

PRELIMINARY REPORT OF 040626

ATTENTION: This report is automatically generated no comments are provided on data analysis

last update on Sat Jun 26 13:06:24 GMT 2004

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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 - Browse Visual Inspection

2.3 - Data Analysis

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

3 - Module Stepping Mode

The MS mode provides an internal health check on an individual module basis. The purpose of this mode is to identify any malfunctioning modules and to identify modules for which calibration offsets are to be applied. No anomalies observed on available MS products:

| Polarisation | Start Time |
|--------------|-----------------|
| V | 20040625 193838 |
| H | 20040624 201015 |

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 | -3.508517 | 0.011185 | 0.052185 |
| 7 | P1 | -3.326418 | 0.015596 | -0.013168 |
| 11 | P1 | -4.531061 | 0.038329 | -0.007695 |
| 15 | P1 | -5.679440 | 0.059056 | 0.011307 |
| 19 | P1 | -3.429774 | 0.005167 | -0.019294 |
| 22 | P1 | -4.559735 | 0.011076 | 0.006018 |
| 24 | P1 | -4.913258 | 0.016108 | 0.018952 |
| 30 | P1 | -6.844385 | 0.023220 | -0.024354 |

| | | | | |
|----|----|------------|----------|-----------|
| 3 | P1 | -16.096386 | 0.228018 | 0.051033 |
| 7 | P1 | -13.994194 | 0.107288 | -0.008124 |
| 11 | P1 | -19.852566 | 0.310386 | -0.211590 |
| 15 | P1 | -11.782380 | 0.046110 | 0.043565 |
| 19 | P1 | -13.812343 | 0.038292 | -0.039386 |
| 22 | P1 | -16.568138 | 0.425440 | 0.159060 |
| 24 | P1 | -14.695596 | 0.304513 | 0.093030 |
| 30 | P1 | -17.678177 | 0.372405 | -0.068948 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -22.420021 | 0.082447 | 0.049974 |
| 7 | P2 | -22.860159 | 0.124366 | 0.074424 |
| 11 | P2 | -15.632874 | 0.137697 | 0.127474 |
| 15 | P2 | -7.194626 | 0.098009 | 0.053074 |
| 19 | P2 | -9.568625 | 0.148583 | 0.056226 |
| 22 | P2 | -17.551369 | 0.105694 | 0.134153 |
| 24 | P2 | -20.873240 | 0.087780 | 0.071532 |
| 30 | P2 | -19.438686 | 0.079719 | 0.076073 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
| 3 | P3 | -8.143770 | 0.002006 | 0.001618 |
| 7 | P3 | -8.143780 | 0.002006 | 0.001647 |
| 11 | P3 | -8.143794 | 0.002006 | 0.001712 |
| 15 | P3 | -8.143797 | 0.002006 | 0.001730 |
| 19 | P3 | -8.143797 | 0.002006 | 0.001746 |
| 22 | P3 | -8.143792 | 0.002006 | 0.001732 |
| 24 | P3 | -8.143792 | 0.002006 | 0.001722 |
| 30 | P3 | -8.143827 | 0.002004 | 0.001286 |

4.2.2 - Evolution for GM1

| Evolution of cal pulses for GM1 | |
|---------------------------------|--|
| <input type="checkbox"/> | |
| <input type="checkbox"/> | |

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 | -3.146364 | 0.135336 | 0.022762 |
| 7 | P1 | -2.809281 | 0.072511 | -0.001254 |
| 11 | P1 | -3.791655 | 0.022001 | -0.023828 |
| 15 | P1 | -4.264858 | 1.022830 | 0.004918 |
| 19 | P1 | -3.355543 | 0.048917 | -0.019342 |
| 22 | P1 | -5.722073 | 0.044427 | 0.002257 |
| 24 | P1 | -4.050736 | 0.080067 | -0.010840 |
| 30 | P1 | -6.098069 | 0.061745 | -0.031339 |
| 3 | P1 | -11.030802 | 0.428858 | 0.028623 |
| 7 | P1 | -9.764353 | 0.248872 | -0.016131 |
| 11 | P1 | -11.762139 | 0.169678 | -0.060469 |
| 15 | P1 | -11.843735 | 0.279319 | -0.039223 |
| 19 | P1 | -14.992021 | 0.819667 | -0.019381 |
| 22 | P1 | -21.493513 | 8.920447 | 0.055124 |
| 24 | P1 | -17.372705 | 0.284352 | -0.064035 |
| 30 | P1 | -21.721600 | 4.157154 | 0.025292 |

P2 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|------------|------------|-----------------|
| 3 | P2 | -18.164276 | 0.043160 | 0.034609 |
| 7 | P2 | -22.946321 | 0.029226 | 0.072427 |
| 11 | P2 | -11.041813 | 0.217287 | 0.137130 |
| 15 | P2 | -5.003952 | 0.044133 | 0.024839 |
| 19 | P2 | -6.932842 | 0.043344 | -0.003264 |
| 22 | P2 | -7.685344 | 0.023606 | 0.084211 |
| 24 | P2 | -11.077131 | 0.072064 | 0.044697 |
| 30 | P2 | -22.401628 | 0.092607 | 0.097719 |

P3 Cyclic statistics

| row | pulse | mean (dB) | stdev (dB) | slope(dB/cycle) |
|-----|-------|-----------|------------|-----------------|
|-----|-------|-----------|------------|-----------------|

| | | | | |
|----|----|-----------|----------|-----------|
| 3 | P3 | -7.984443 | 0.003296 | -0.001127 |
| 7 | P3 | -7.984273 | 0.003286 | -0.001089 |
| 11 | P3 | -7.984346 | 0.003294 | -0.000858 |
| 15 | P3 | -7.984384 | 0.003286 | -0.000671 |
| 19 | P3 | -7.984319 | 0.003298 | -0.001070 |
| 22 | P3 | -7.984438 | 0.003280 | -0.000854 |
| 24 | P3 | -7.984197 | 0.003316 | -0.001347 |
| 30 | P3 | -7.984356 | 0.003289 | -0.000750 |

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 | 0.000492012 |
| | stdev | 2.11146e-07 |
| MEAN Q | mean | 0.000544303 |
| | stdev | 2.37302e-07 |



5.2 - Input stdev I/Q

| channel | stat | DSS-B |
|---------|-------|------------|
| STDEV I | mean | 0.129516 |
| | stdev | 0.00101416 |

| | | |
|---------|-------|------------|
| STDEV Q | mean | 0.129761 |
| | stdev | 0.00102618 |





5.3 - Gain imbalance I/Q





6 - Doppler Analysis

Preliminary report. The data is not yet controlled

6.1 - Unbiased Doppler Error for WVS

| Evolution of unbiased Doppler error (Real - Expected) | |
|--|------------|
|  | |
| | Acsending |
|  | |
| | Descending |

6.2 - Absolute Doppler for WVS

| Evolution of Absolute Doppler | |
|---|------------|
|  | |
| | Acsending |
|  | |
| | Descending |

6.3 - Doppler evolution versus ANX for WVS

| Evolution Doppler error versus ANX | |
|---|--|
|  | |

6.4 - Unbiased Doppler Error for GM1

| Evolution of unbiased Doppler error (Real - Expected) | |
|---|------------|
| <input type="checkbox"/> | |
| | Ascending |
| <input type="checkbox"/> | |
| | Descending |

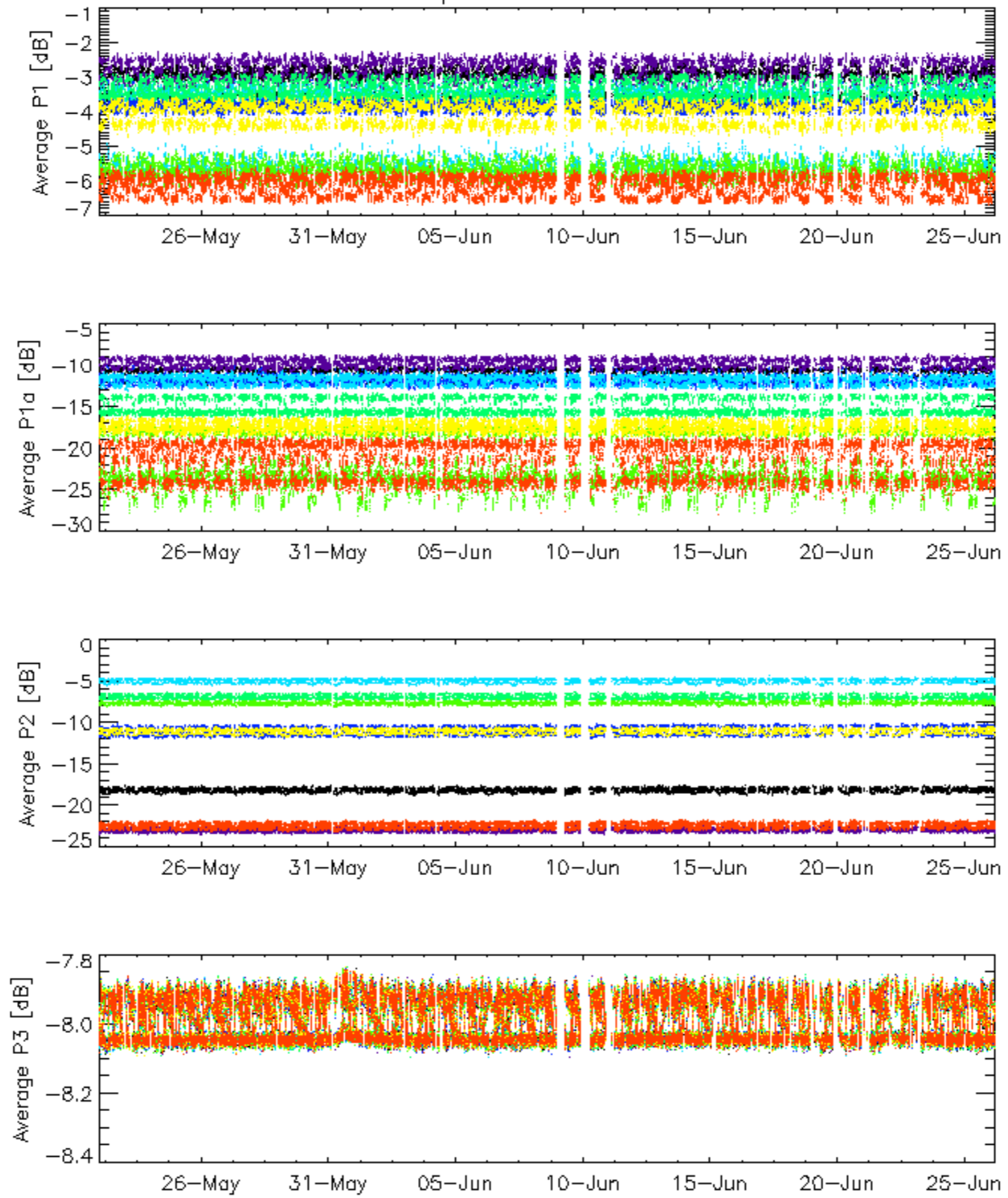
6.5 - Absolute Doppler for GM1

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

6.6 - Doppler evolution versus ANX for GM1

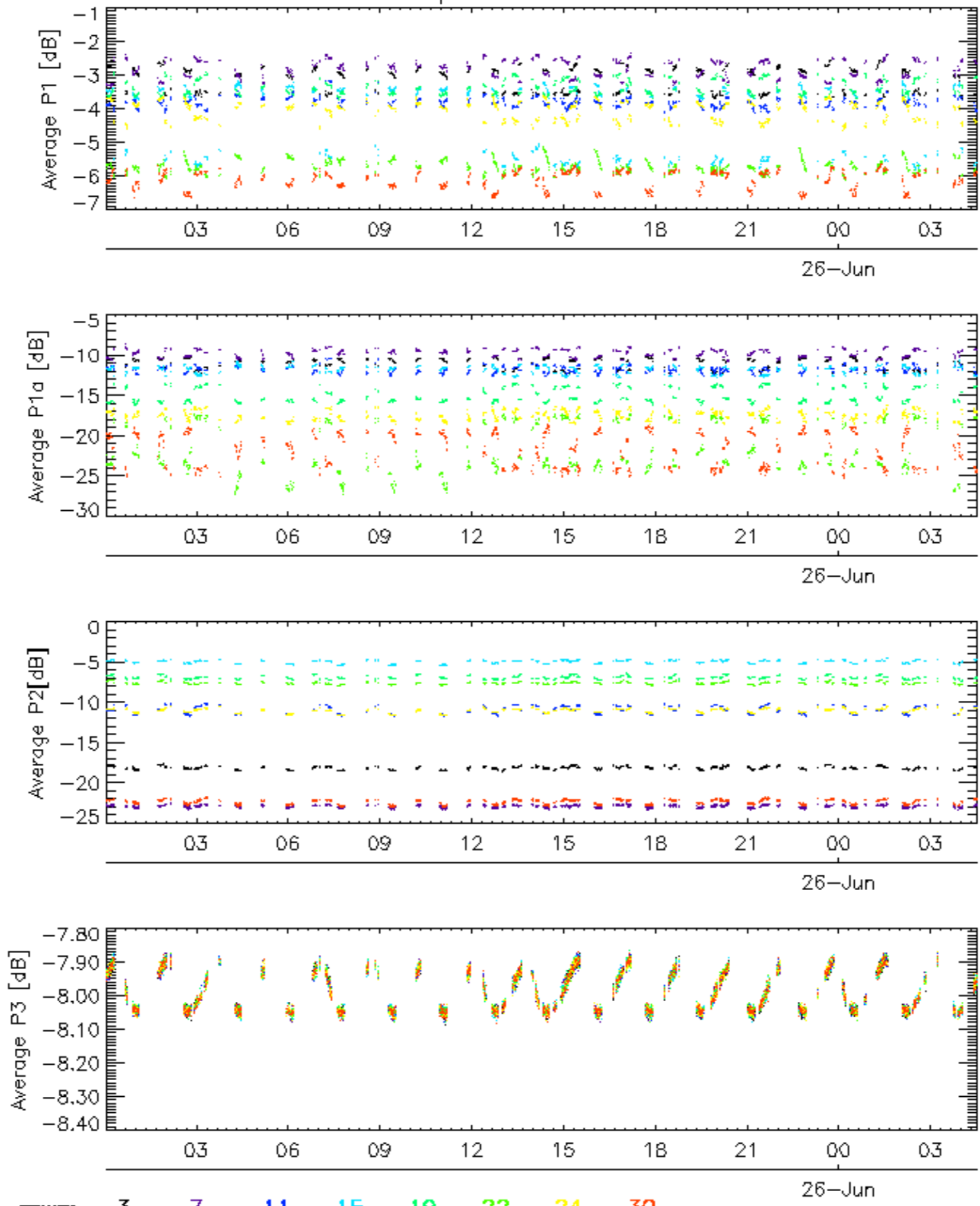
| Evolution Doppler error versus ANX | |
|------------------------------------|--|
| <input type="checkbox"/> | |

Cal pulses for GM1 SS3



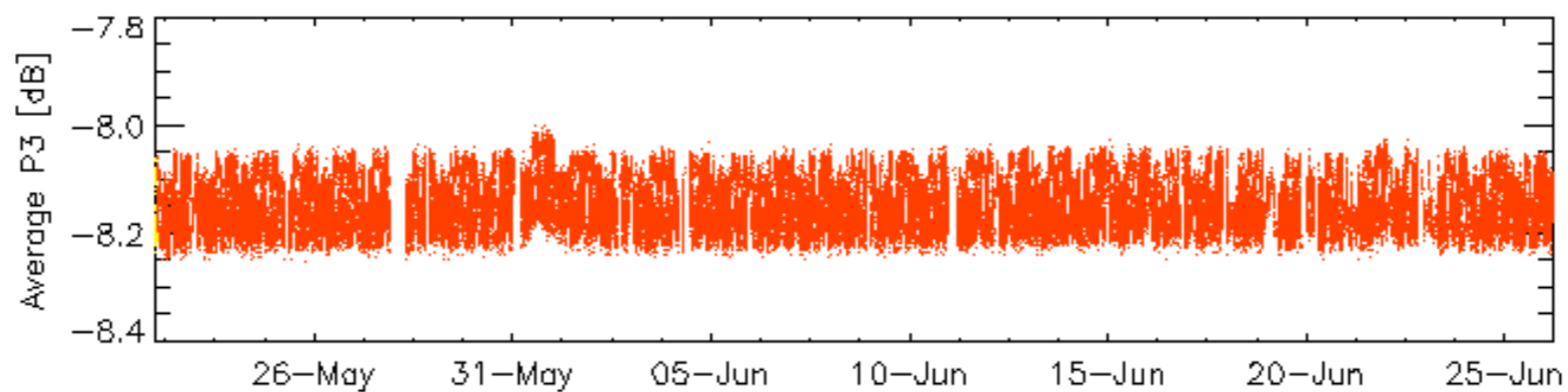
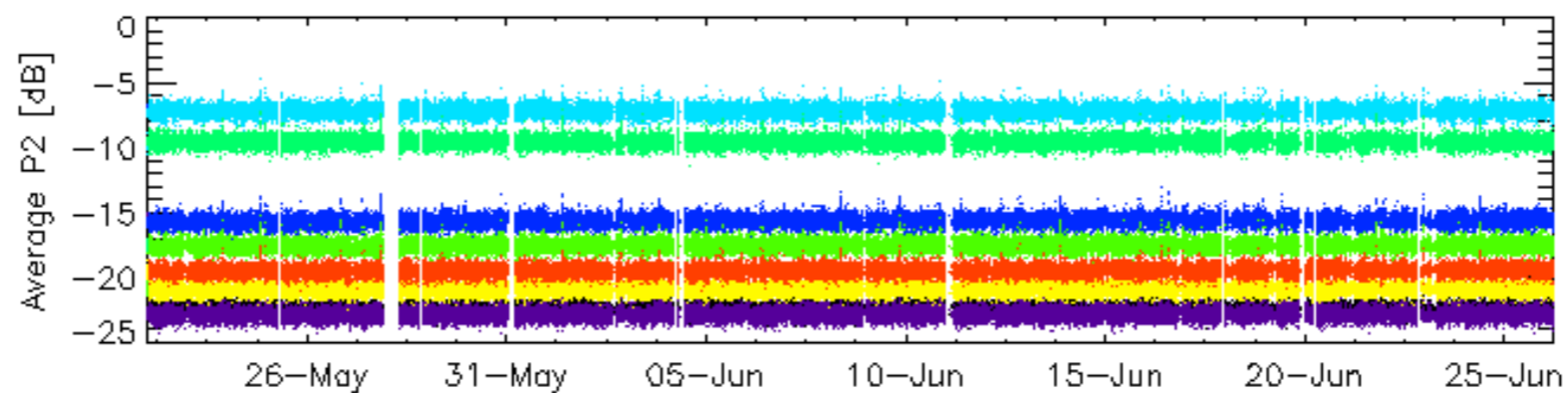
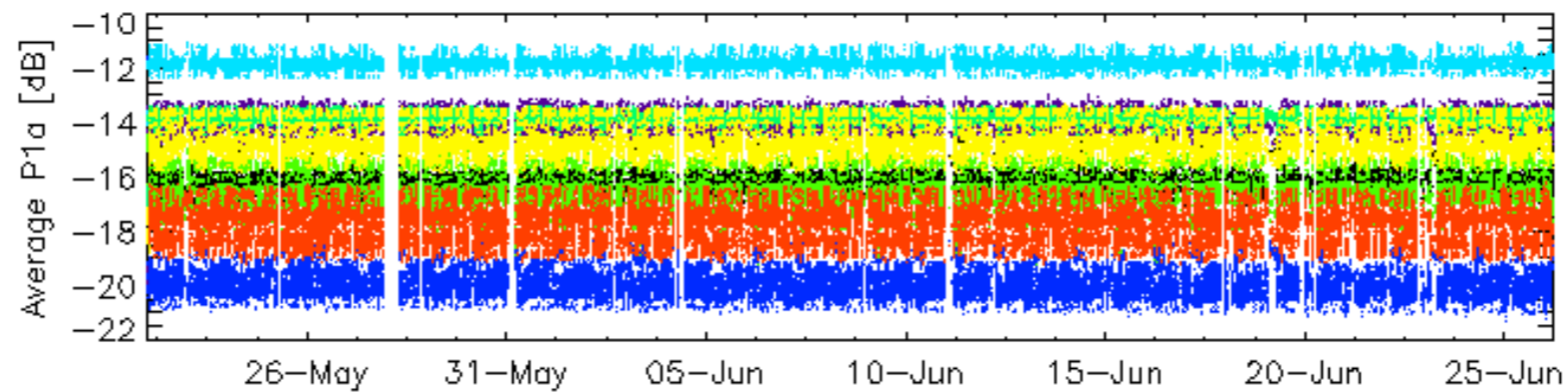
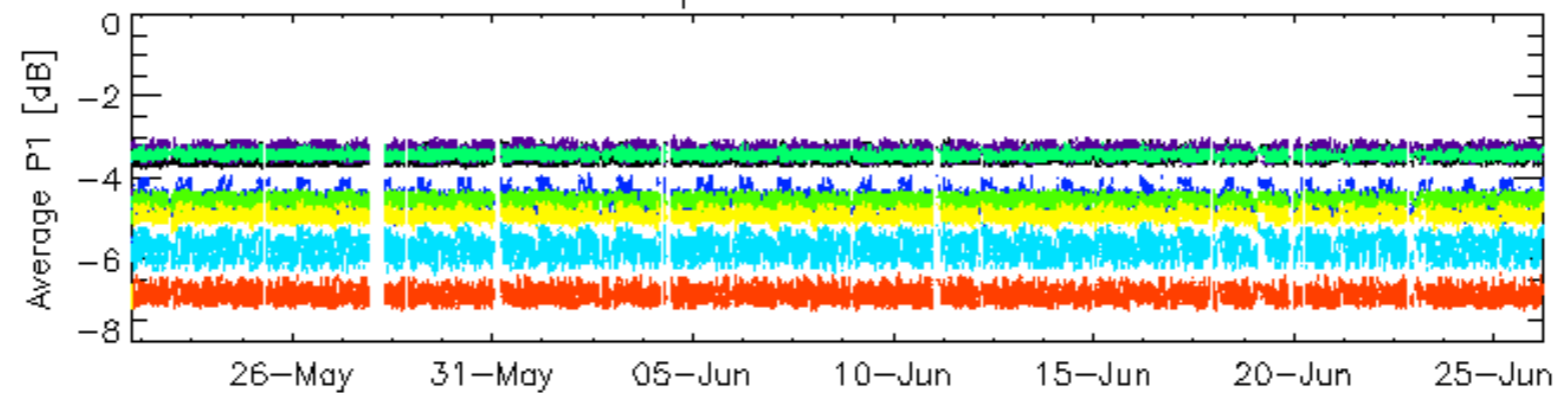
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

Cal pulses for GM1 SS3



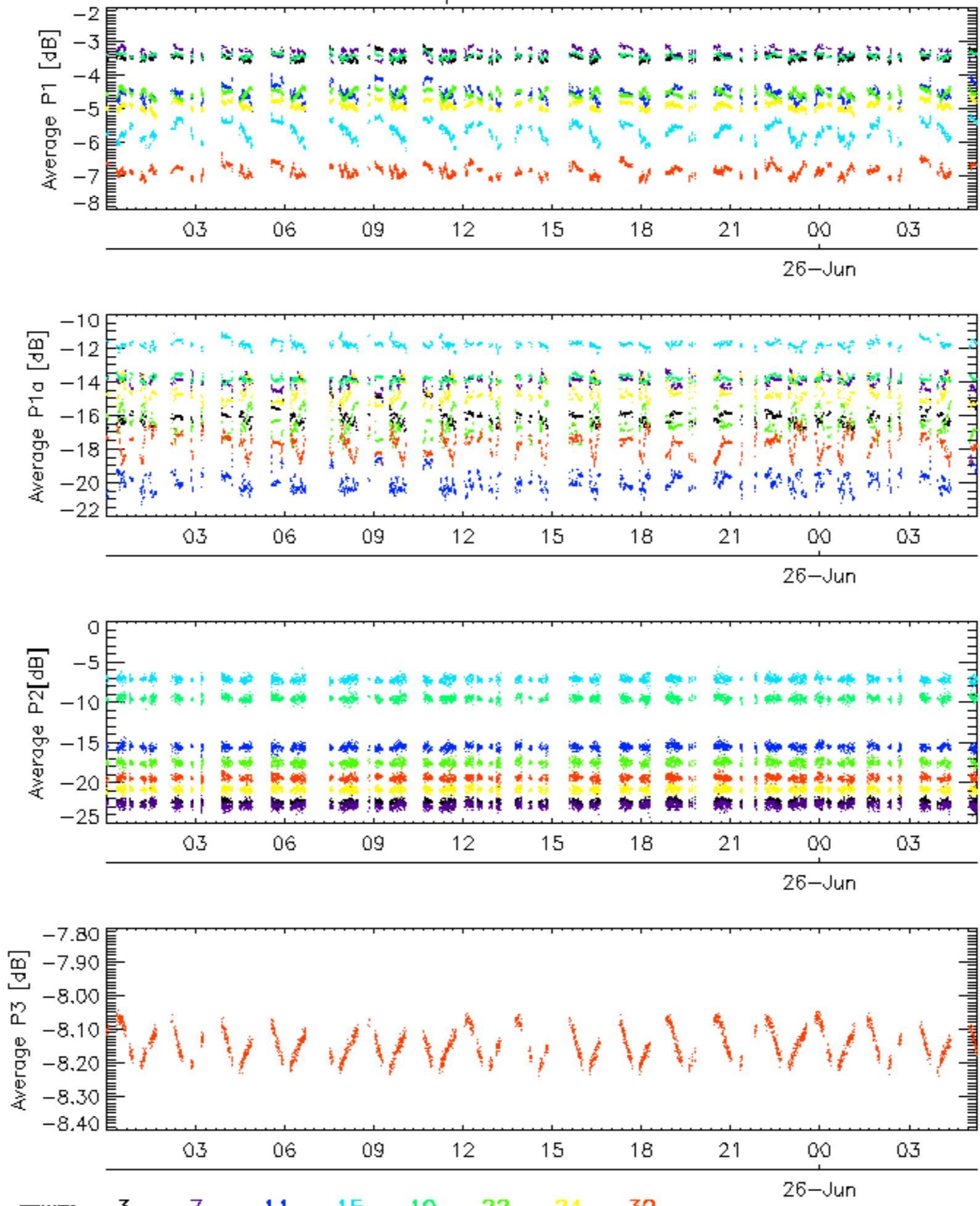
rows: 3 7 11 15 19 22 24 30

Cal pulses for WVS IS2



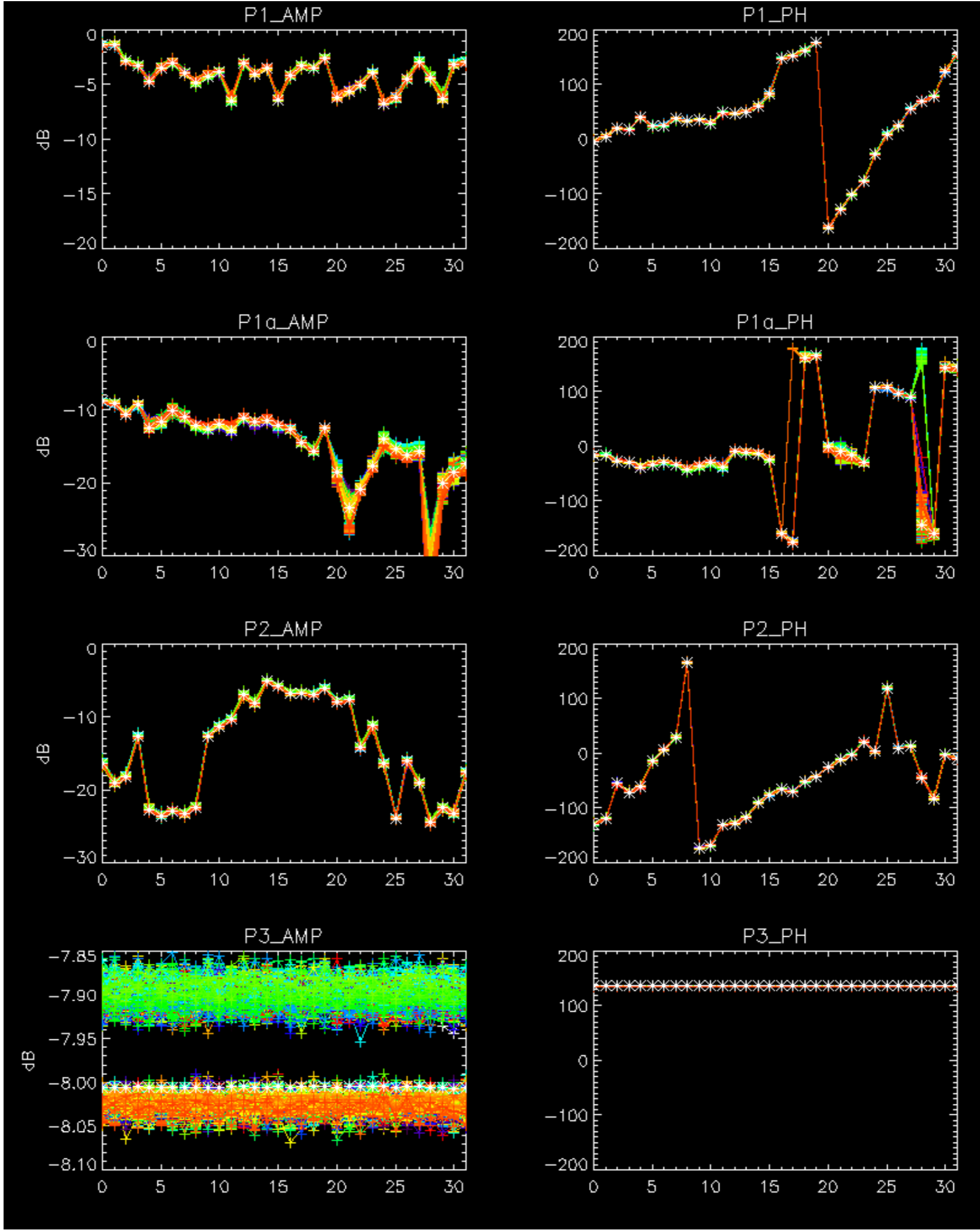
rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

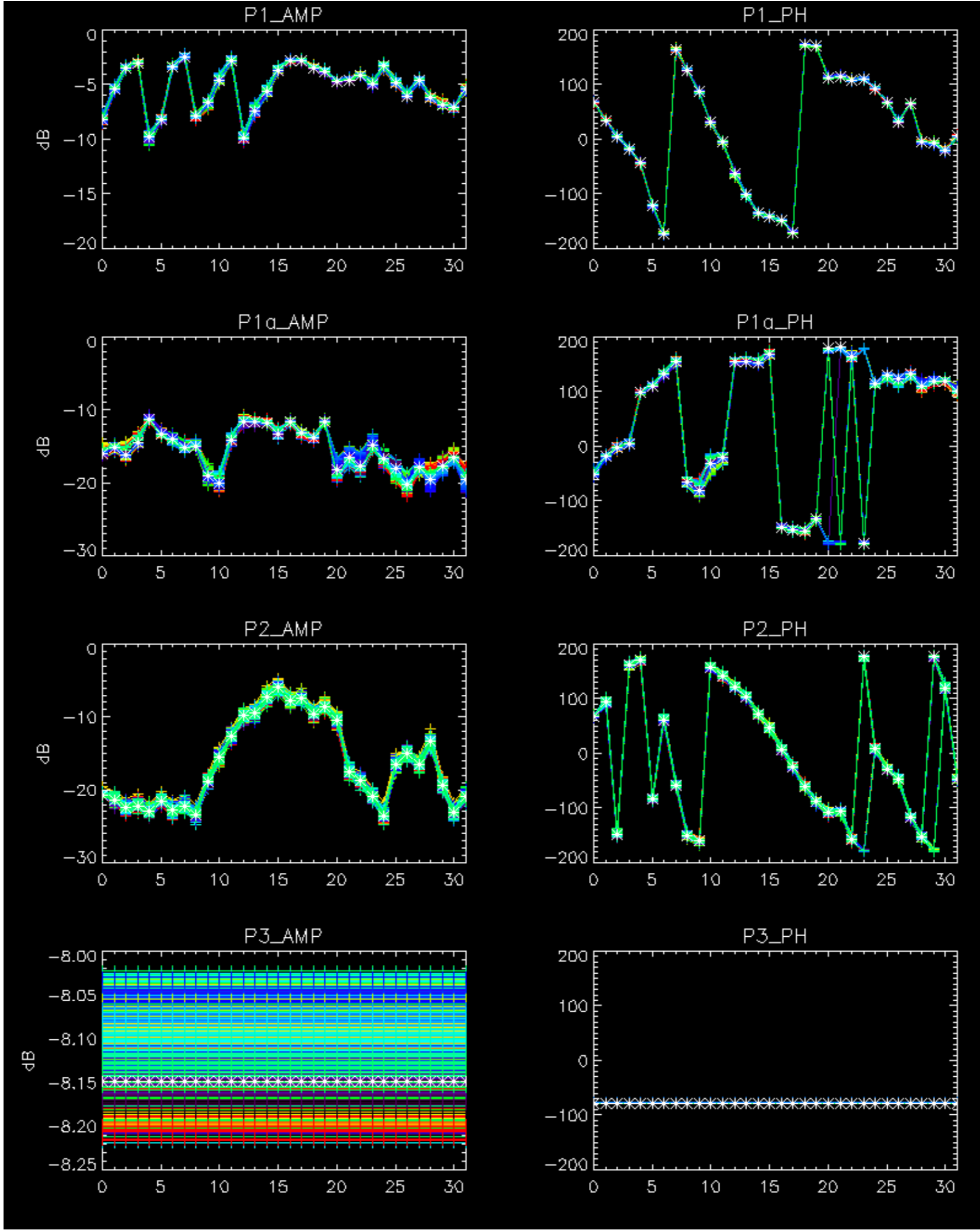
Cal pulses for WVS IS2



rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

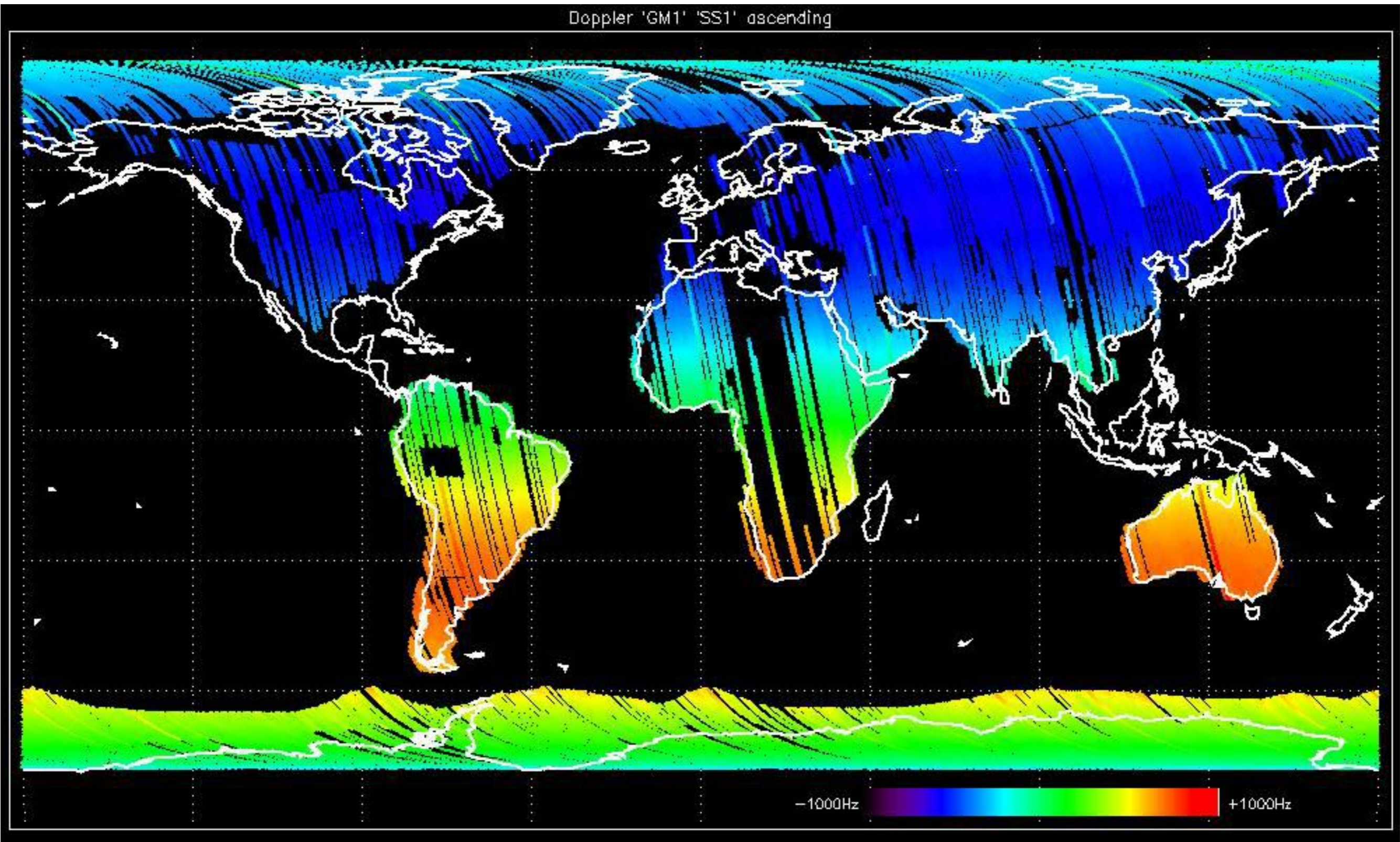
No anomalies observed.



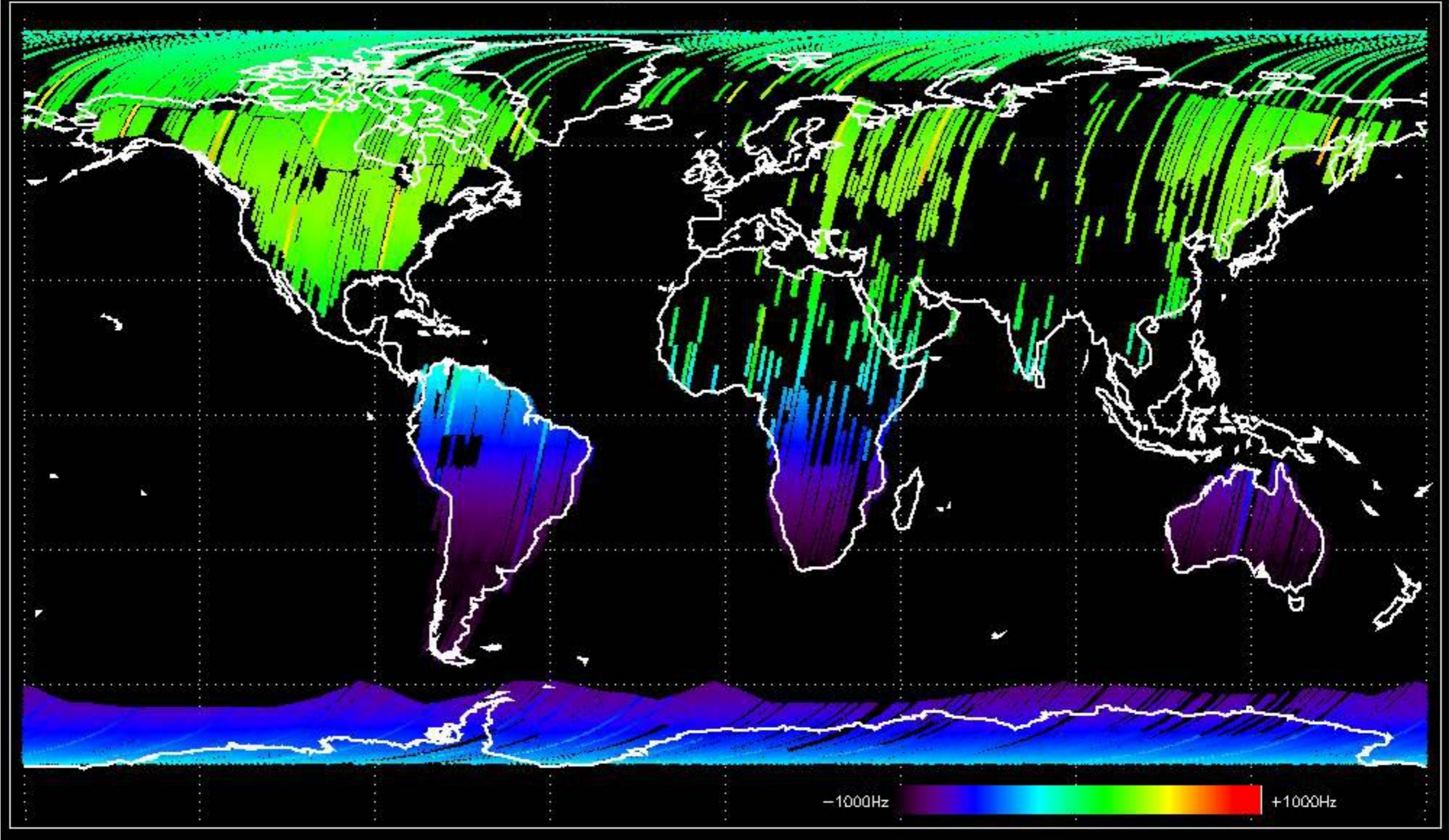


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

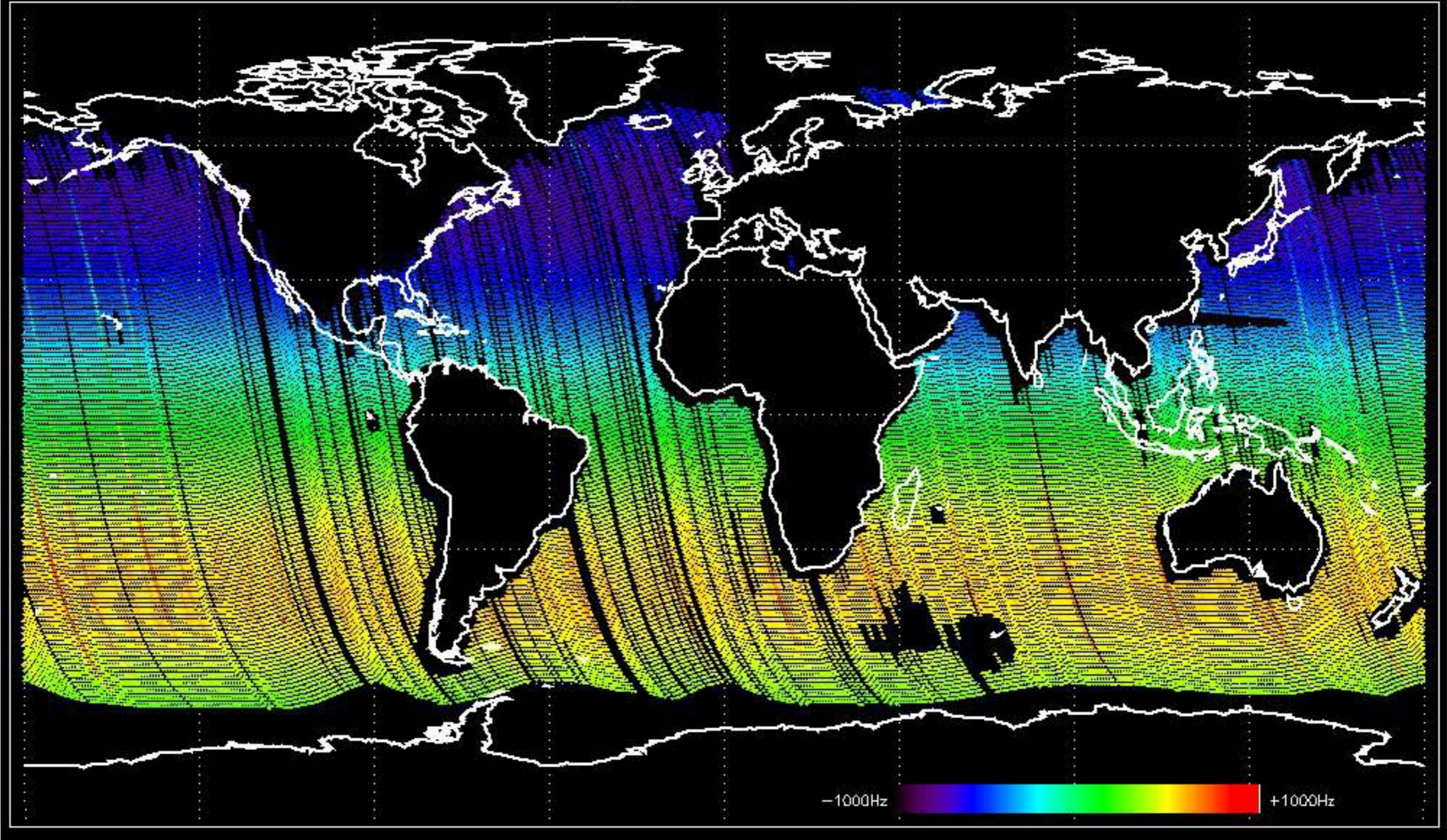
Doppler 'GM1' 'SS1' ascending



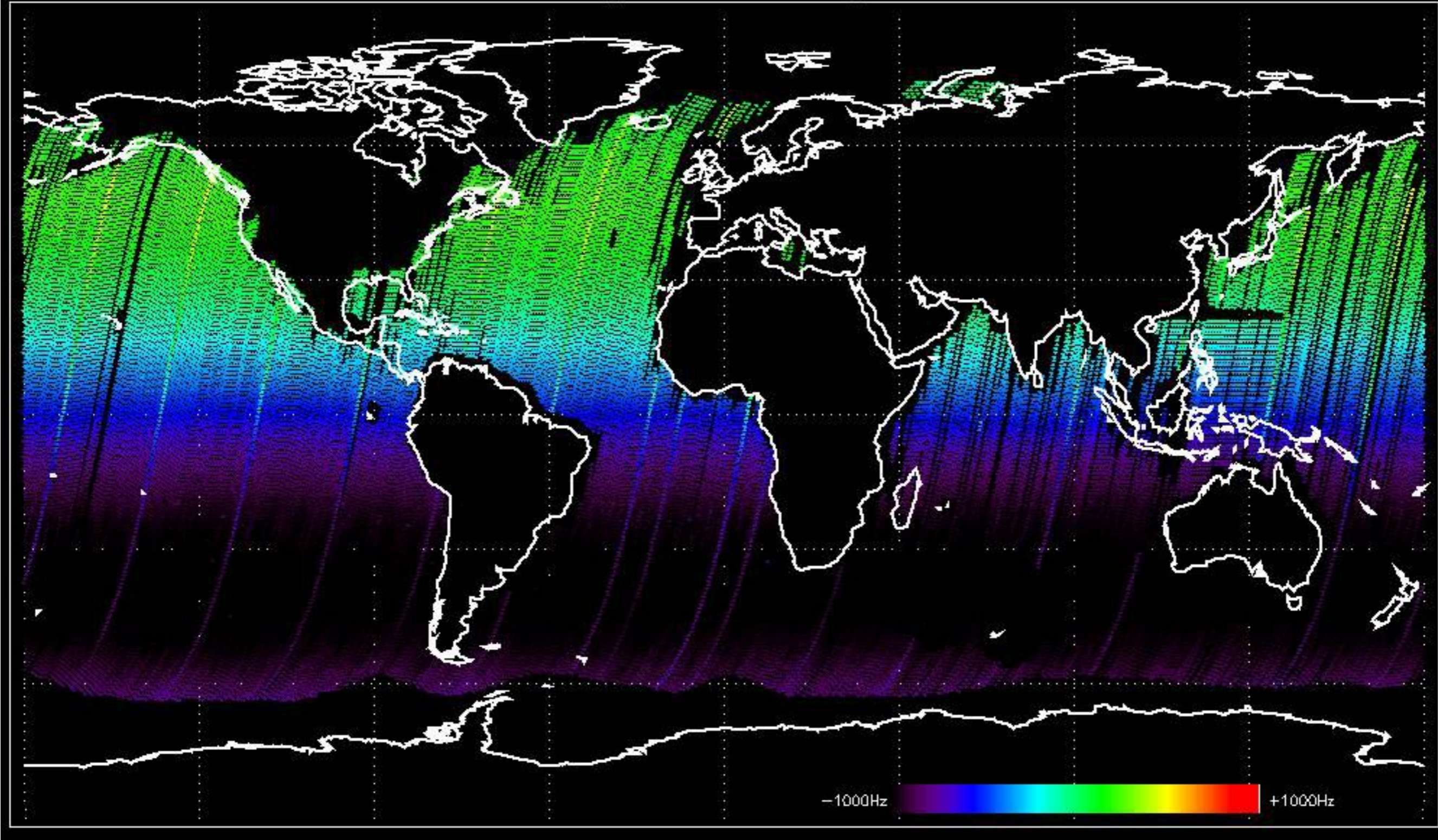
Doppler 'GM1' 'SS1' descending



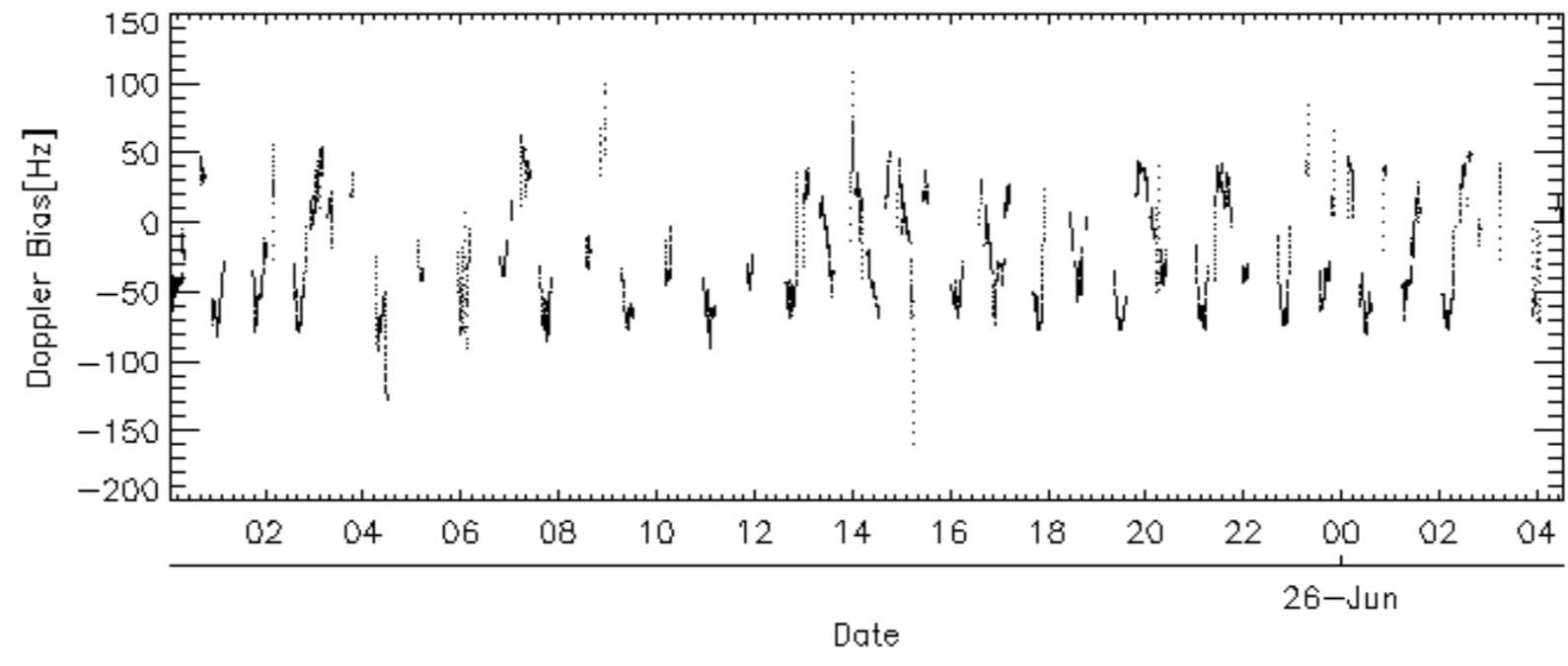
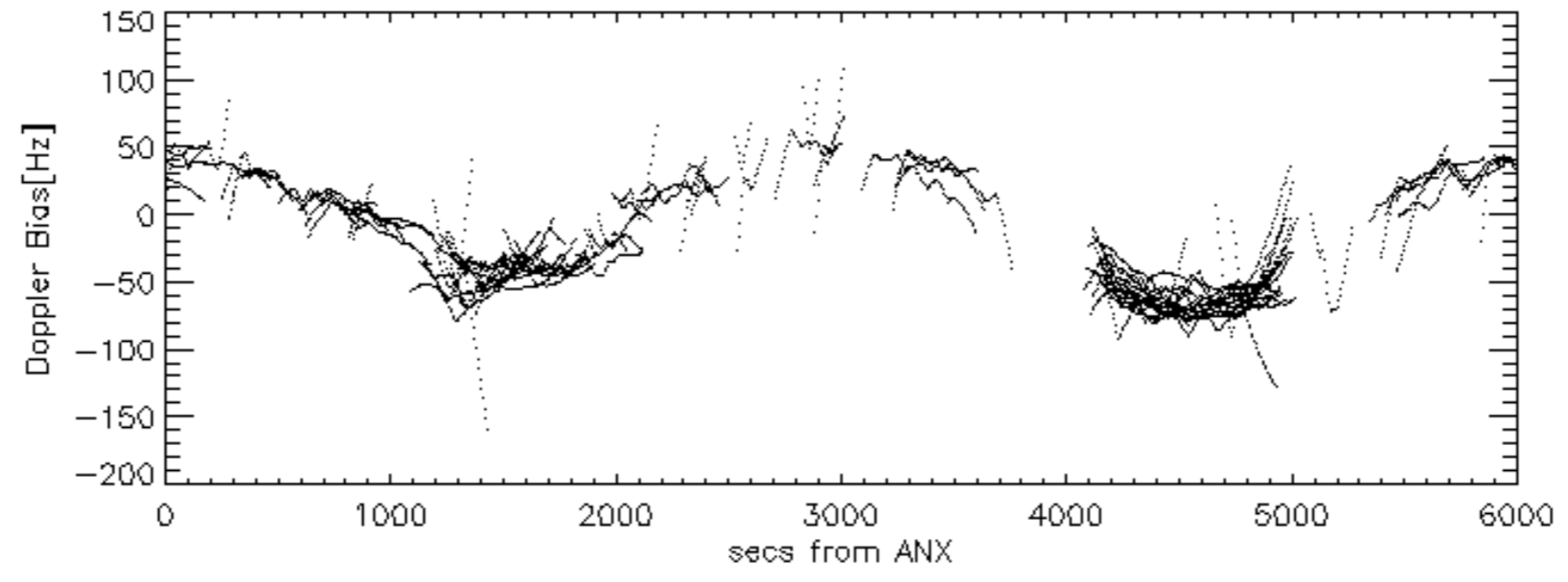
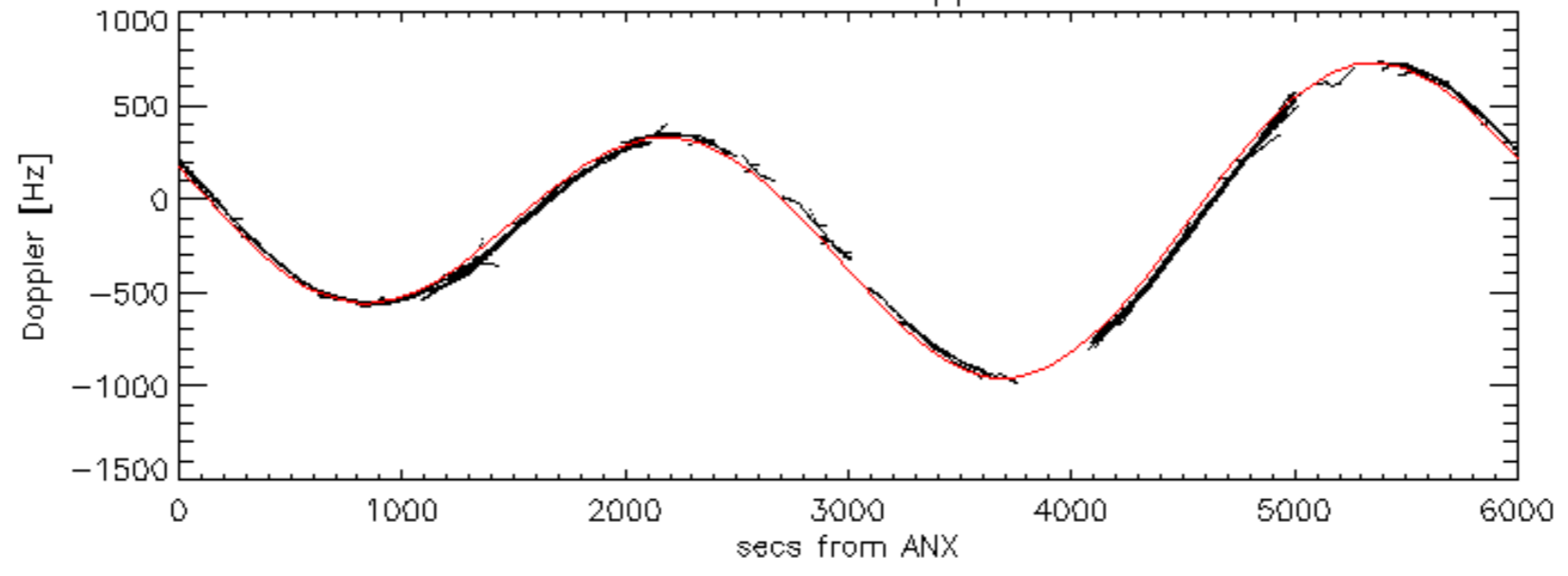
Doppler 'WVS' 'IS2' ascending

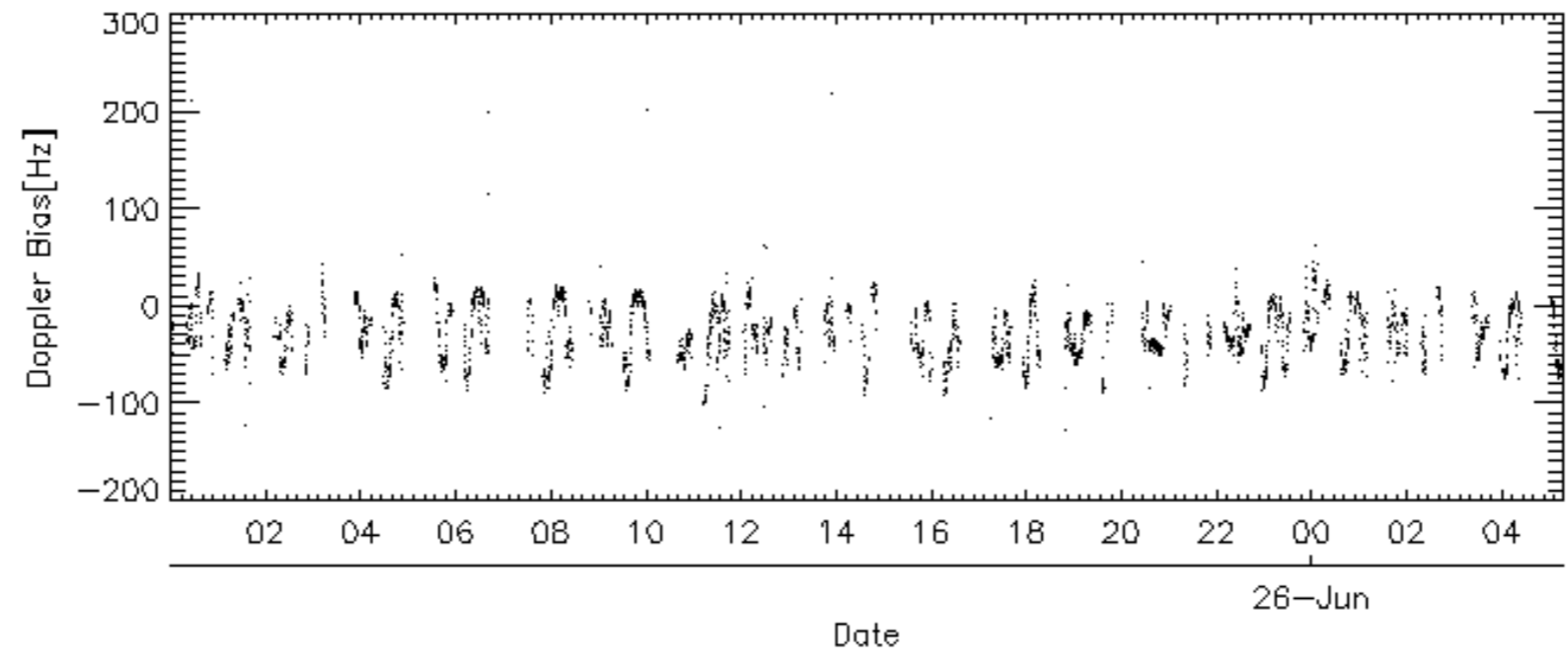
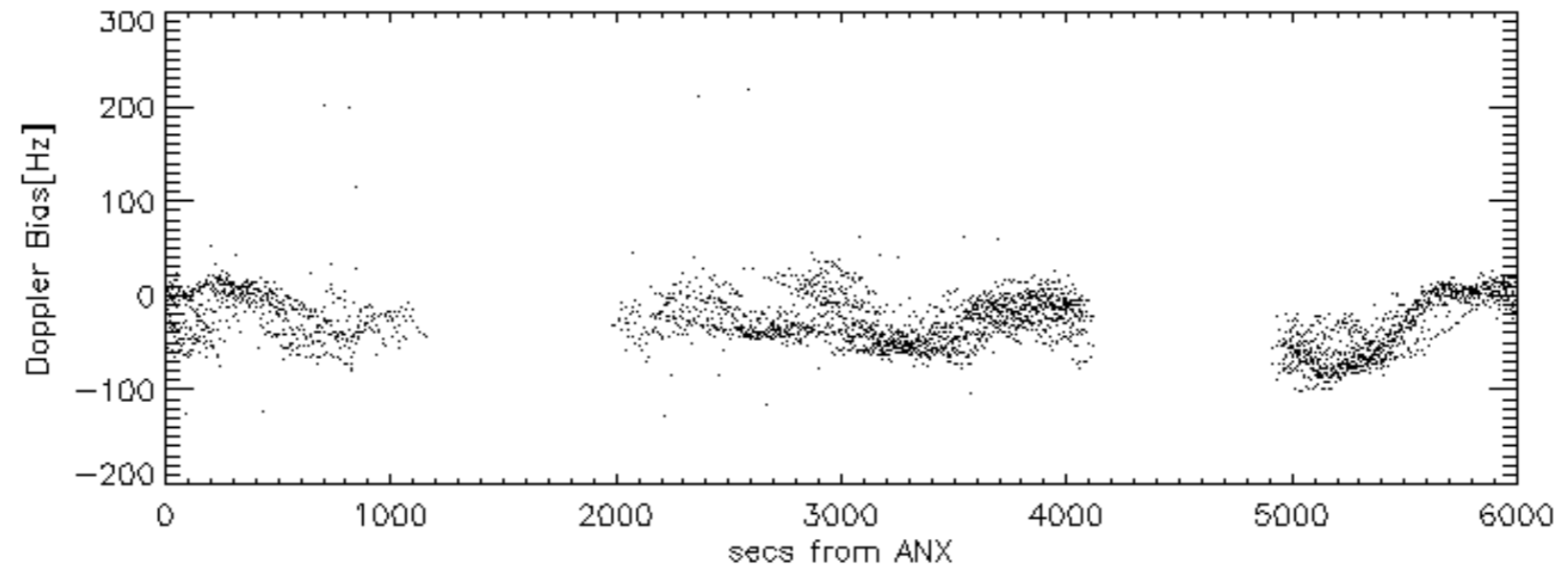
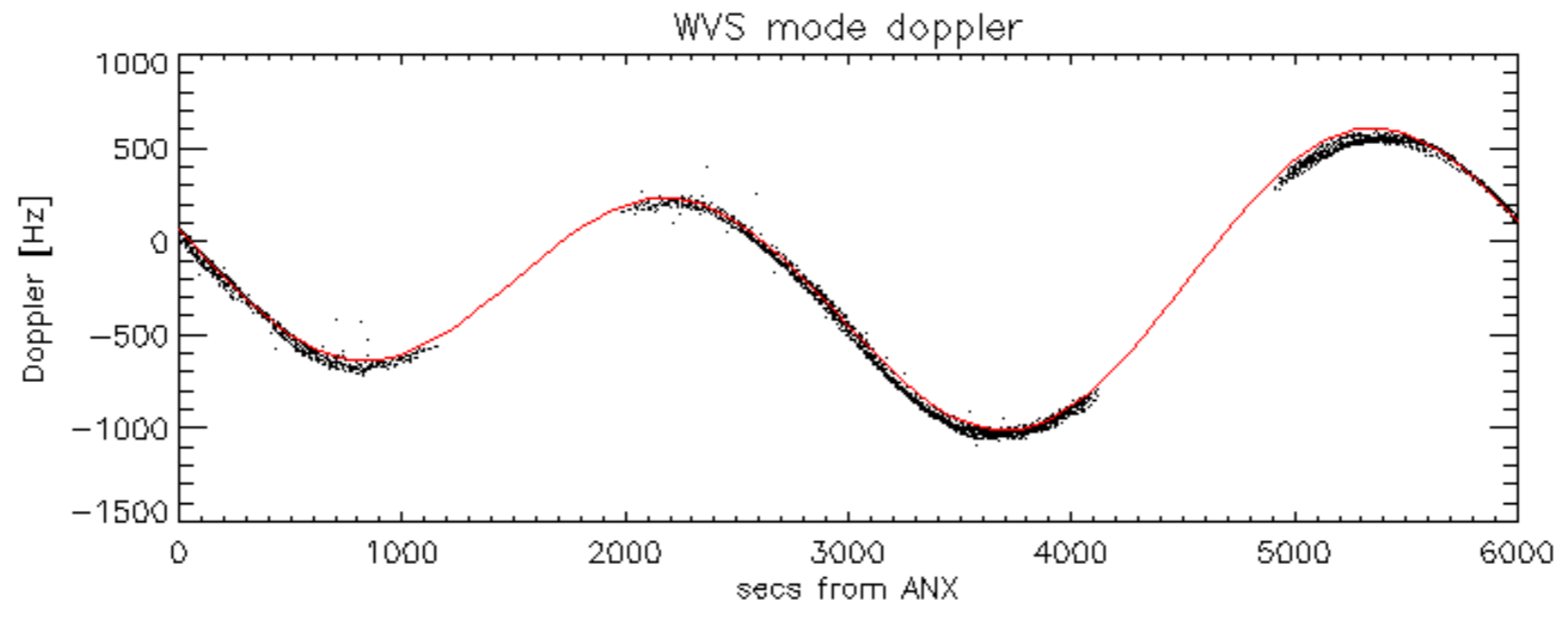


Doppler 'WVS' 'IS2' descending

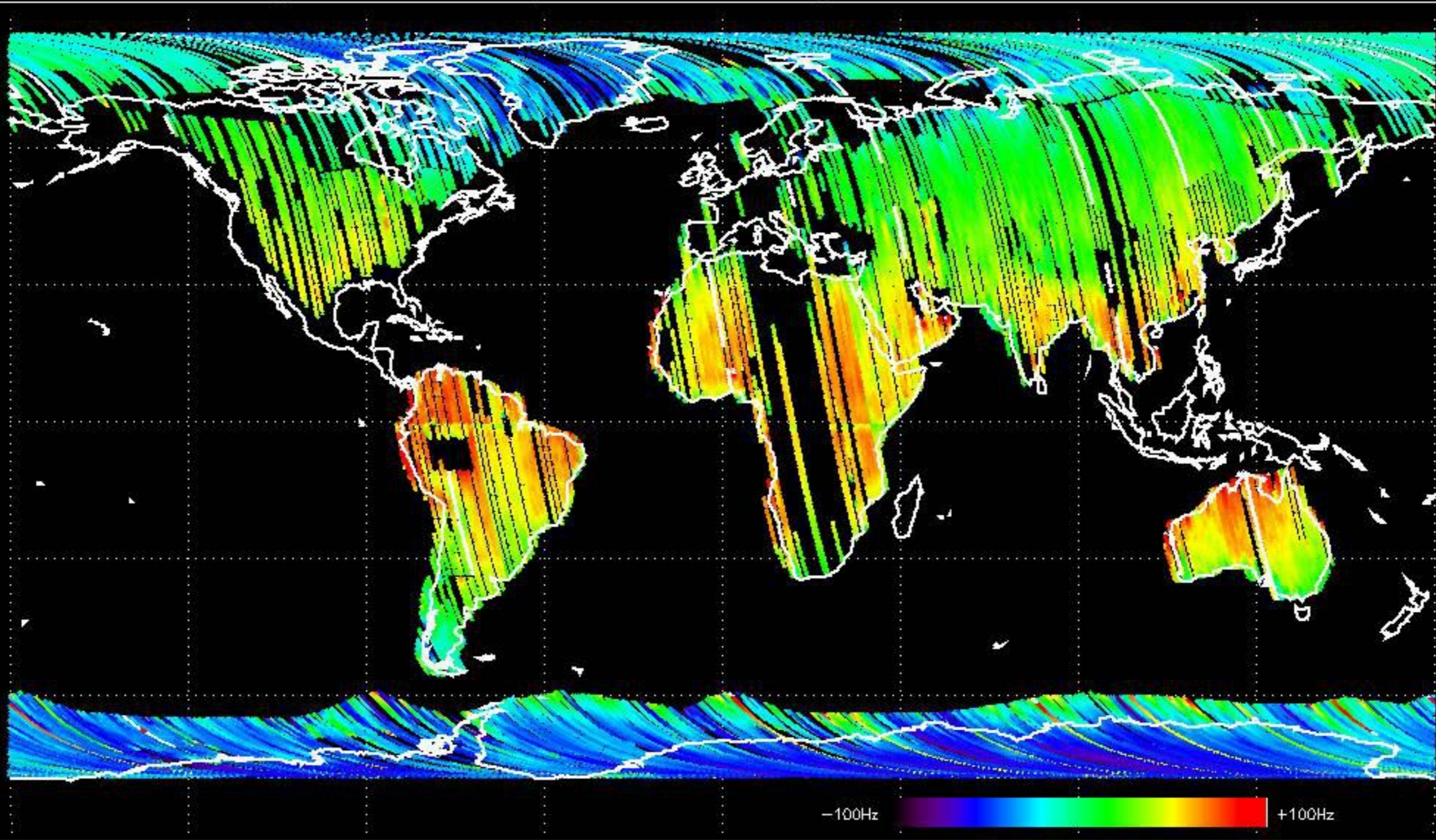


GM1 mode doppler

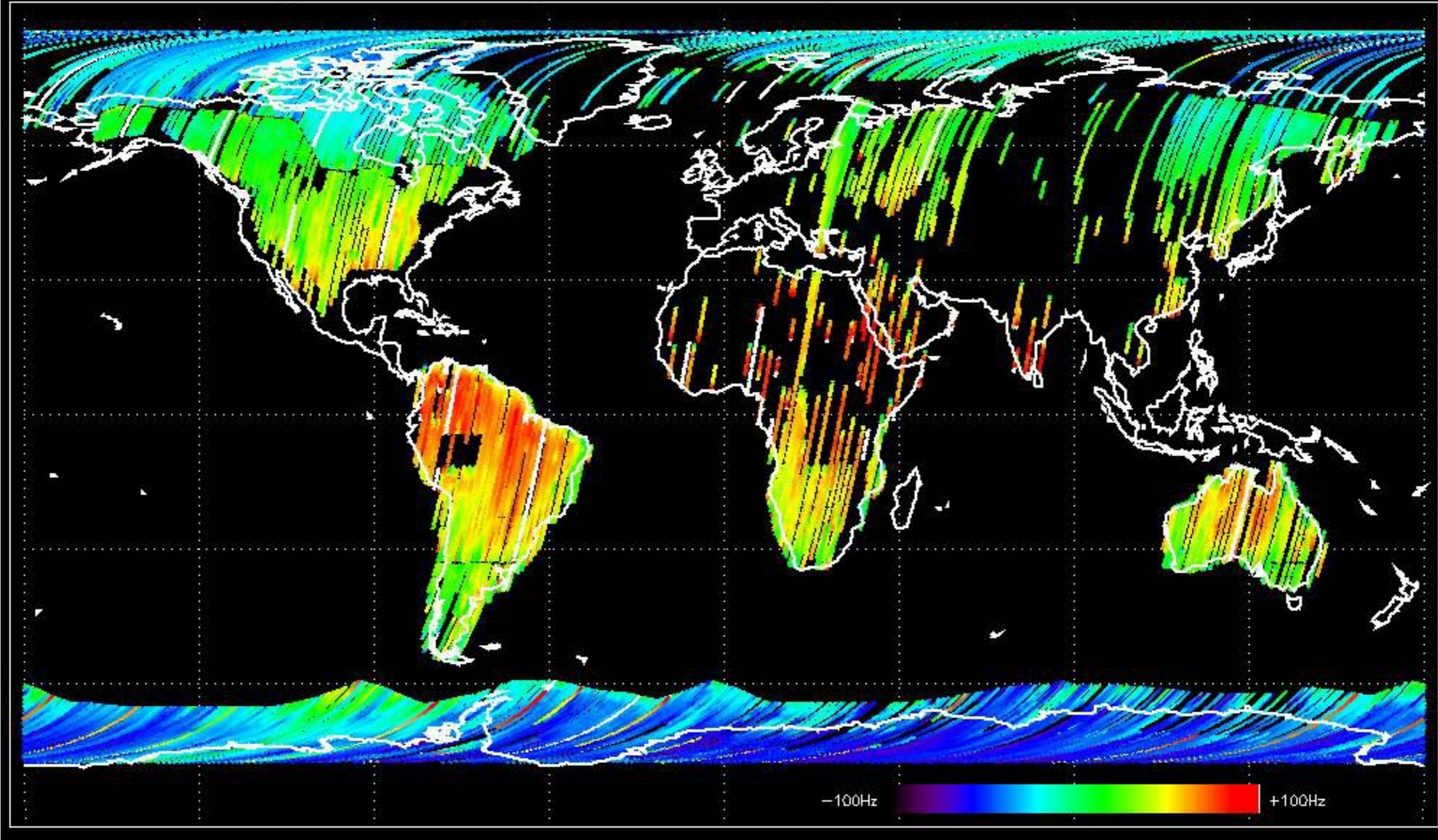




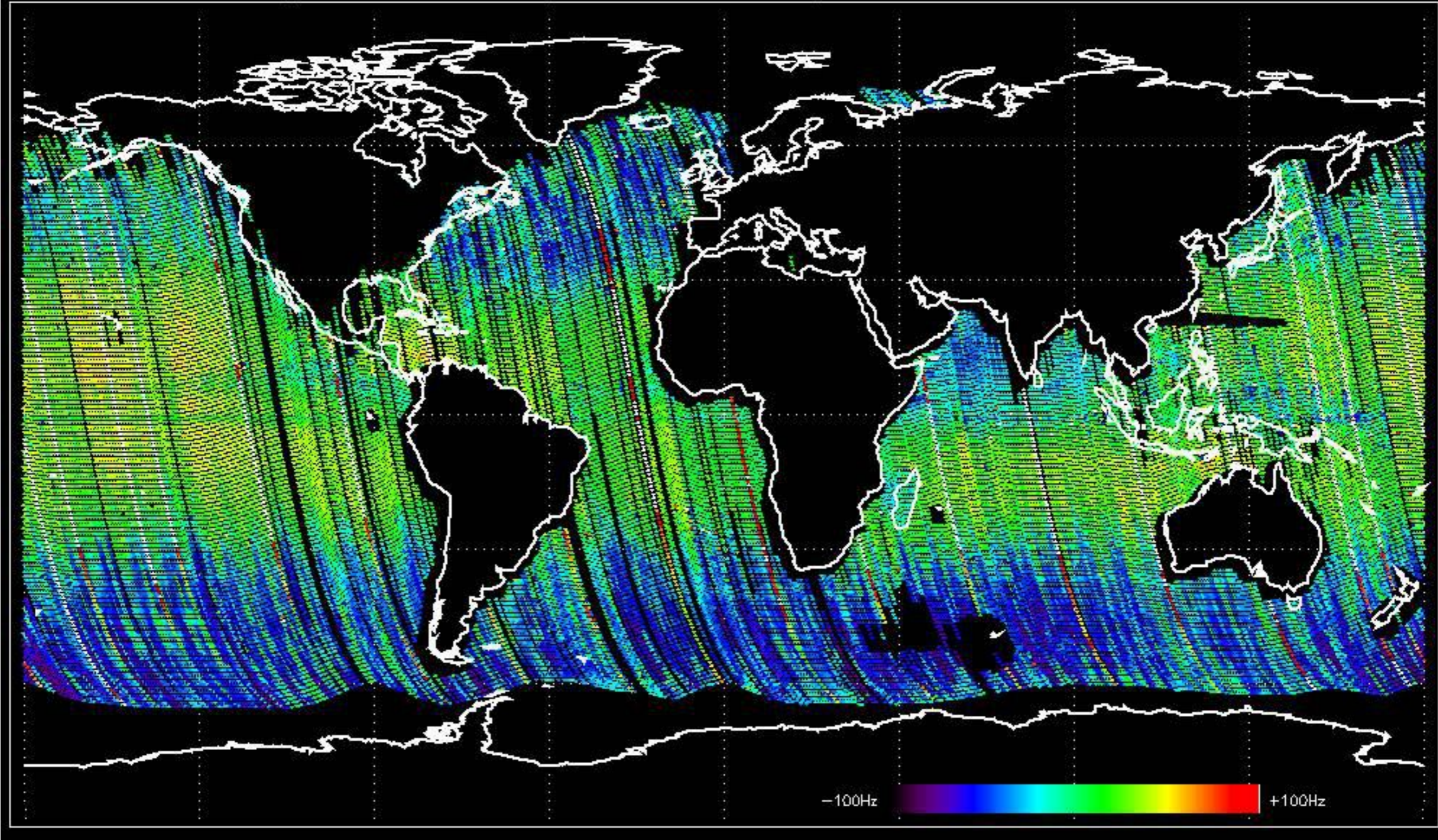
Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -25.949808 Hz



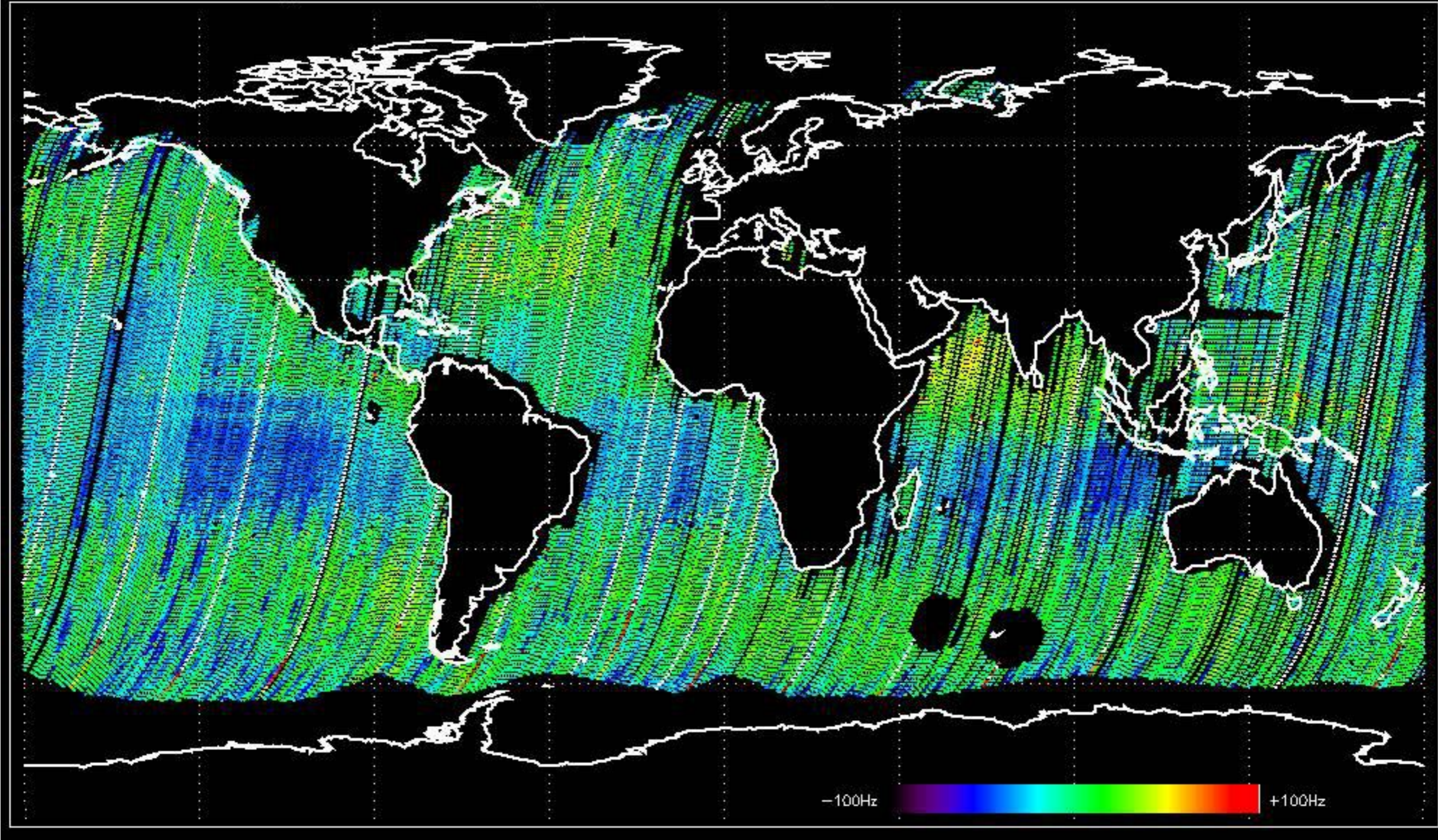
Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -23.604613 Hz



Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -26.780162 Hz

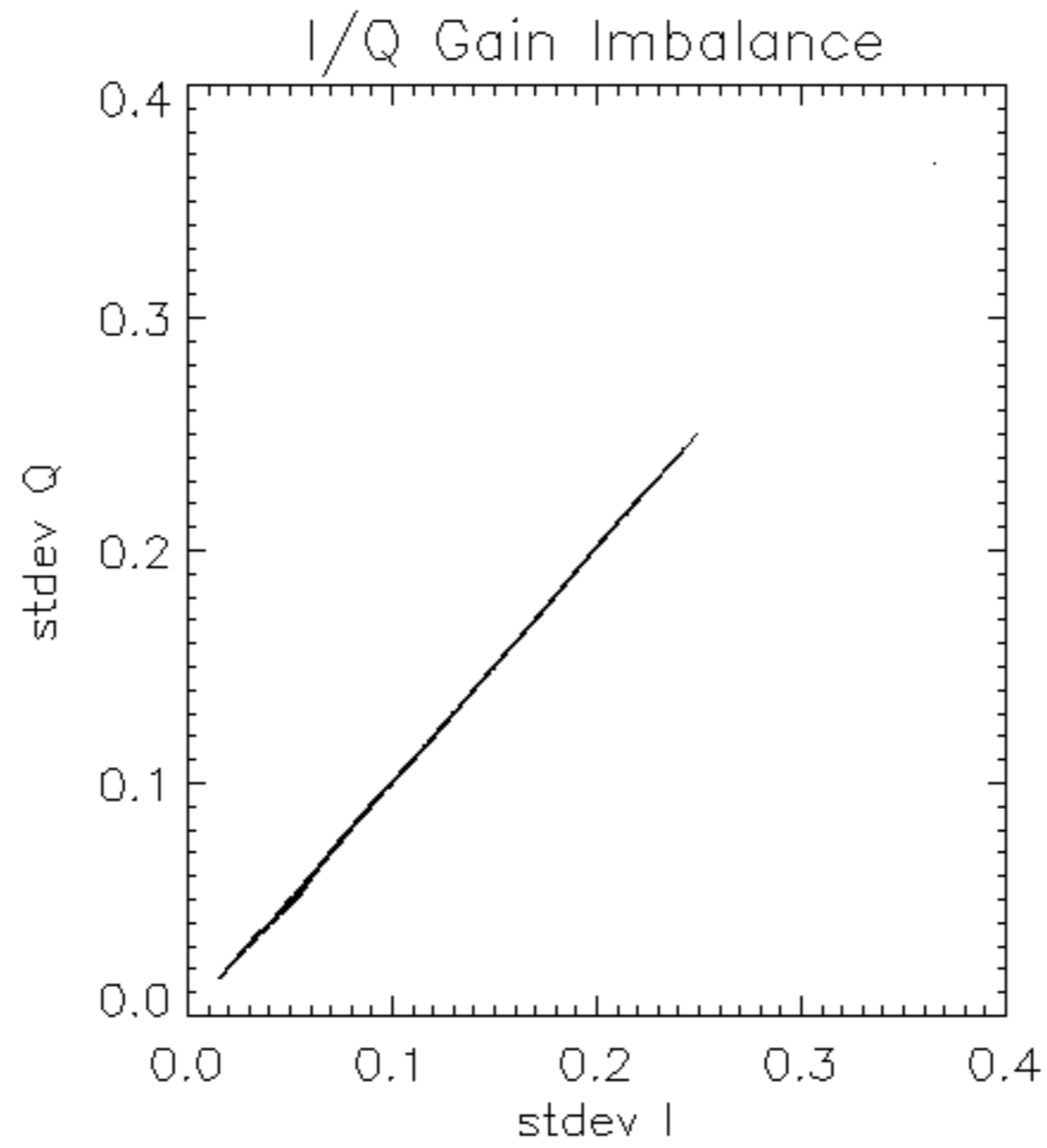


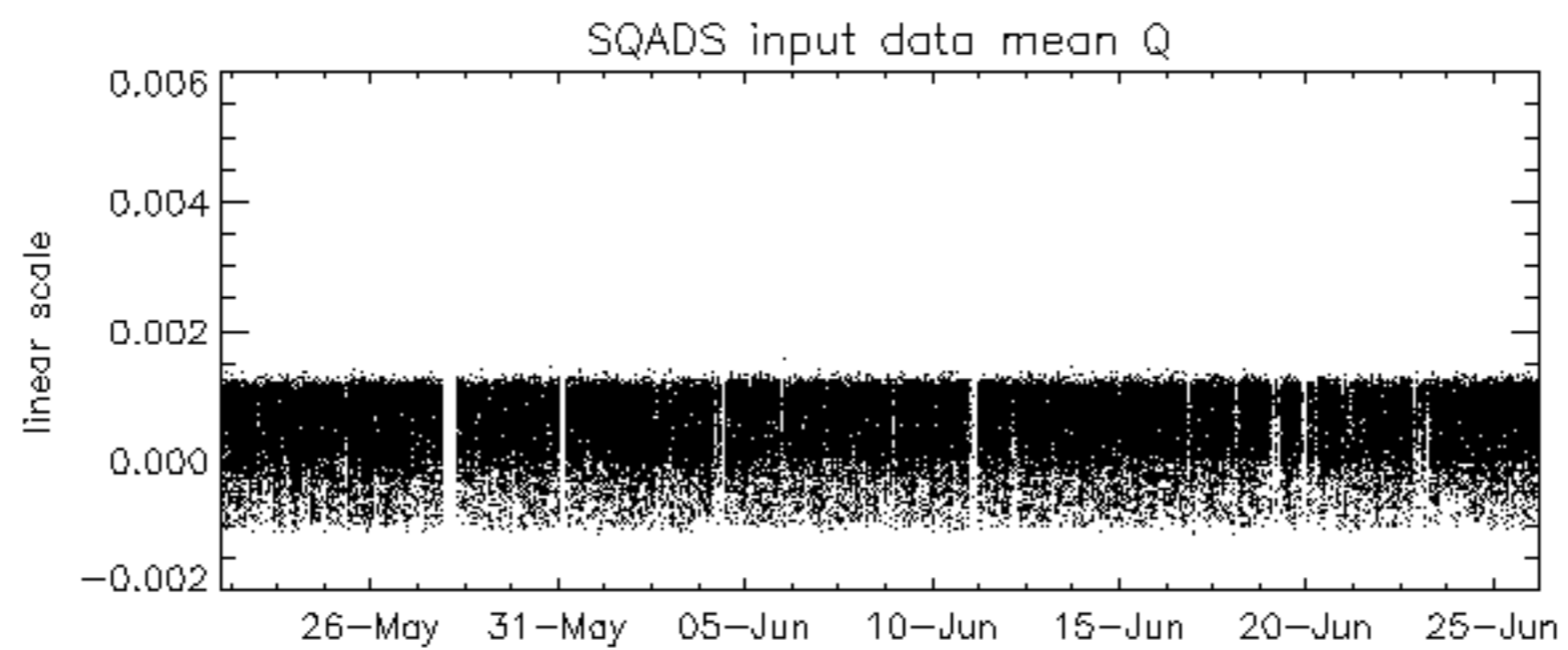
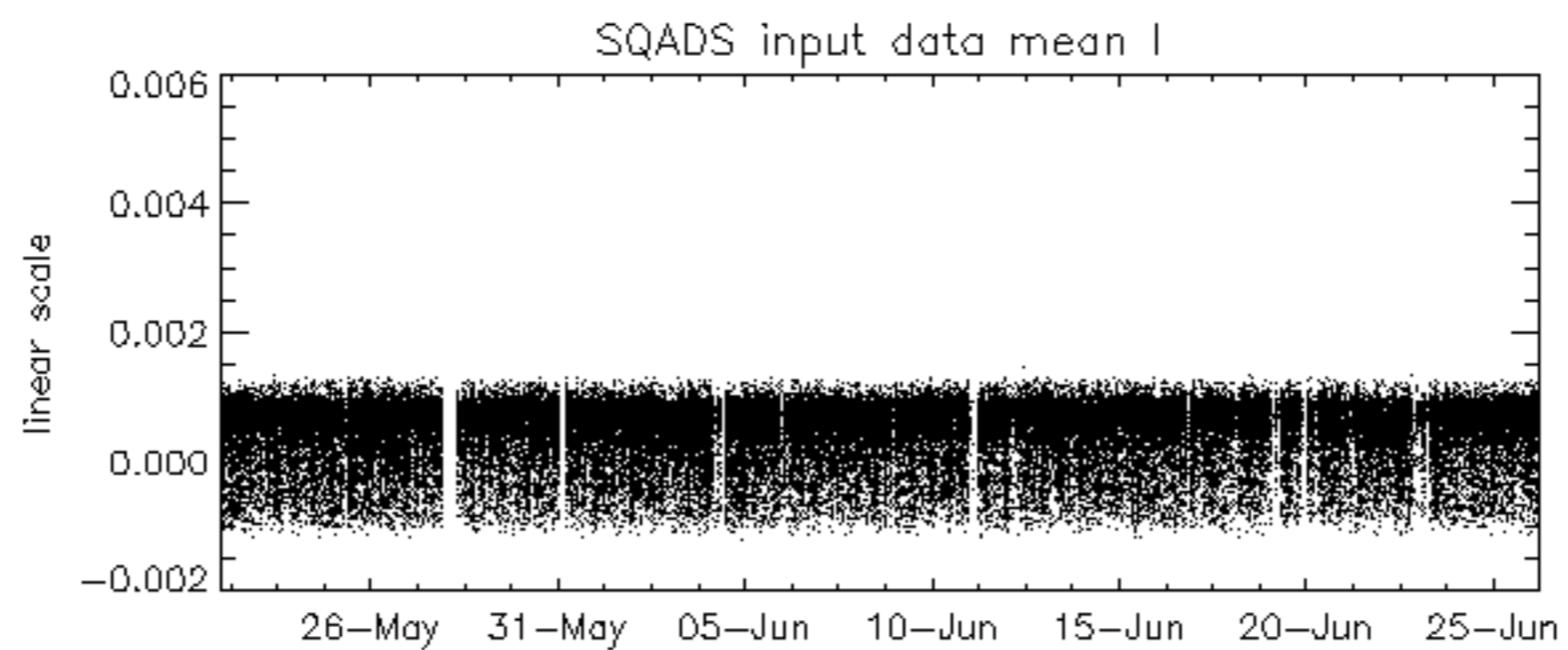
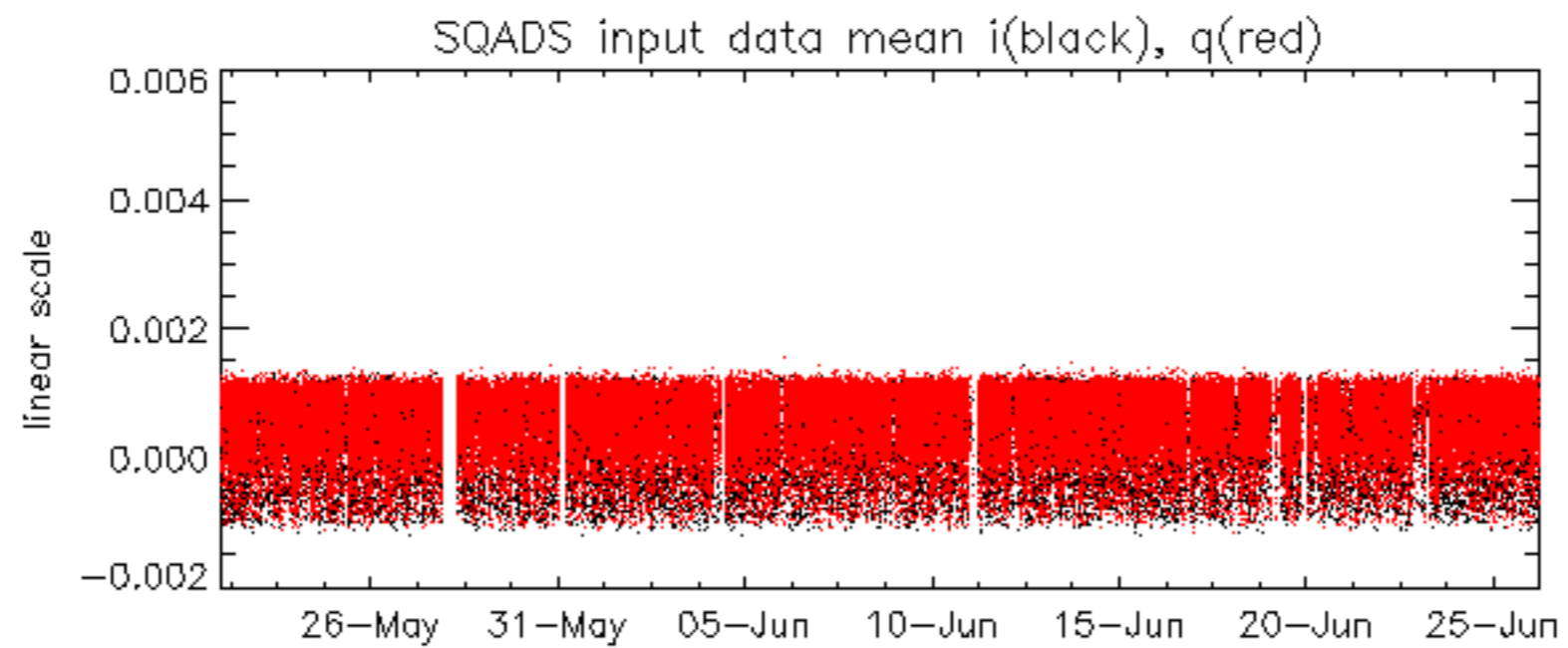
Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -24.204631 Hz

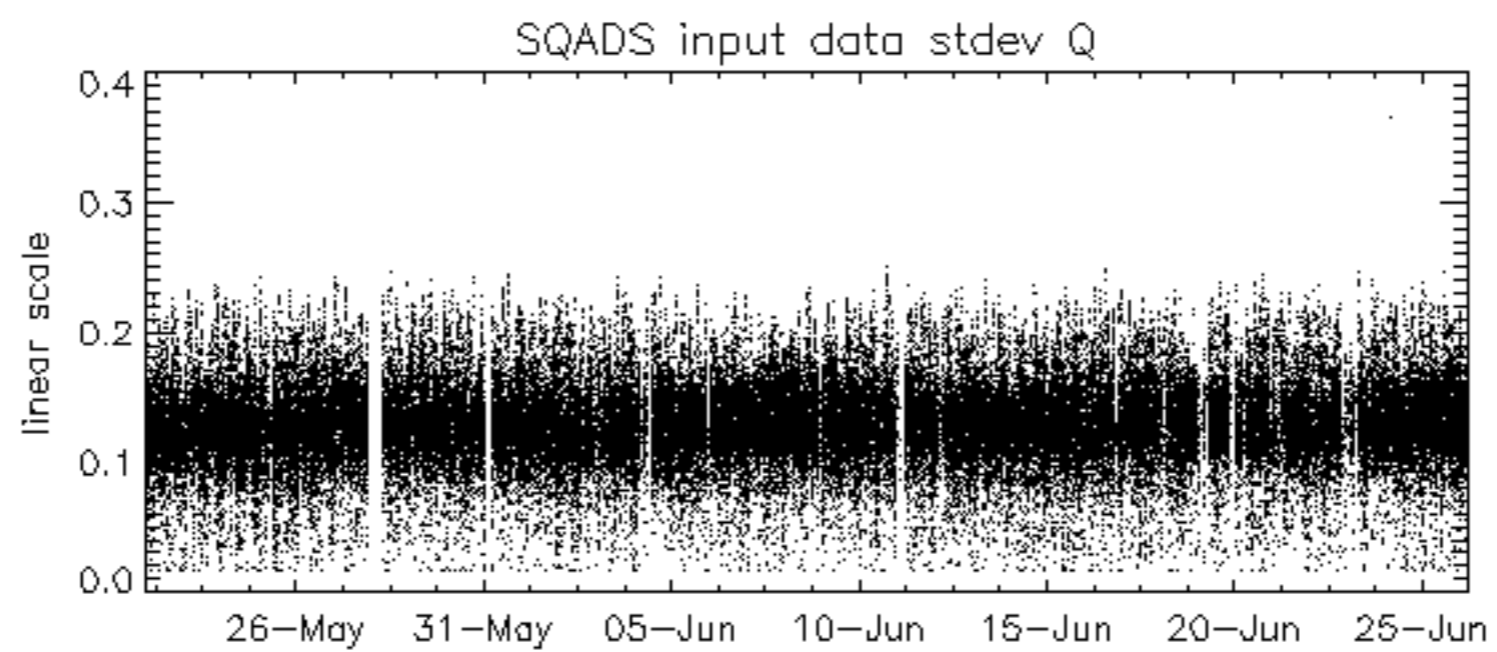
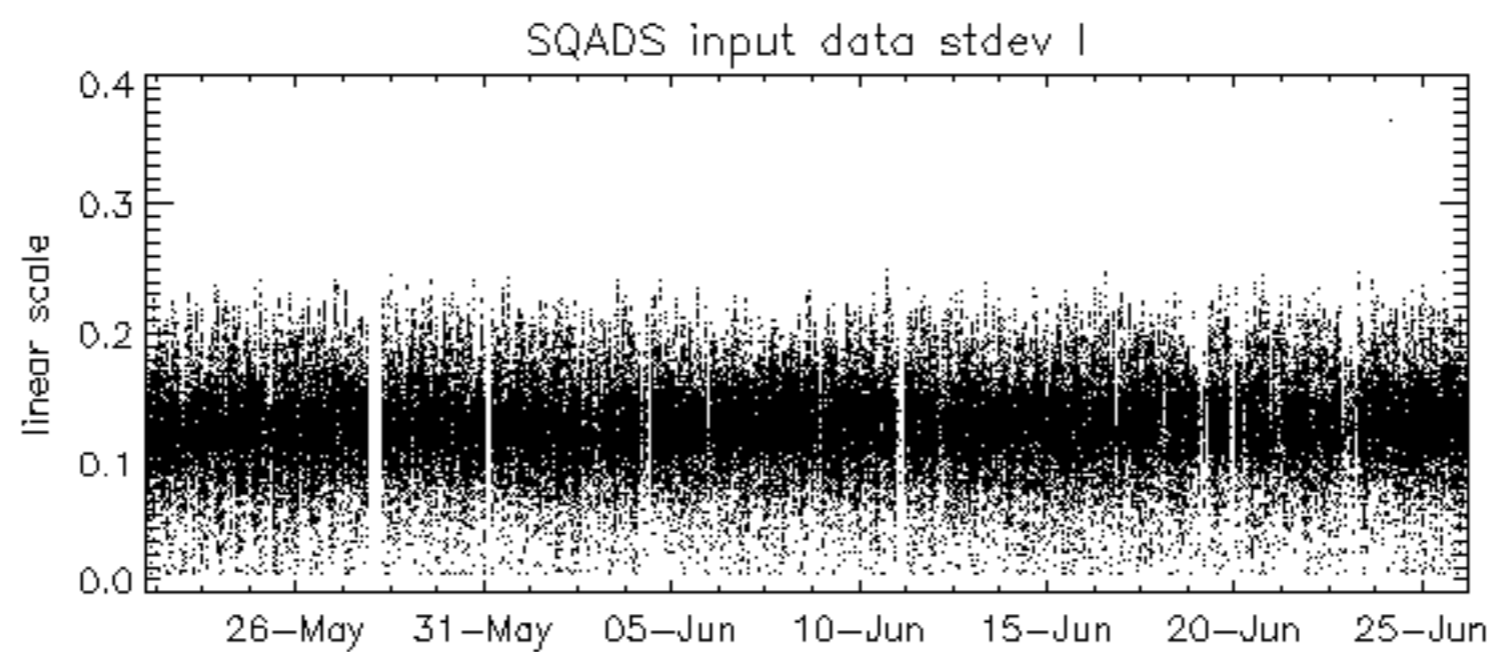
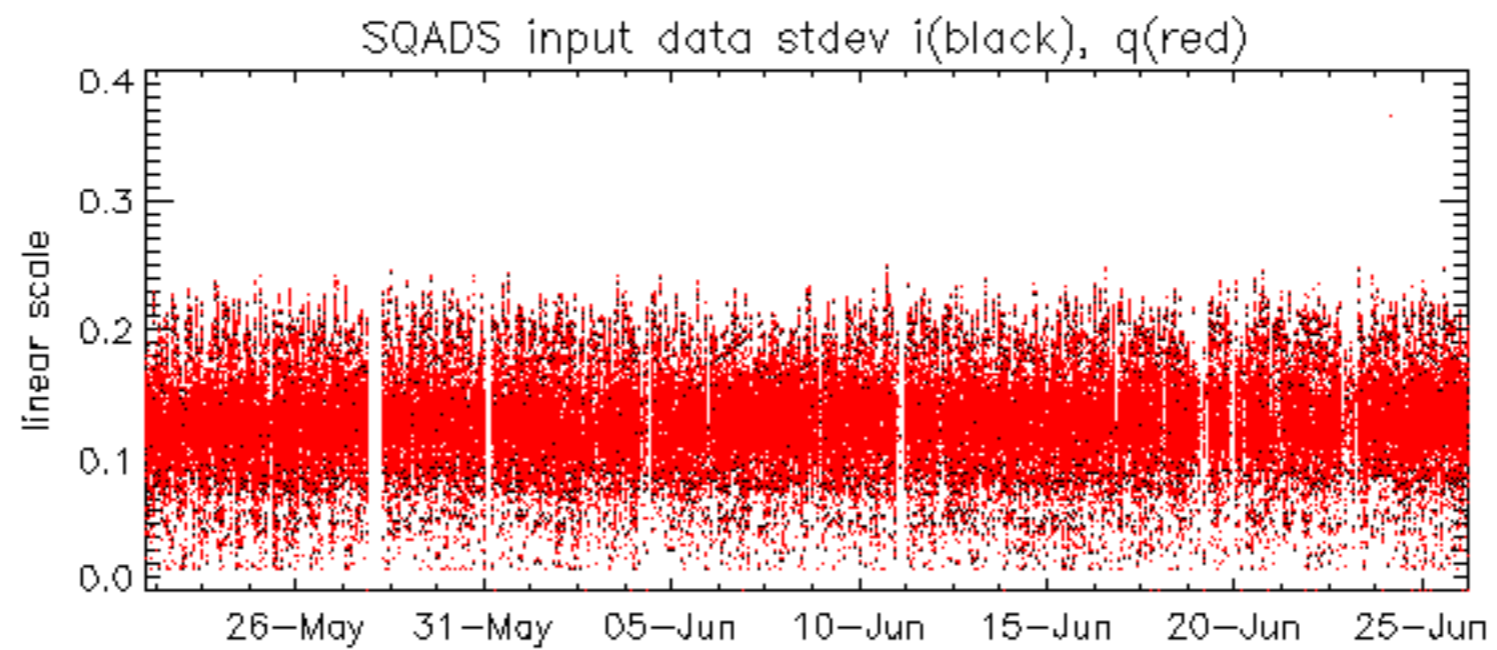


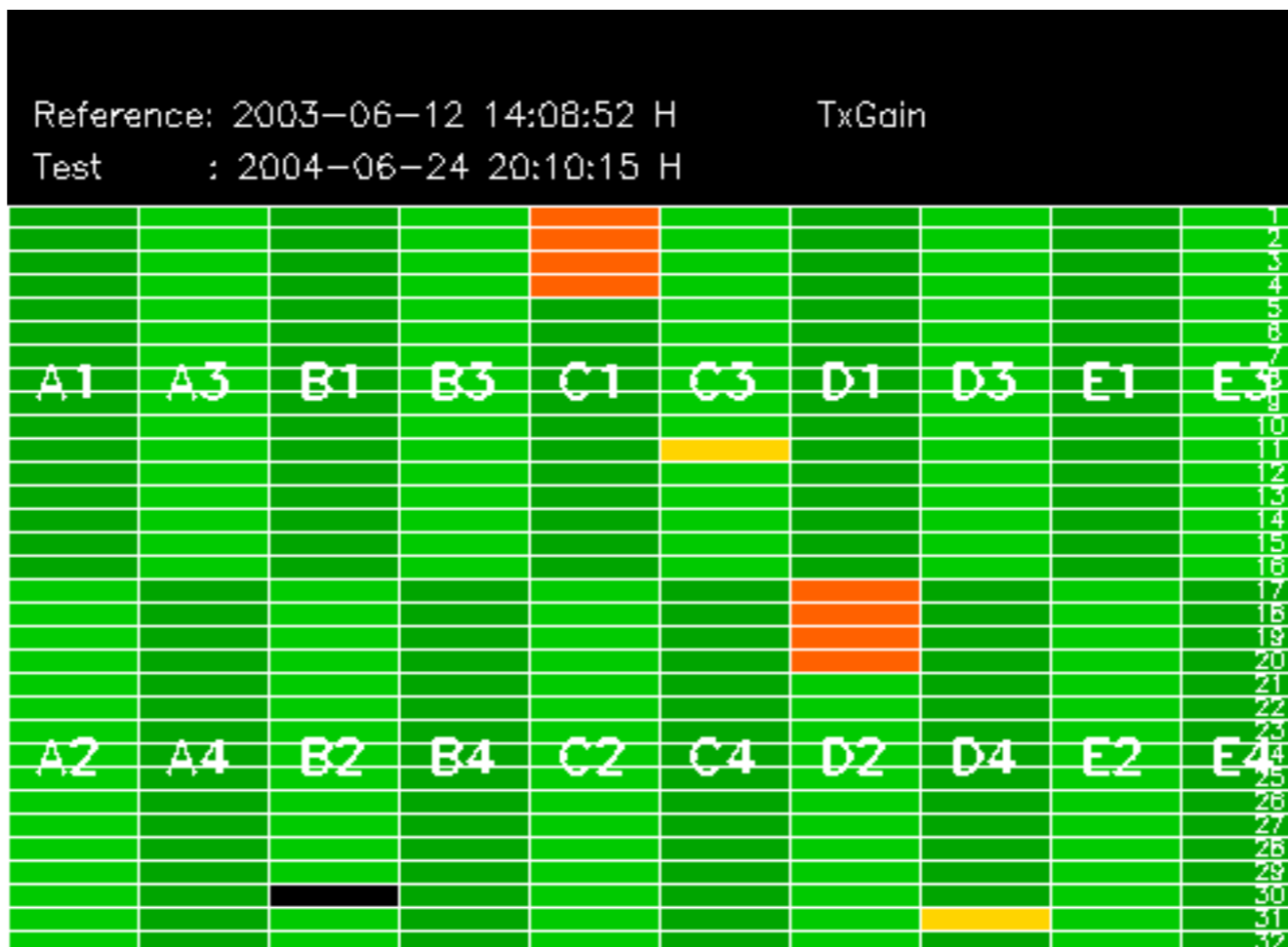
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to identify modules for which calibration offsets are to be applied.
No anomalies observed on available MS products:

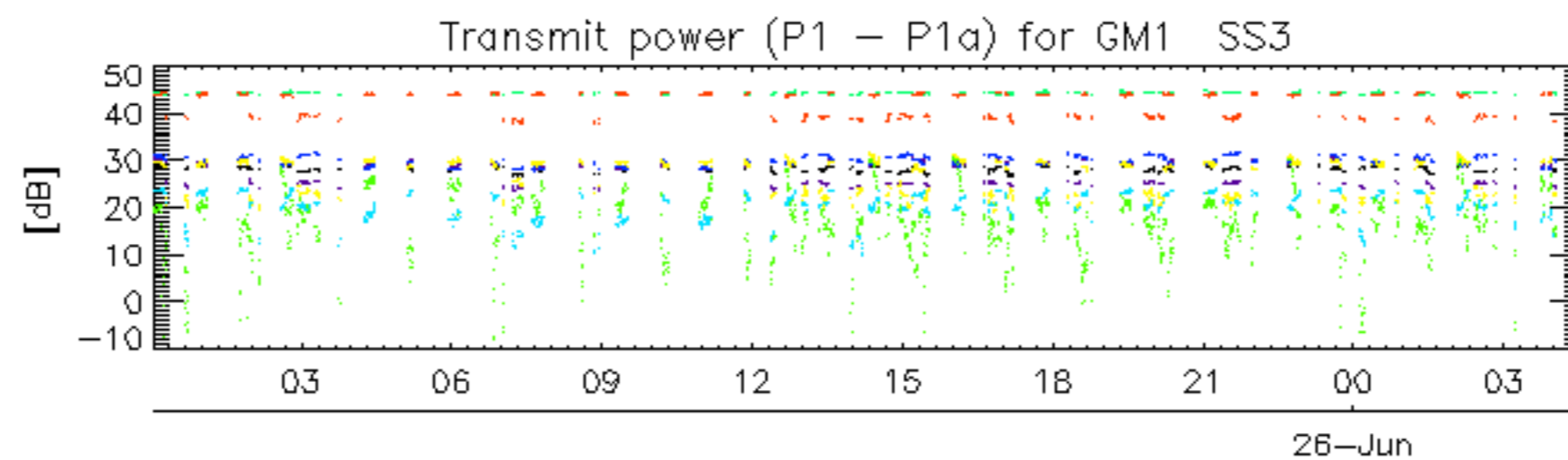
No anomalies observed.



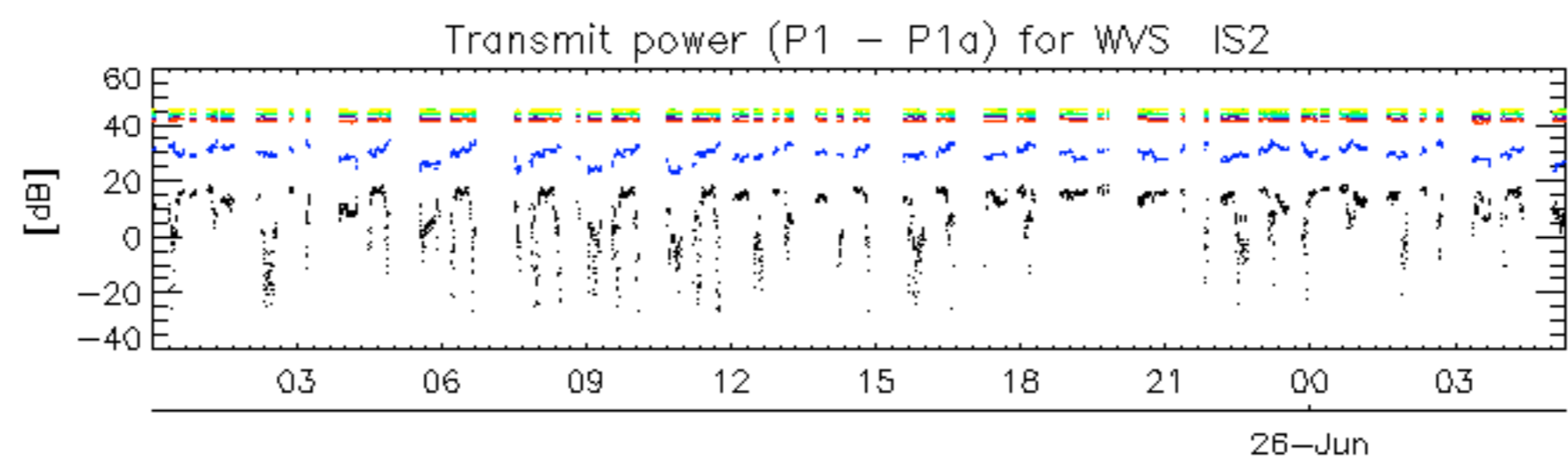








rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30



rows: _ 3 _ 7 _ 11 _ 15 _ 19 _ 22 _ 24 _ 30

No unavailabilities during the reported period.