

PRELIMINARY REPORT OF 060731

last update on Mon Jul 31 16:33:23 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 2006-07-30 00:00:00 to 2006-07-31 16:33:24

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

| | | | | | |
|---|----|----|----|---|----|
| ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000 | 40 | 73 | 16 | 7 | 12 |
| ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000 | 40 | 73 | 16 | 7 | 12 |
| ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000 | 40 | 73 | 16 | 7 | 12 |
| ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 | 40 | 73 | 16 | 7 | 12 |

| PDHS-E | | | | | |
|---|-----|-----|-----|-----|-----|
| AUXILIARY FILE | WVS | GM1 | IMM | APM | WSM |
| ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000 | 38 | 52 | 43 | 25 | 58 |
| ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000 | 38 | 52 | 43 | 25 | 58 |
| ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000 | 38 | 52 | 43 | 25 | 58 |
| ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000 | 38 | 52 | 43 | 25 | 58 |

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 | 20060729 204909 |
| H | 20060730 183656 |

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 | -3.935645 | 0.011565 | -0.025317 |
| 7 | P1 | -3.099610 | 0.010336 | 0.011498 |
| 11 | P1 | -4.085351 | 0.013674 | 0.003563 |
| 15 | P1 | -6.173716 | 0.011411 | -0.006739 |
| 19 | P1 | -3.404644 | 0.009912 | -0.053136 |
| 22 | P1 | -4.550907 | 0.010222 | -0.030075 |
| 26 | P1 | -3.926937 | 0.020058 | 0.030450 |
| 30 | P1 | -5.762738 | 0.009383 | -0.002809 |
| 3 | P1 | -16.518694 | 0.303804 | -0.054177 |
| 7 | P1 | -17.192305 | 0.102985 | -0.015880 |
| 11 | P1 | -16.979660 | 0.278985 | 0.008871 |
| 15 | P1 | -13.103658 | 0.147500 | 0.053870 |
| 19 | P1 | -14.462055 | 0.054067 | -0.115163 |
| 22 | P1 | -16.013426 | 0.426051 | 0.030403 |
| 26 | P1 | -15.118329 | 0.238338 | 0.081879 |
| 30 | P1 | -17.102921 | 0.348055 | -0.039890 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -20.967121 | 0.087592 | 0.137408 |
| 7 | P2 | -21.909519 | 0.104728 | 0.084309 |
| 11 | P2 | -15.789650 | 0.120940 | 0.060586 |
| 15 | P2 | -7.128096 | 0.099907 | 0.023345 |
| 19 | P2 | -9.132653 | 0.091114 | 0.011658 |
| 22 | P2 | -18.149822 | 0.086153 | -0.000947 |
| 26 | P2 | -16.400257 | 0.092787 | -0.014572 |
| 30 | P2 | -19.519051 | 0.092736 | 0.041913 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.174538 | 0.003028 | 0.002353 |
| 7 | P3 | -8.174538 | 0.003028 | 0.002353 |
| 11 | P3 | -8.174538 | 0.003028 | 0.002353 |
| 15 | P3 | -8.174538 | 0.003028 | 0.002353 |
| 19 | P3 | -8.174538 | 0.003028 | 0.002353 |
| 22 | P3 | -8.174538 | 0.003028 | 0.002353 |
| 26 | P3 | -8.174538 | 0.003028 | 0.002353 |
| 30 | P3 | -8.174538 | 0.003028 | 0.002353 |

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 | -3.810646 | 0.022546 | -0.070770 |
| 7 | P1 | -2.557291 | 0.008001 | 0.027211 |
| 11 | P1 | -2.856395 | 0.014291 | 0.018811 |
| 15 | P1 | -3.570469 | 0.029194 | -0.028775 |
| 19 | P1 | -3.422774 | 0.024775 | -0.028840 |
| 22 | P1 | -5.087843 | 0.019899 | 0.022520 |
| 26 | P1 | -5.861135 | 0.015935 | -0.017511 |
| 30 | P1 | -5.195531 | 0.032980 | -0.017245 |
| 3 | P1 | -11.597046 | 0.078094 | -0.090641 |
| 7 | P1 | -9.967558 | 0.034335 | 0.027450 |
| 11 | P1 | -10.248703 | 0.056289 | -0.001036 |
| 15 | P1 | -10.751843 | 0.143776 | 0.017175 |
| 19 | P1 | -15.555527 | 0.508352 | -0.123998 |
| 22 | P1 | -20.911346 | 1.238153 | 0.007415 |

| | | | | |
|----|----|------------|----------|-----------|
| 26 | P1 | -16.285152 | 0.381109 | 0.196180 |
| 30 | P1 | -17.921356 | 0.409402 | -0.136587 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -16.606407 | 0.071466 | 0.195477 |
| 7 | P2 | -22.387186 | 0.124795 | 0.138201 |
| 11 | P2 | -11.044766 | 0.041753 | 0.073661 |
| 15 | P2 | -4.909586 | 0.045572 | 0.031257 |
| 19 | P2 | -6.872292 | 0.041042 | 0.026626 |
| 22 | P2 | -8.195423 | 0.036606 | 0.015683 |
| 26 | P2 | -24.181671 | 0.061310 | 0.023685 |
| 30 | P2 | -22.010160 | 0.049557 | 0.048126 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.013483 | 0.003752 | 0.009030 |
| 7 | P3 | -8.013497 | 0.003750 | 0.009148 |
| 11 | P3 | -8.013383 | 0.003764 | 0.008655 |
| 15 | P3 | -8.013439 | 0.003758 | 0.008965 |
| 19 | P3 | -8.013449 | 0.003758 | 0.009110 |
| 22 | P3 | -8.013572 | 0.003748 | 0.008670 |
| 26 | P3 | -8.013478 | 0.003748 | 0.008845 |
| 30 | P3 | -8.013462 | 0.003753 | 0.009028 |

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 | 0.000563389 |
| | stdev | 1.69356e-07 |
| MEAN Q | mean | 0.000536782 |
| | stdev | 2.14596e-07 |



5.2 - Input stdev I/Q

| channel | stat | DSS-B |
|---------|-------|------------|
| STDEV I | mean | 0.137725 |
| | stdev | 0.00110497 |
| STDEV Q | mean | 0.138085 |
| | stdev | 0.00112293 |



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2006073[901]

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_1PNPDE20060730_004000_000001542049_00474_23073_2510.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20060730_005617_000000362049_00475_23074_2509.N1 | 1 | 0 |
| ASA_WSM_1PNPDE20060730_113206_000001042049_00481_23080_4951.N1 | 0 | 2 |





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 |

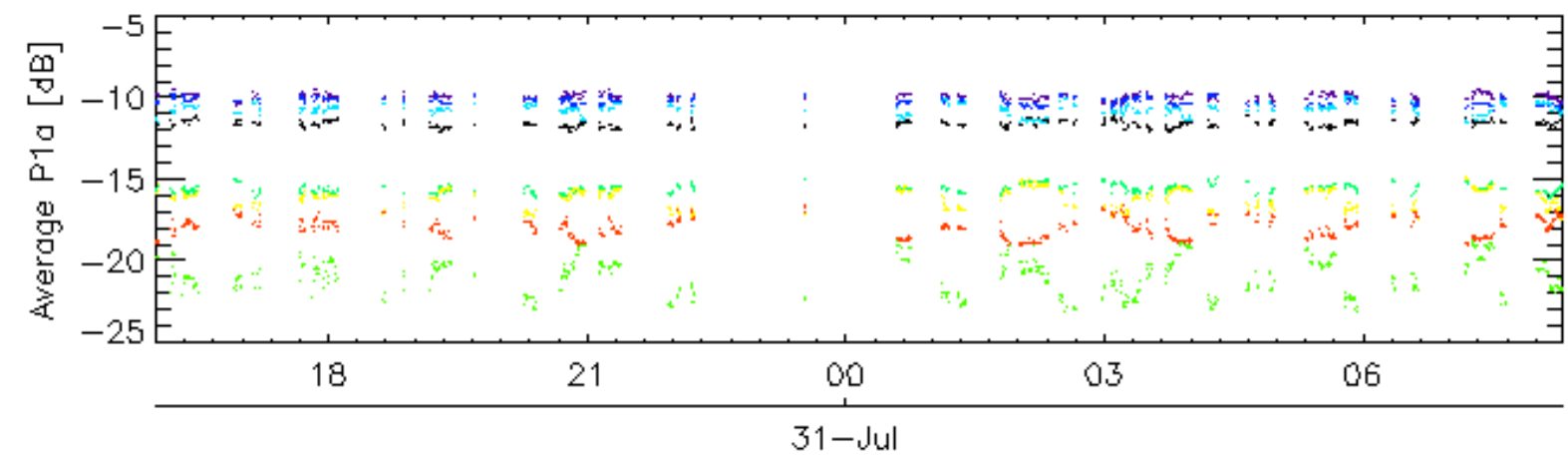
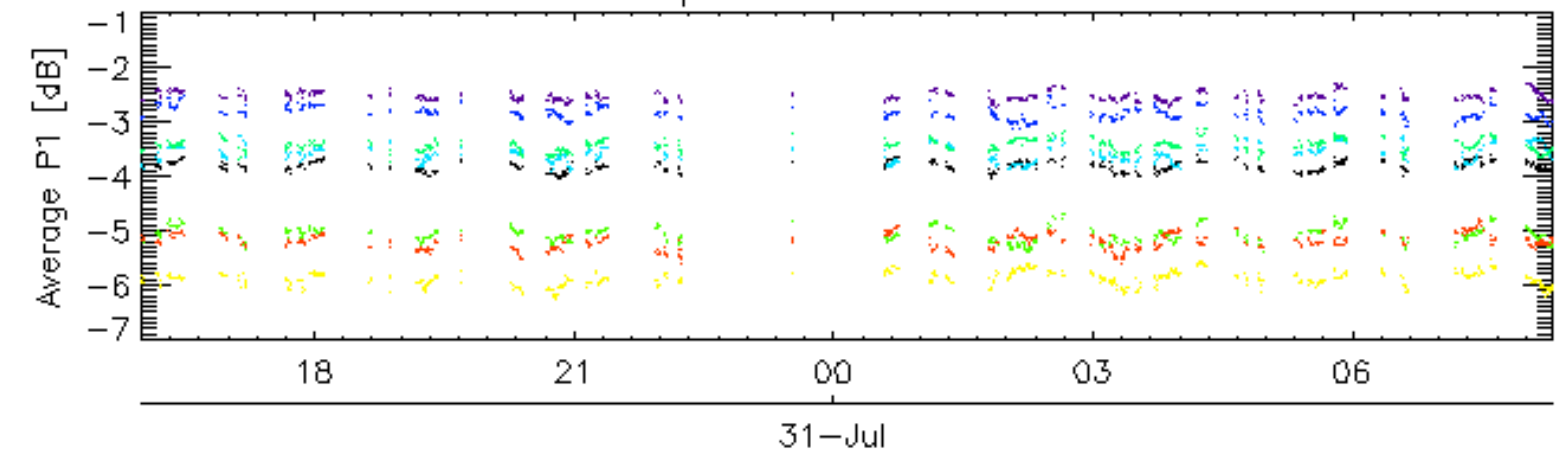
7.5 - Absolute Doppler for GM1

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

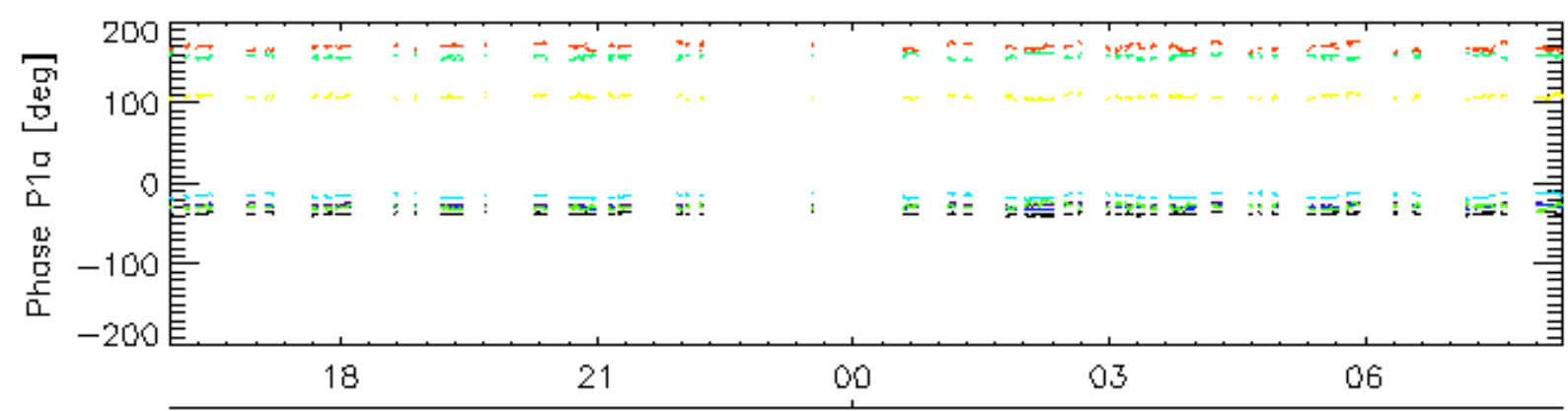
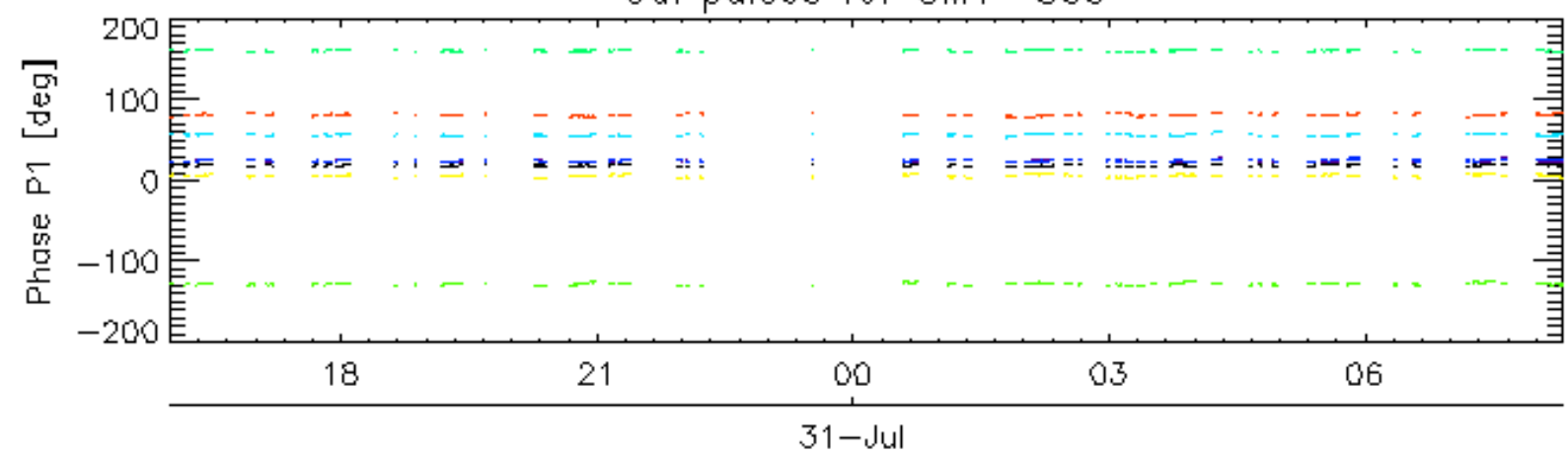
7.6 - Doppler evolution versus ANX for GM1

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

Cal pulses for GM1 SS3

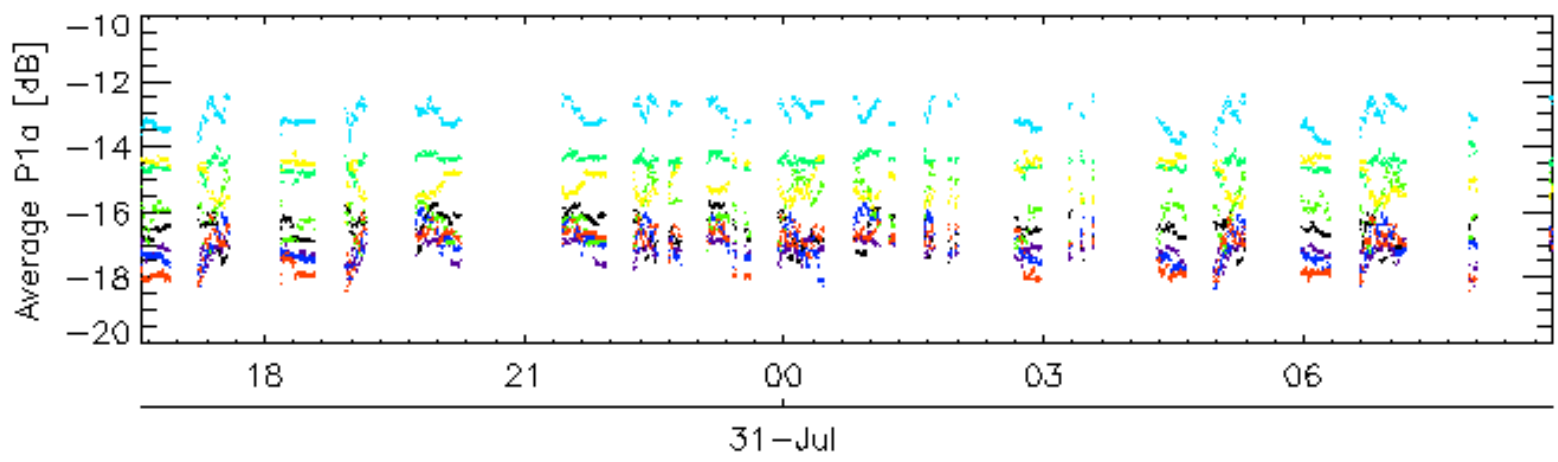
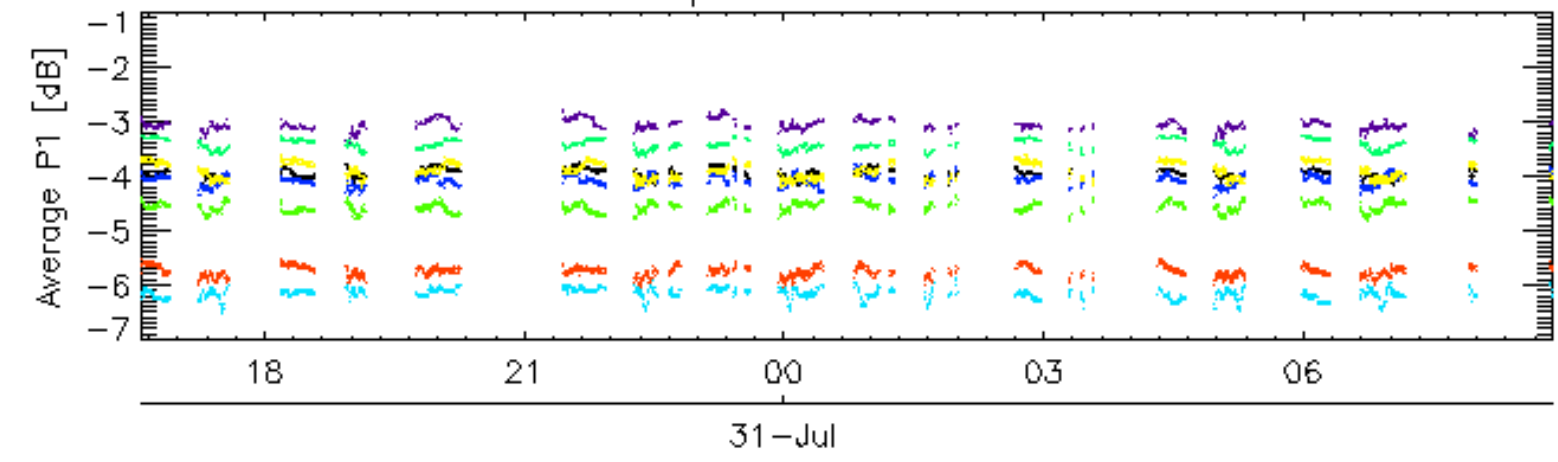


Cal pulses for GM1 SS3

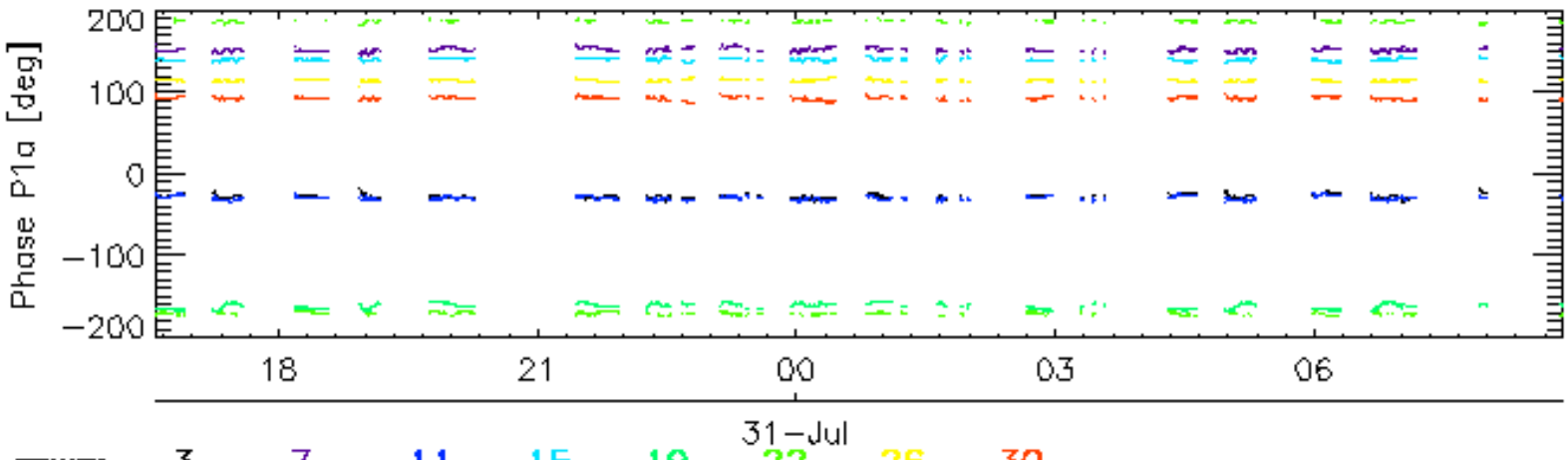
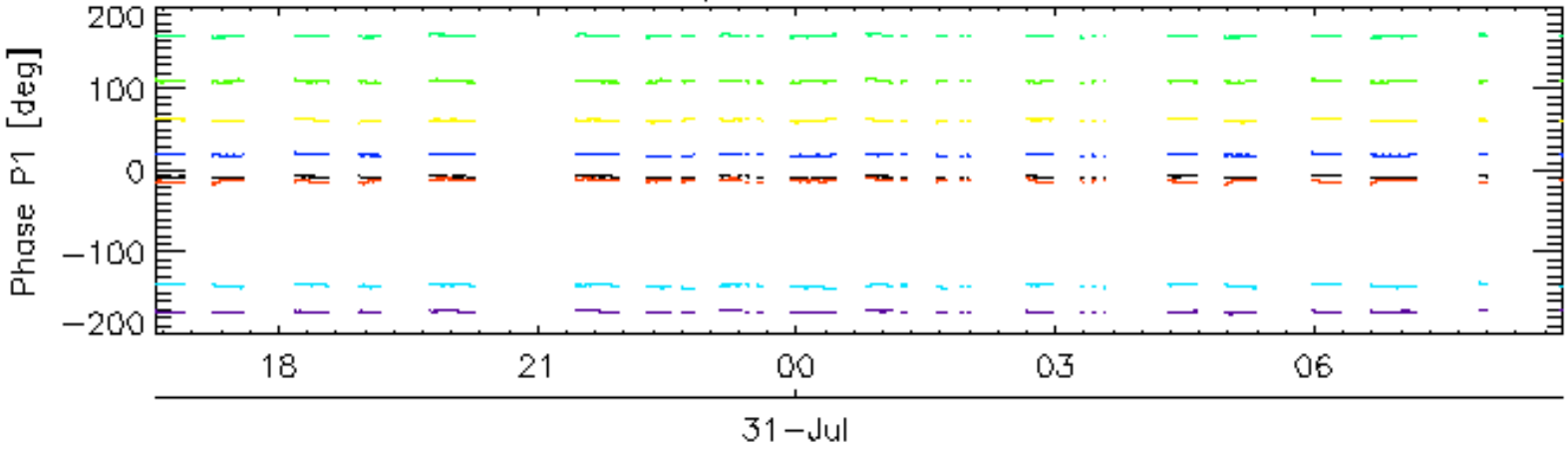


rows: 3 7 11 15 19 22 26 30

Cal pulses for WVS IS2

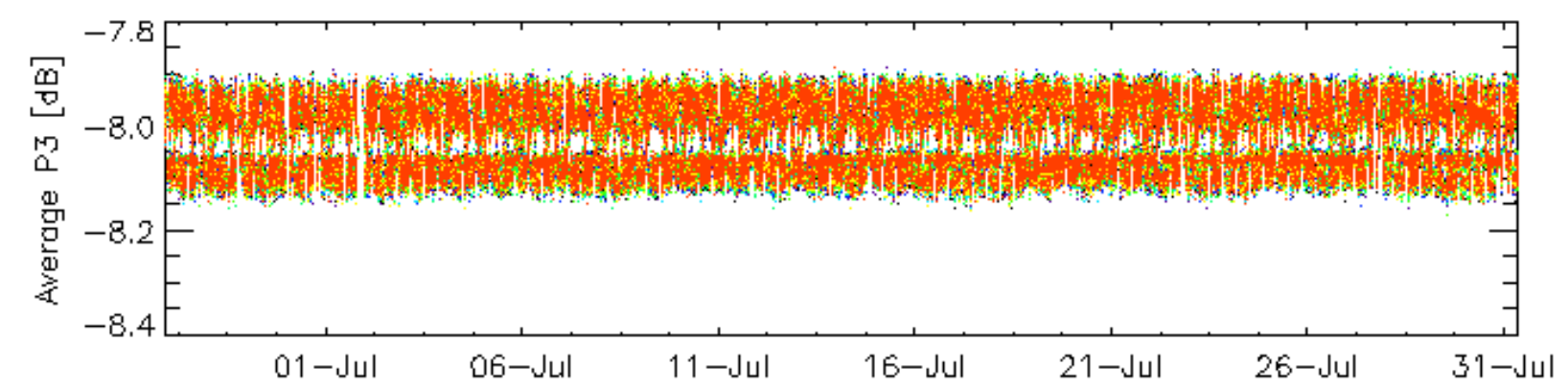
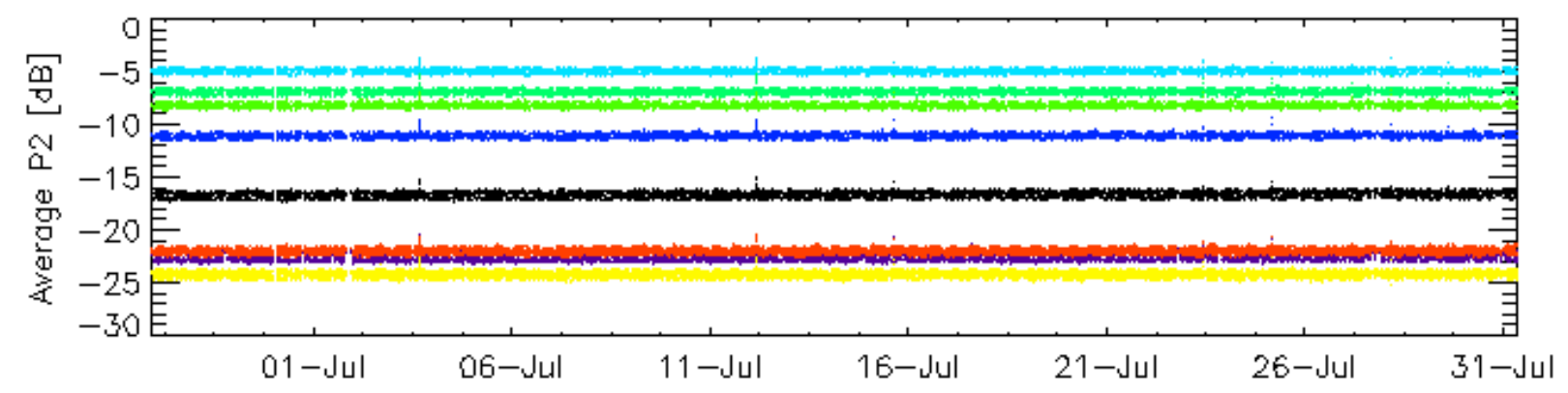
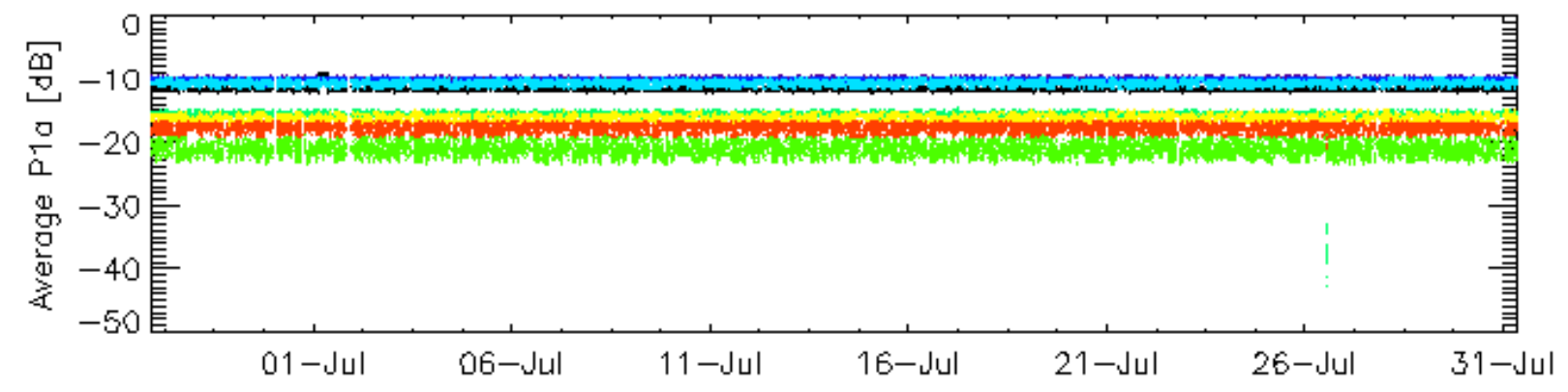
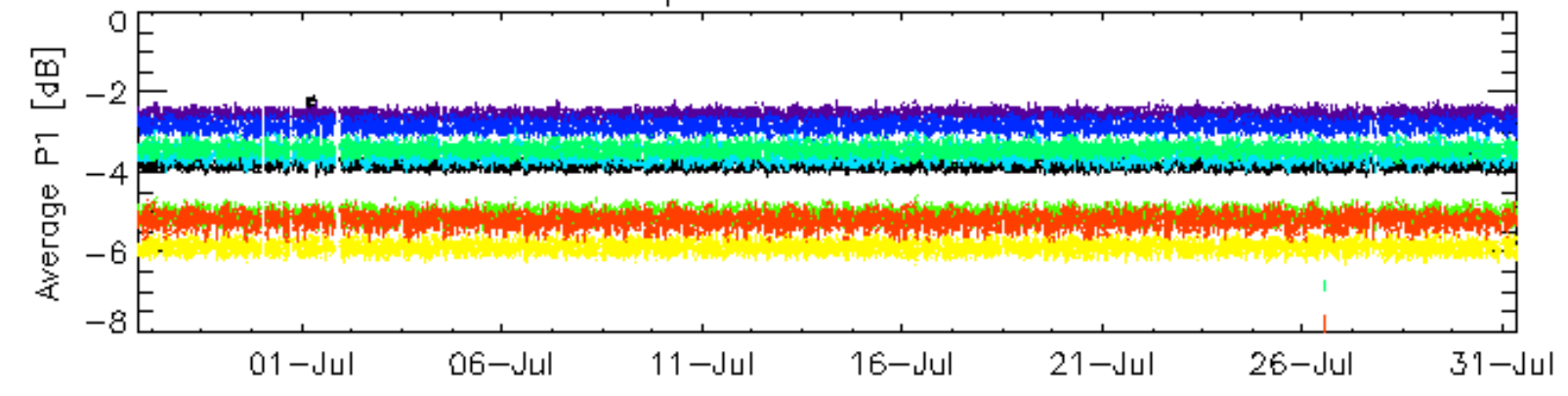


Cal pulses for WVS IS2



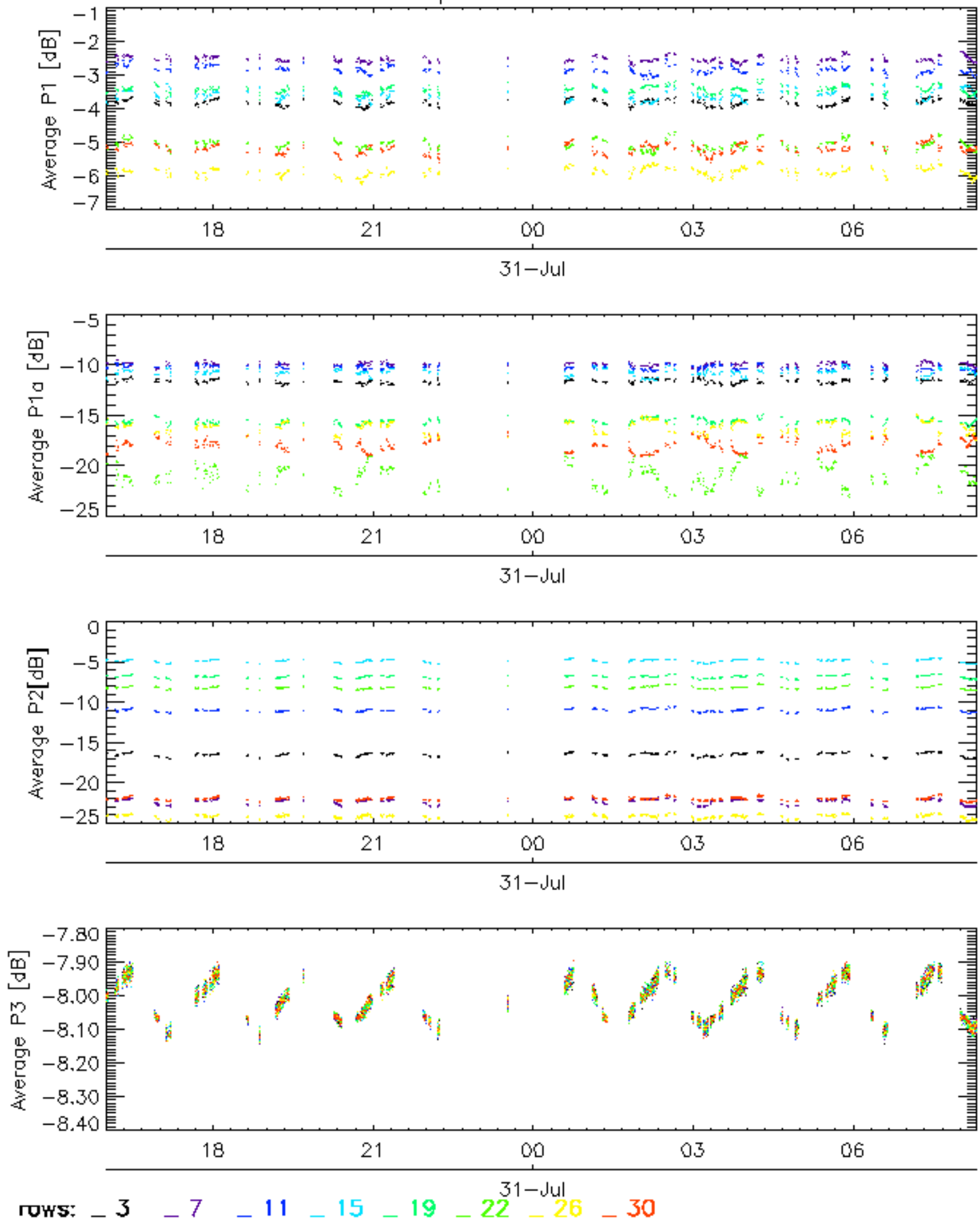
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

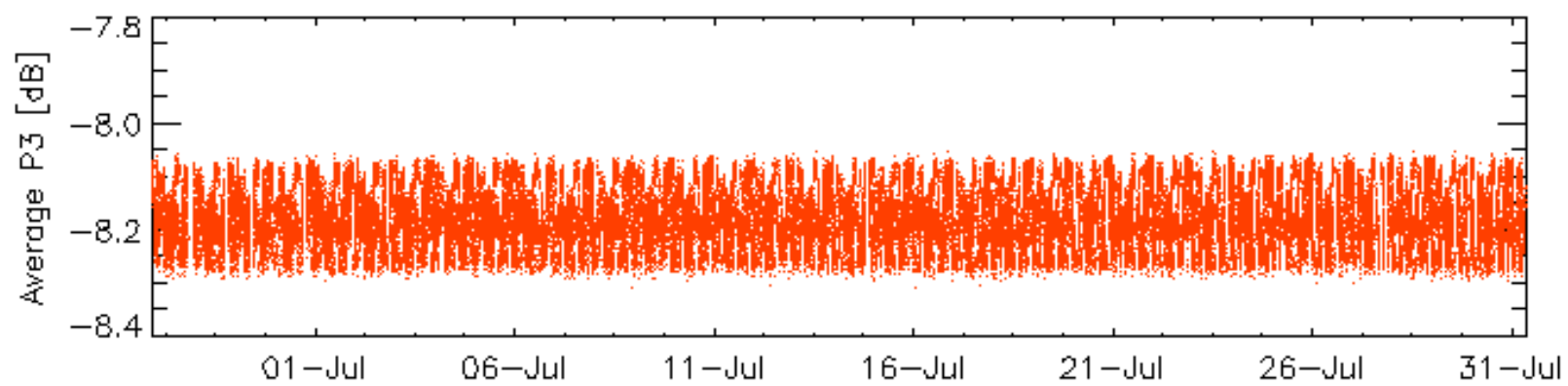
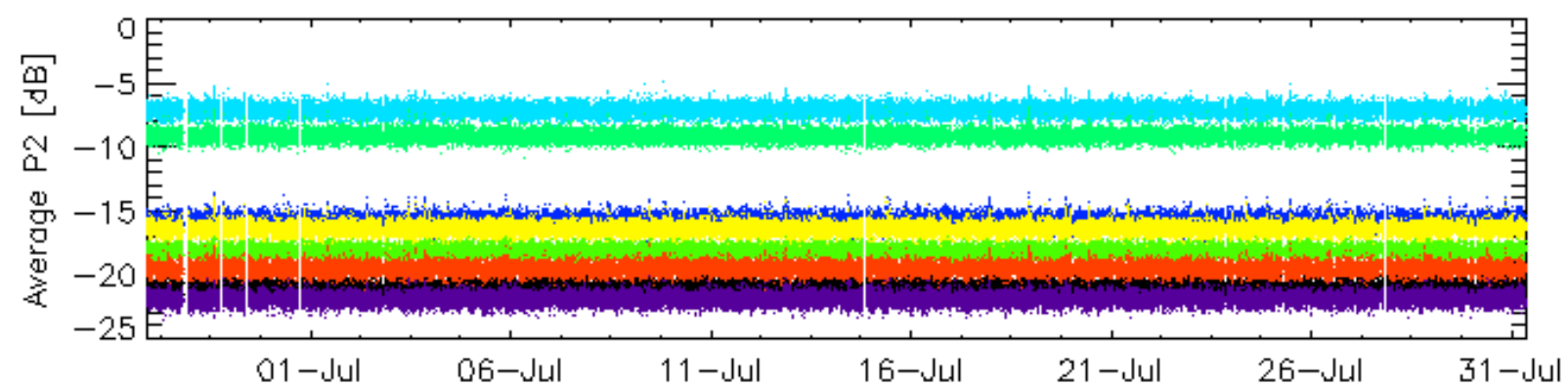
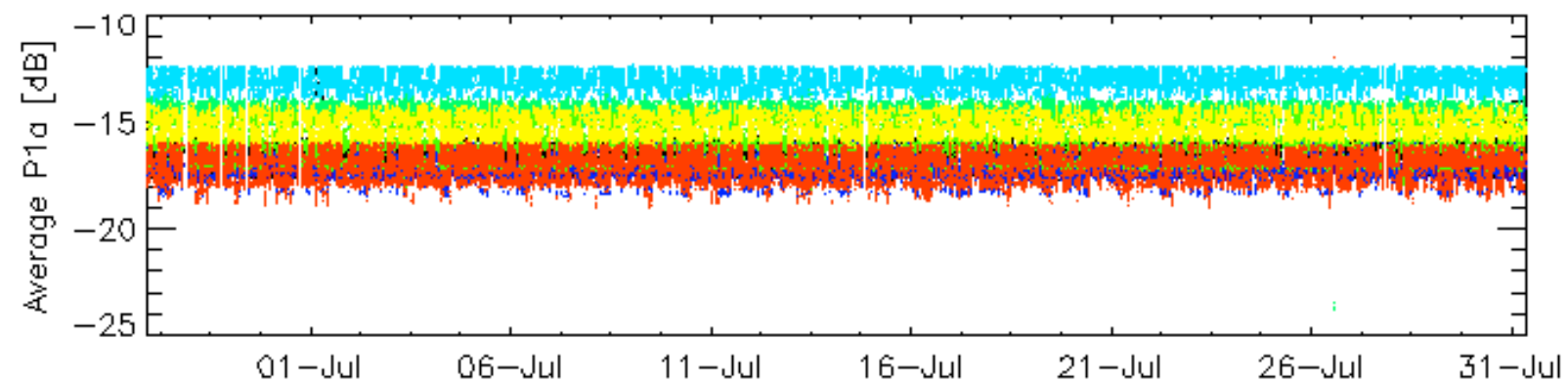
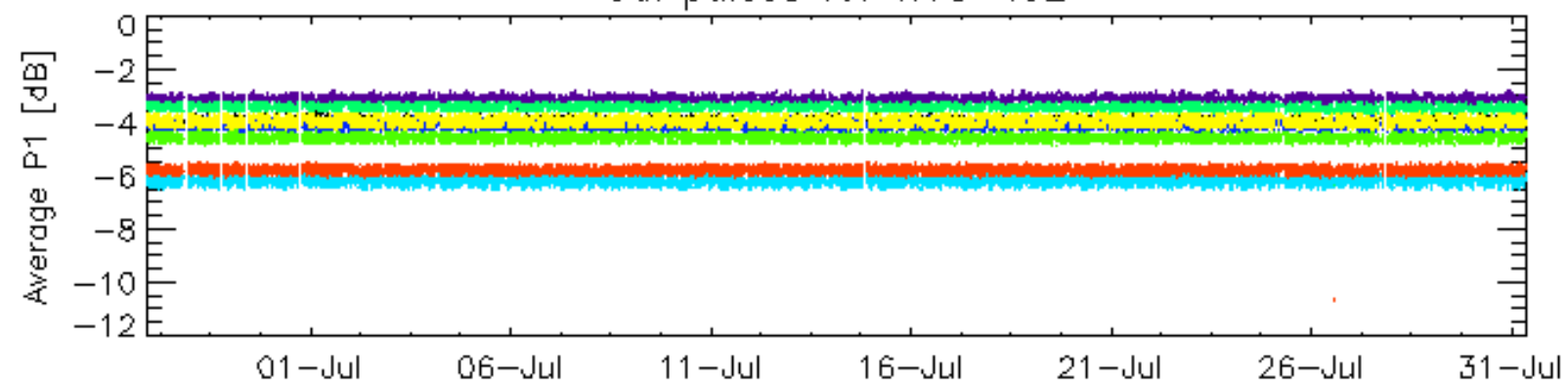


rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3

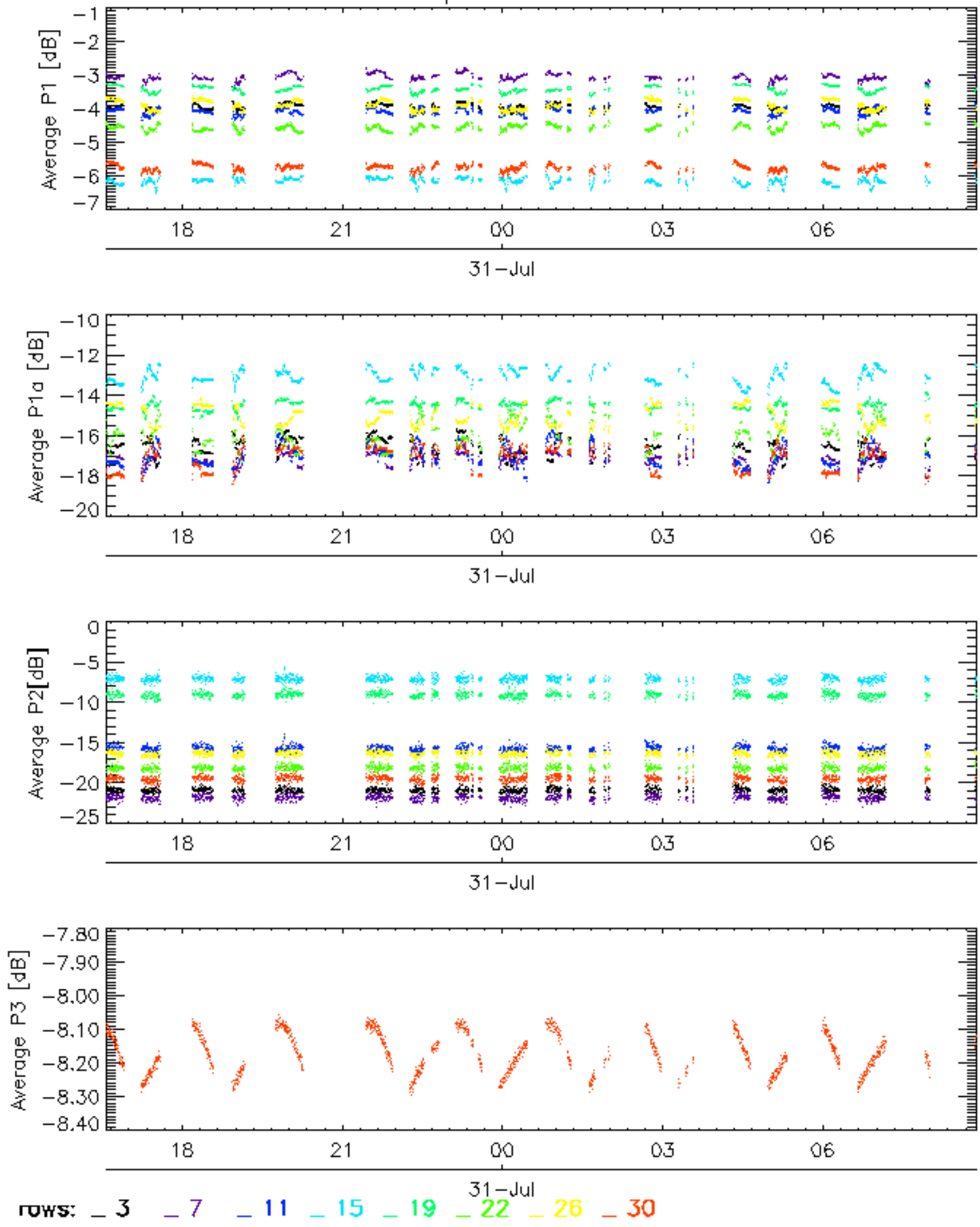


Cal pulses for WVS IS2



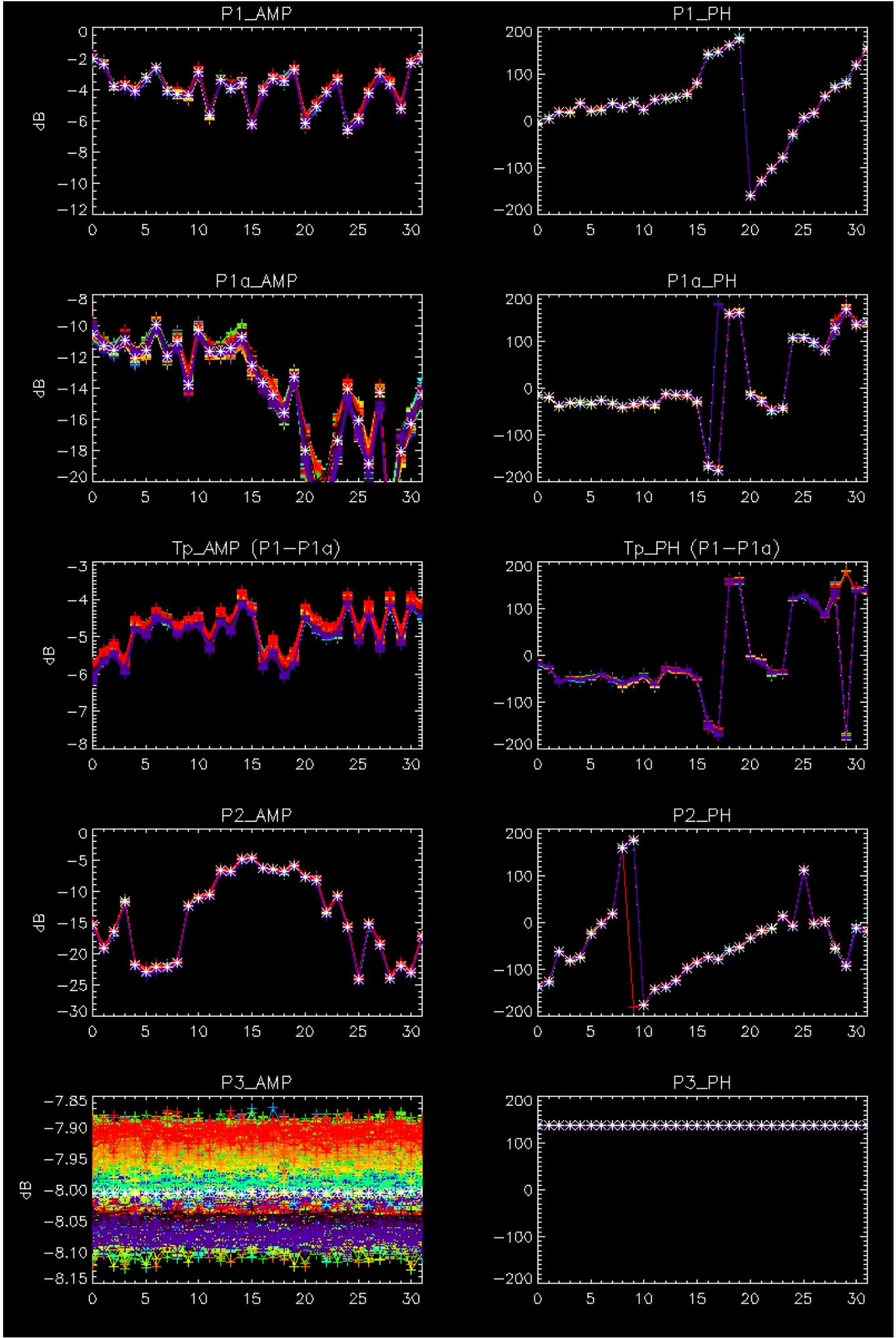
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

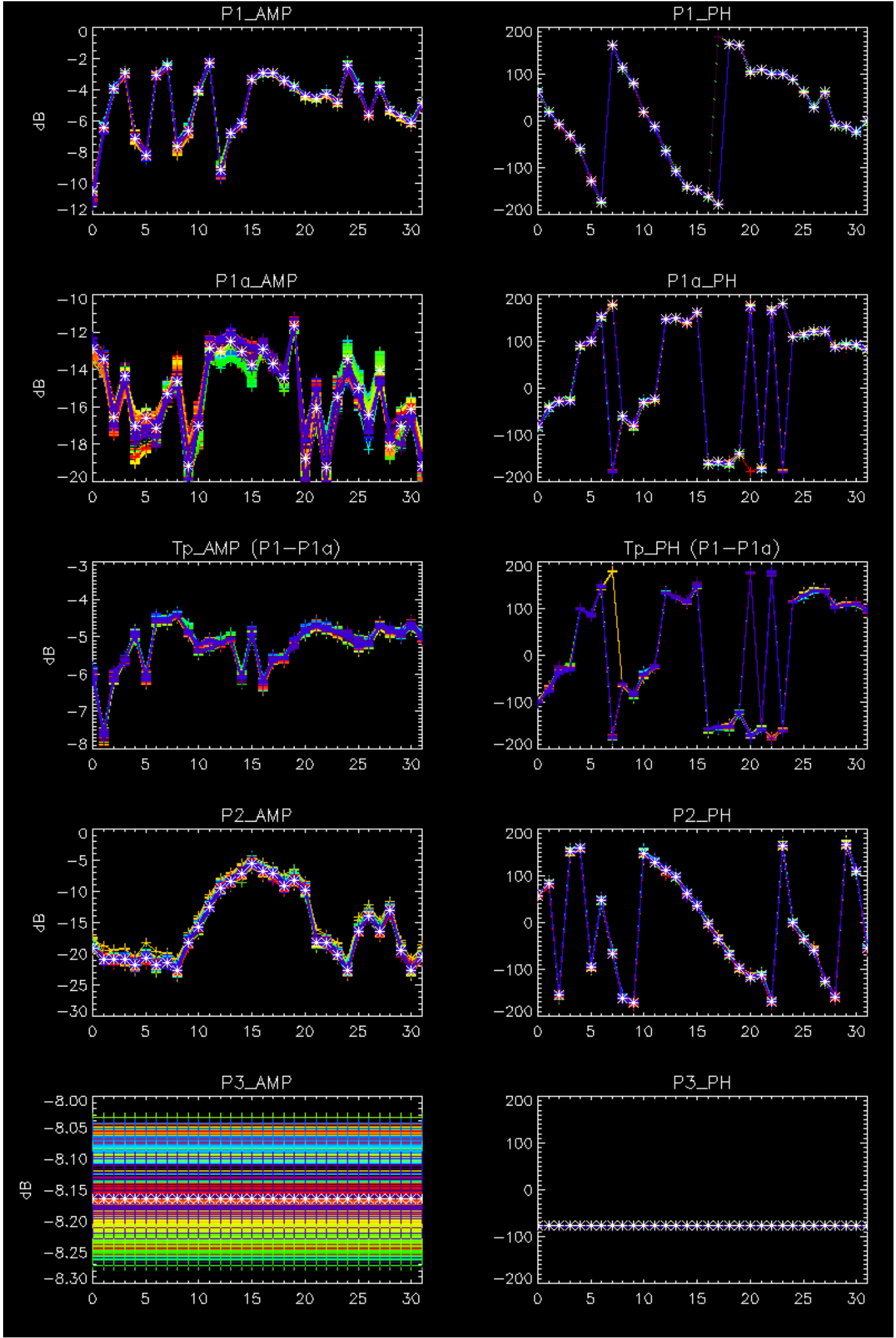
Cal pulses for WVS IS2



No anomalies observed on available browse products

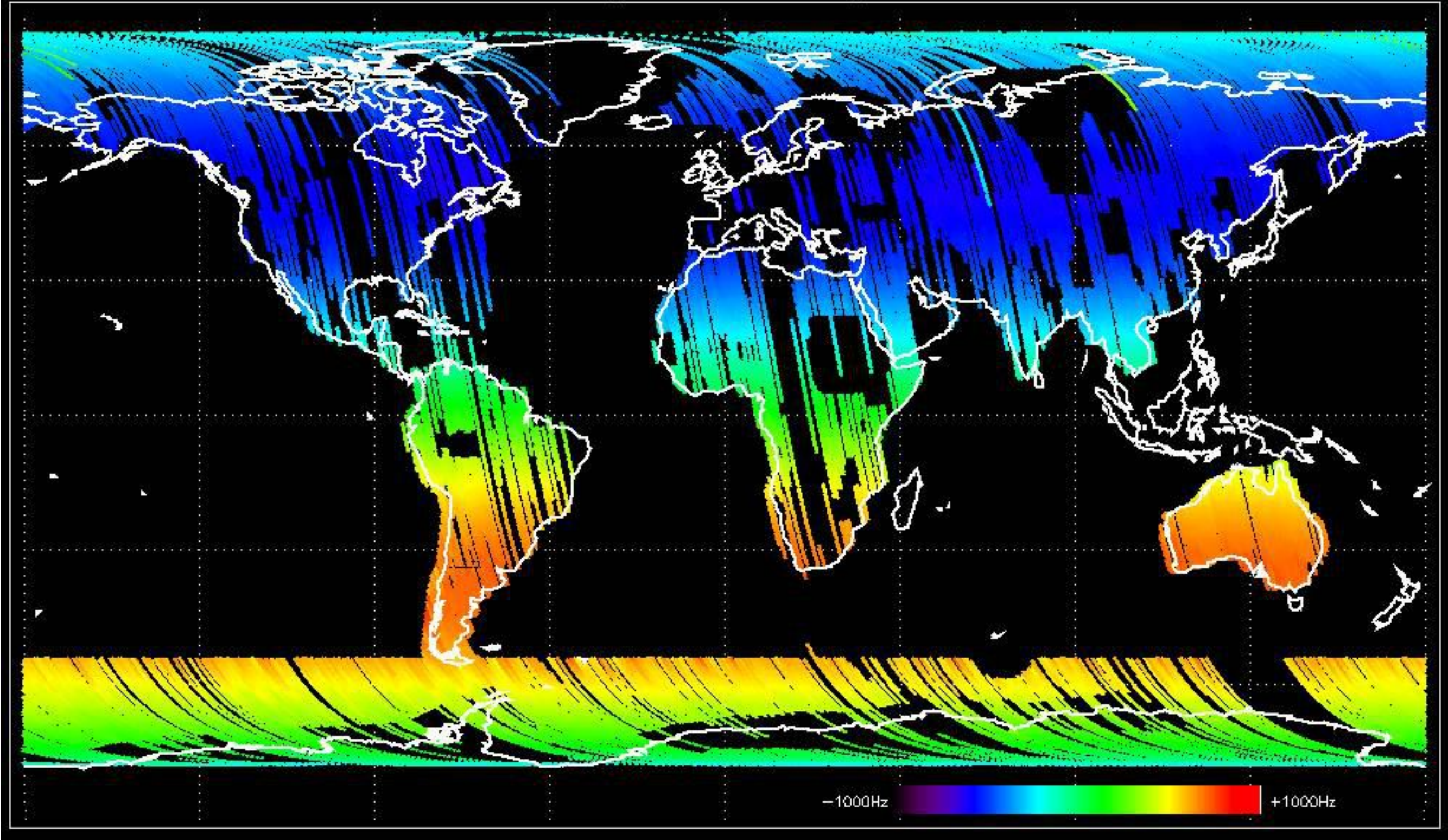
No anomalies observed.



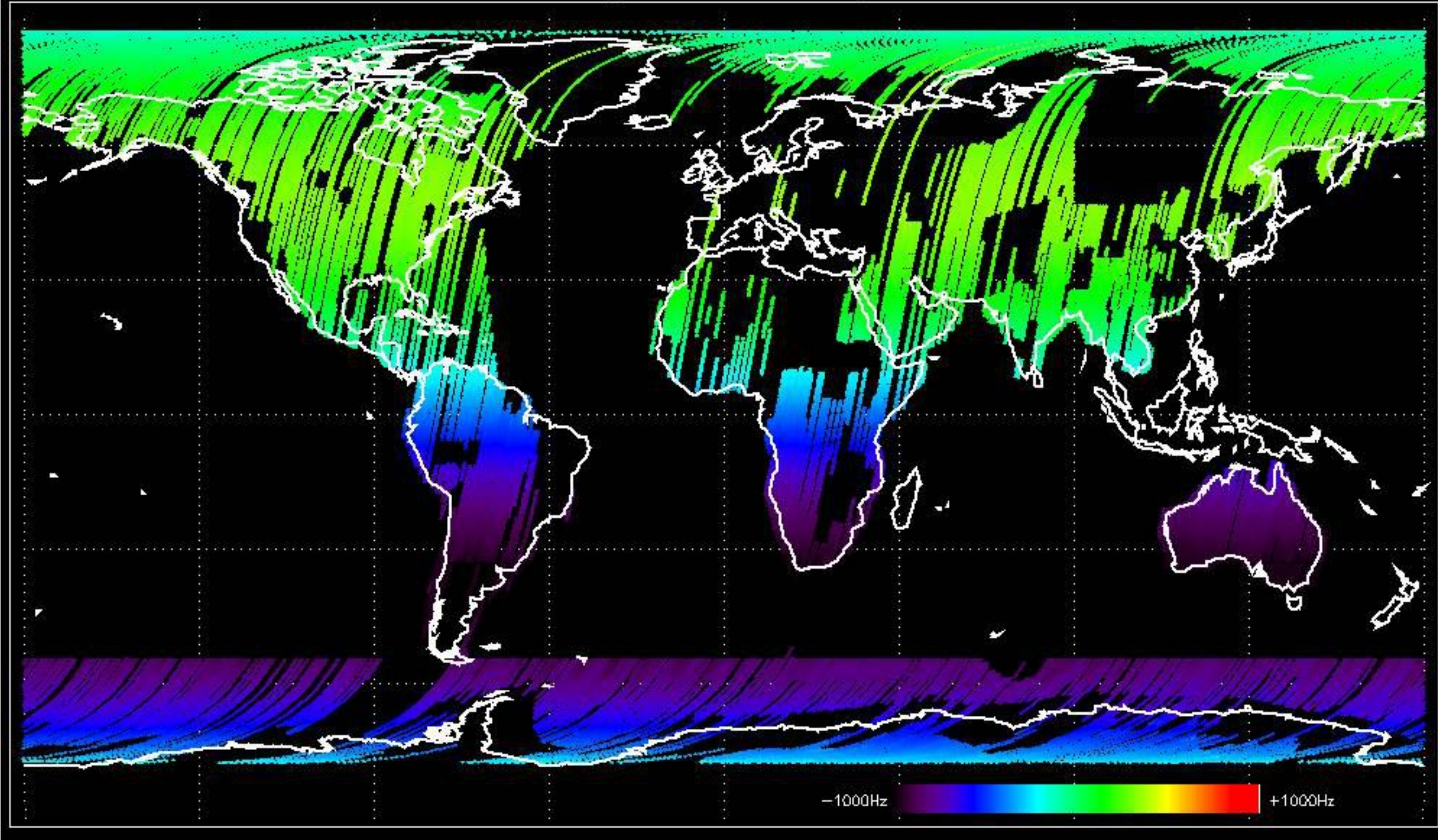


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

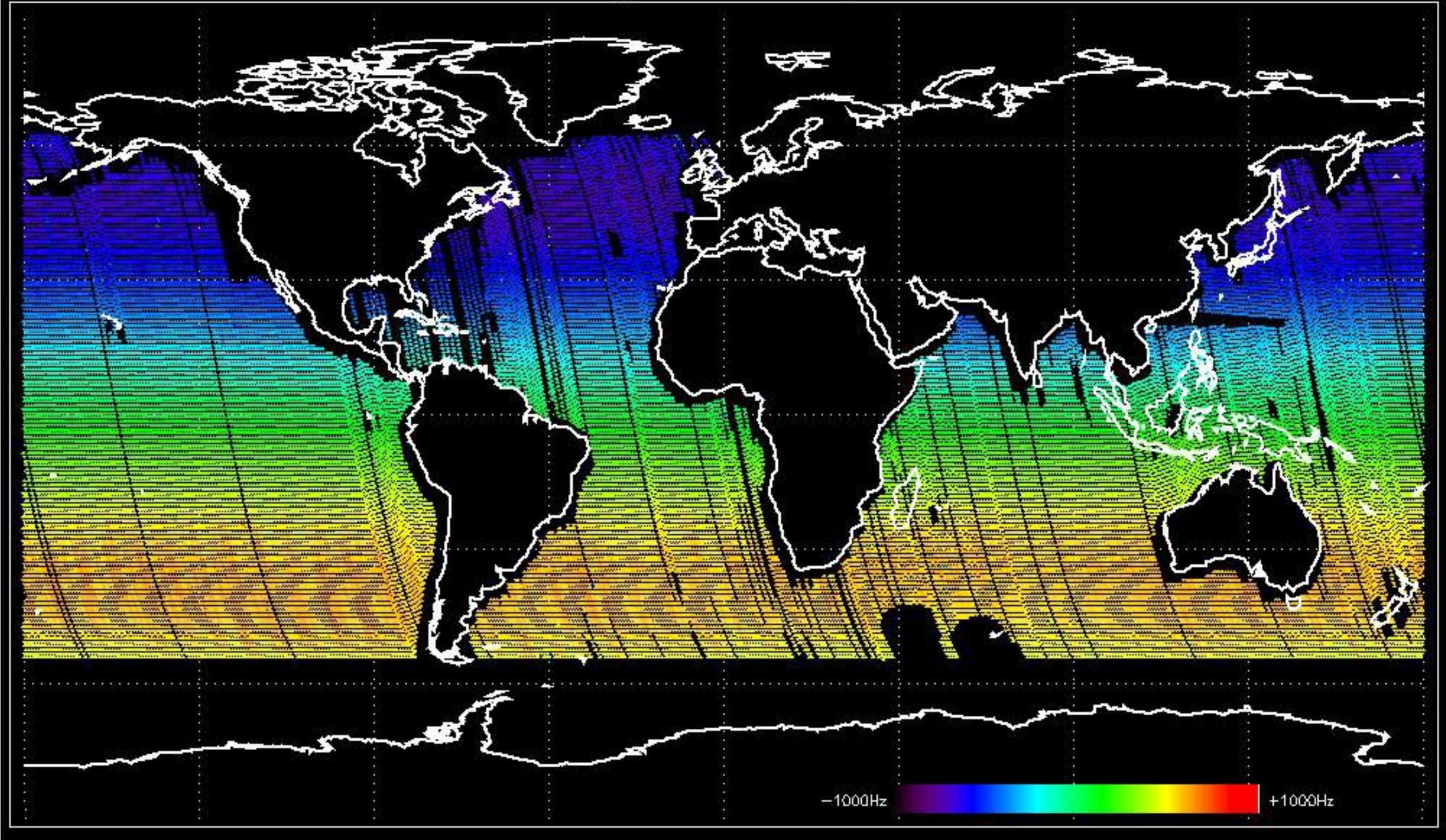
Doppler 'GM1' 'SS1' ascending



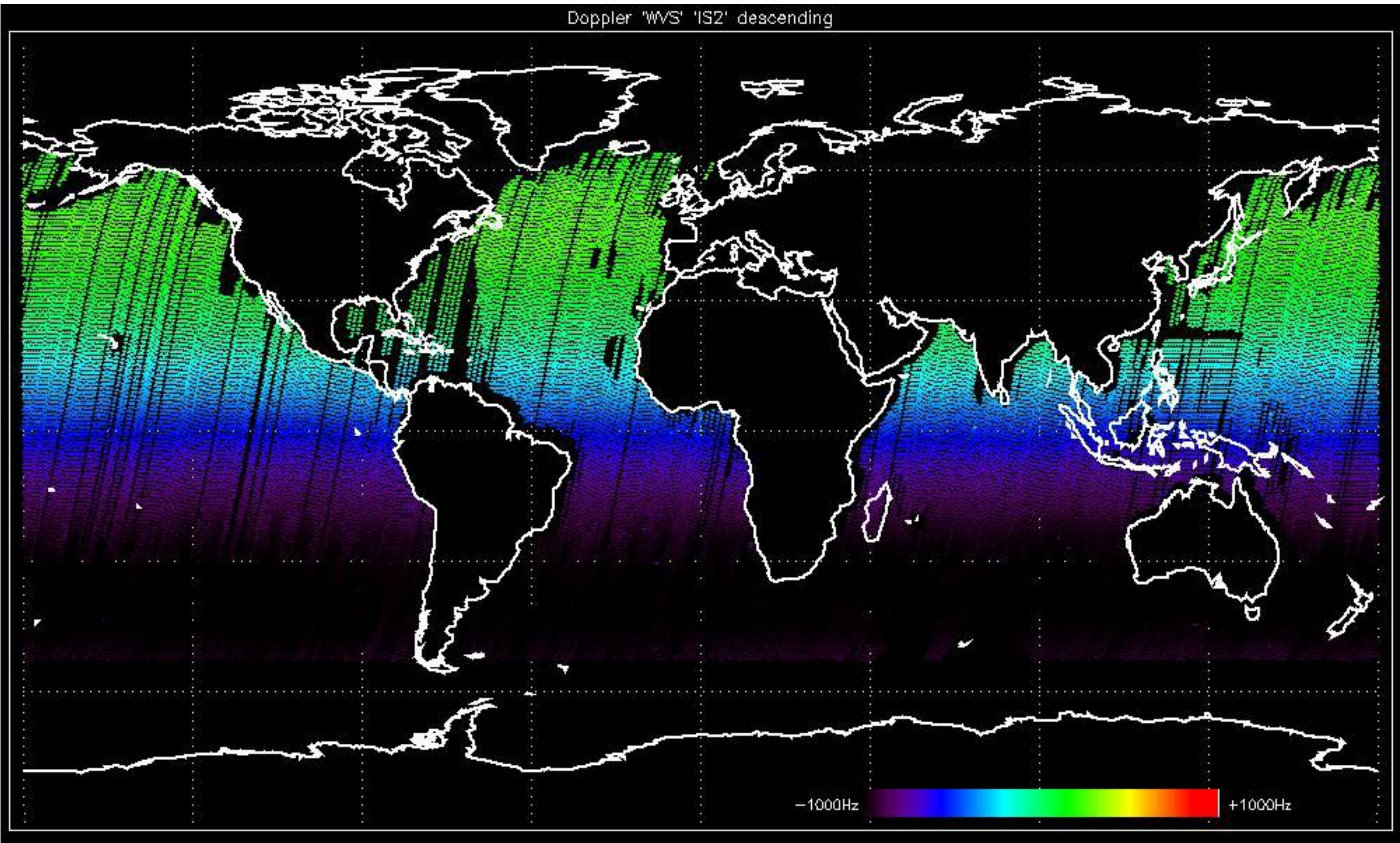
Doppler 'GM1' 'SS1' descending



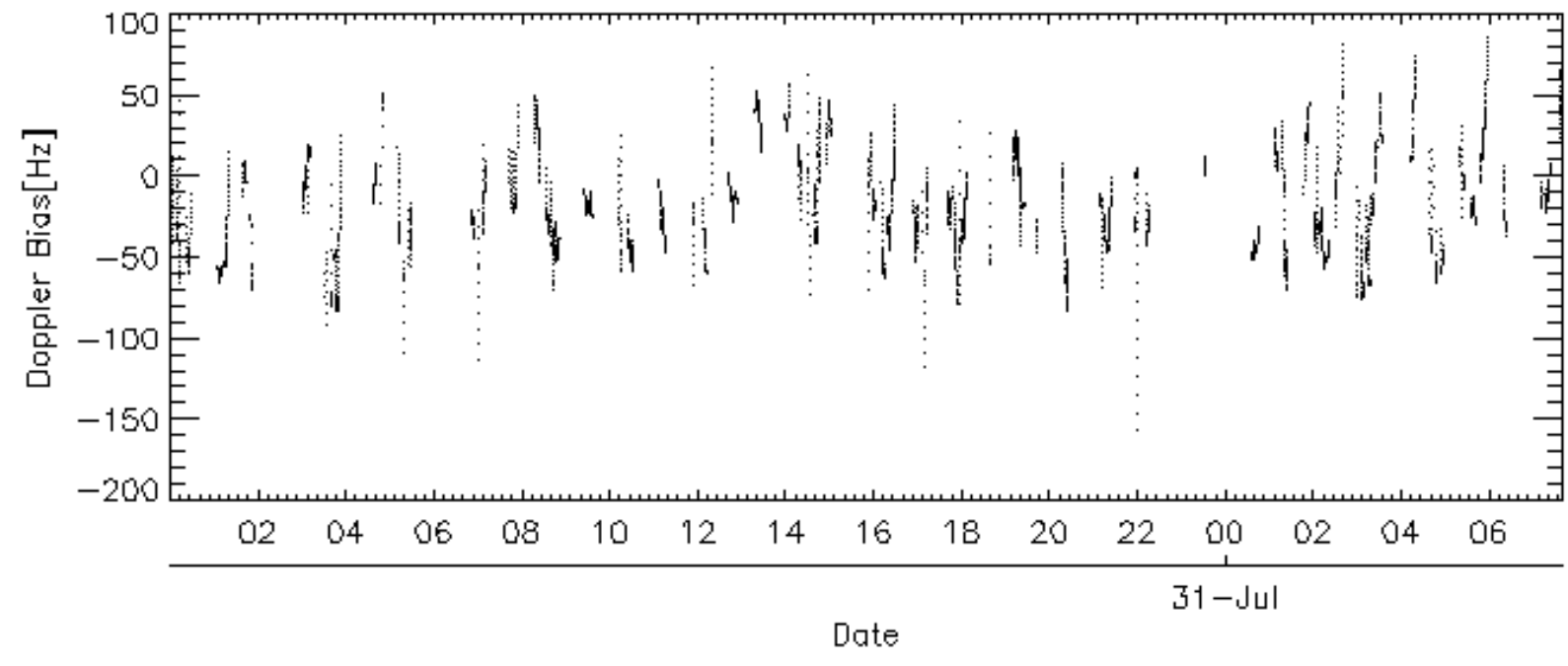
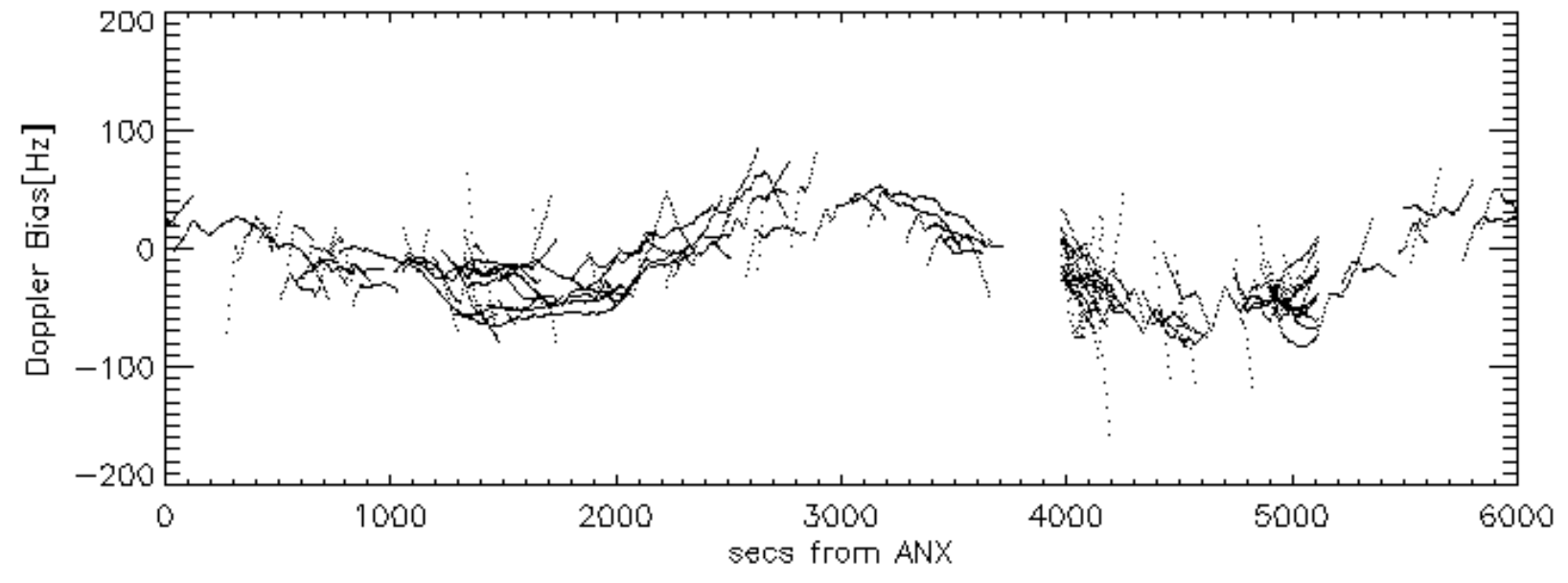
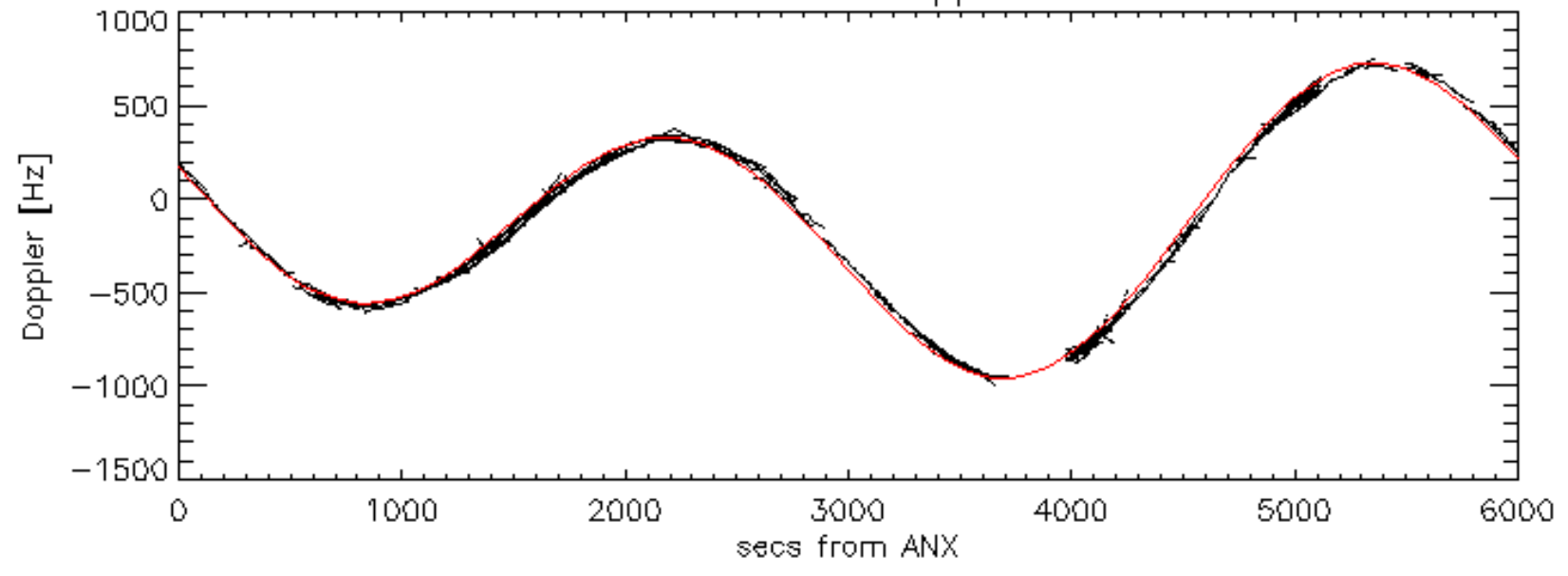
Doppler 'WVS' 'IS2' ascending

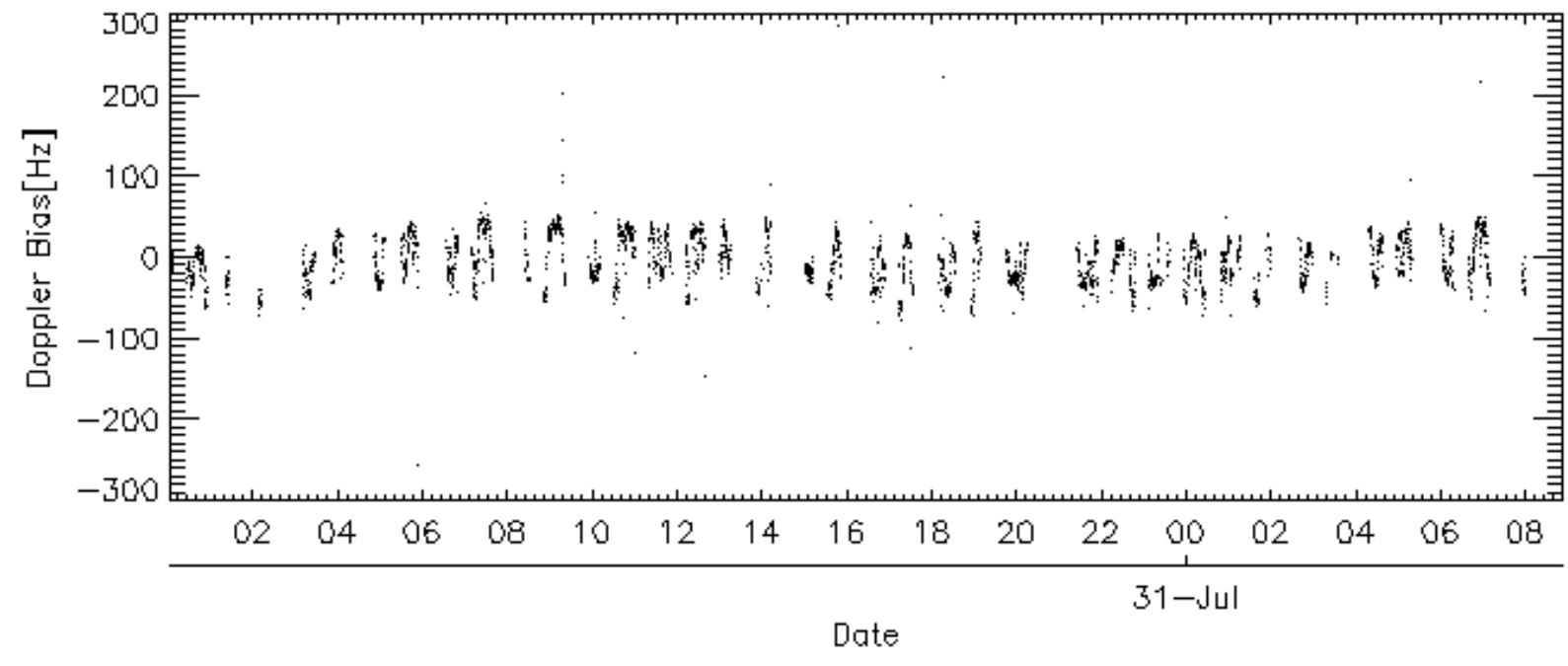
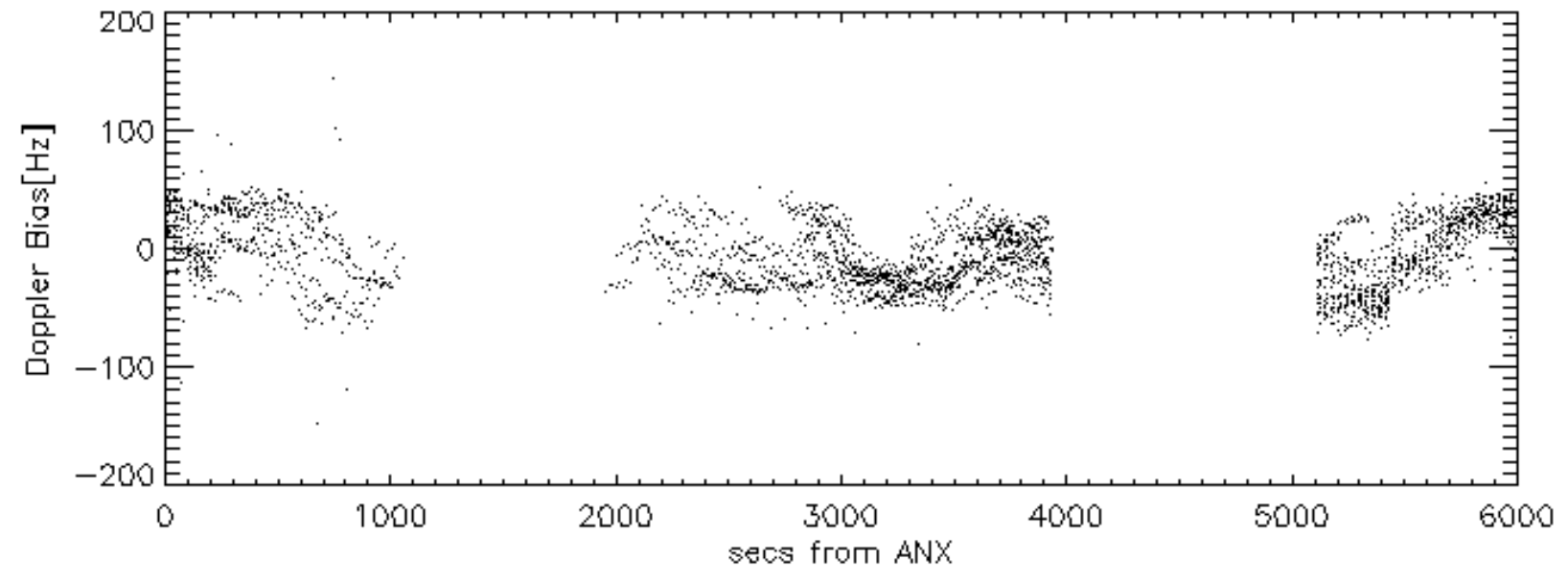
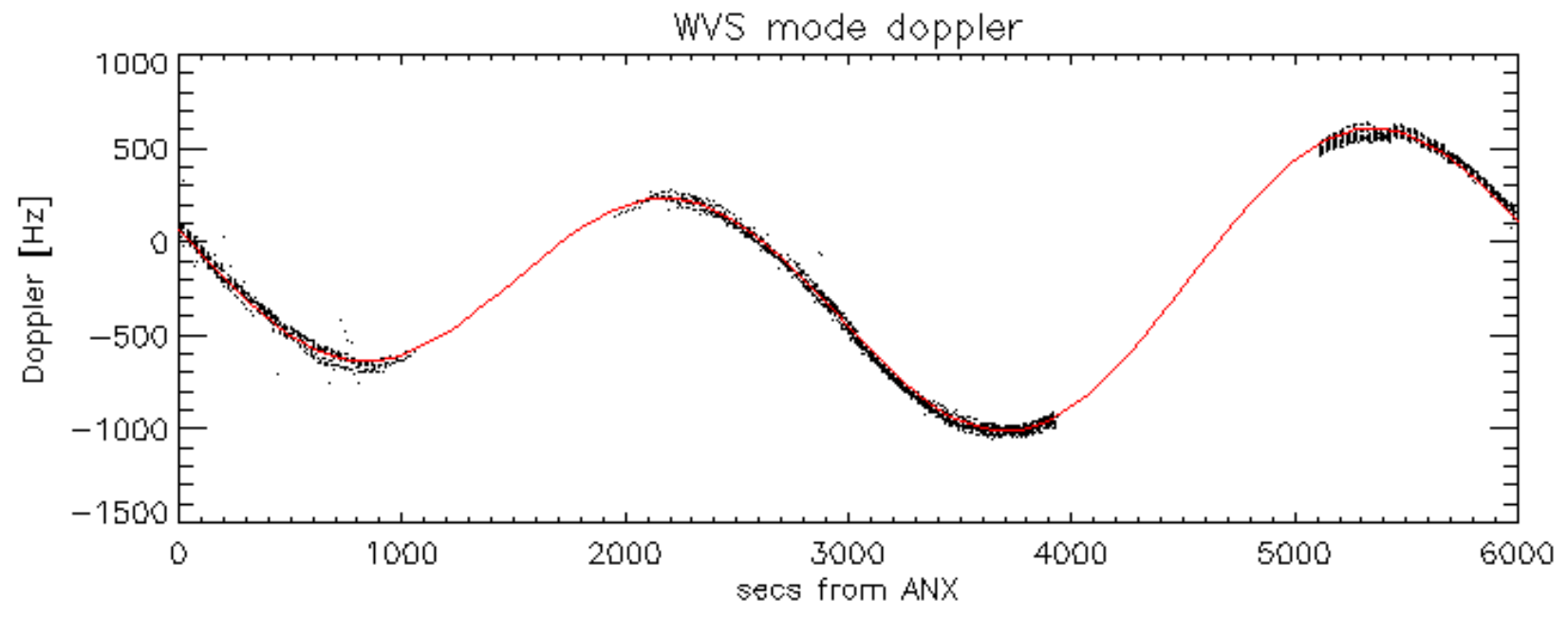


Doppler 'WVS' 'IS2' descending

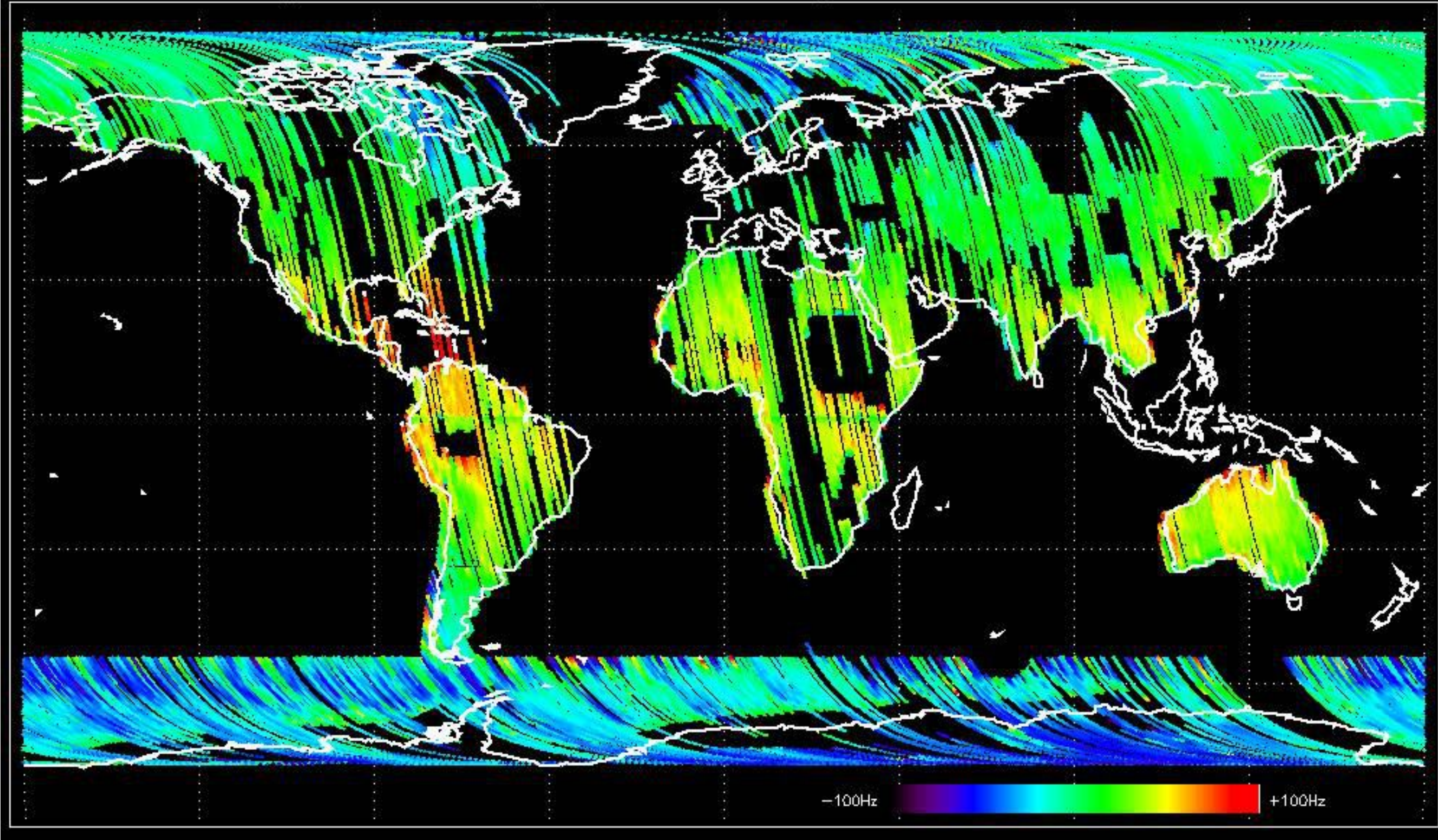


GM1 mode doppler

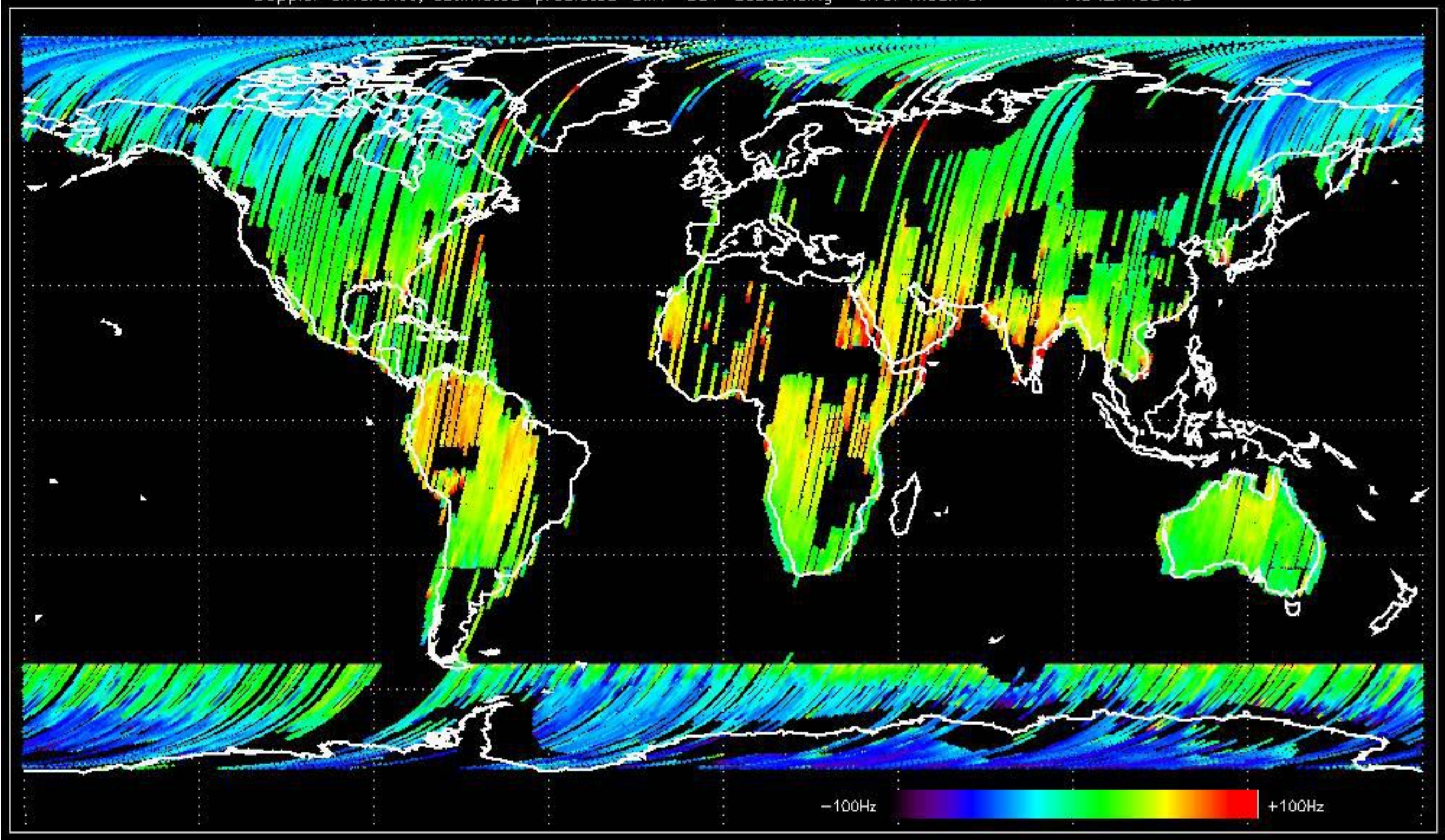




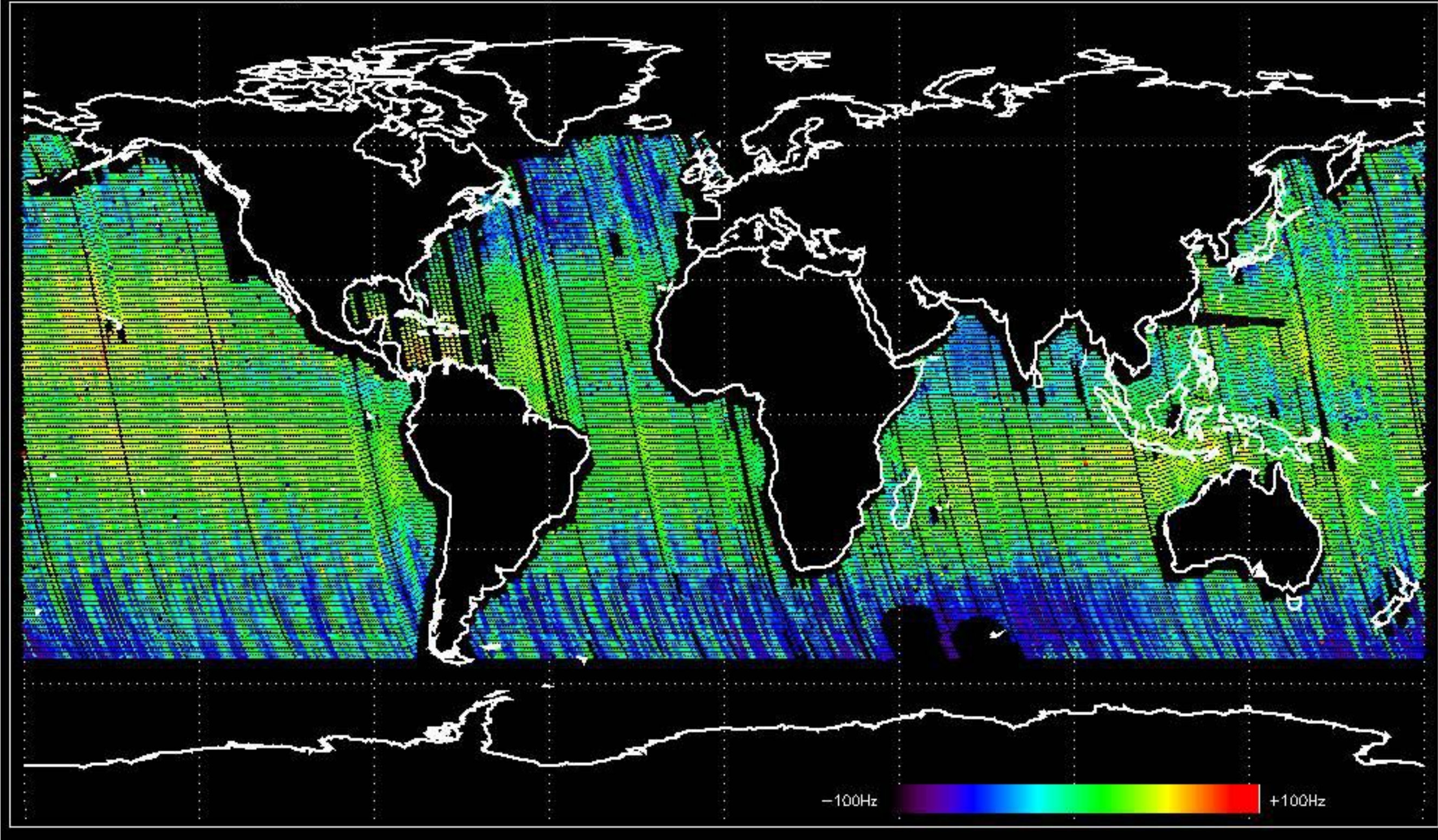
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -18.294443 Hz



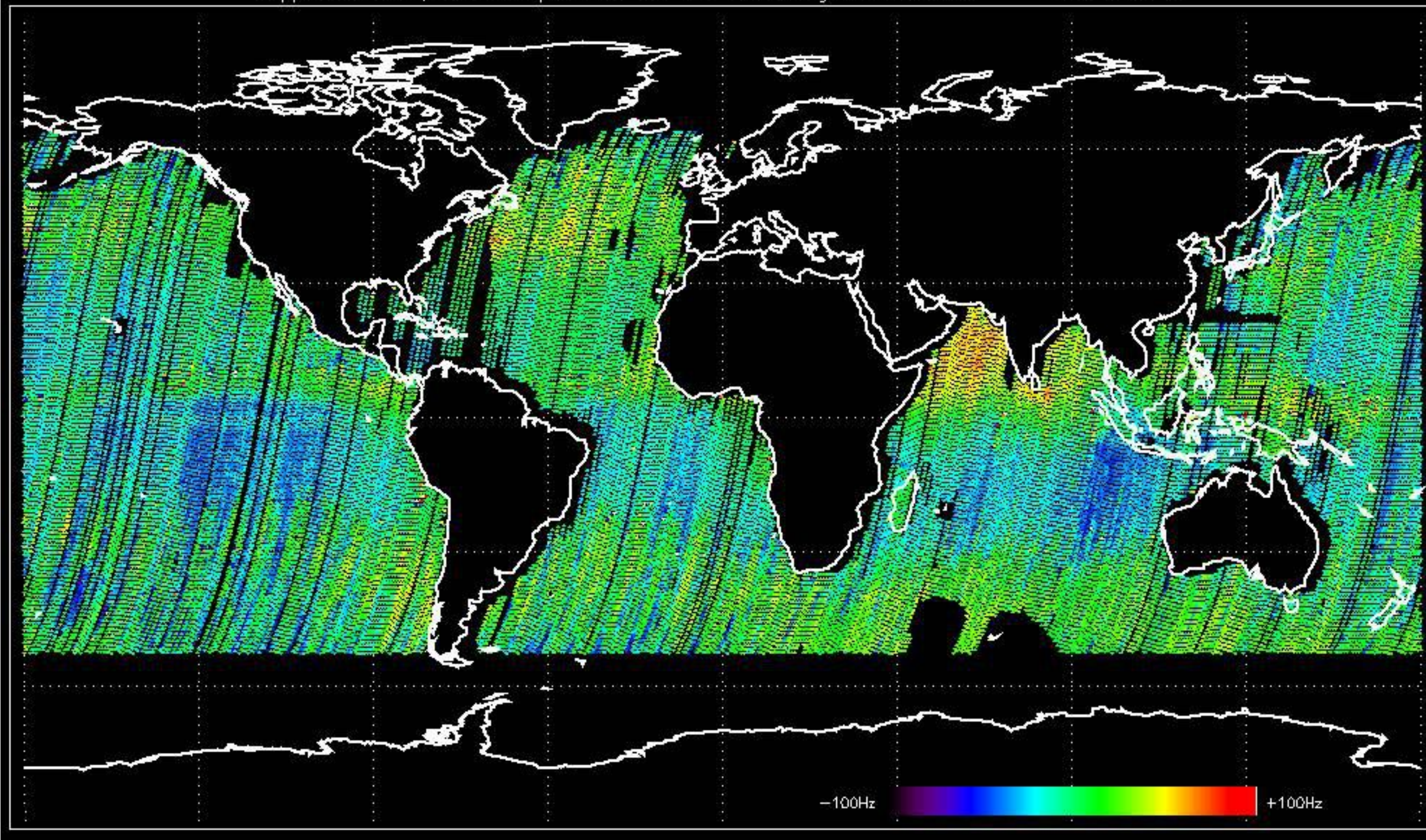
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -7.3427408 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -2.5999207 Hz

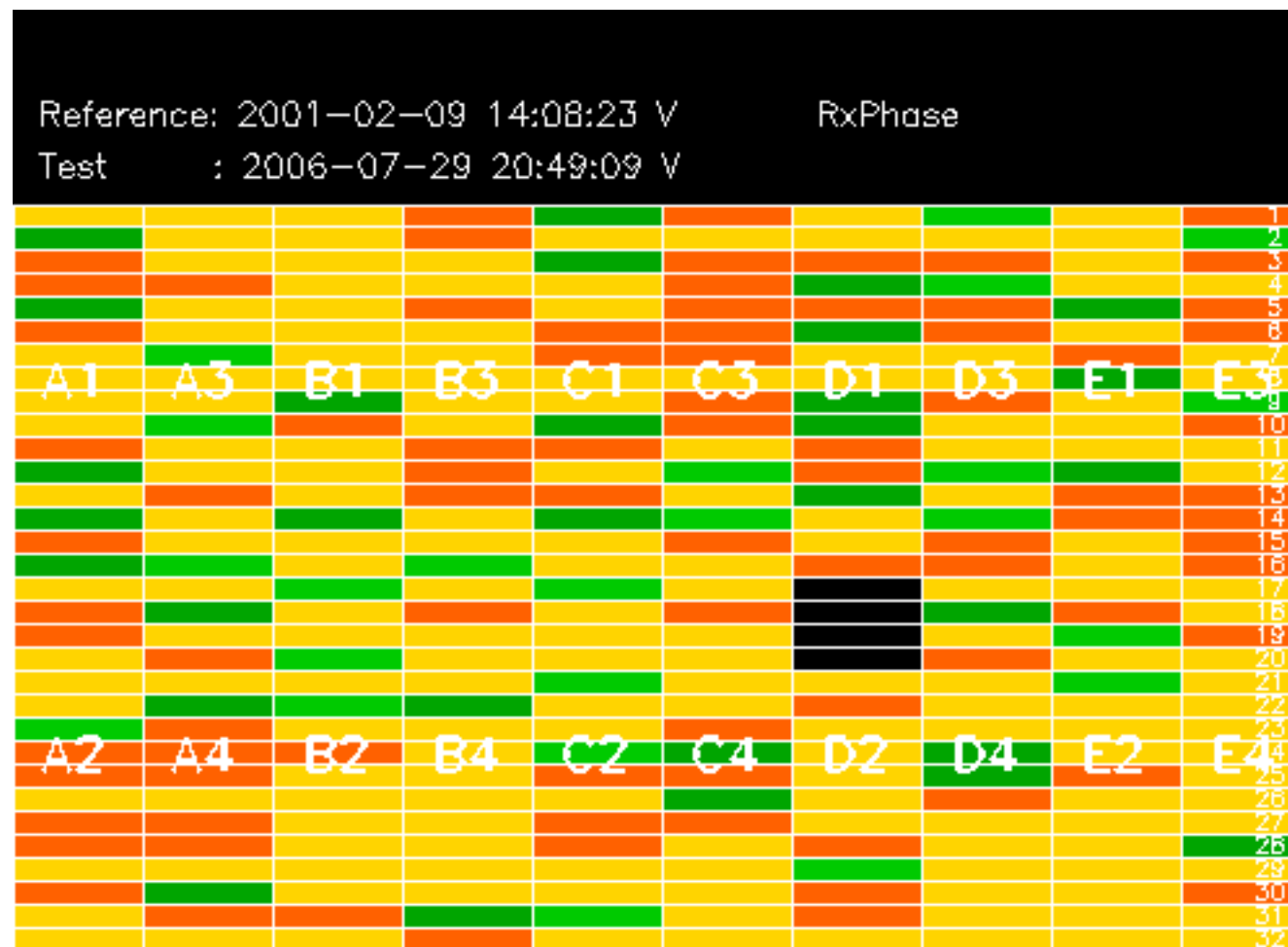


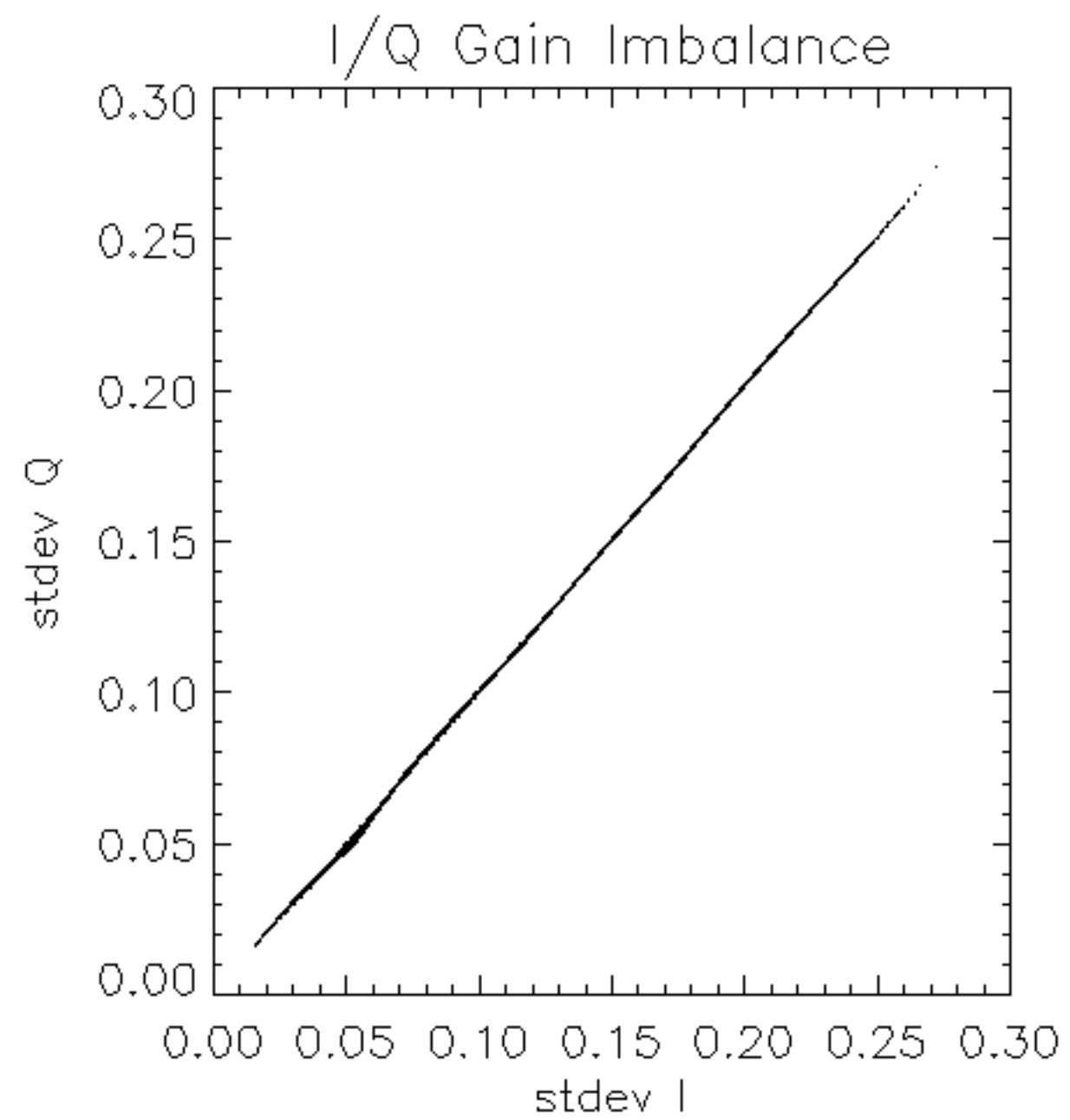
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -9.9544215 Hz

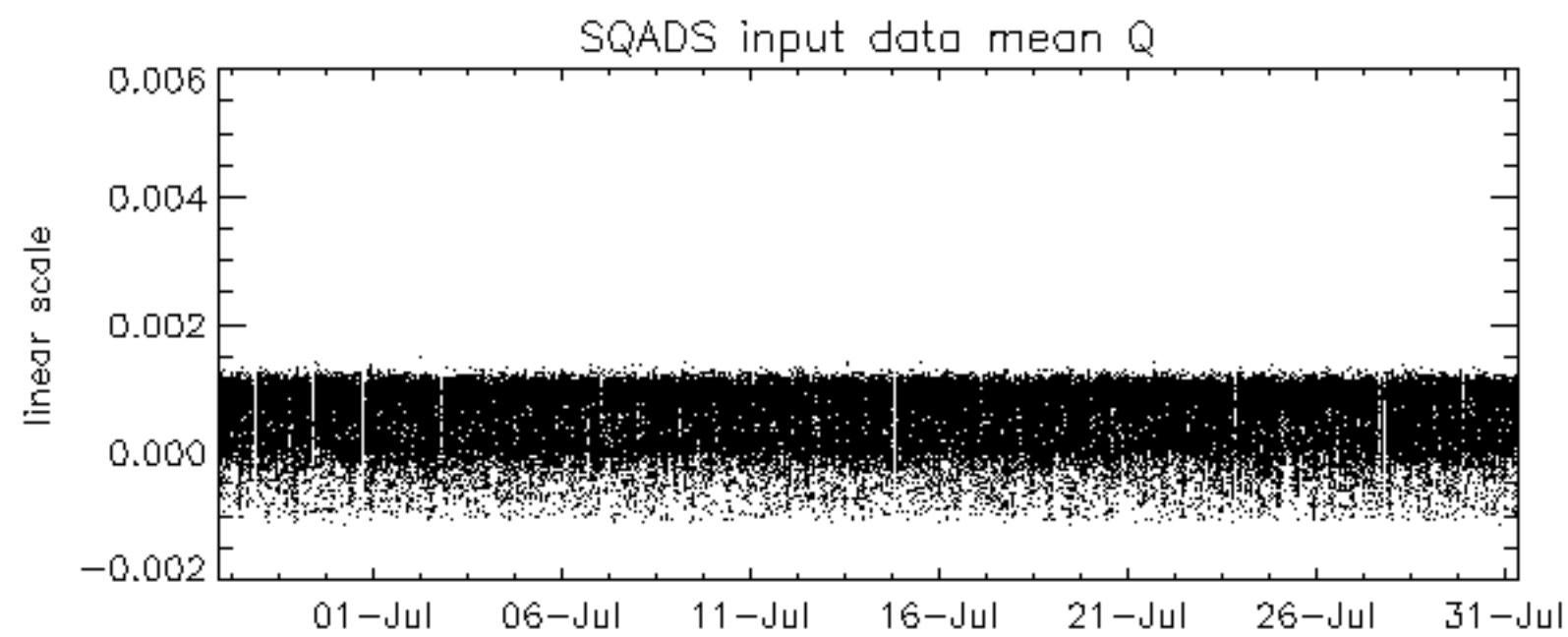
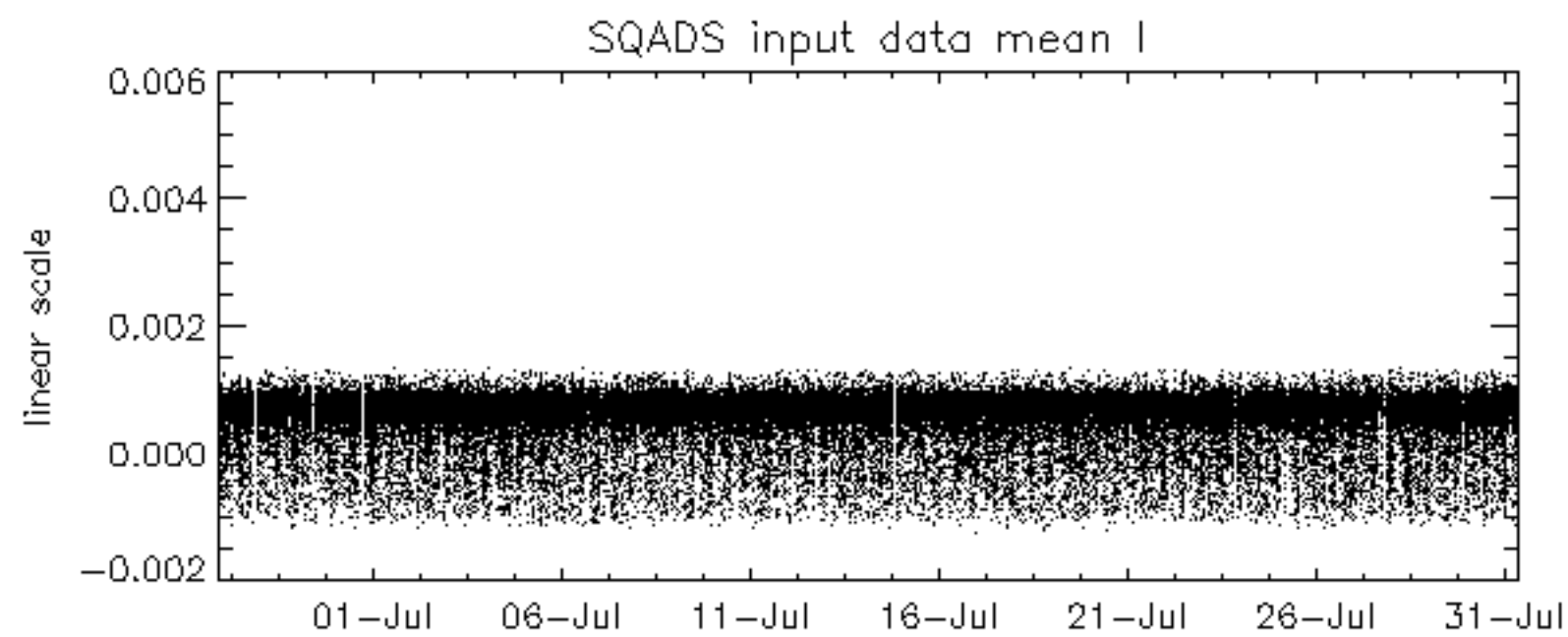
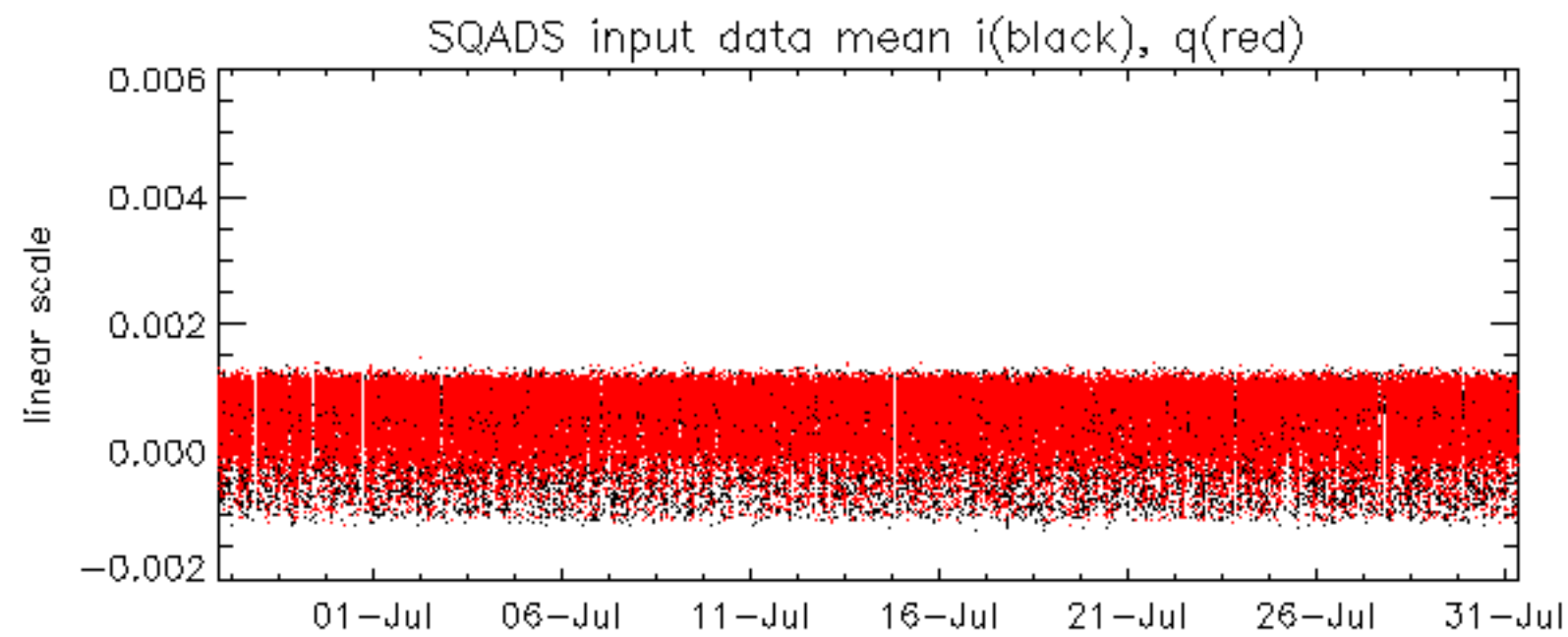


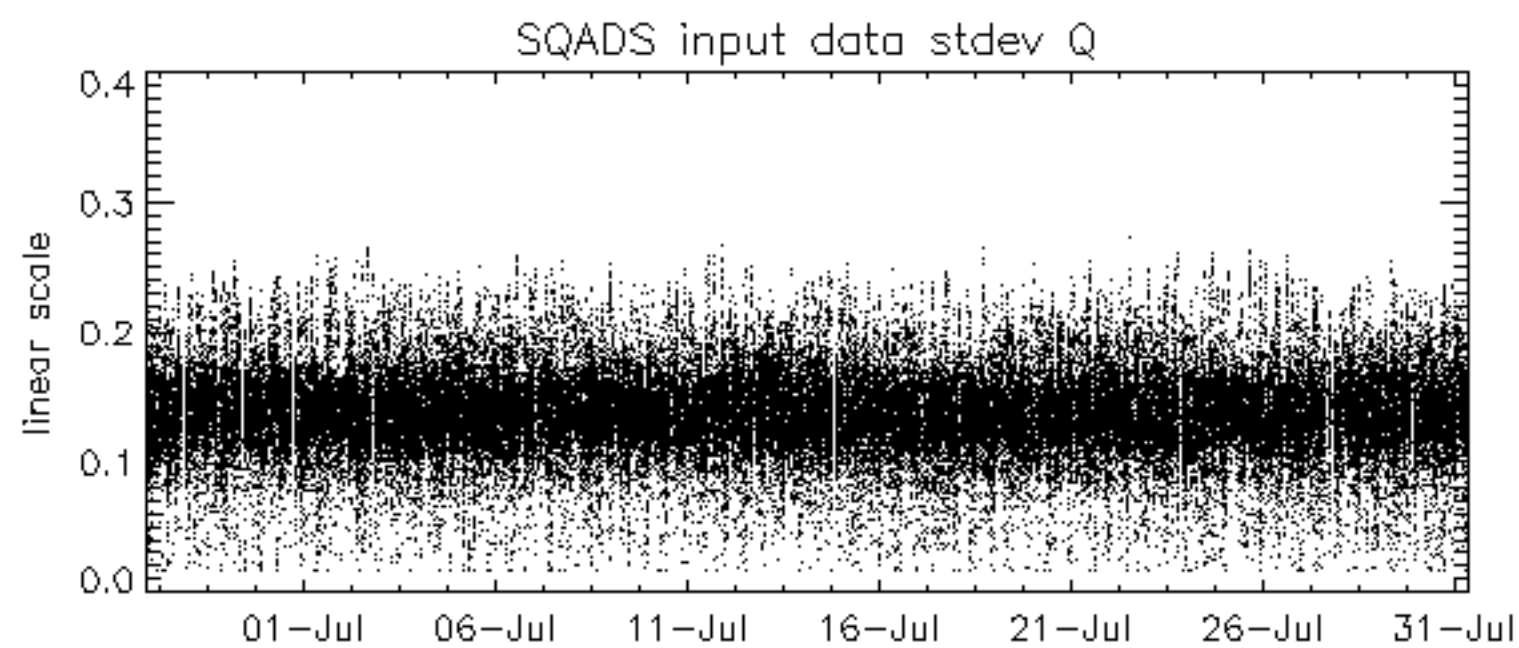
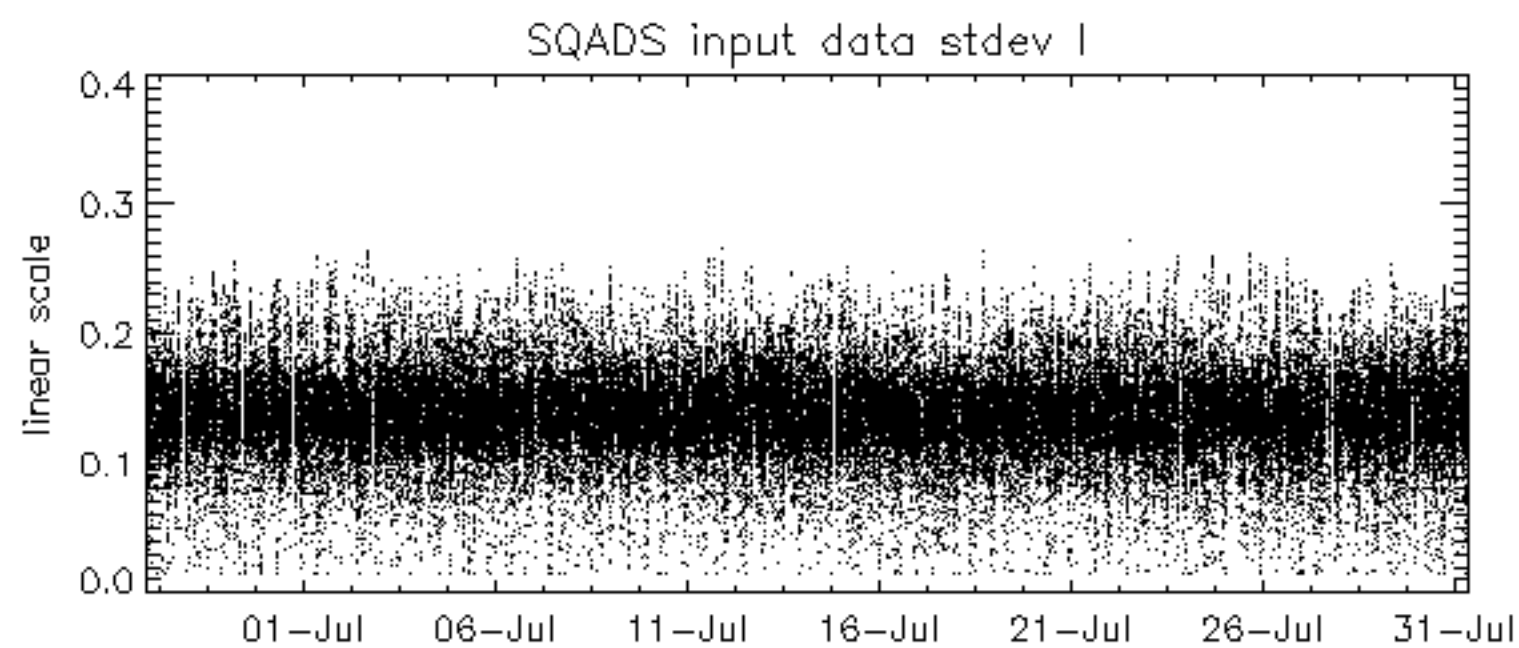
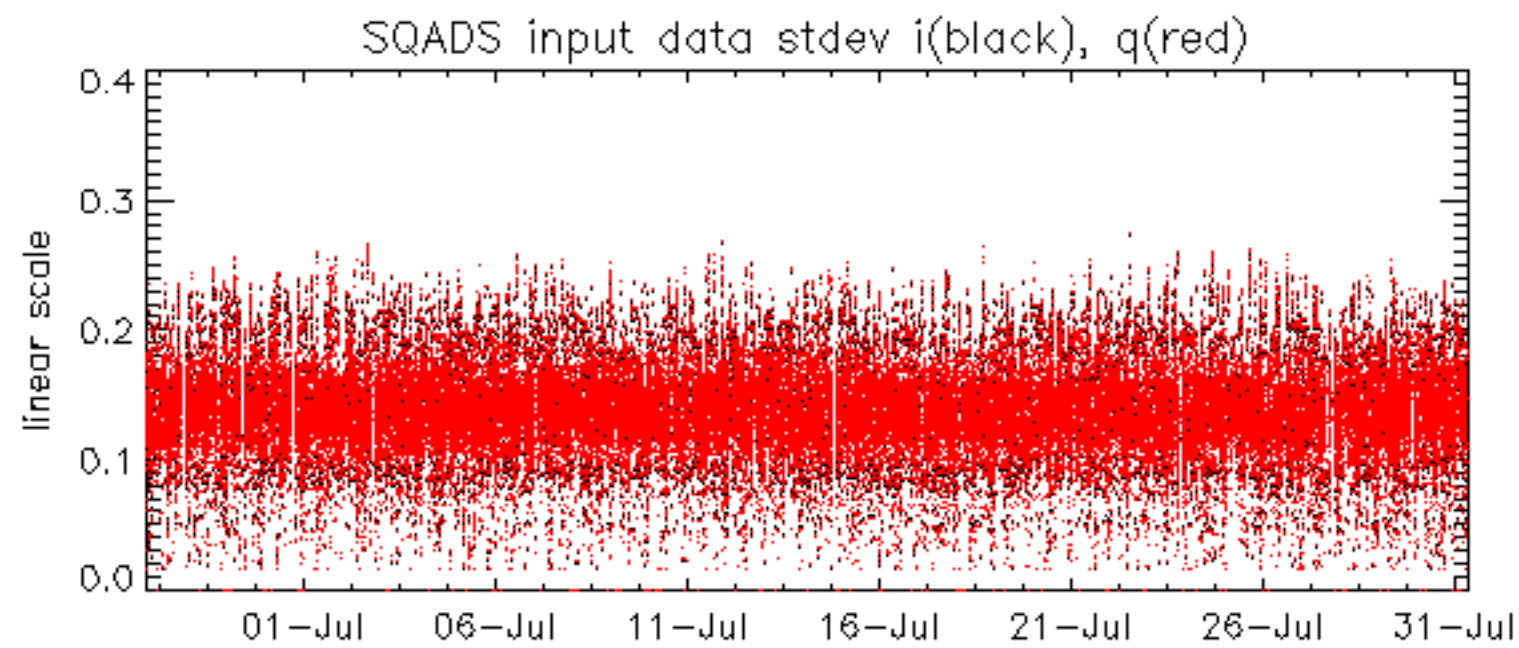
No anomalies observed on available MS products:

No anomalies observed.





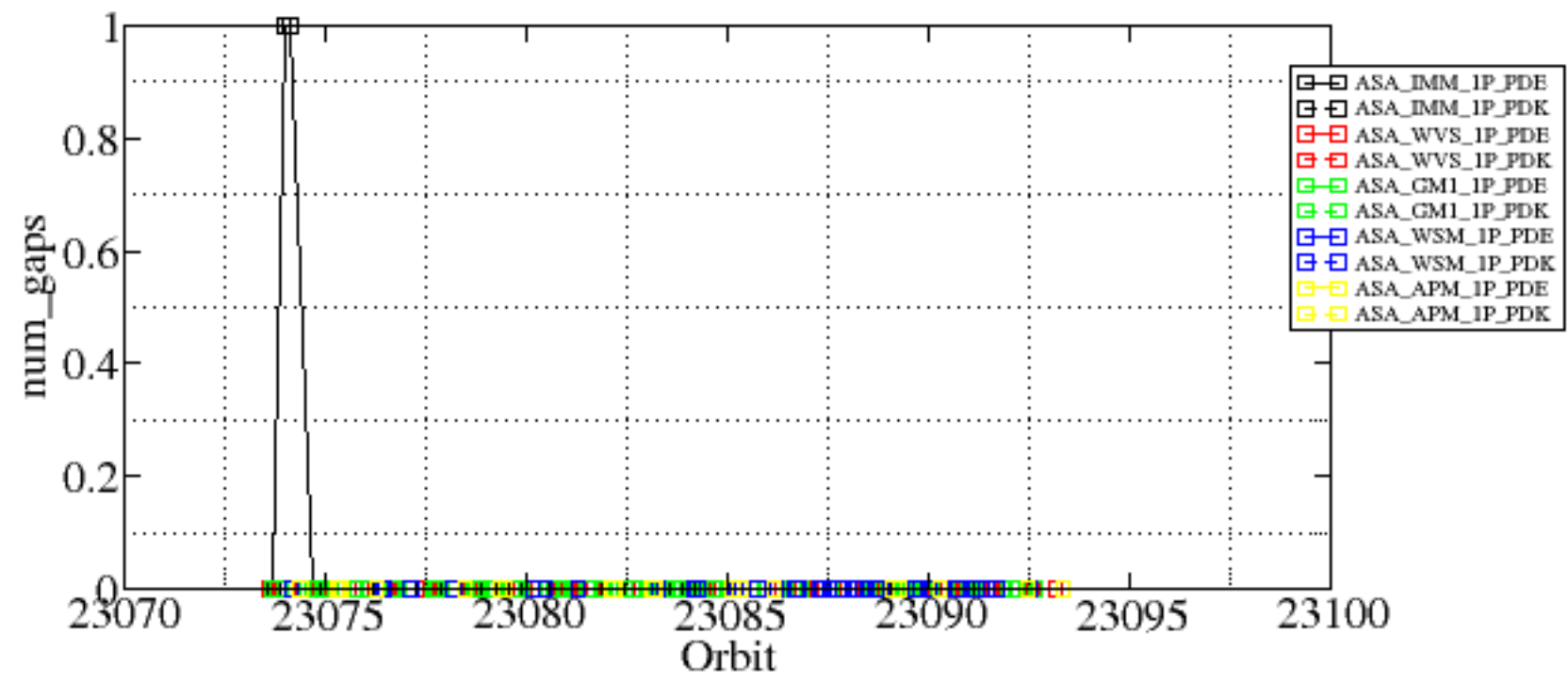


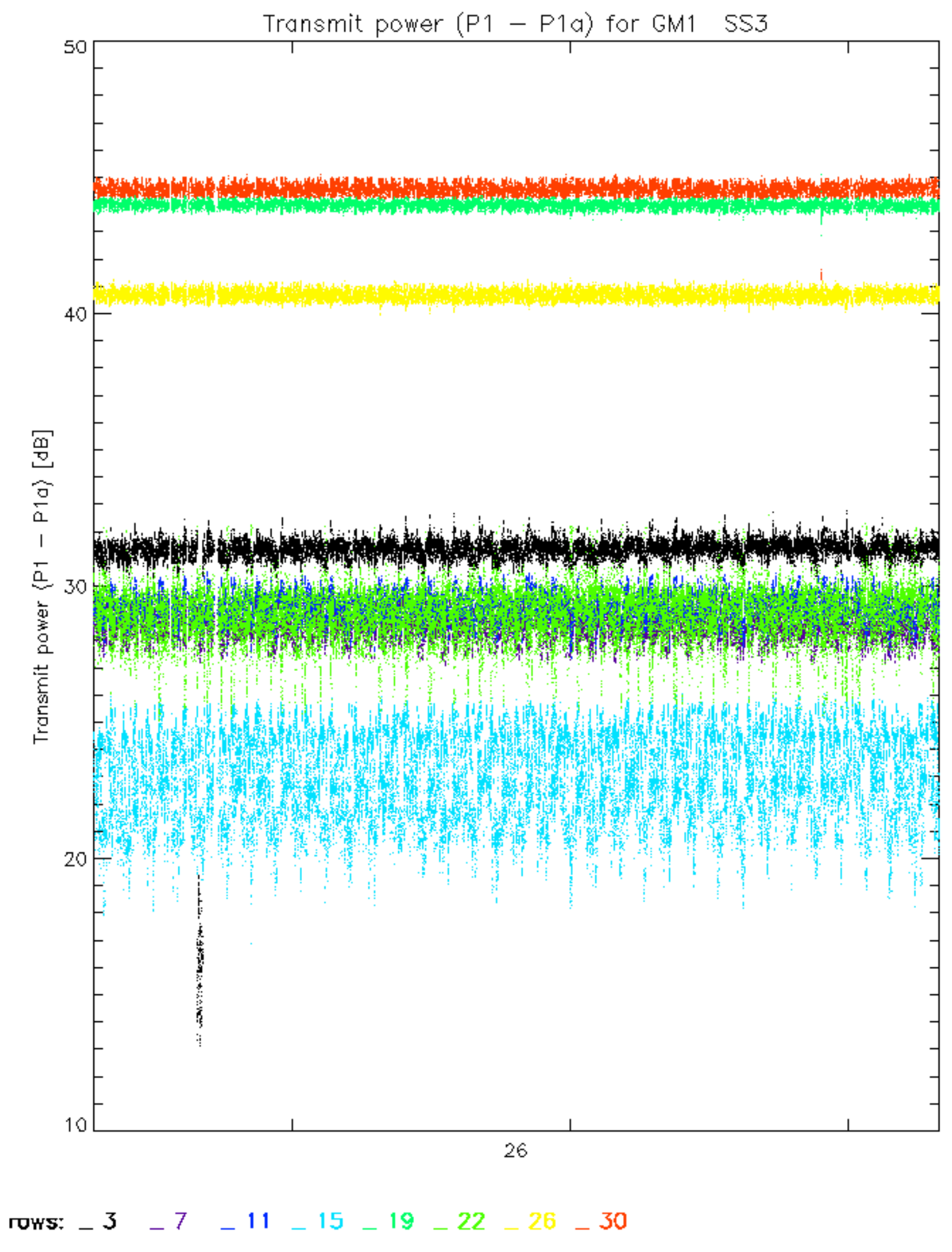


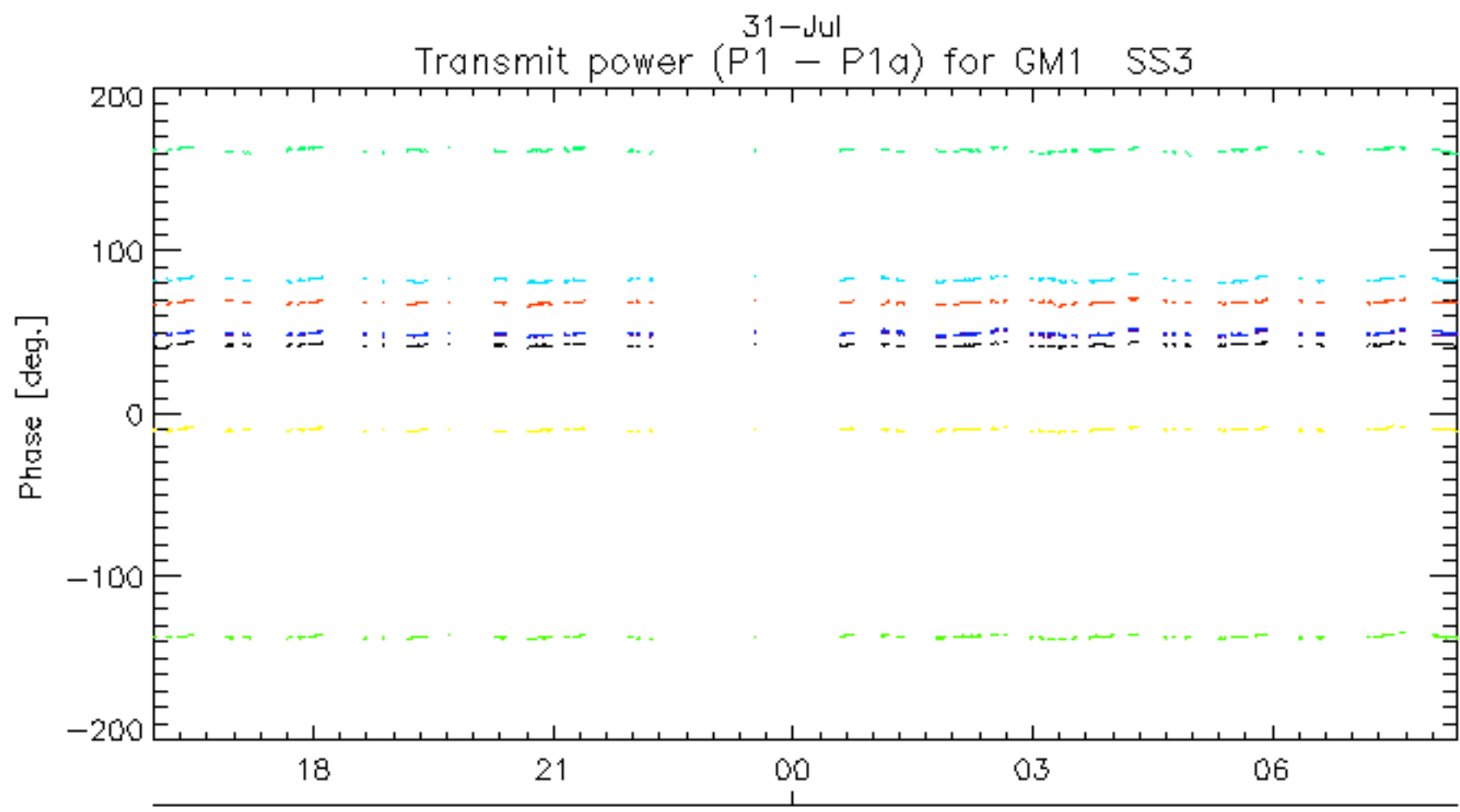
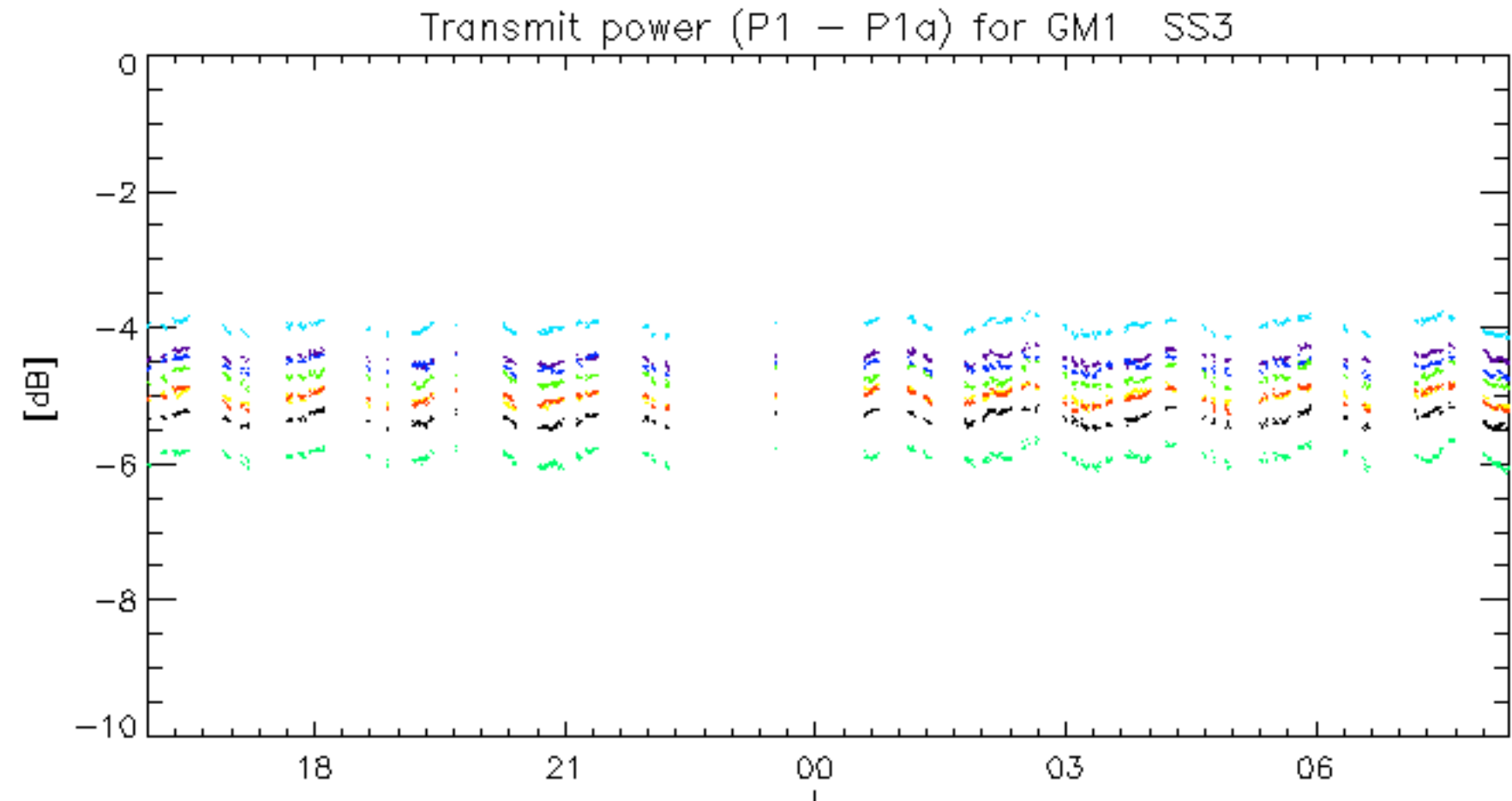
Summary of analysis for the last 3 days 2006073[901]

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

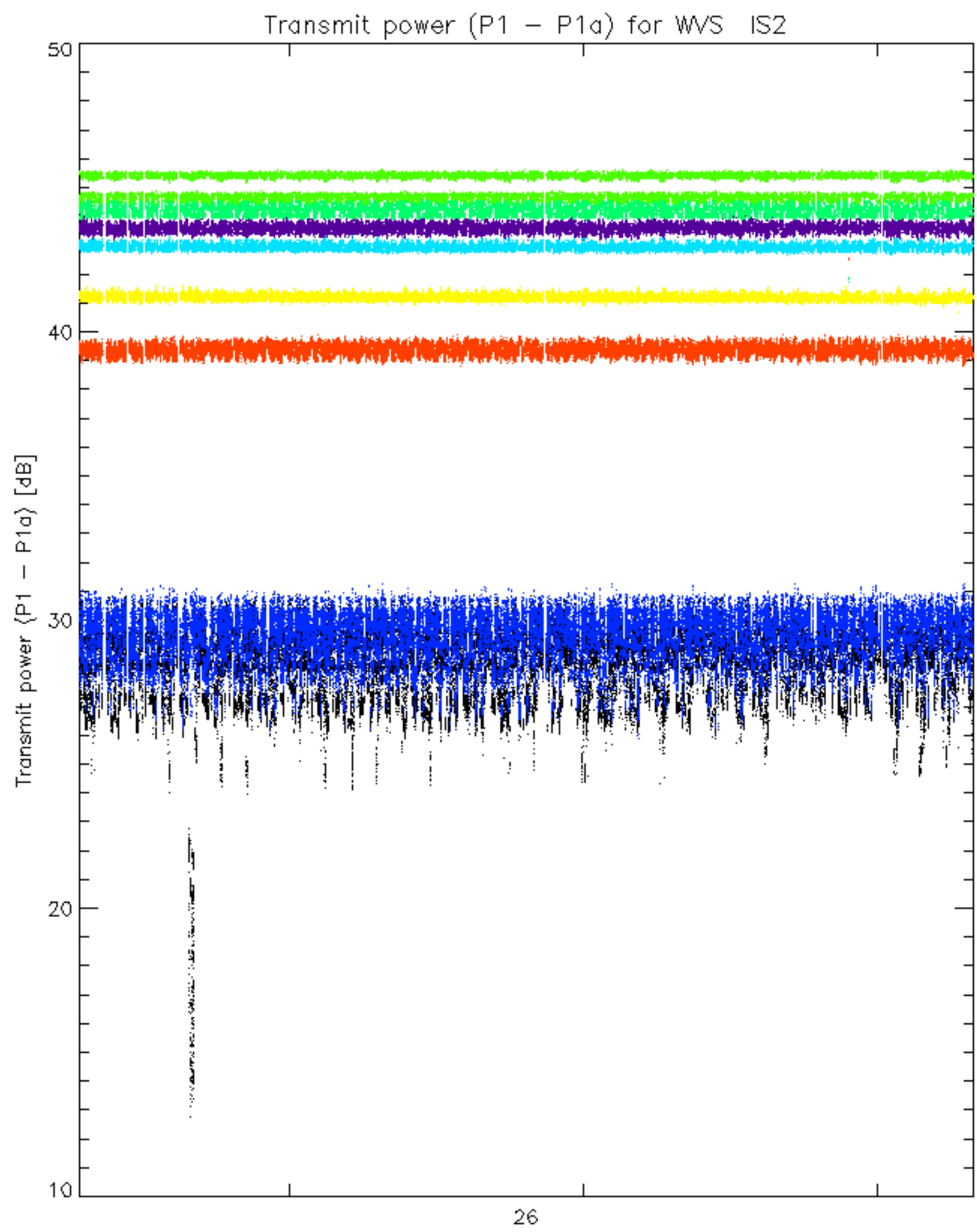
| Filename | num_gaps | num_missing_lines |
|--|----------|-------------------|
| ASA_IMM_1PNPDE20060730_004000_000001542049_00474_23073_2510.N1 | 1 | 0 |
| ASA_IMM_1PNPDE20060730_005617_000000362049_00475_23074_2509.N1 | 1 | 0 |
| ASA_WSM_1PNPDE20060730_113206_000001042049_00481_23080_4951.N1 | 0 | 2 |



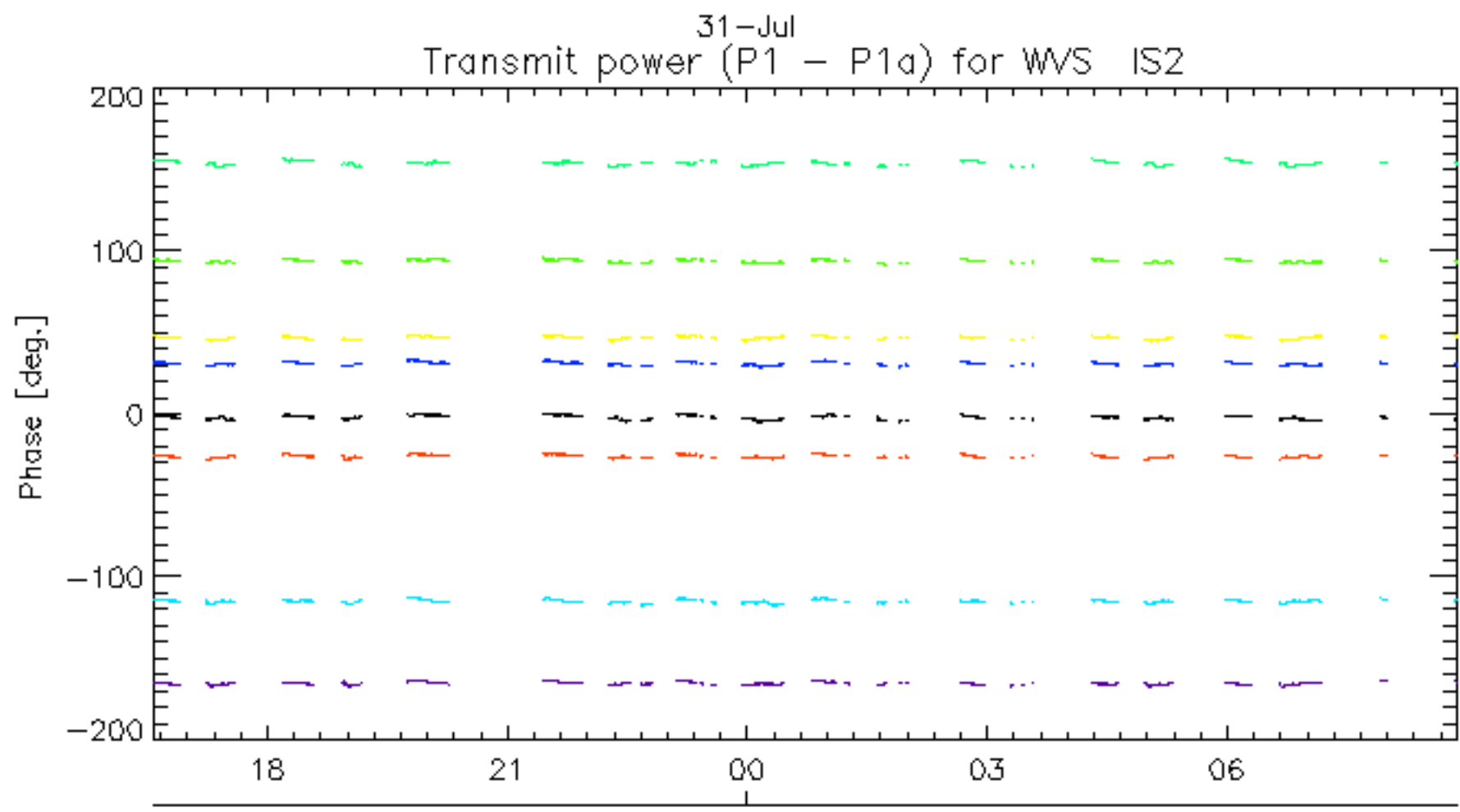
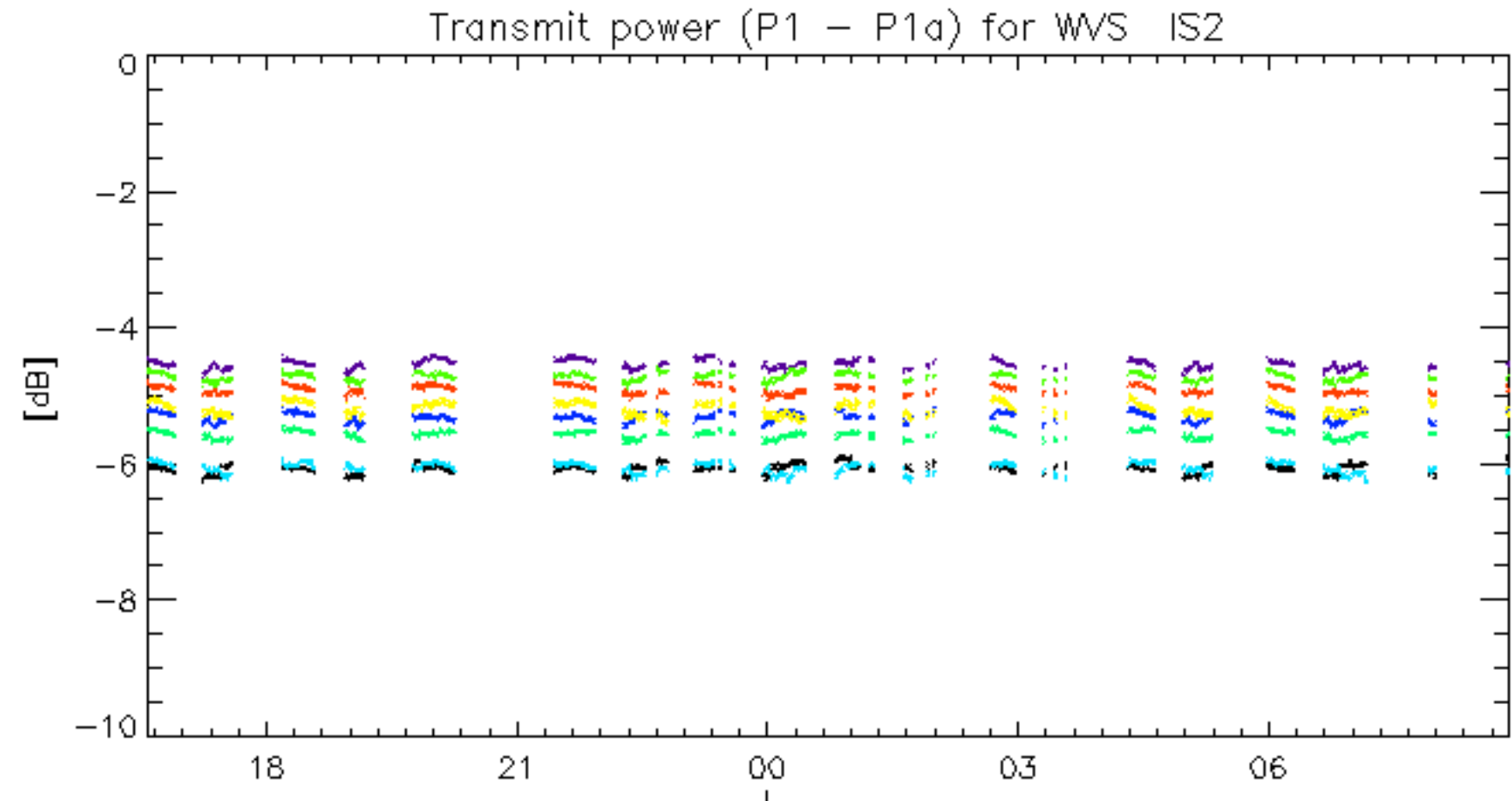




31-Jul
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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



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

No unavailabilities during the reported period.