | -10.035594 | 2.081872 | 0.259981 |
| 11 | P1 | -10.334932 | 2.074791 | 0.230087 |
| 15 | P1 | -10.882270 | 2.086606 | 0.232947 |
| 19 | P1 | -15.460901 | 1.538735 | 0.179623 |
| 22 | P1 | -20.315542 | 2.193223 | 0.087931 |

| | | | | |
|----|----|------------|----------|----------|
| 26 | P1 | -16.290720 | 2.068309 | 0.142643 |
| 30 | P1 | -18.294796 | 1.751295 | 0.485713 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -17.090321 | 1.976705 | 0.099858 |
| 7 | P2 | -22.538837 | 2.315711 | -0.076353 |
| 11 | P2 | -11.269023 | 2.146215 | 0.169255 |
| 15 | P2 | -4.906650 | 2.788556 | 0.287540 |
| 19 | P2 | -6.915320 | 2.509787 | 0.273177 |
| 22 | P2 | -8.206141 | 2.353862 | 0.218280 |
| 26 | P2 | -23.903307 | 2.369040 | -0.279940 |
| 30 | P2 | -22.039291 | 2.235716 | -0.165574 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.022907 | 0.002507 | 0.005848 |
| 7 | P3 | -8.022951 | 0.002501 | 0.005678 |
| 11 | P3 | -8.022900 | 0.002515 | 0.005823 |
| 15 | P3 | -8.022998 | 0.002512 | 0.005646 |
| 19 | P3 | -8.022884 | 0.002512 | 0.005338 |
| 22 | P3 | -8.022960 | 0.002507 | 0.005582 |
| 26 | P3 | -8.022979 | 0.002505 | 0.005459 |
| 30 | P3 | -8.022841 | 0.002513 | 0.005757 |

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 | 0.000557305 |
| | stdev | 1.74969e-07 |
| MEAN Q | mean | 0.000516613 |
| | stdev | 2.20907e-07 |



5.2 - Input stdev I/Q

| channel | stat | DSS-B |
|---------|-------|------------|
| STDEV I | mean | 0.138147 |
| | stdev | 0.00118557 |
| STDEV Q | mean | 0.138509 |
| | stdev | 0.00120356 |



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006031[890]

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_1PNPDE20060310_124102_000000362045_00453_21048_0326.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20060318_005019_000002372046_00059_21155_1081.N1 | 1 | 0 |
| ASA_WSM_1PNPDE20060318_160549_000002022046_00069_21165_1344.N1 | 0 | 34 |





7 - Doppler Analysis

Preliminary report. The data is not yet controlled



7.1 - Unbiased Doppler Error for WVS

Evolution of unbiased Doppler error (Real - Expected)

| |
|---------------------------------------------------------------------------------|
|  |
| Ascending |
|  |
| Descending |

7.2 - Absolute Doppler for WVS

Evolution of Absolute Doppler

| |
|-----------------------------------------------------------------------------------|
|  |
| Ascending |
|  |
| Descending |

7.3 - Doppler evolution versus ANX for WVS

Evolution Doppler error versus ANX

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

7.4 - Unbiased Doppler Error for GM1

Evolution of unbiased Doppler error (Real - Expected)

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

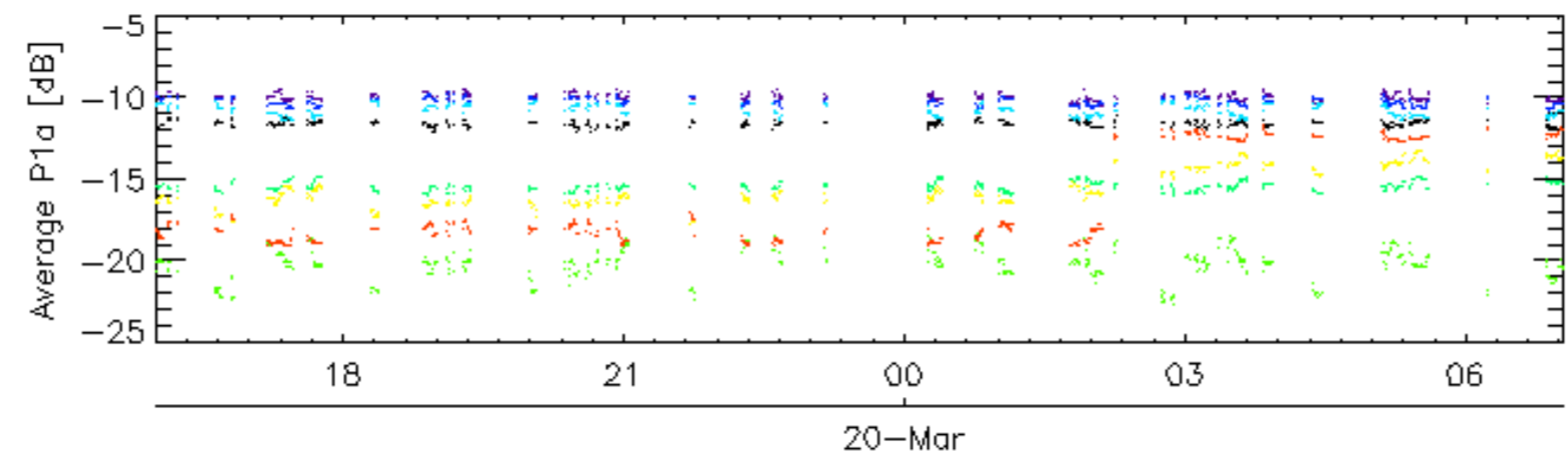
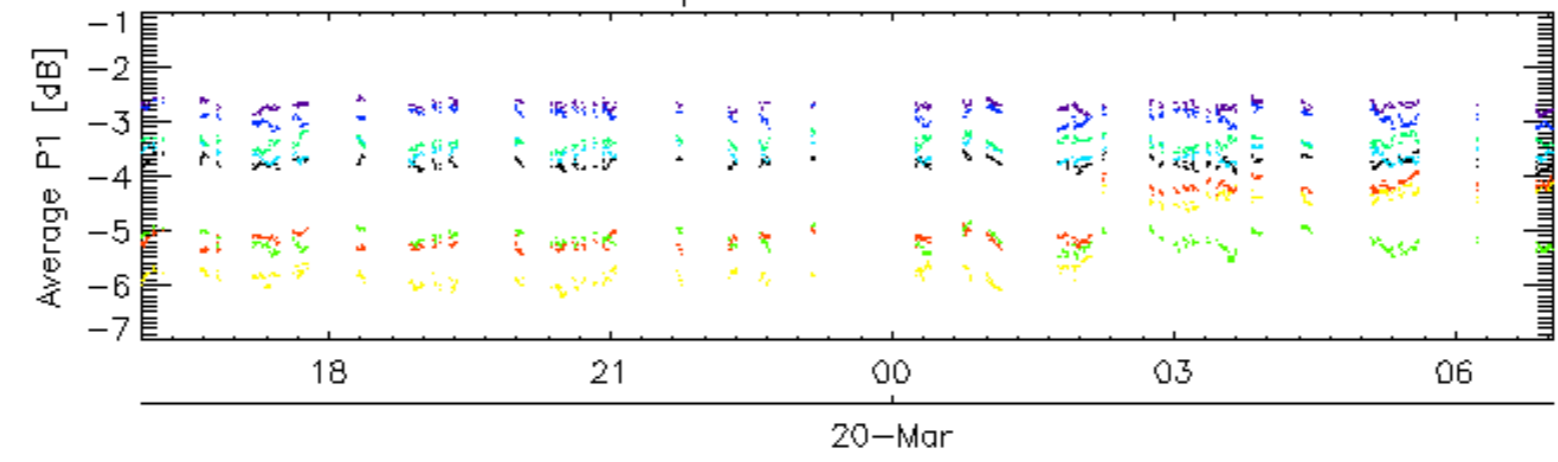
7.5 - Absolute Doppler for GM1

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

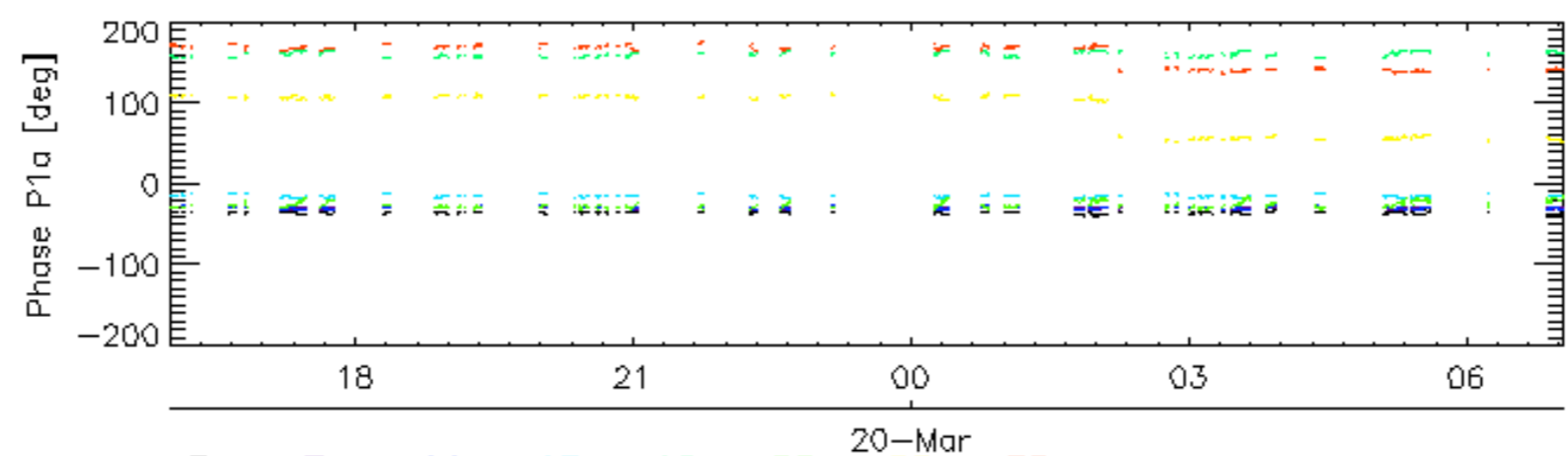
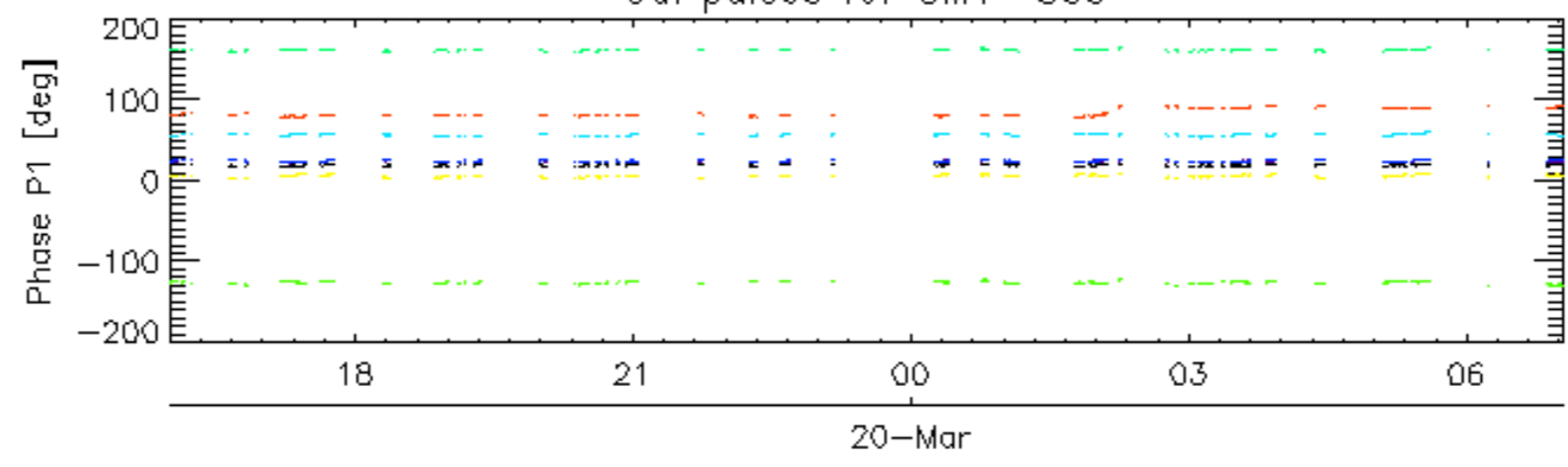
7.6 - Doppler evolution versus ANX for GM1

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

Cal pulses for GM1 SS3

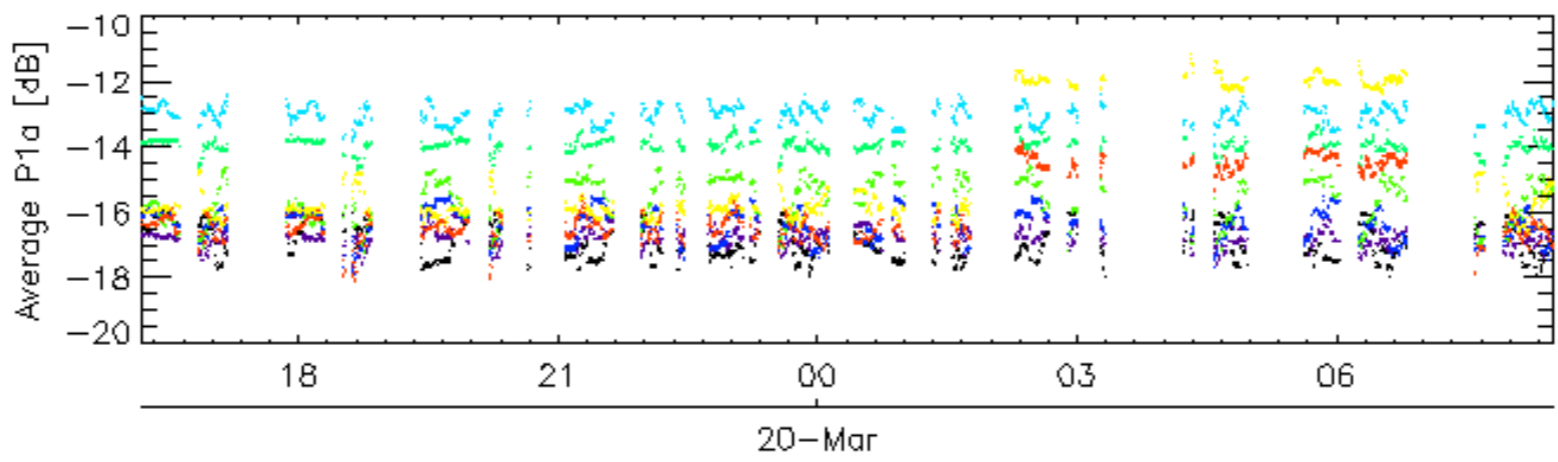
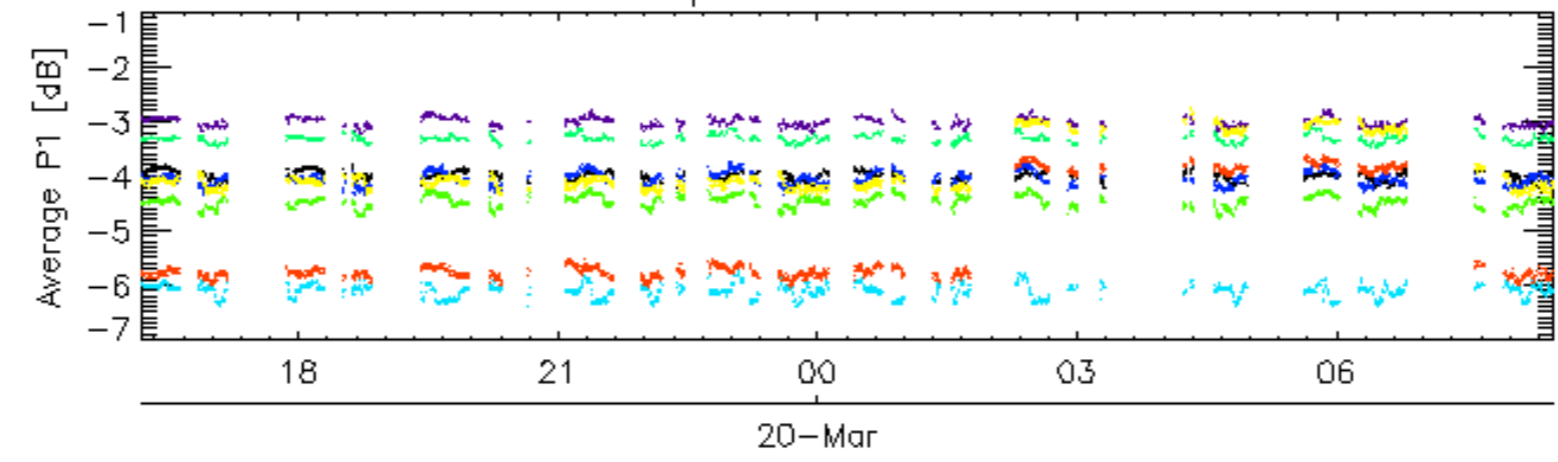


Cal pulses for GM1 SS3

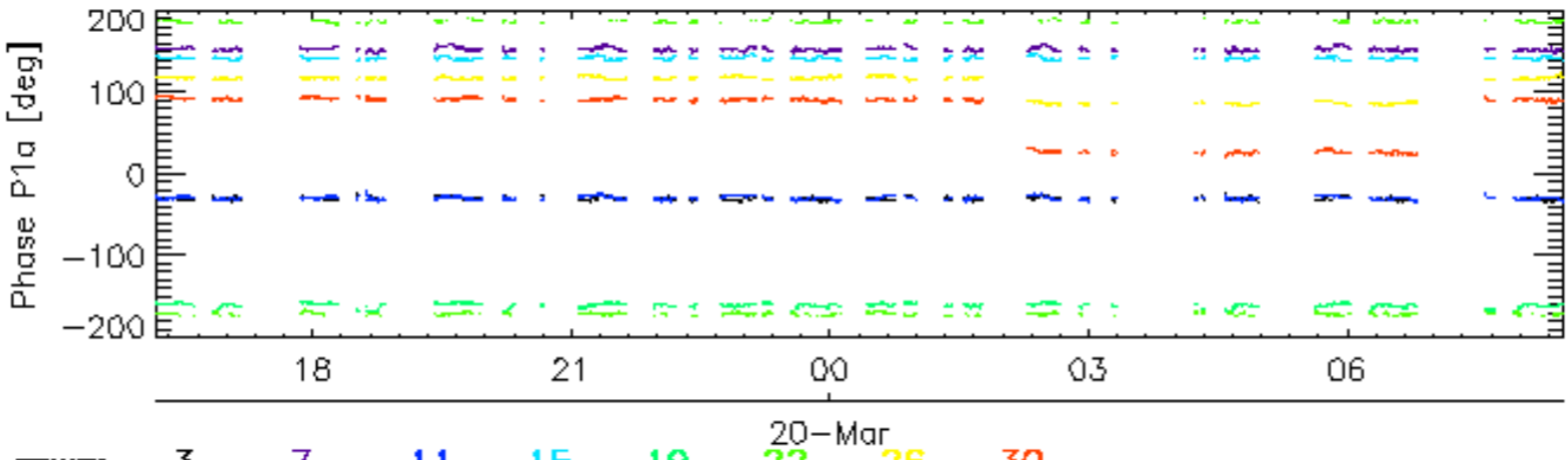
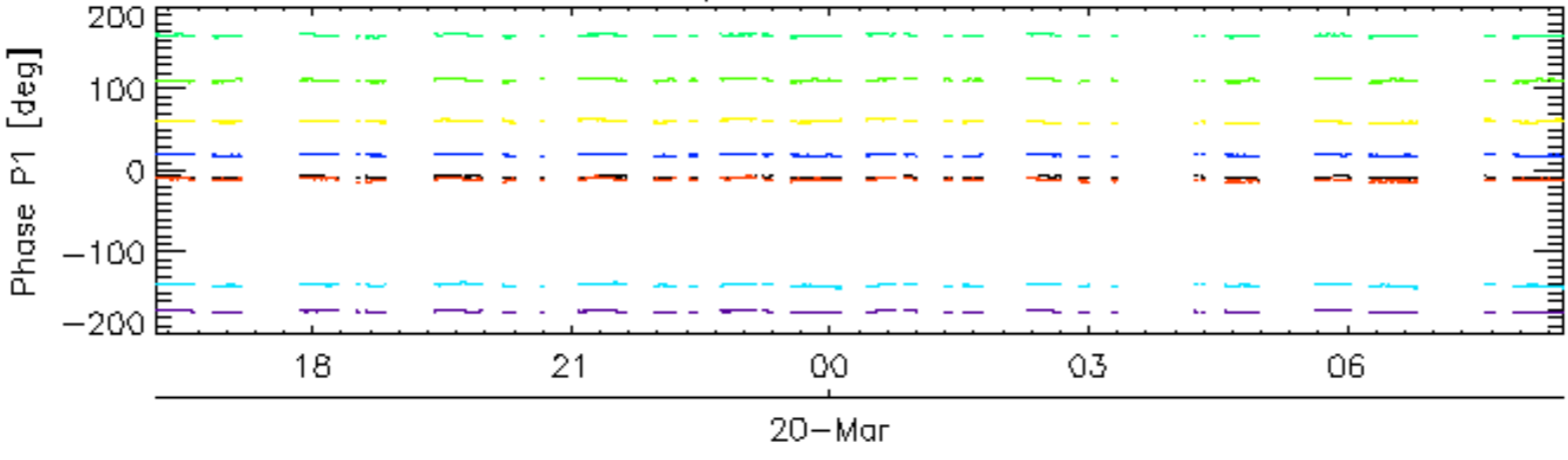


rows: **3** **7** **11** **15** **19** **22** **26** **30**

Cal pulses for WVS IS2

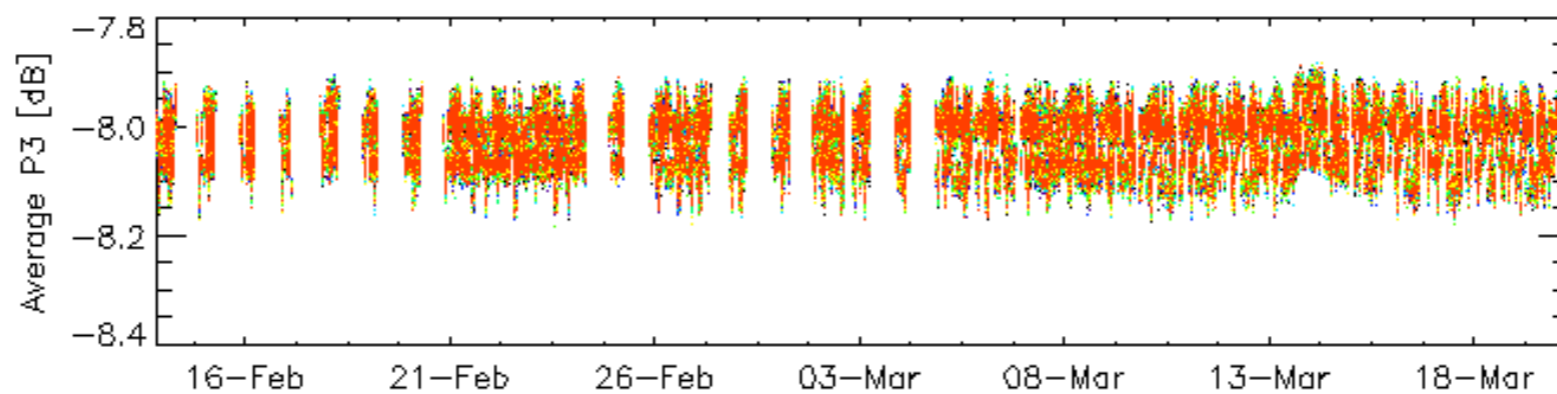
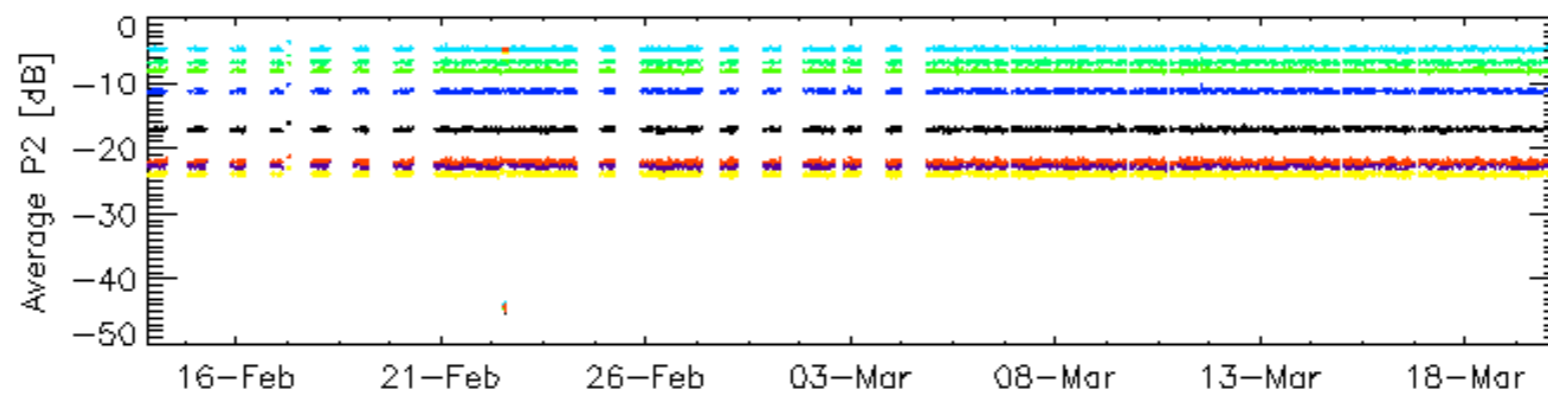
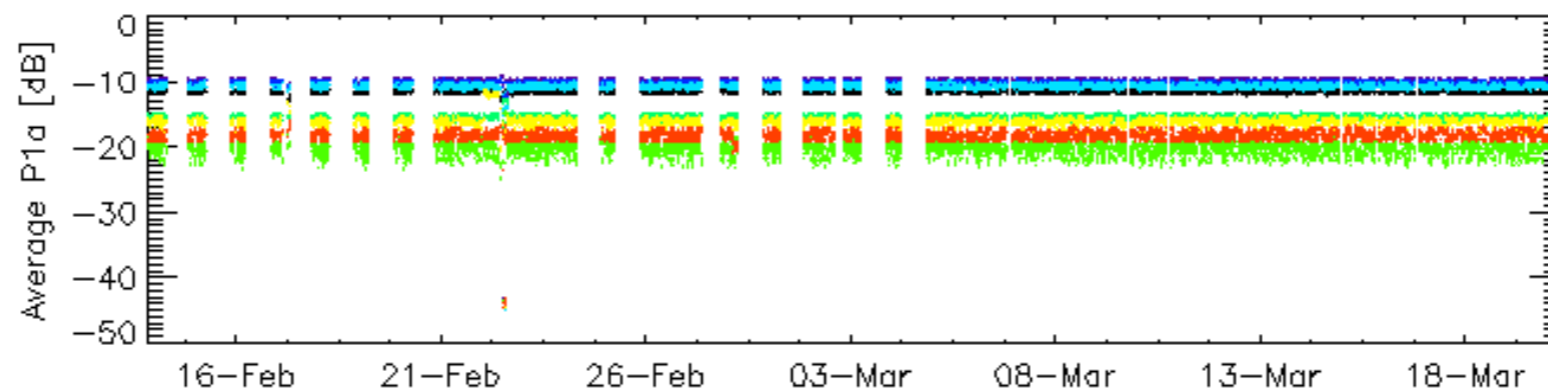
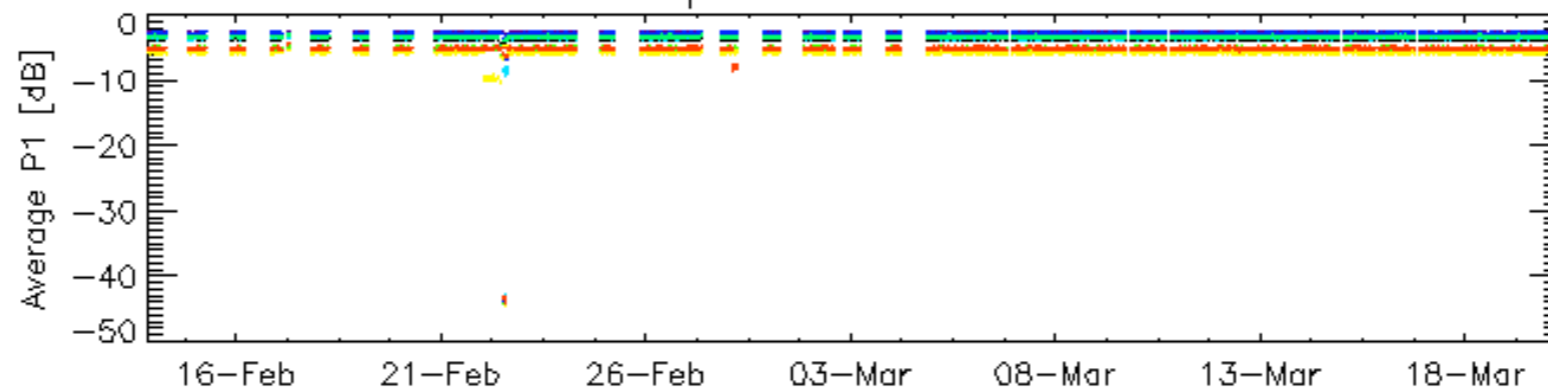


Cal pulses for WVS IS2



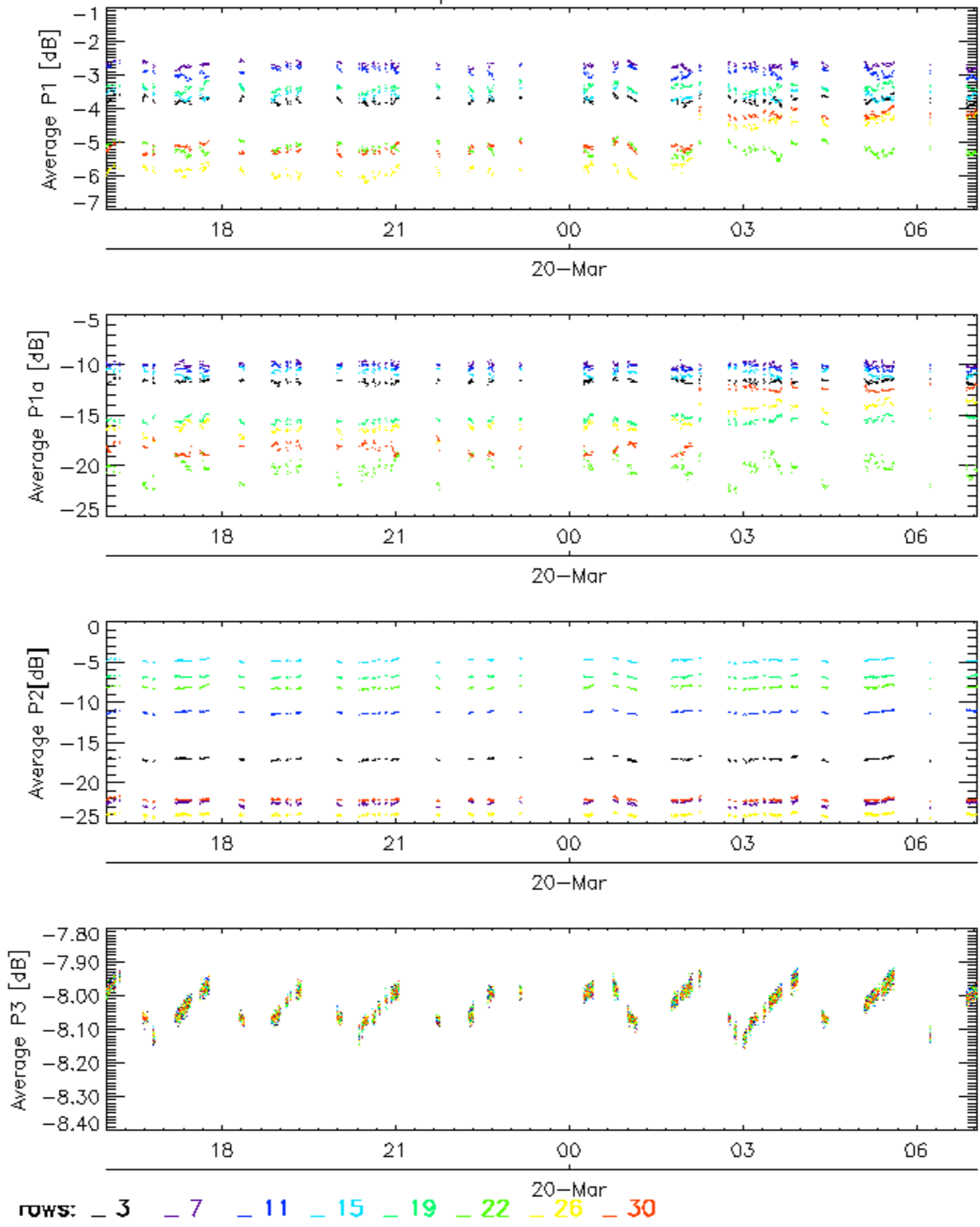
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

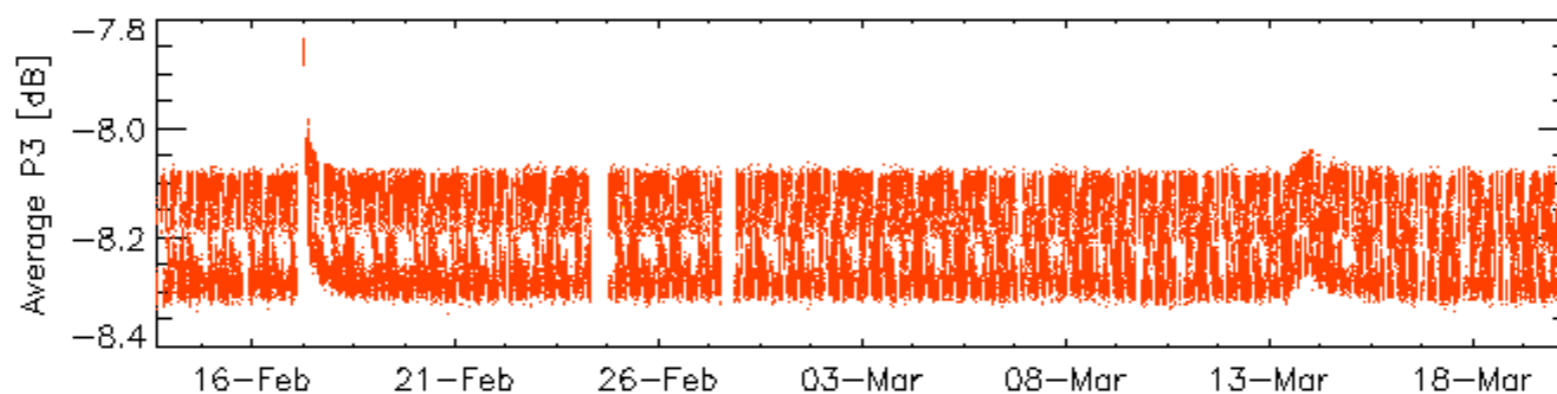
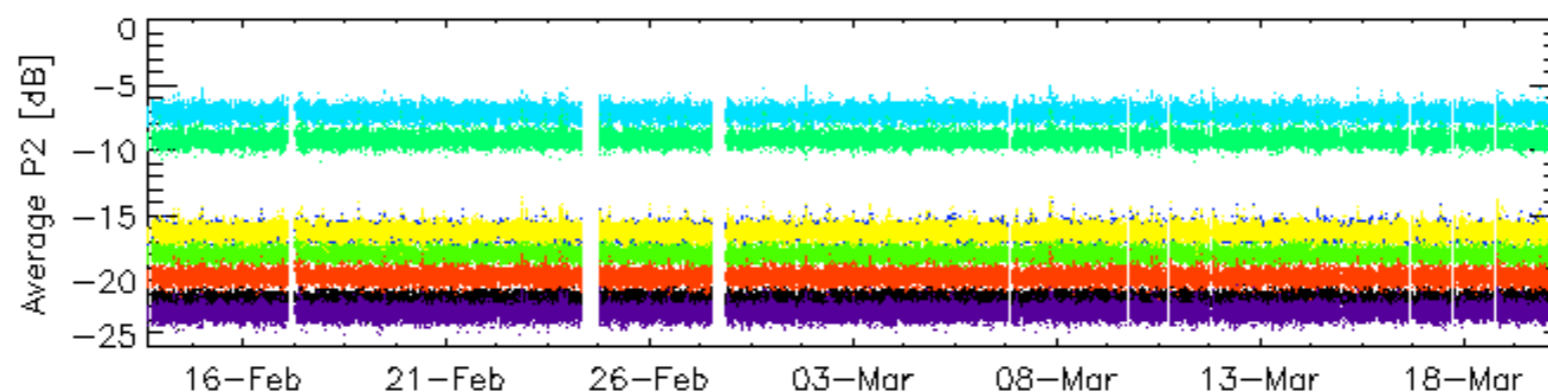
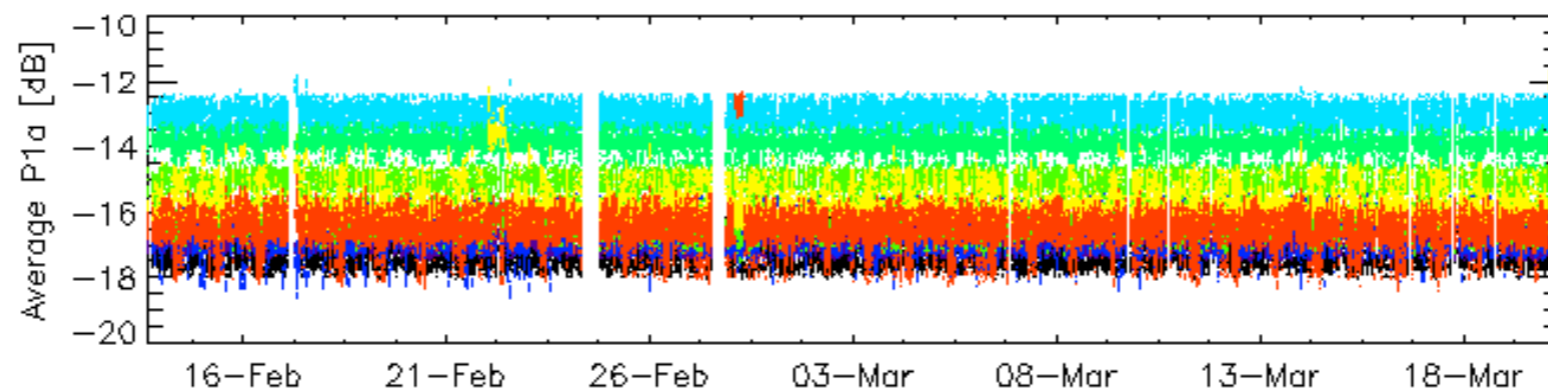
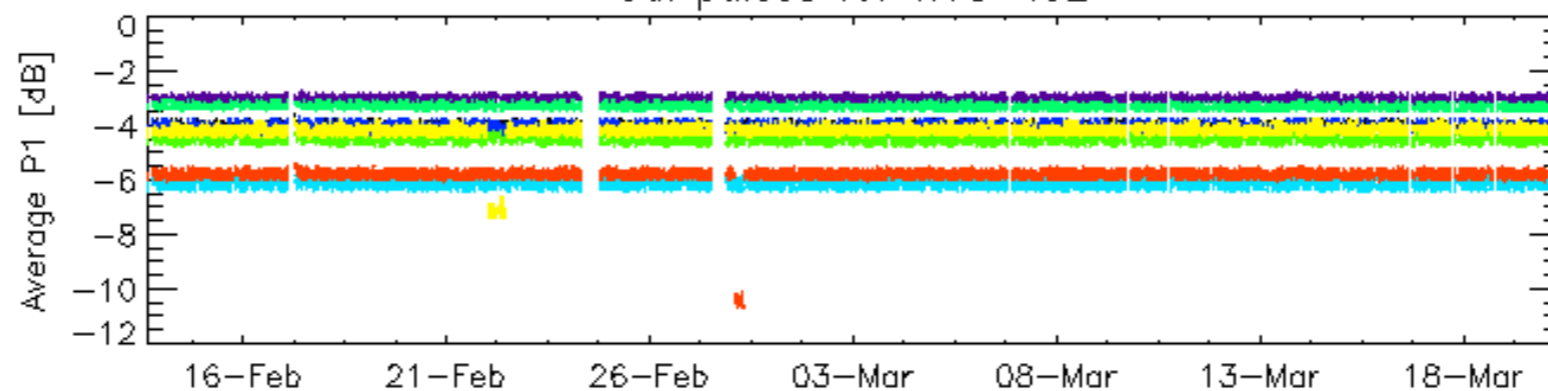


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

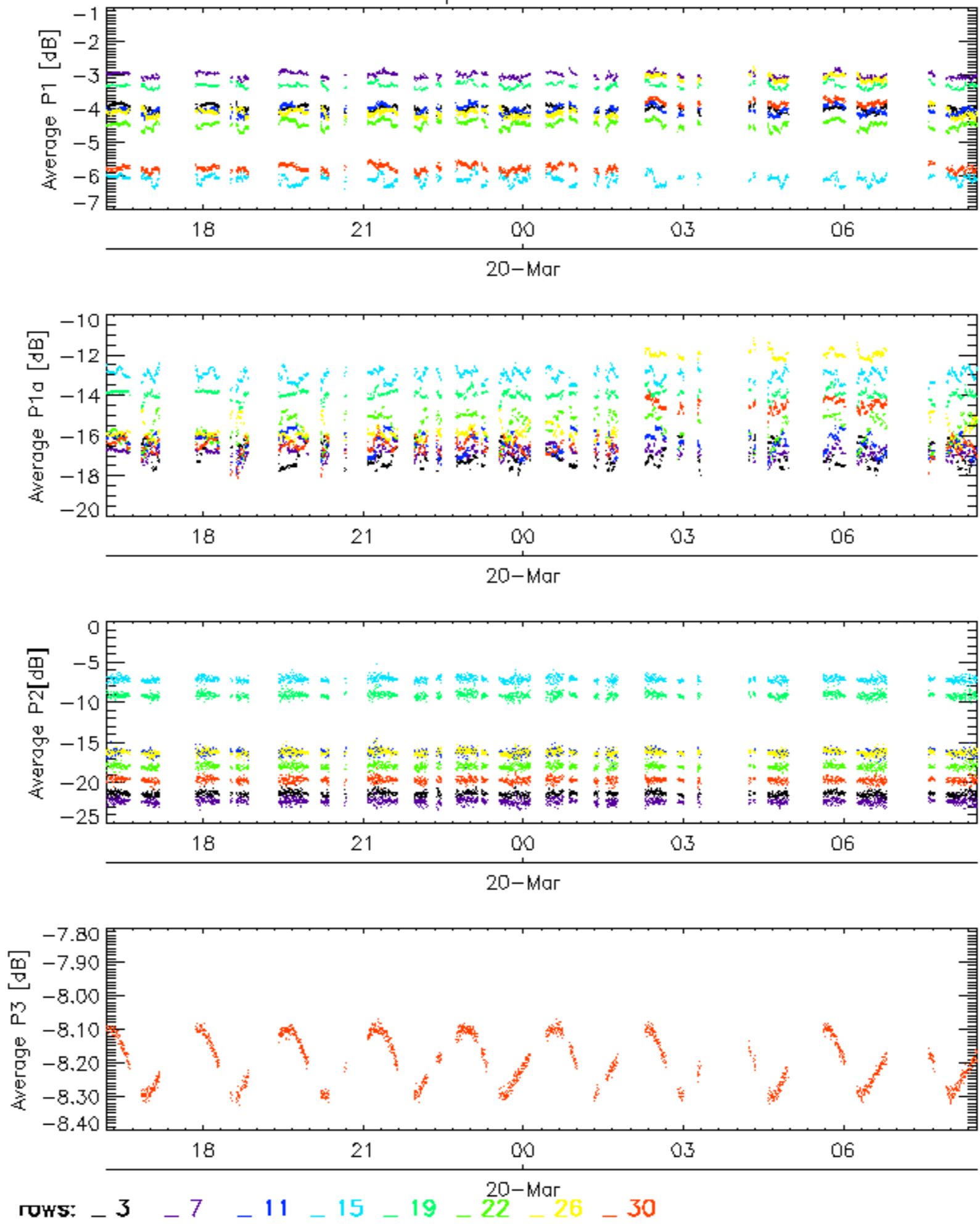


Cal pulses for WVS IS2



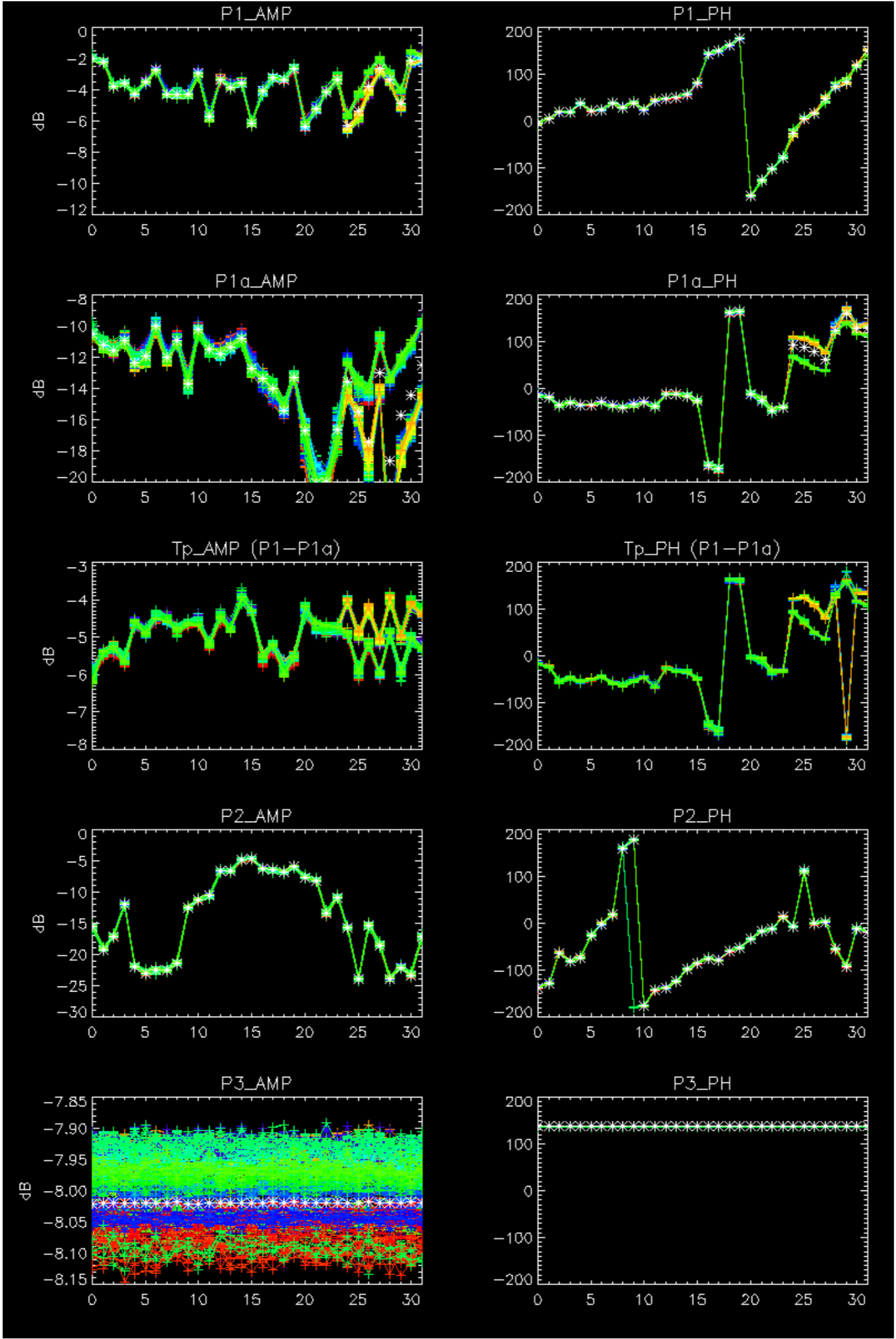
rows: [3](#) [7](#) [11](#) [15](#) [19](#) [22](#) [26](#) [30](#)

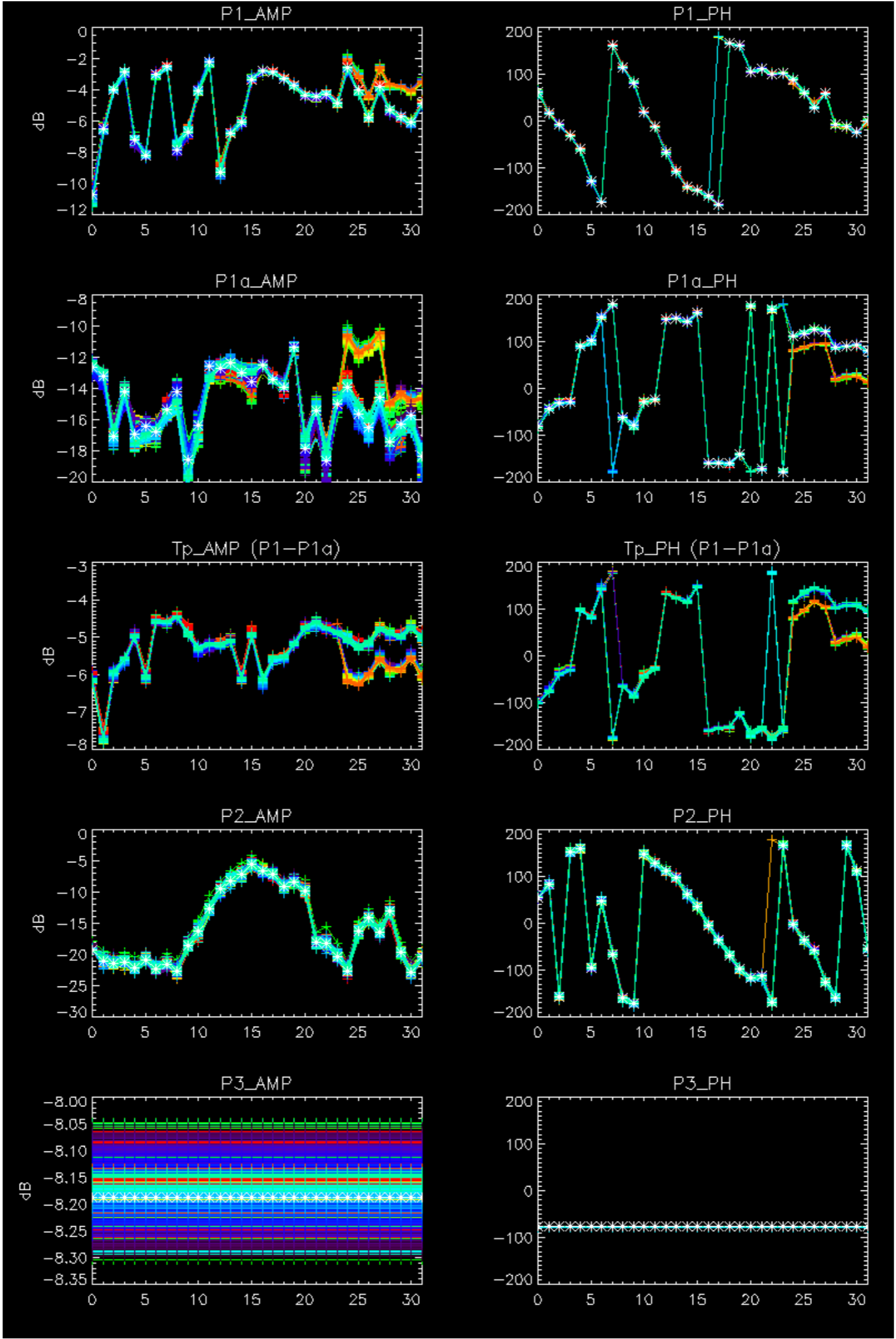
Cal pulses for WVS IS2



No anomalies observed on available browse products

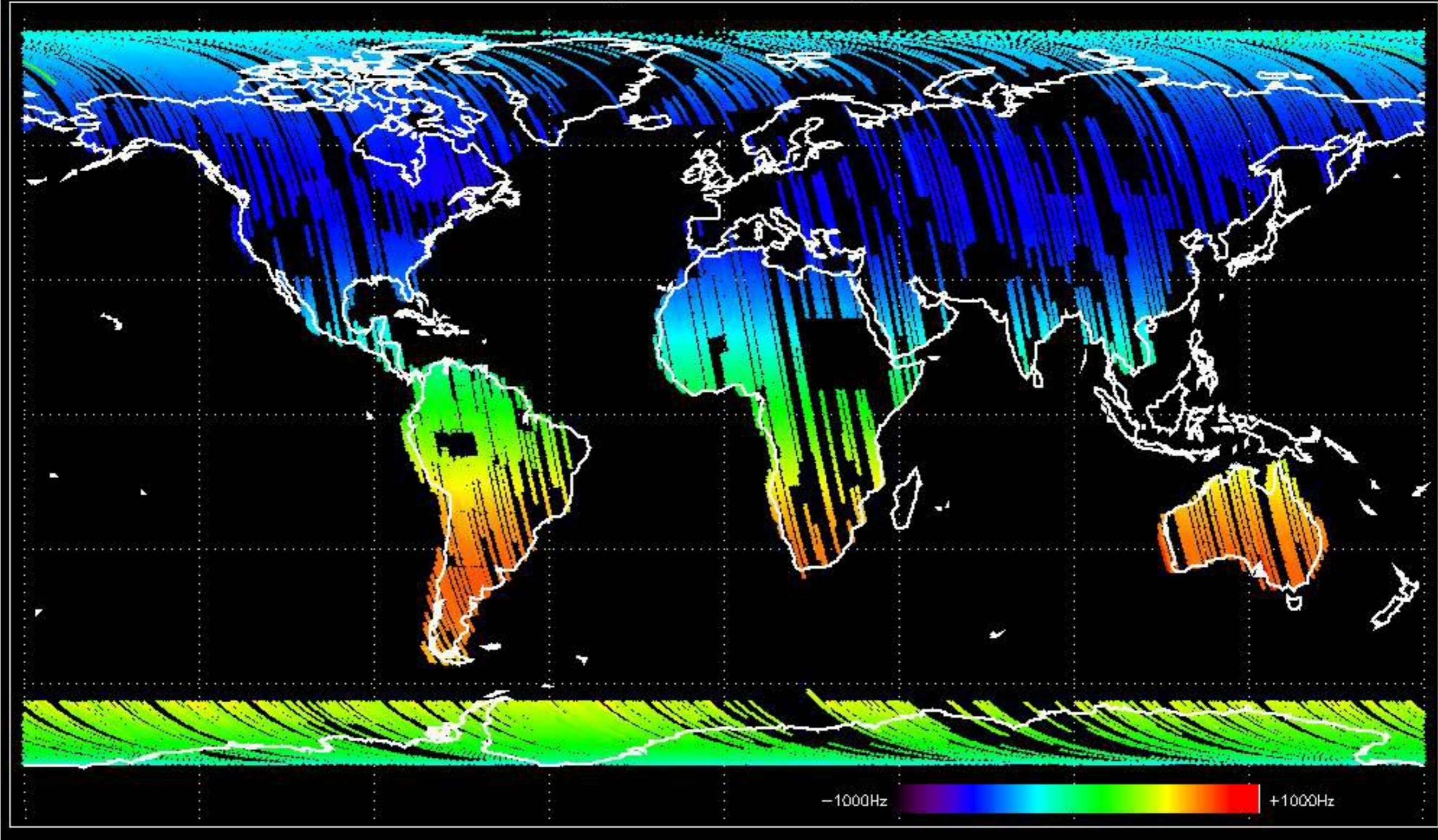
No anomalies observed.



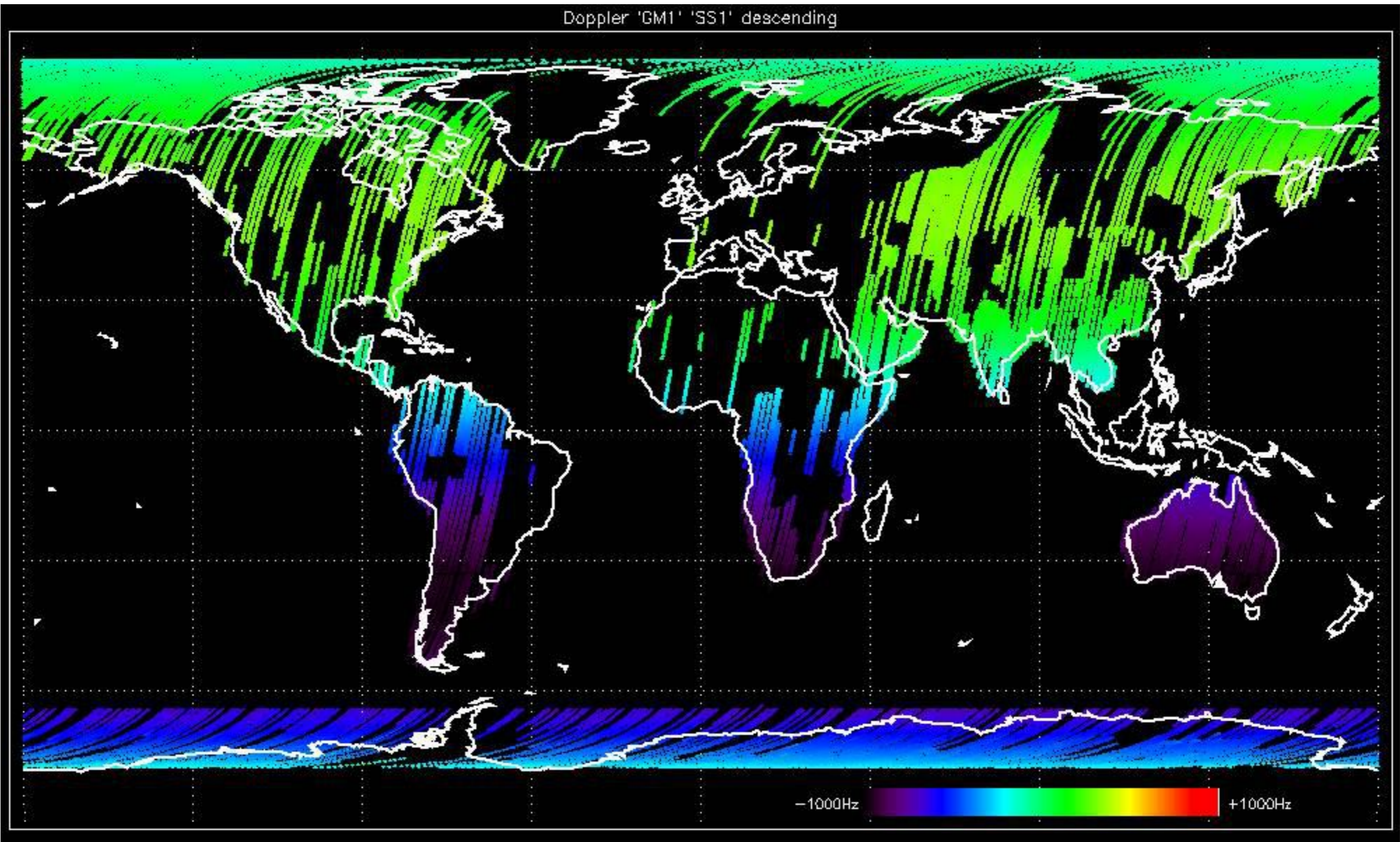


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

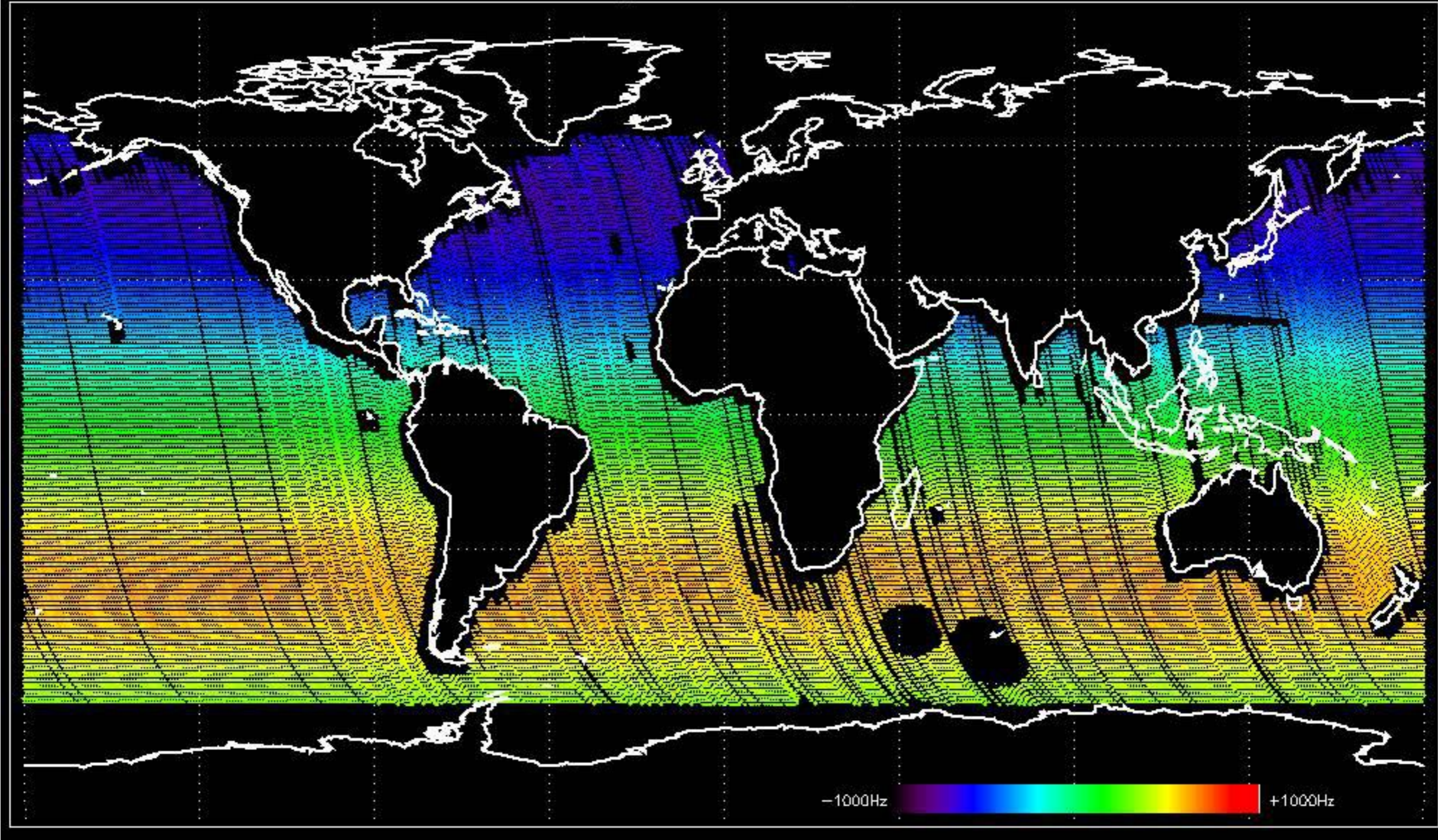
Doppler 'GM1' 'SS1' ascending



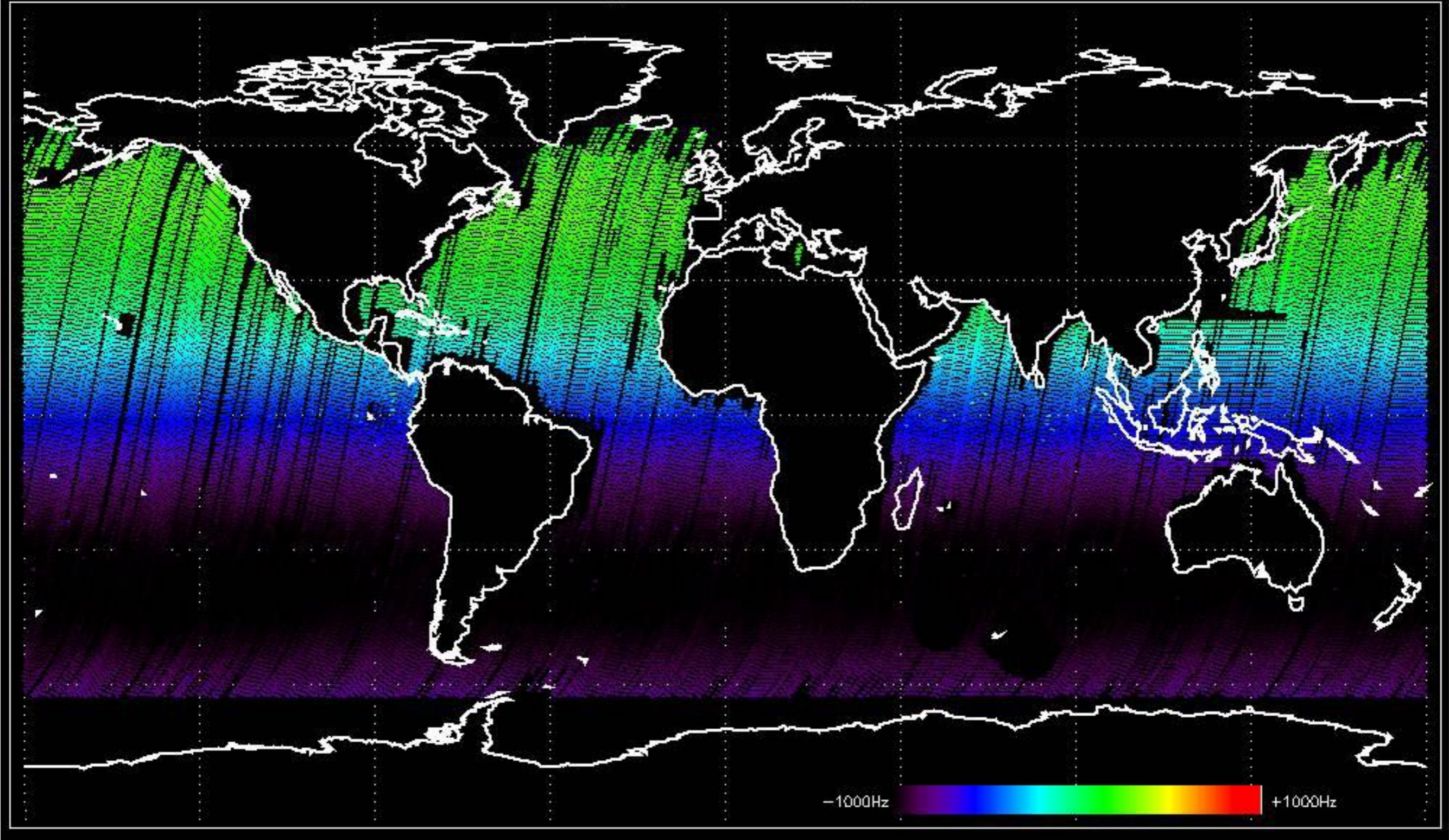
Doppler 'GM1' 'SS1' descending

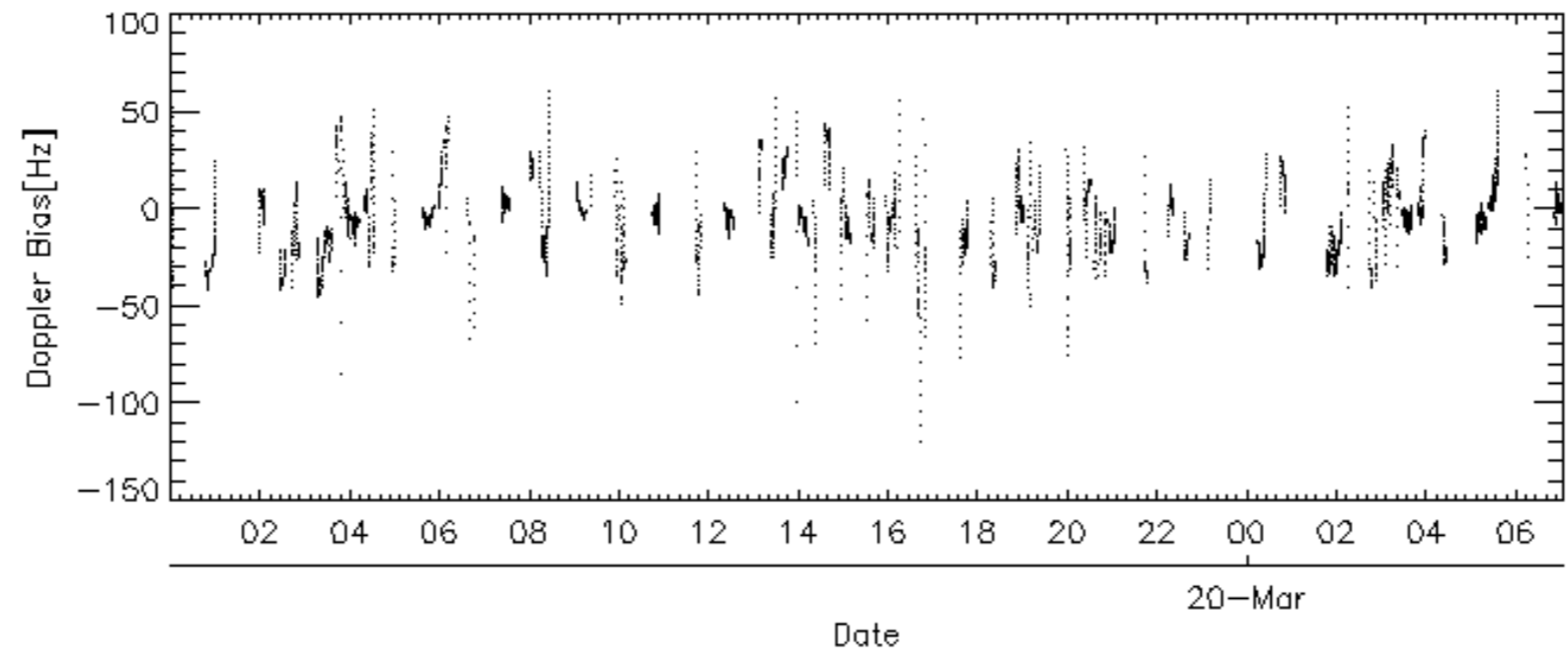
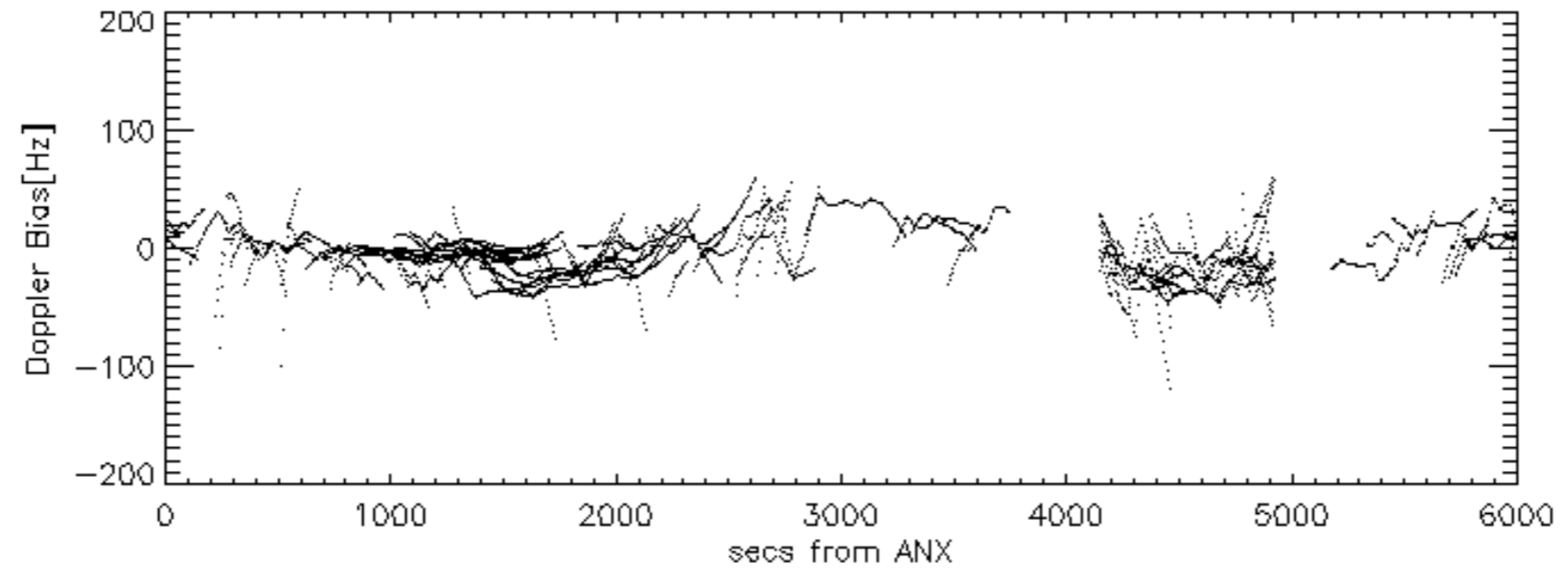
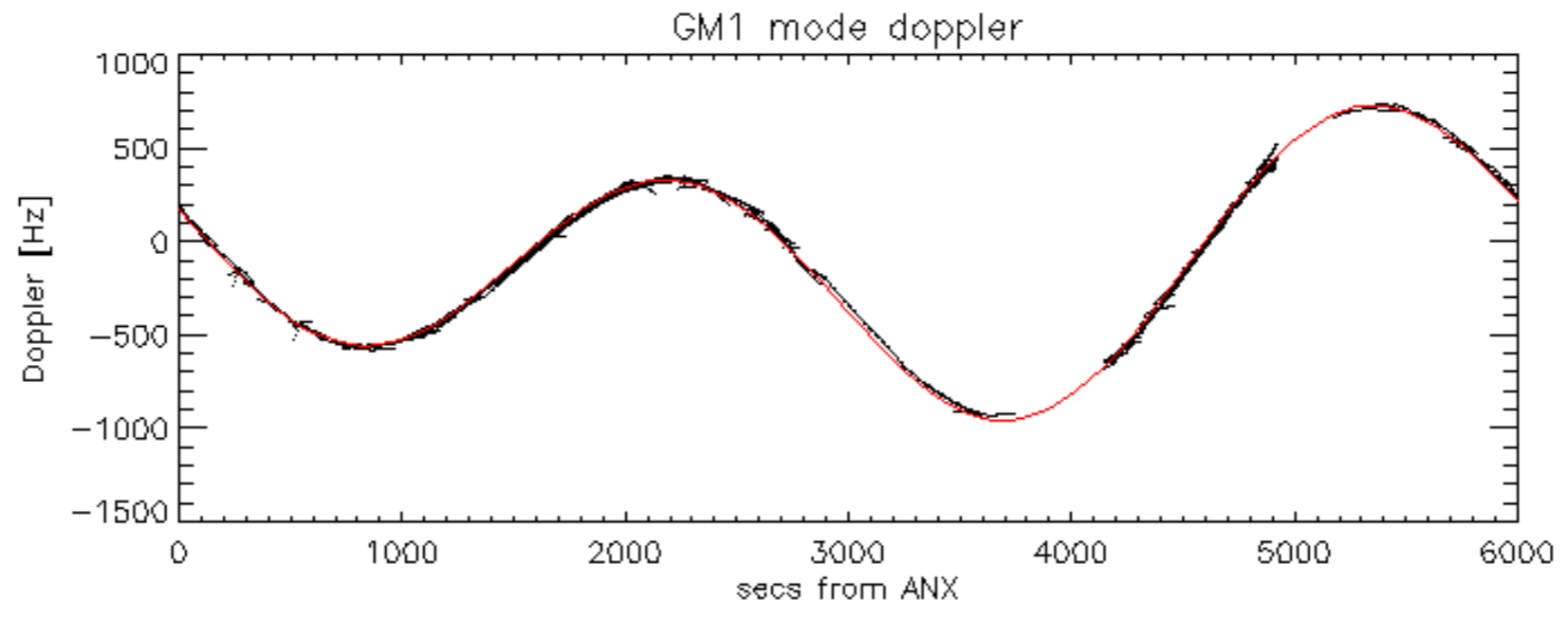


Doppler 'WVS' 'IS2' ascending

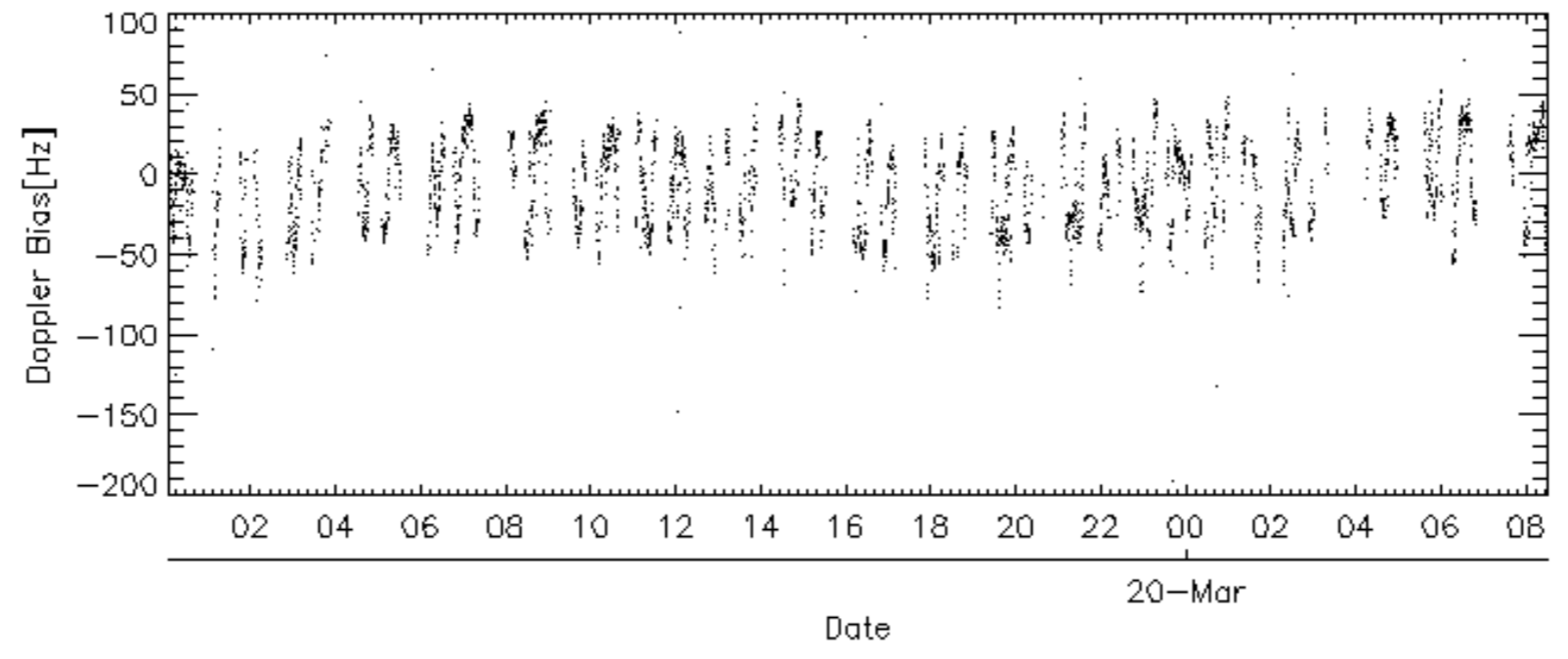
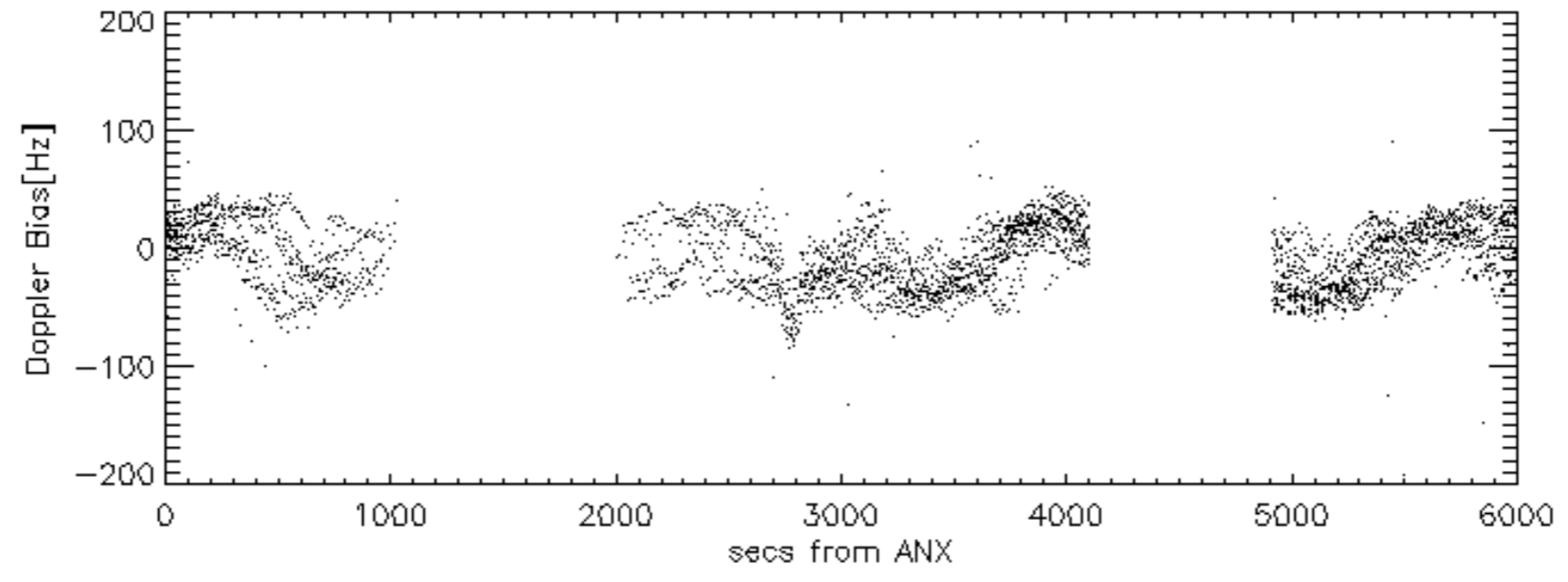
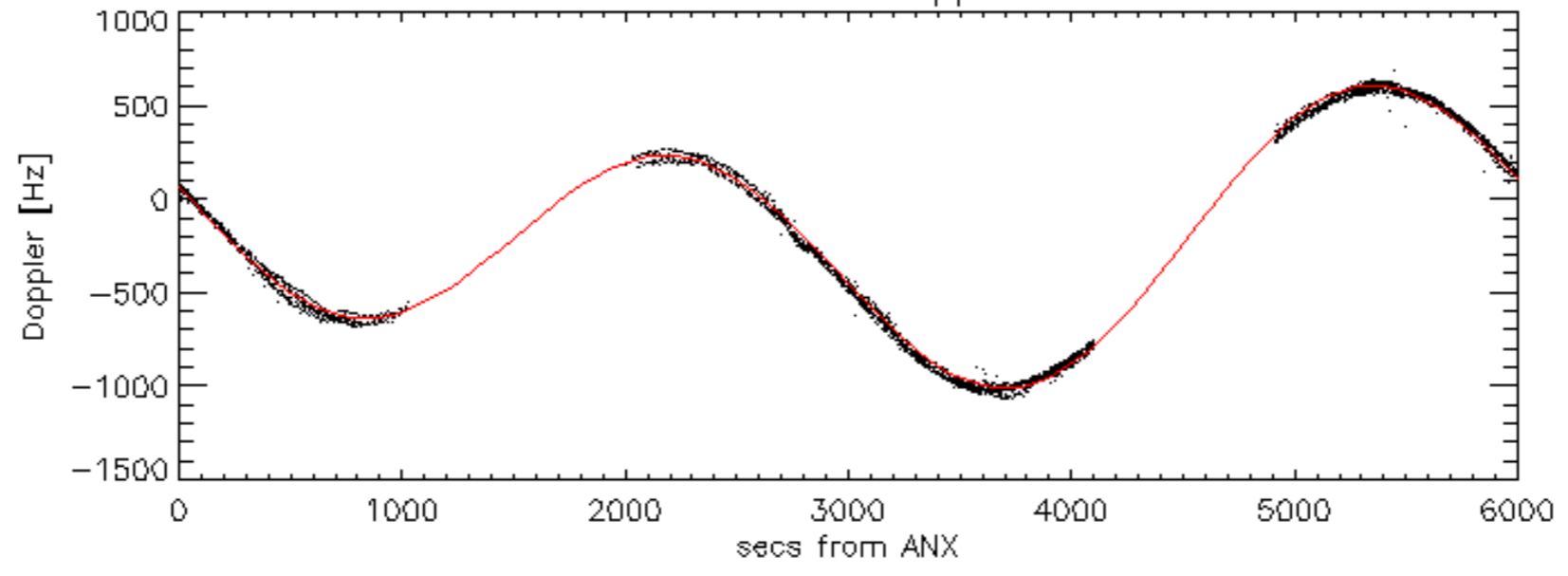


Doppler 'WVS' 'IS2' descending

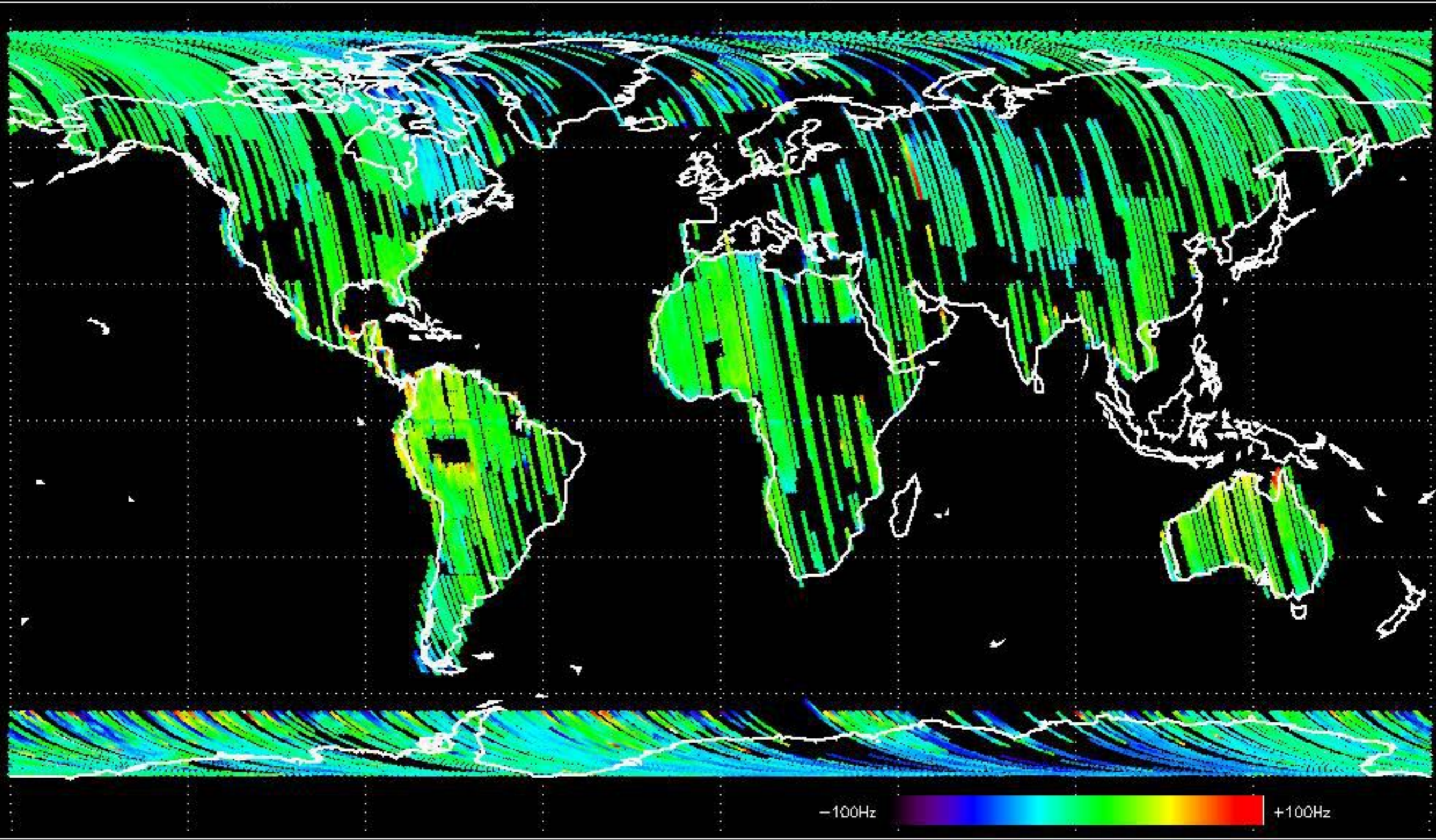




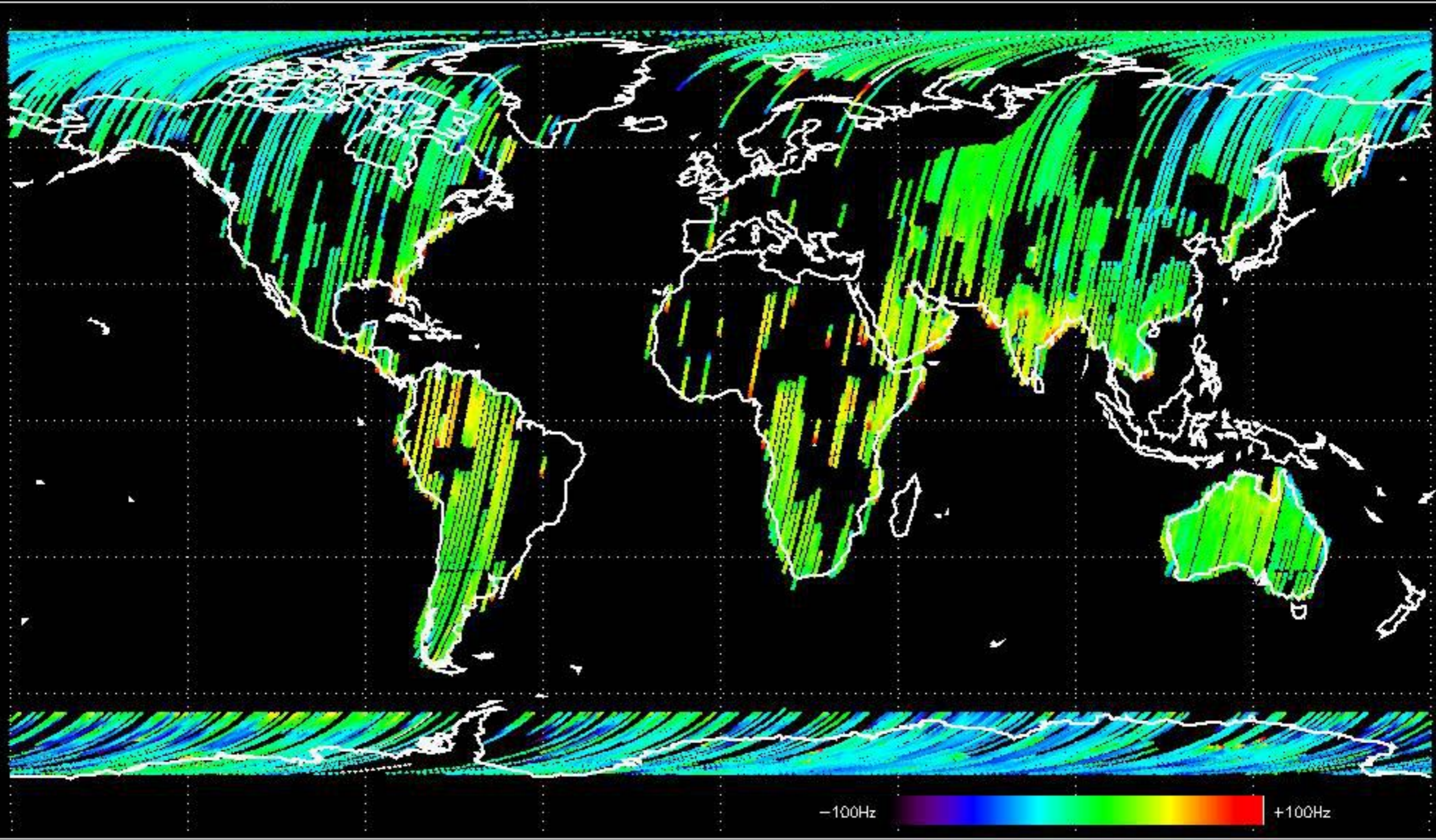
WVS mode doppler



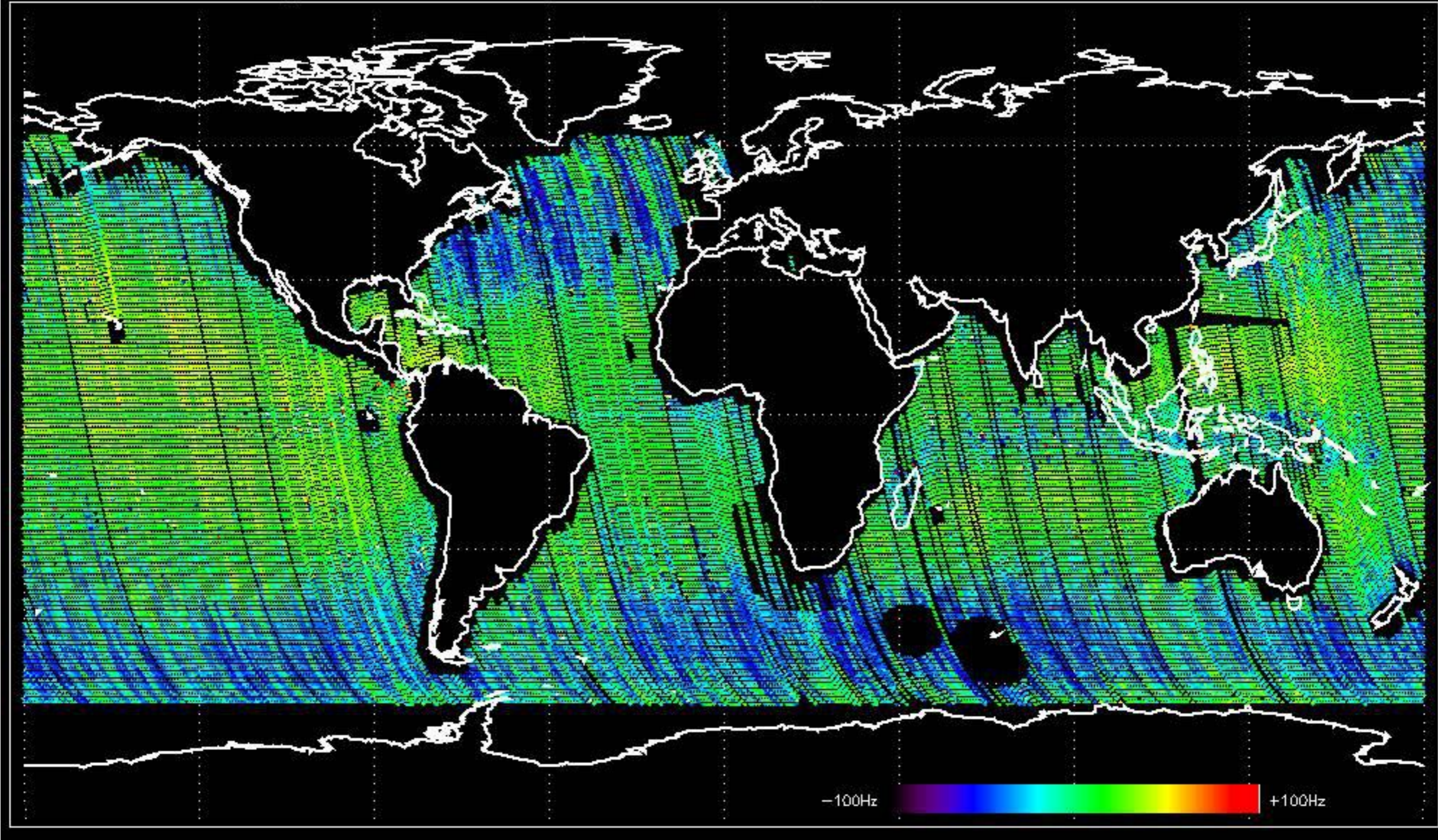
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -8.8410147 Hz



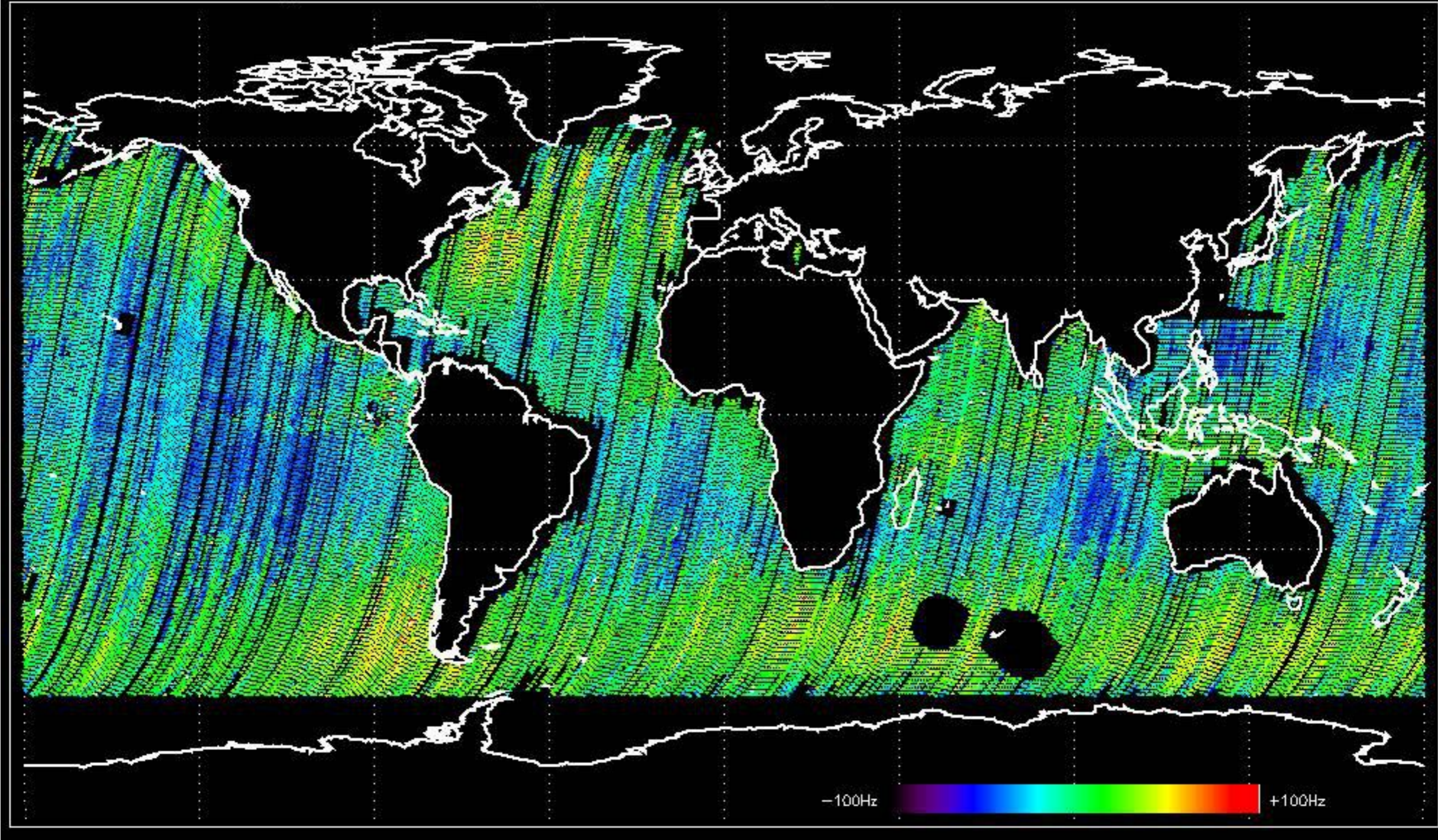
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -7.2481823 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -6.3540391 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -7.9031872 Hz

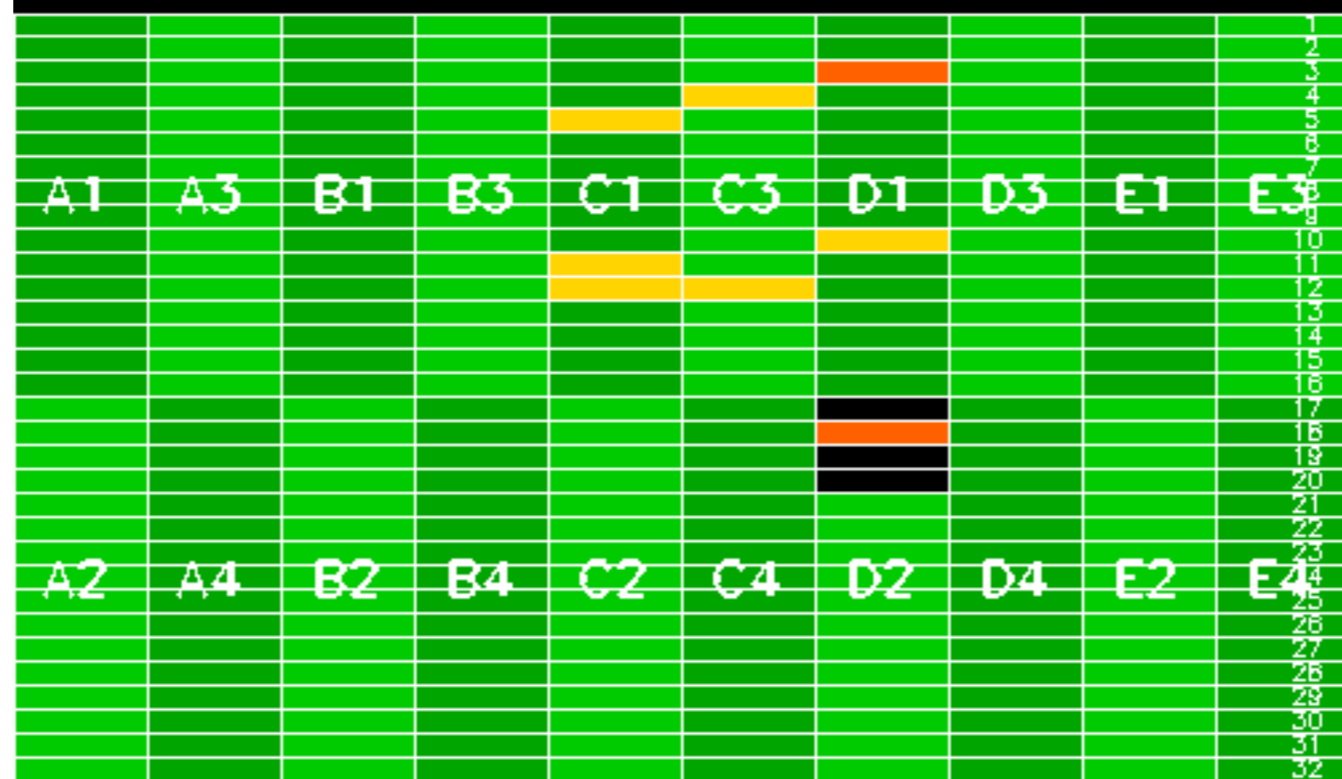


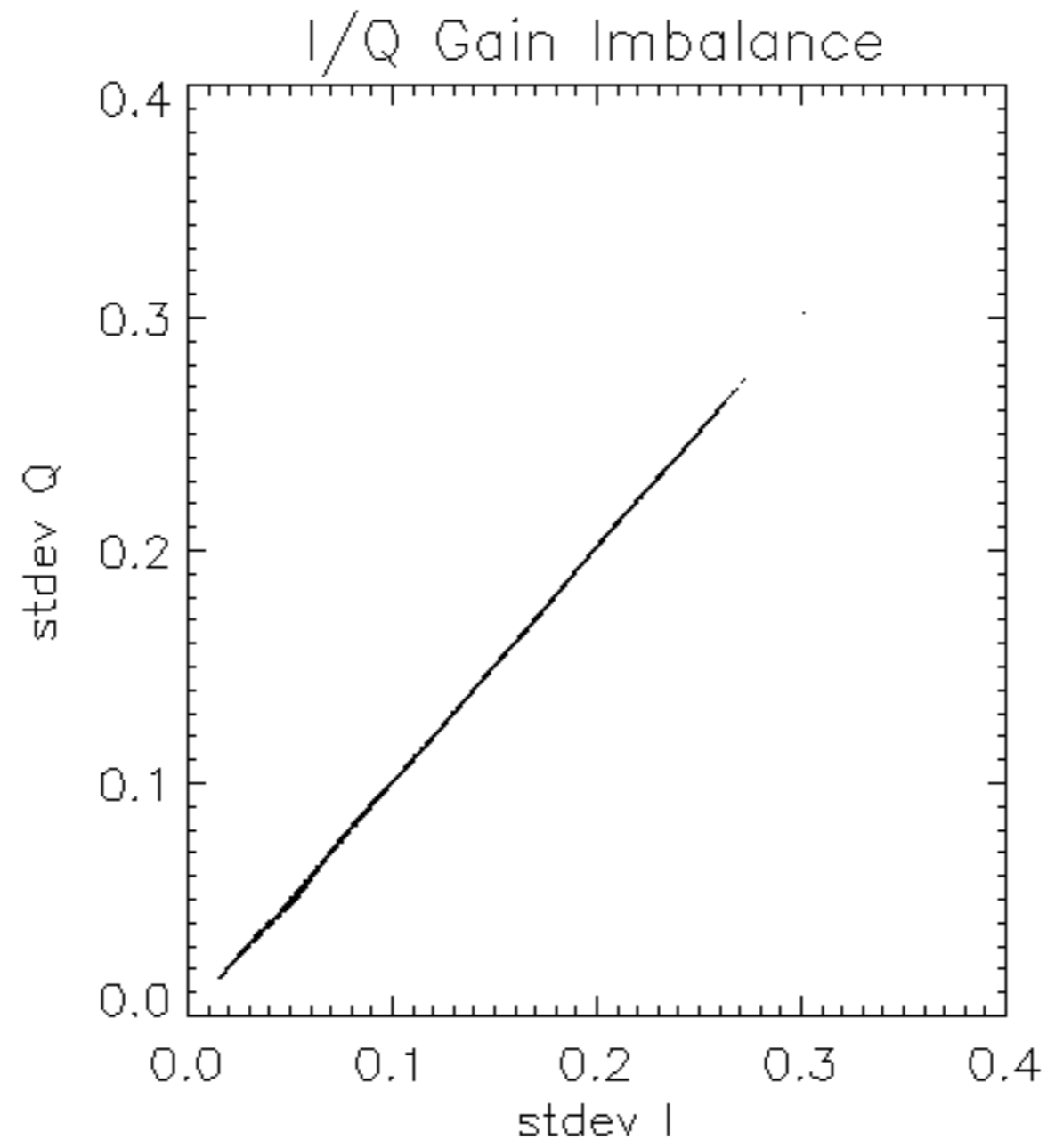
No anomalies observed on available MS products:

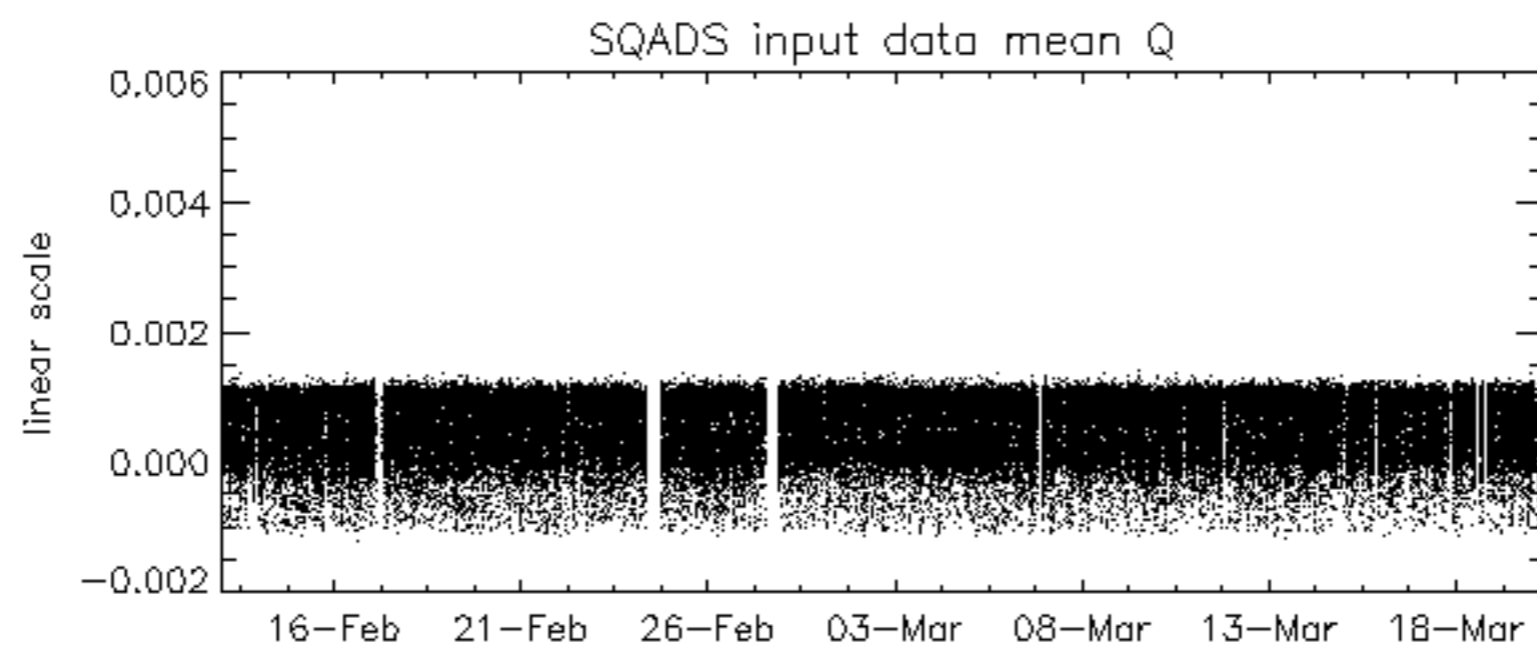
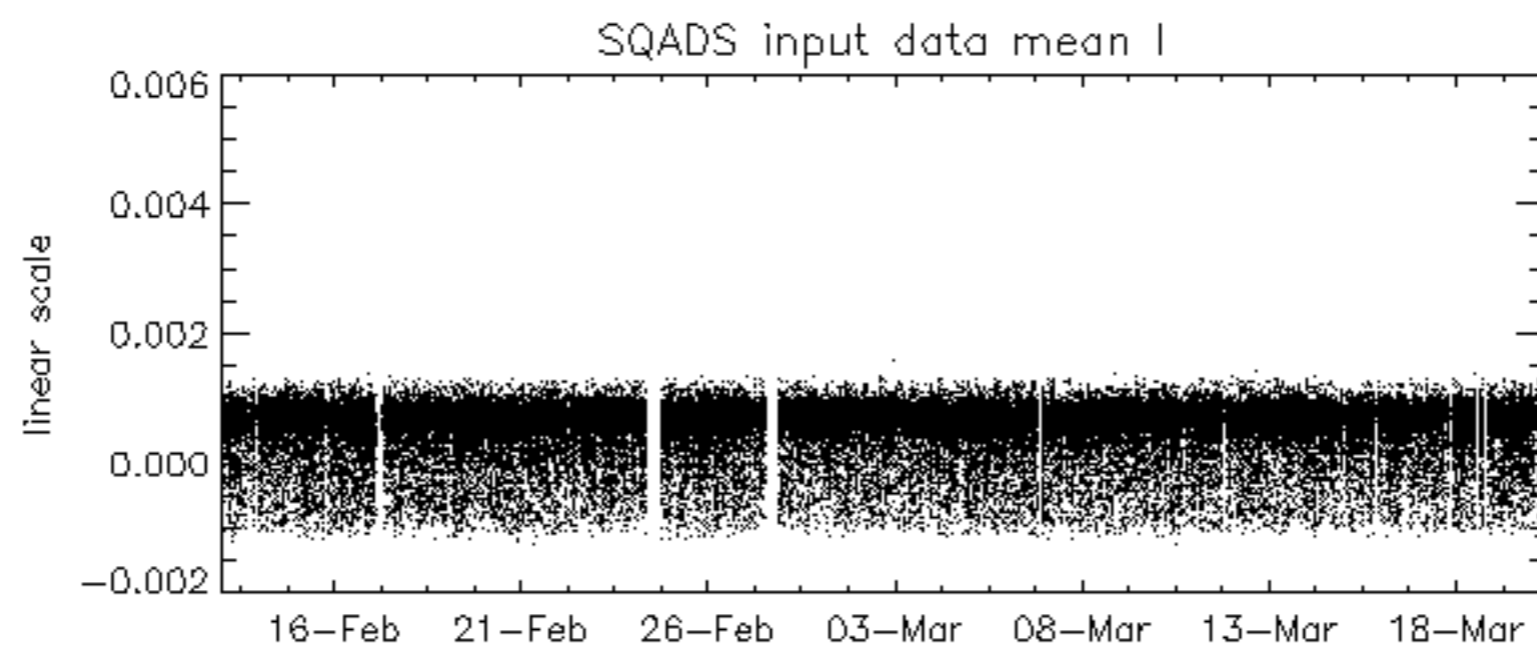
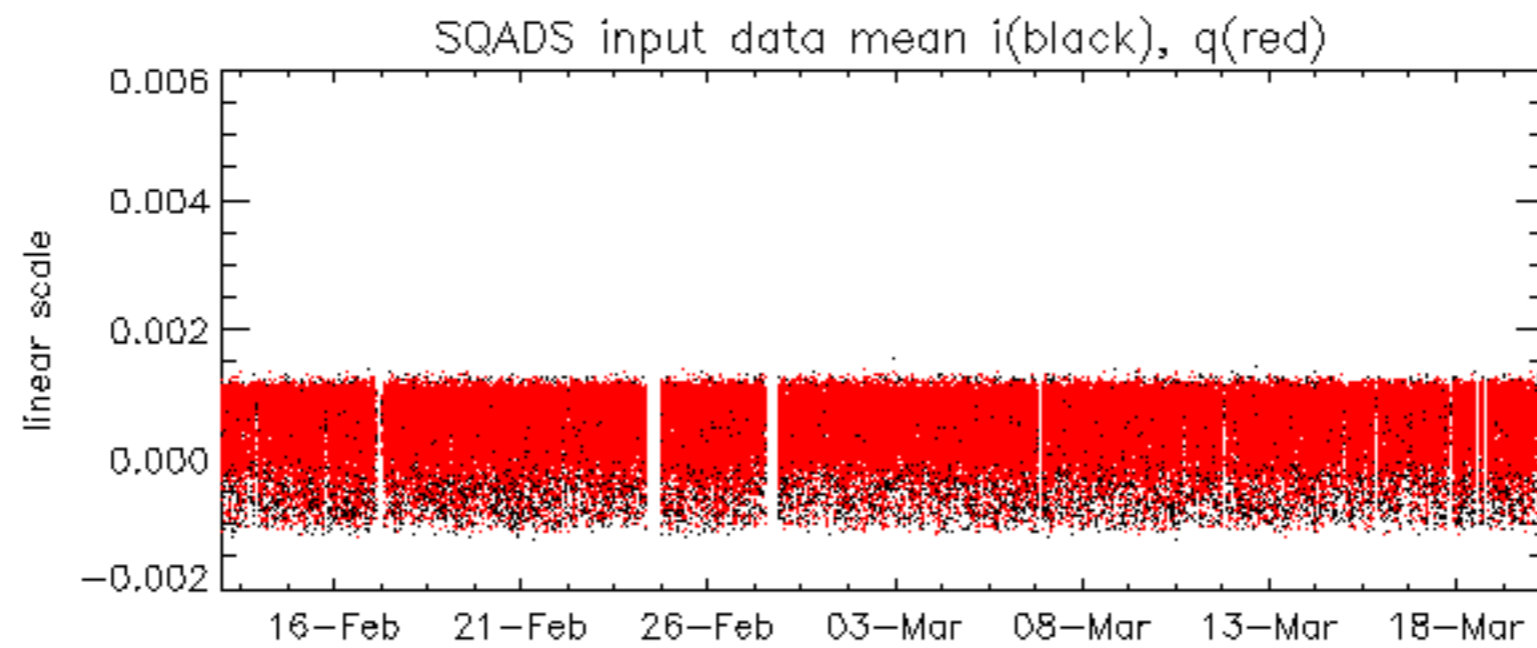
No anomalies observed.

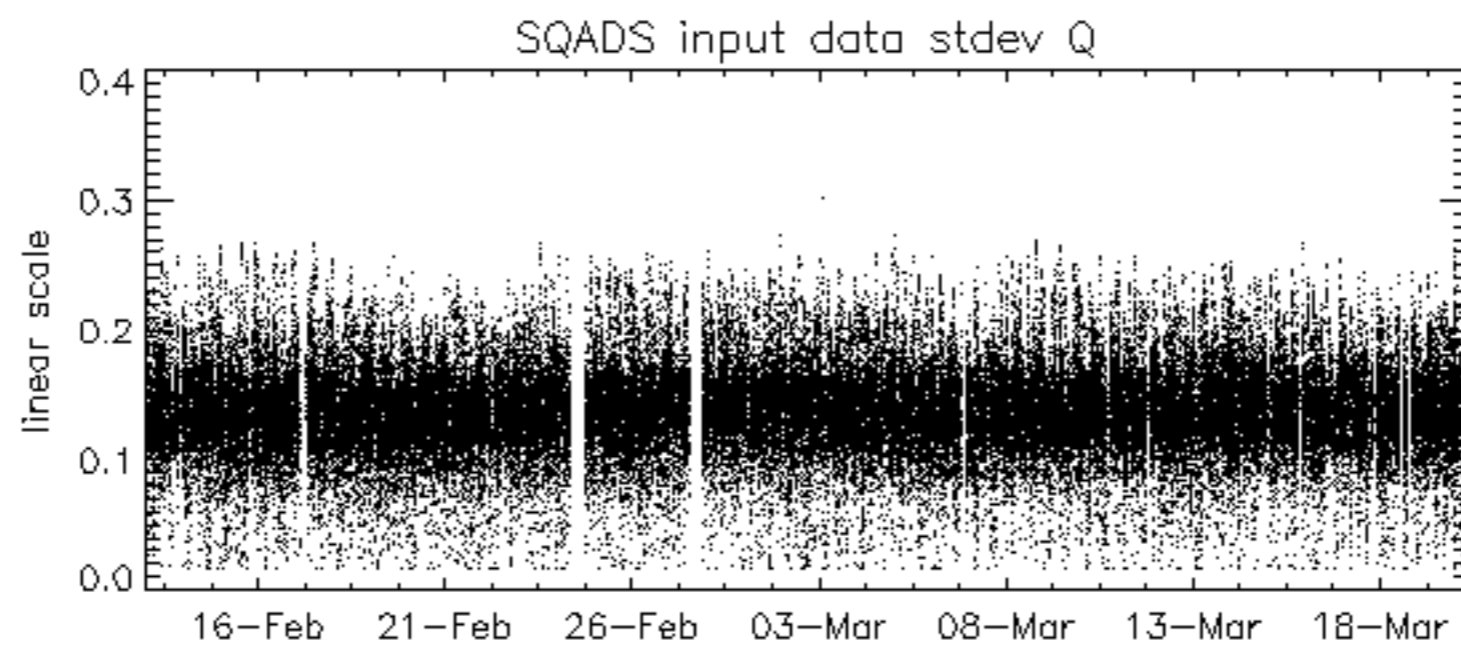
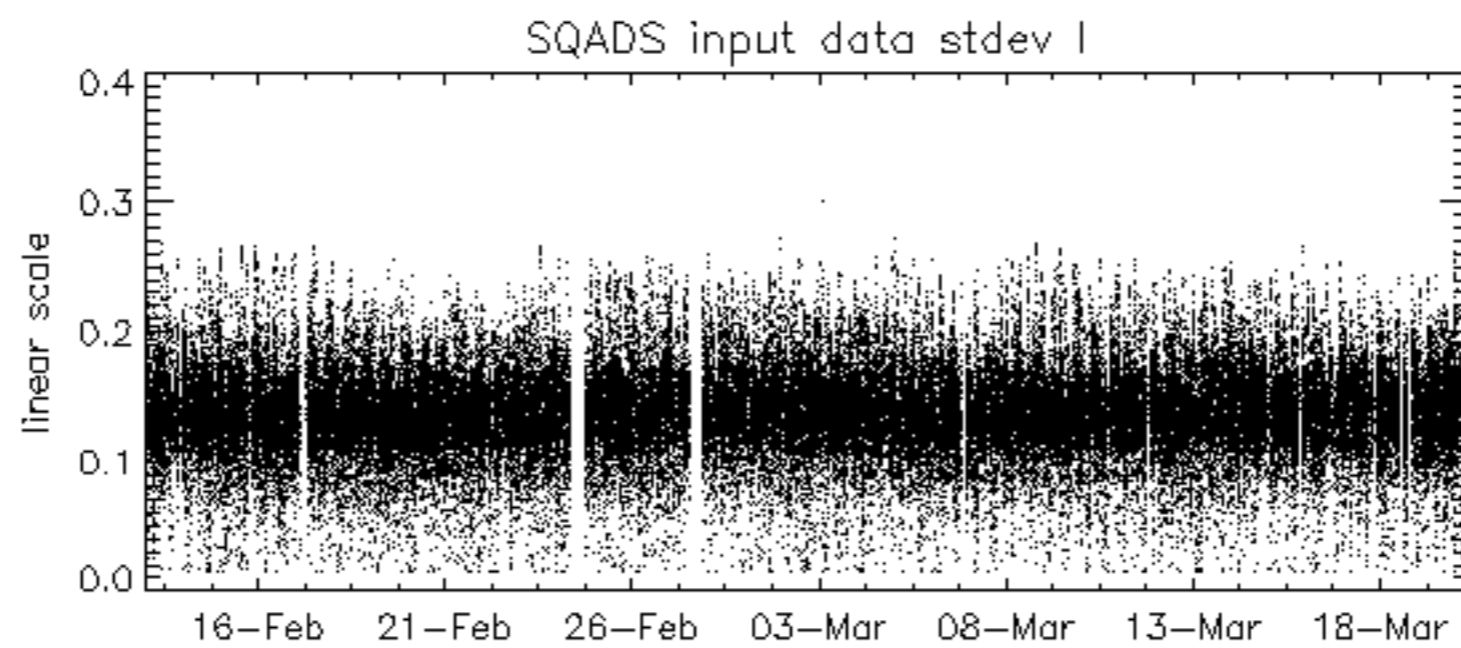
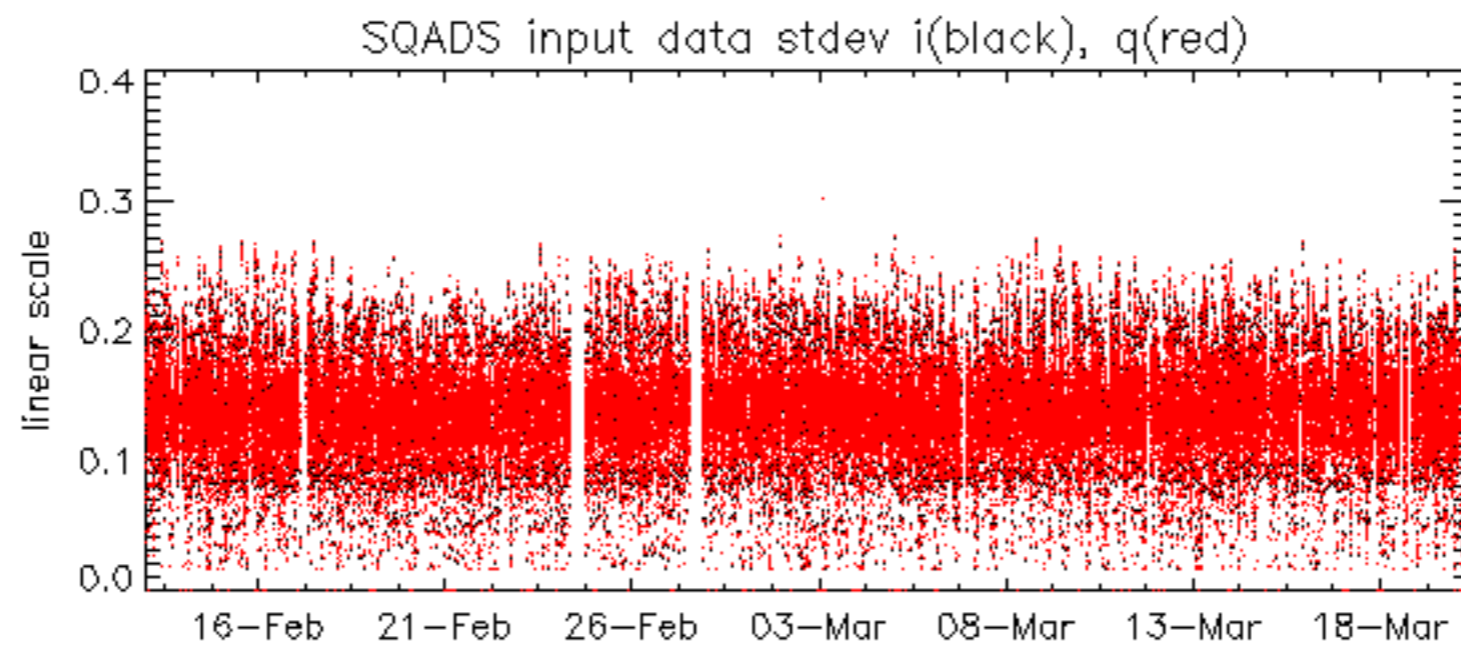
Reference: 2001-02-09 13:50:42 H RxGain

Test : 2006-03-20 09:21:59 H





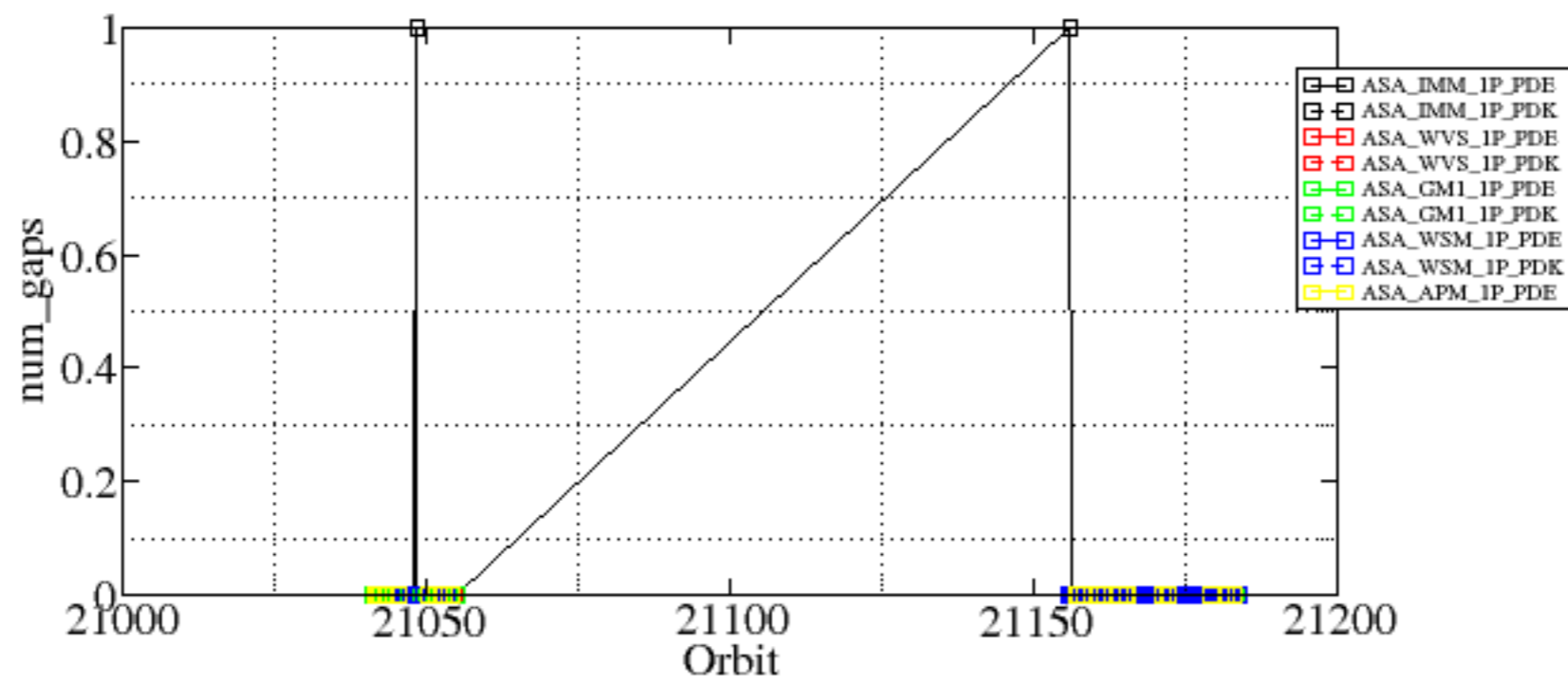


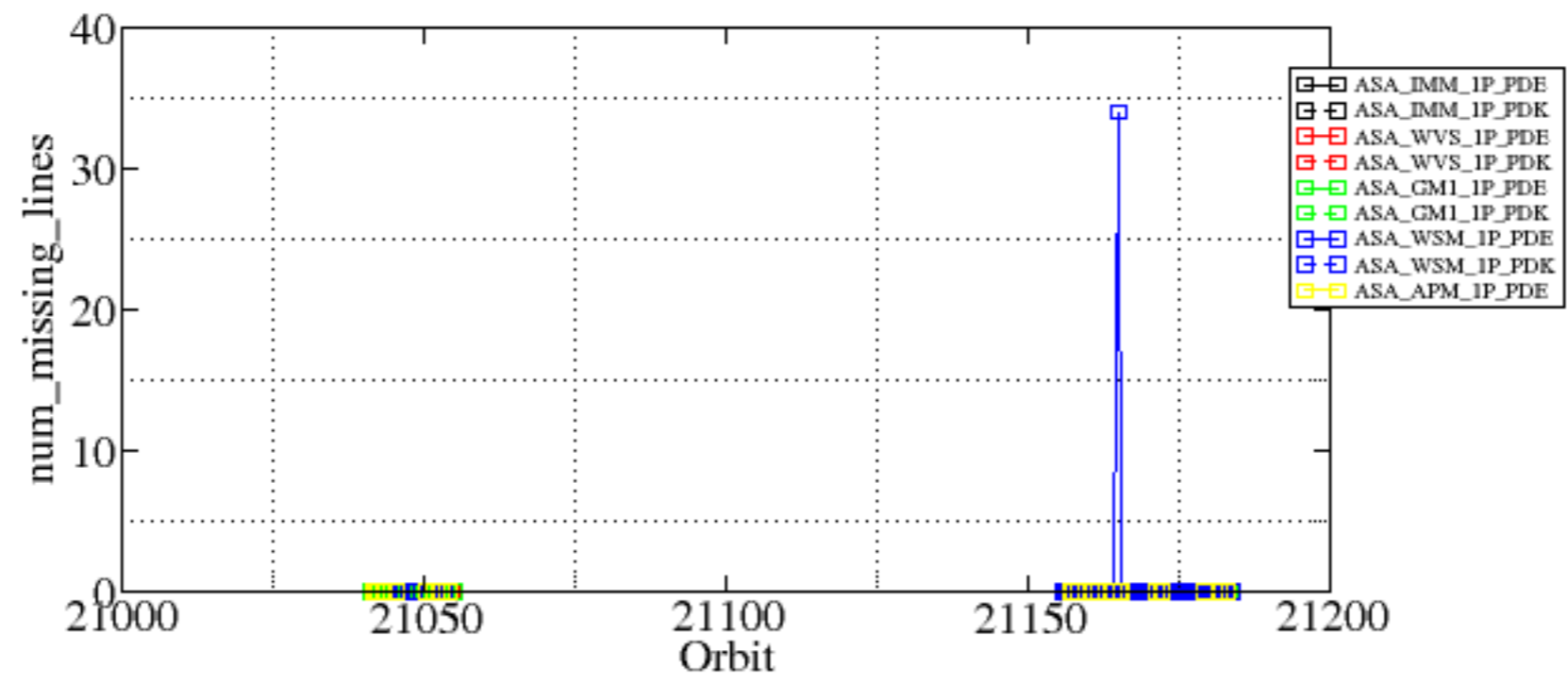


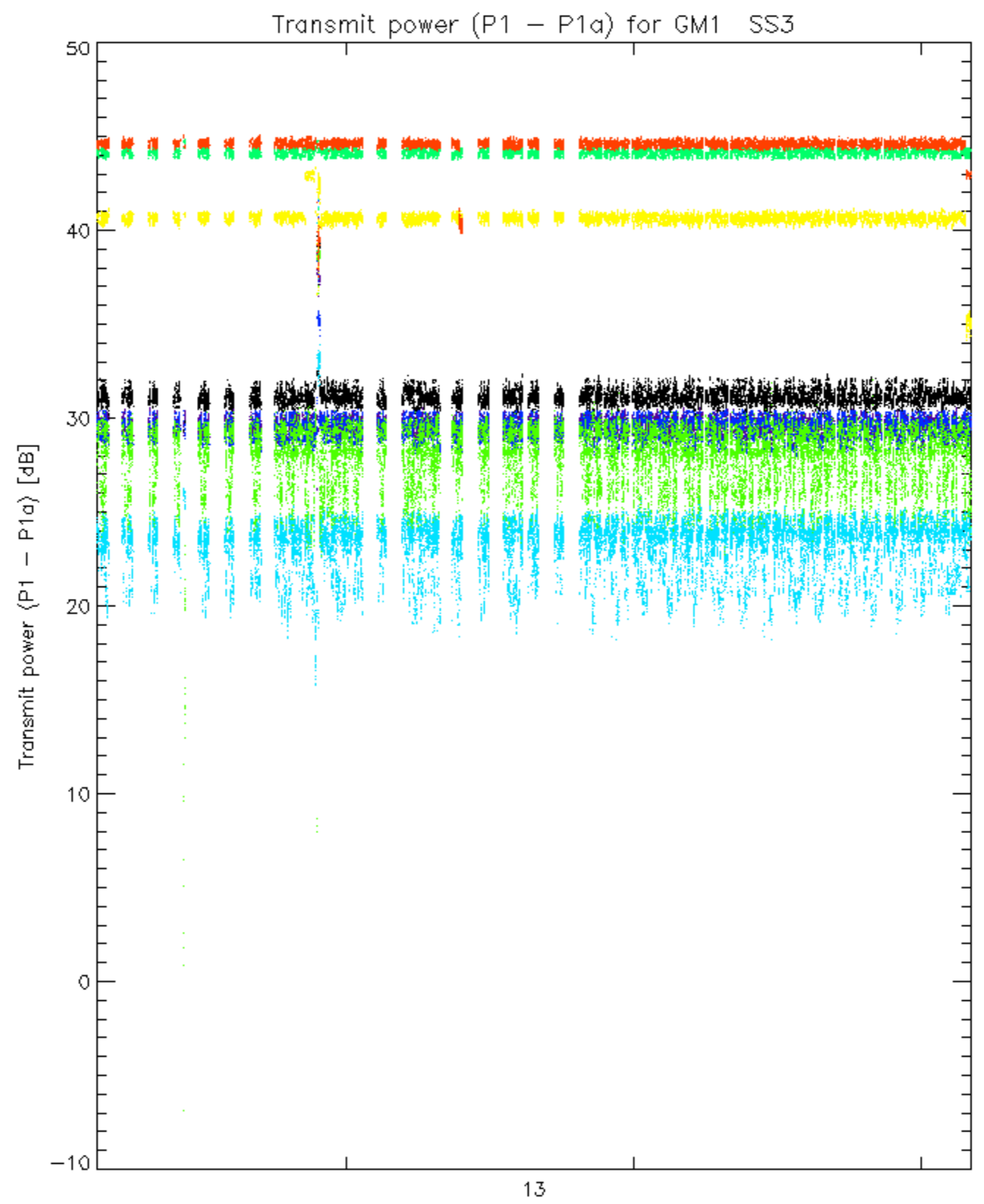
Summary of analysis for the last 3 days 2006031[890]

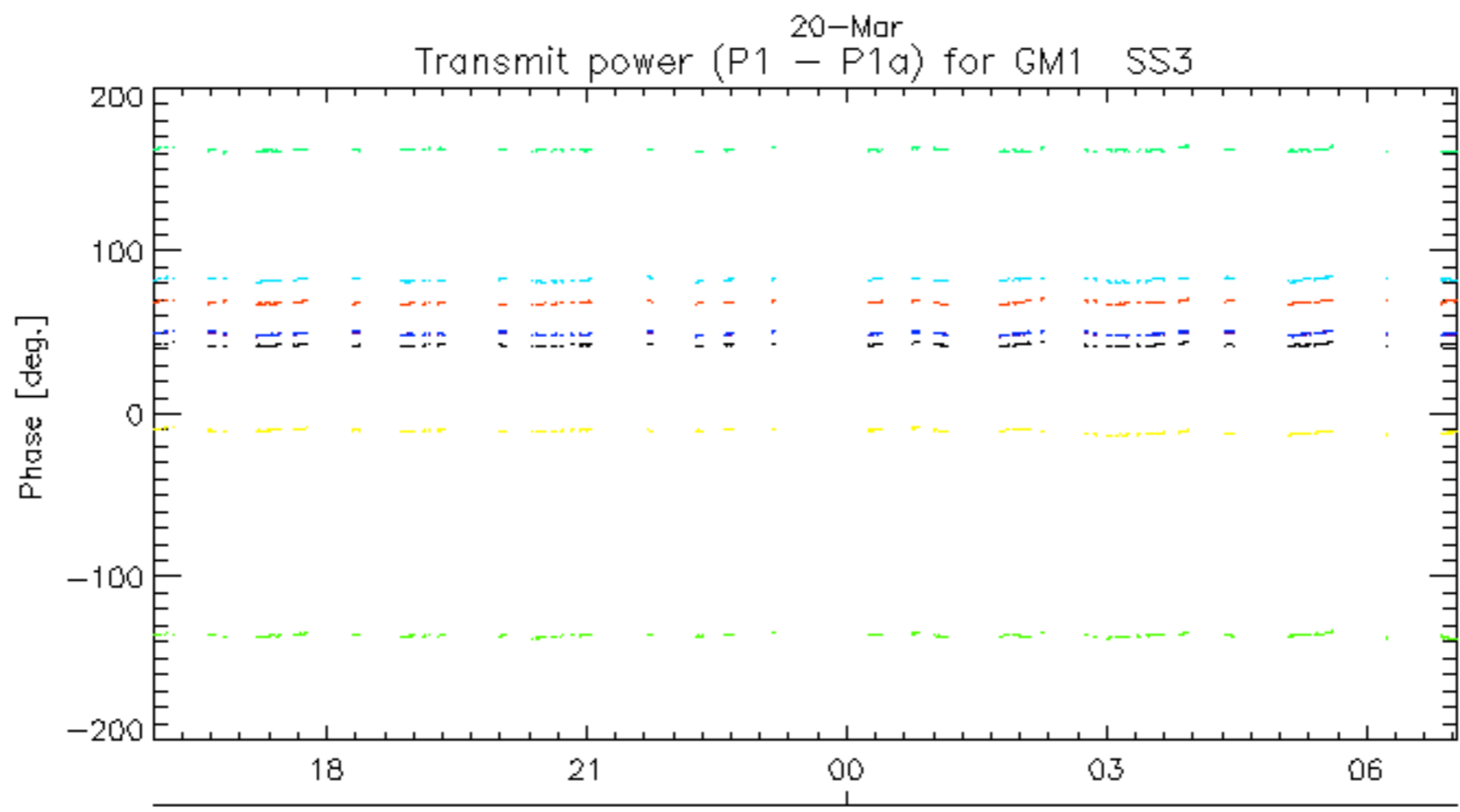
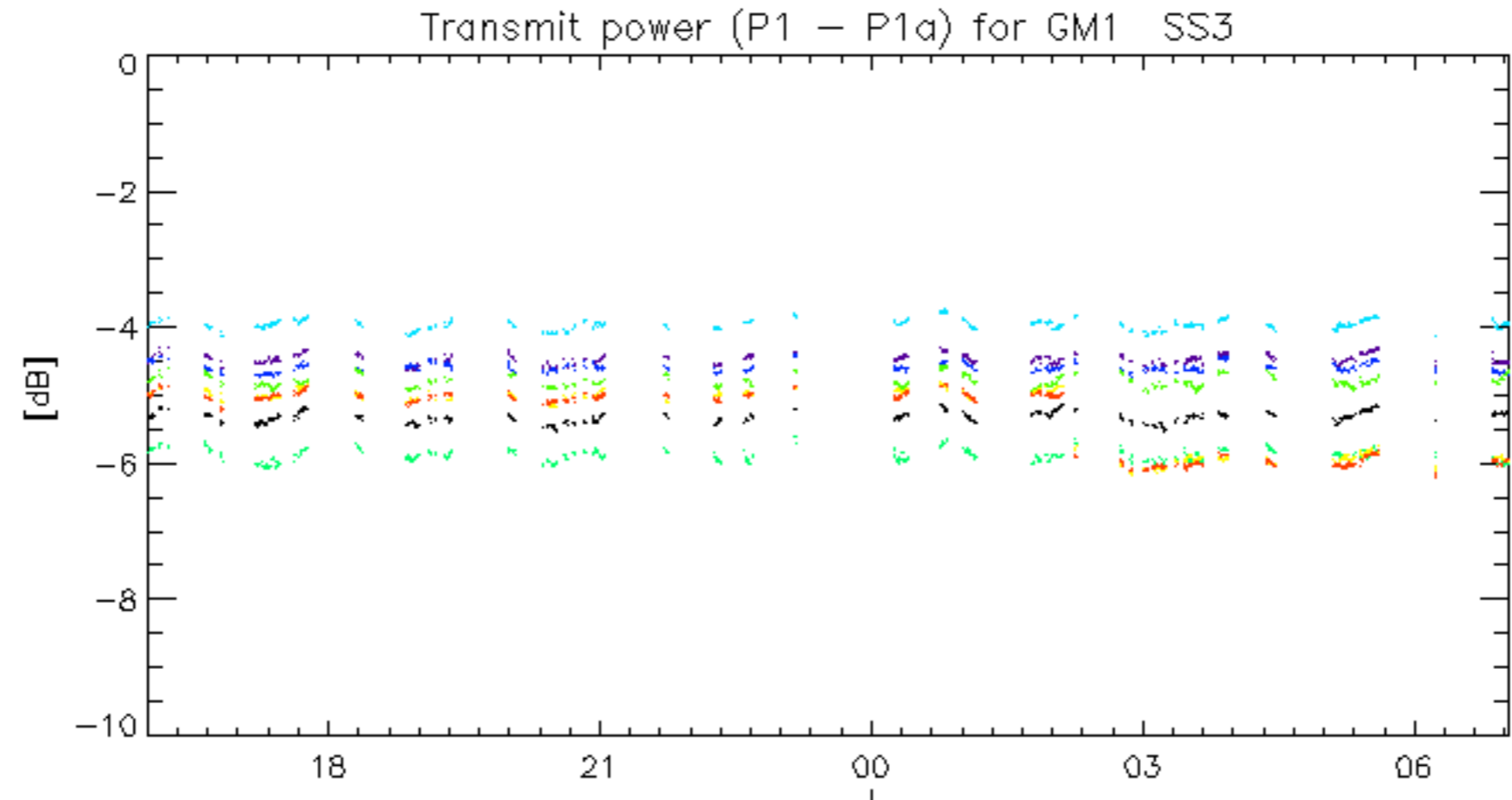
The assumption is taken that the SQADS num_gaps and num_missing_lines fields are reliable indicators of telemetry problems

| Filename | num_gaps | num_missing_lines |
|----------------------------------------------------------------|----------|-------------------|
| ASA_IMM_1PNPDE20060310_124102_000000362045_00453_21048_0326.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20060318_005019_000002372046_00059_21155_1081.N1 | 1 | 0 |
| ASA_WSM_1PNPDE20060318_160549_000002022046_00069_21165_1344.N1 | 0 | 34 |

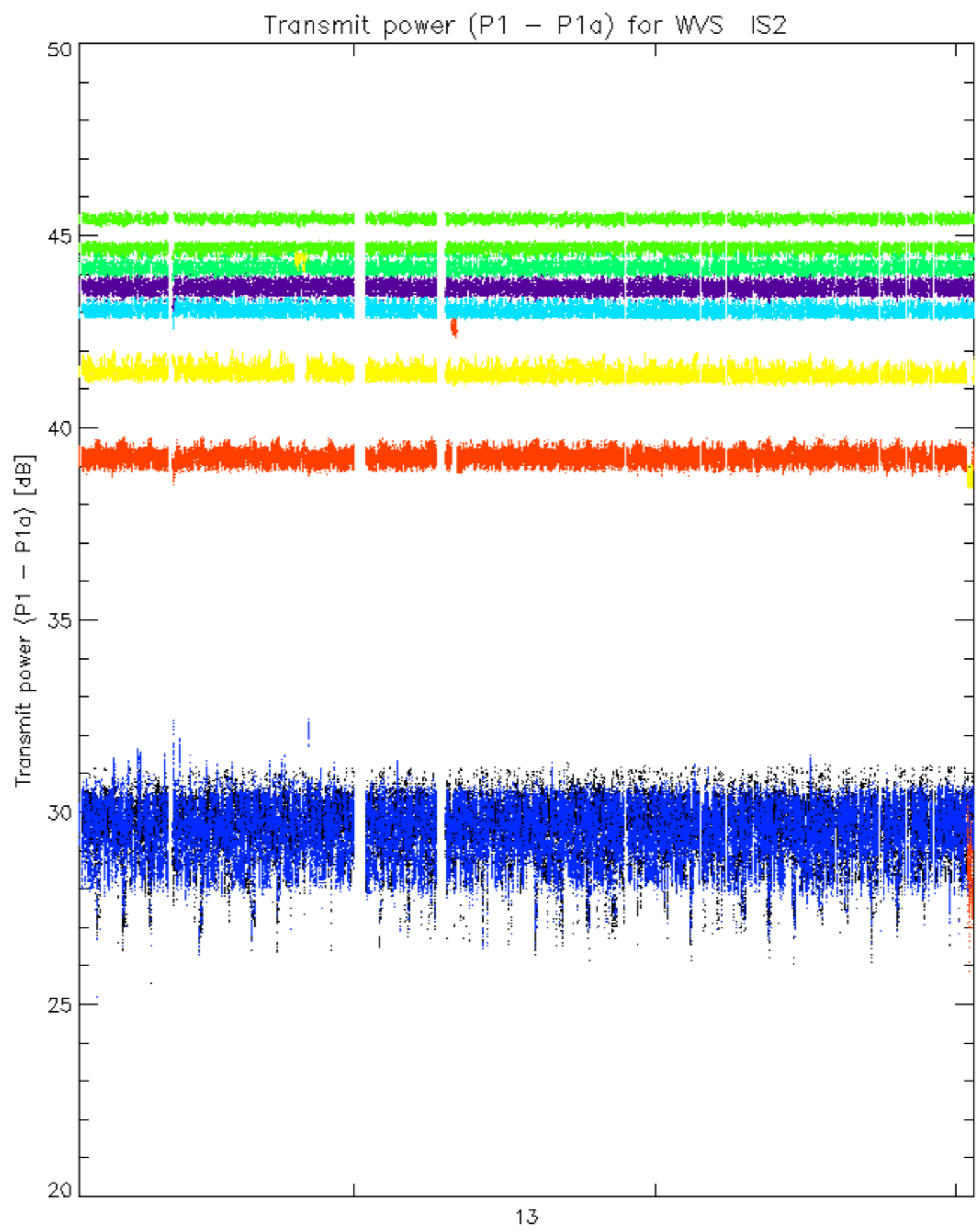




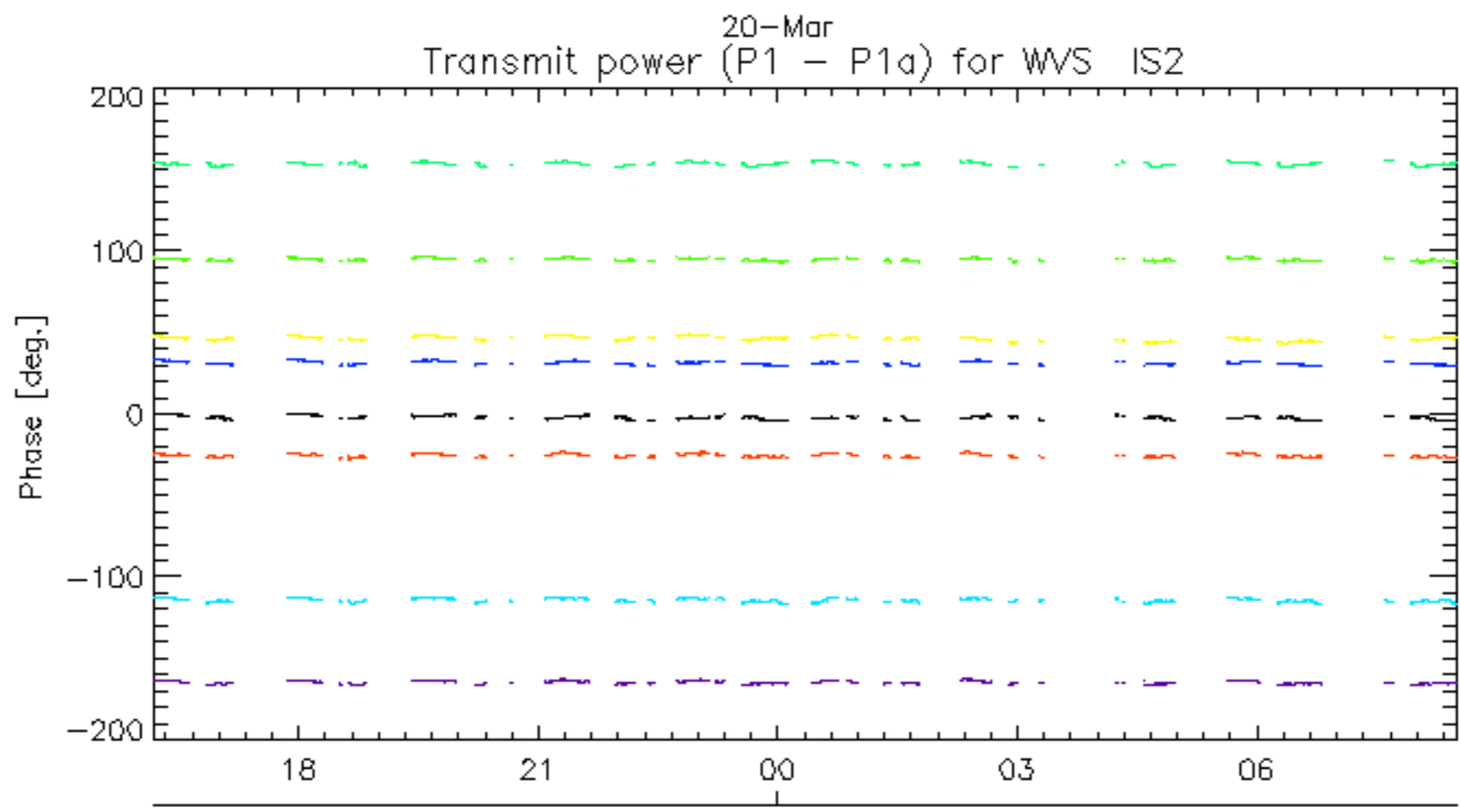
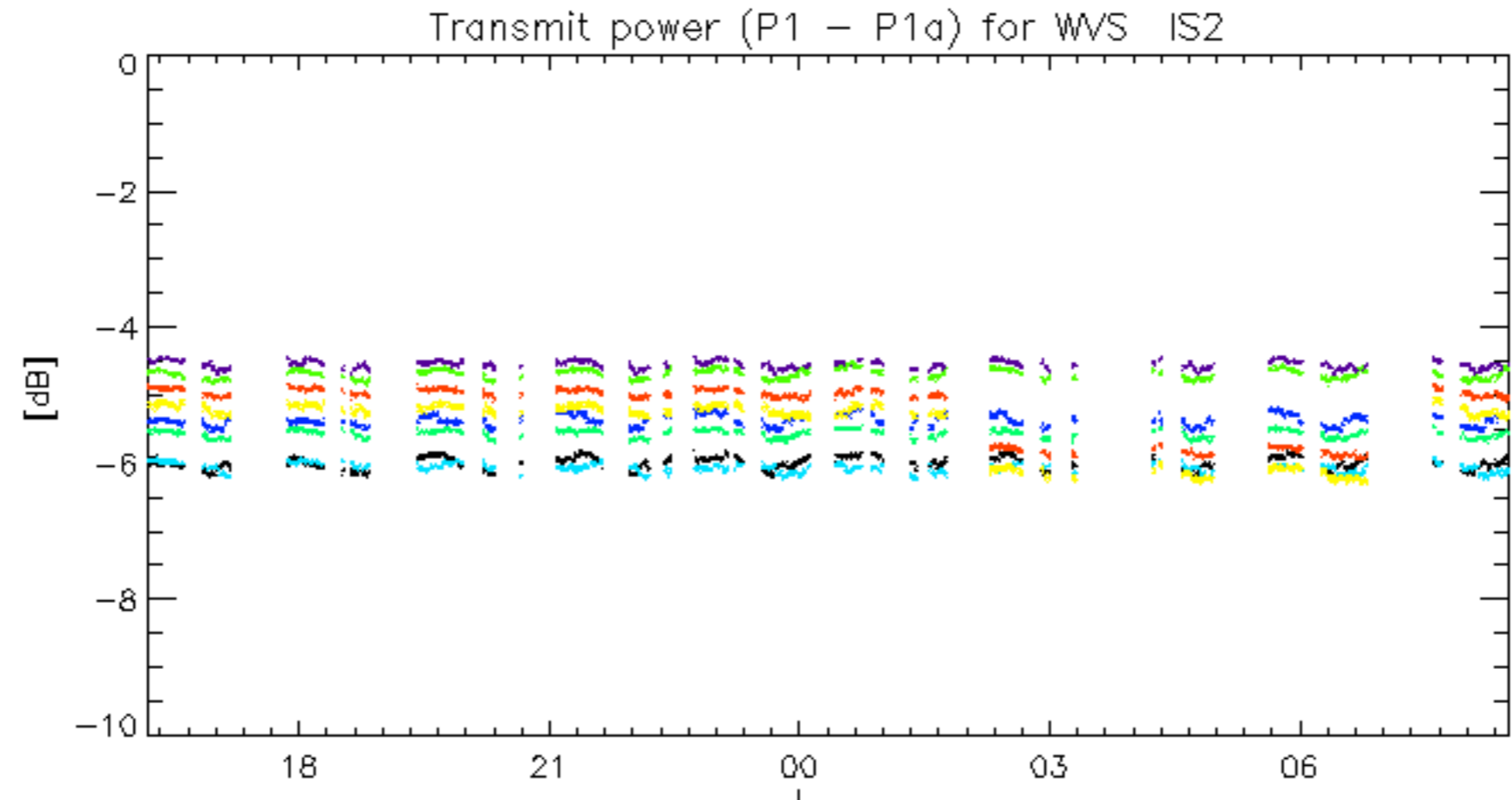




rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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



rows: 3 7 11 15 19 22 26 30

No unavailabilities during the reported period.