

PRELIMINARY REPORT OF 050915

last update on Thu Sep 15 14:21:44 GMT 2005

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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

Preliminary report. Instrument unavailabilities are not yet reported

2.2 - Auxiliary files

Summary of the auxiliary files used from 2005-09-14 00:00:00 to 2005-09-15 14:21:44

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

| | | | | | |
|---|----|----|---|---|----|
| ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000 | 21 | 28 | 5 | 3 | 12 |
| ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000 | 21 | 28 | 5 | 3 | 12 |
| ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000 | 21 | 28 | 5 | 3 | 12 |
| ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000 | 21 | 28 | 5 | 3 | 12 |

| PDHS-E | | | | | |
|---|-----|-----|-----|-----|-----|
| AUXILIARY FILE | WVS | GM1 | IMM | APM | WSM |
| ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000 | 37 | 58 | 22 | 18 | 43 |
| ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000 | 37 | 58 | 22 | 18 | 43 |
| ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000 | 37 | 58 | 22 | 18 | 43 |
| ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000 | 37 | 58 | 22 | 18 | 43 |

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

-Preliminary report. MS data is not yet controled

| Polarisation | Start Time |
|--------------|-----------------|
| V | 20050915 100810 |
| H | 20050914 222358 |

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

-Preliminary report.The data is not yet controled

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 | -3.308723 | 0.030347 | -0.128721 |
| 7 | P1 | -3.182266 | 0.010672 | -0.044083 |
| 11 | P1 | -4.741959 | 0.033398 | -0.074956 |
| 15 | P1 | -5.639692 | 0.049084 | -0.086182 |
| 19 | P1 | -3.784190 | 0.065598 | 0.200691 |
| 22 | P1 | -4.623192 | 0.012731 | -0.032504 |
| 26 | P1 | -4.835169 | 0.025556 | -0.052328 |
| 30 | P1 | -7.222688 | 0.112641 | 0.214834 |
| 3 | P1 | -15.659028 | 0.671548 | -0.668015 |
| 7 | P1 | -15.800175 | 1.831201 | -1.220205 |
| 11 | P1 | -21.970945 | 1.181617 | -0.900083 |
| 15 | P1 | -11.627829 | 3.806079 | -1.708558 |
| 19 | P1 | -14.493743 | 0.094152 | 0.187565 |
| 22 | P1 | -15.930877 | 8.733503 | -2.442877 |
| 26 | P1 | -17.603586 | 6.449015 | -2.135306 |
| 30 | P1 | -18.123175 | 2.561225 | -1.495907 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -21.713614 | 0.089335 | 0.074708 |
| 7 | P2 | -21.877497 | 0.135556 | -0.097203 |
| 11 | P2 | -13.493941 | 0.474957 | -0.387979 |
| 15 | P2 | -7.051486 | 0.103777 | -0.082019 |
| 19 | P2 | -9.541667 | 0.145411 | 0.203432 |
| 22 | P2 | -16.803432 | 0.104661 | -0.016646 |
| 26 | P2 | -16.501482 | 0.103976 | 0.000209 |
| 30 | P2 | -18.830664 | 0.120997 | -0.165135 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.156289 | 0.004080 | -0.010194 |
| 7 | P3 | -8.156289 | 0.004080 | -0.010194 |
| 11 | P3 | -8.156289 | 0.004080 | -0.010194 |
| 15 | P3 | -8.156289 | 0.004080 | -0.010194 |
| 19 | P3 | -8.156289 | 0.004080 | -0.010194 |
| 22 | P3 | -8.156289 | 0.004080 | -0.010194 |
| 26 | P3 | -8.156294 | 0.004080 | -0.010179 |
| 30 | P3 | -8.156294 | 0.004080 | -0.010179 |

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 | -2.759559 | 0.025993 | 0.107052 |
| 7 | P1 | -2.975086 | 0.051581 | -0.106283 |
| 11 | P1 | -4.041455 | 0.028627 | -0.012917 |
| 15 | P1 | -3.634790 | 0.025901 | -0.037720 |
| 19 | P1 | -3.608995 | 0.038310 | 0.147830 |
| 22 | P1 | -5.676516 | 0.095528 | 0.211574 |
| 26 | P1 | -7.283225 | 0.254928 | 0.466790 |
| 30 | P1 | -6.229432 | 0.198526 | 0.355945 |
| 3 | P1 | -11.025462 | 0.208182 | -0.440501 |
| 7 | P1 | -10.921945 | 7.276340 | -2.470748 |
| 11 | P1 | -13.187325 | 10.687007 | -3.098144 |
| 15 | P1 | -12.182605 | 11.210307 | -3.083501 |
| 19 | P1 | -15.419548 | 0.108675 | 0.248670 |
| 22 | P1 | -25.355402 | 2.014700 | 0.304522 |

| | | | | |
|----|----|------------|----------|-----------|
| 26 | P1 | -15.386259 | 2.407026 | -1.229796 |
| 30 | P1 | -20.139278 | 1.522464 | -0.281358 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -17.414024 | 0.049611 | 0.105726 |
| 7 | P2 | -21.995462 | 0.068129 | -0.111294 |
| 11 | P2 | -9.502144 | 0.174466 | -0.152345 |
| 15 | P2 | -5.071209 | 0.036957 | 0.030742 |
| 19 | P2 | -6.809745 | 0.083545 | 0.188839 |
| 22 | P2 | -7.019802 | 0.043246 | 0.009521 |
| 26 | P2 | -23.947977 | 0.034288 | 0.003584 |
| 30 | P2 | -21.940392 | 0.052137 | -0.084821 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.000658 | 0.004147 | -0.007161 |
| 7 | P3 | -8.000651 | 0.004152 | -0.007046 |
| 11 | P3 | -8.000582 | 0.004140 | -0.006930 |
| 15 | P3 | -8.000562 | 0.004156 | -0.006867 |
| 19 | P3 | -8.000720 | 0.004143 | -0.007302 |
| 22 | P3 | -8.000481 | 0.004143 | -0.007030 |
| 26 | P3 | -8.000530 | 0.004154 | -0.007633 |
| 30 | P3 | -8.000473 | 0.004150 | -0.007320 |

4.3 - cal pulses monitoring (all rows)

4.3.1 - Evolution for WVS



4.3.2 - Evolution for GM1



5 - RAW data statistics

-Preliminary report. The data is not yet controlled

5.1 - Input mean I/Q

| channel | stat | DSS-B |
|---------|-------|-------------|
| MEAN I | mean | 0.000430567 |
| | stdev | 2.34111e-07 |
| MEAN Q | mean | 0.000452995 |
| | stdev | 2.41794e-07 |



5.2 - Input stdev I/Q

| channel | stat | DSS-B |
|---------|-------|------------|
| STDEV I | mean | 0.125912 |
| | stdev | 0.00106381 |
| STDEV Q | mean | 0.126167 |
| | stdev | 0.00107404 |



5.3 - Gain imbalance I/Q



6 - Telemetry analysis

Summary of analysis for the last 3 days 2005091[345]

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_1PNPDE20050913_115625_000002262040_00410_18500_5479.N1 | 1 | 0 |
| ASA_WSM_1PNPDE20050914_225857_000003002040_00431_18521_8744.N1 | 0 | 65 |
| ASA_WSM_1PNPDE20050915_012427_000004282040_00432_18522_8770.N1 | 0 | 16 |





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)

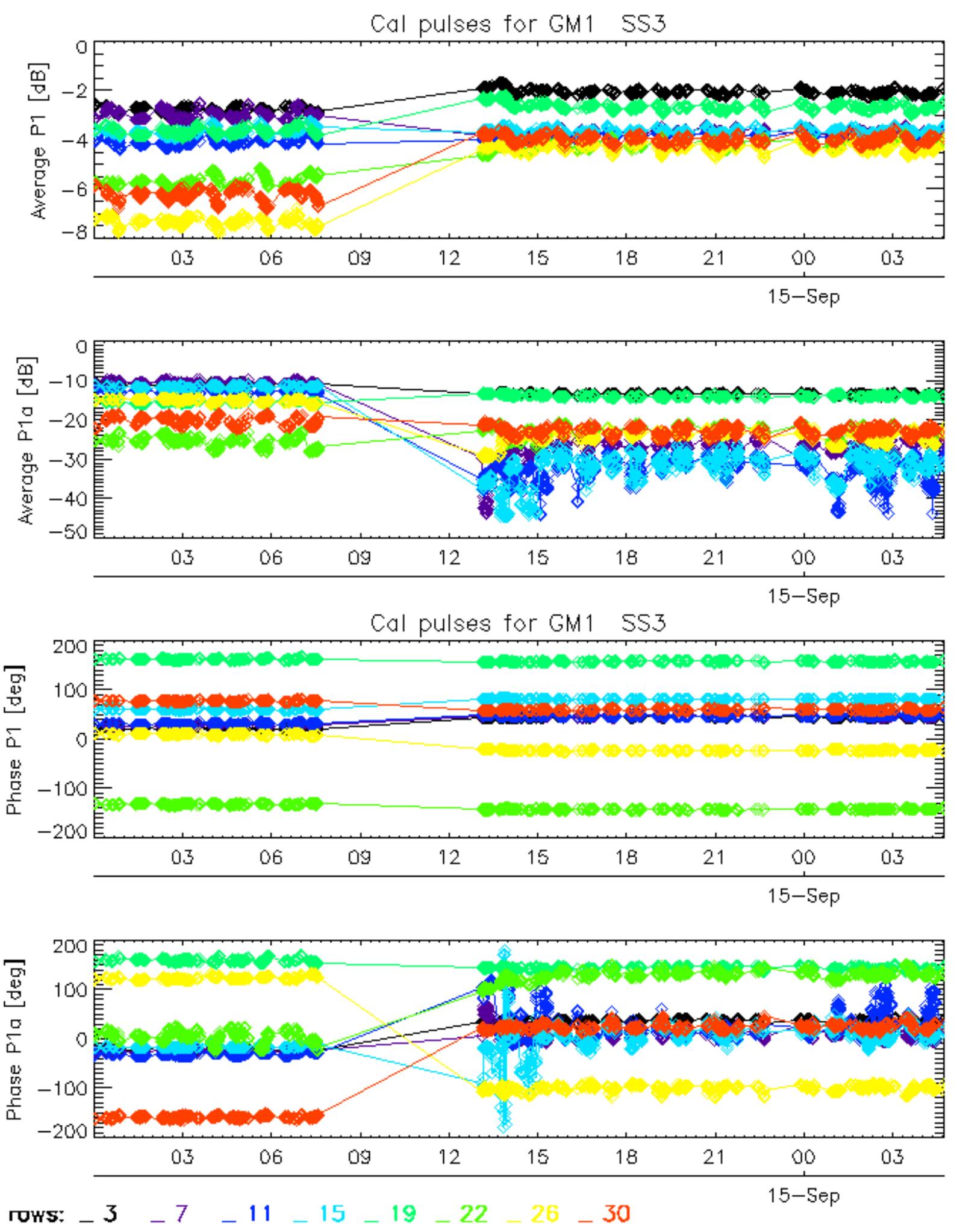
| |
|--------------------------|
| <input type="checkbox"/> |
| Acsending |
| <input type="checkbox"/> |
| Descending |

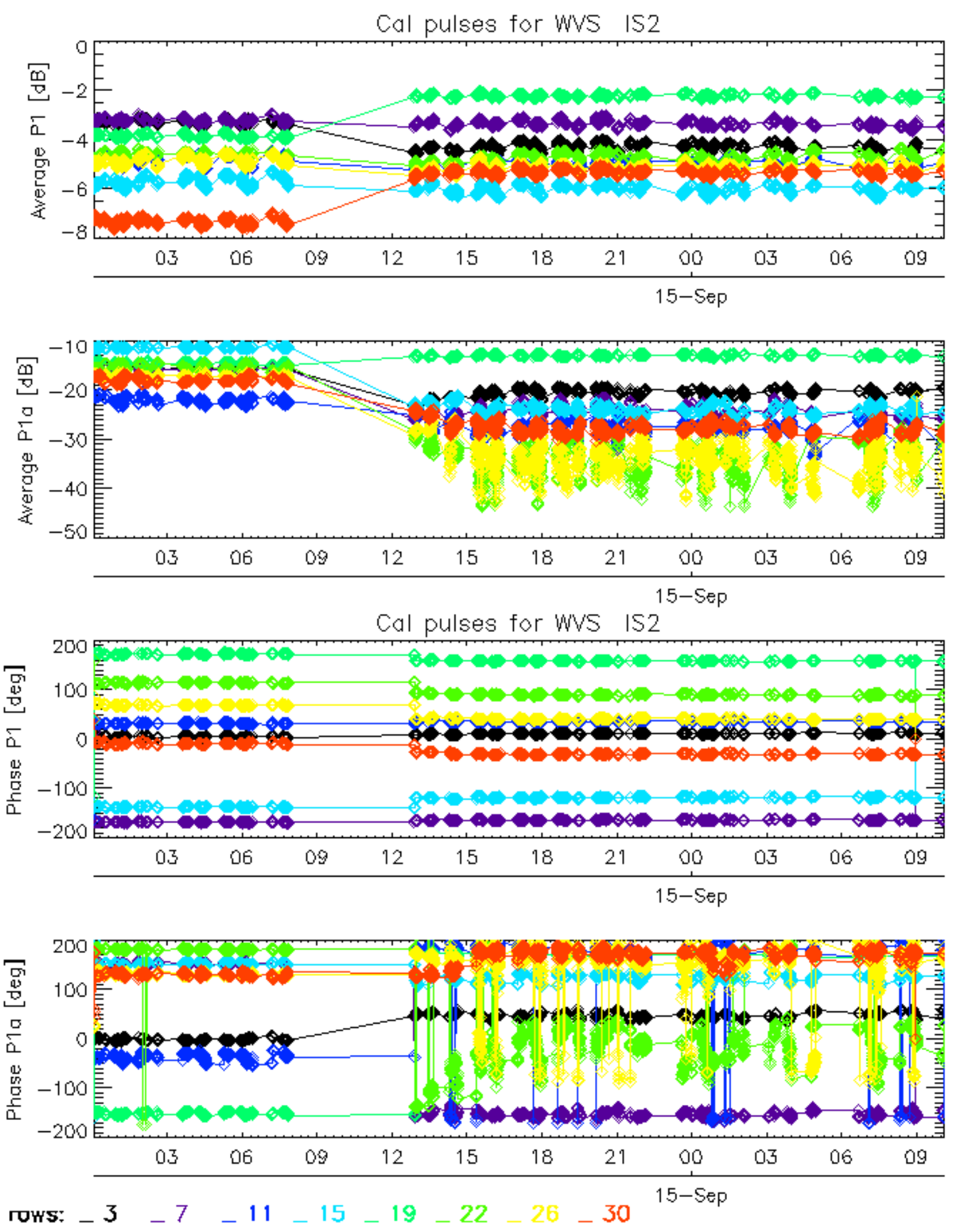
7.5 - Absolute Doppler for GM1

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

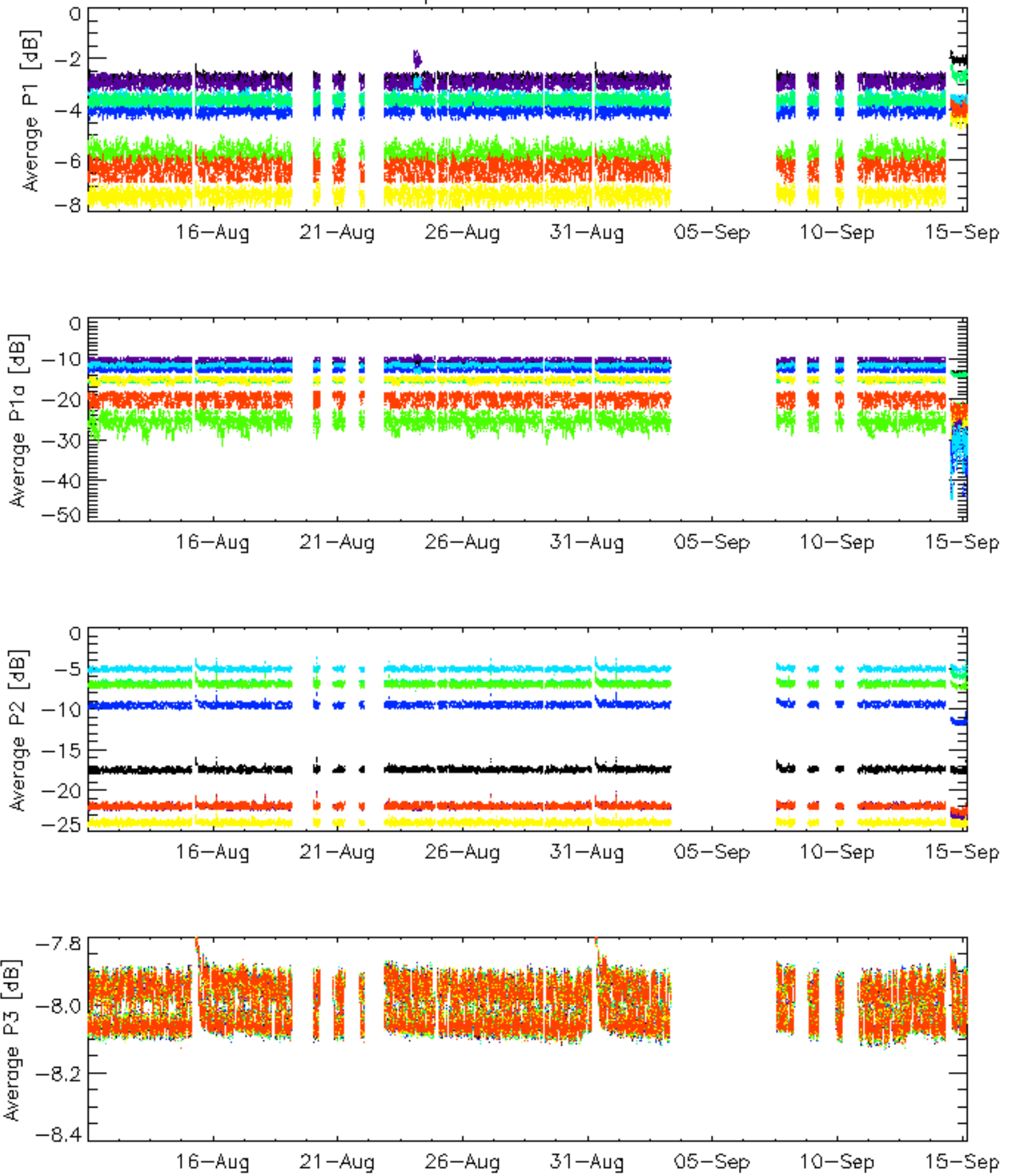
7.6 - Doppler evolution versus ANX for GM1

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



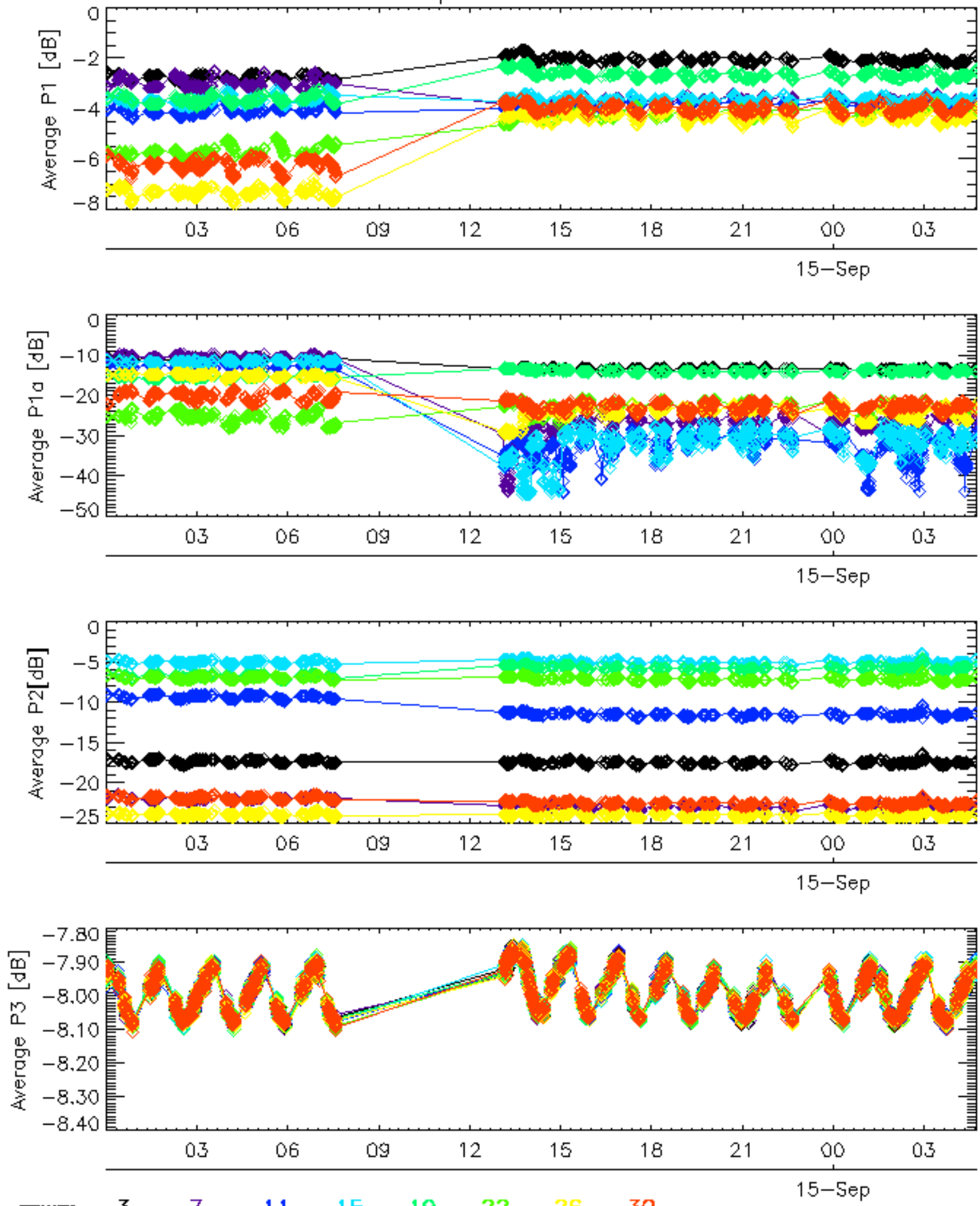


Cal pulses for GM1 SS3



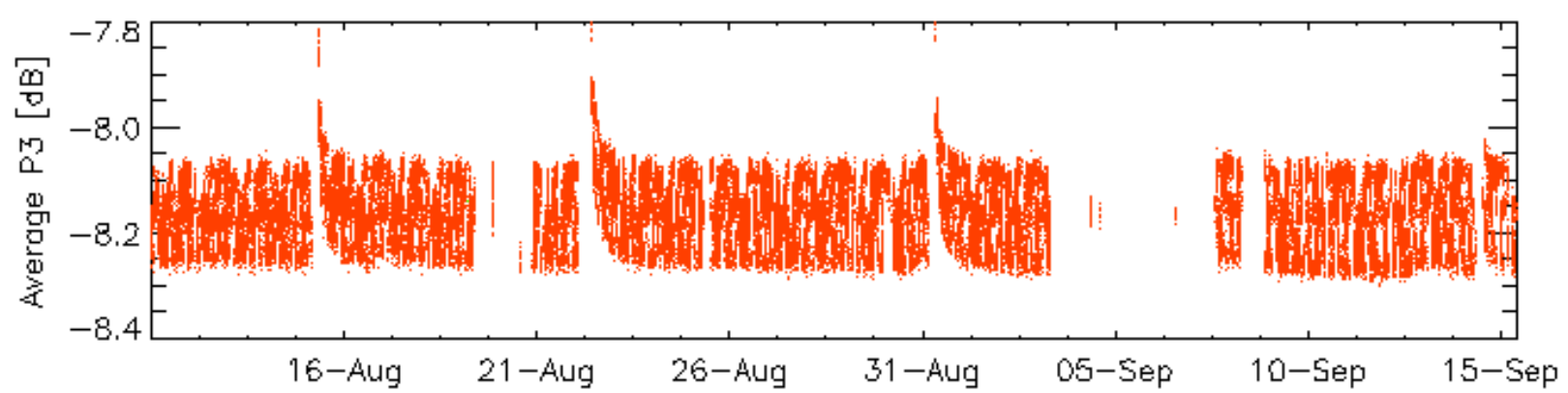
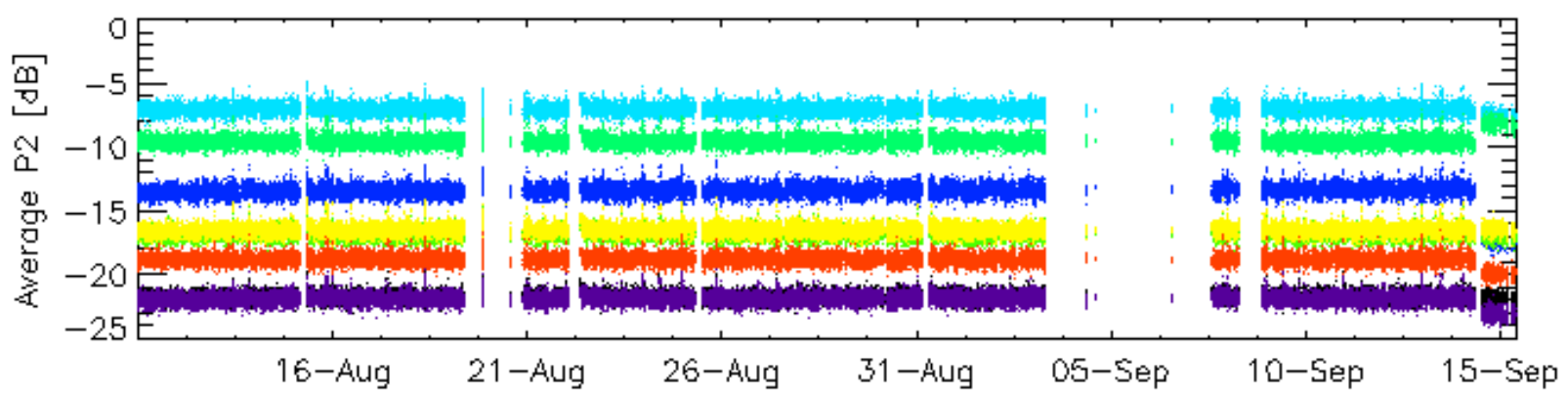
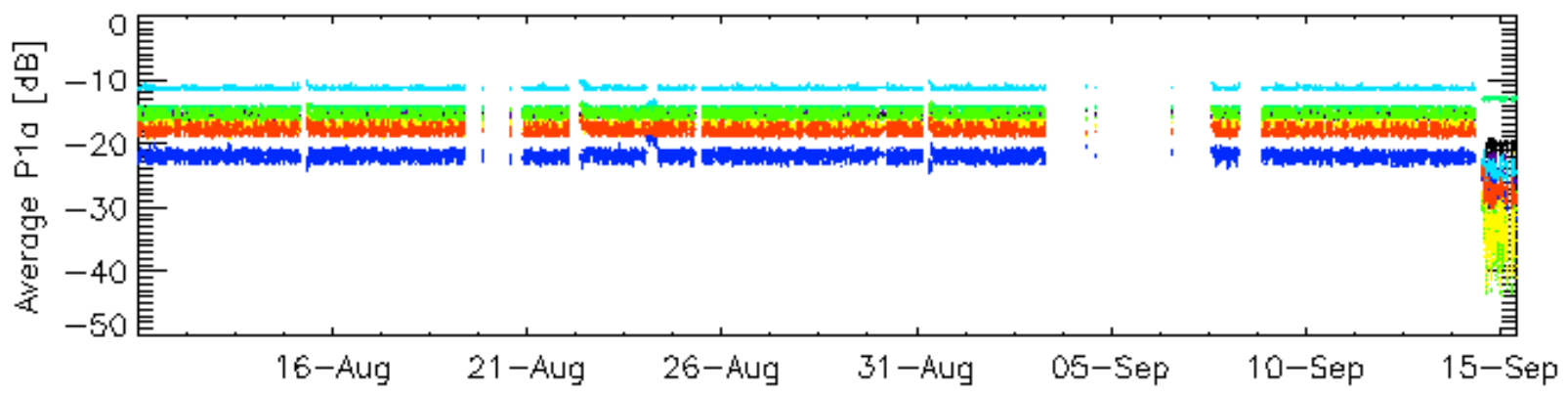
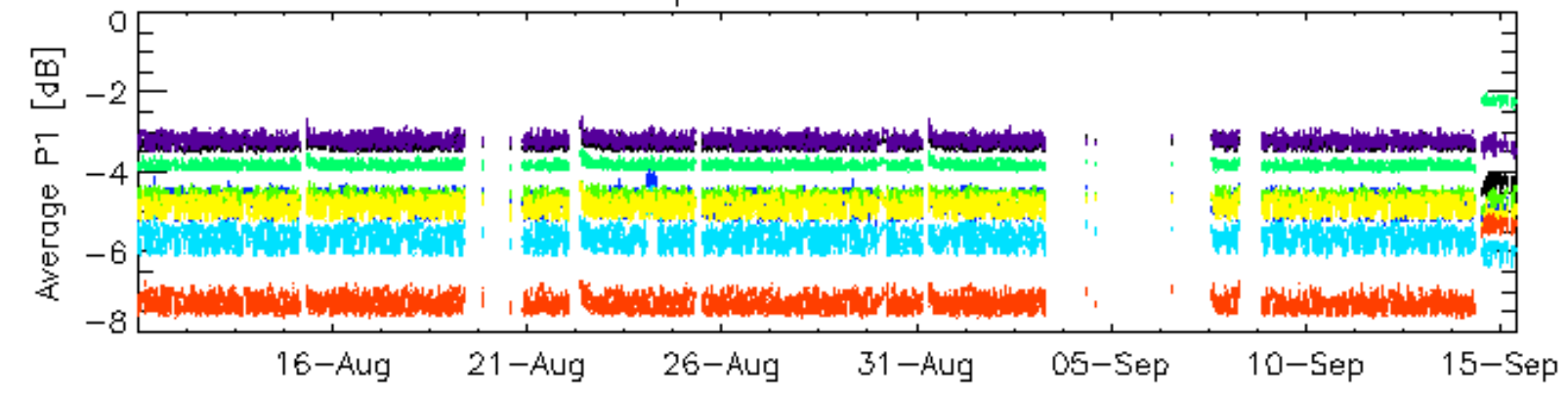
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for GM1 SS3



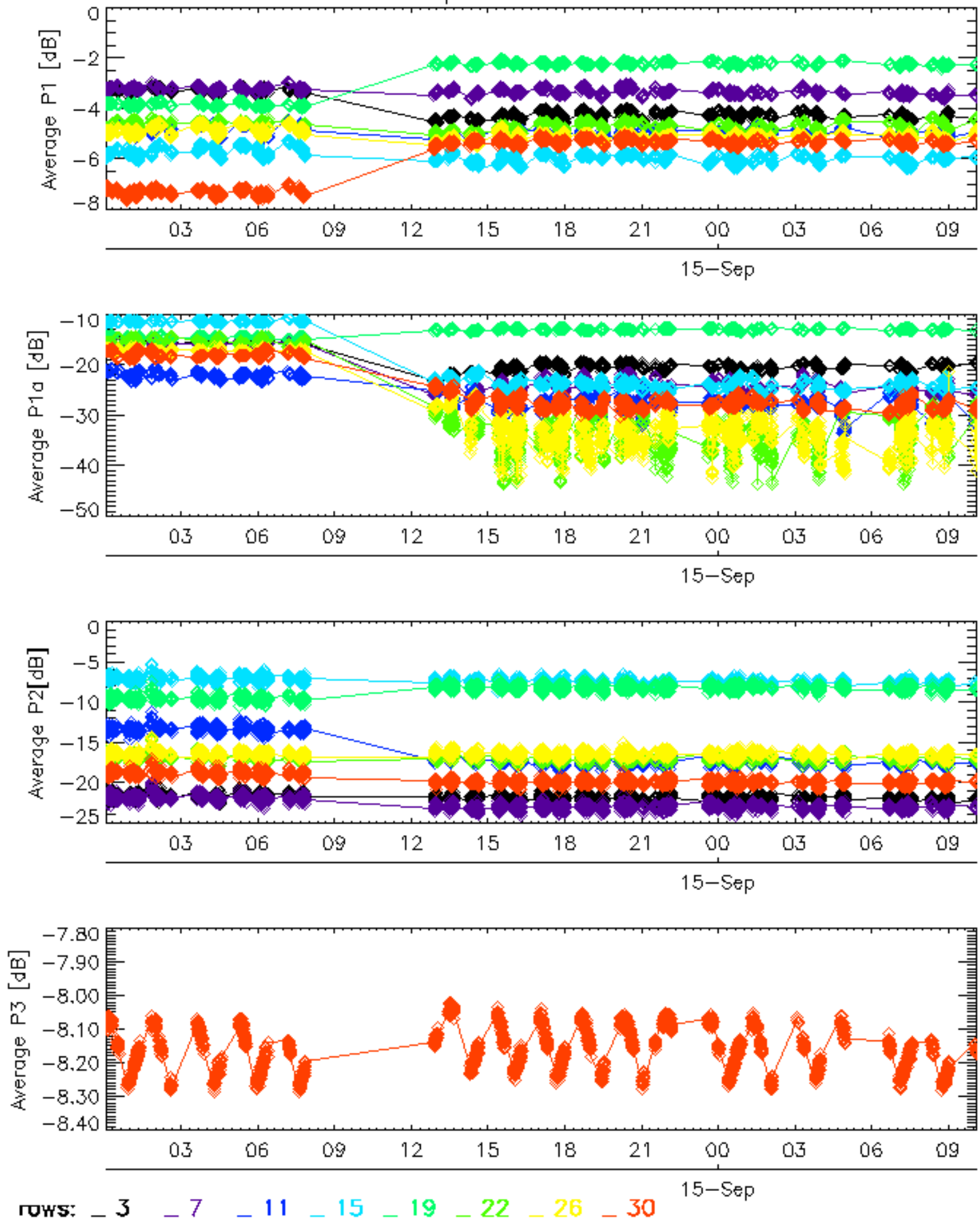
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

Cal pulses for WVS IS2



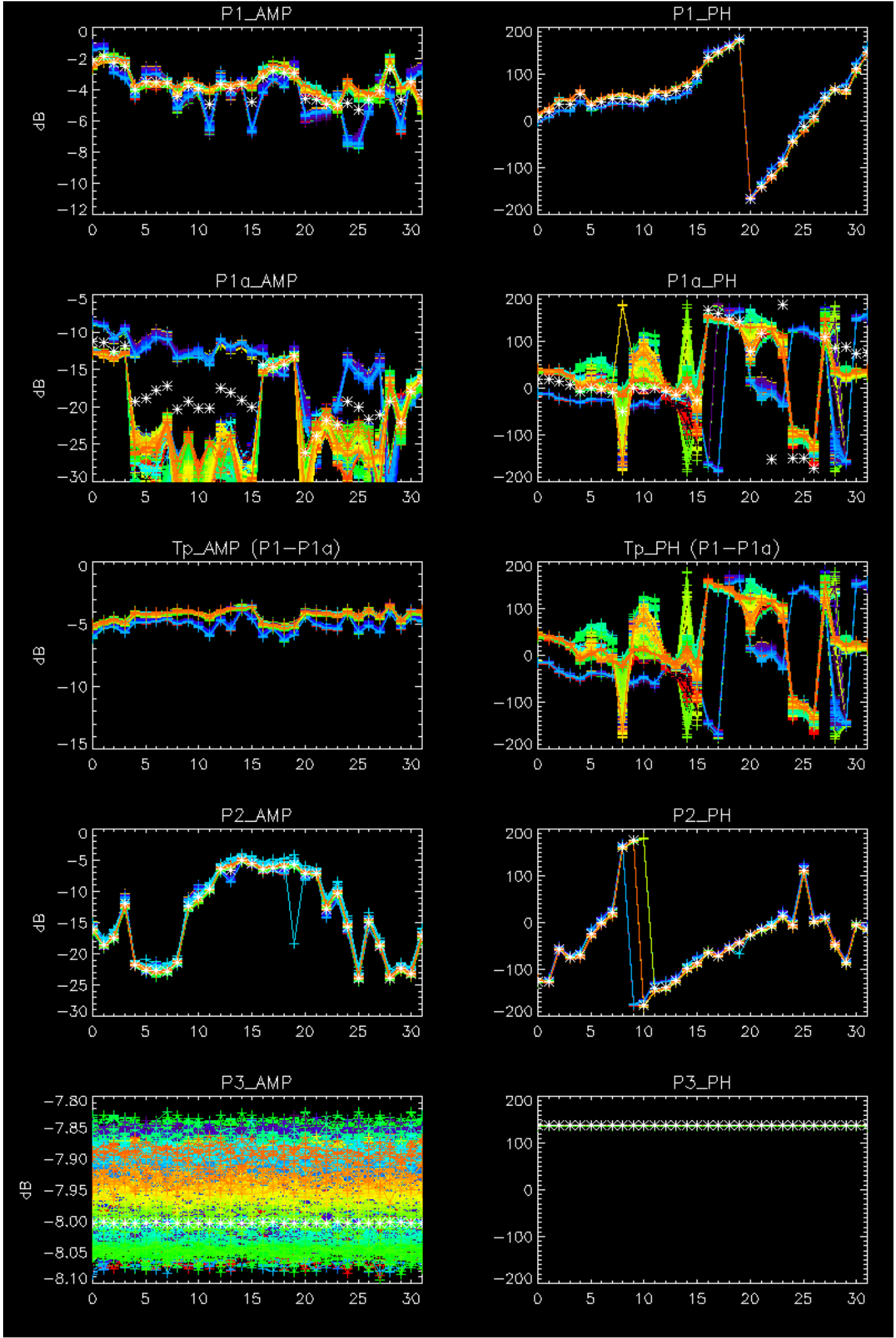
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30

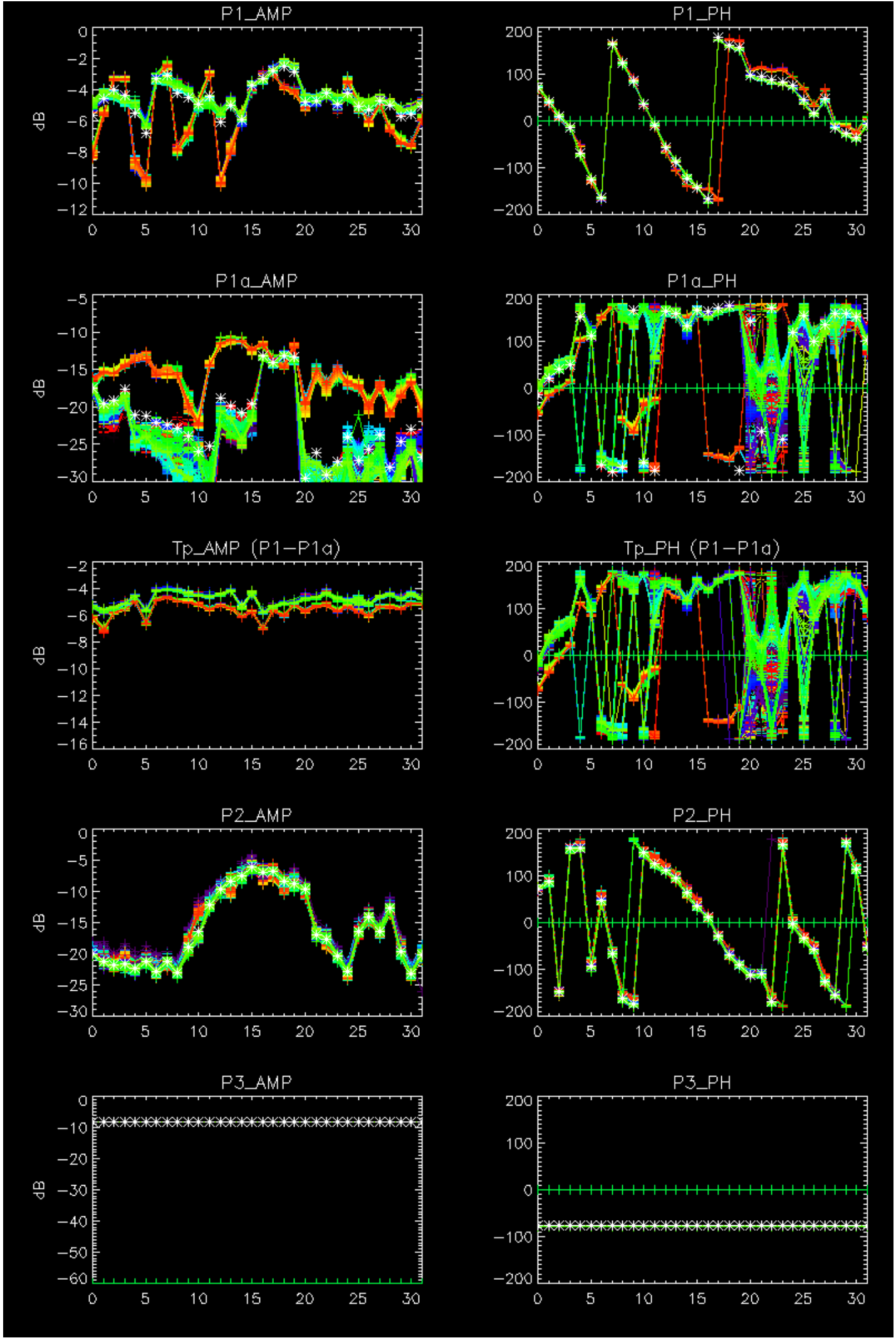
Cal pulses for WVS IS2



No anomalies observed on available browse products

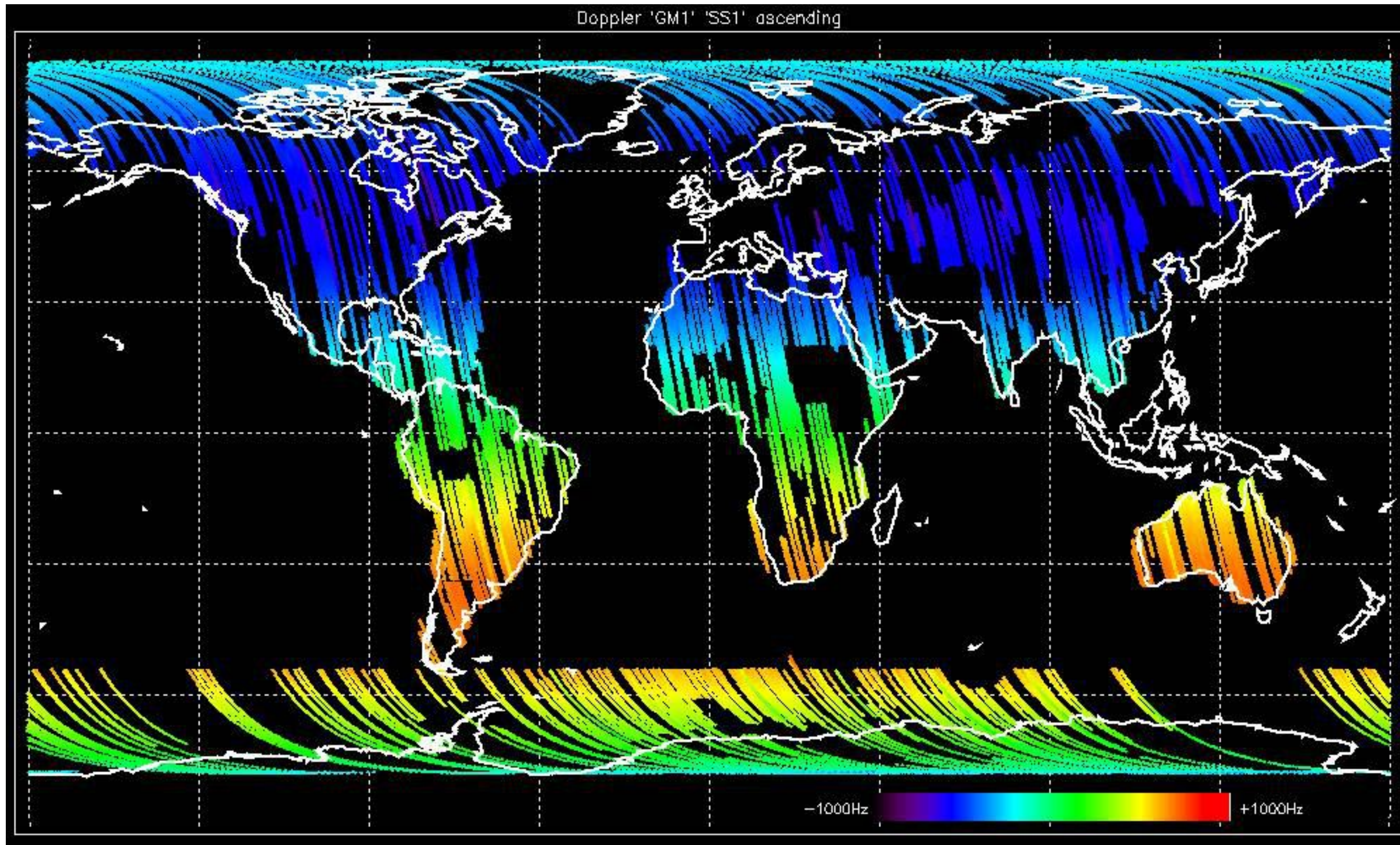
-Preliminary report.The data is not yet controled



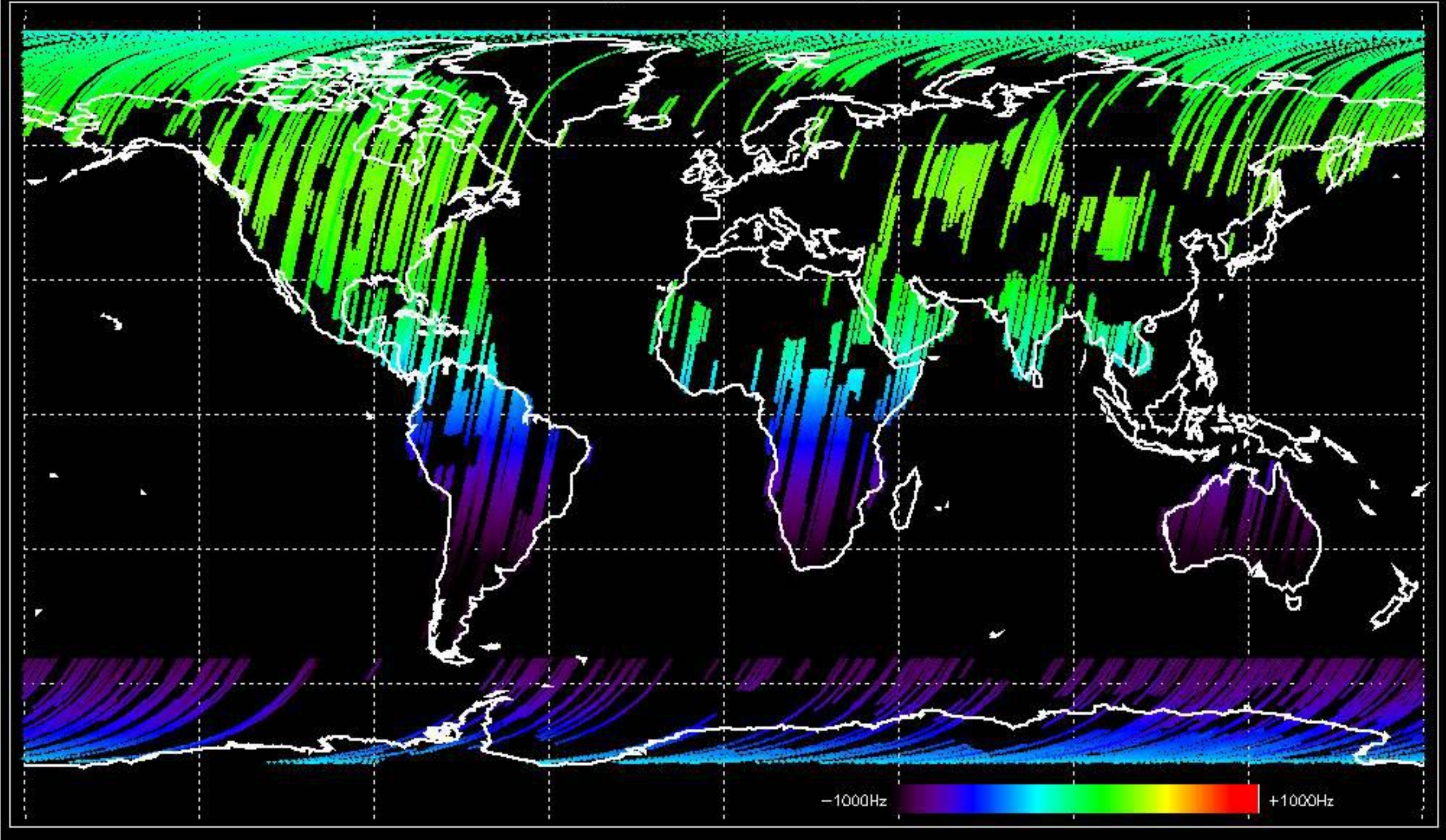


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

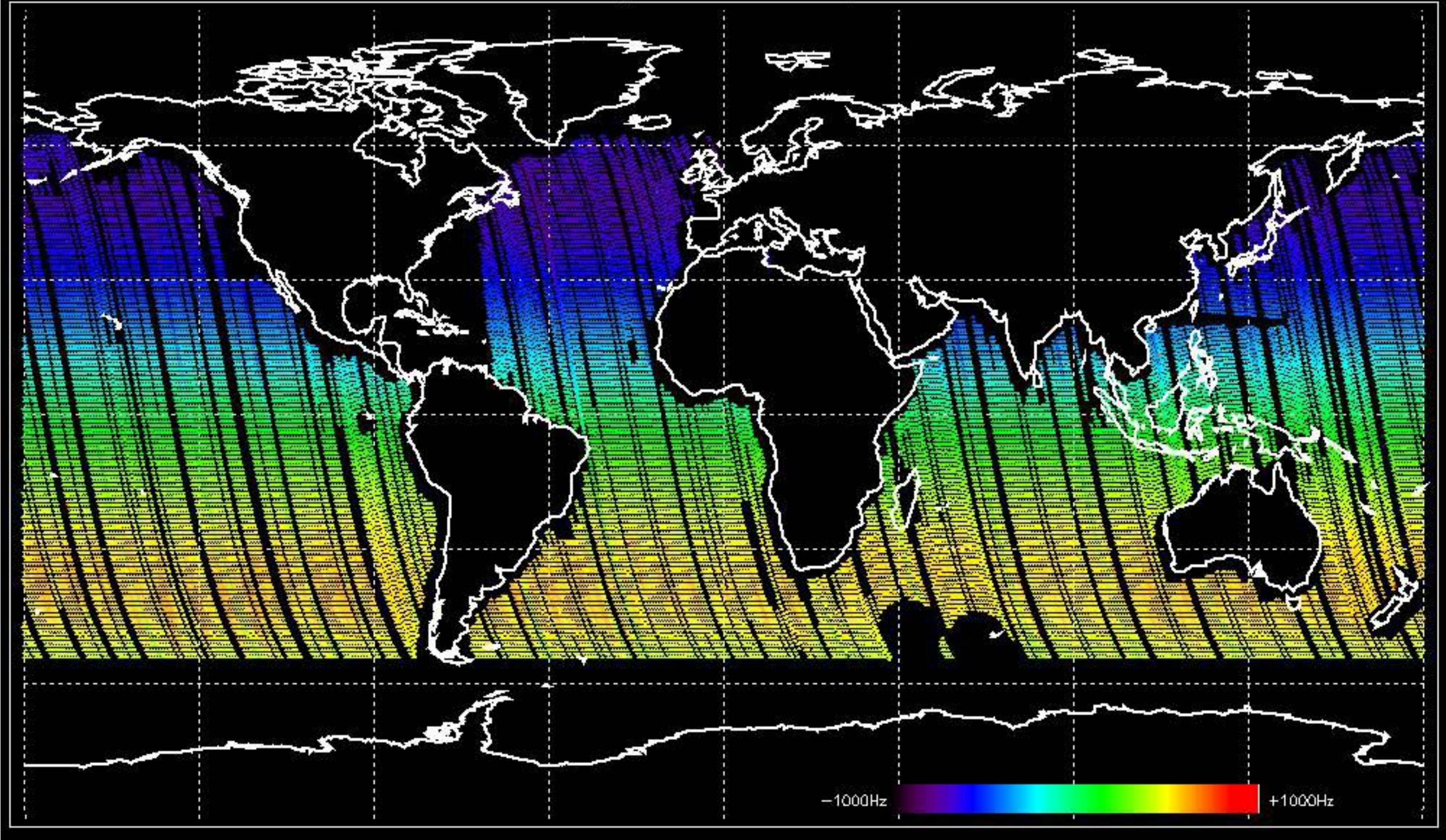
Doppler 'GM1' 'SS1' ascending



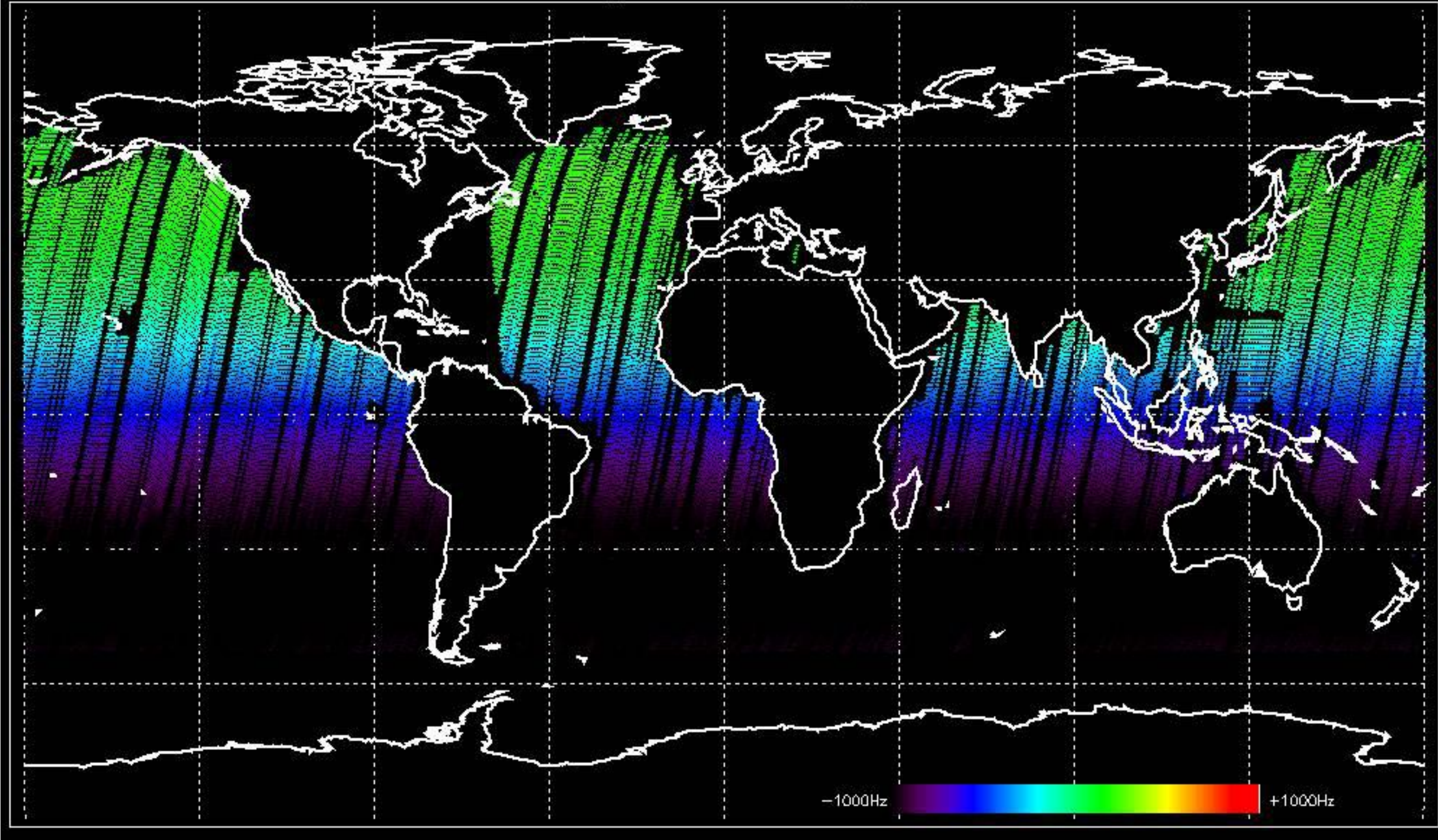
Doppler 'GM1' 'SS1' descending



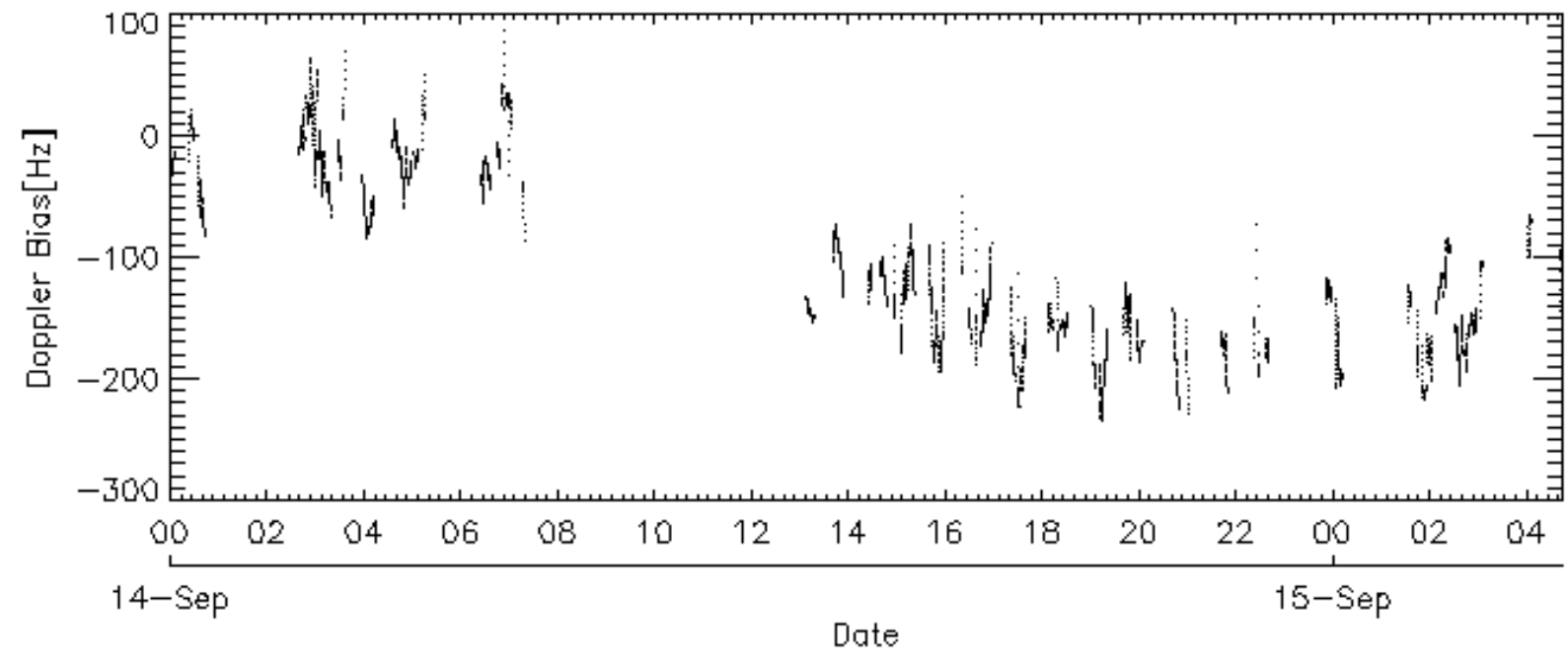
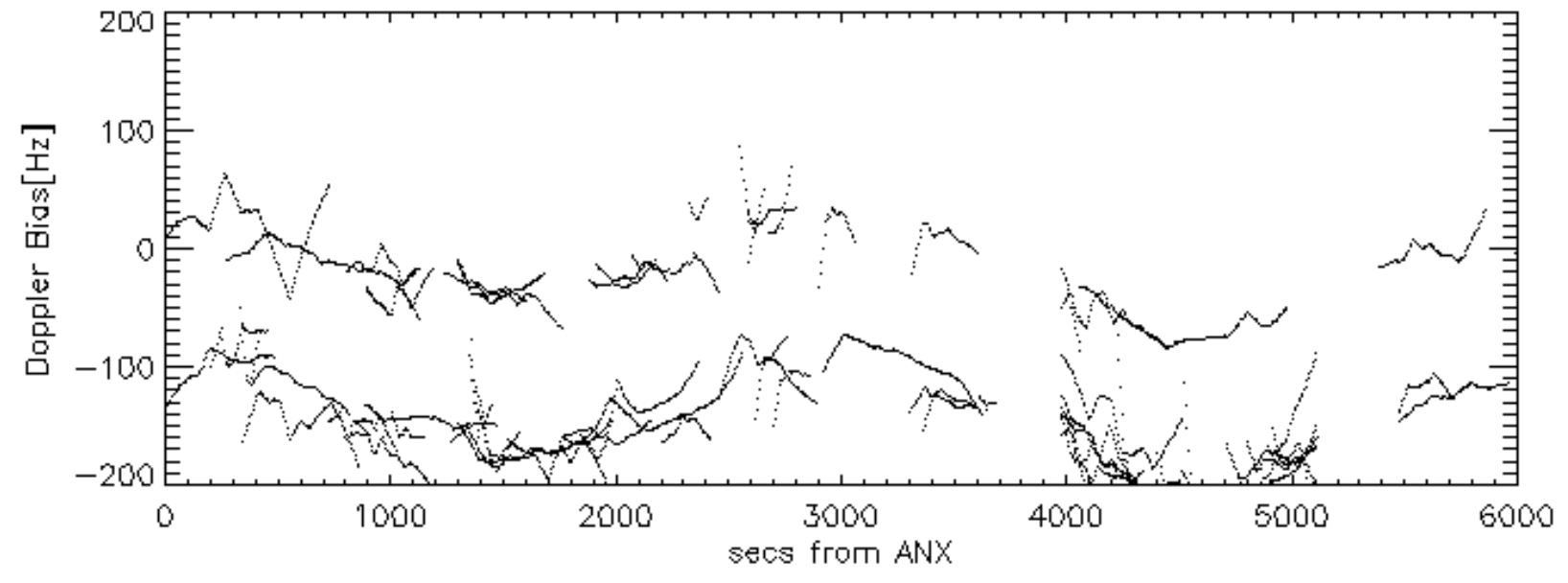
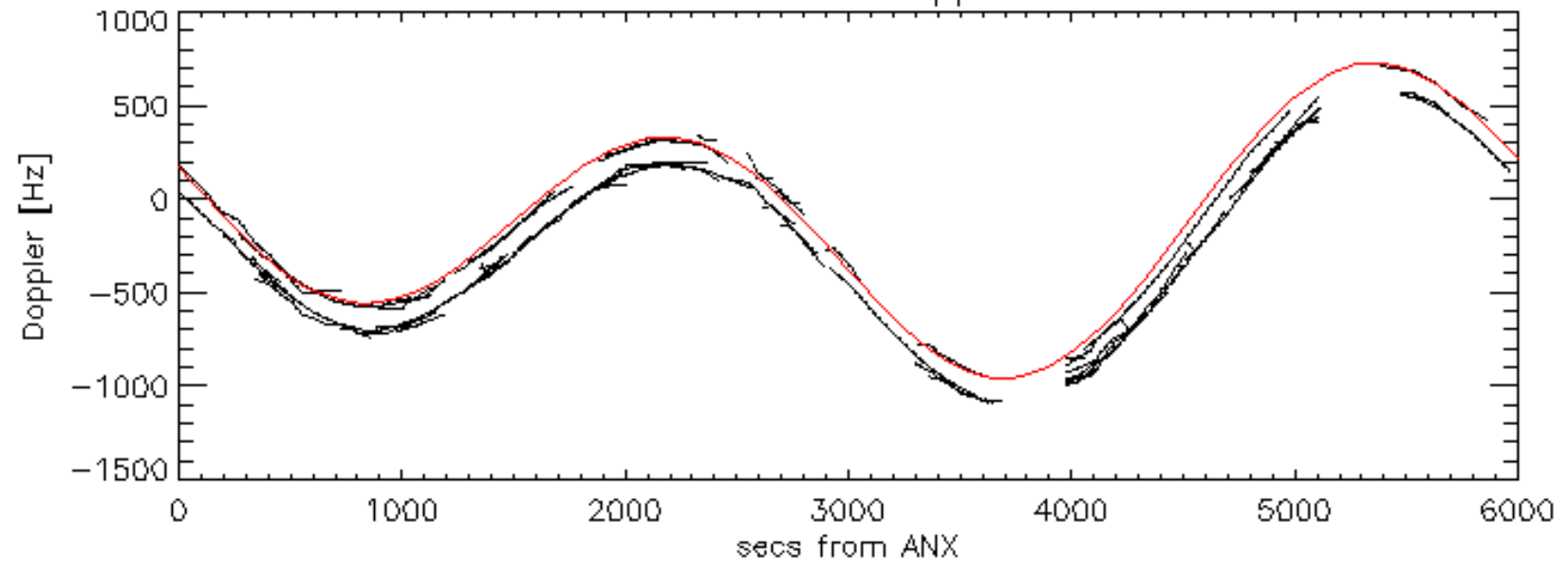
Doppler 'WVS' 'IS2' ascending

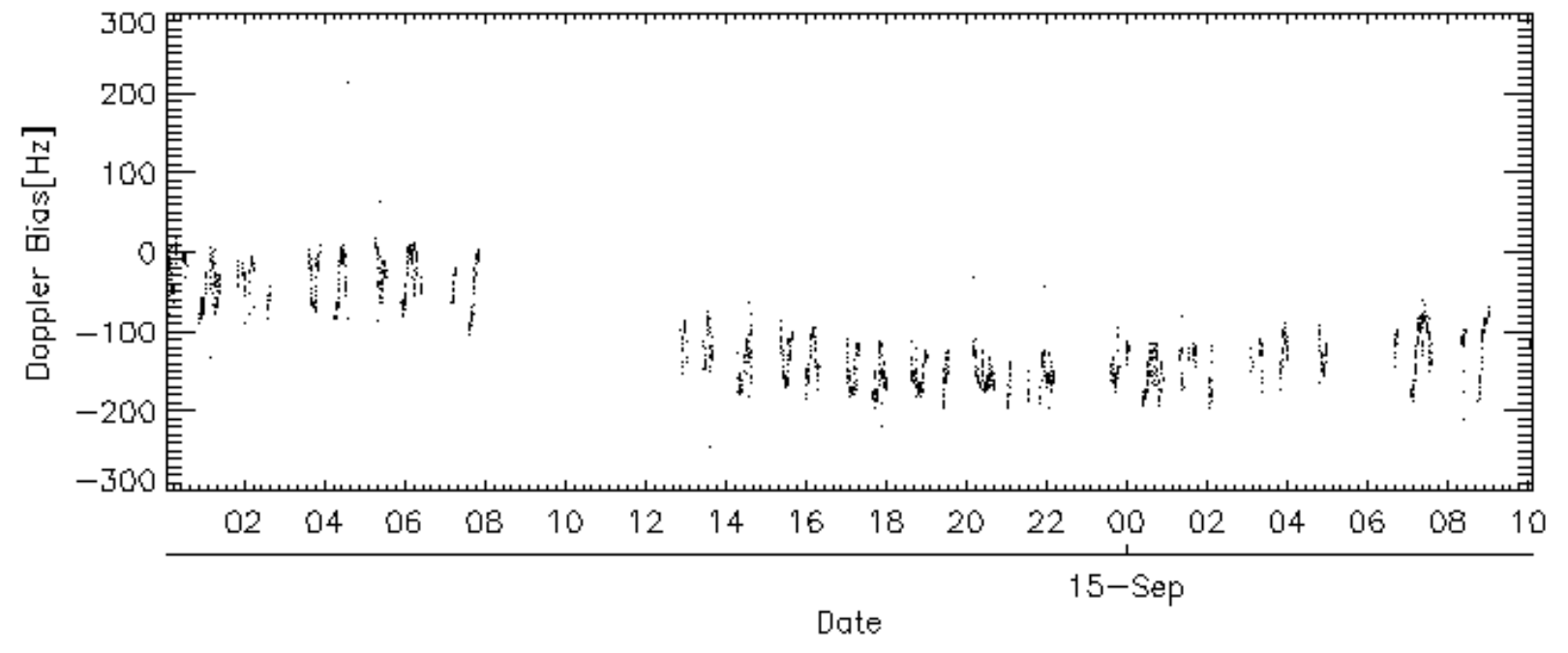
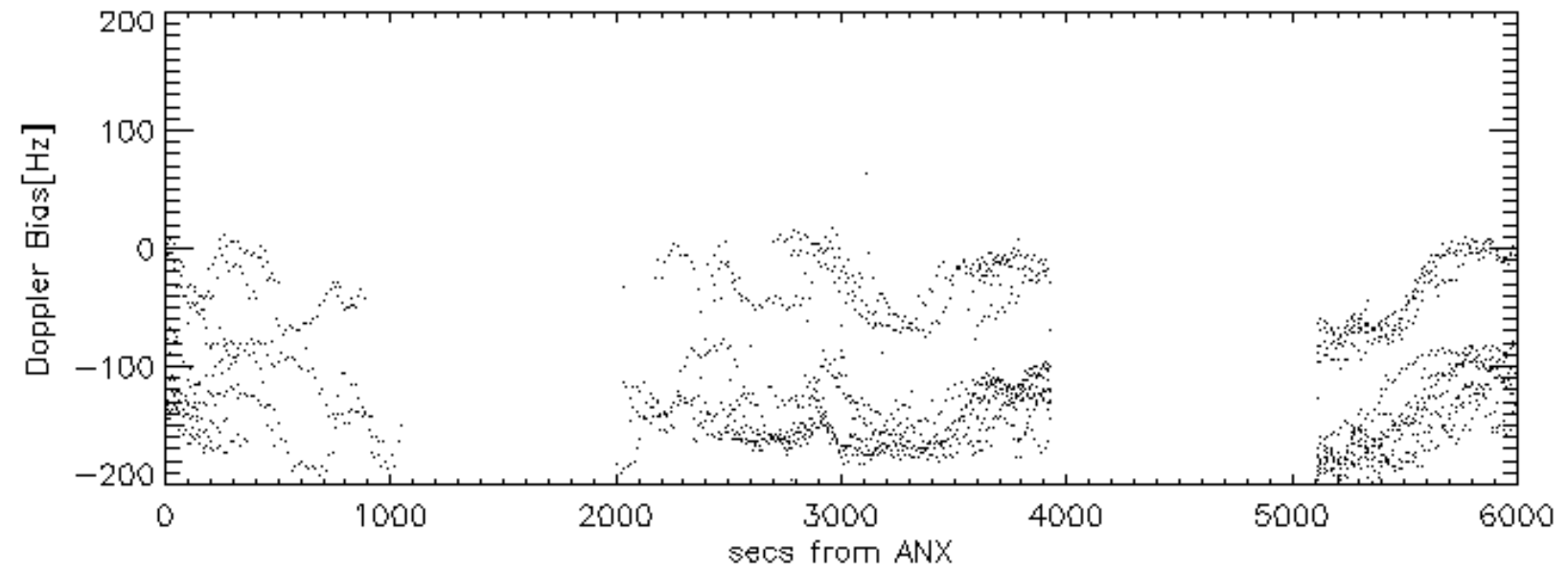
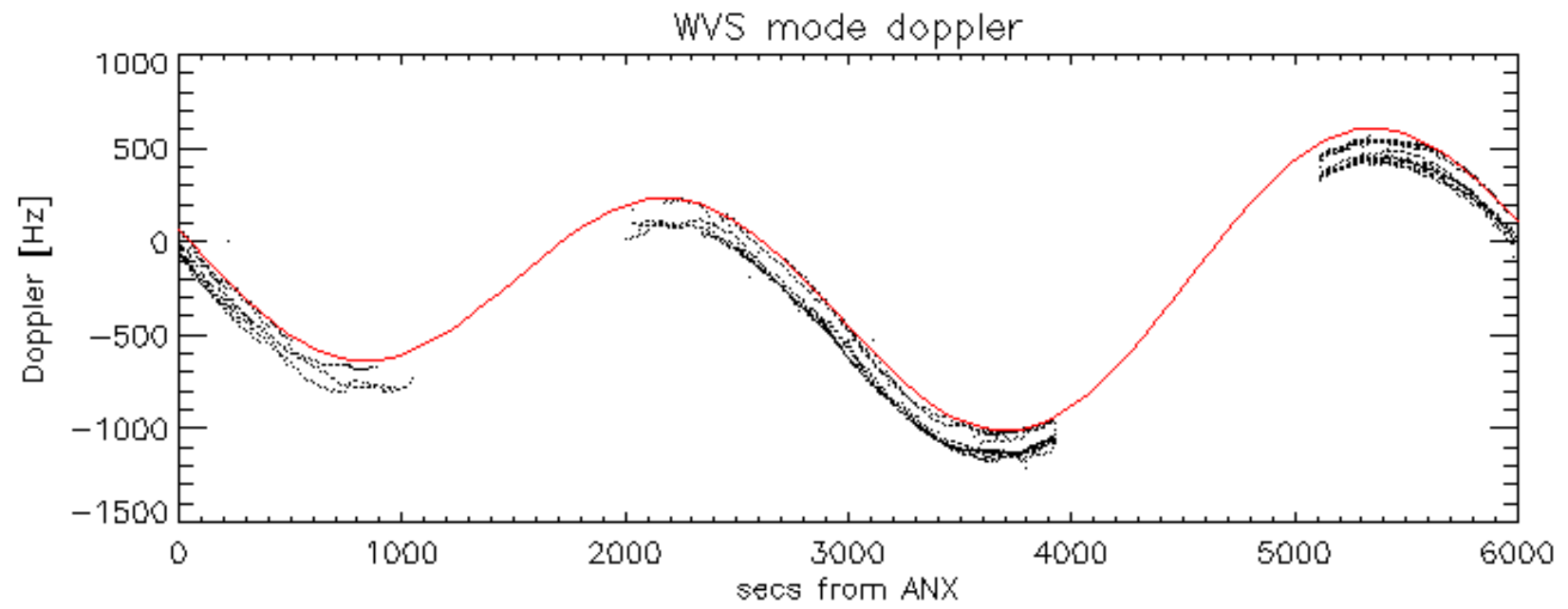


Doppler 'WVS' 'IS2' descending

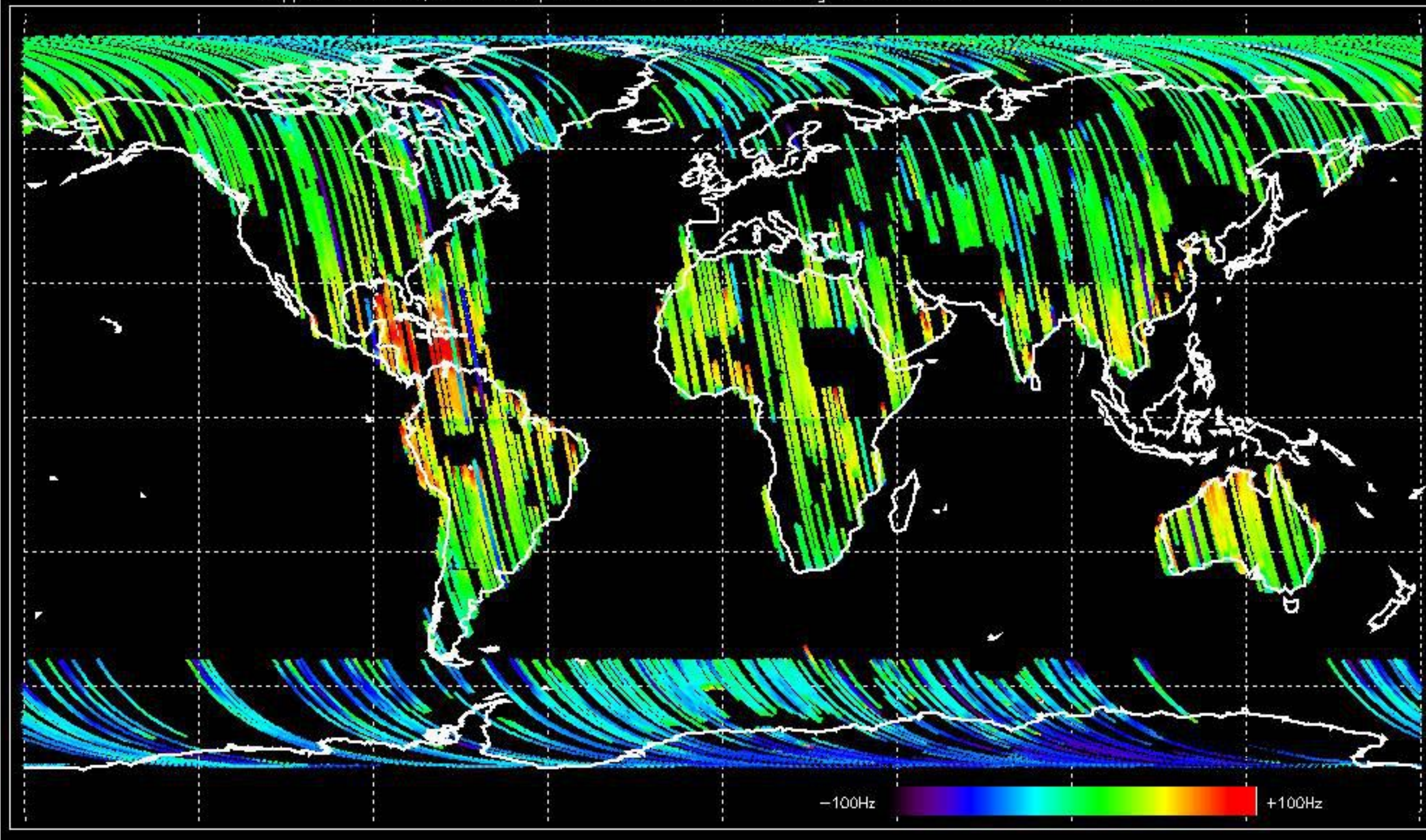


GM1 mode doppler

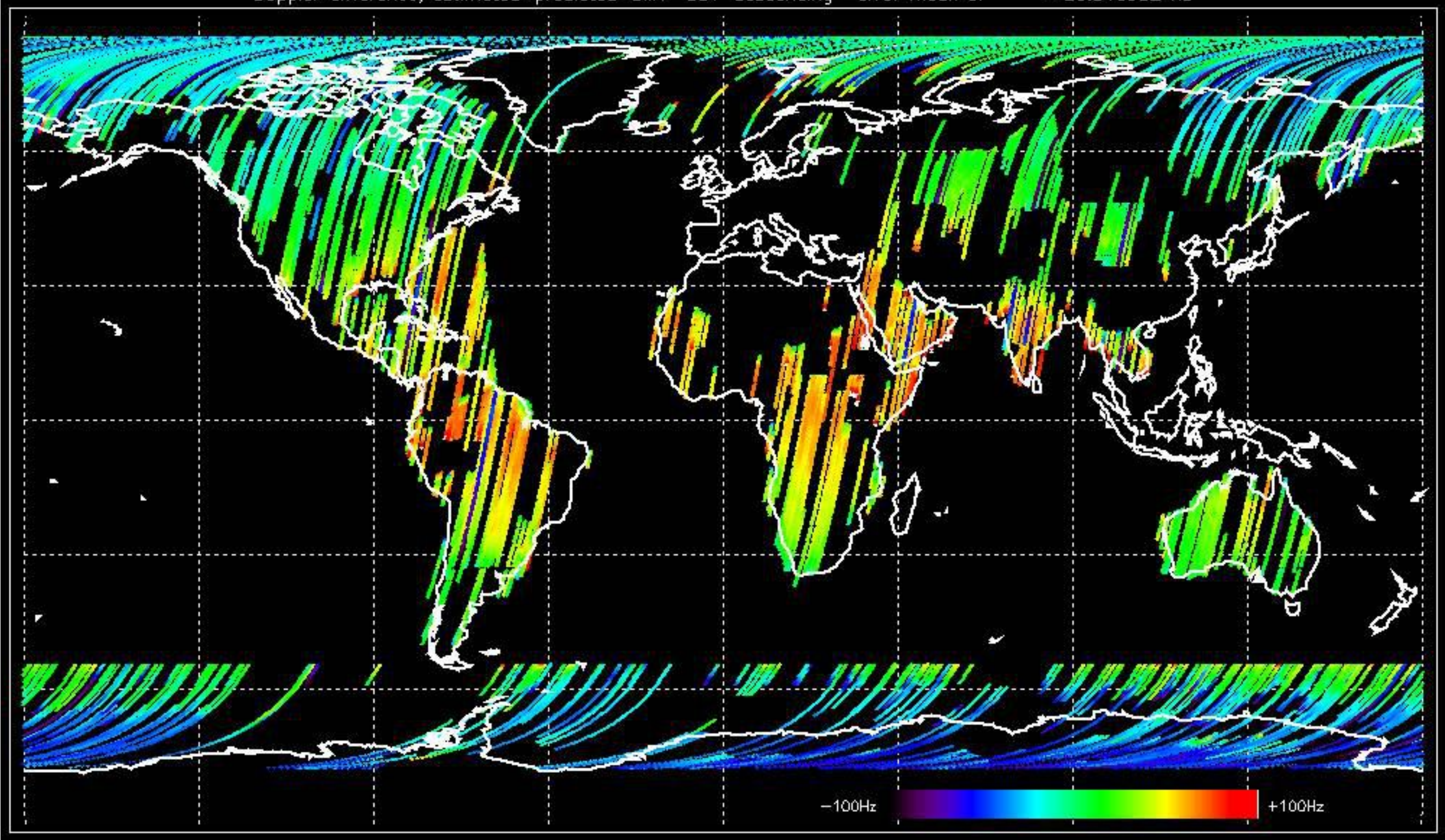




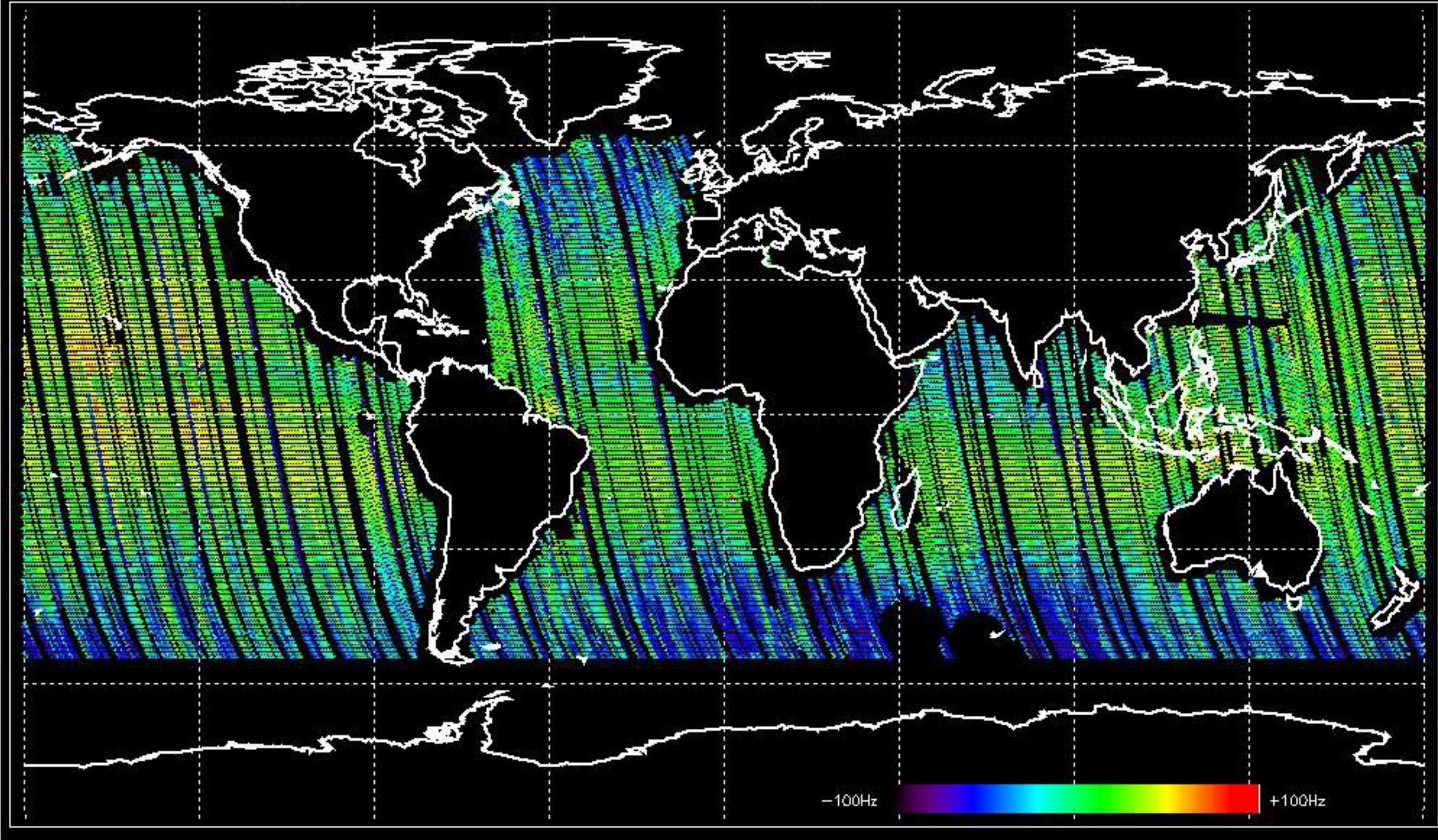
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -36.399830 Hz



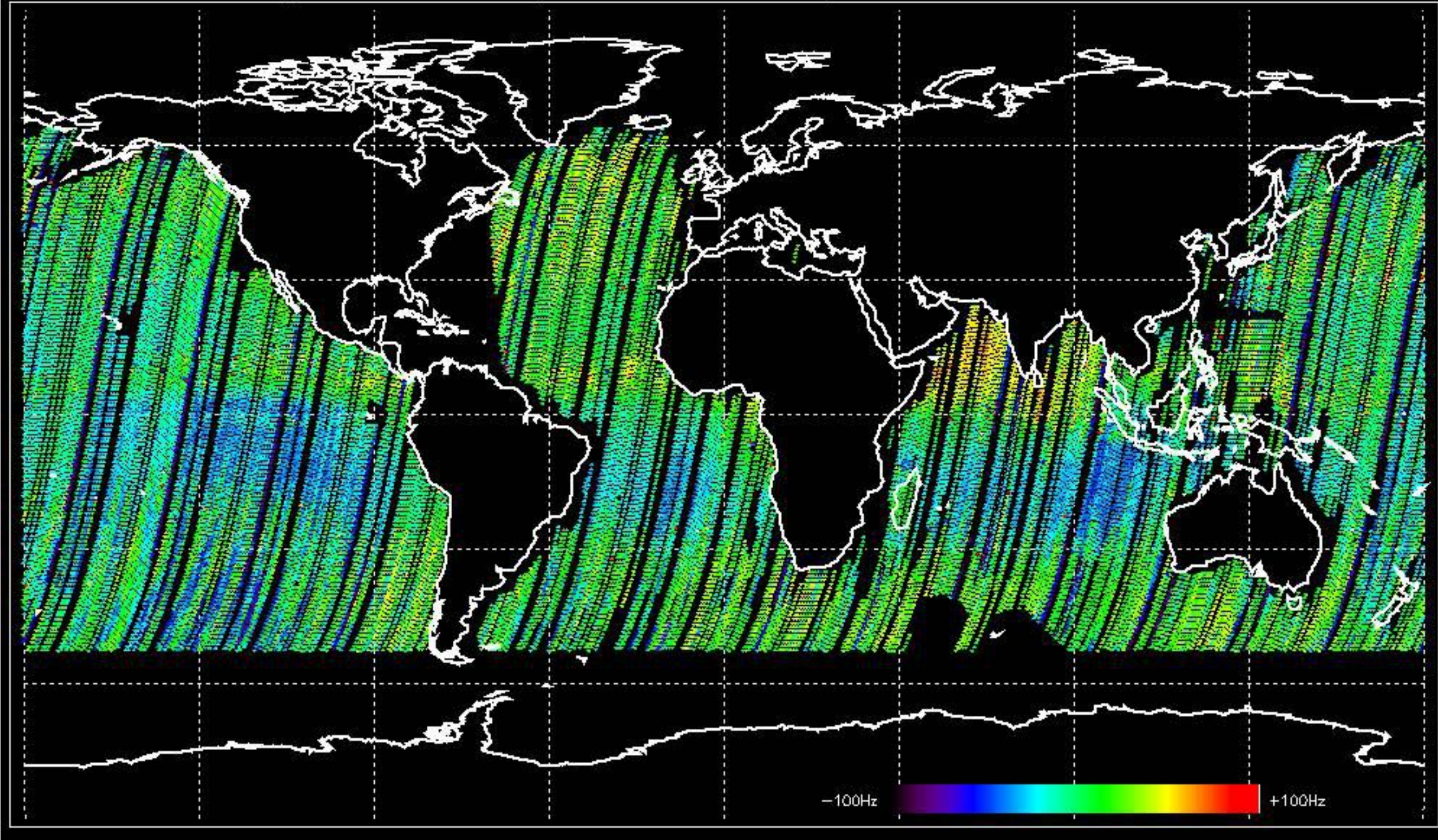
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -28.916902 Hz



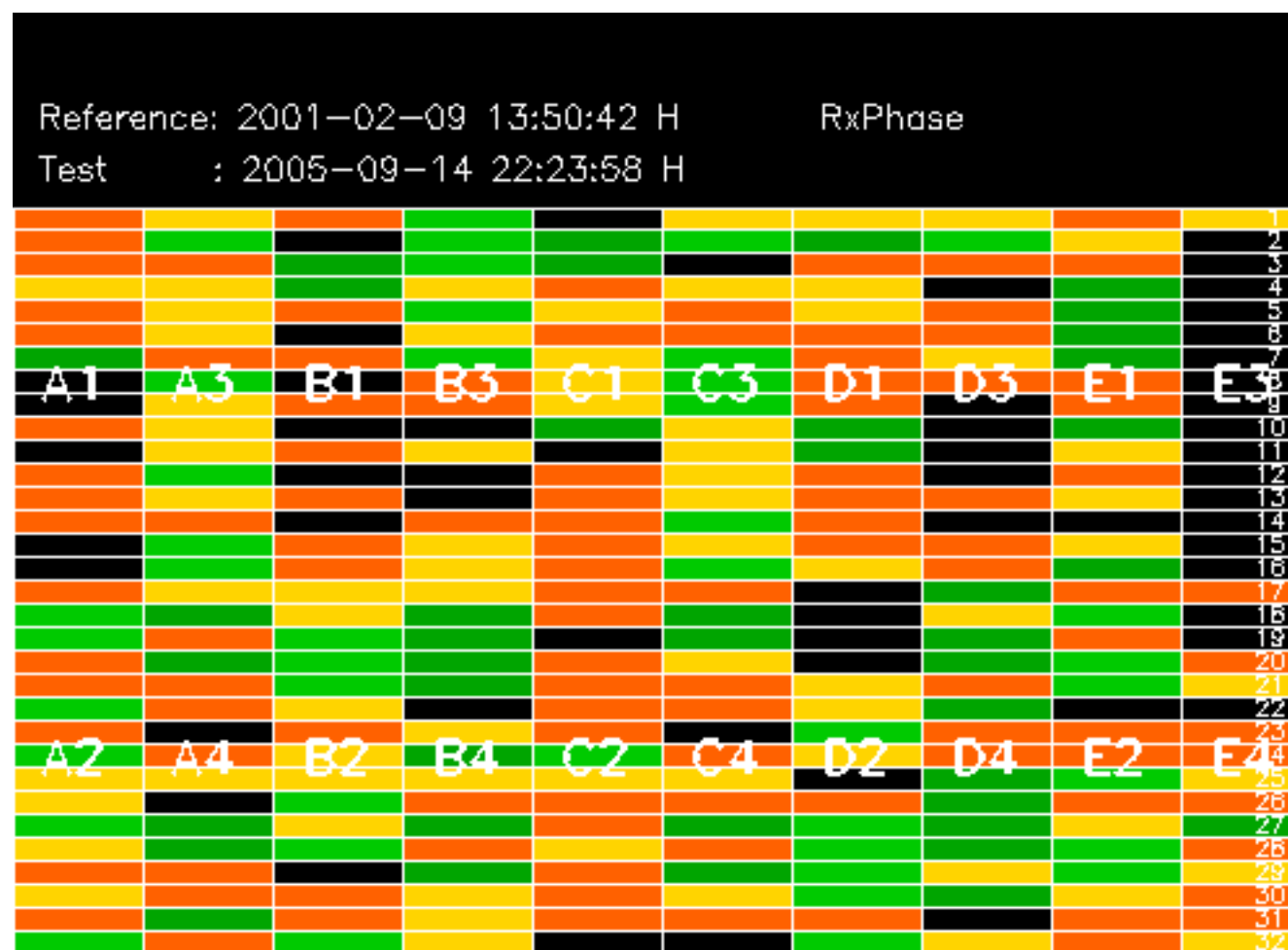
Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -38.641768 Hz

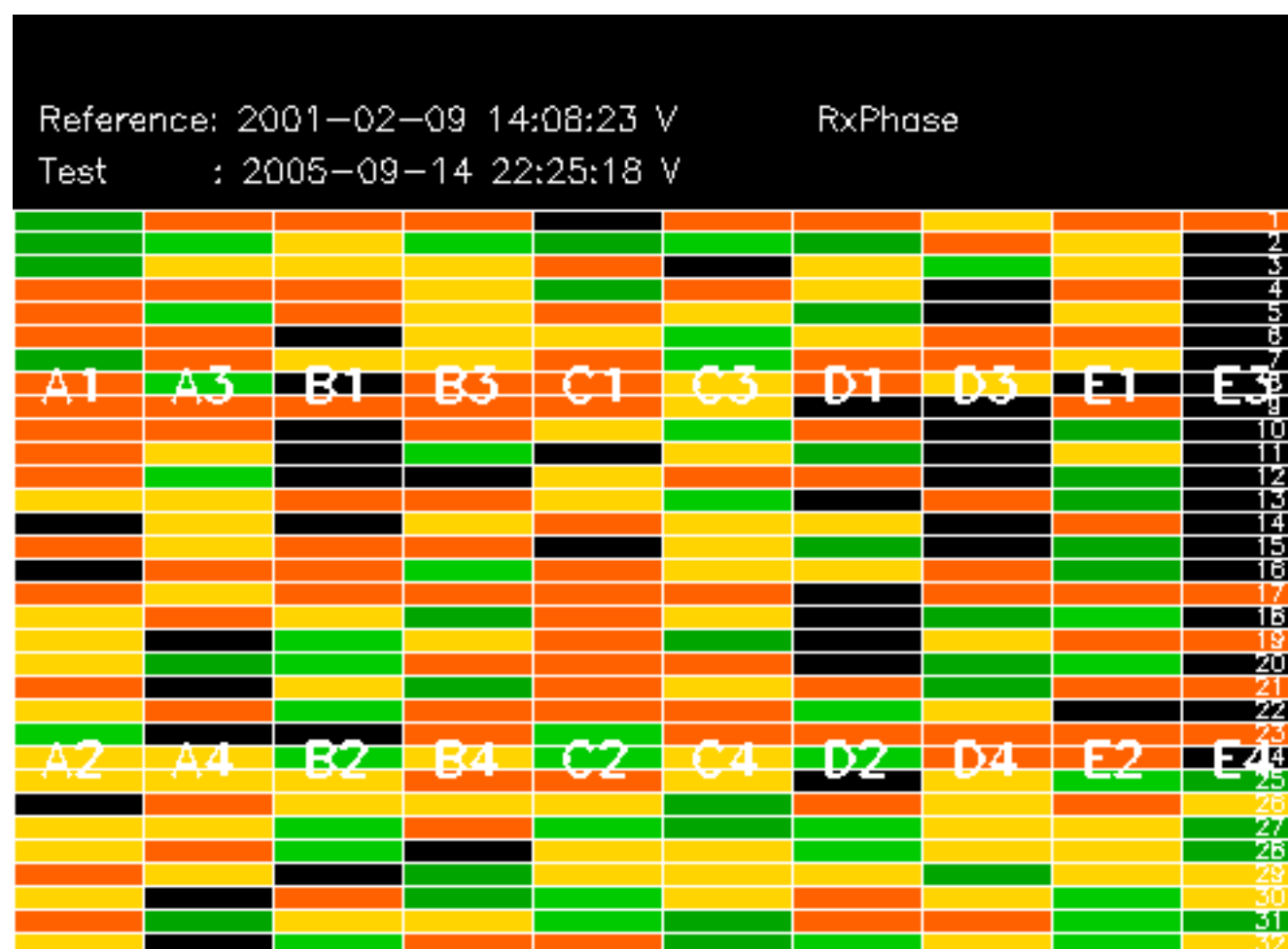


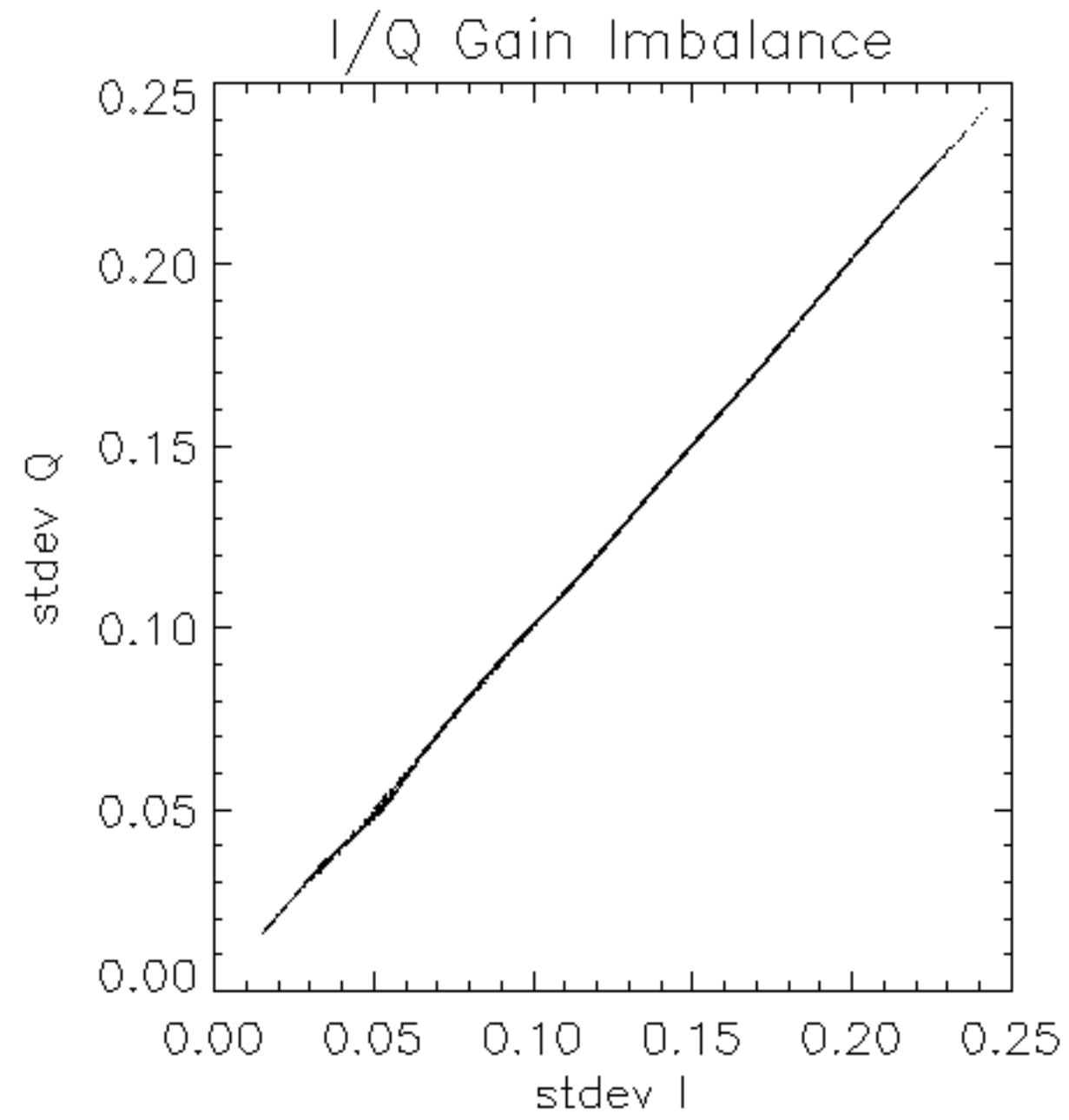
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -43.111345 Hz

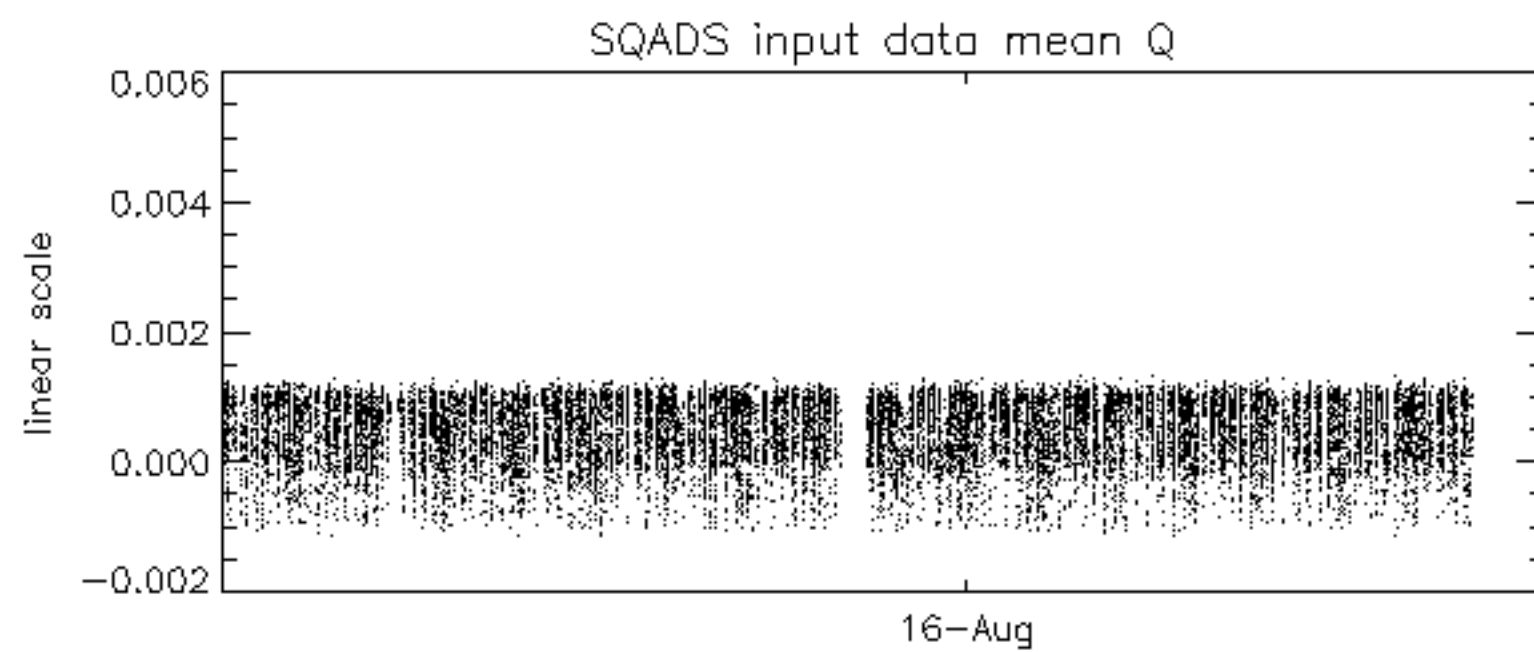
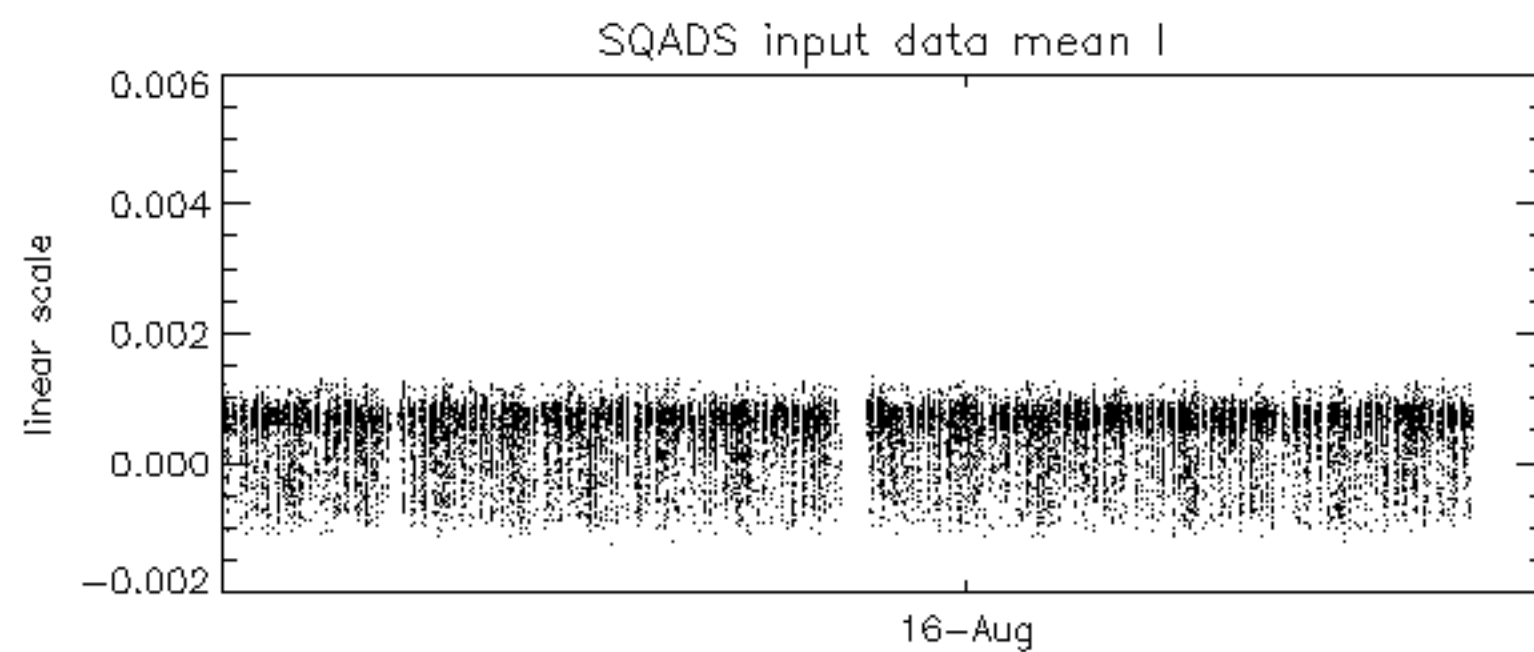
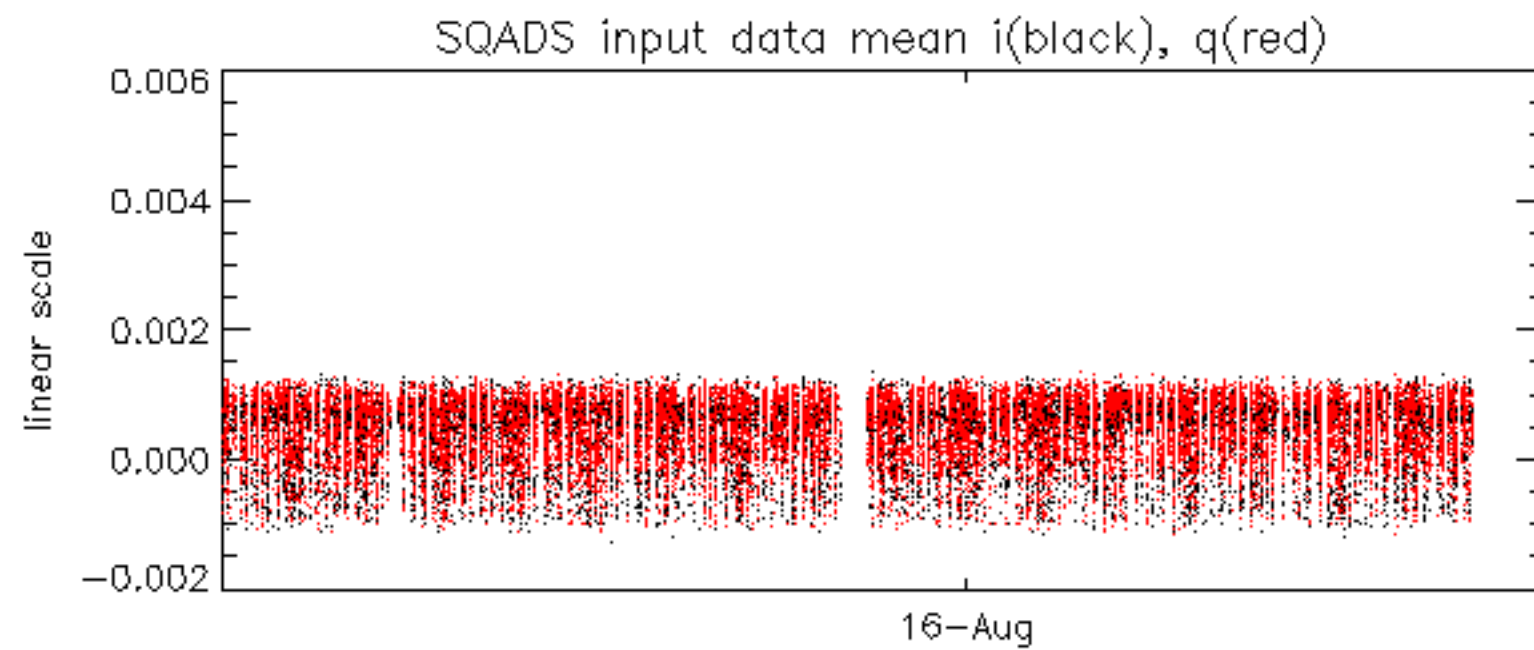


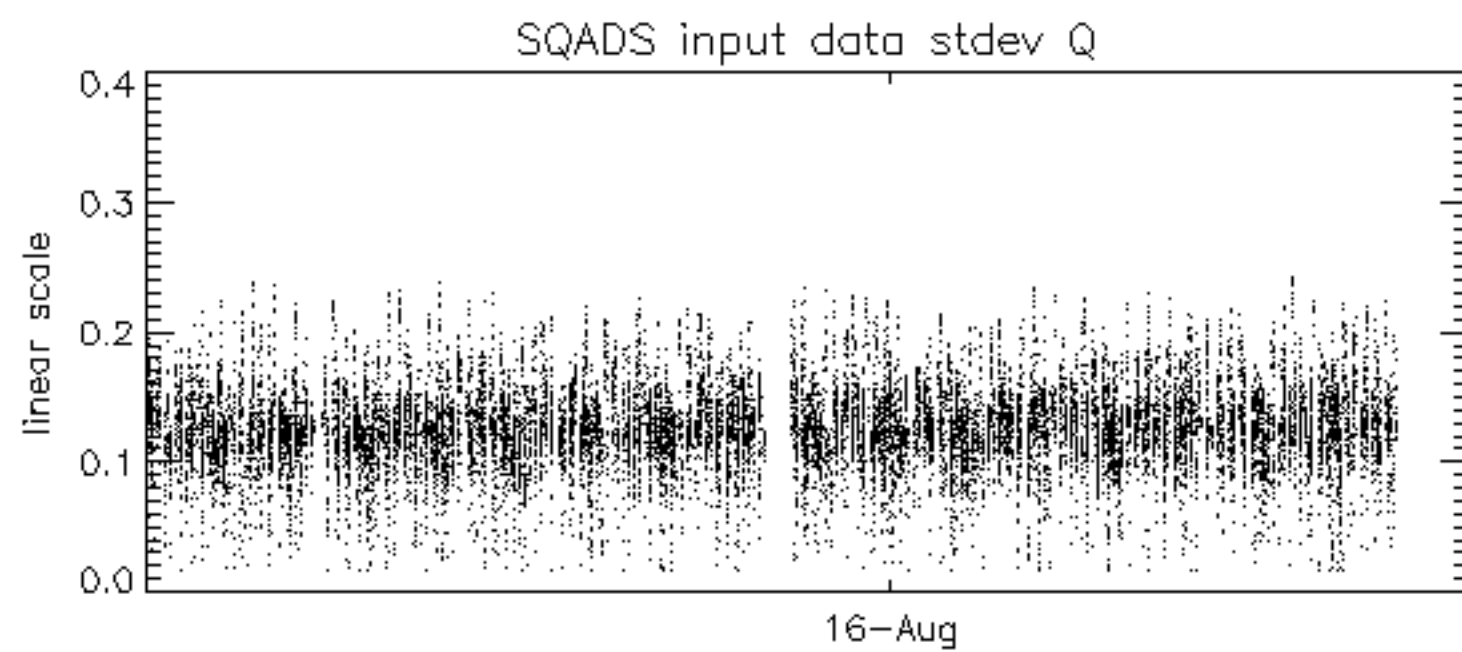
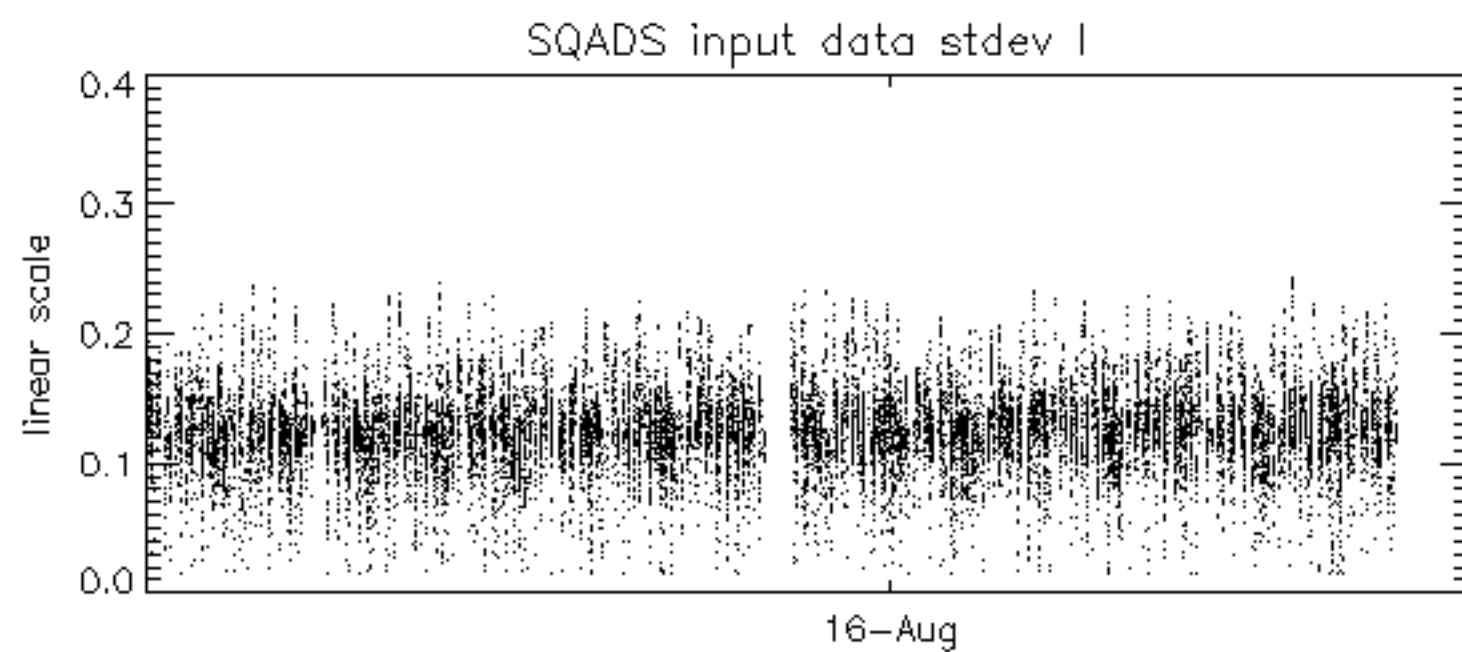
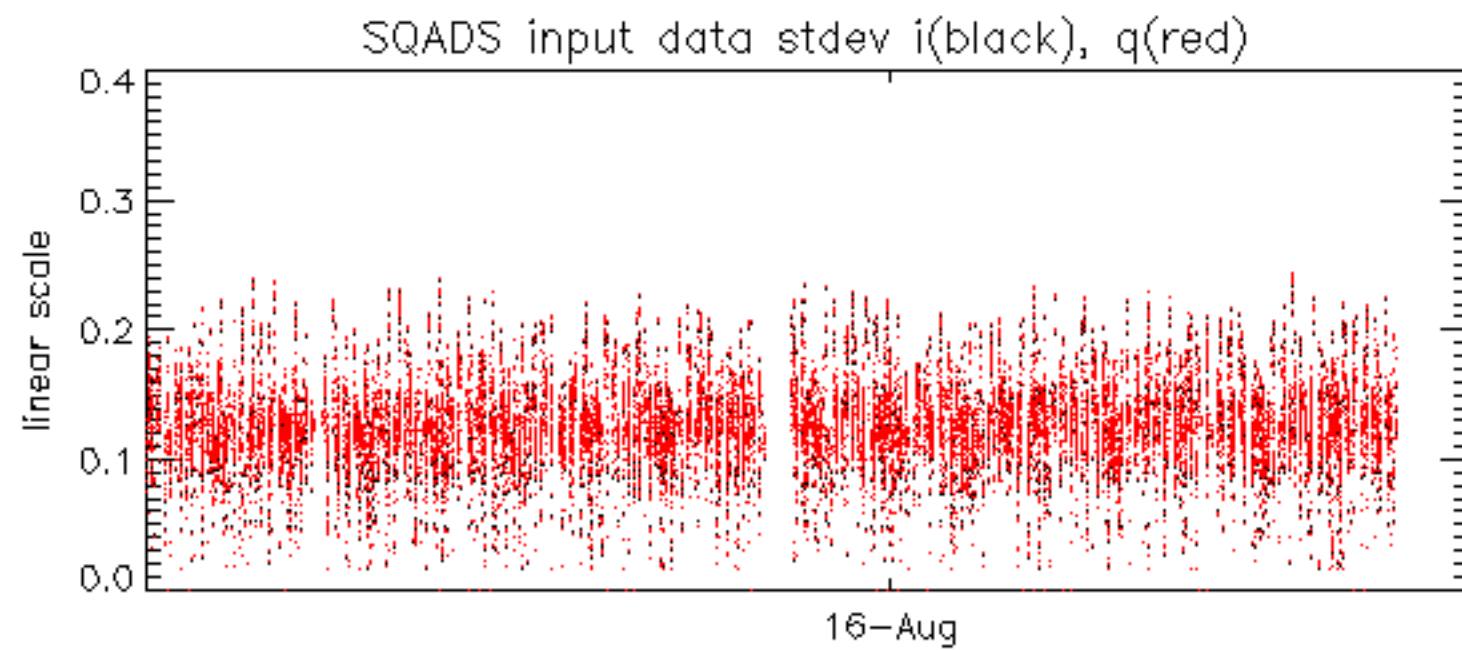
-Preliminary report. The data is not yet controled







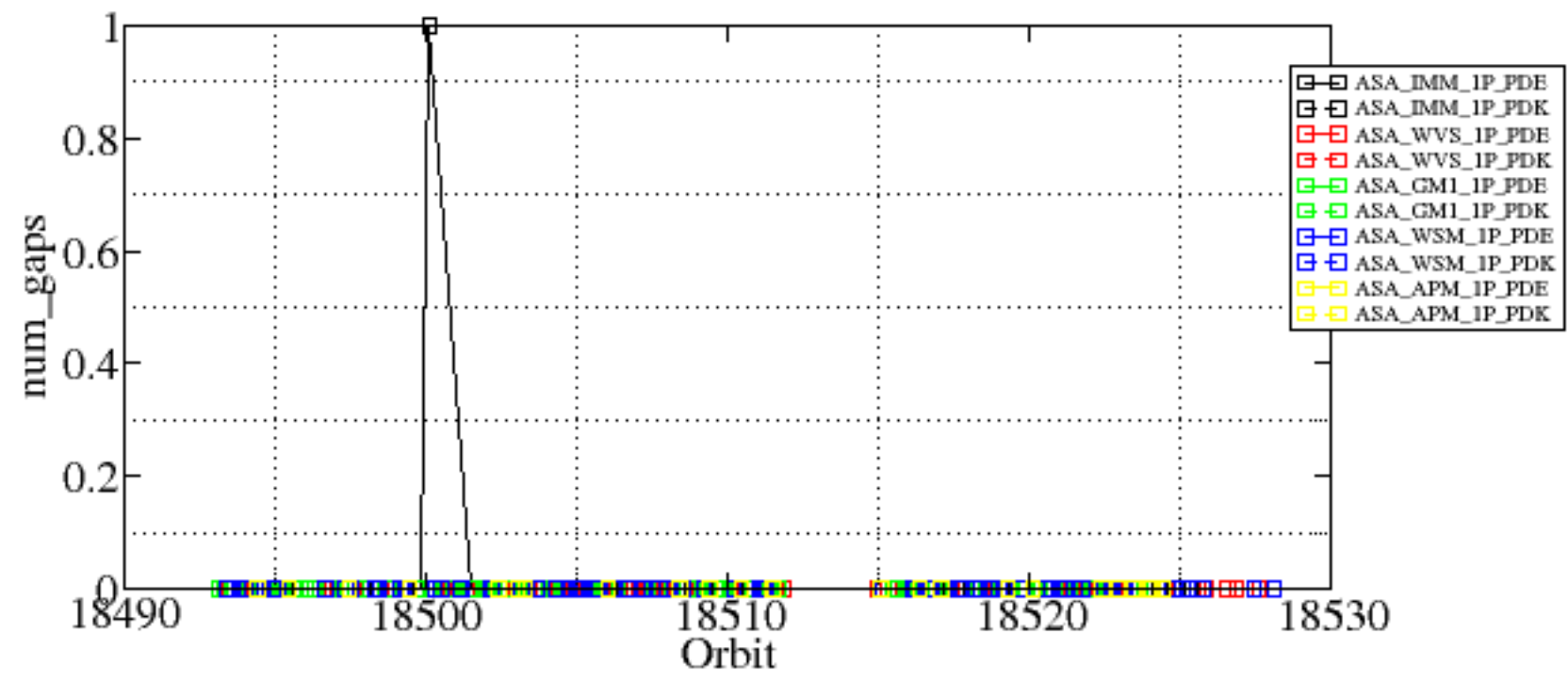


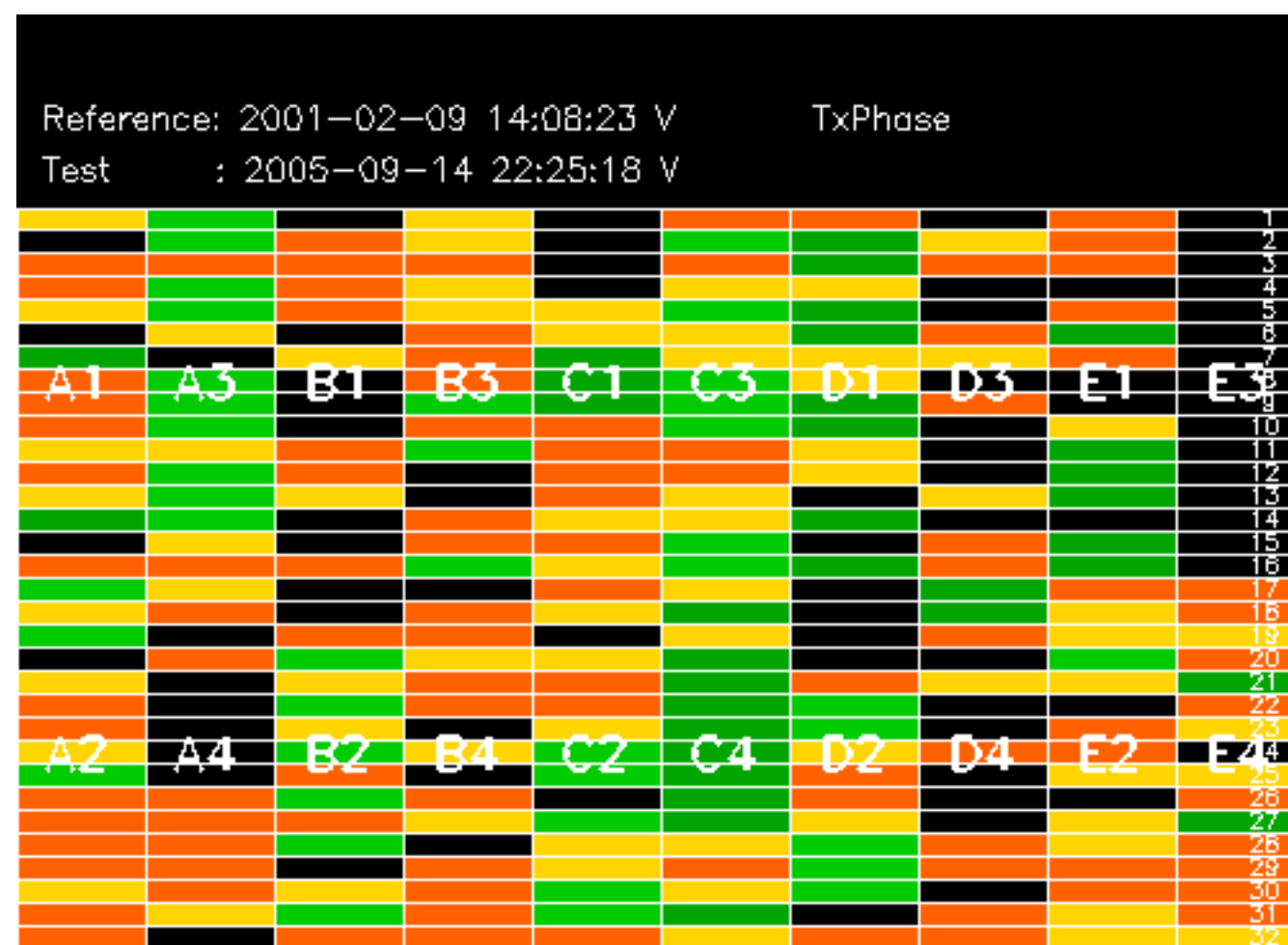


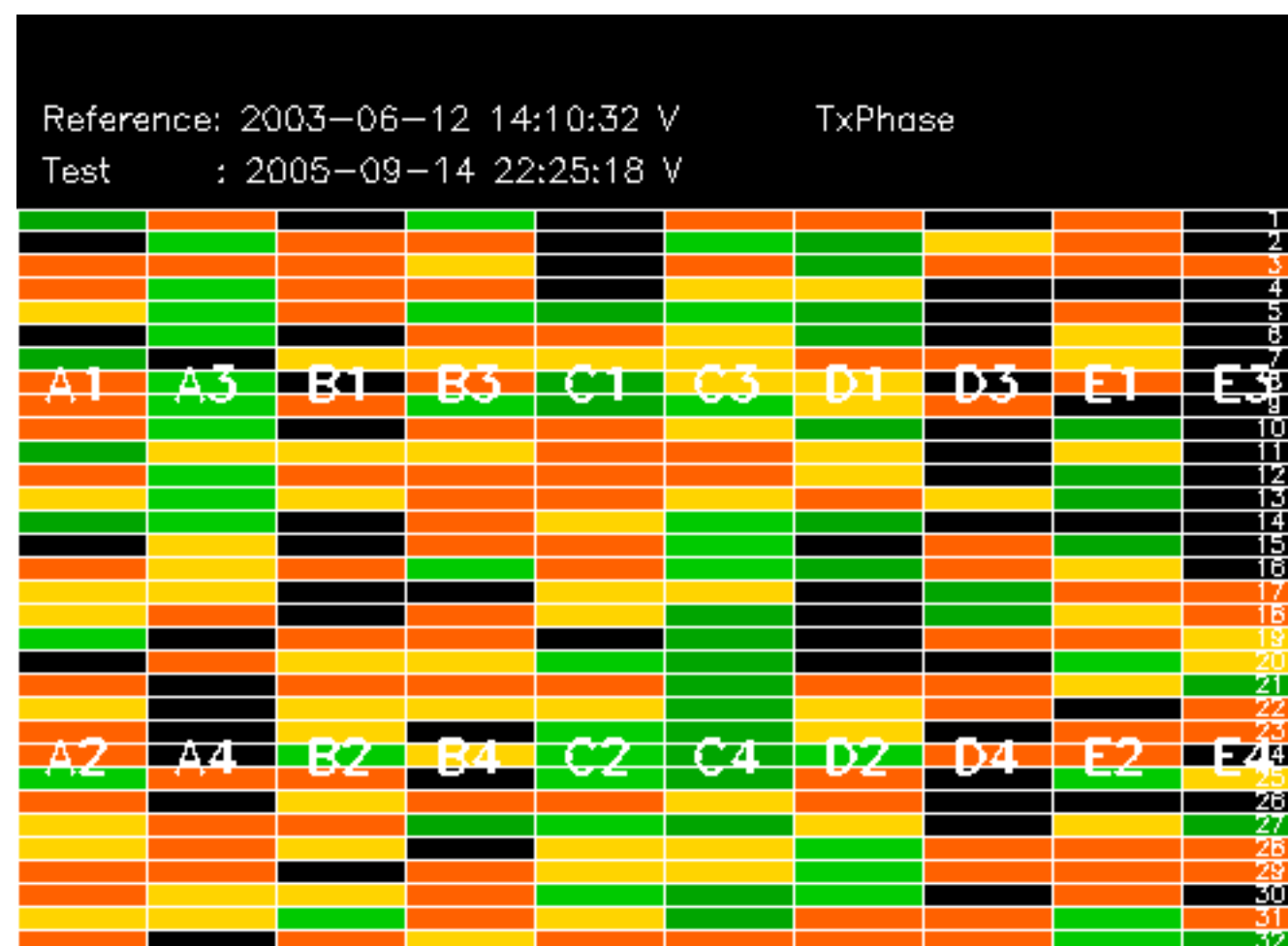
Summary of analysis for the last 3 days 2005091[345]

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

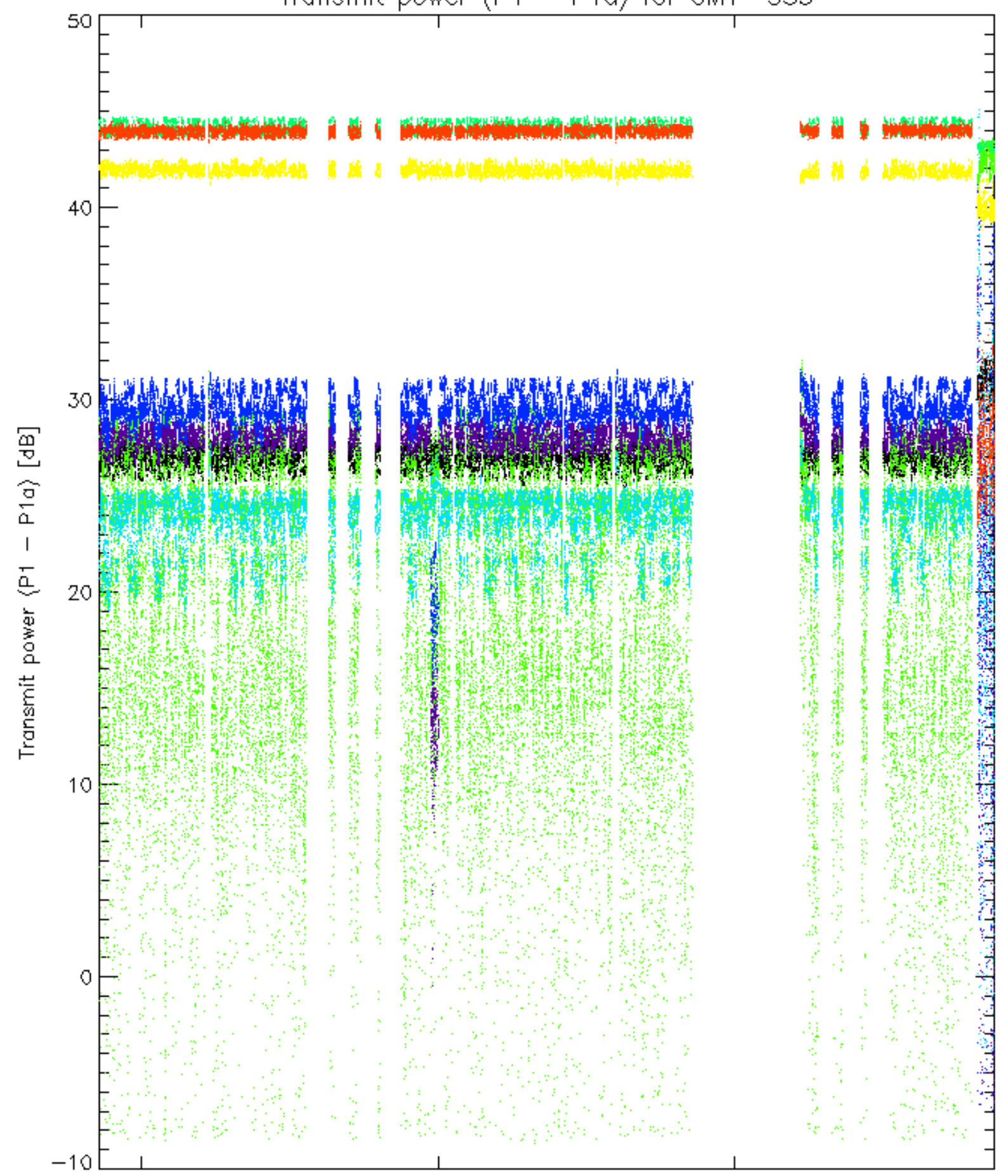
| Filename | num_gaps | num_missing_lines |
|--|----------|-------------------|
| ASA_IMM_1PNPDE20050913_115625_000002262040_00410_18500_5479.N1 | 1 | 0 |
| ASA_WSM_1PNPDE20050914_225857_000003002040_00431_18521_8744.N1 | 0 | 65 |
| ASA_WSM_1PNPDE20050915_012427_000004282040_00432_18522_8770.N1 | 0 | 16 |



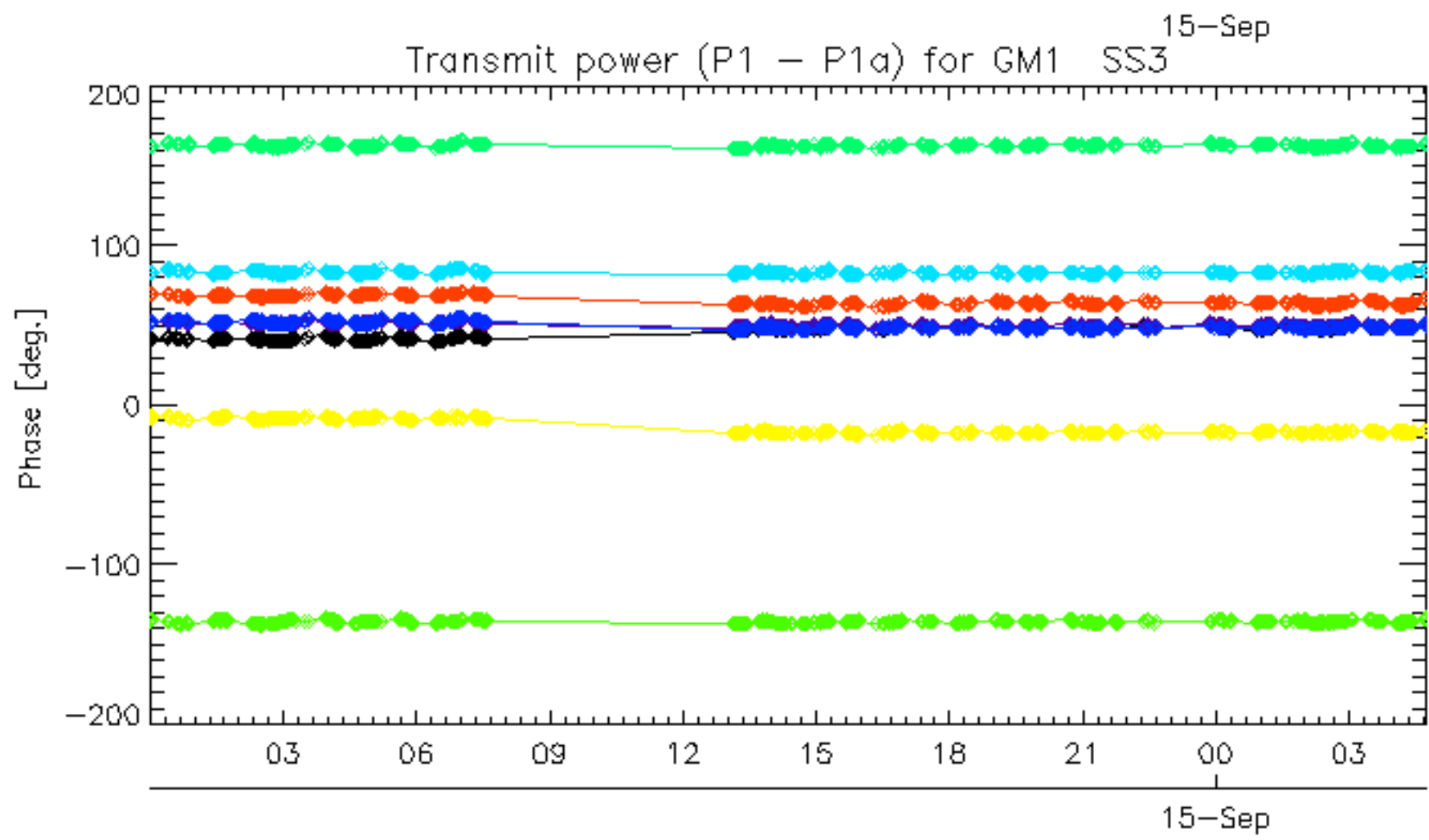
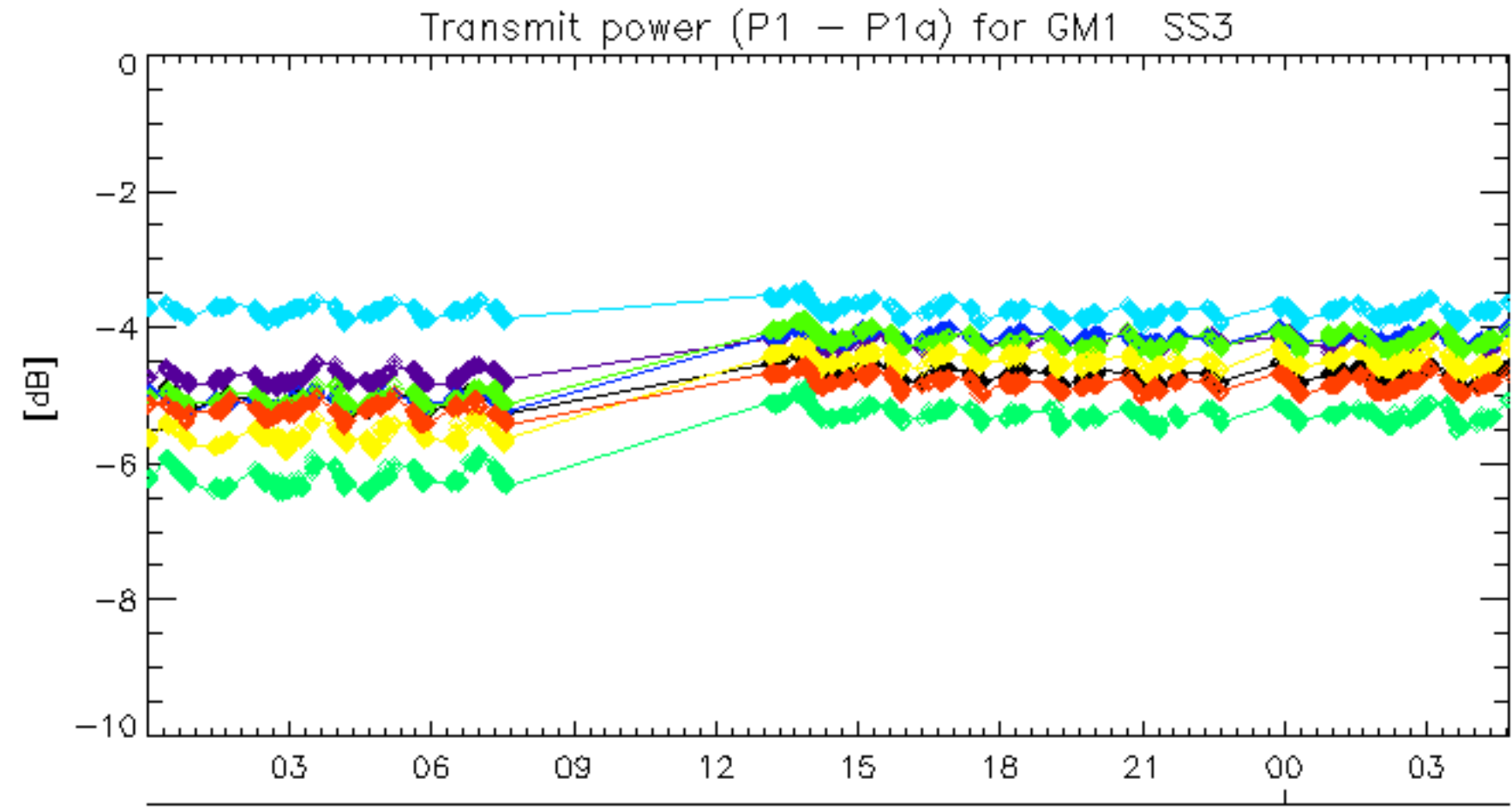




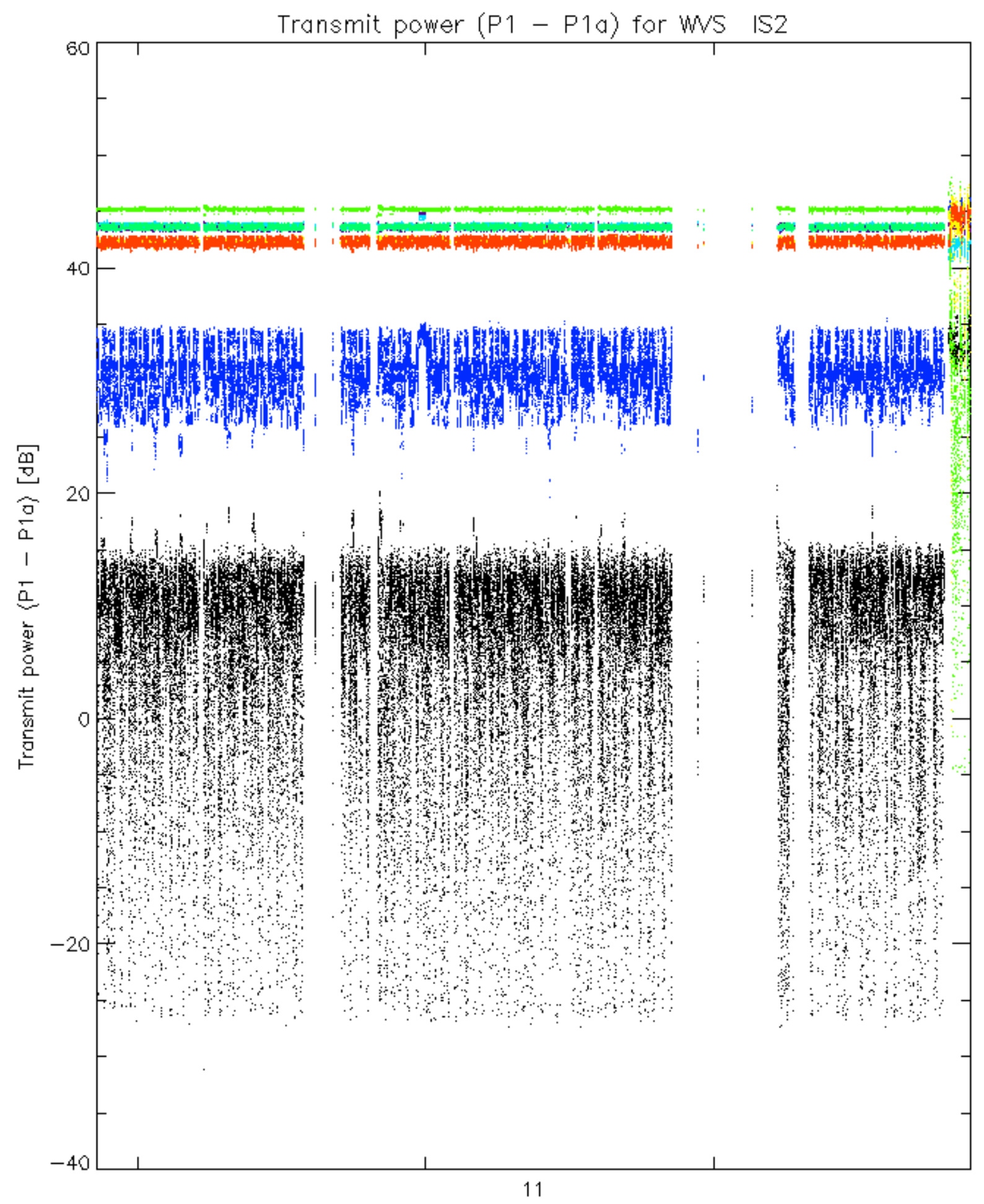
Transmit power (P1 - P1a) for GM1 SS3



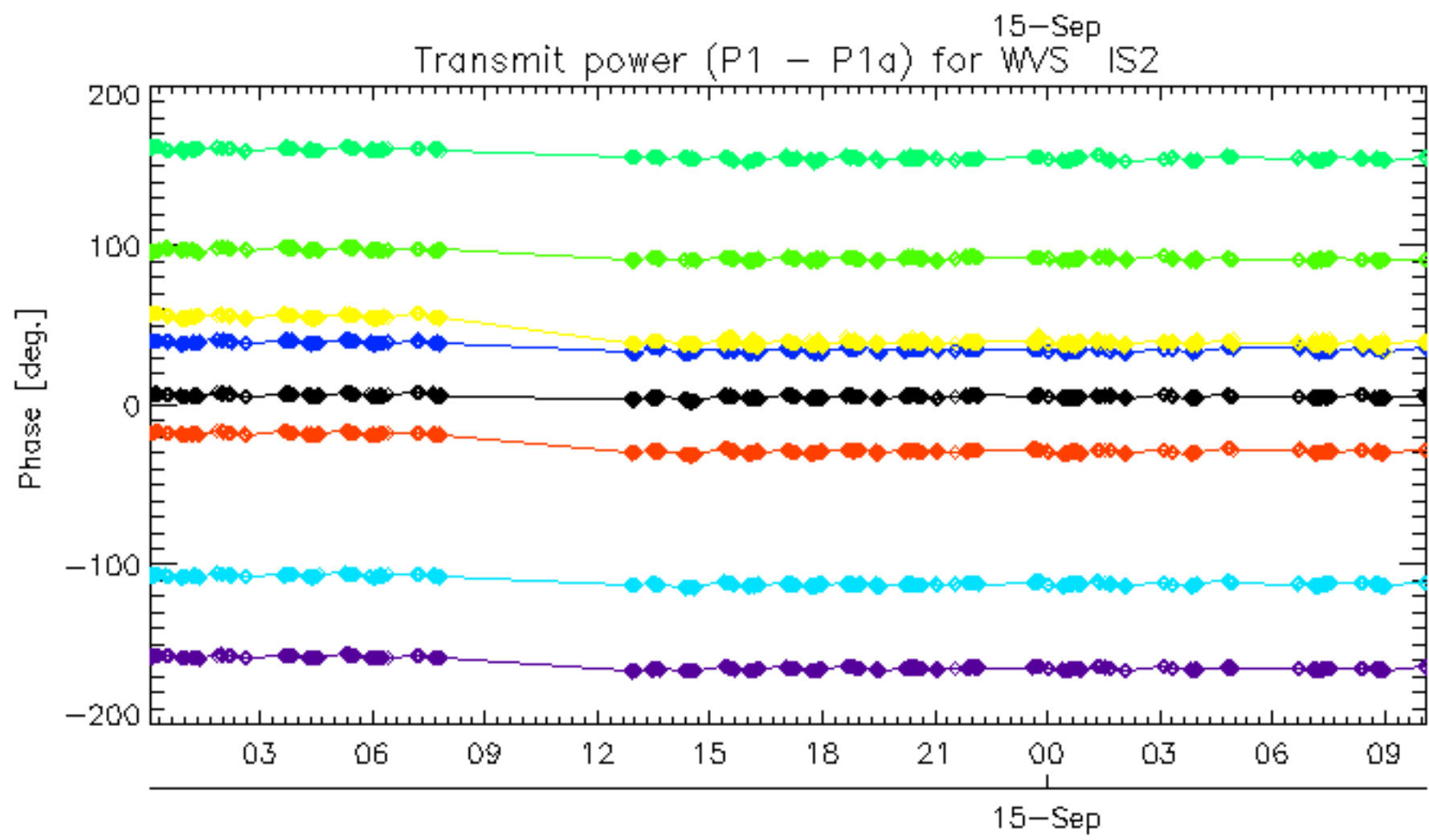
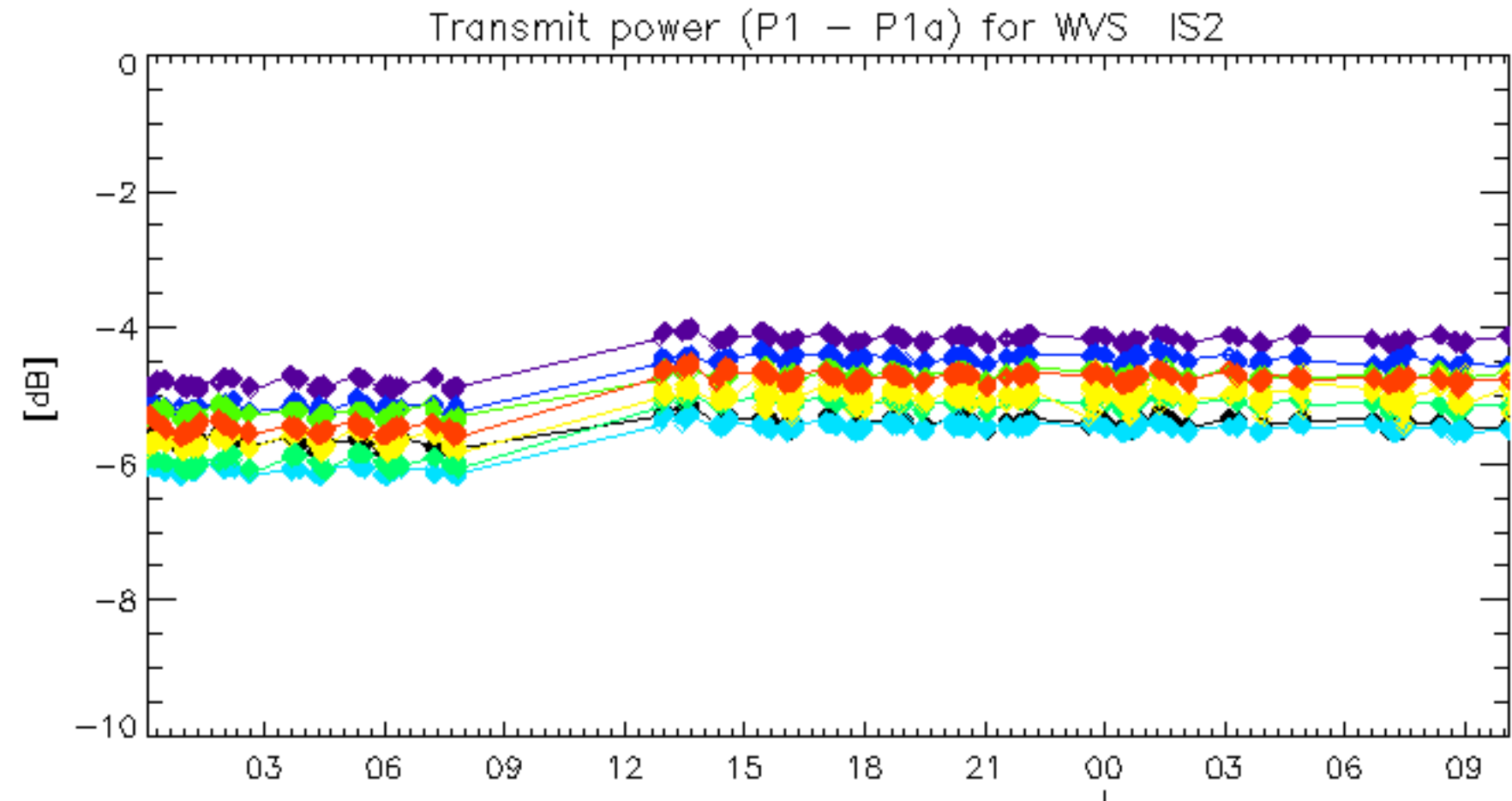
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 26 _ 30



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