

1. MIPAS Daily Report for level 1 products

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1.1 General Info

This report contains a daily analysis on parameters extracted from MIPAS level 1 data (The MIP_NL__1P product).

1.1.1 Report summary

The table below shows general characteristics of the data that are included into this report.

| Item | Value |
|--|--|
| Report version | v1.42 15-10-2013 |
| Time of report generation | 03AUG2015 12:39:07 |
| Data source version | MIPAS/7.11-W |
| Processing scope for products | 23NOV2005 00:00:00 to 24NOV2005 00:00:00 |
| Start time of first product within scope | 22NOV2005 23:32:56 |
| Stop time of last product within scope | 23NOV2005 14:34:09 |
| Total number of level 1 products | 5 |
| Number of level 1 products with errors | 0 |

1.1.2 Summary per product

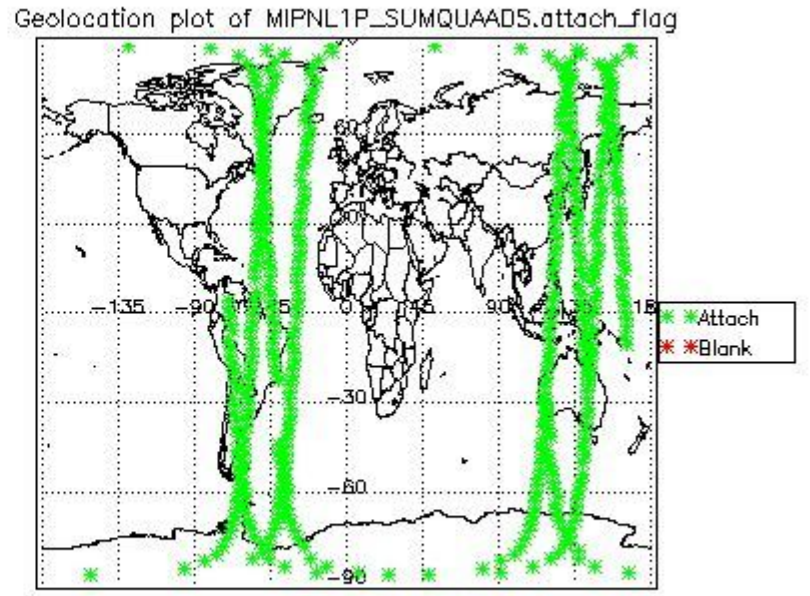
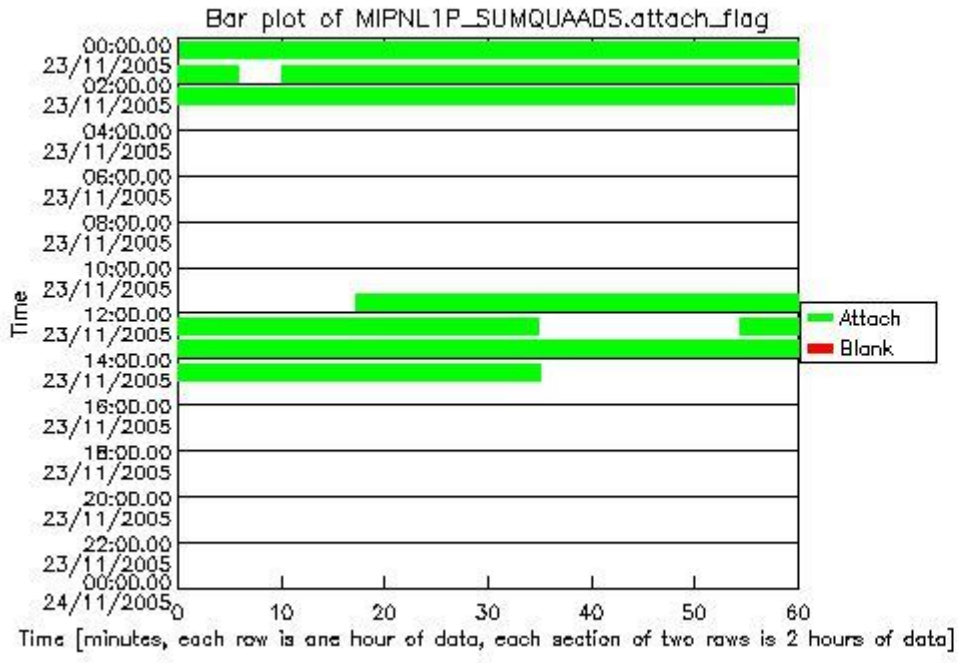
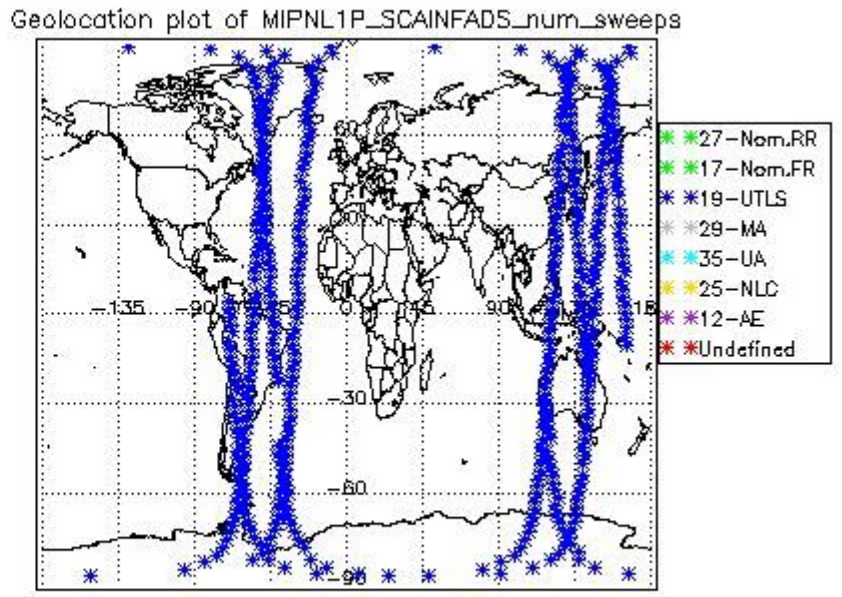
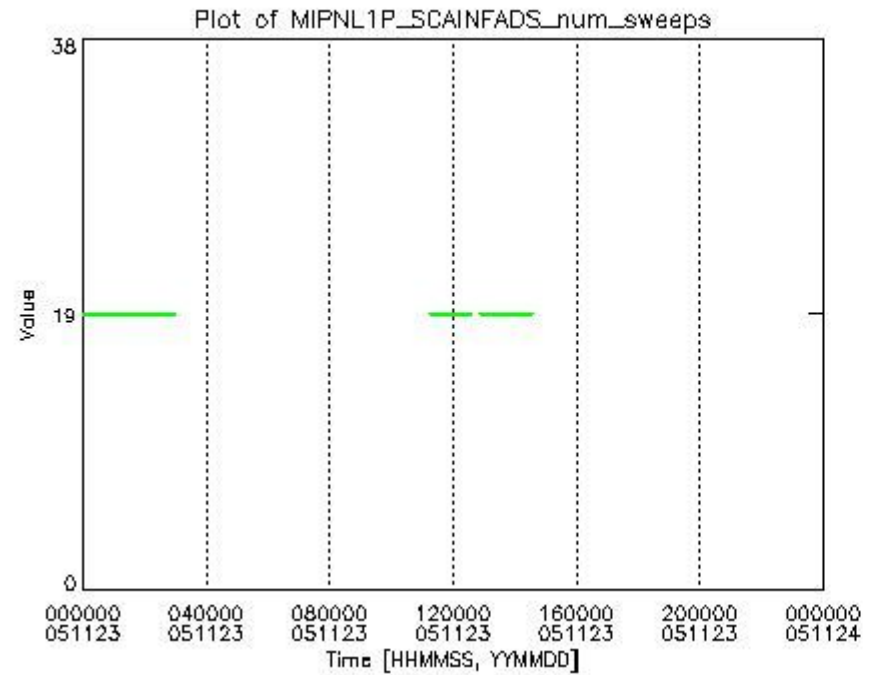
The following table shows a summary for each product used in this report.

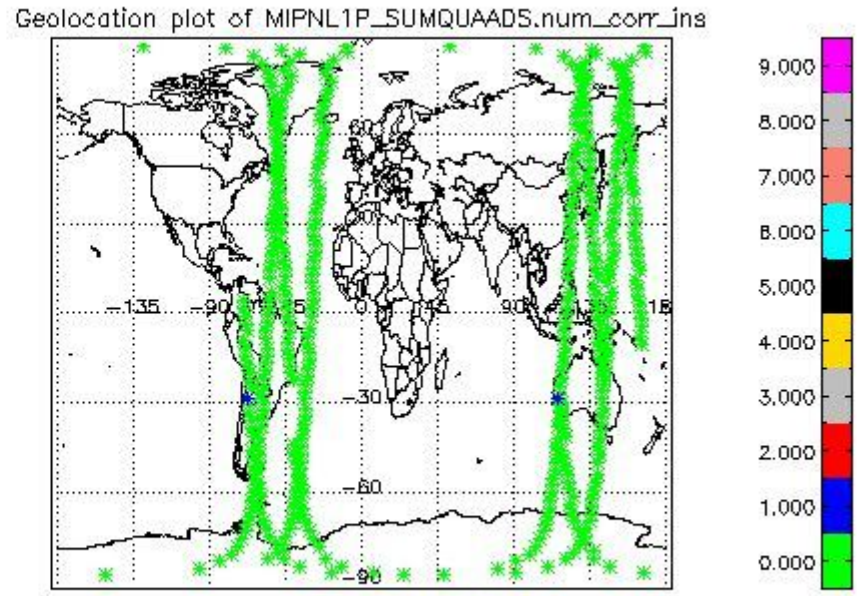
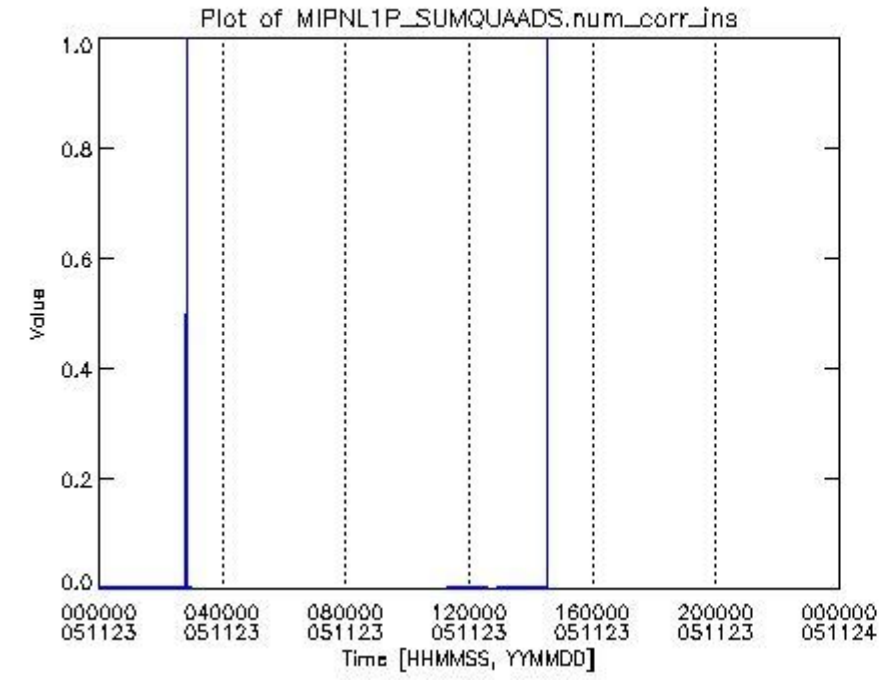
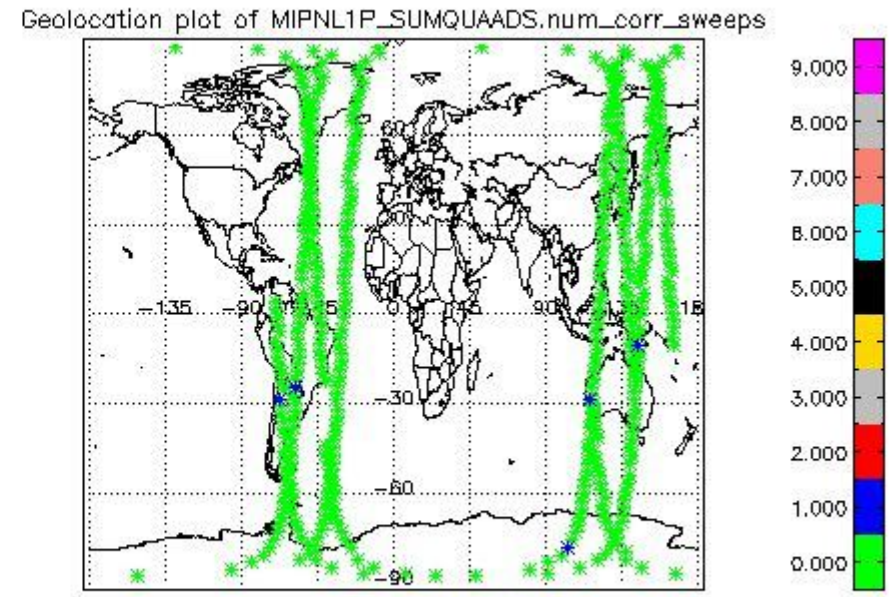
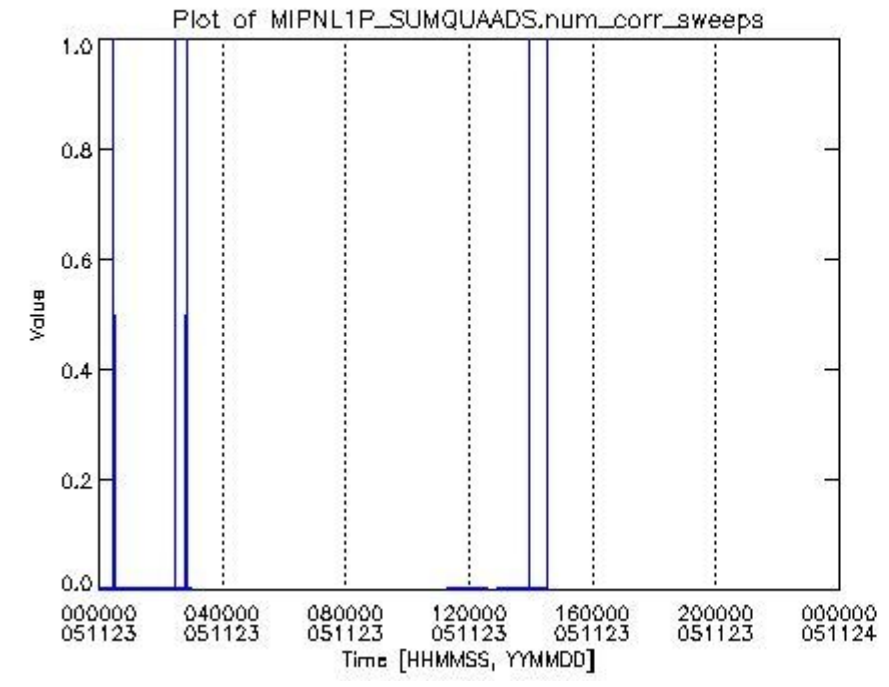
| # | Product name | Start time | Stop time | Prod err | Slice position (prod/tot) | #sweeps SPH |
|---|--|--------------------|--------------------|----------|---------------------------|-------------|
| 0 | MIP_NL__1PWDSI20051122_233256_000055242042_00417_19509_0000.N1 | 22NOV2005 23:32:56 | 23NOV2005 01:05:00 | 0 | 0/0 | 19 |
| 1 | MIP_NL__1PWDSI20051123_011006_000059922042_00418_19510_0000.N1 | 23NOV2005 01:10:06 | 23NOV2005 02:49:58 | 0 | 0/0 | 19 |
| 2 | MIP_NL__1PWDSI20051123_025004_000005212042_00419_19511_0000.N1 | 23NOV2005 02:50:04 | 23NOV2005 02:58:45 | 0 | 0/0 | 19 |
| 3 | MIP_NL__1PWDSI20051123_111708_000046172042_00424_19516_0000.N1 | 23NOV2005 11:17:08 | 23NOV2005 12:34:04 | 0 | 0/0 | 19 |
| 4 | MIP_NL__1PWDSI20051123_125418_000059922042_00425_19517_0000.N1 | 23NOV2005 12:54:18 | 23NOV2005 14:34:09 | 0 | 0/0 | 19 |

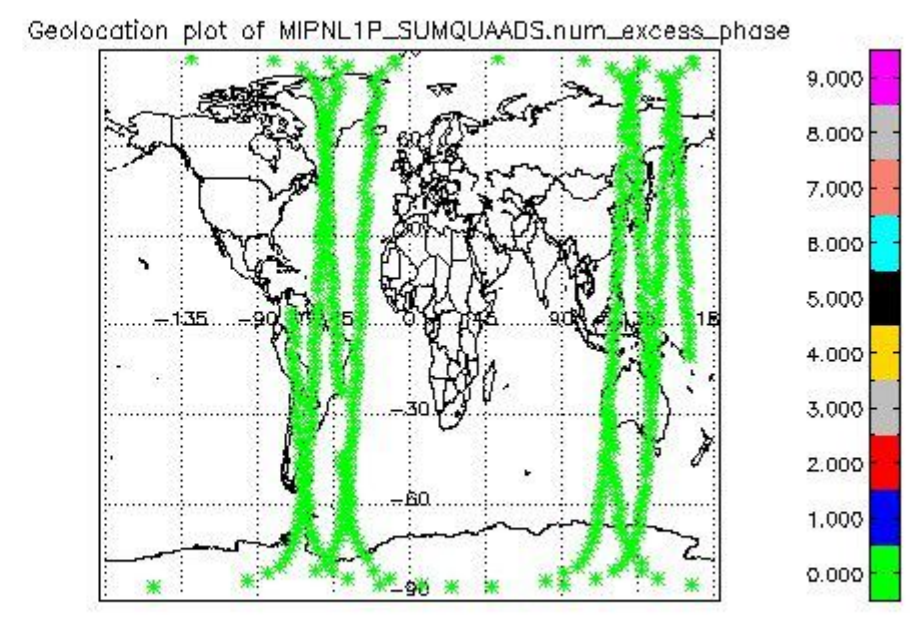
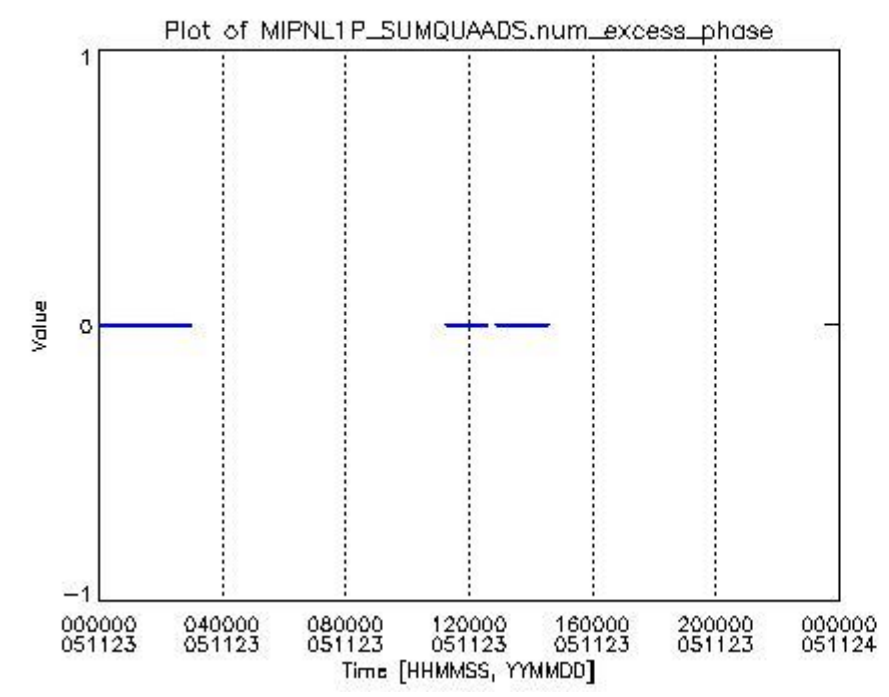
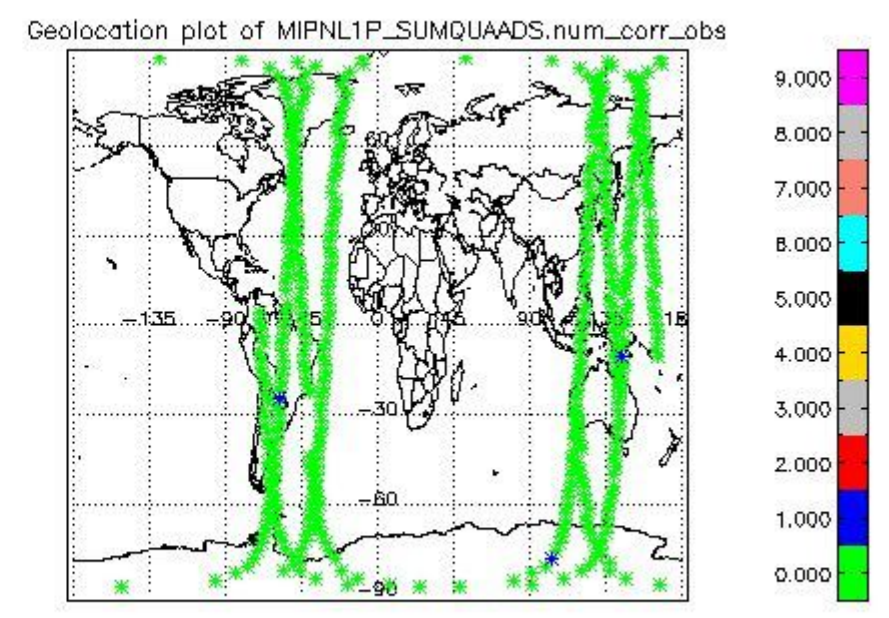
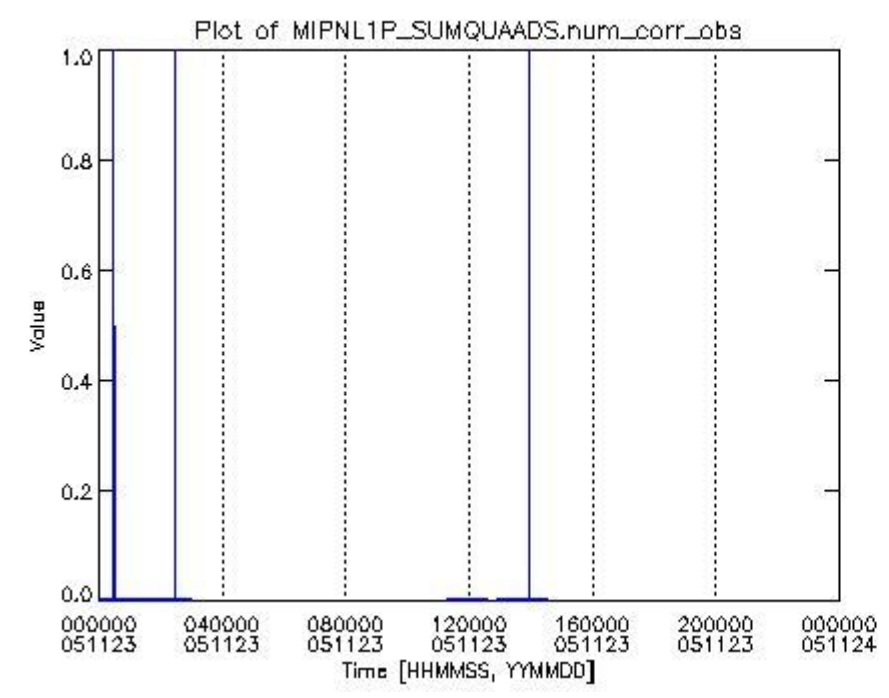
1.2 Product Quality Indicators

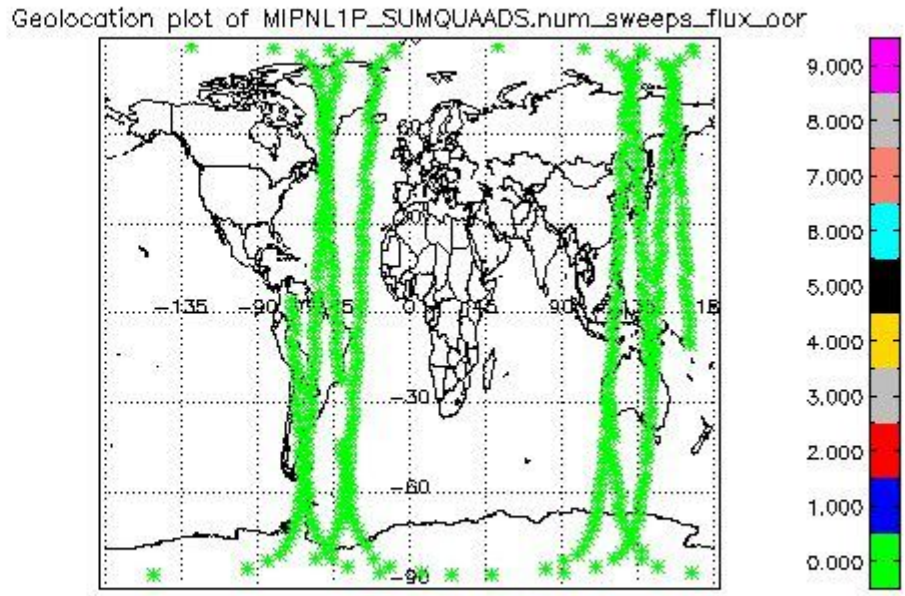
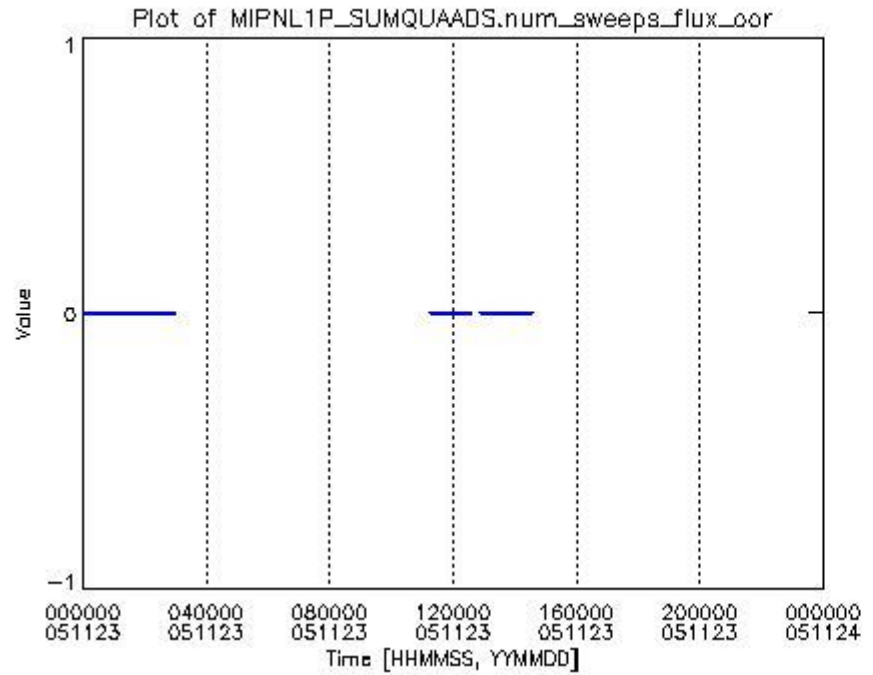
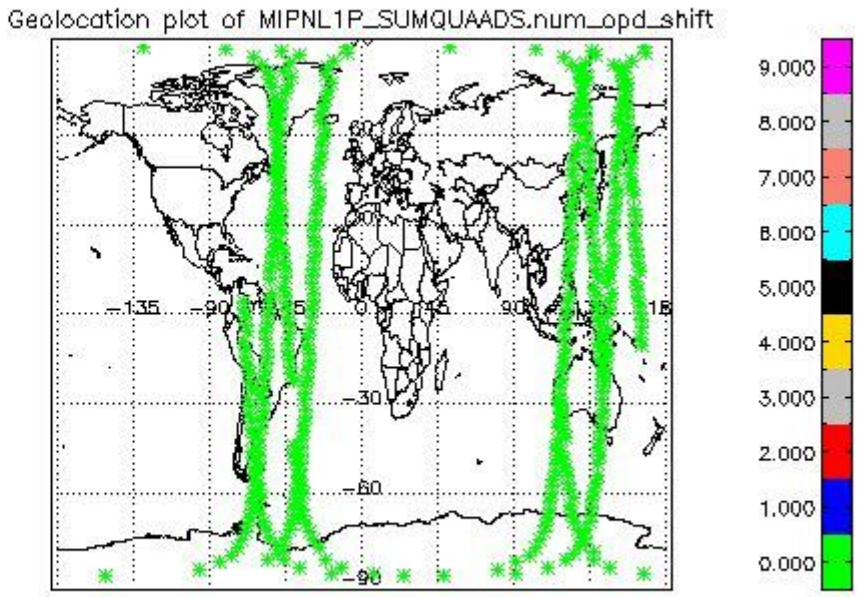
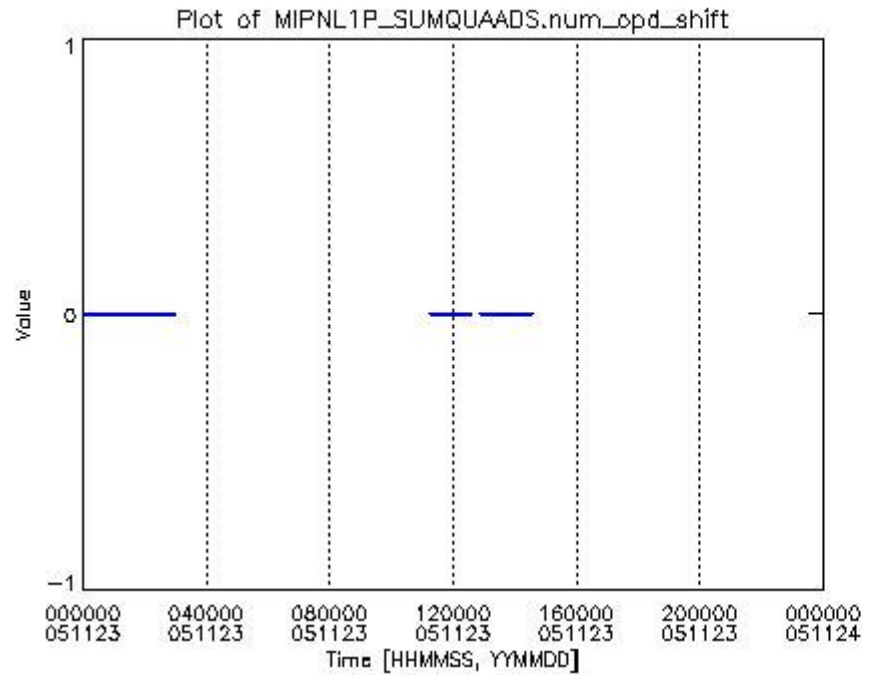
This report contains an analysis on product quality related parameters within the MIP_NL__1P product.

1.2.1 Trends and geolocation of Summary Quality and Scan Information ADS

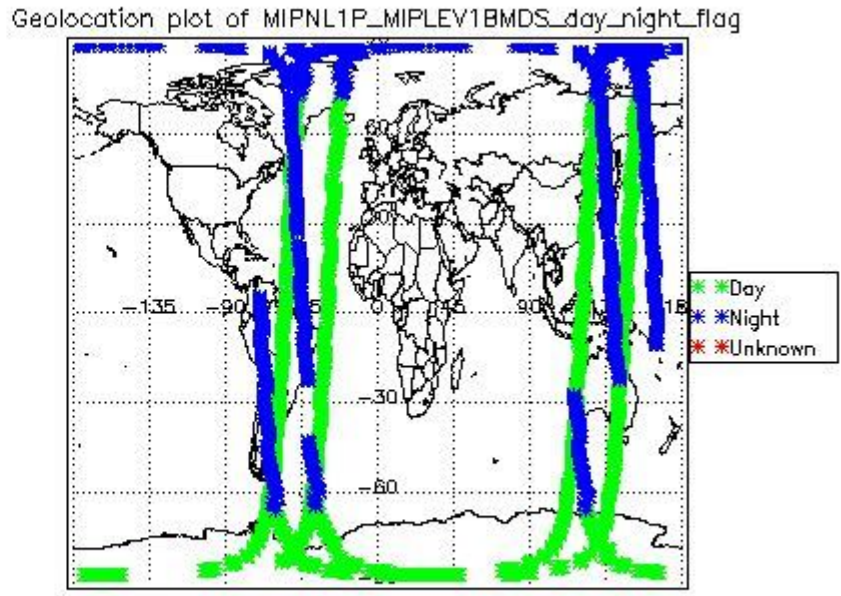
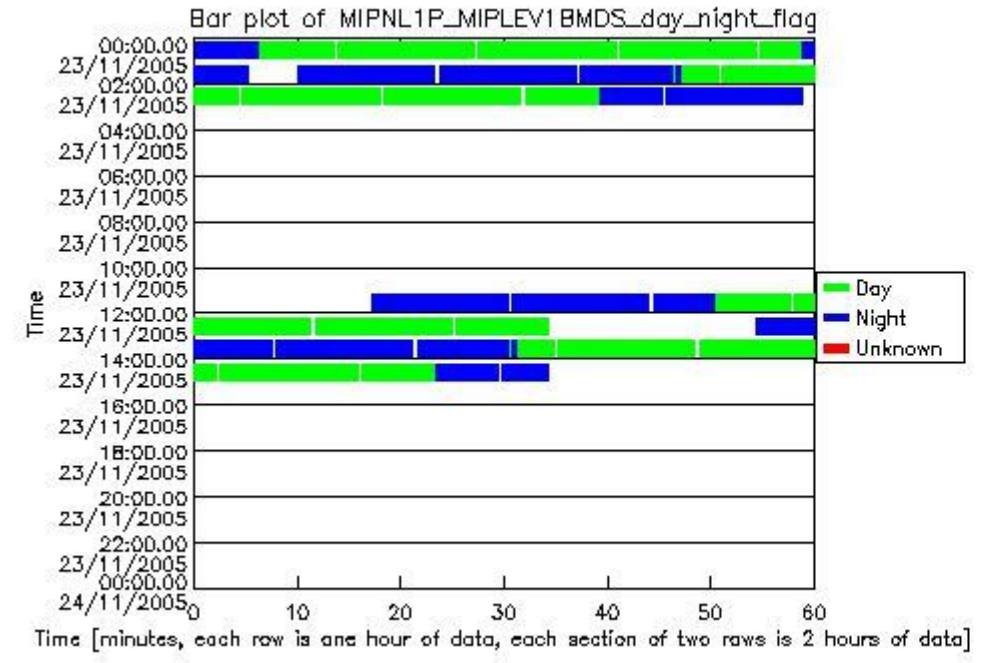
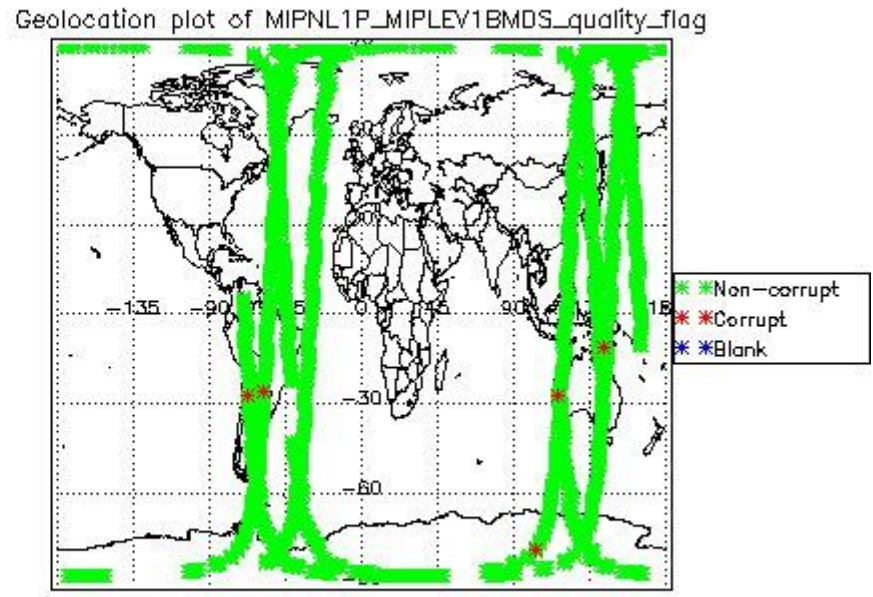
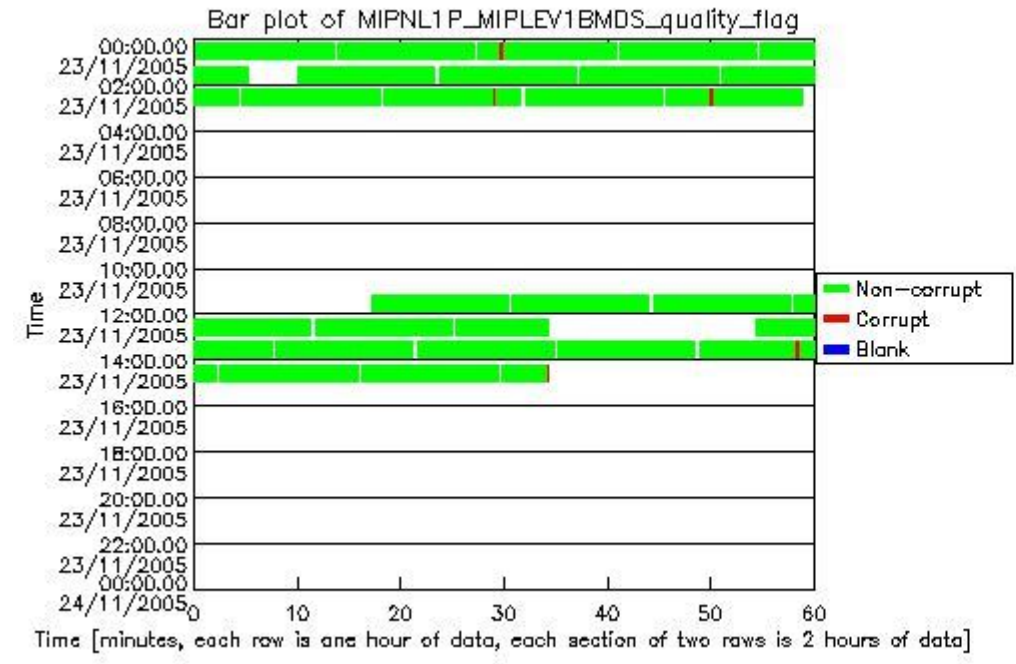


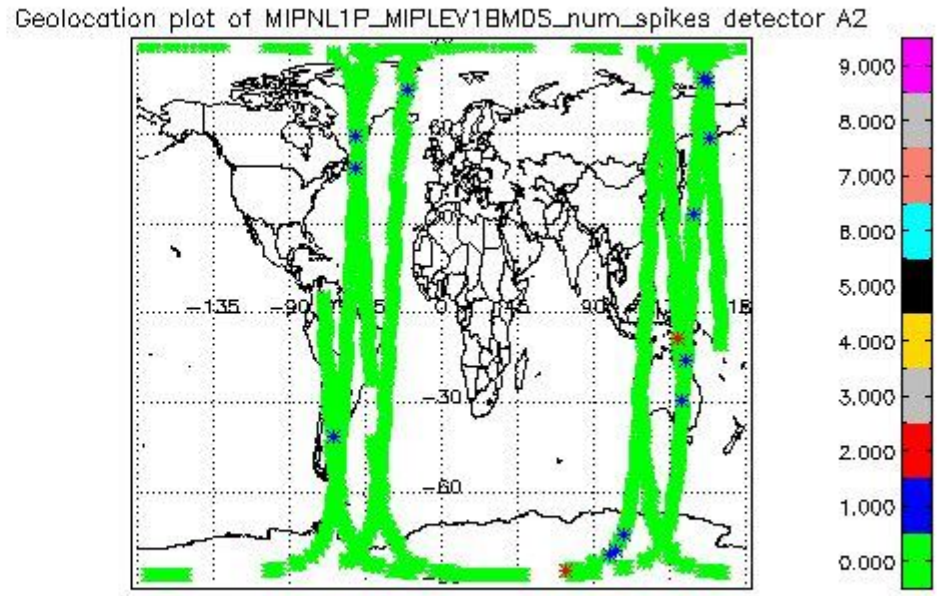
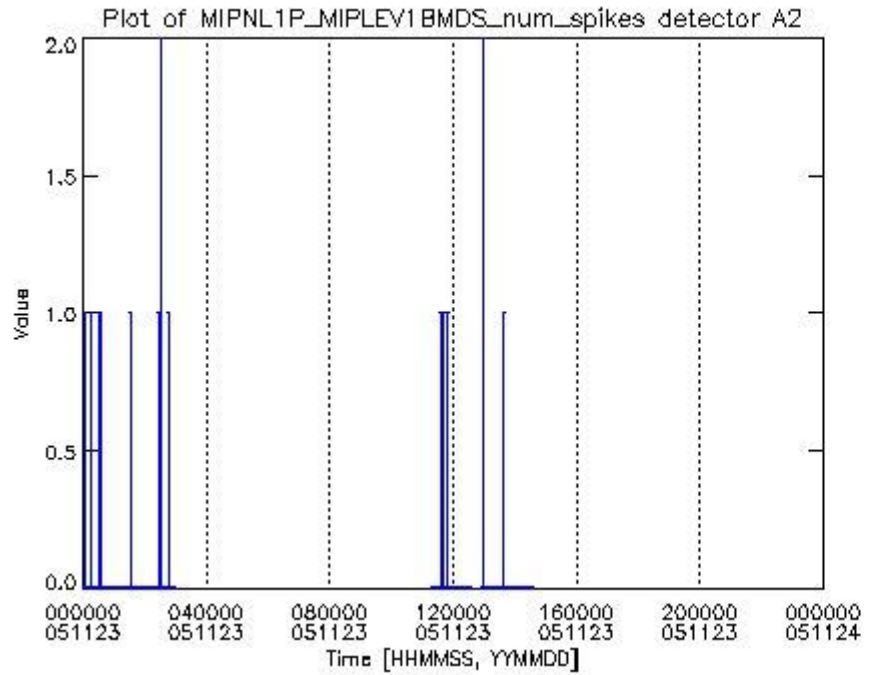
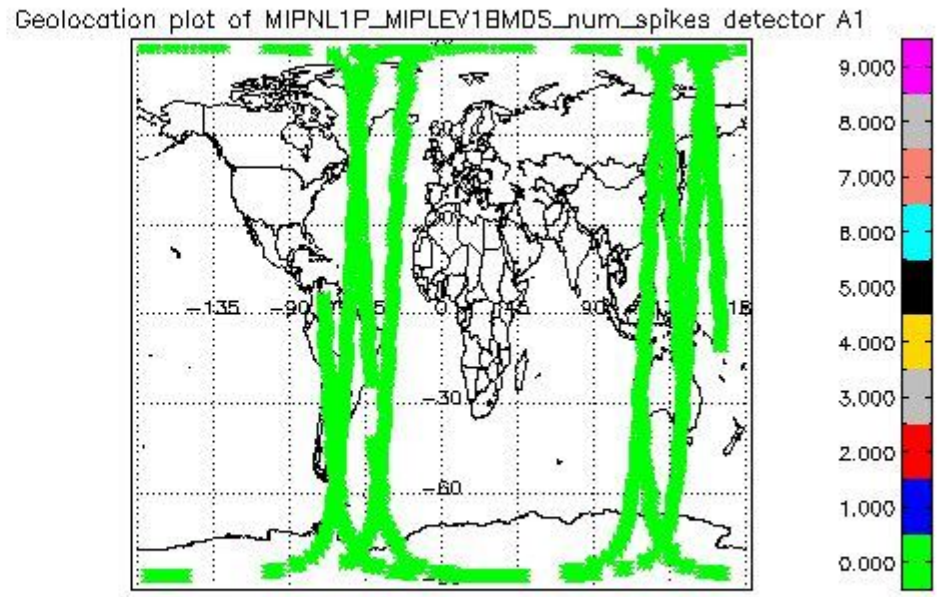
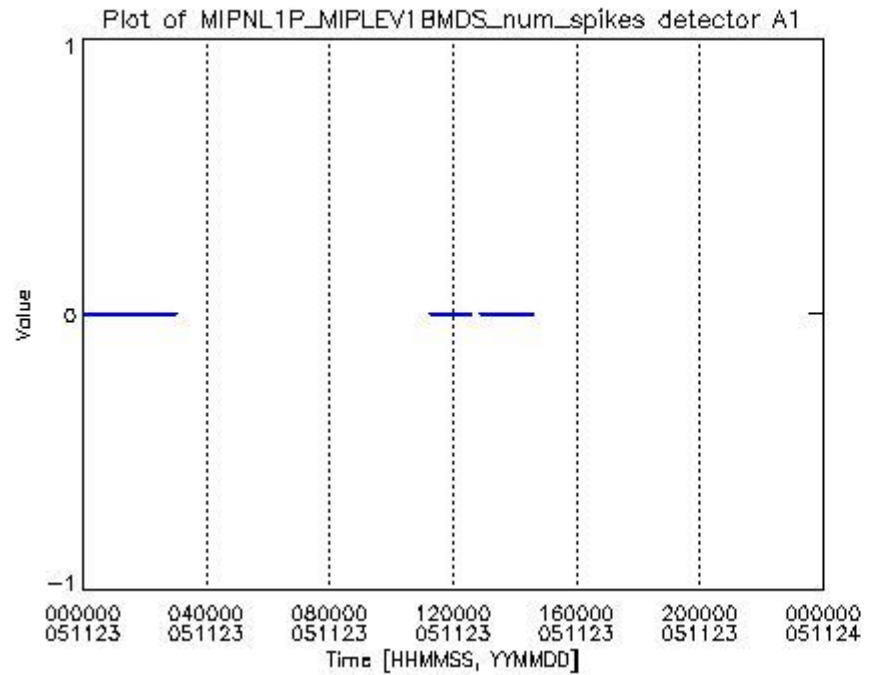


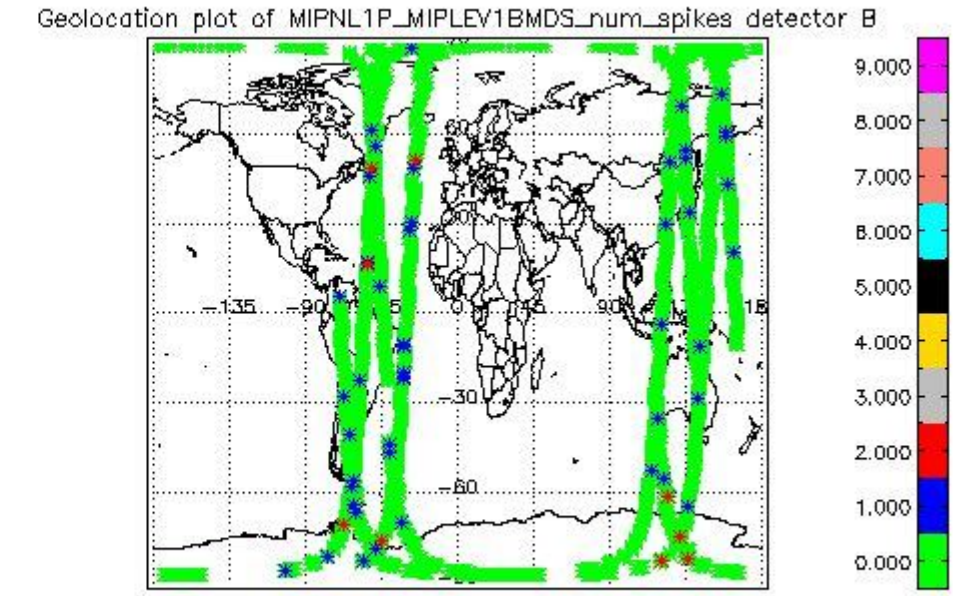
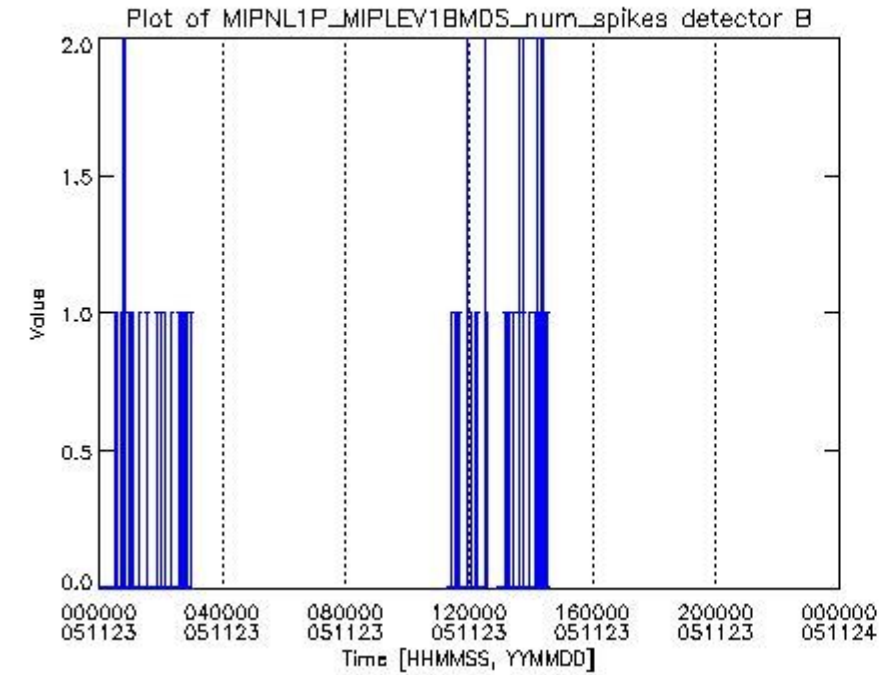
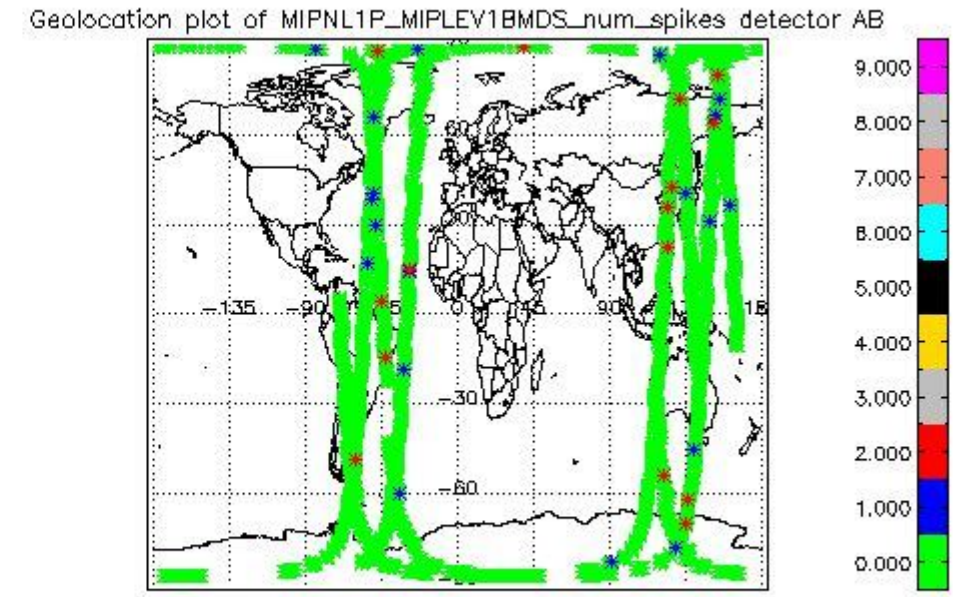
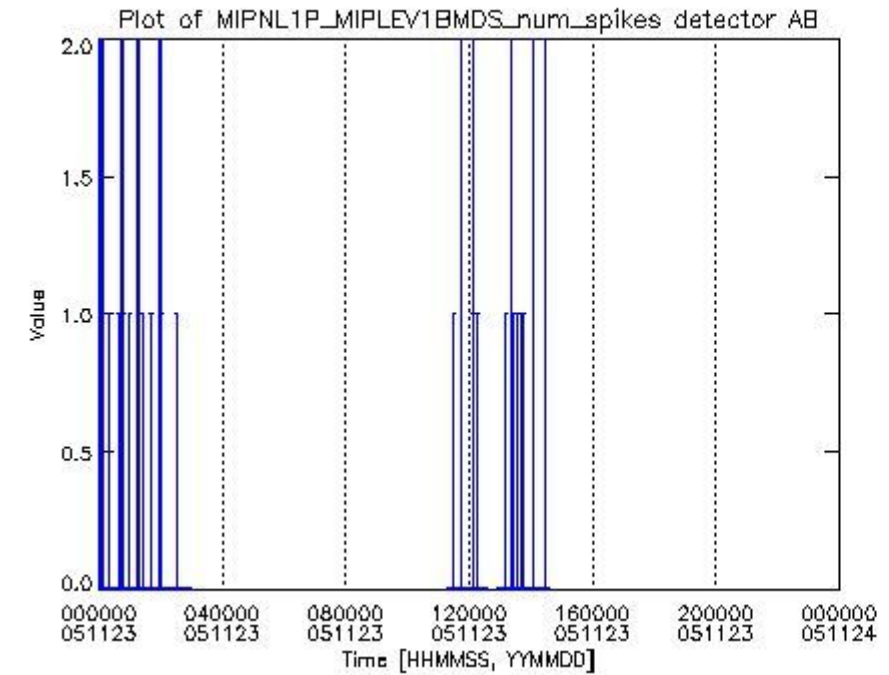


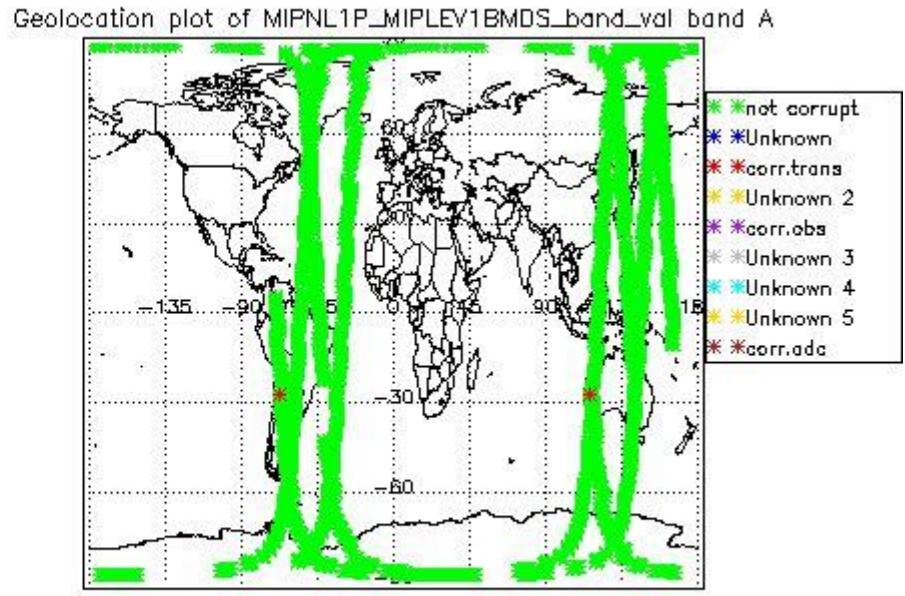
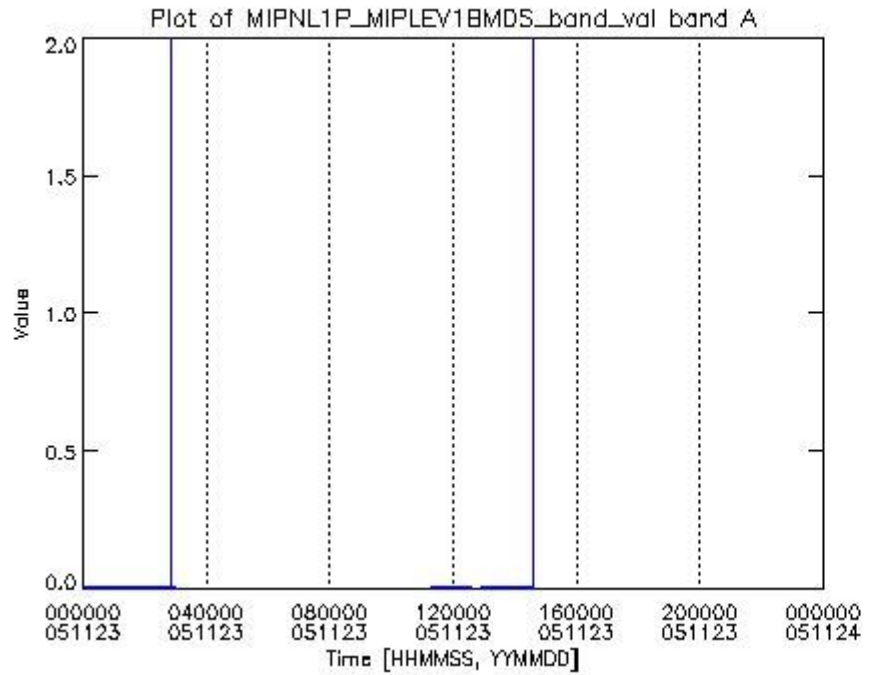
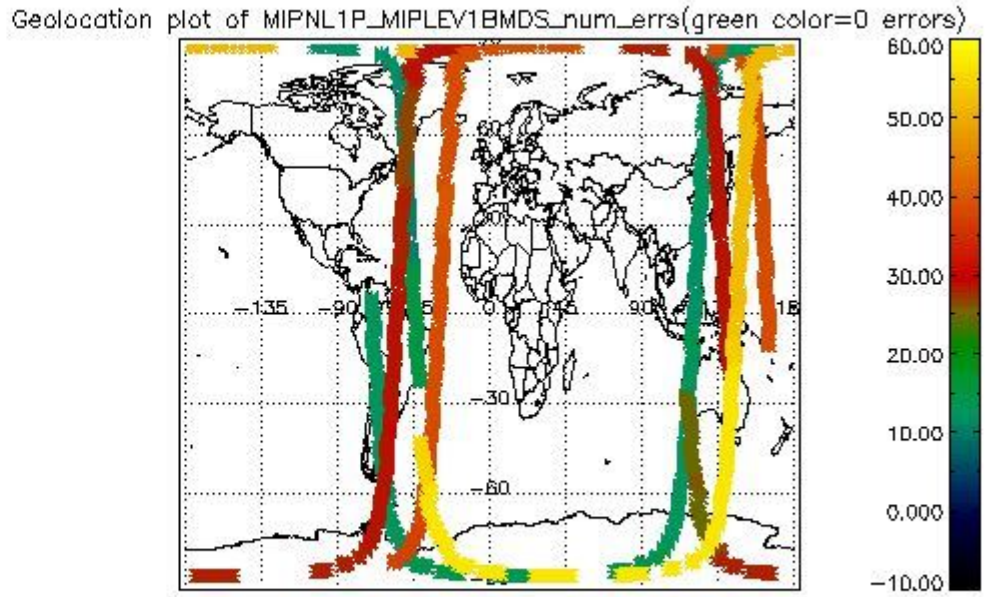
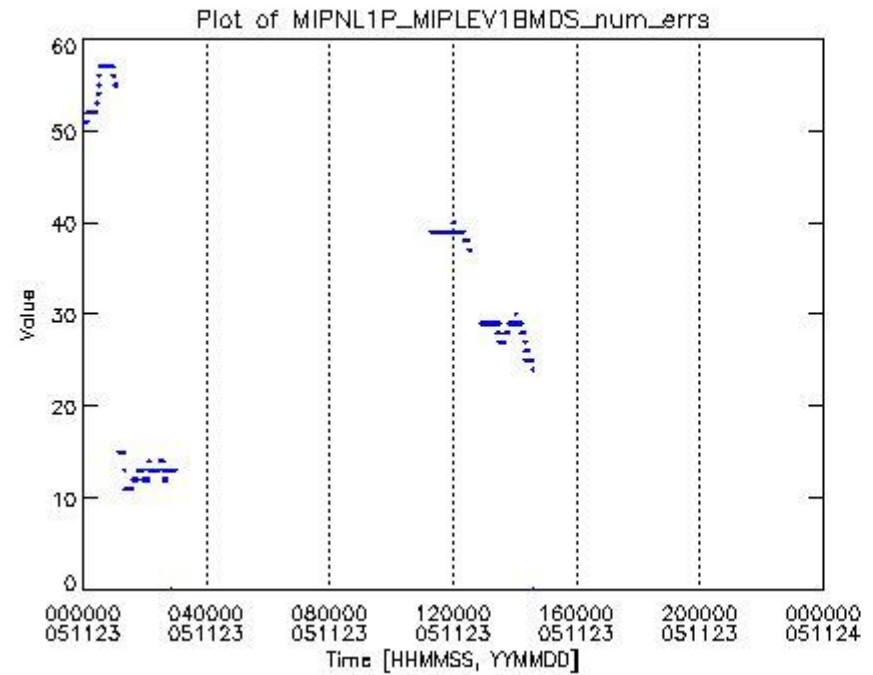


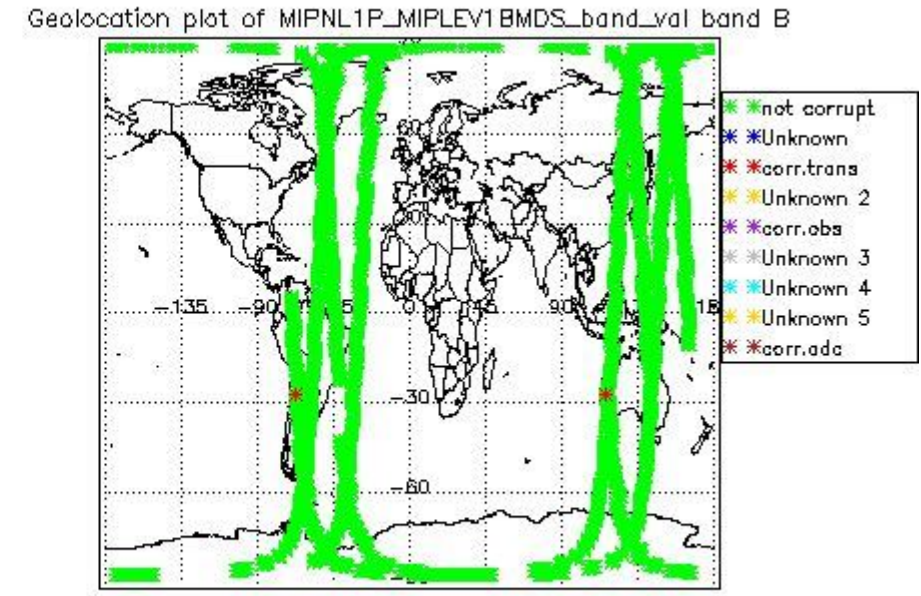
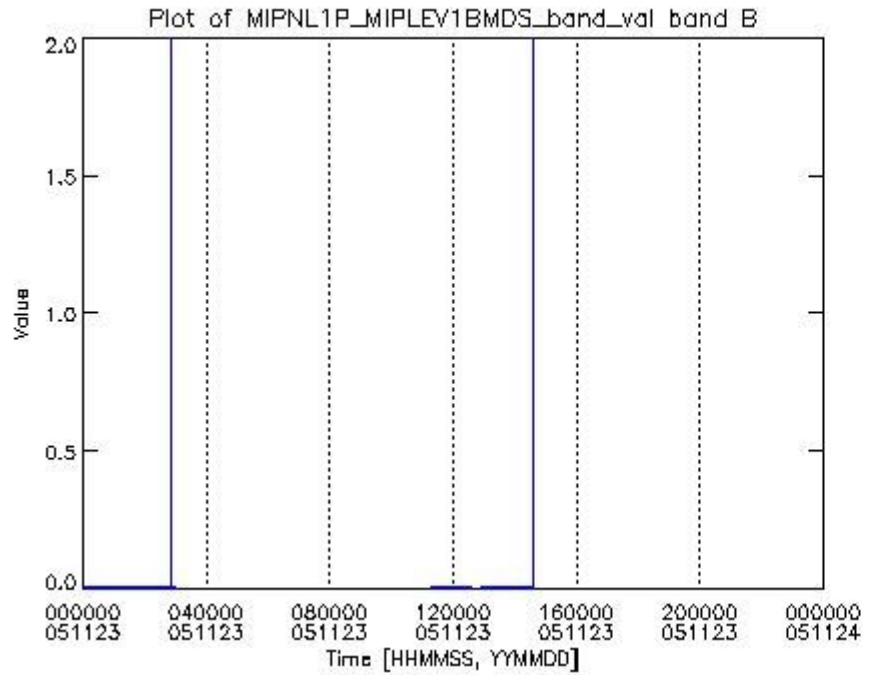
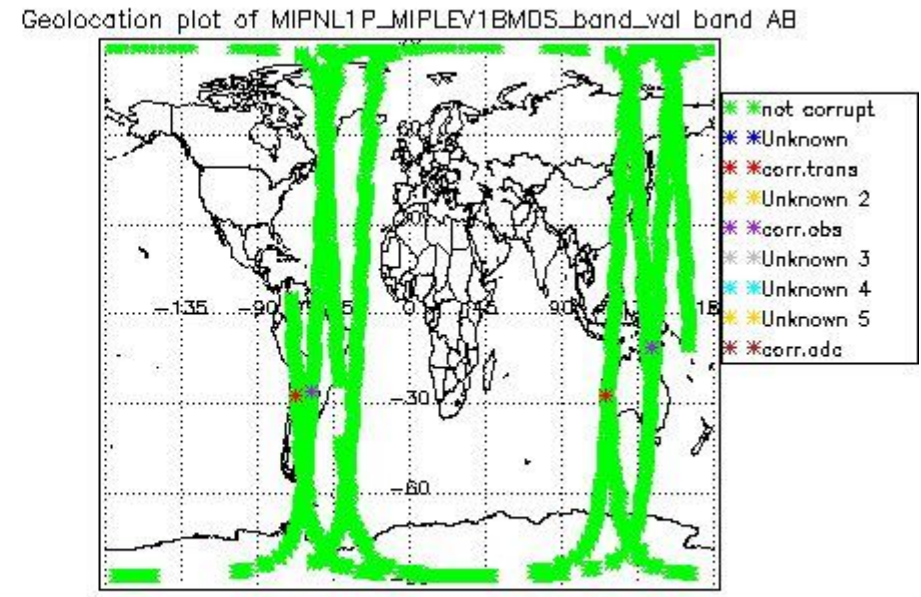
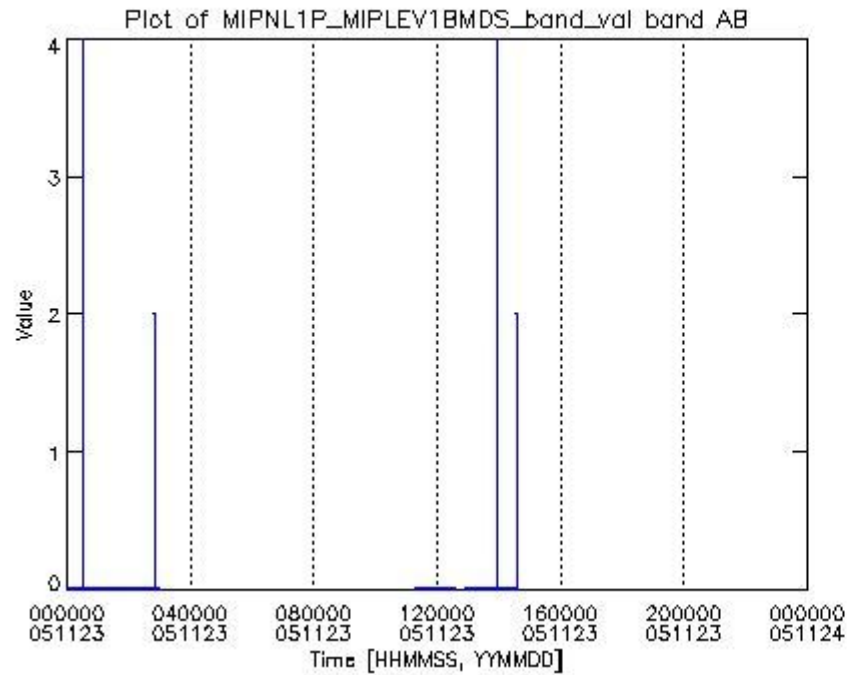
1.2.2 Trends and geolocation of MIPAS LEVEL 1 MDS

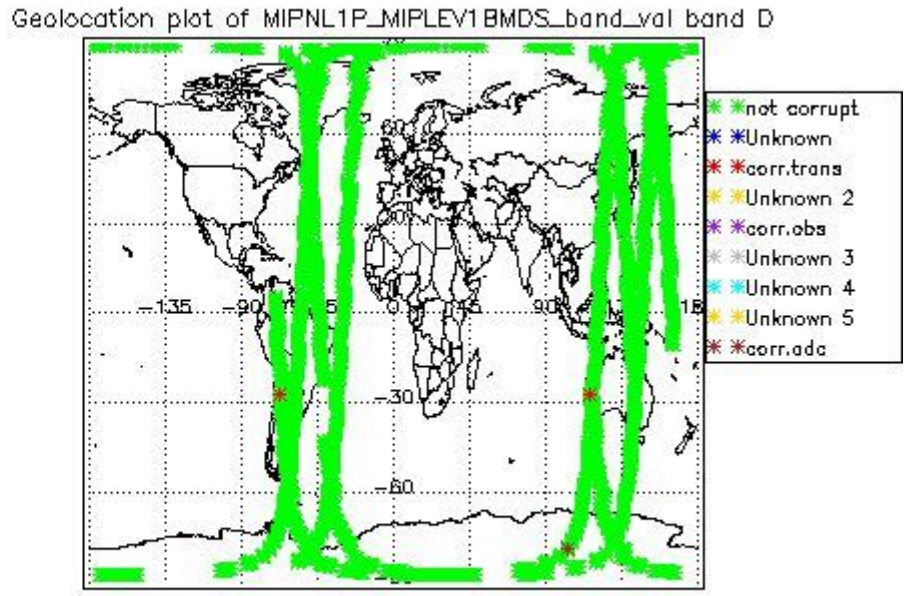
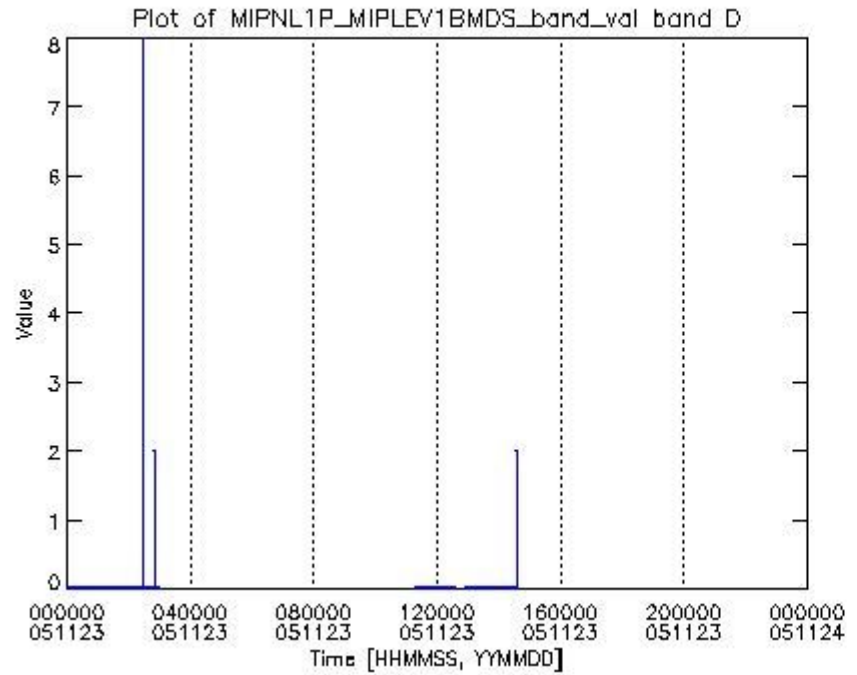
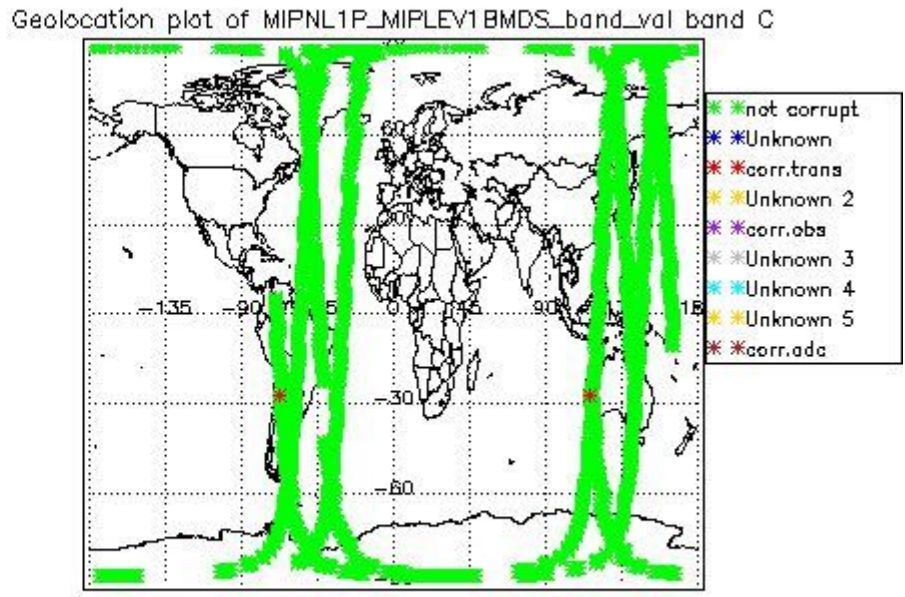
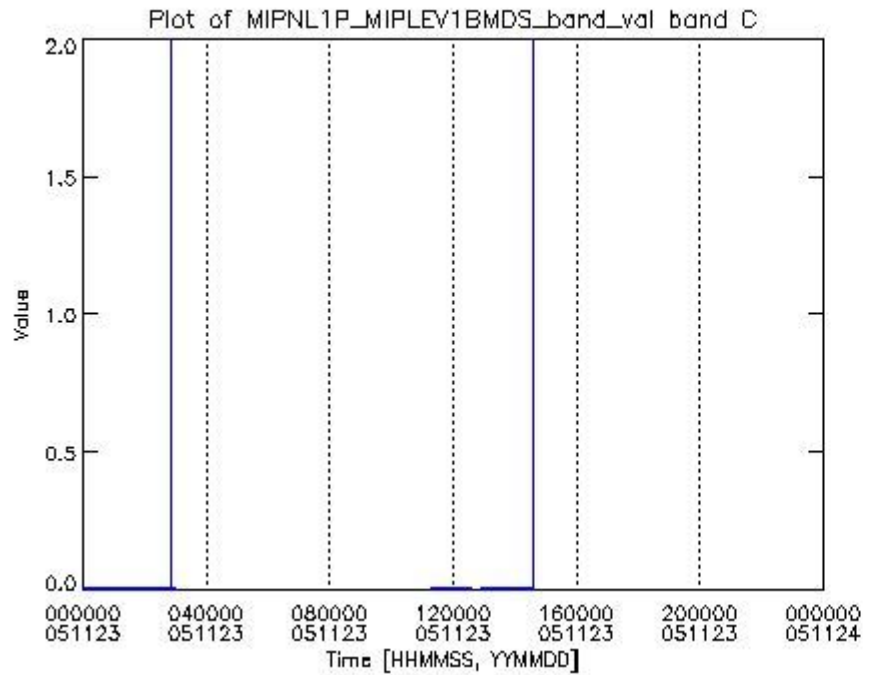




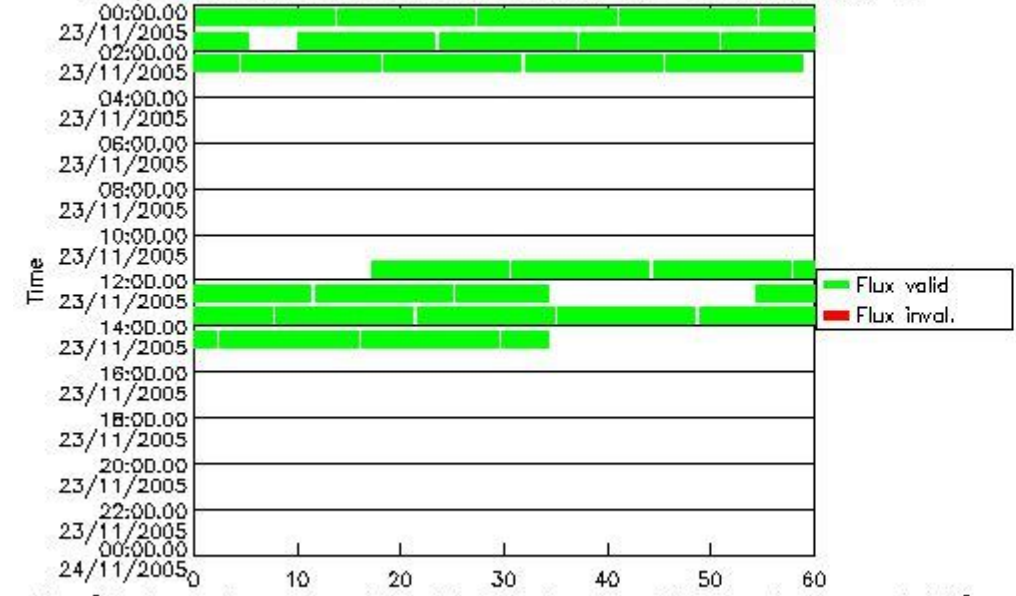






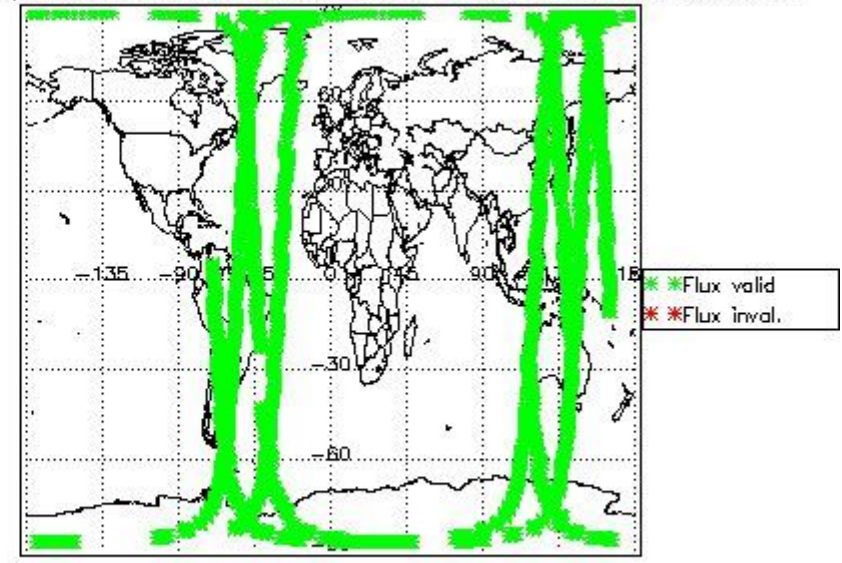


Bar plot of MIPNL1P_MIPLEV1BMDS_detect_non_lin_flux detector A1

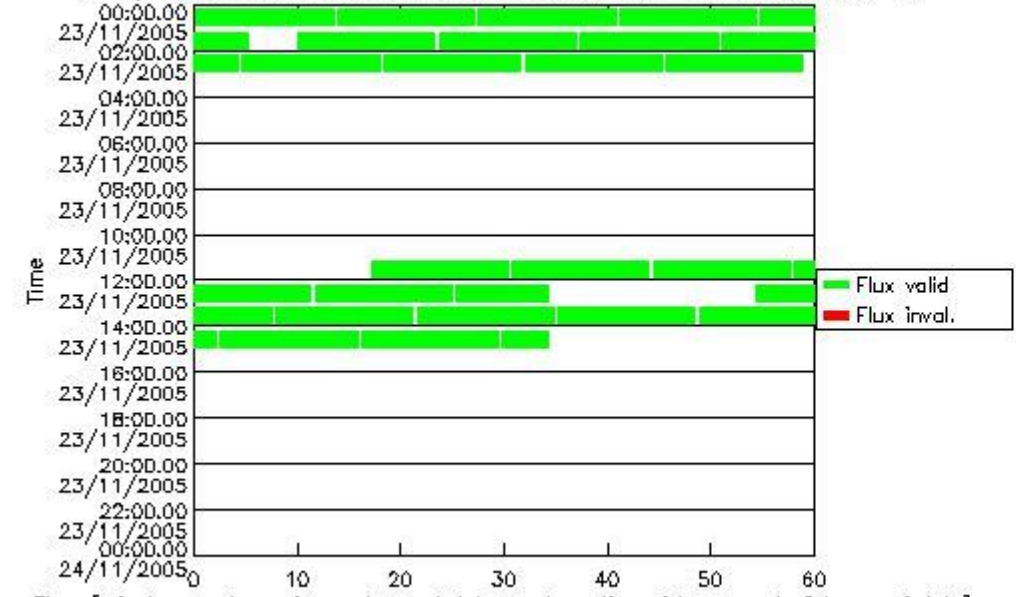


Time [minutes, each row is one hour of data, each section of two rows is 2 hours of data]

Geolocation plot of MIPNL1P_MIPLEV1BMDS_detect_non_lin_flux detector A1

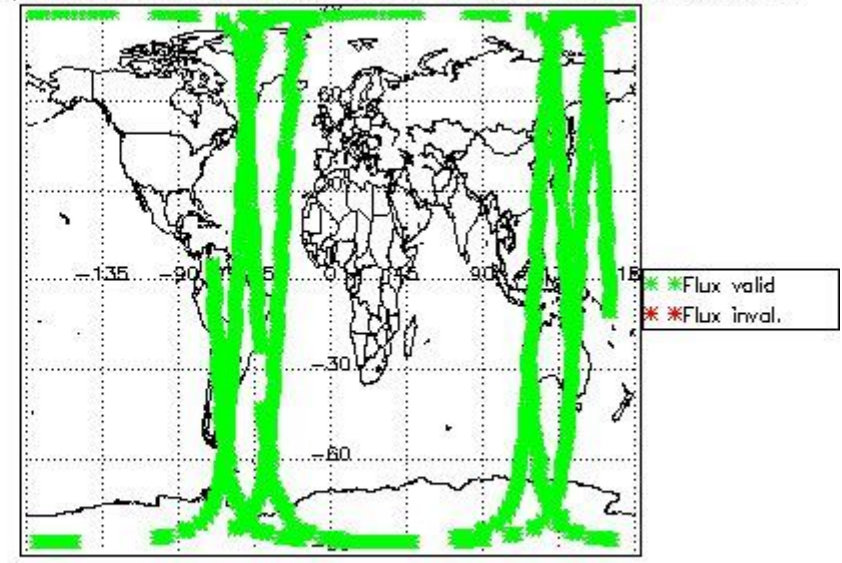


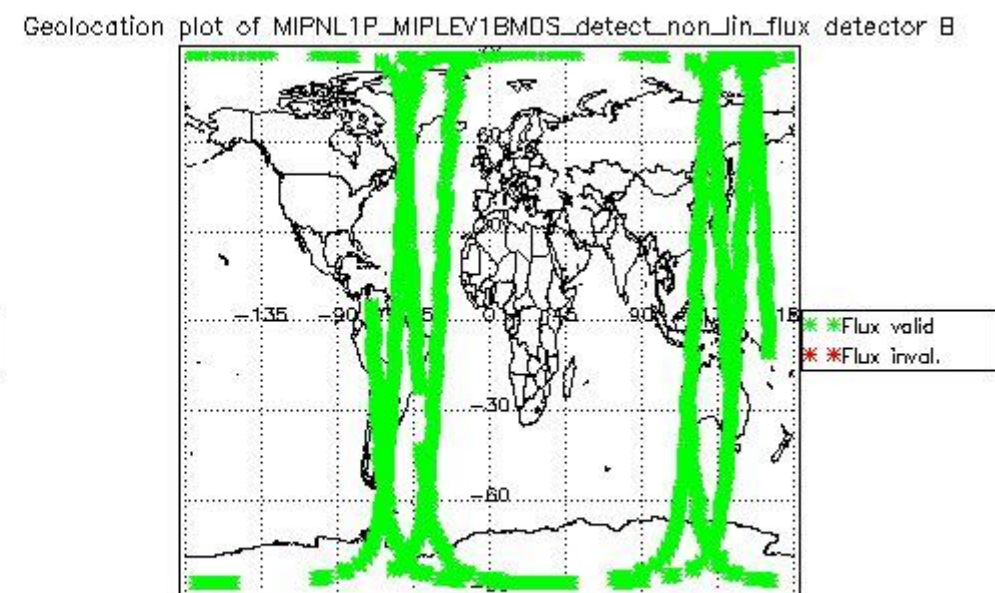
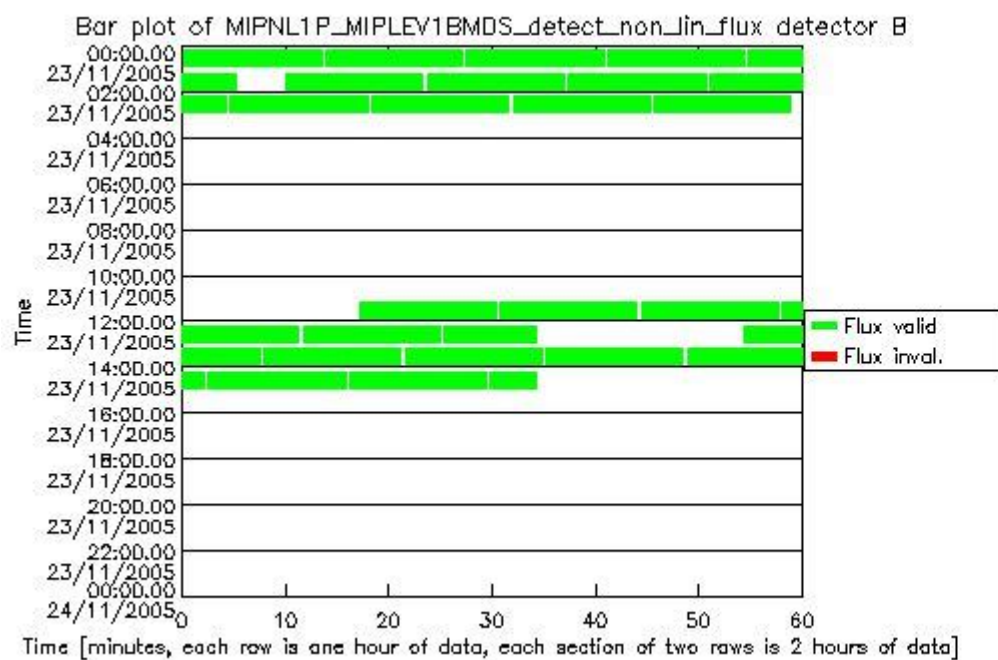
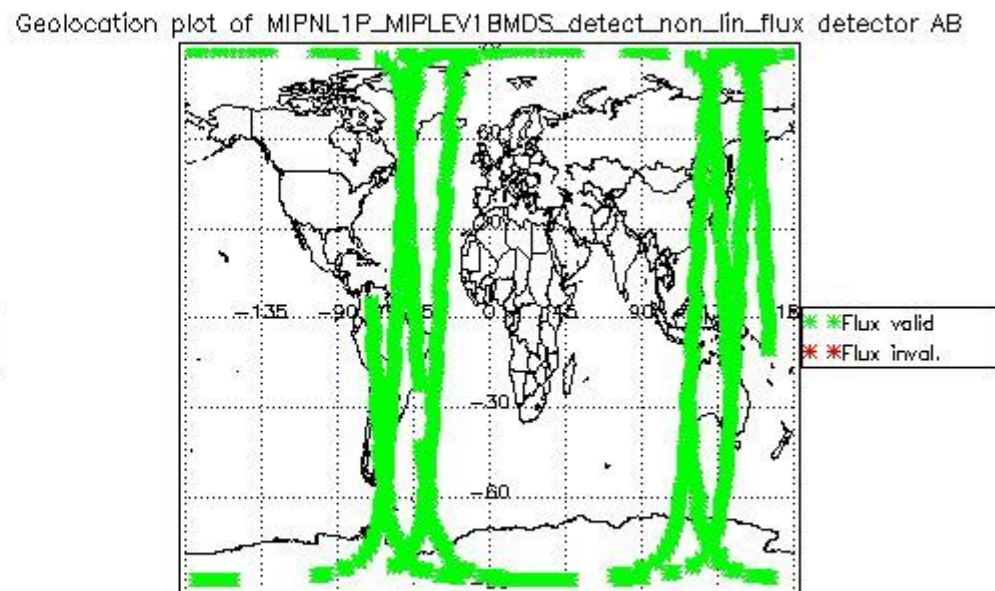
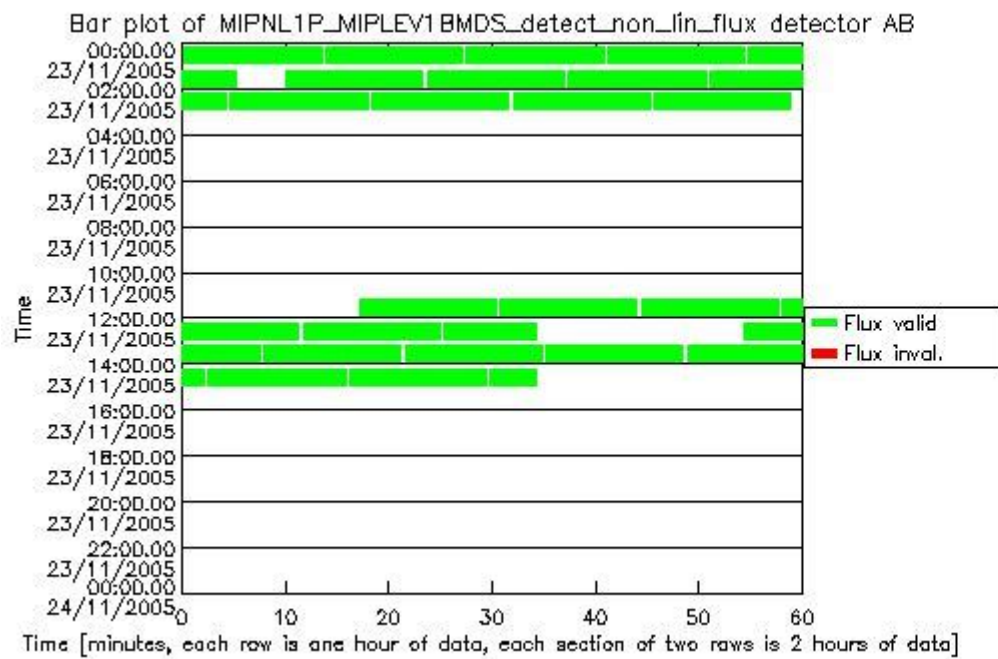
Bar plot of MIPNL1P_MIPLEV1BMDS_detect_non_lin_flux detector A2



Time [minutes, each row is one hour of data, each section of two rows is 2 hours of data]

Geolocation plot of MIPNL1P_MIPLEV1BMDS_detect_non_lin_flux detector A2





1.2.3 Scan information ADS

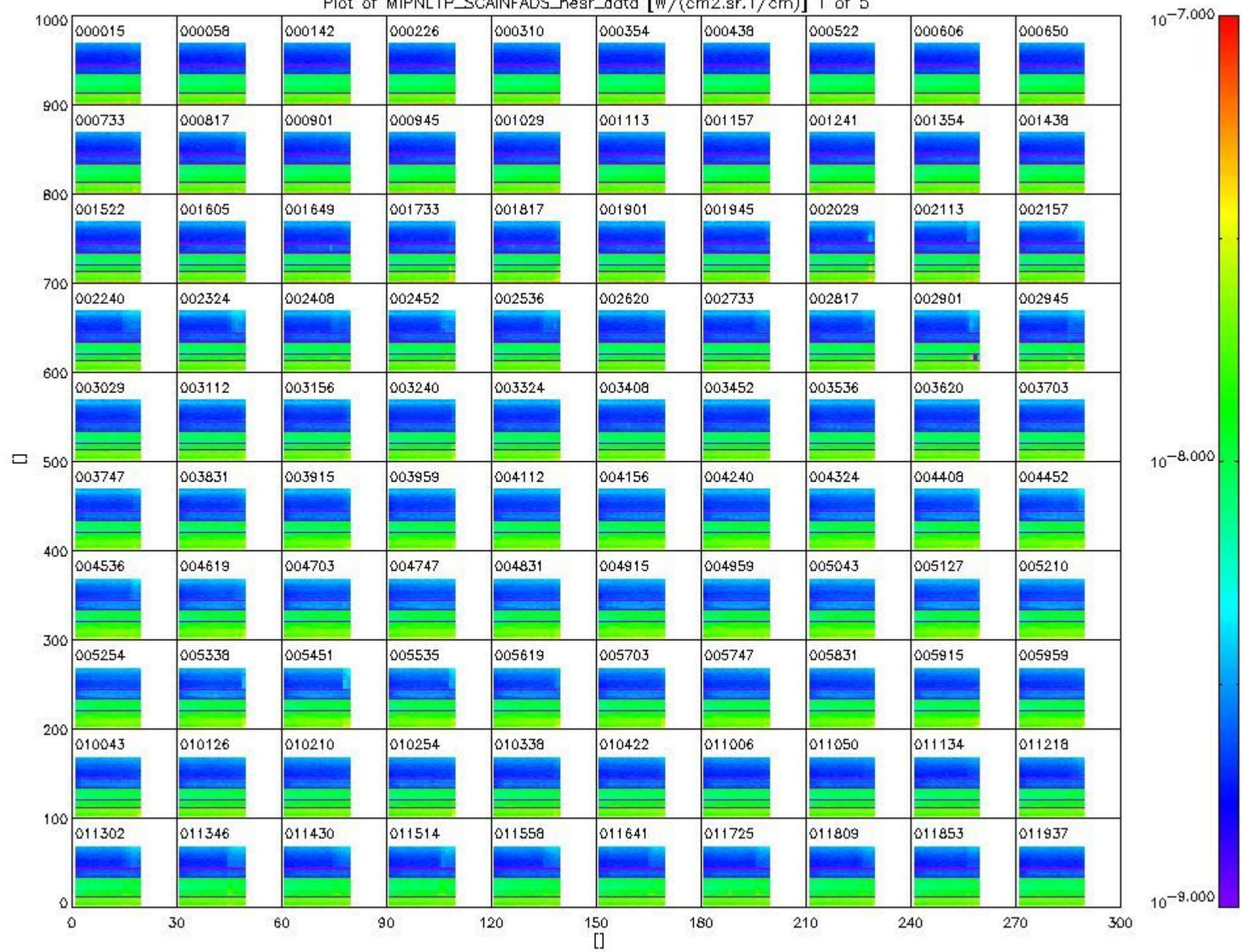
The following plots each contain 100 squares. Each square contains one NESR-scan (from MIPNL1P_SCAINFADS_nesr_data).

The horizontal axis represents the sweep ID (starts at 1).

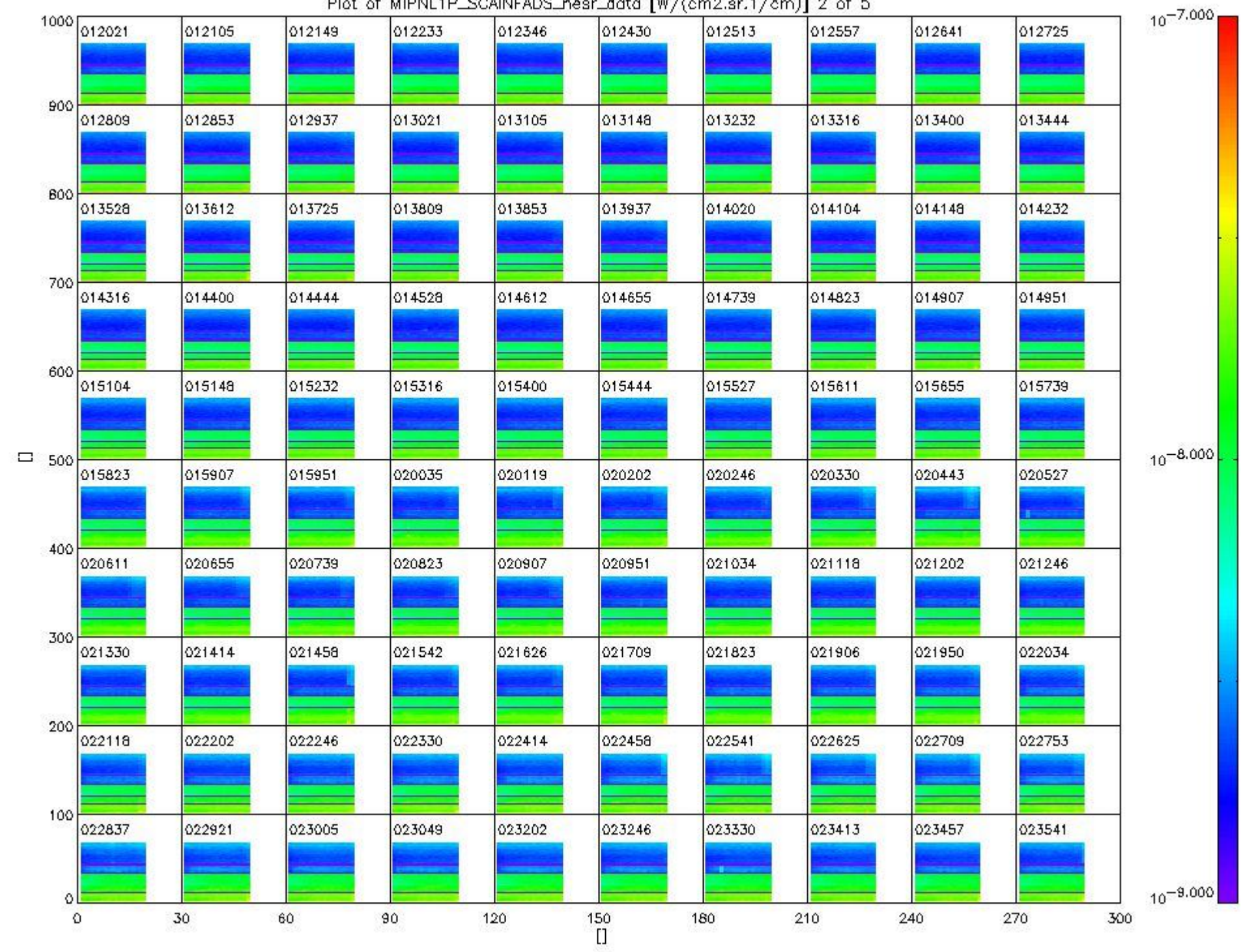
The vertical axis shows the NESR data point index (starts at 0), which relates to wavenumber.

The data values themselves are indicated by colours (as indicated on the right of the plot). Please refer to the plot header for data units.

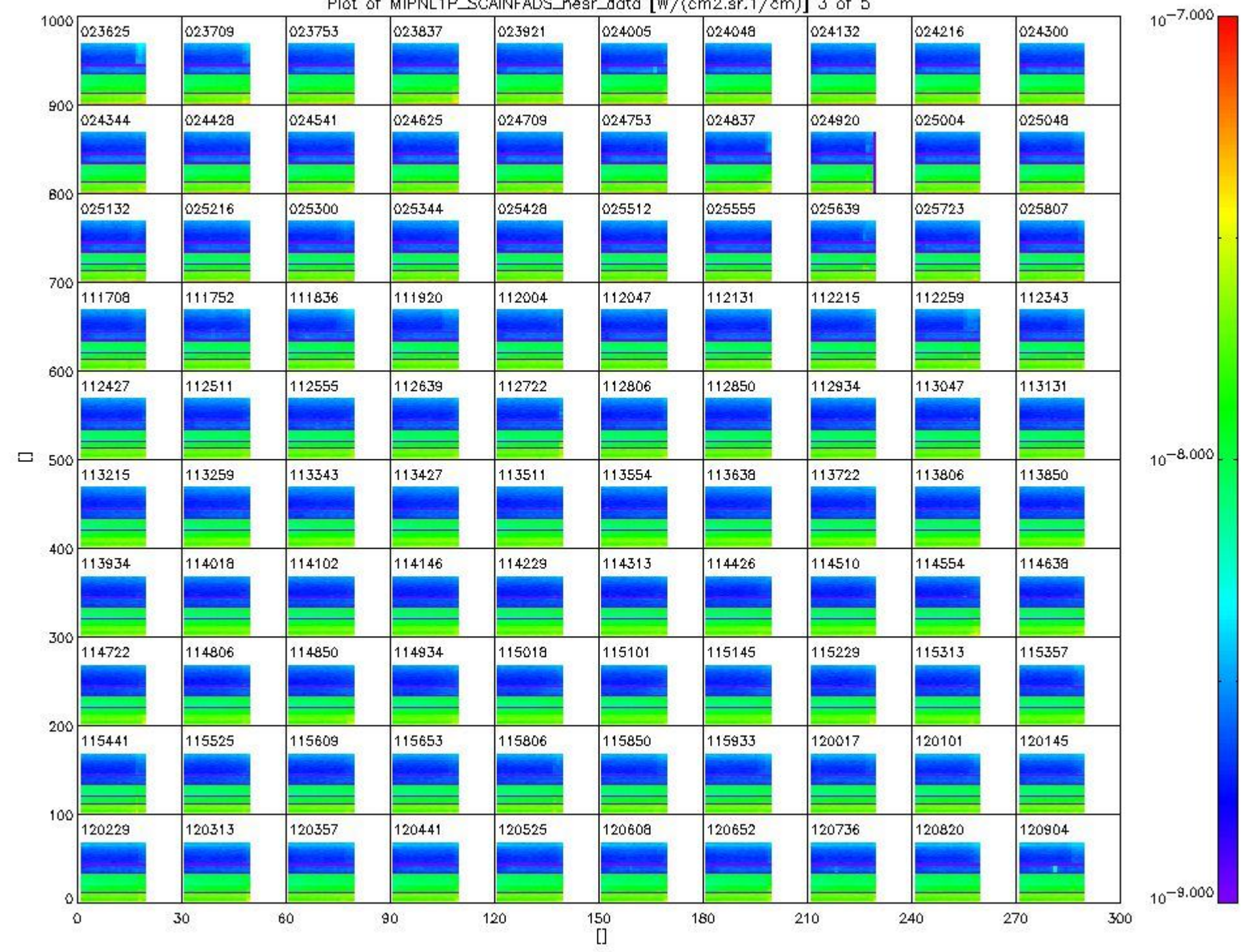
Plot of MIPNL1P_SCAINFADS_near_data [W/(cm².sr.1/cm)] 1 of 5



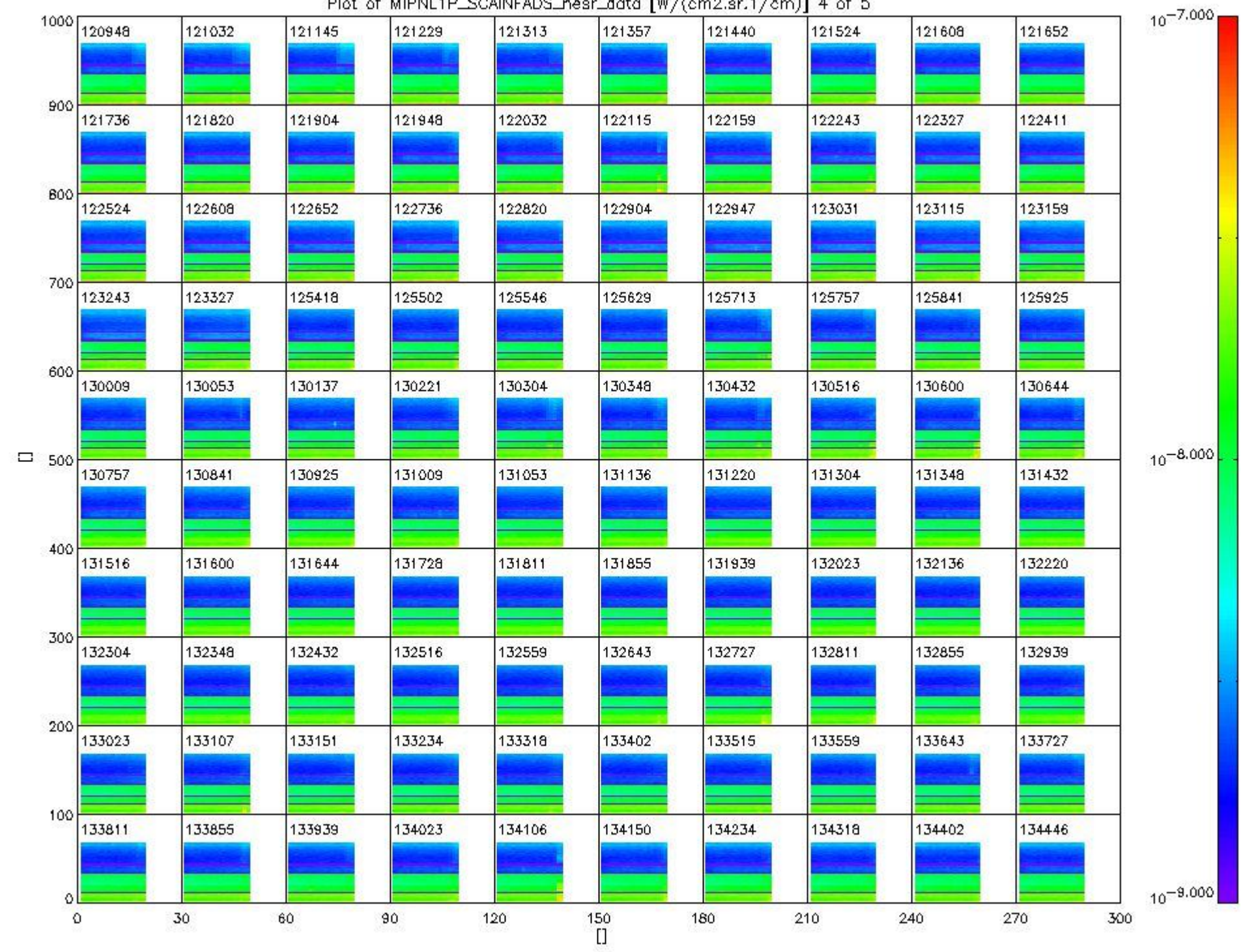
Plot of MIPNL1P_SCAINFADS_near_data [W/(cm².sr.1/cm)] 2 of 5

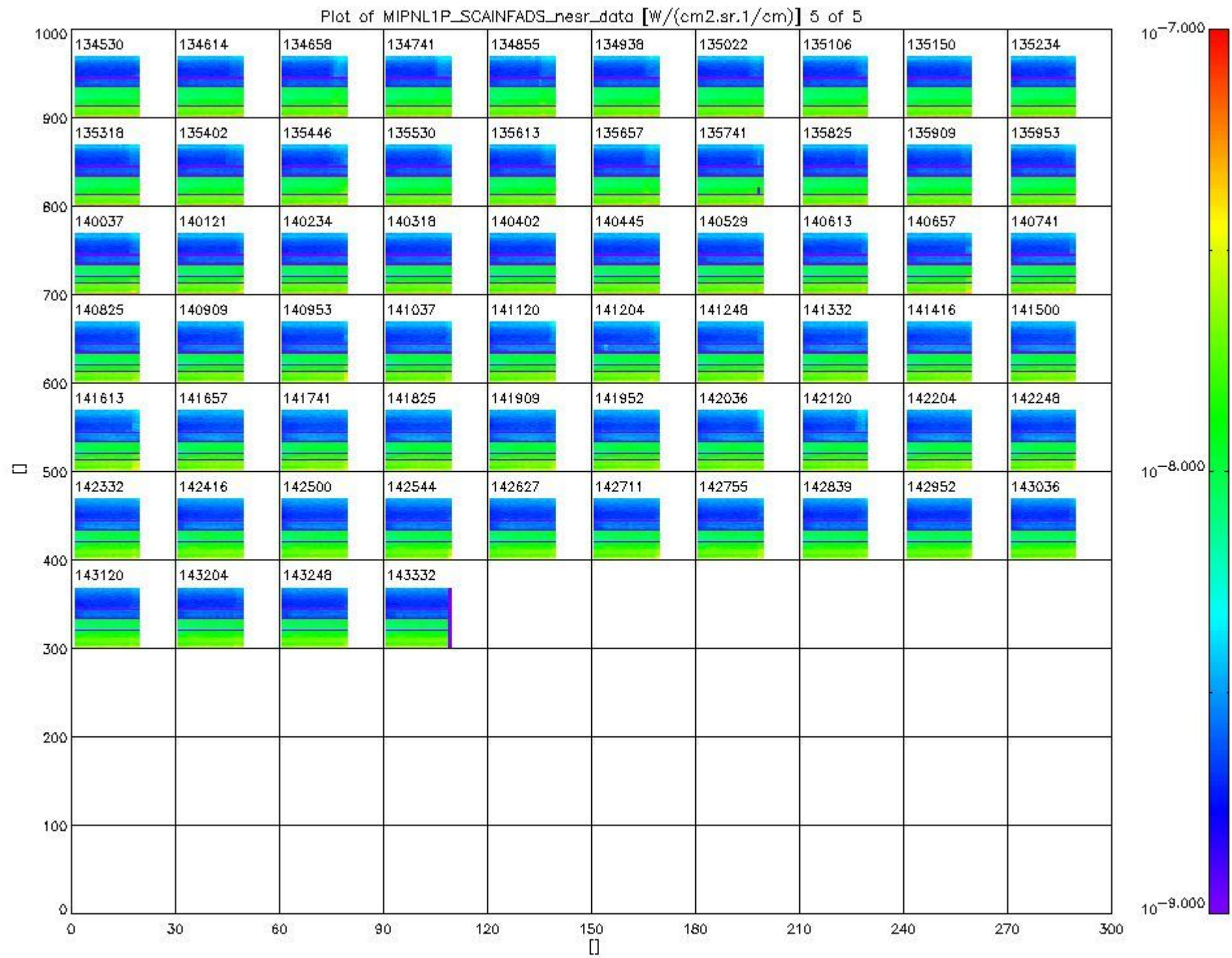


Plot of MIPNL1P_SCAINFADS_near_data [W/(cm².sr.1/cm)] 3 of 5



Plot of MIPNL1P_SCAINFADS_near_data [W/(cm².sr.1/cm)] 4 of 5

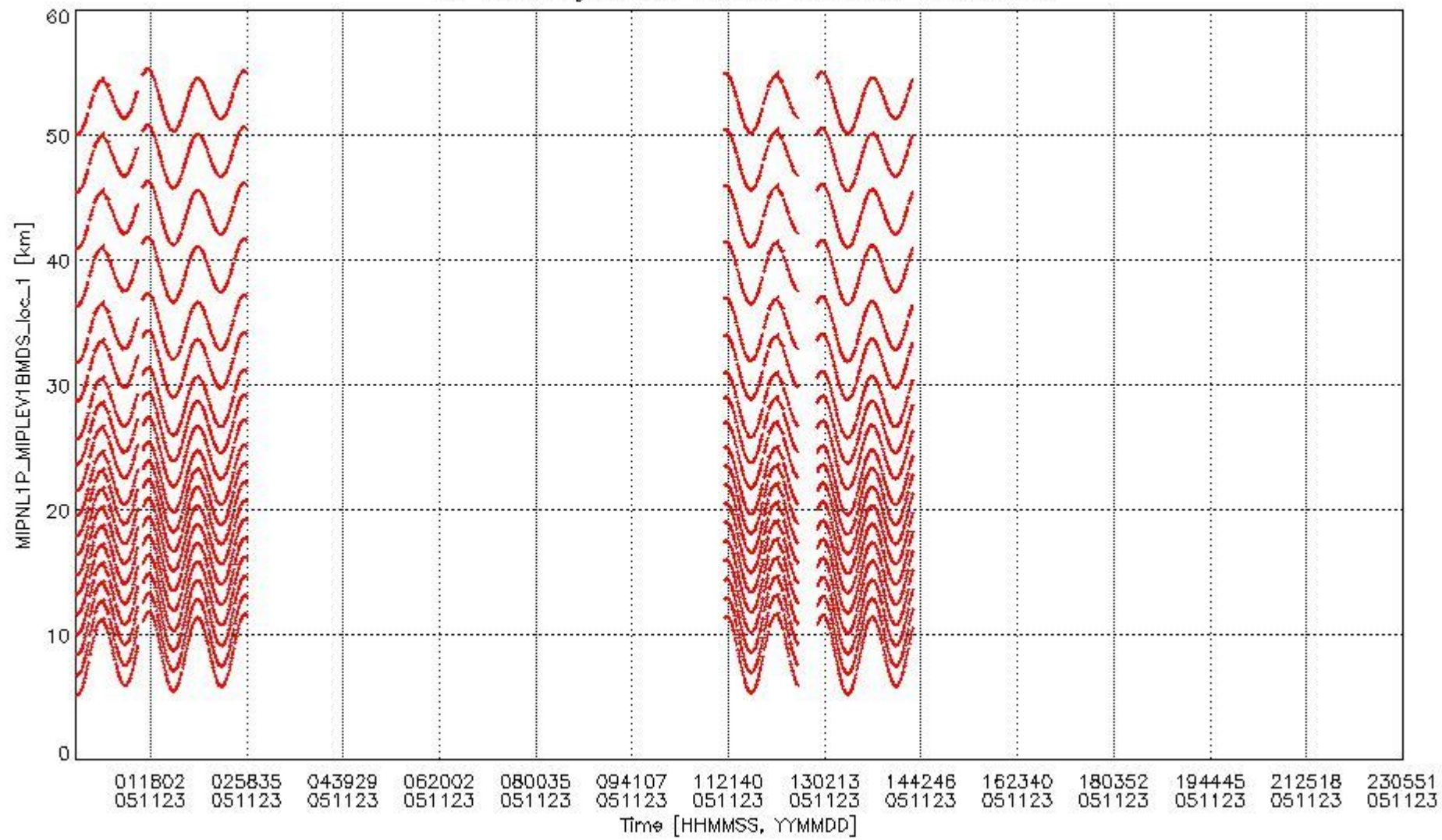




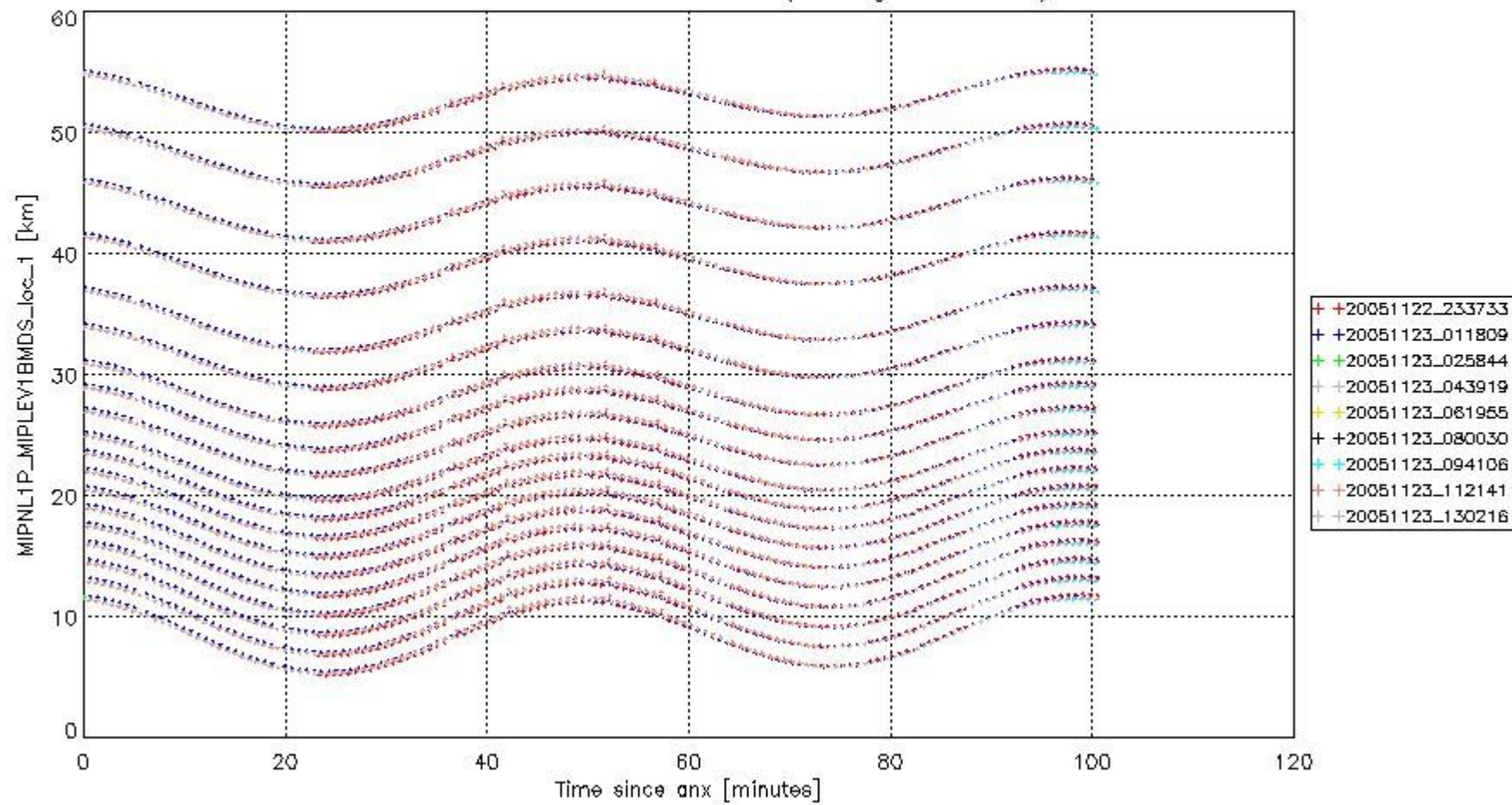
1.3 Physical Quality Indicators

1.3.1 Tangent altitude

Plot of MIPNL1P_MIPLEV1BMDS_loc_1 against time.
The vertical grid lines indicate estimated anx events.



Plot of MIPNL1P_MIPLEV1BMD5_loc_1 against relative time within orbit.
The colours indicate distinct orbits (see legend for anx).



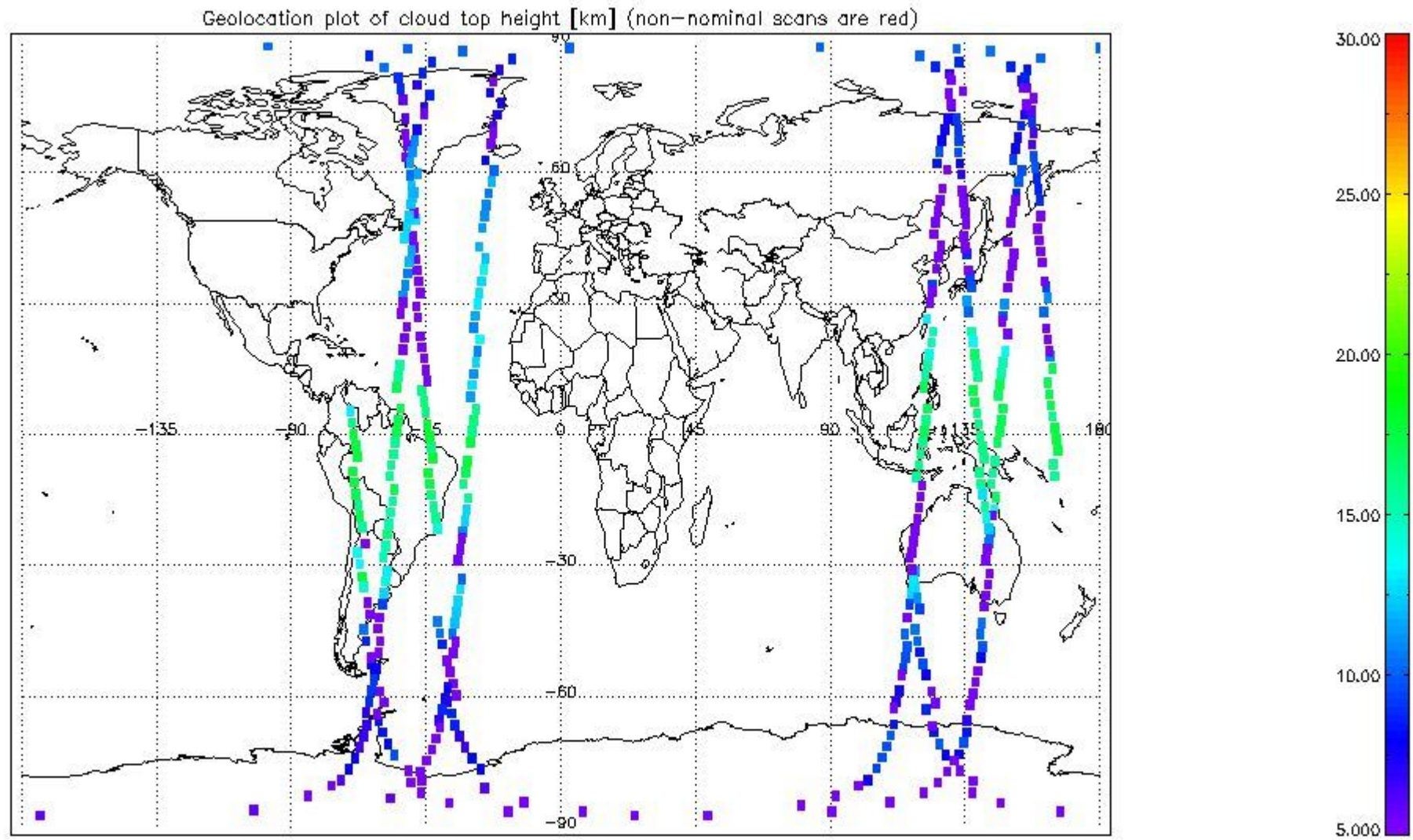
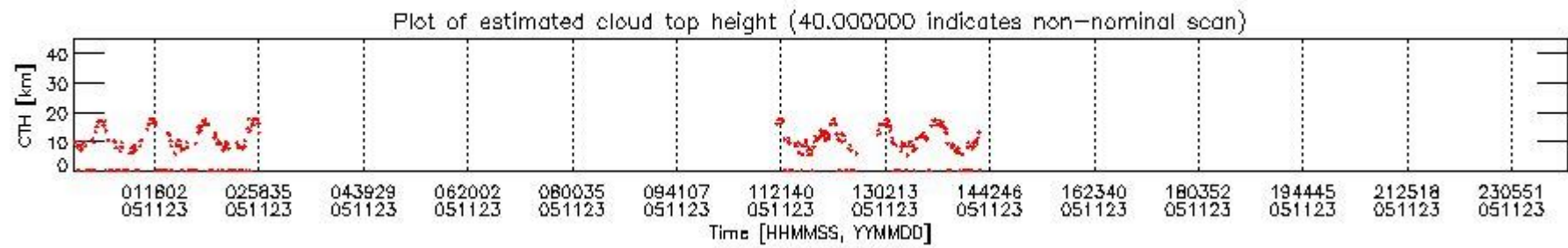
1.3.2 Cloud top height

The following plots show an estimation of cloud top height, based on the ratio of two microwindows. Reference: R. Spang, J.J. Remedios and M.P. Barkley, "Colour indices for the detection and differentiation of cloud types in infra-red limb emission spectra", Adv Space Res, 33:1041-1047, (2004)

The non-nominal scans mentioned in the plots are scans that are rejected by the cloud top height algorithm for several reasons:

- Unconsidered instrument mode. The algorithm only considers nominal (39169) and special event (39172) instrument modes.
- Incomplete scan (missing sweeps)
- Special measurement modes that do not include the troposphere.

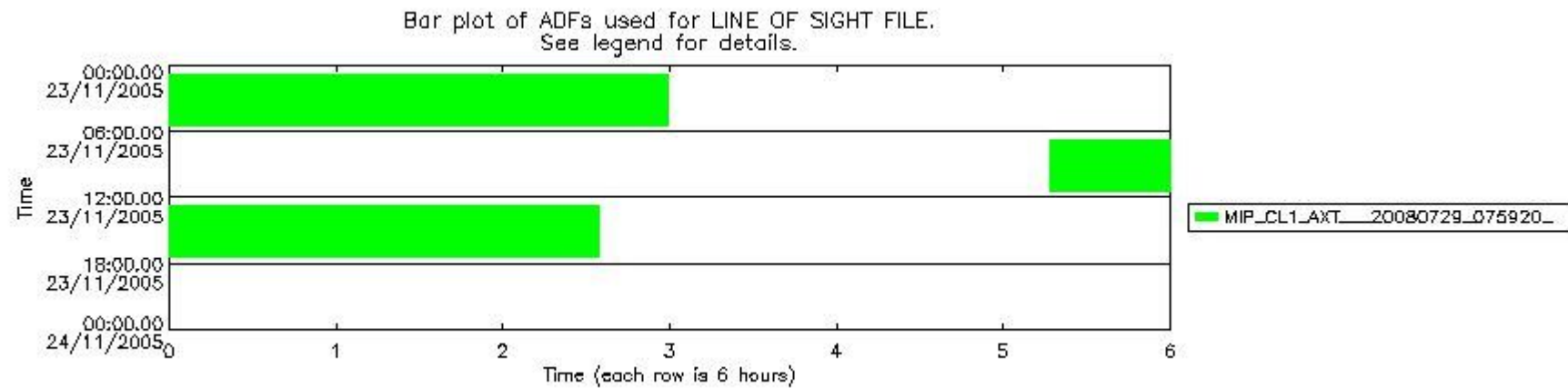
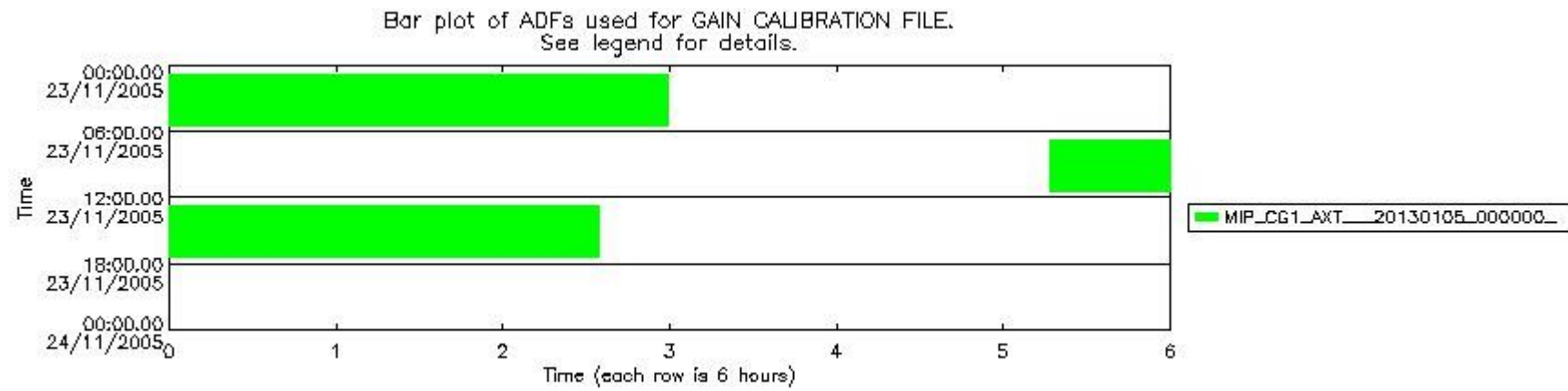
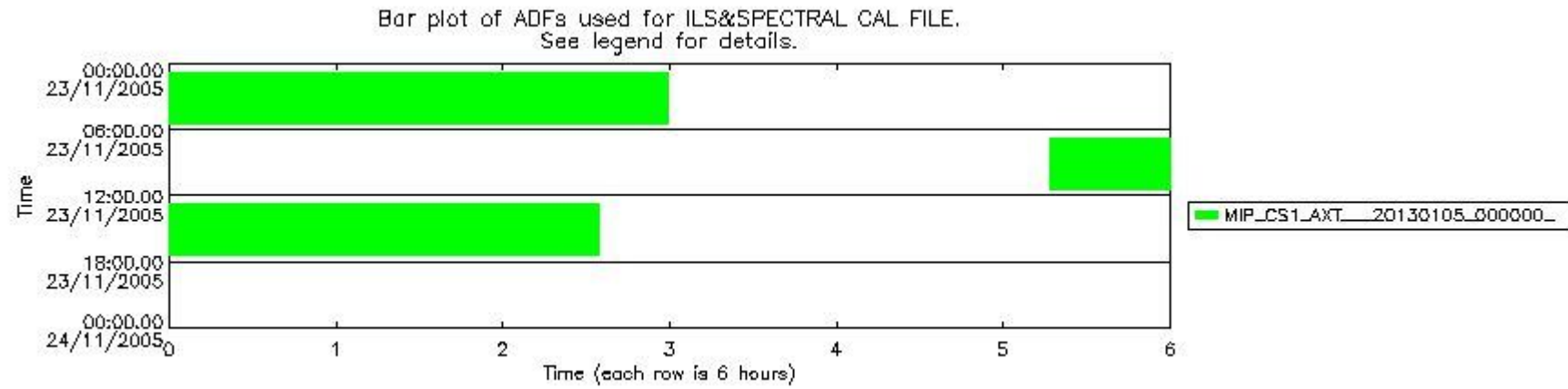
| Item | Value |
|---------------------------------|--|
| Microwindow 1 description | Average of band A pixels for cloud top detection 1 |
| Microwindow 2 description | Average of band A pixels cloud top detection 2 |
| cloud index threshold (mw1/mw2) | 1.8000000 |
| Tangent height limit | 40.000000 |



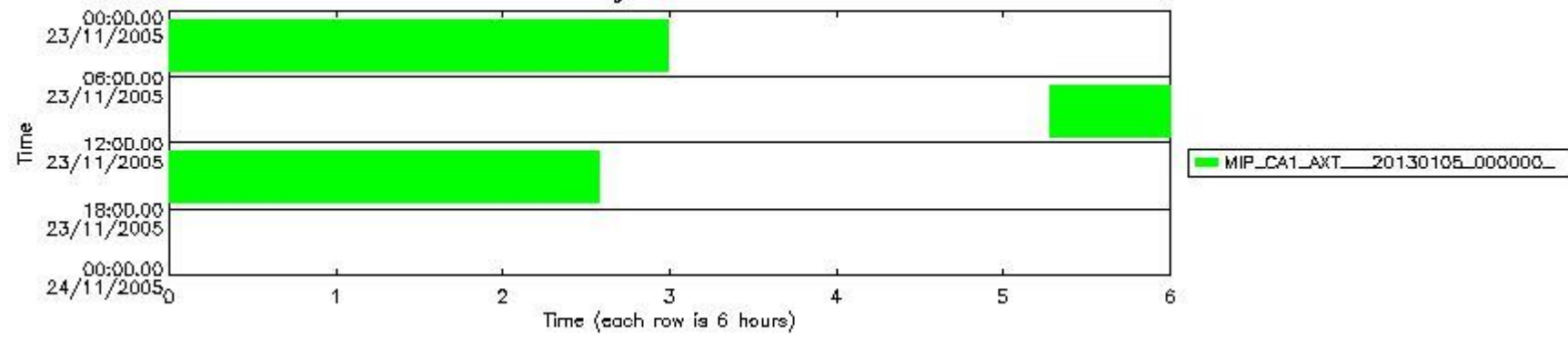
1.4 ADF monitoring

| Number | ADF |
|--------|---|
| 0 | AUX_FRA_AXVFOS20070125_160227_20051122_000000_20051124_000000 |
| 1 | AUX_FRA_AXVFOS20070125_160229_20051123_000000_20051125_000000 |
| 2 | DOR_VOR_AXVF-P20120424_200300_20051122_215528_20051124_002328 |
| 3 | MIP_CA1_AXT_20130105_000000_20051120_000000_20051220_000000 |
| 4 | MIP_CG1_AXT_20130105_000000_20051120_000000_20051220_000000 |
| 5 | MIP_CL1_AXT_20080729_075920_20020401_000000_20161214_000000 |
| 6 | MIP_CO1_AXT_20130105_000000_20051120_000000_20051220_000000 |
| 7 | MIP_CS1_AXT_20130105_000000_20051120_000000_20051220_000000 |
| 8 | MIP_MW1_AXT_20120105_091859_20020401_000000_20161214_000000 |
| 9 | MIP_PS1_AXT_20130718_100321_20040809_000000_20161214_000000 |

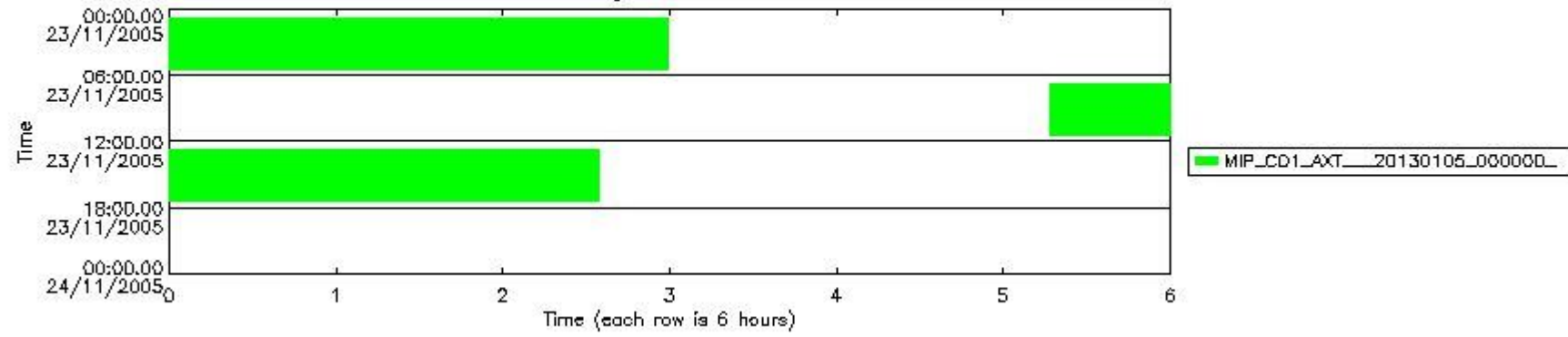
| Number | Product name | #CS1 | #CG1 | #CL1 | #CA1 | #CO1 | #MW1 | #PS1 | #FPO | #FRA |
|--------|--|------|------|------|------|------|------|------|------|------|
| 0 | MIP_NL__1PWDSI20051122_233256_000055242042_00417_19509_0000.N1 | 7 | 4 | 5 | 3 | 6 | 8 | 9 | 2 | 0 |
| 1 | MIP_NL__1PWDSI20051123_011006_000059922042_00418_19510_0000.N1 | 7 | 4 | 5 | 3 | 6 | 8 | 9 | 2 | 1 |
| 2 | MIP_NL__1PWDSI20051123_025004_000005212042_00419_19511_0000.N1 | 7 | 4 | 5 | 3 | 6 | 8 | 9 | 2 | 1 |
| 3 | MIP_NL__1PWDSI20051123_111708_000046172042_00424_19516_0000.N1 | 7 | 4 | 5 | 3 | 6 | 8 | 9 | 2 | 1 |
| 4 | MIP_NL__1PWDSI20051123_125418_000059922042_00425_19517_0000.N1 | 7 | 4 | 5 | 3 | 6 | 8 | 9 | 2 | 1 |



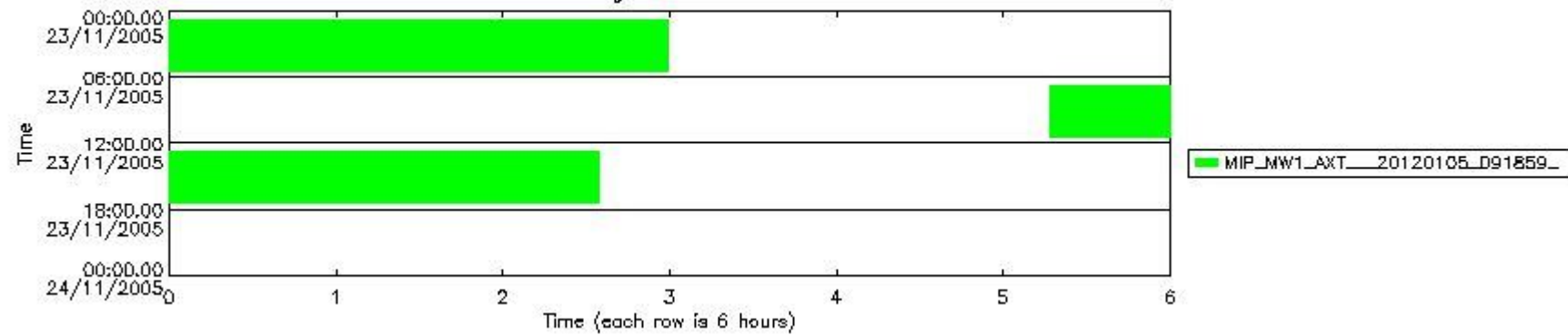
Bar plot of ADFs used for INSTRUMENT CHAR FILE.
See legend for details.



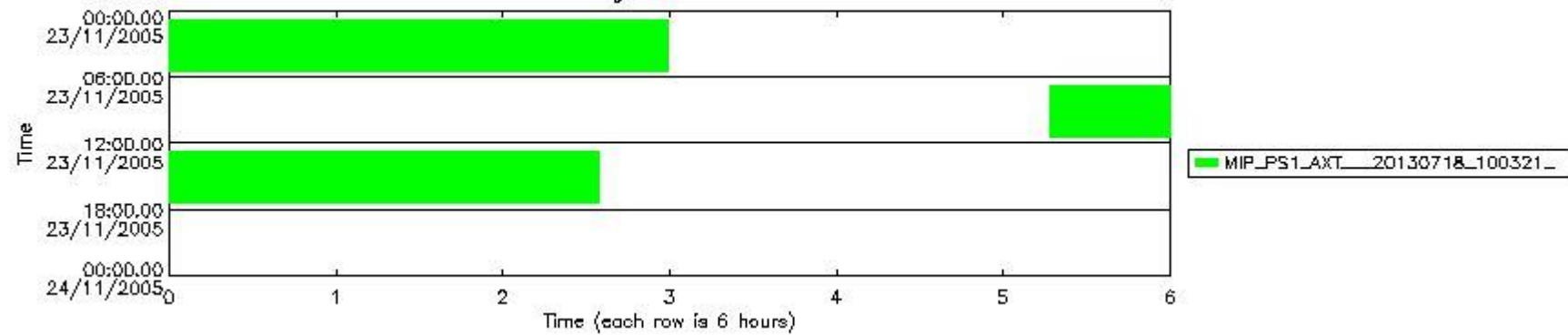
Bar plot of ADFs used for OFFSET VALIDATION FILE.
See legend for details.



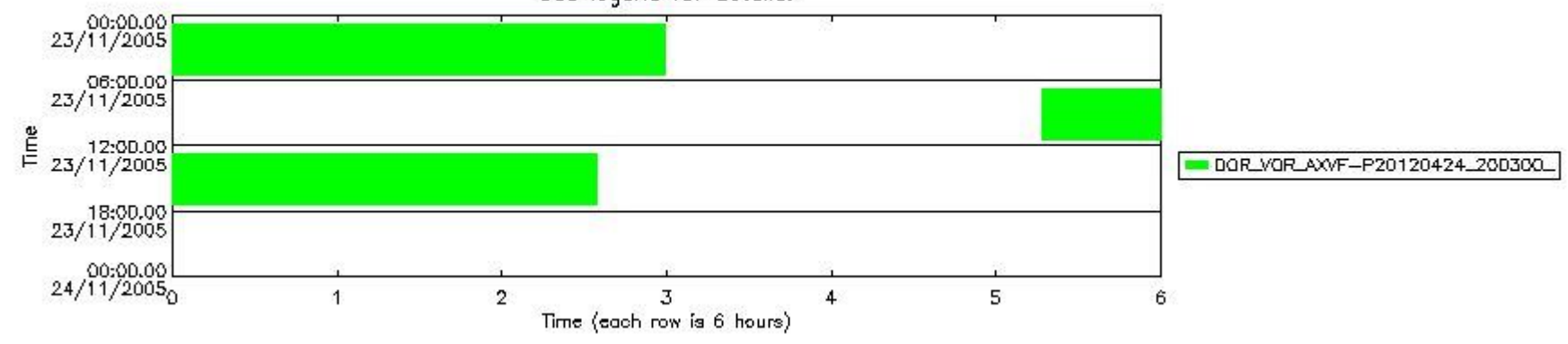
Bar plot of ADFs used for MICROWINDOWS FILE.
See legend for details.



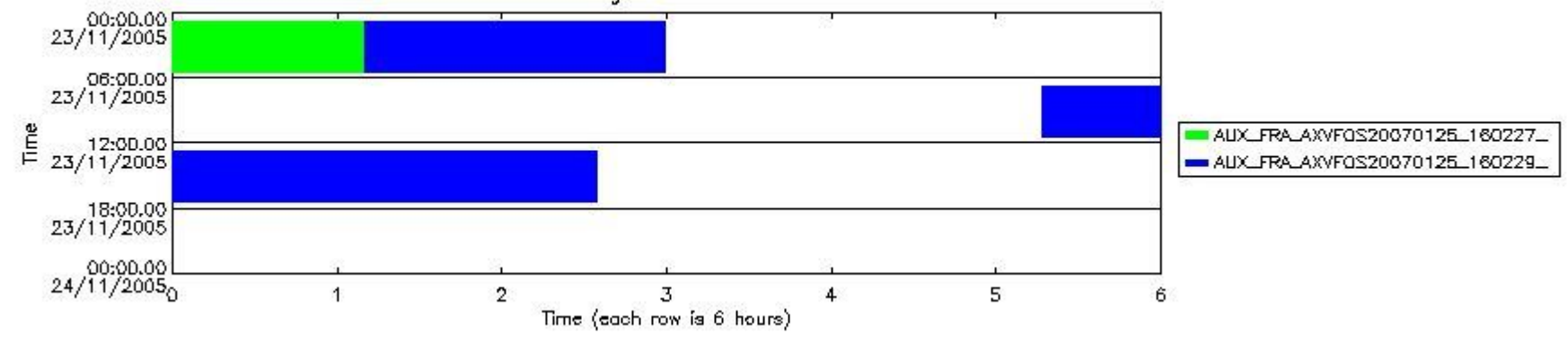
Bar plot of ADFs used for PROCESS PARAMETERS FILE.
See legend for details.

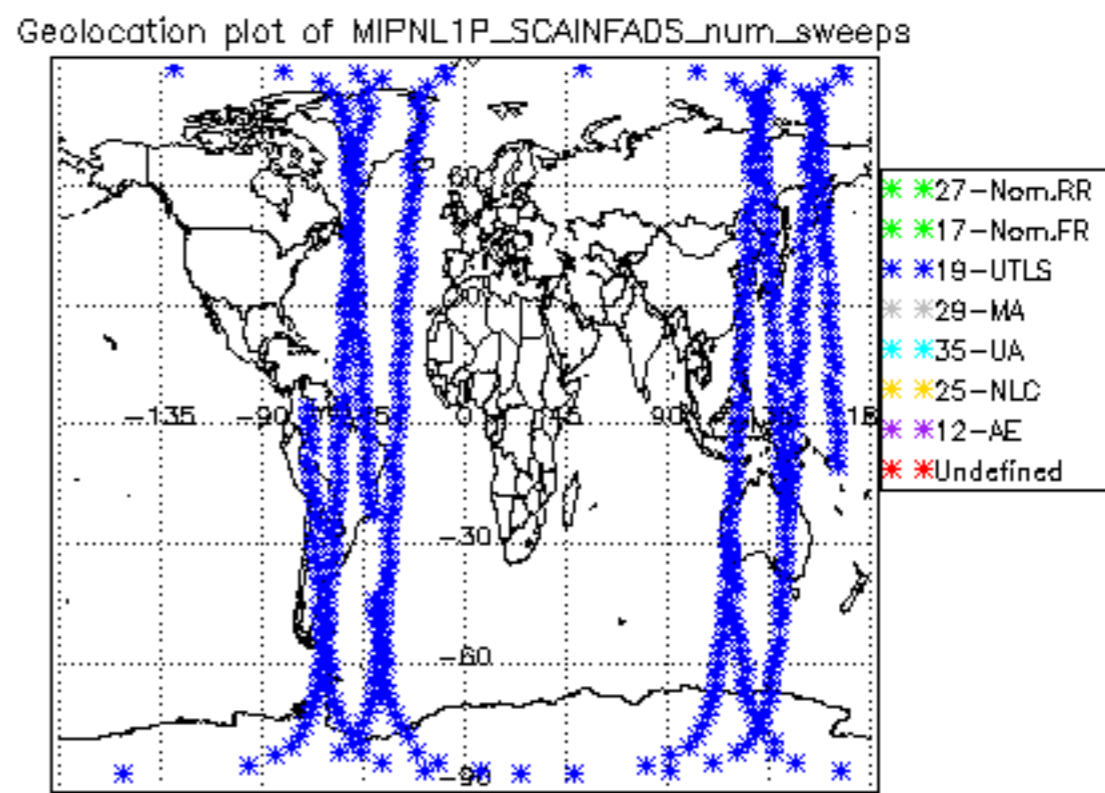
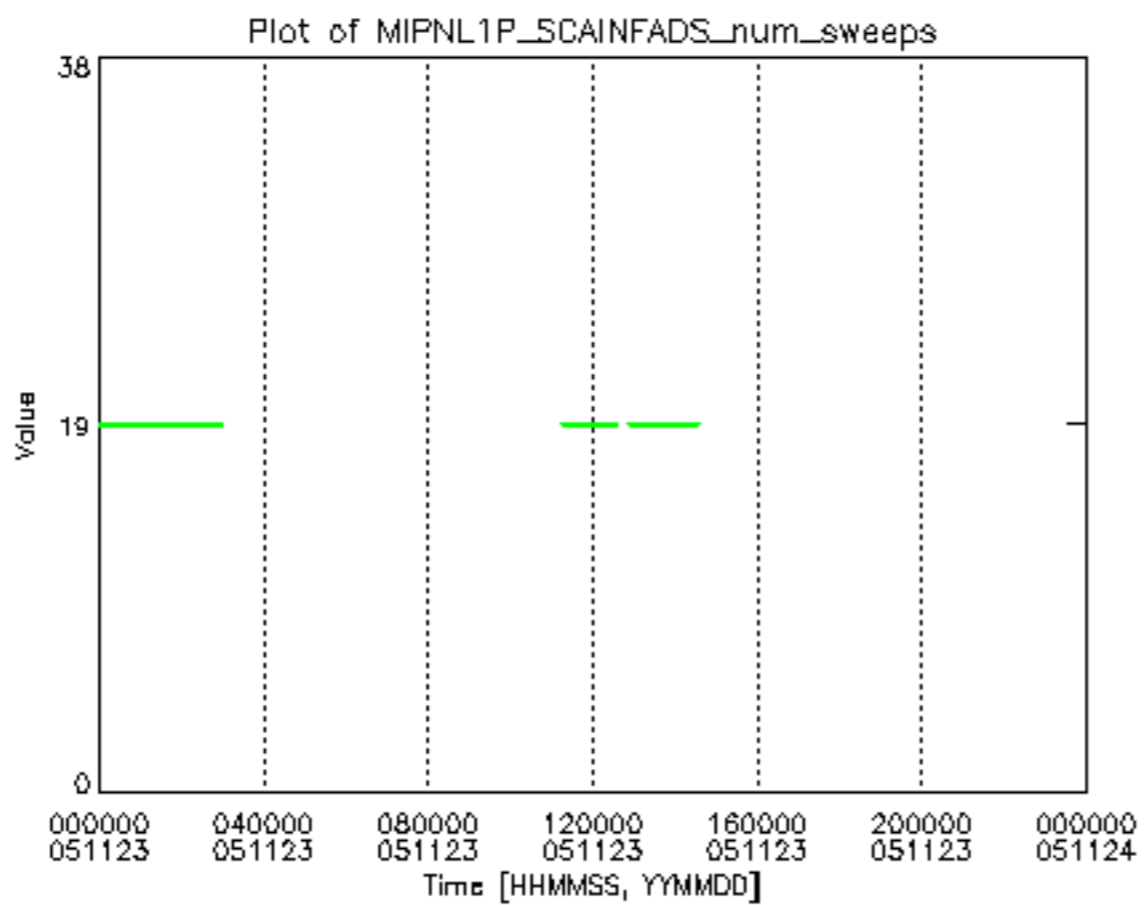


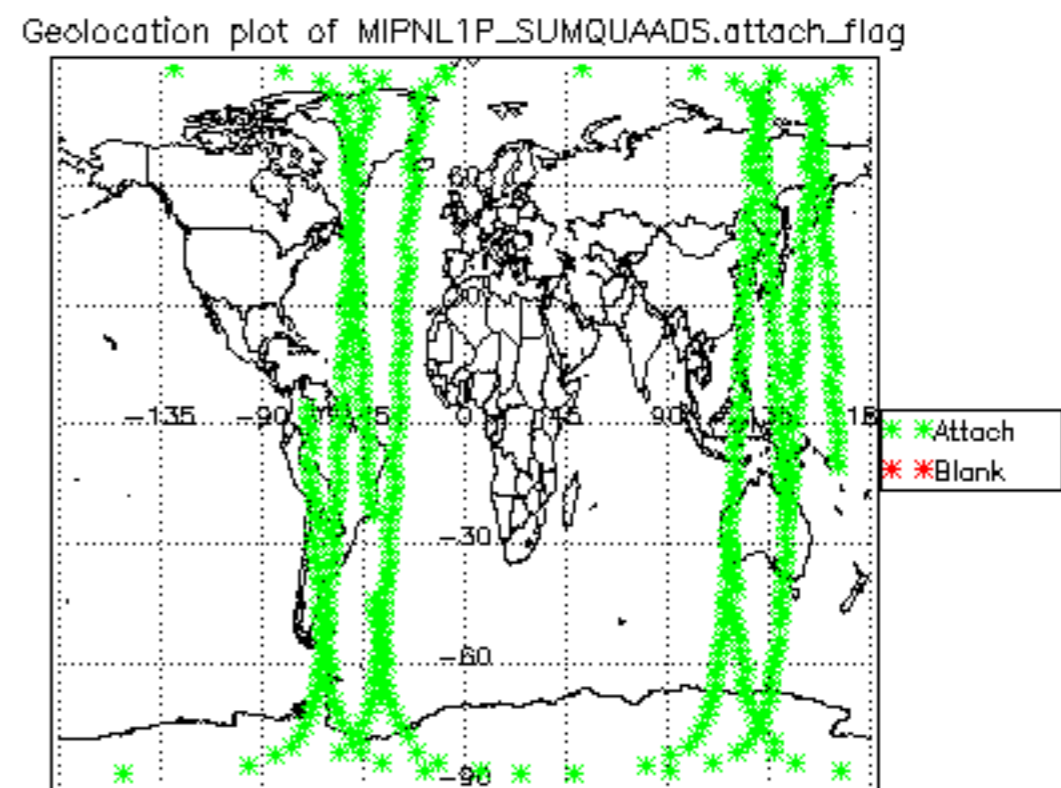
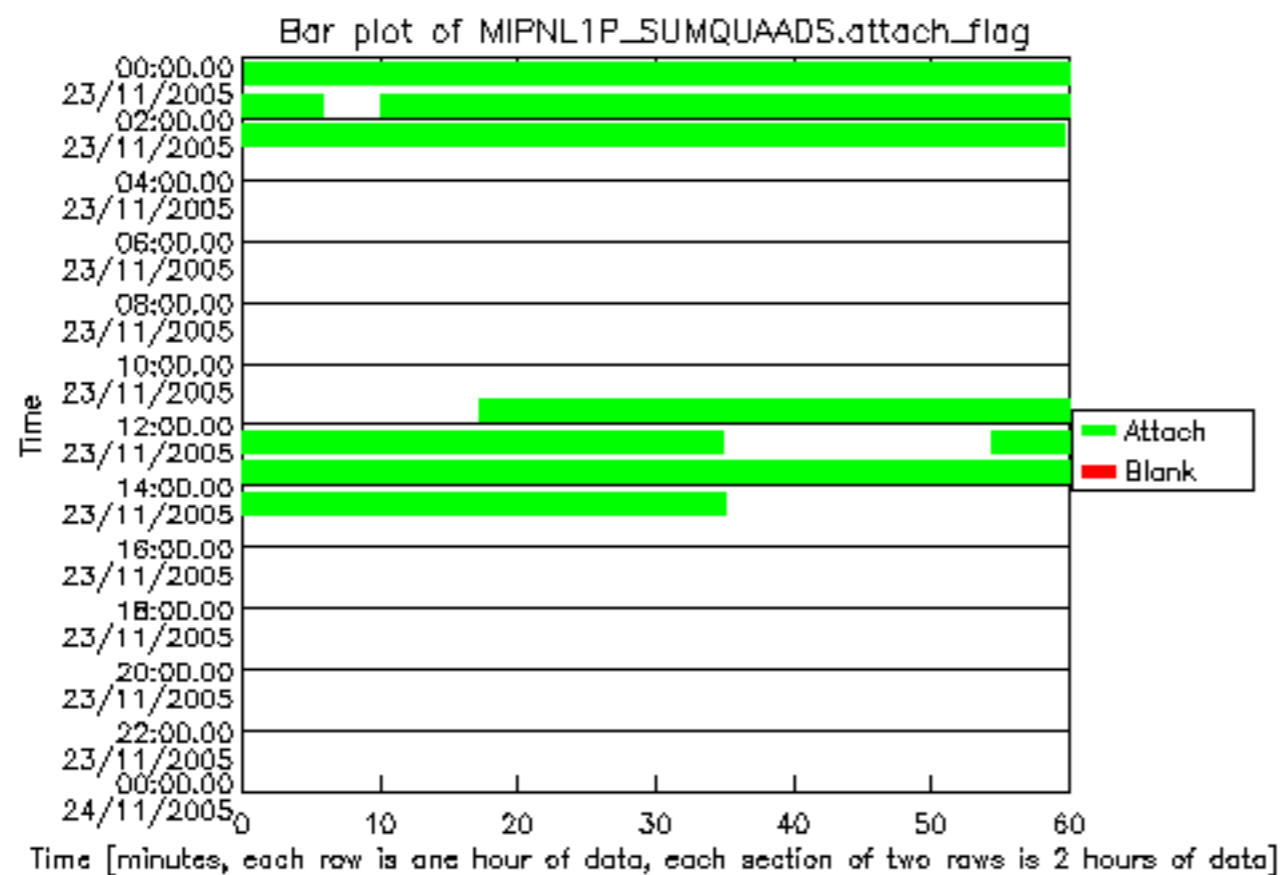
Bar plot of ADFs used for ORBIT DATA FILE.
See legend for details.

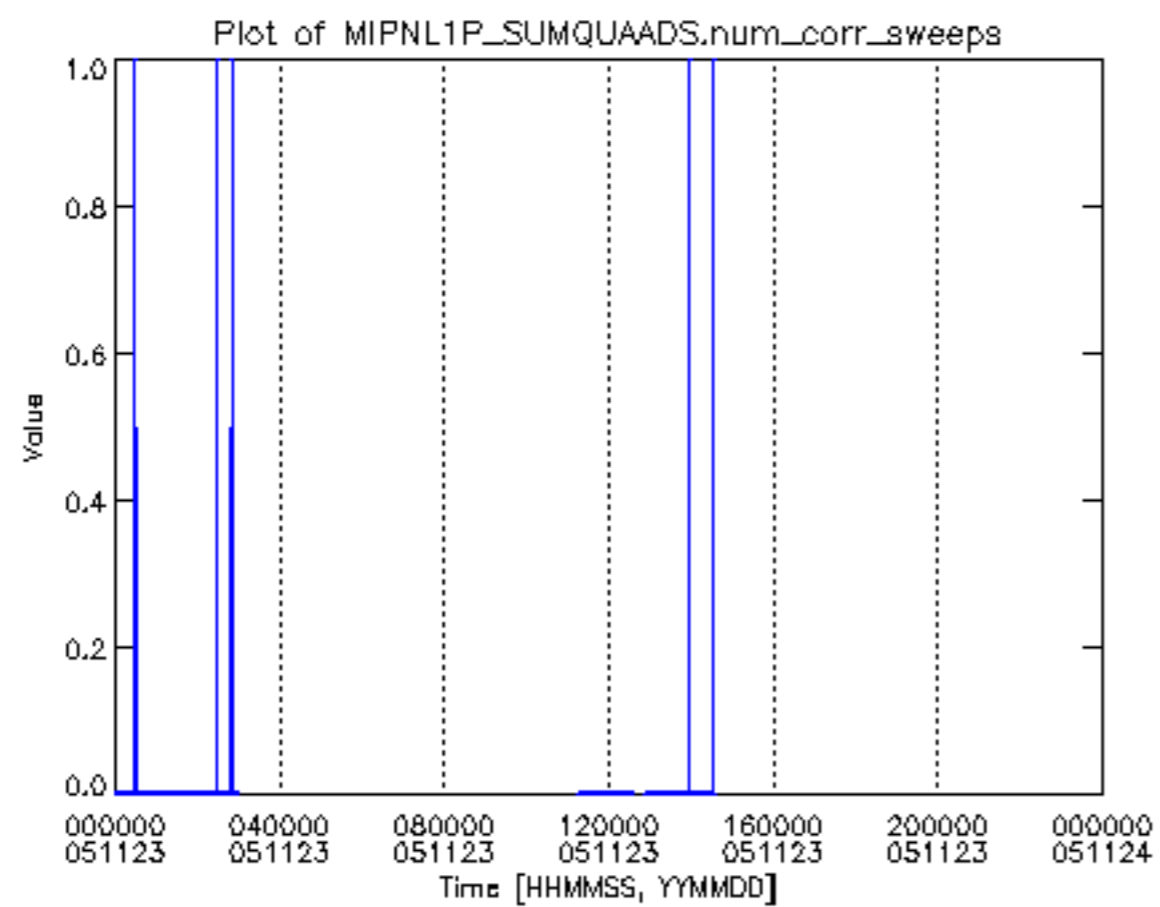


Bar plot of ADFs used for RESTITUTED ATTITUDE FILE.
See legend for details.

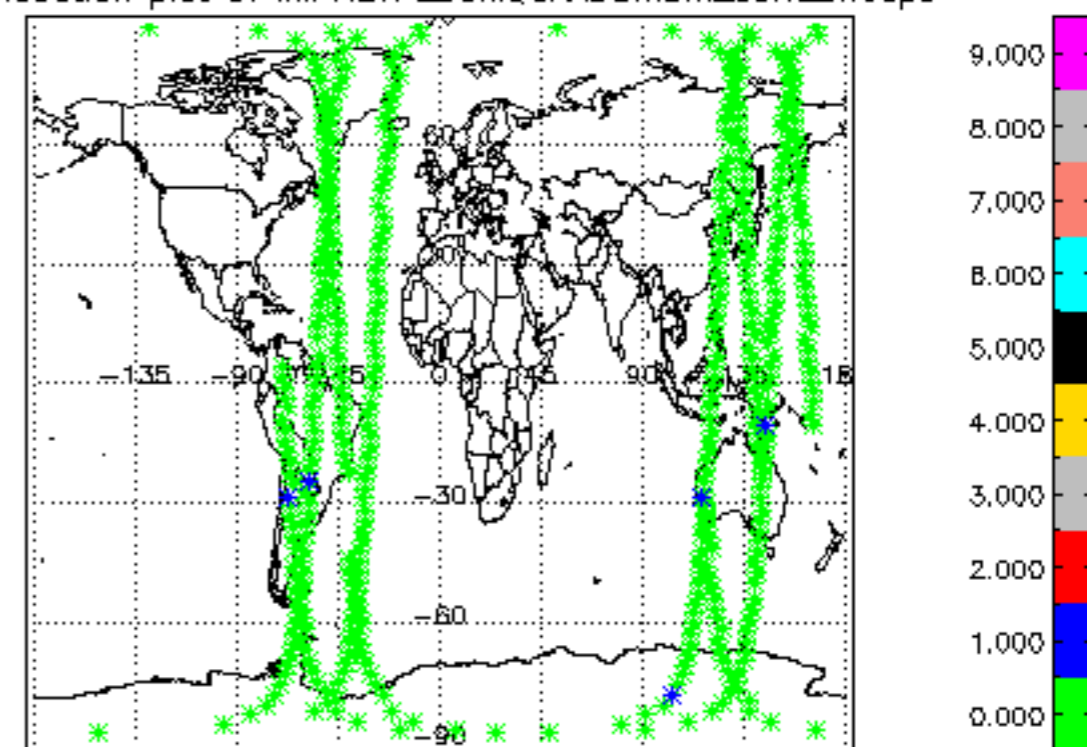


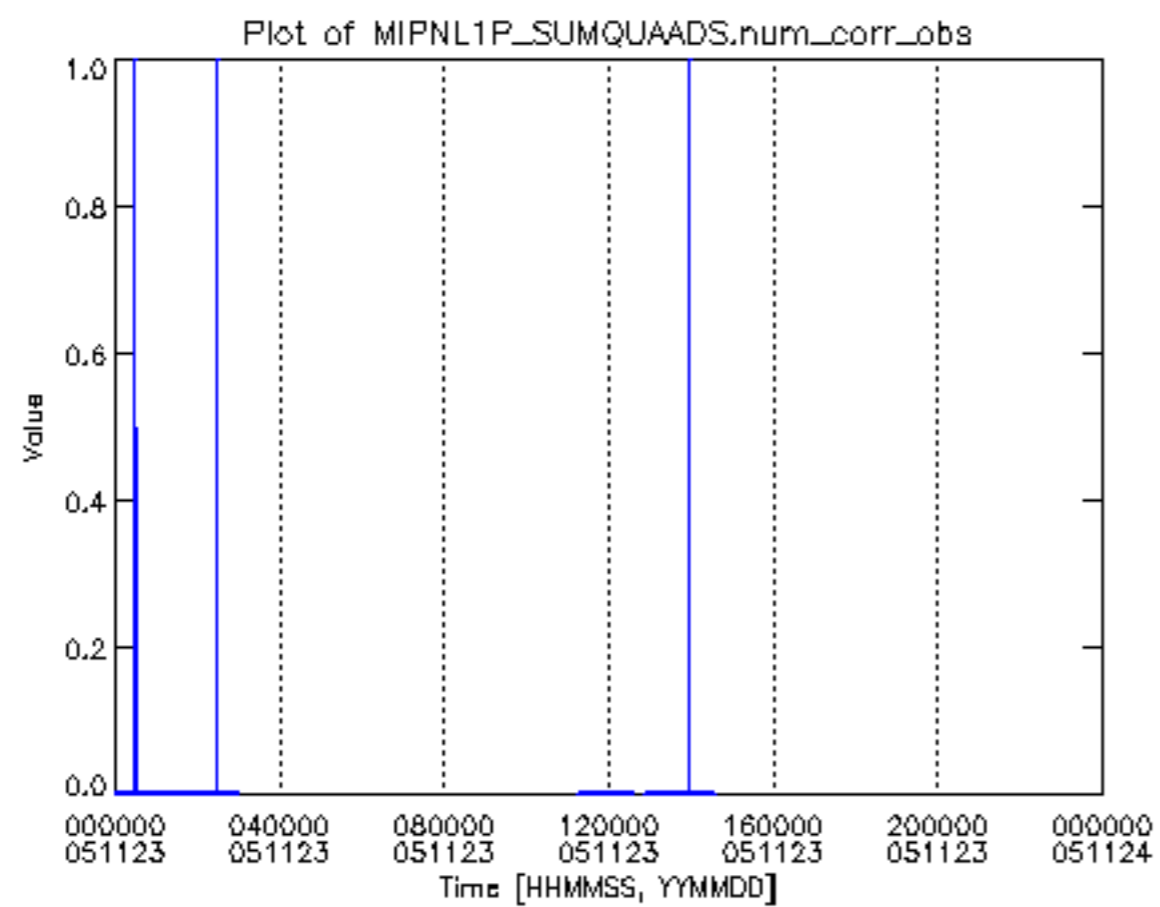




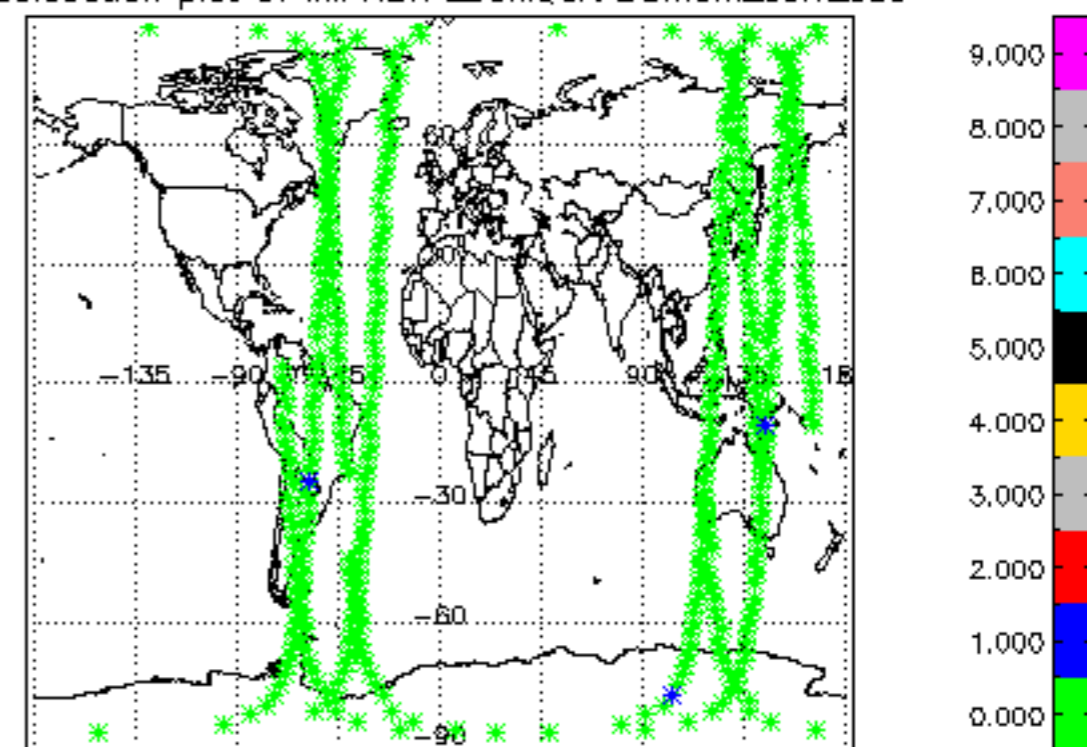


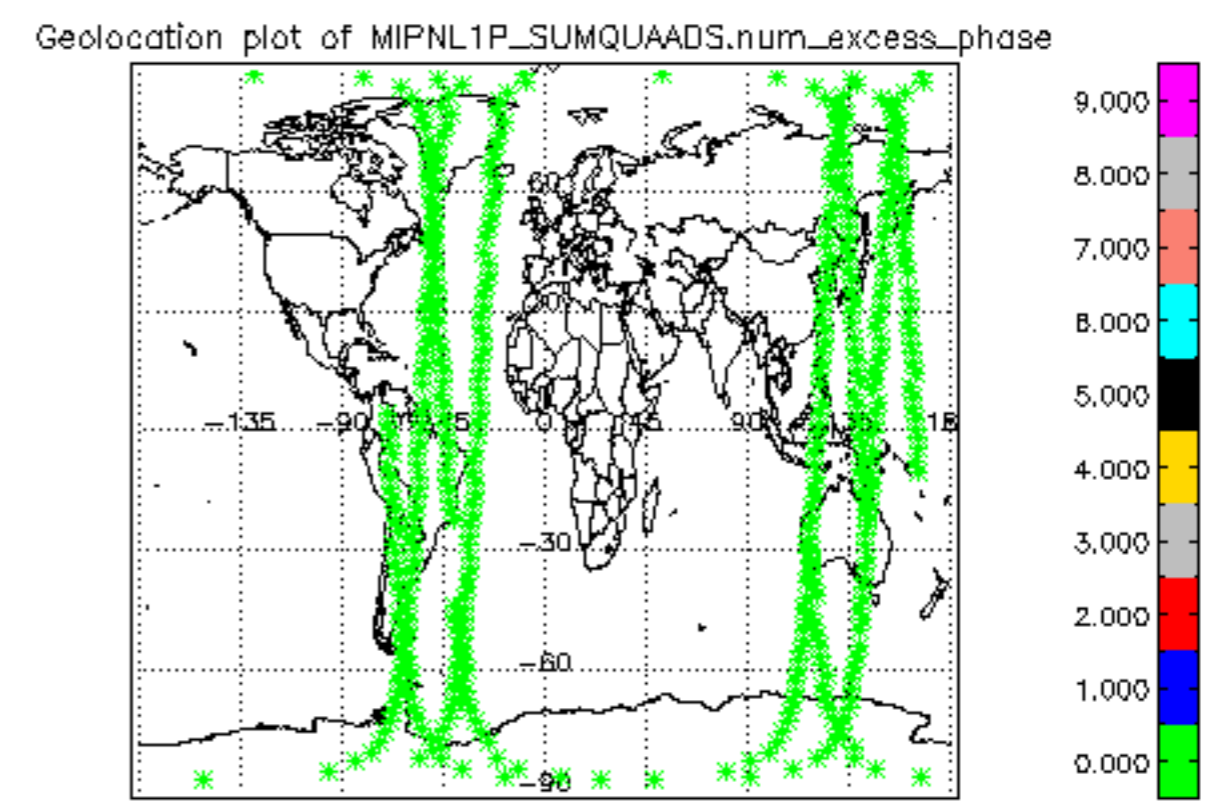
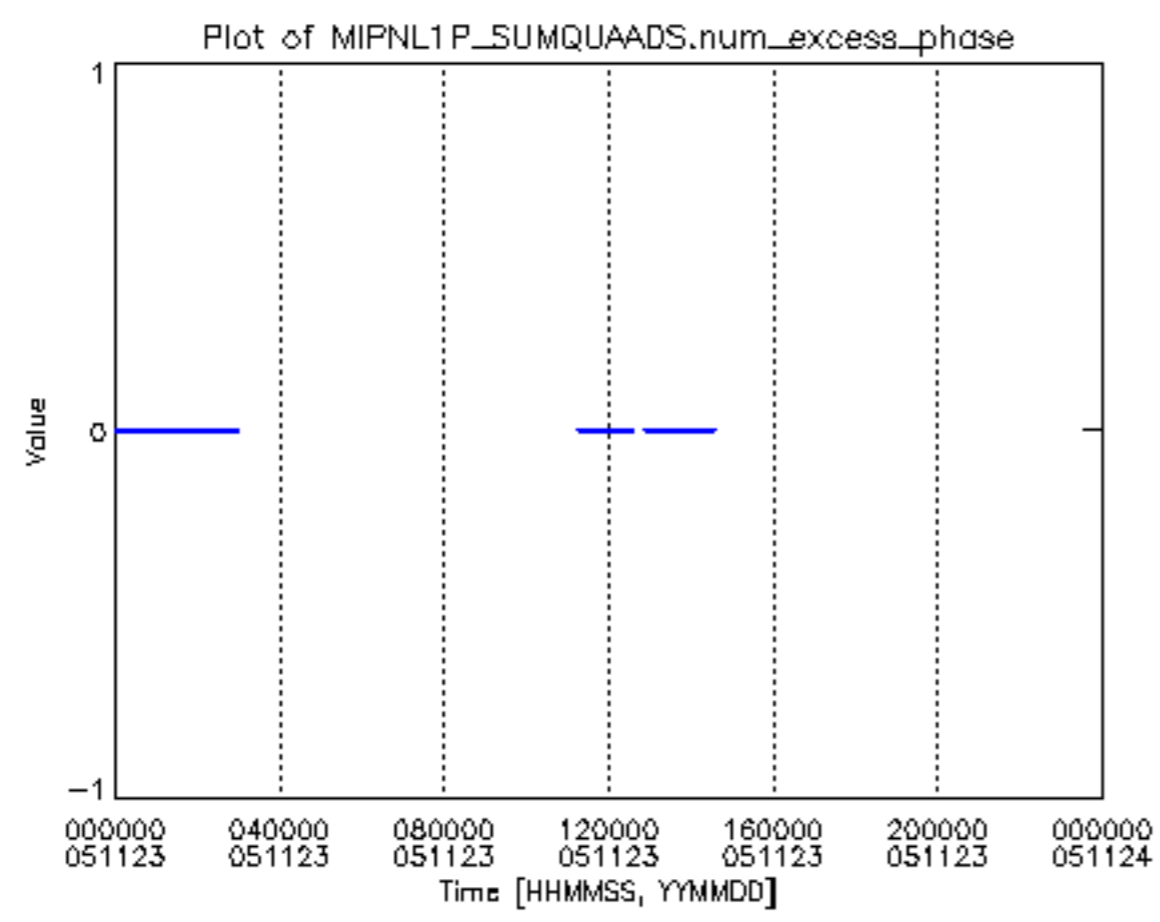
Geolocation plot of MIPNL1P_SUMQUAADS.num_corr_sweeps

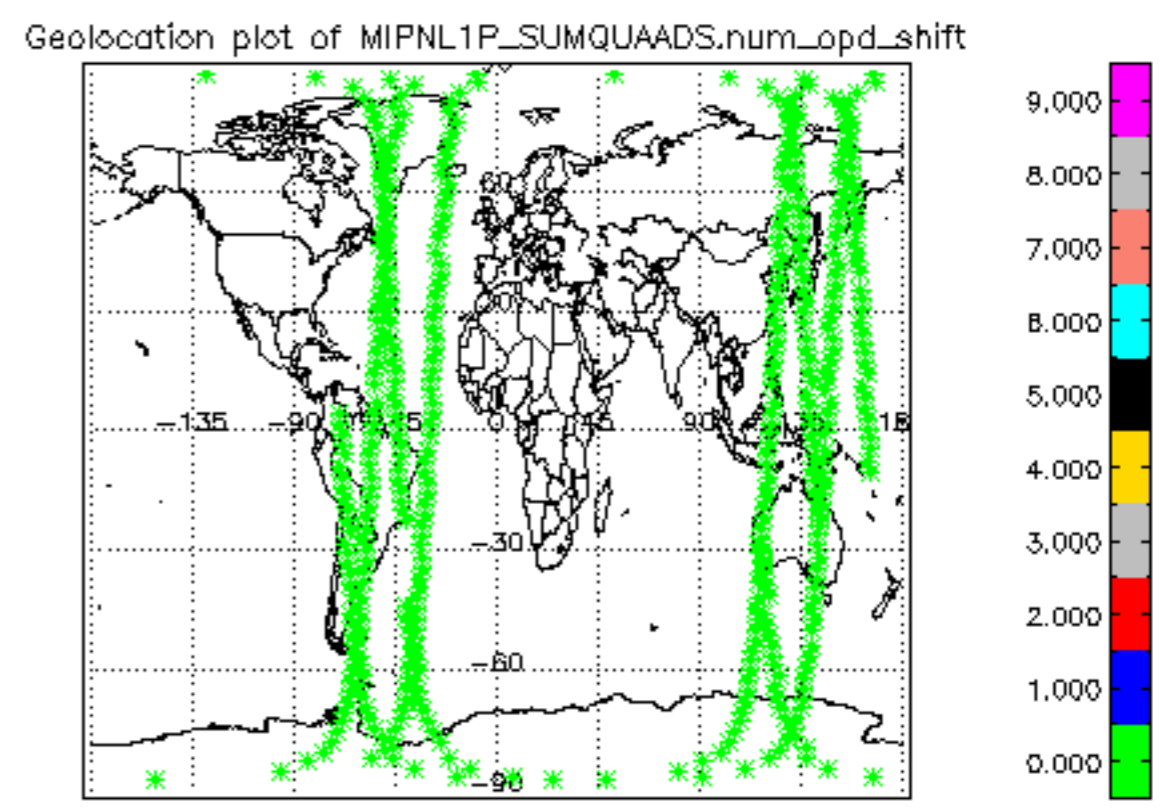
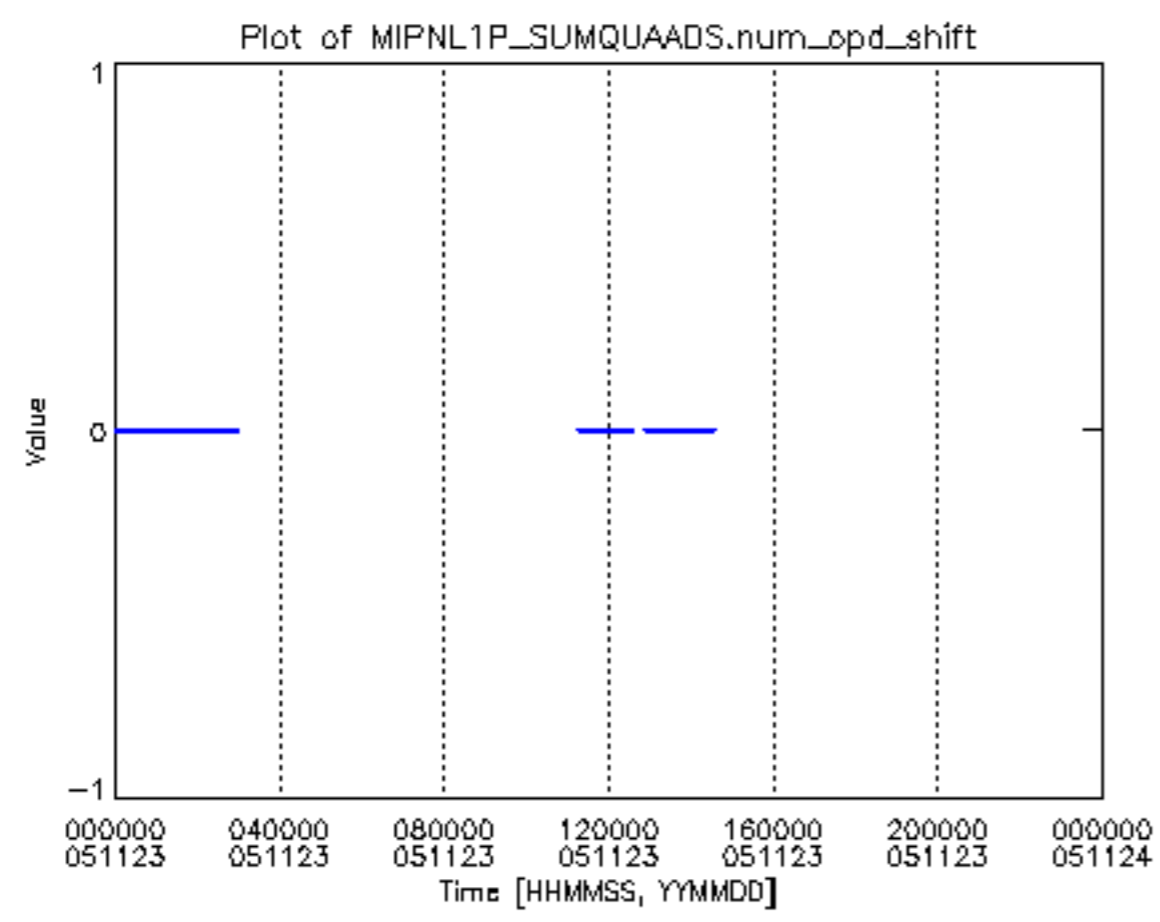


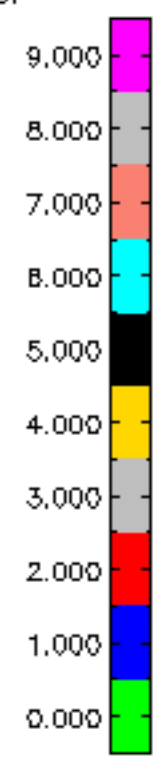
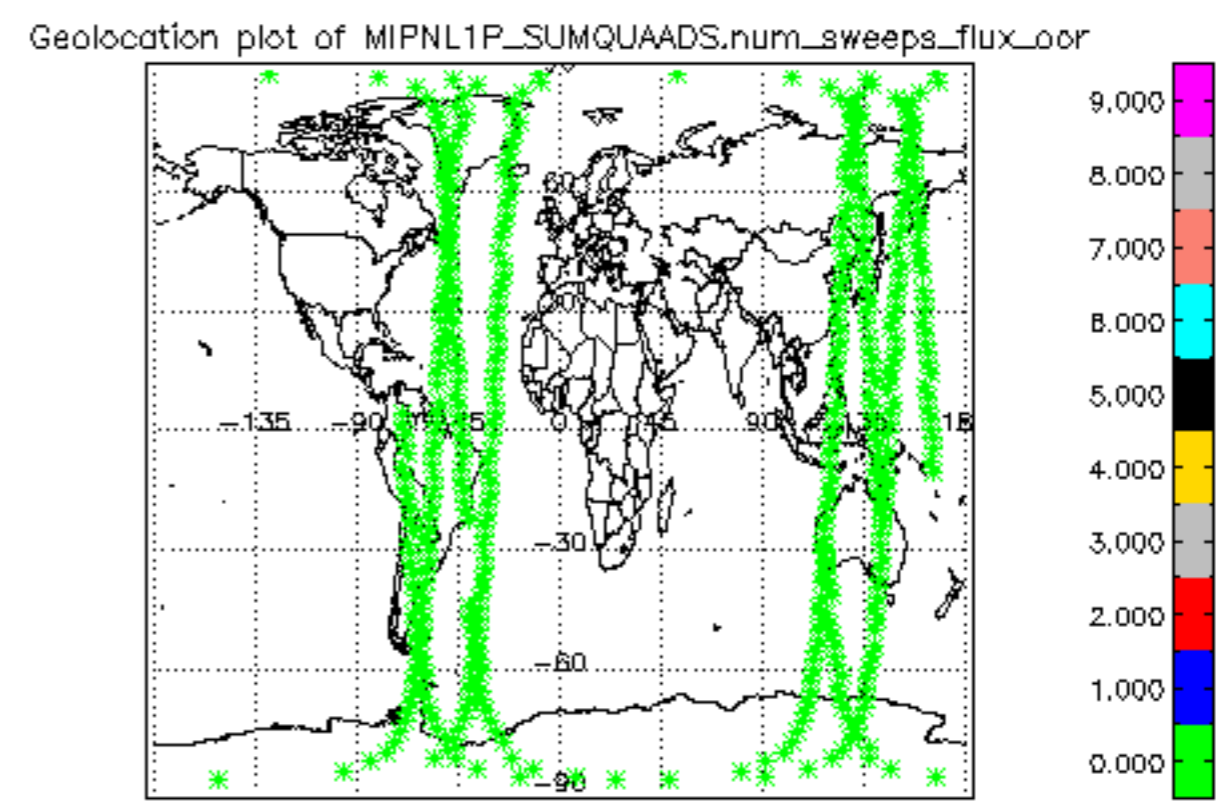
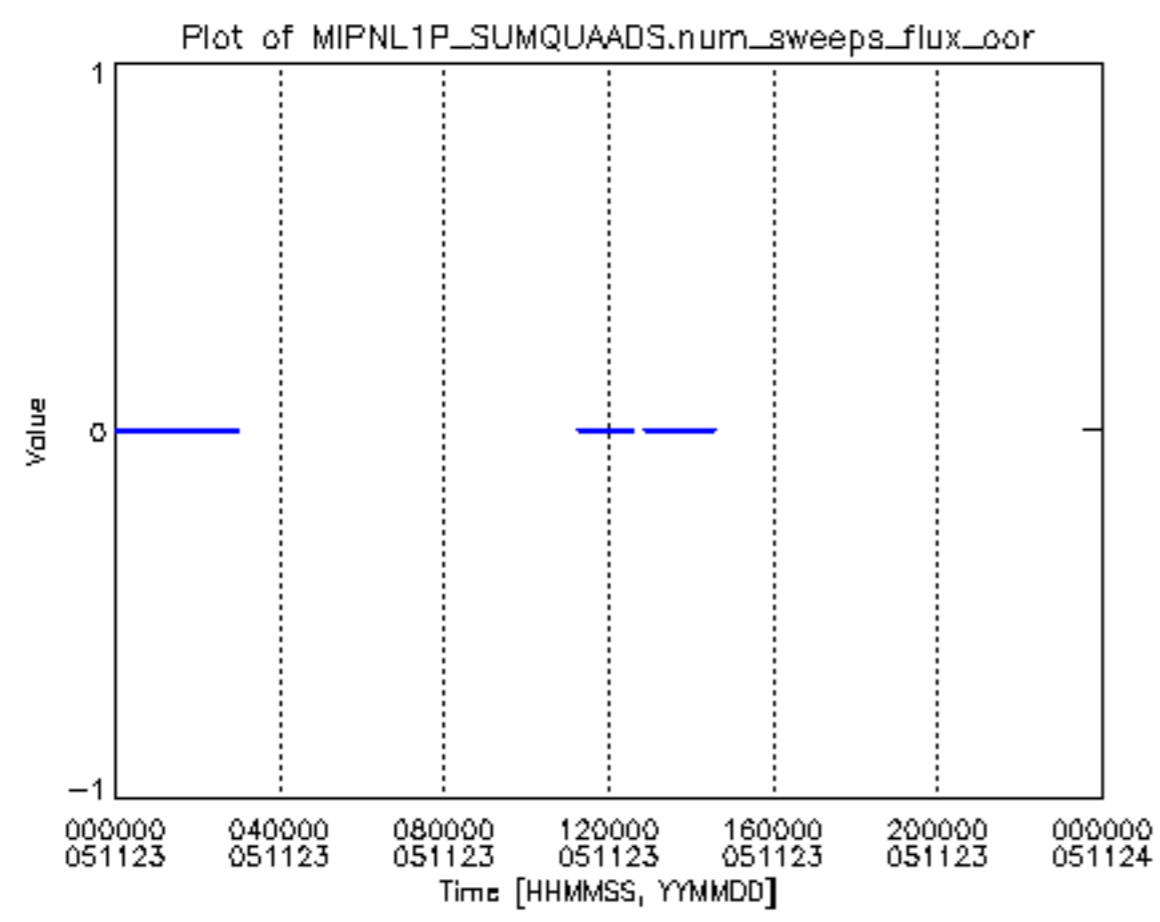


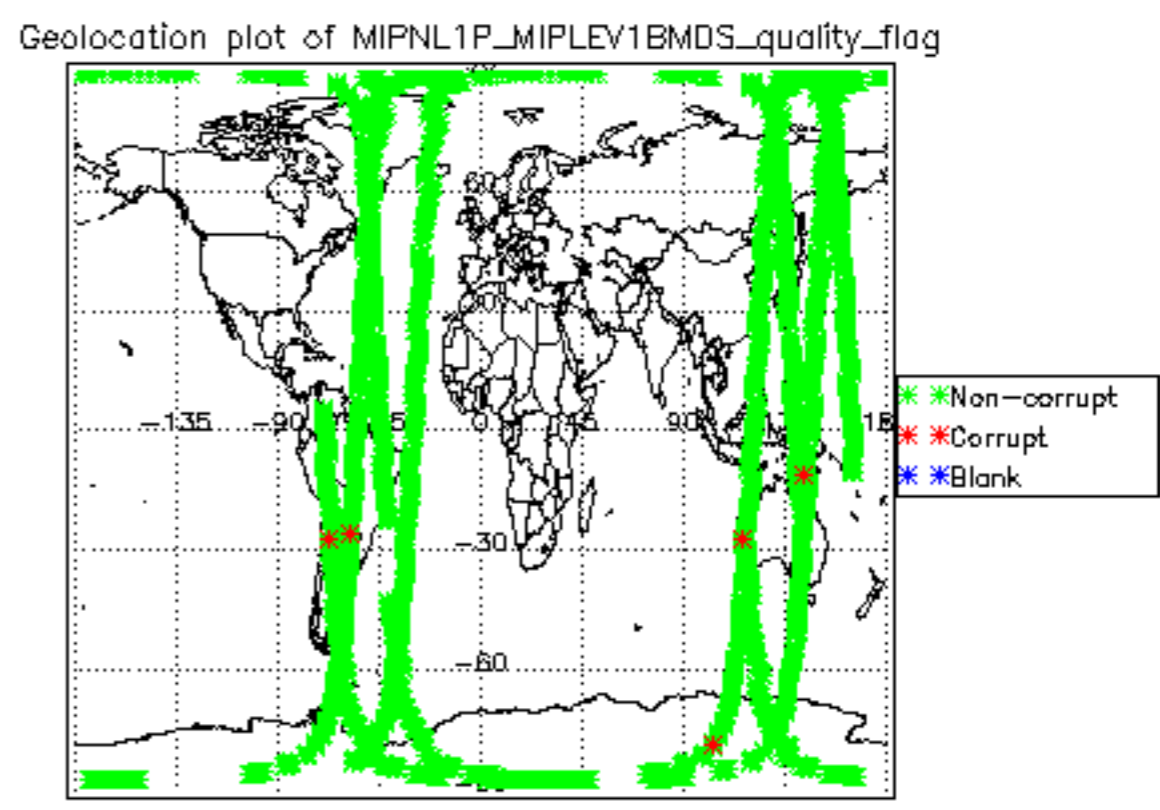
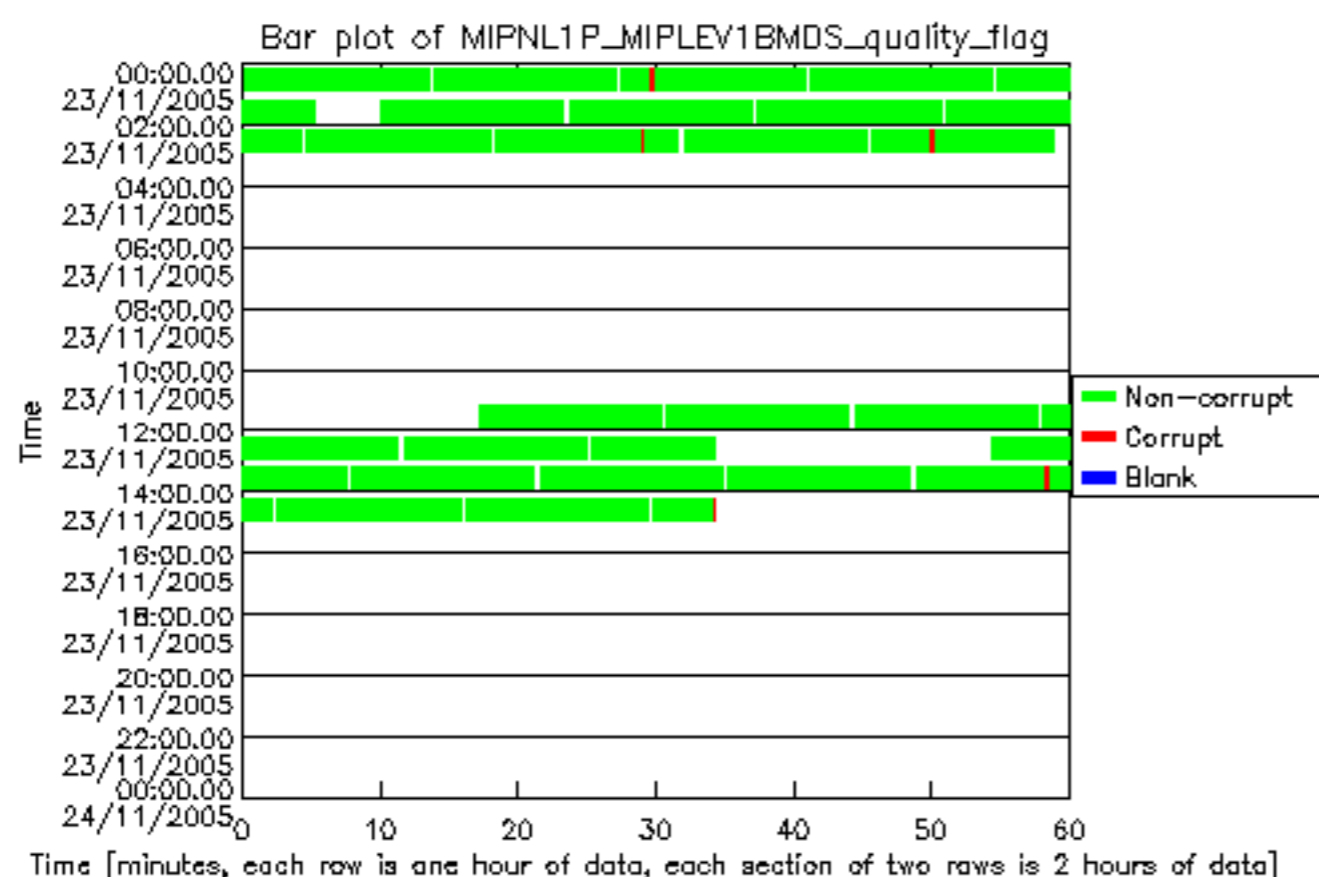
Geolocation plot of MIPNL1P_SUMQUAADS.num_corr_obs

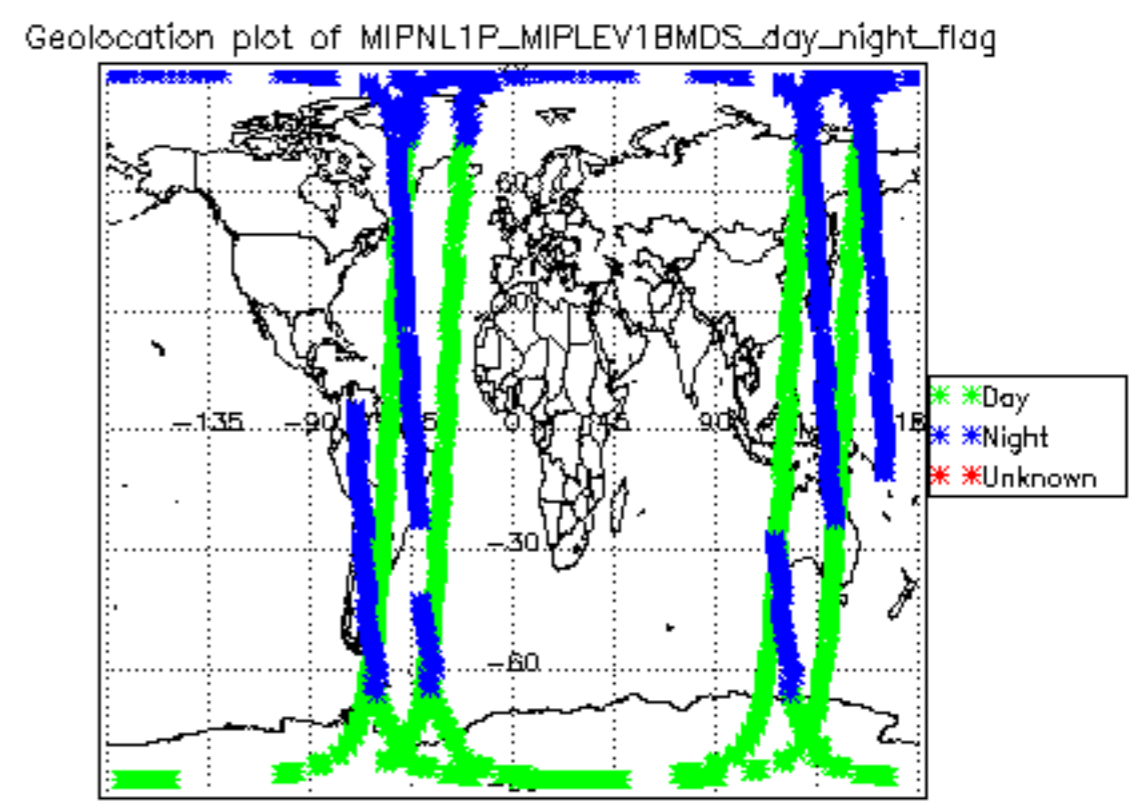
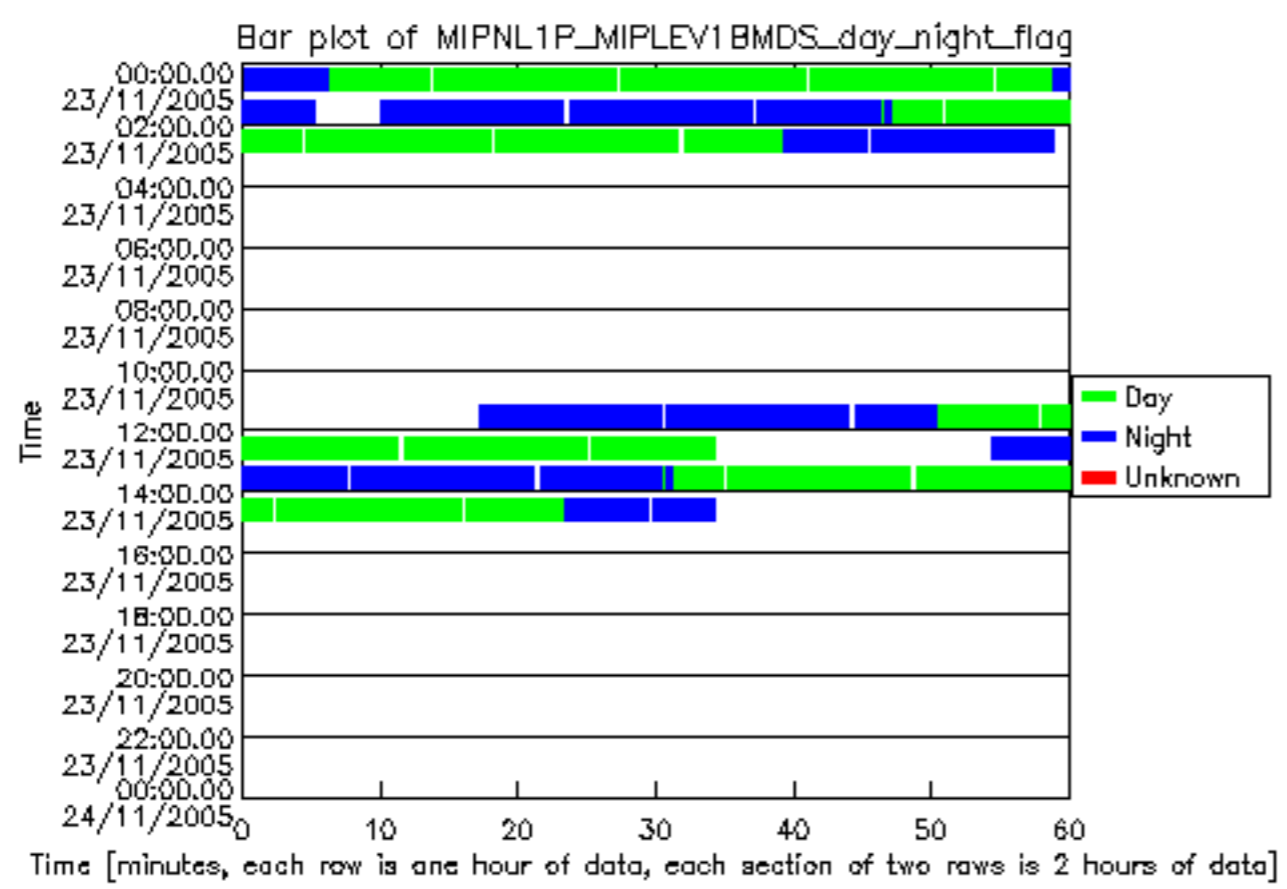


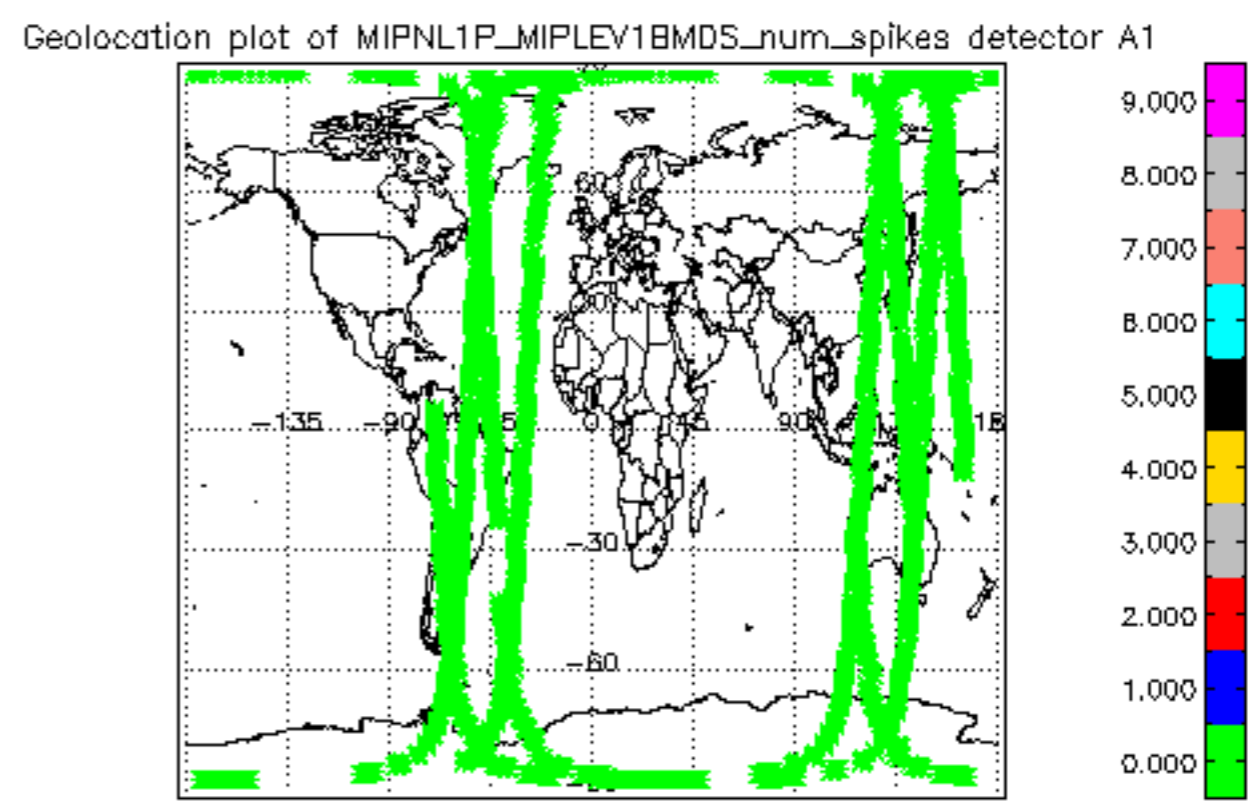
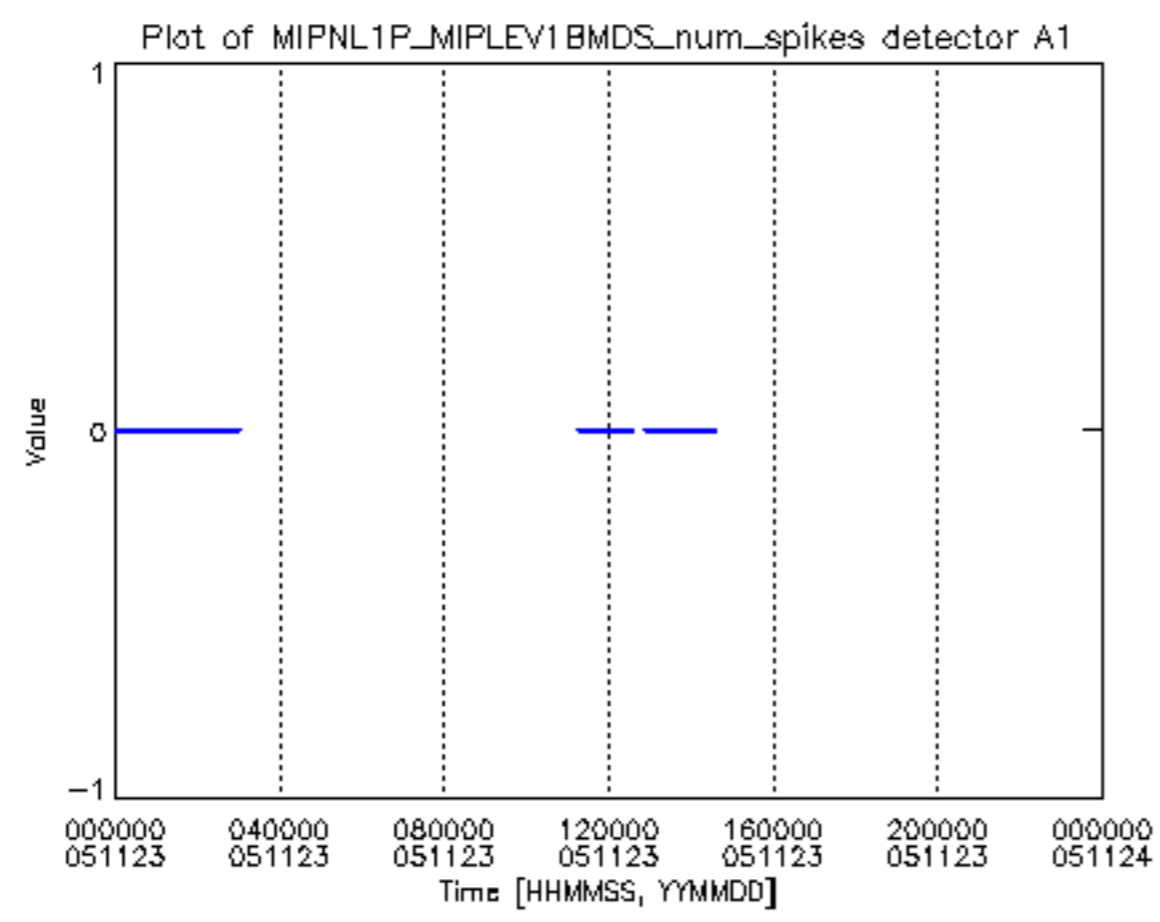


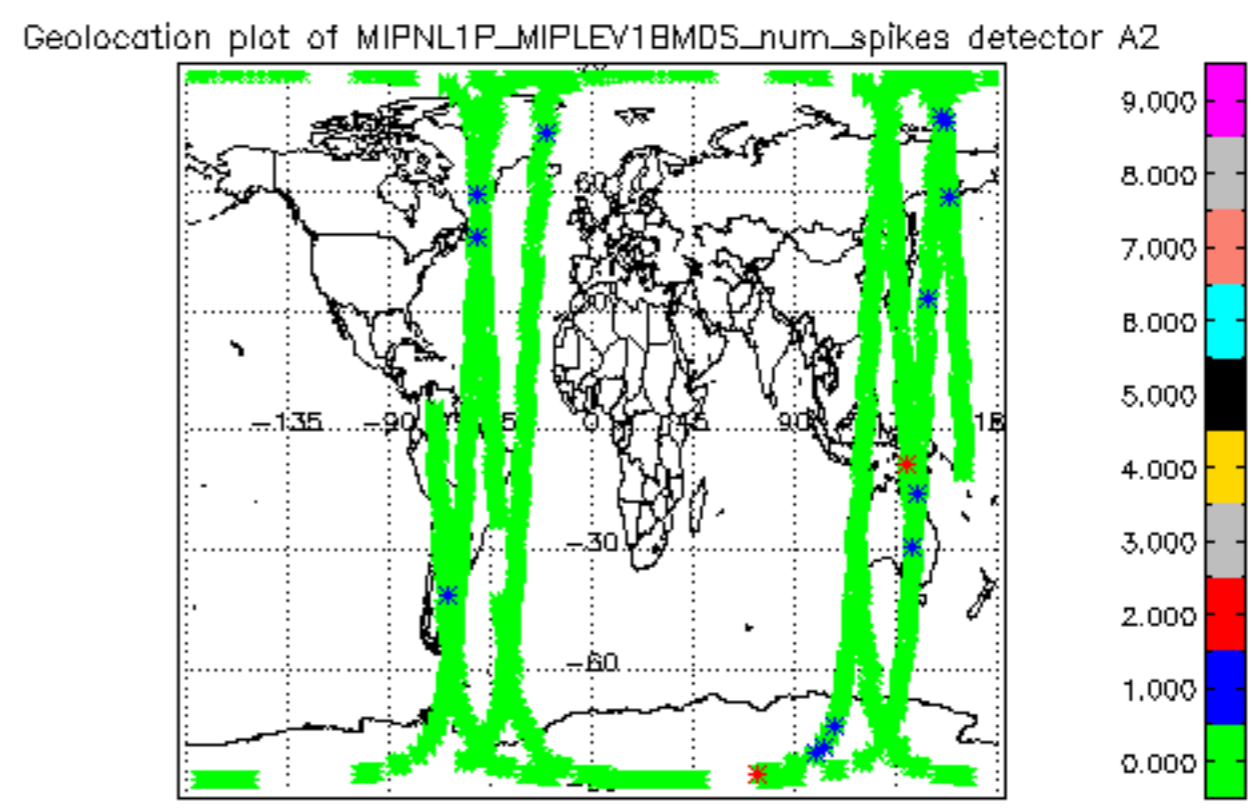
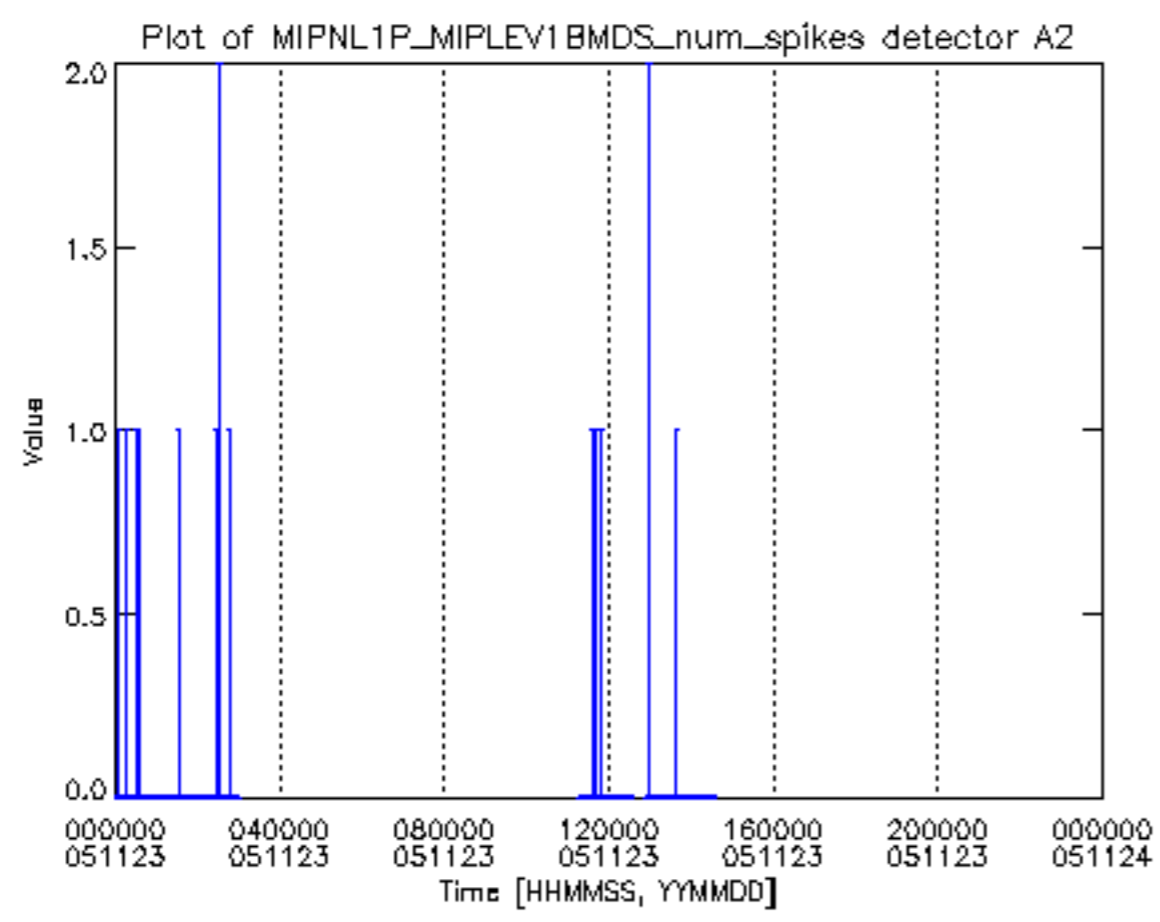


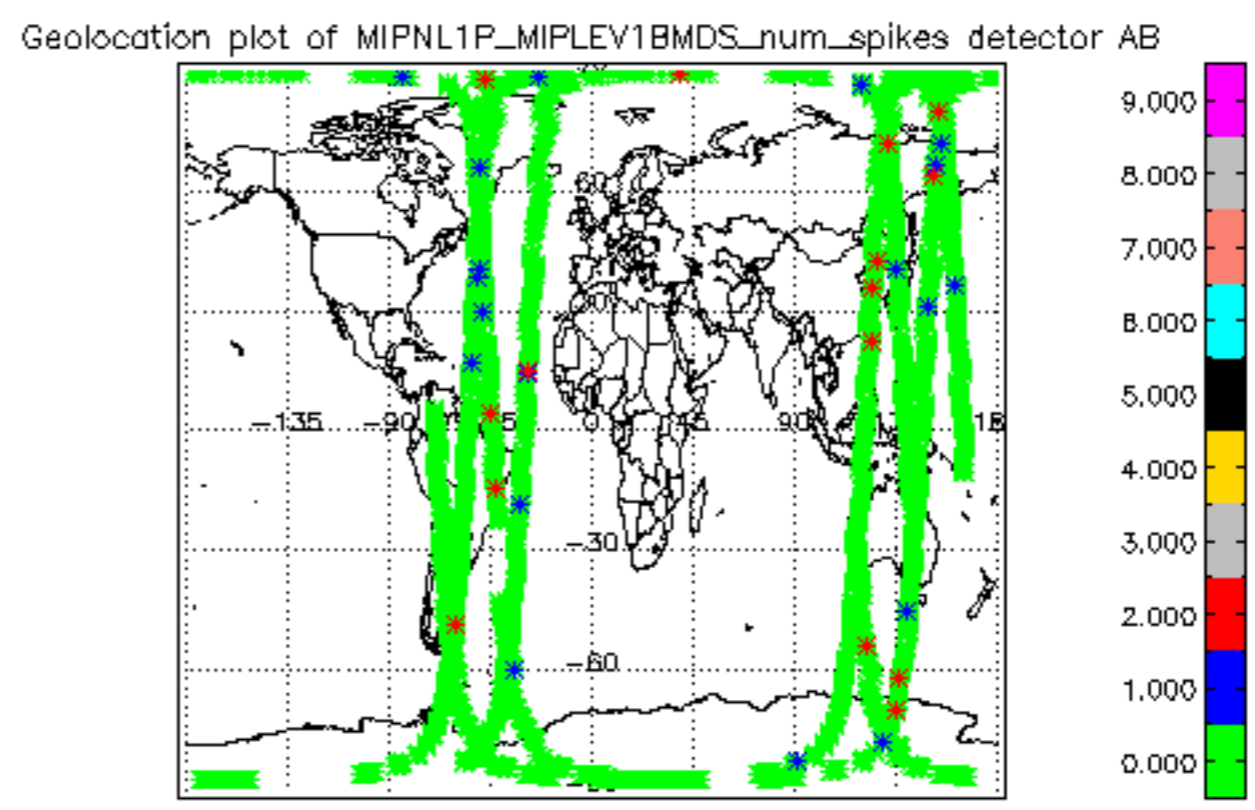
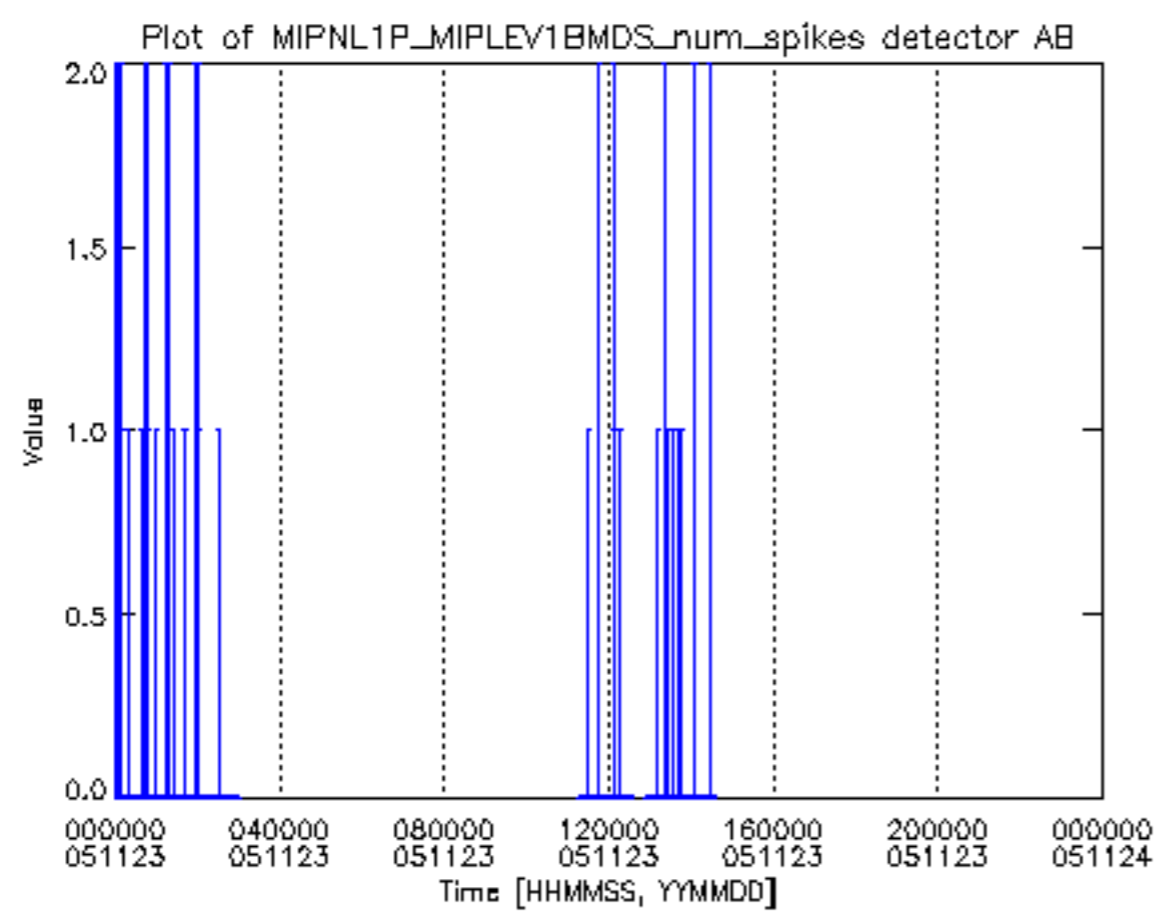


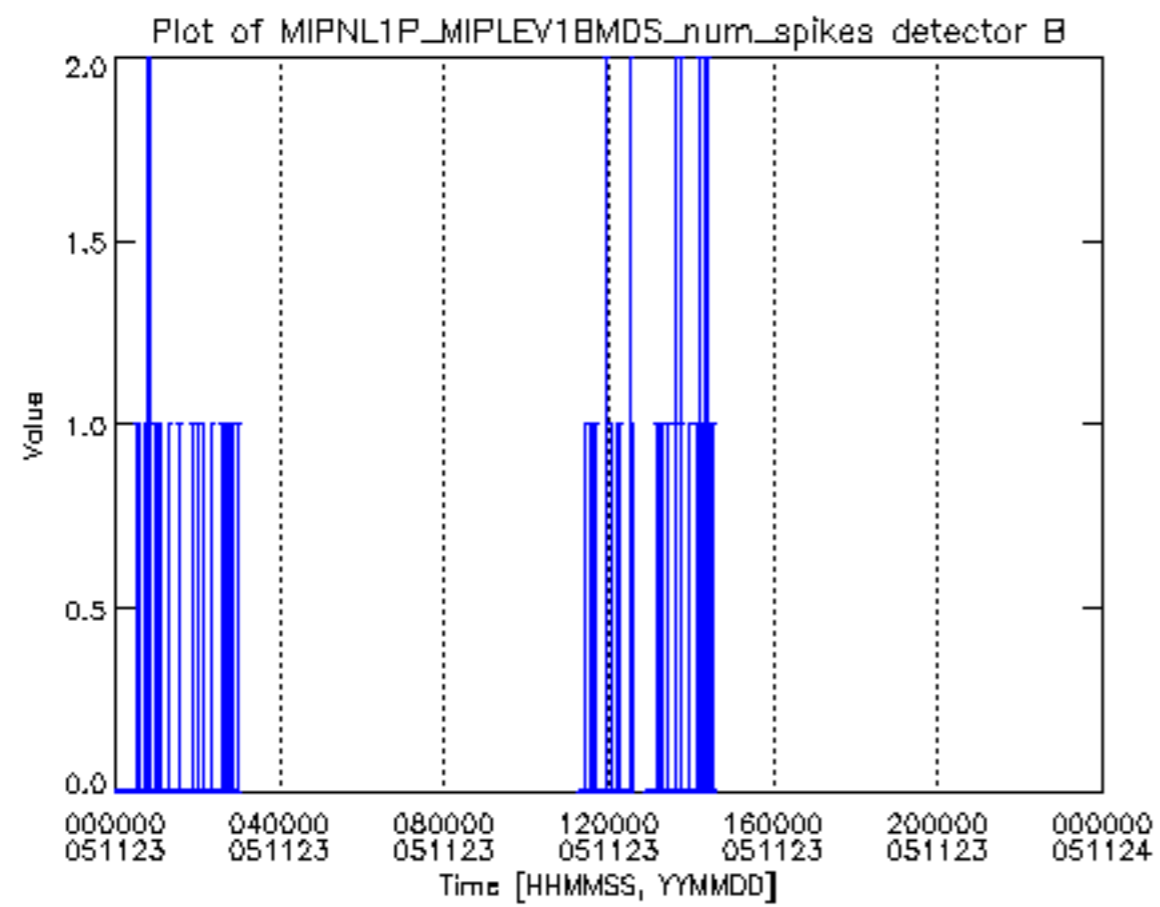




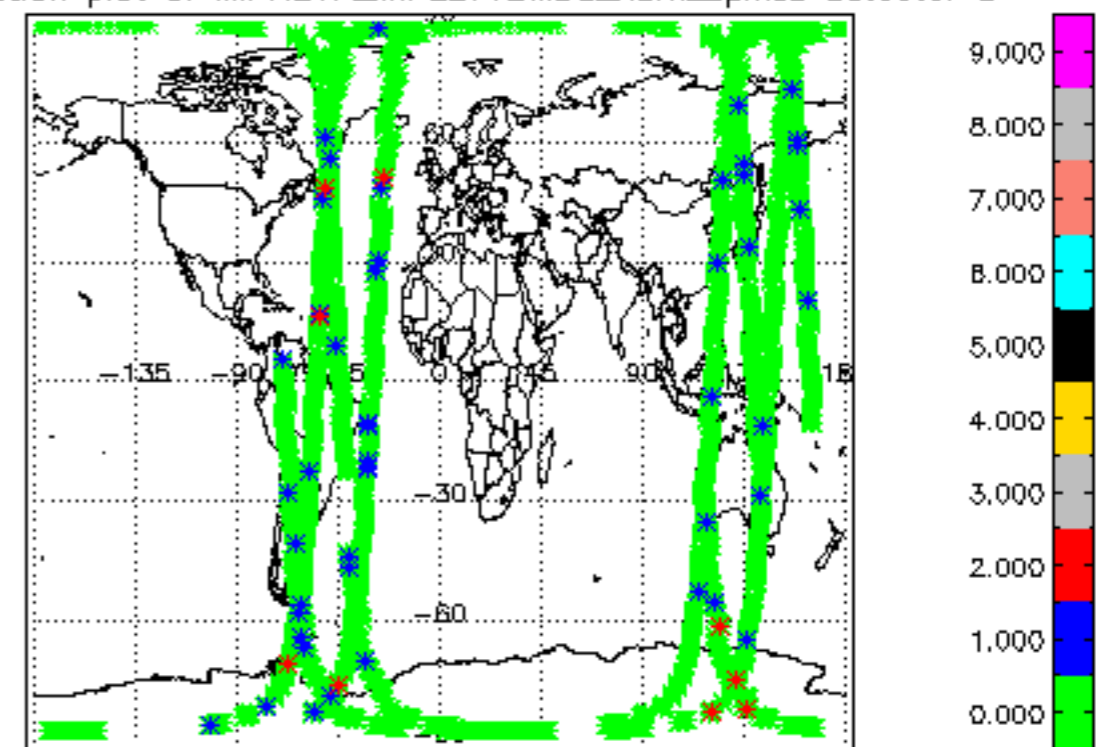


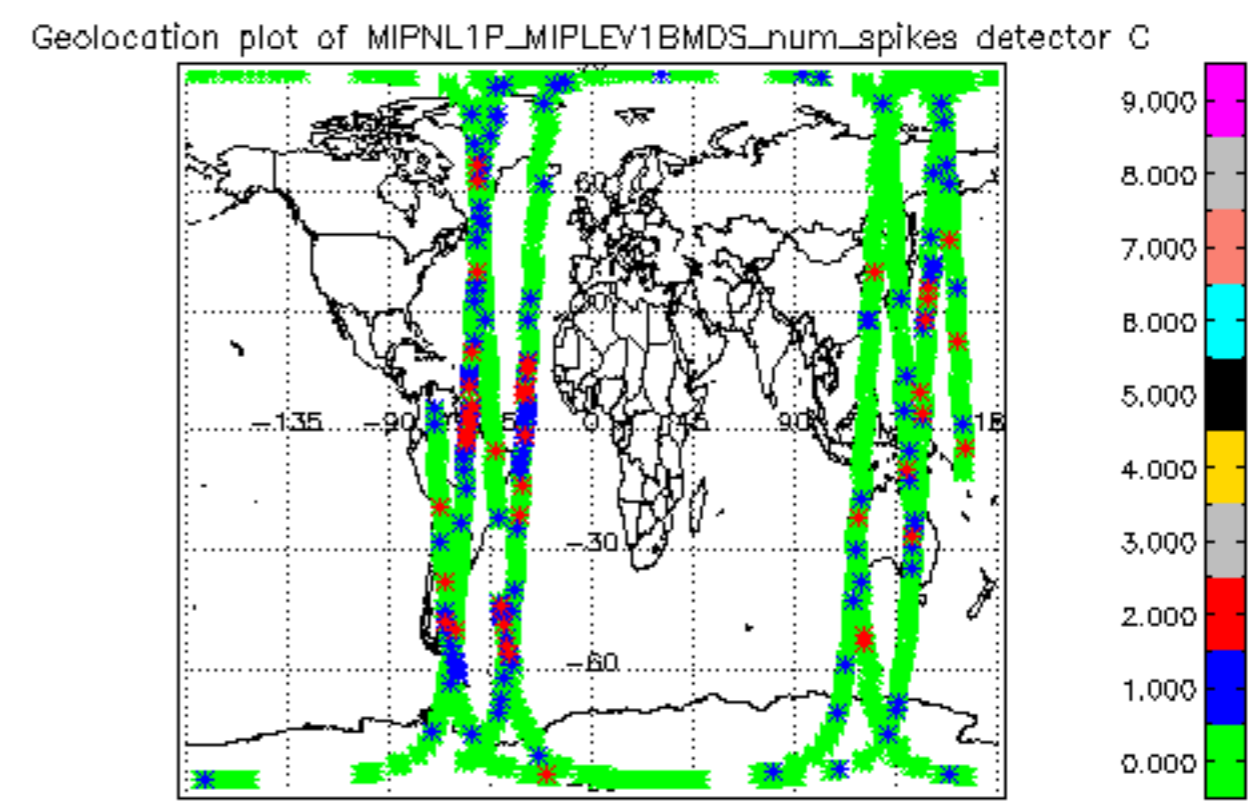
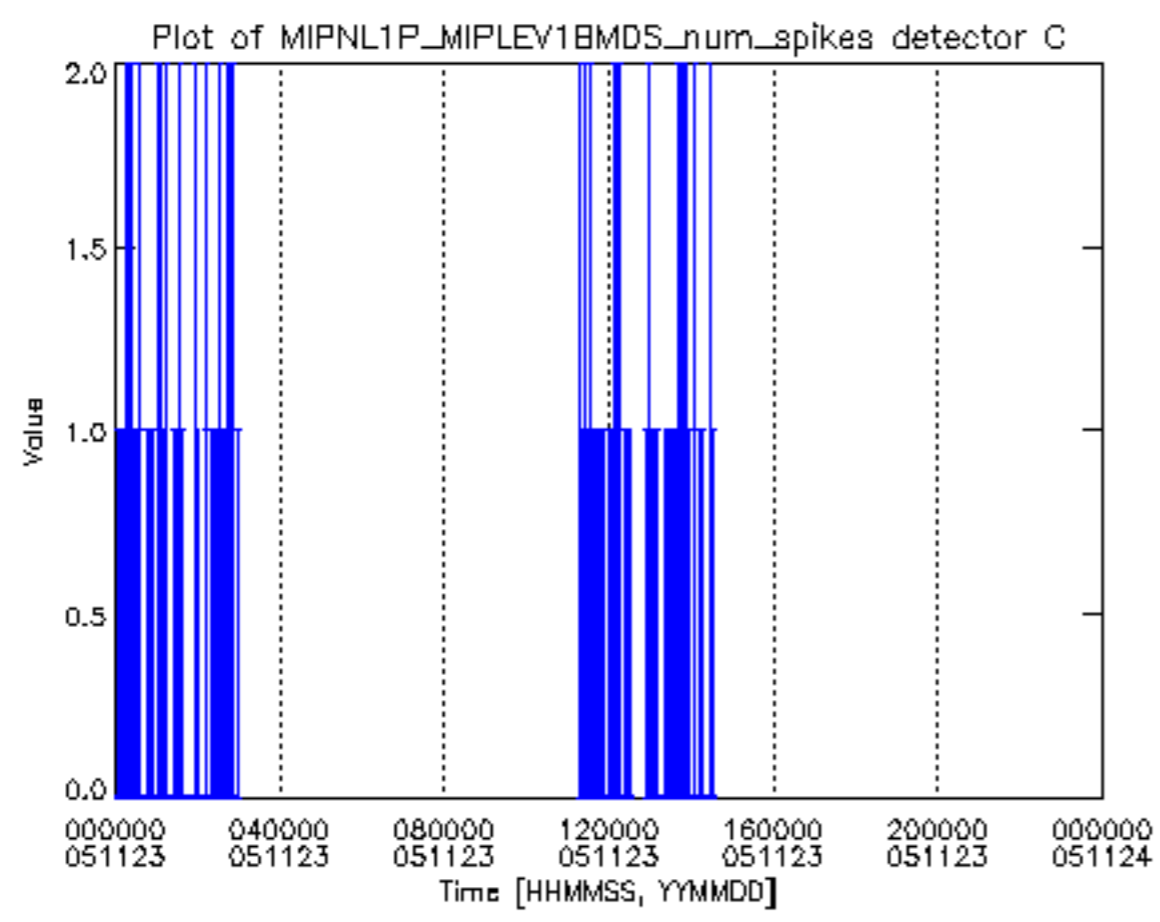


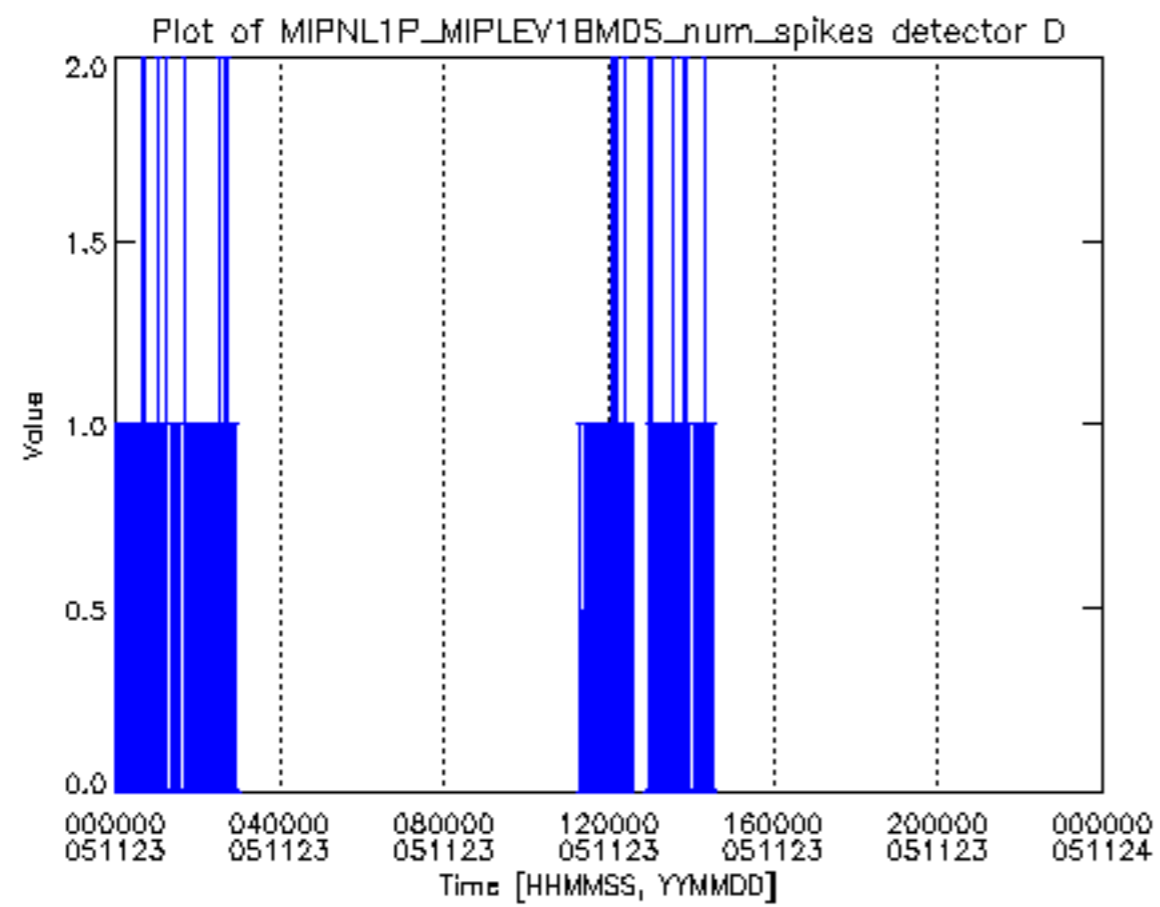




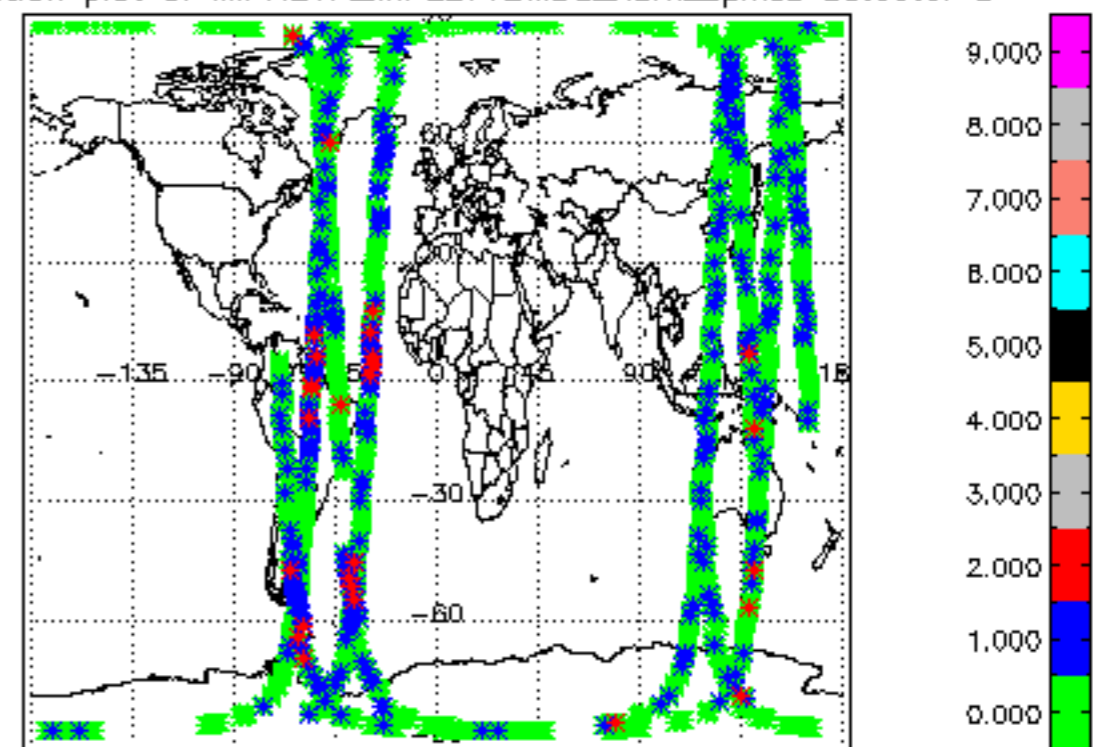
Geolocation plot of MIPNL1P_MIPLEV1BMDS_num_spikes detector B

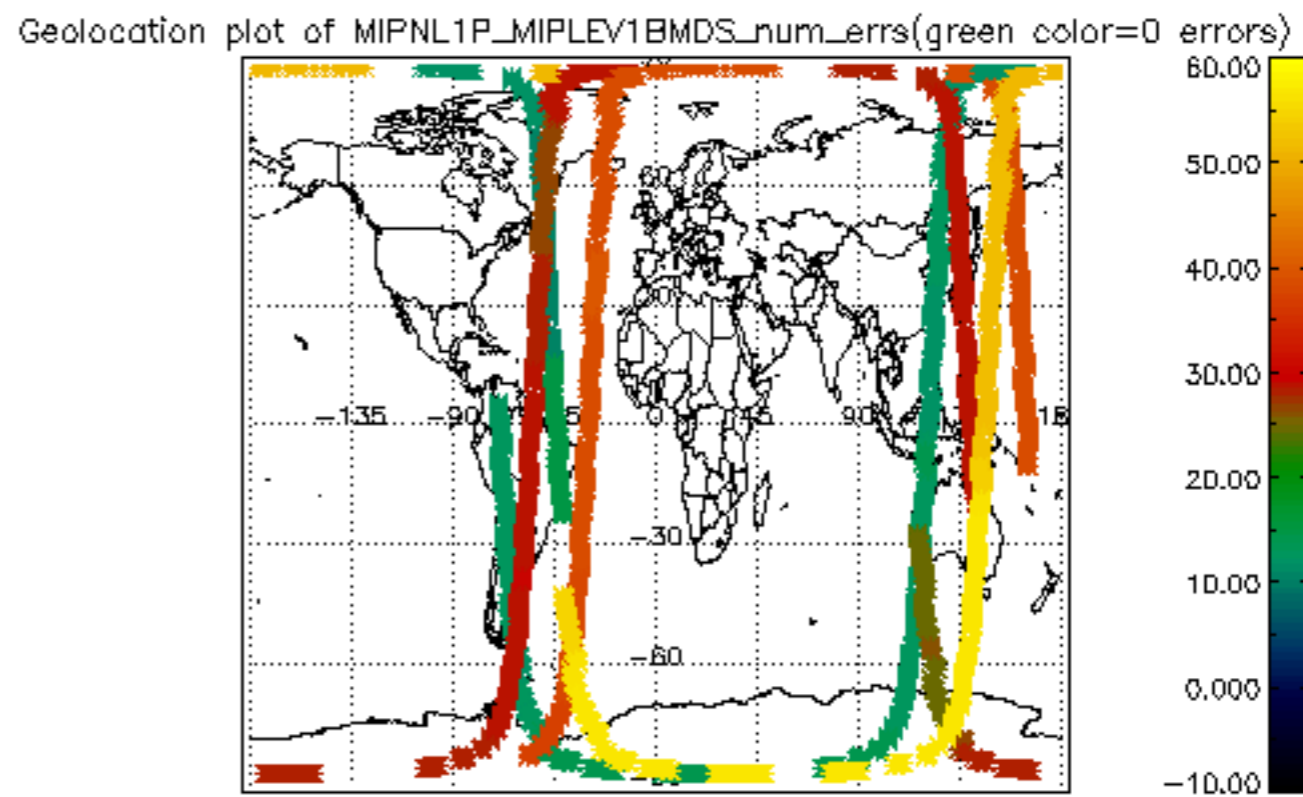
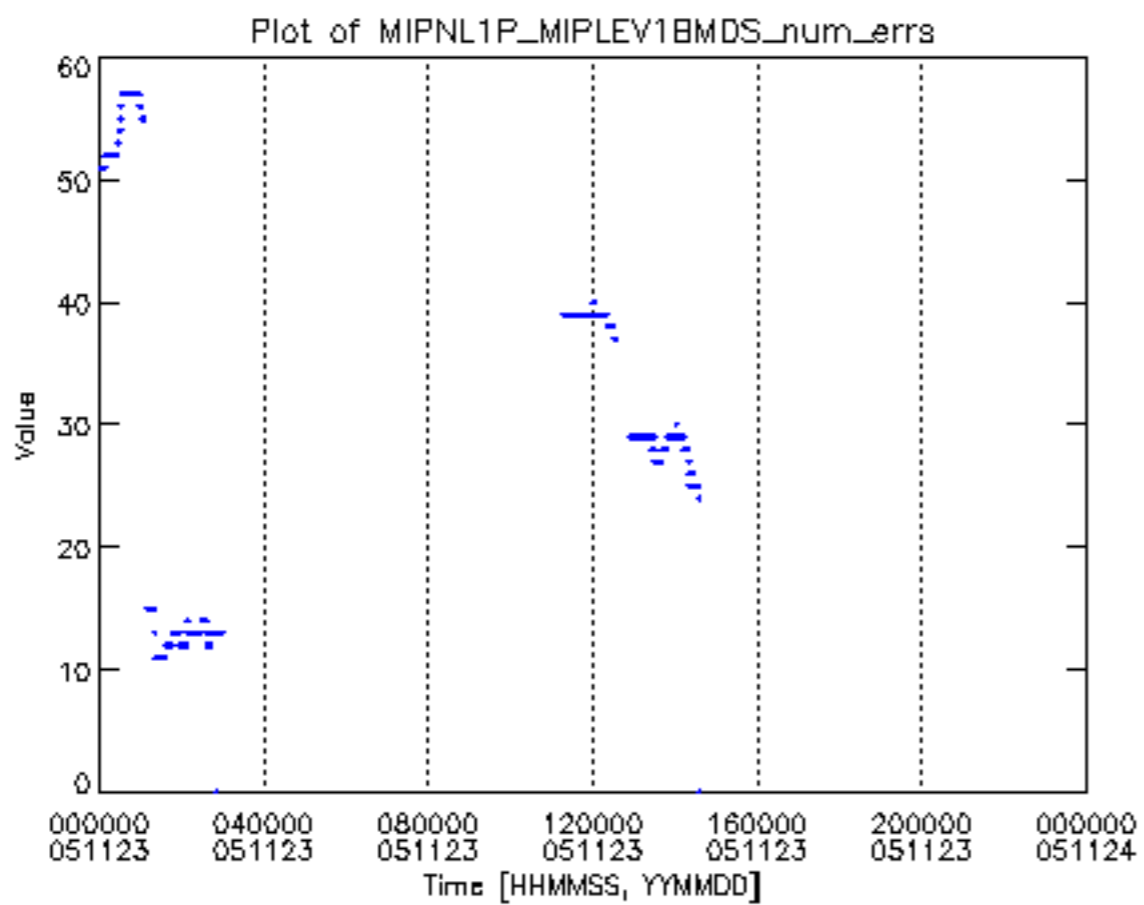


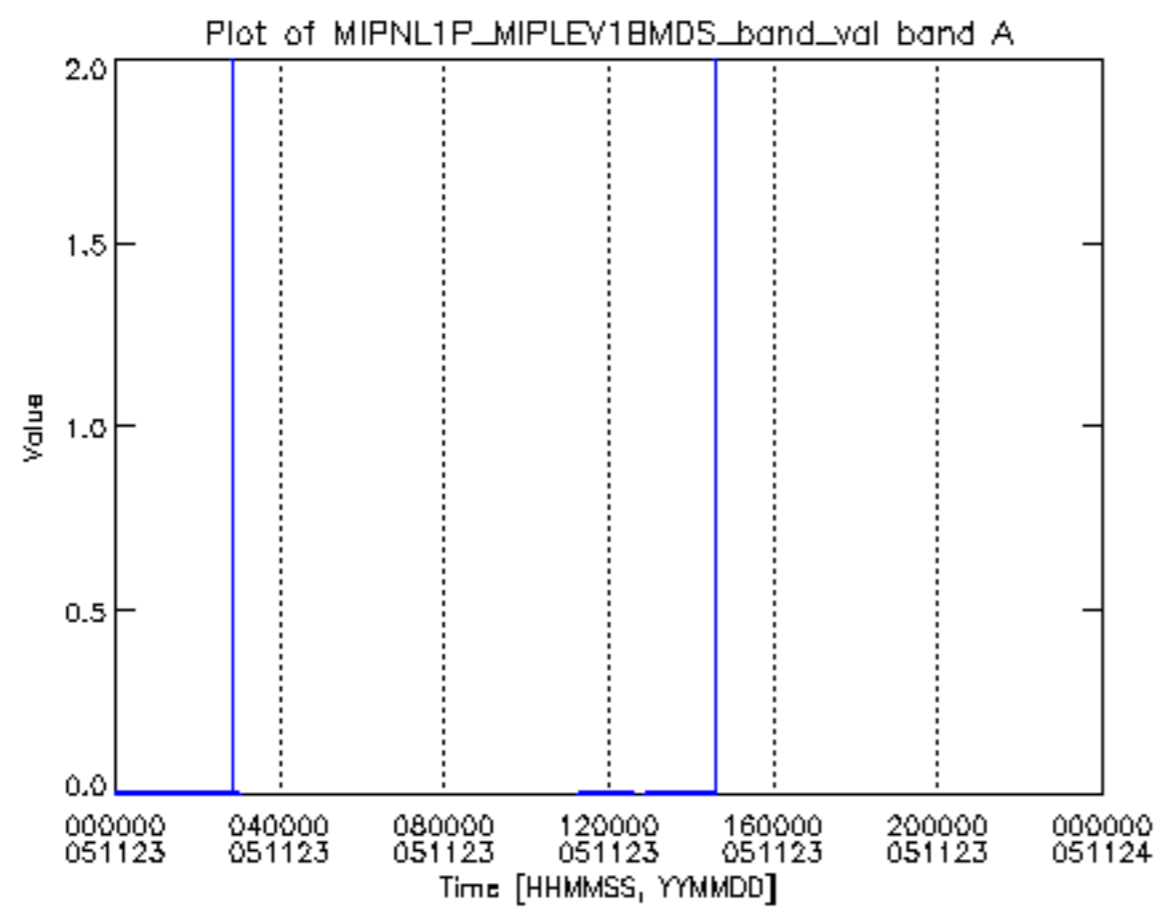




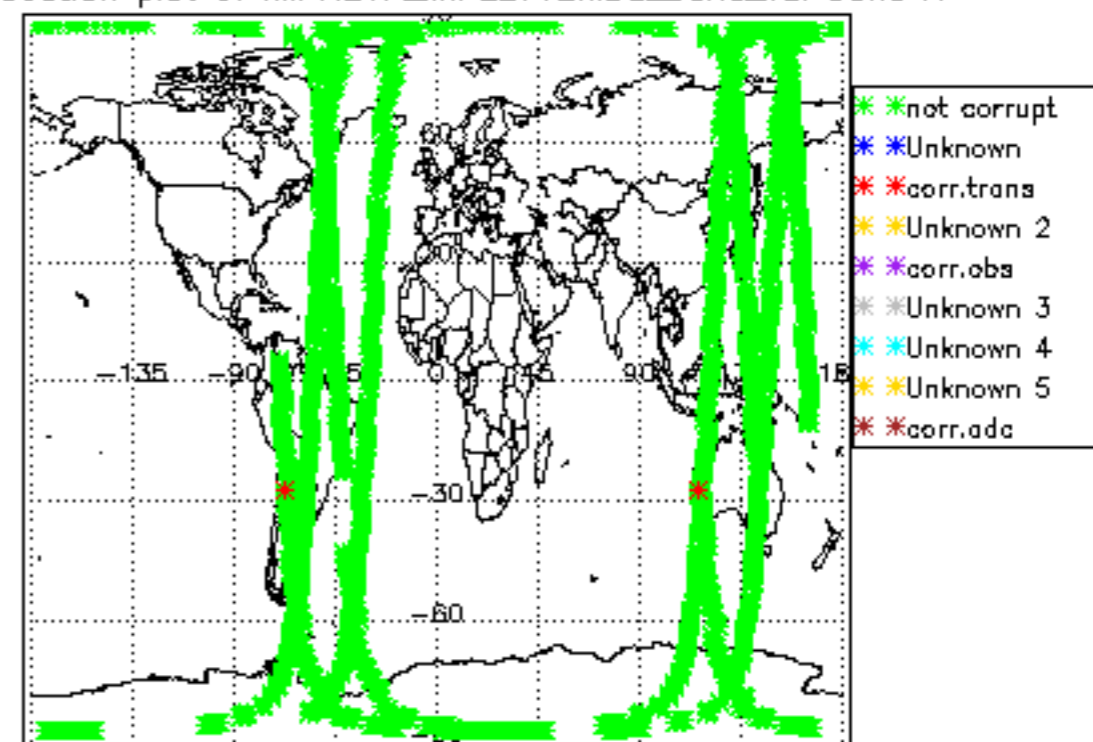
Geolocation plot of MIPNL1P_MIPLEV1BMDS_num_spikes detector D

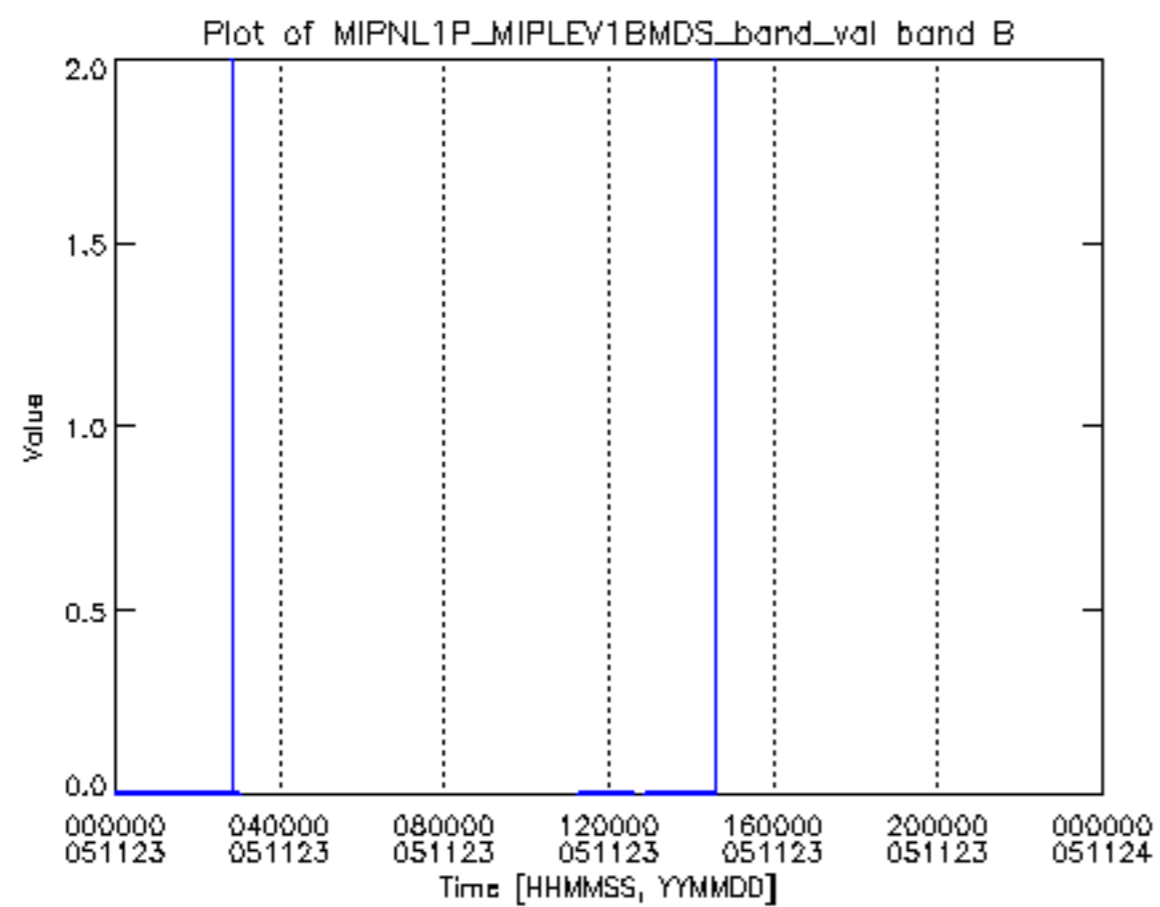




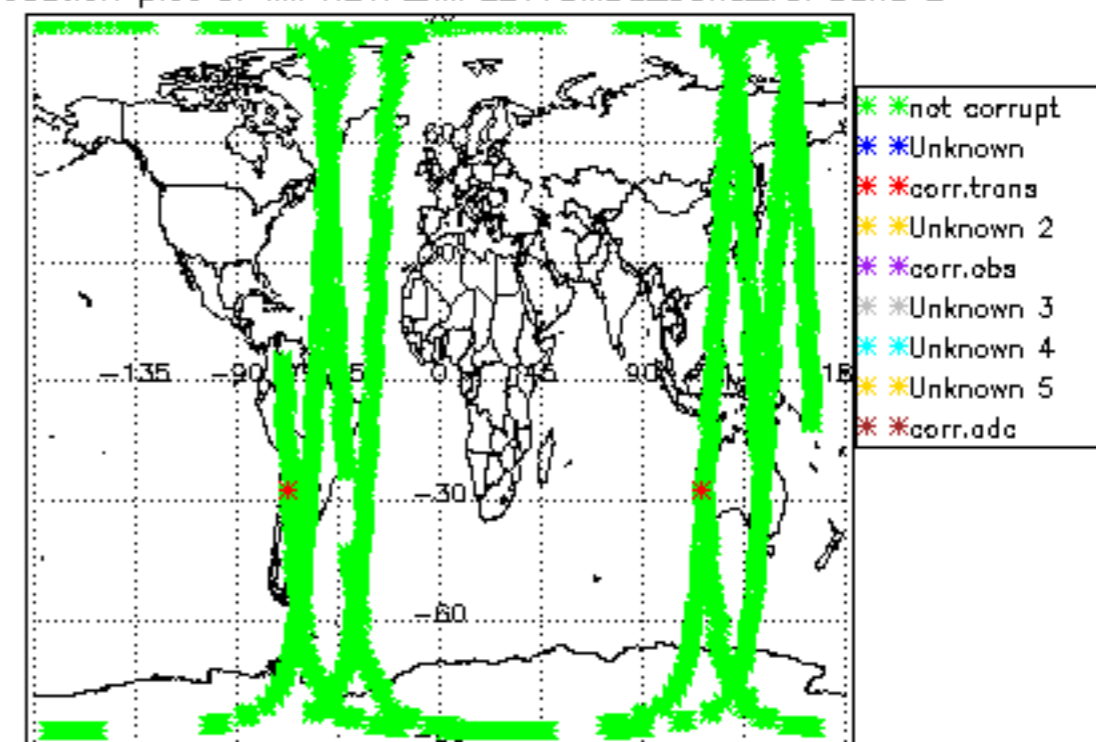


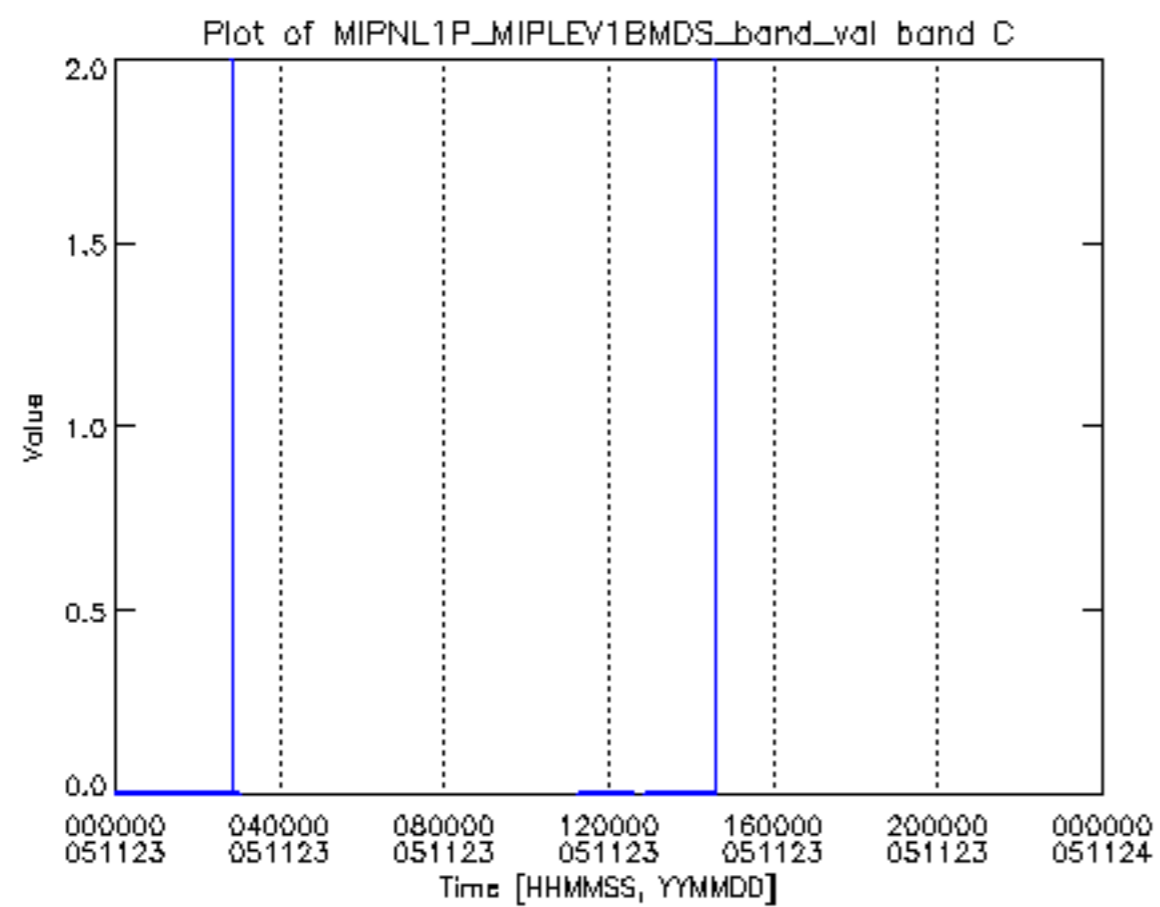
Geolocation plot of MIPNL1P_MIPLEV1BMDS_band_val band A



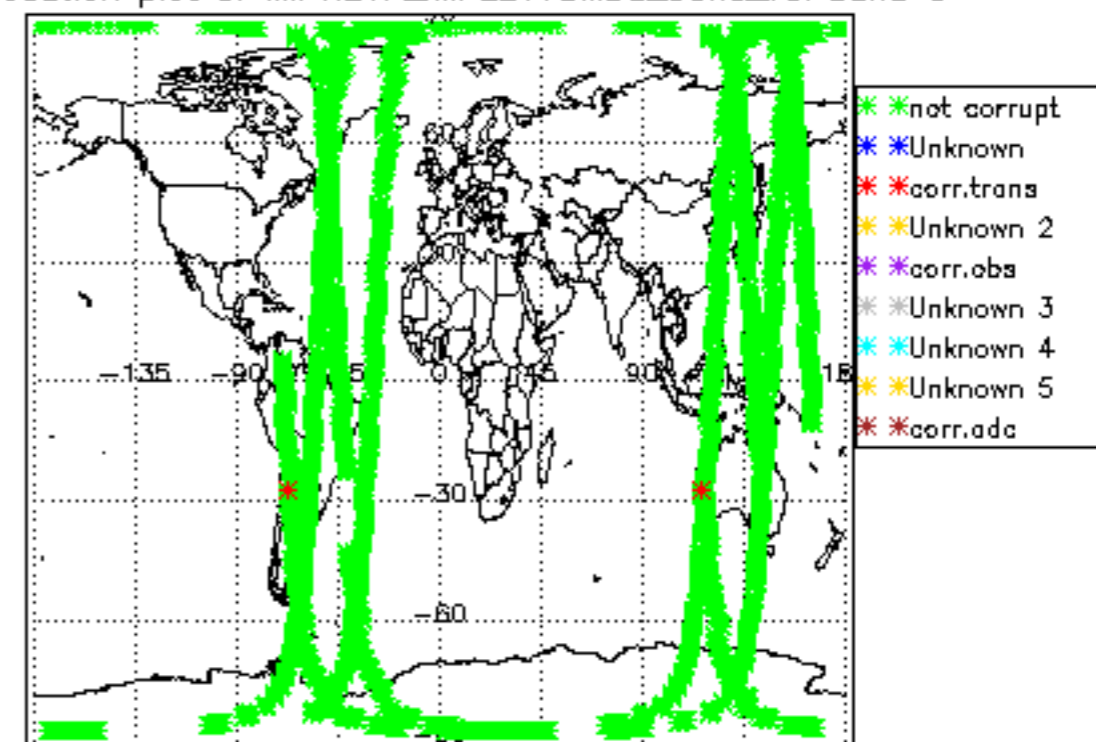


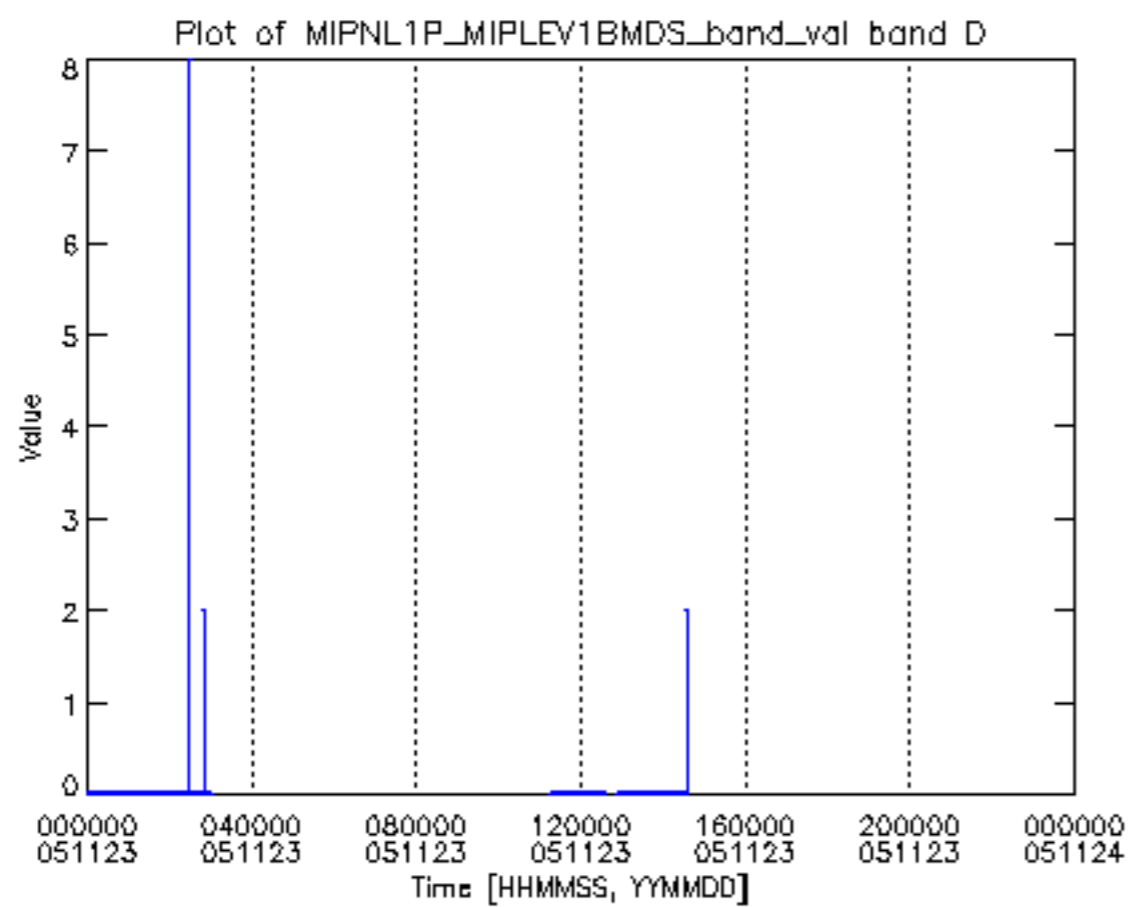
Geolocation plot of MIPNL1P_MIPLEV1BMDS_band_val band B



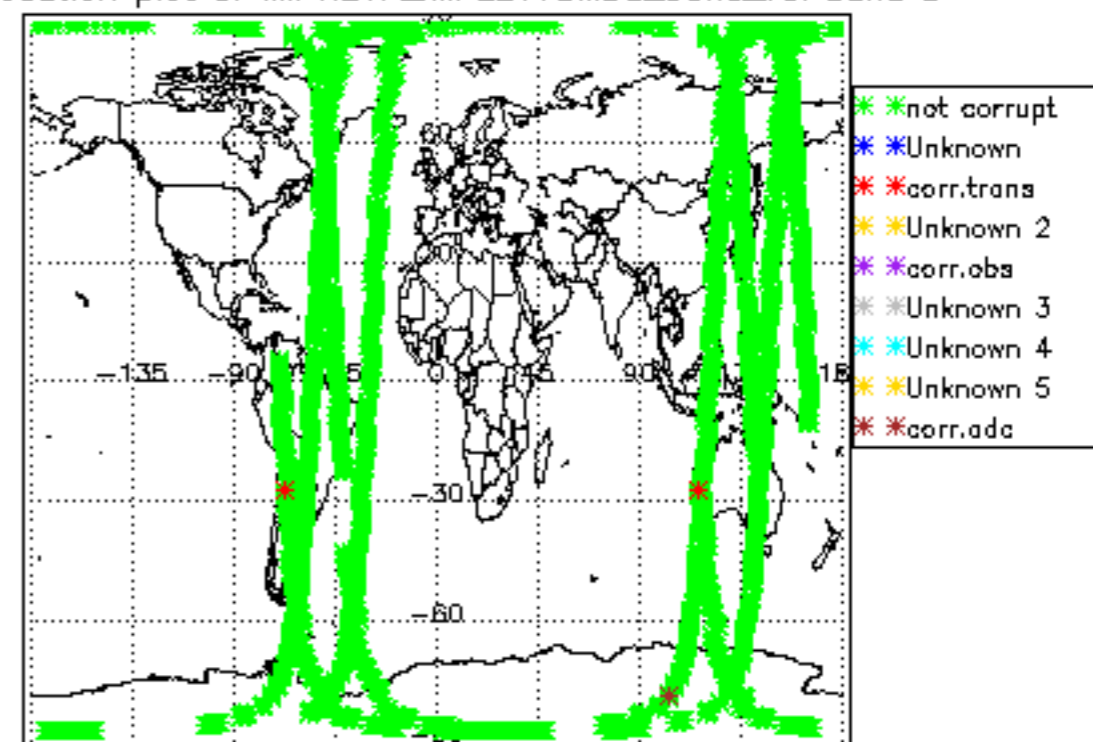


Geolocation plot of MIPNL1P_MIPLEV1BMDS_band_val band C

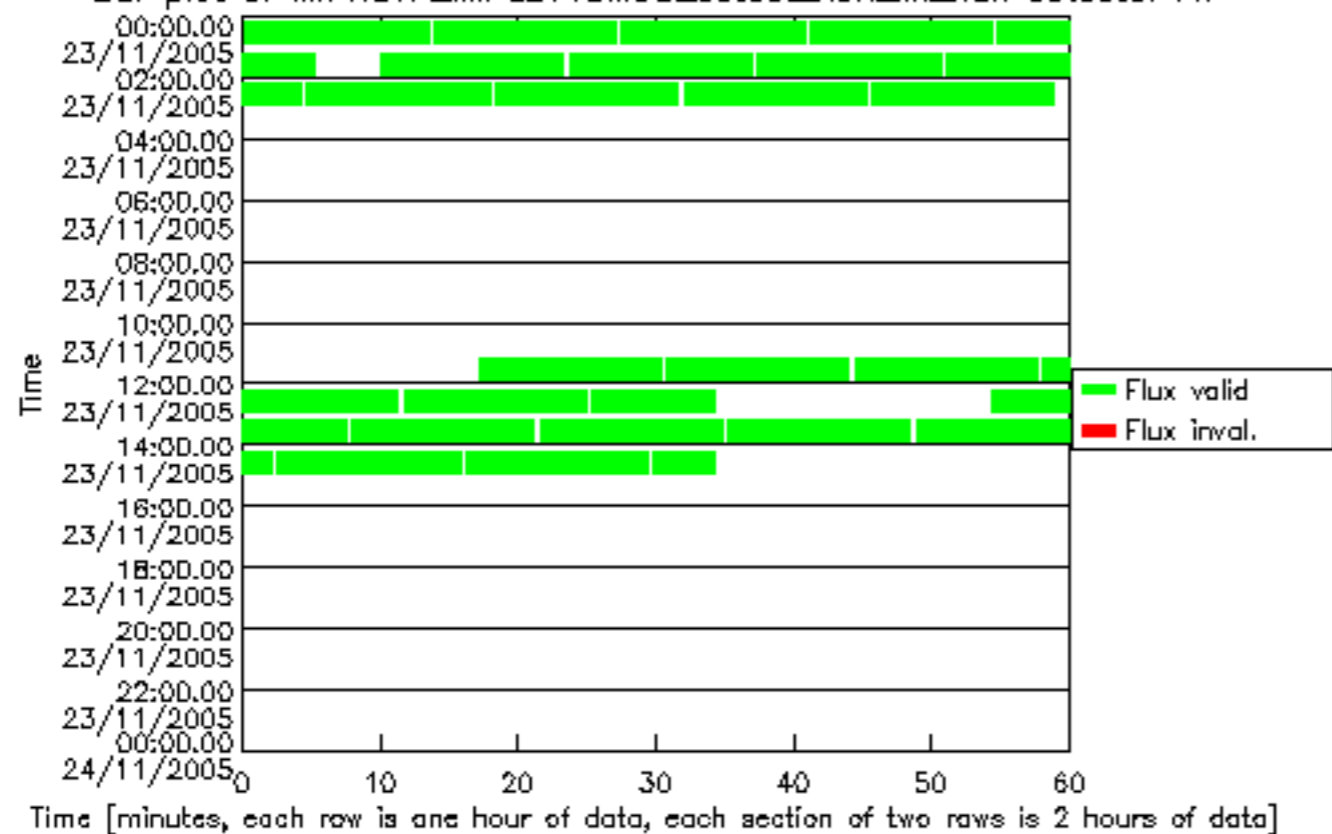




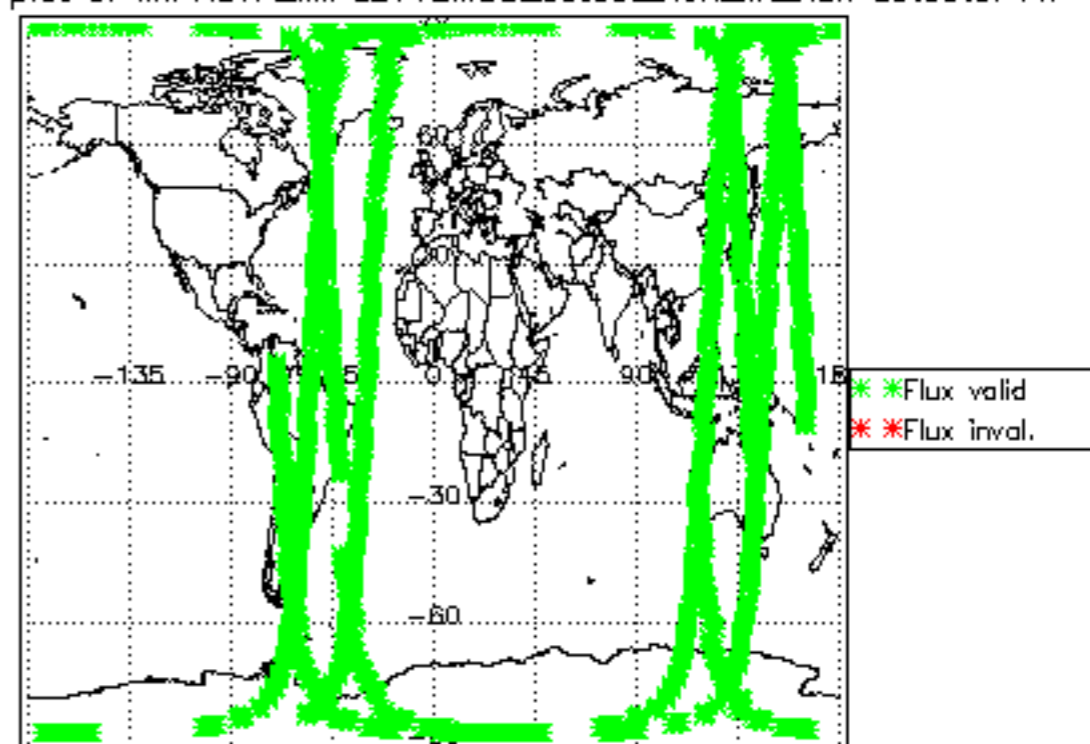
Geolocation plot of MIPNL1P_MIPLEV1BMDS_band_val band D



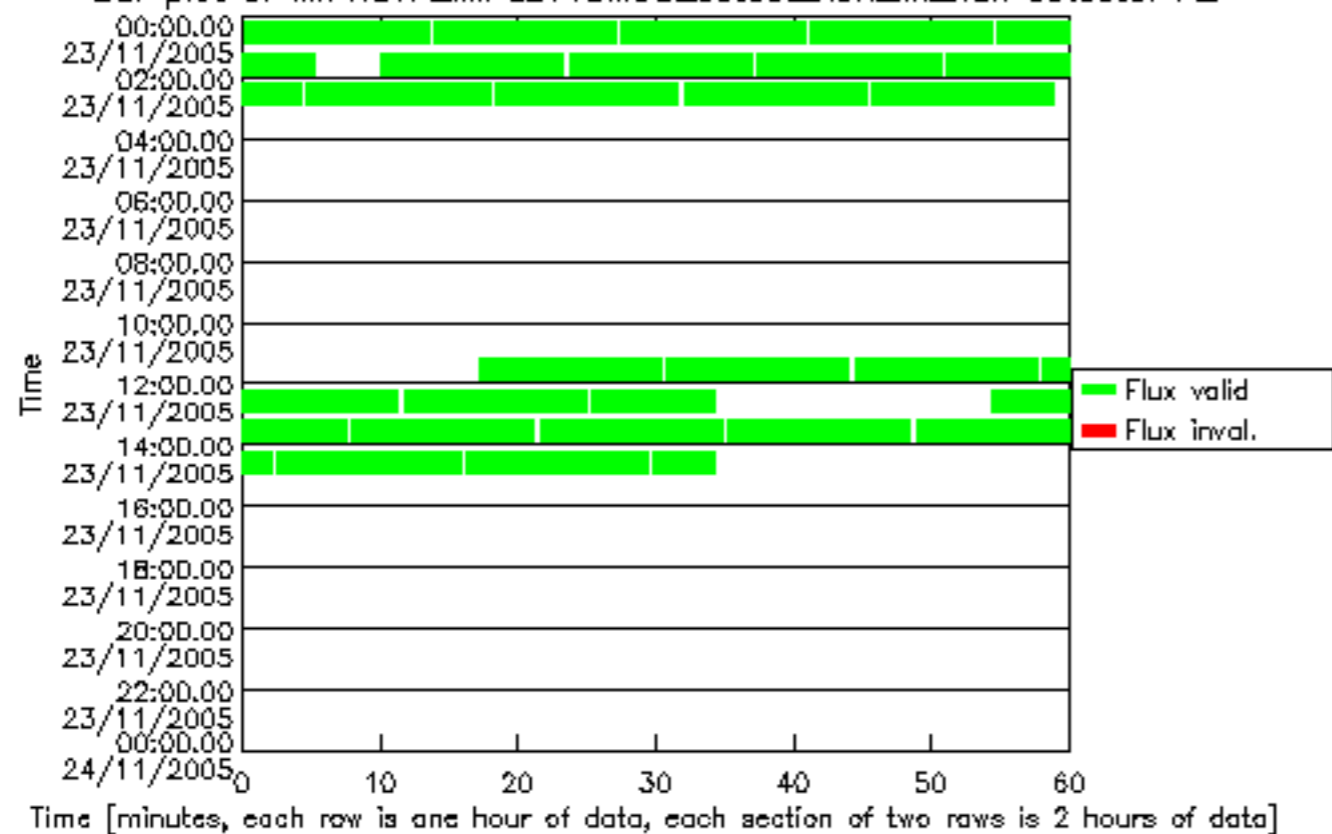
Bar plot of MIPNL1P_MIPLEV1BMDS_detect_non_lin_flux detector A1



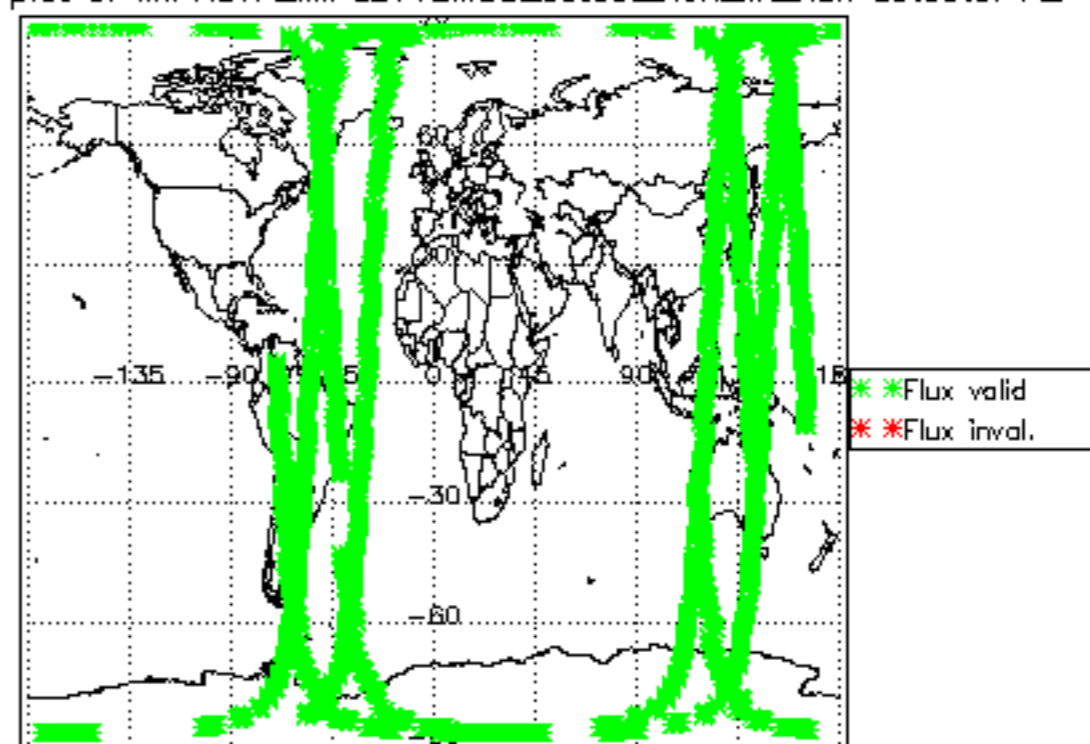
Geolocation plot of MIPNL1P_MIPLEV1BMDS_detect_non_lin_flux detector A1

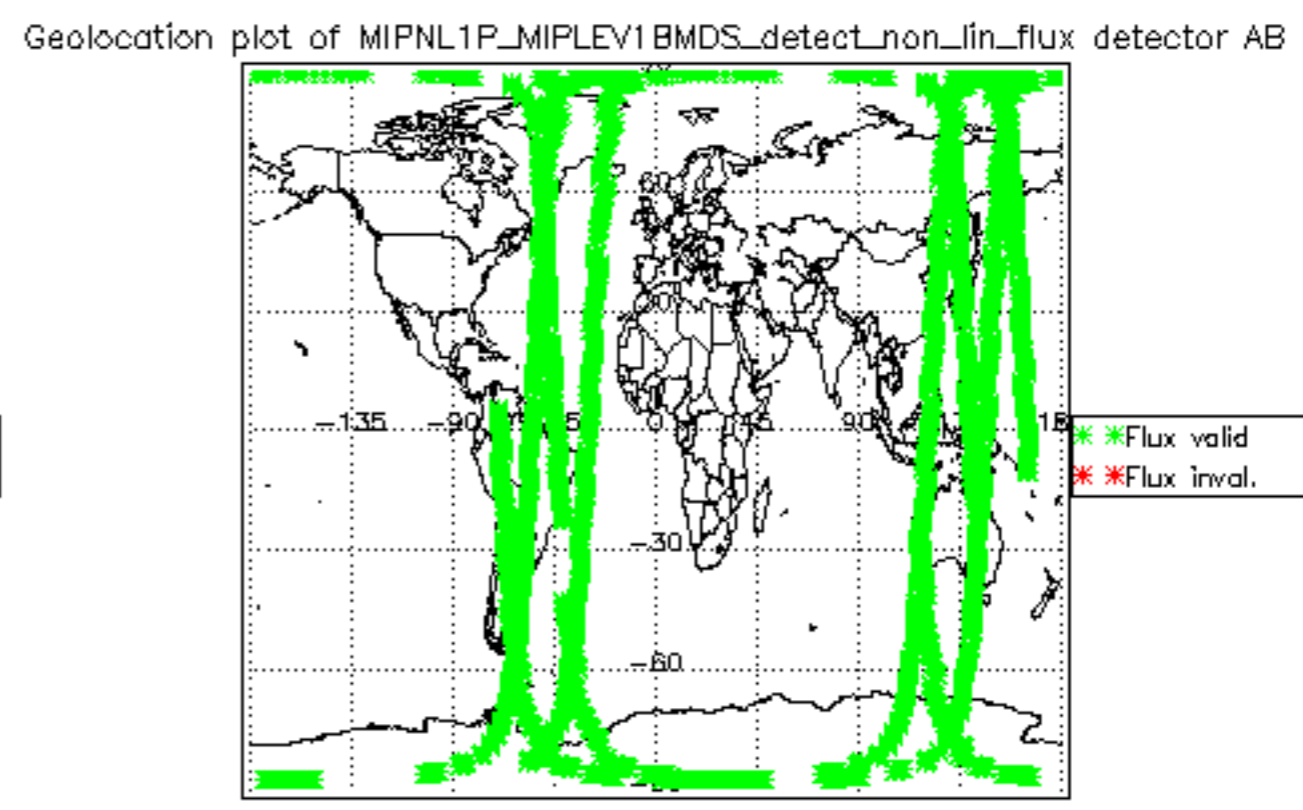
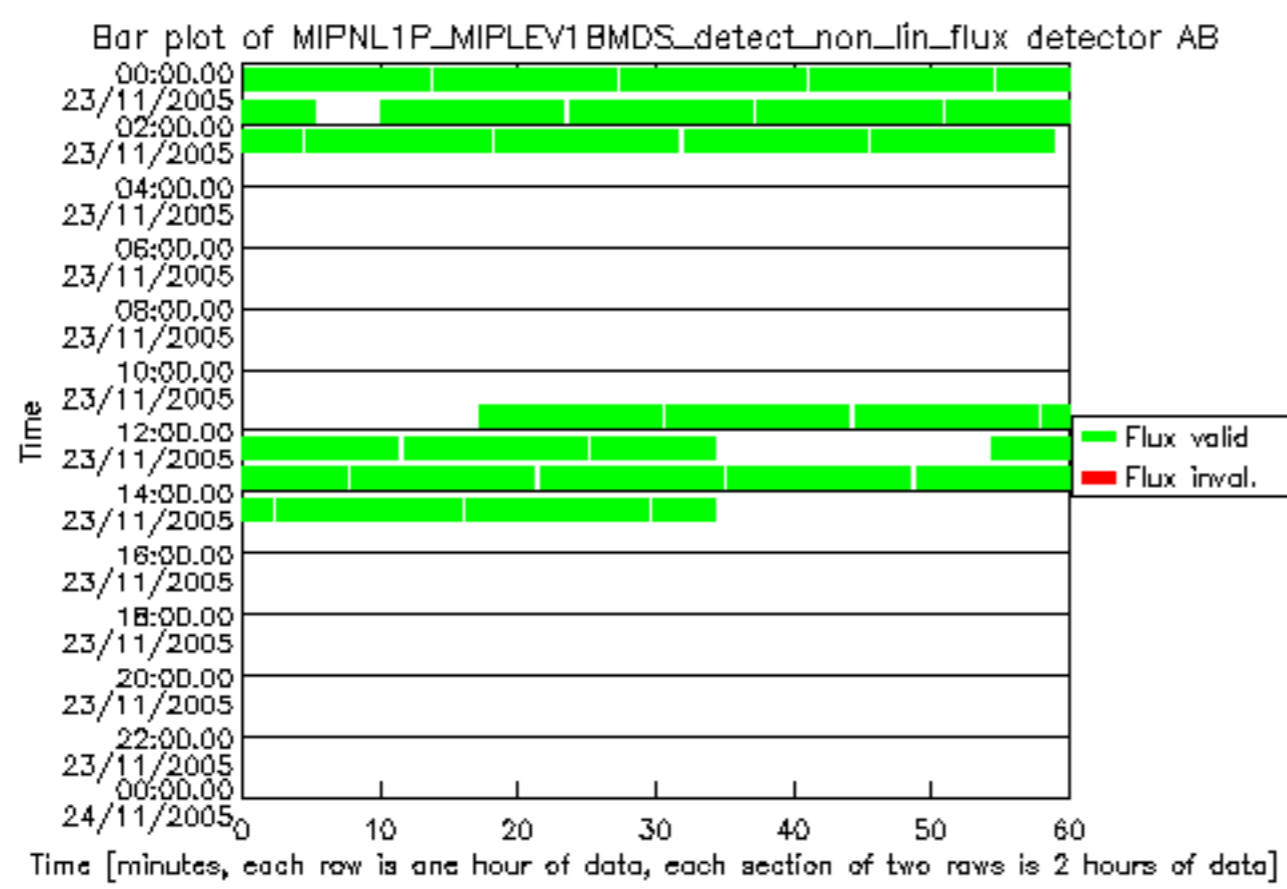


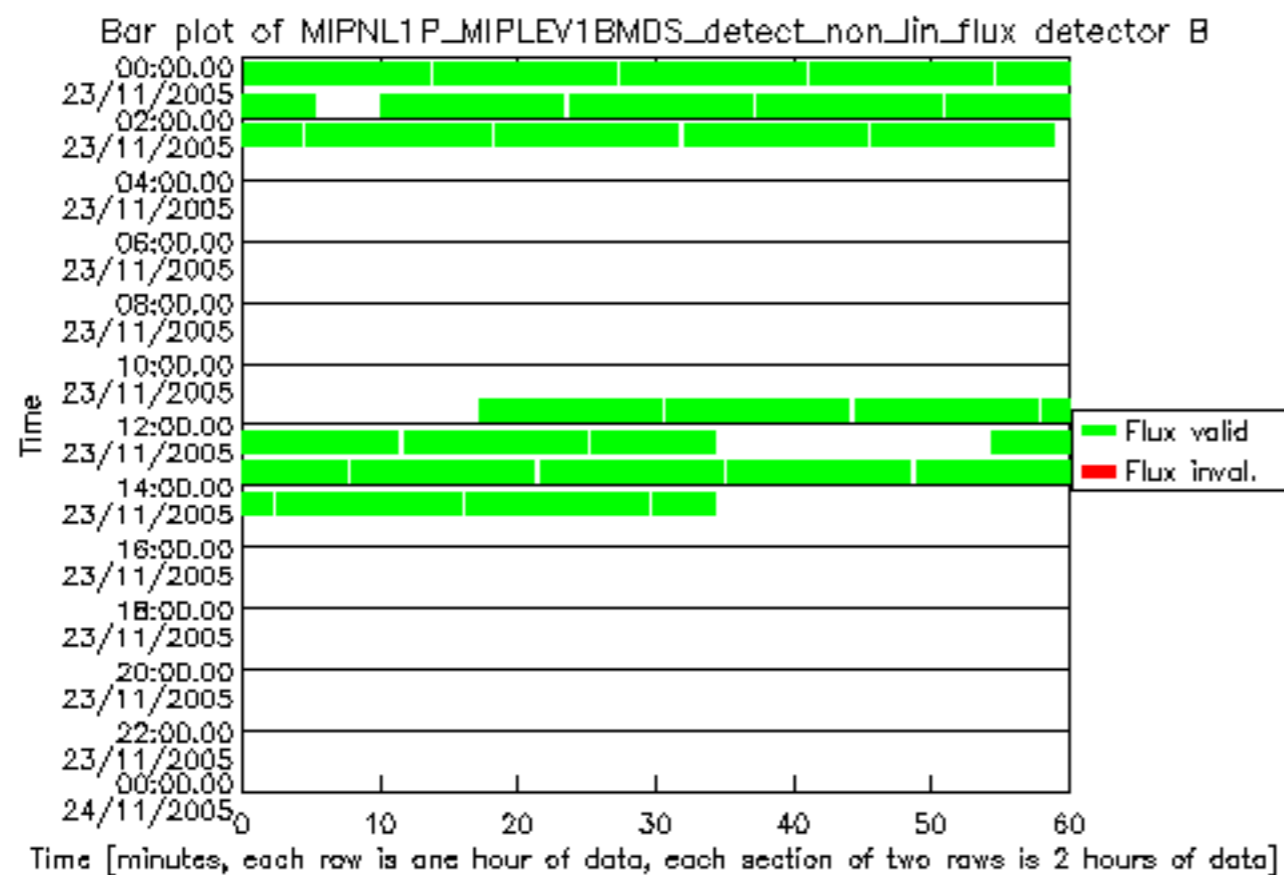
Bar plot of MIPNL1P_MIPLEV1BMDS_detect_non_lin_flux detector A2



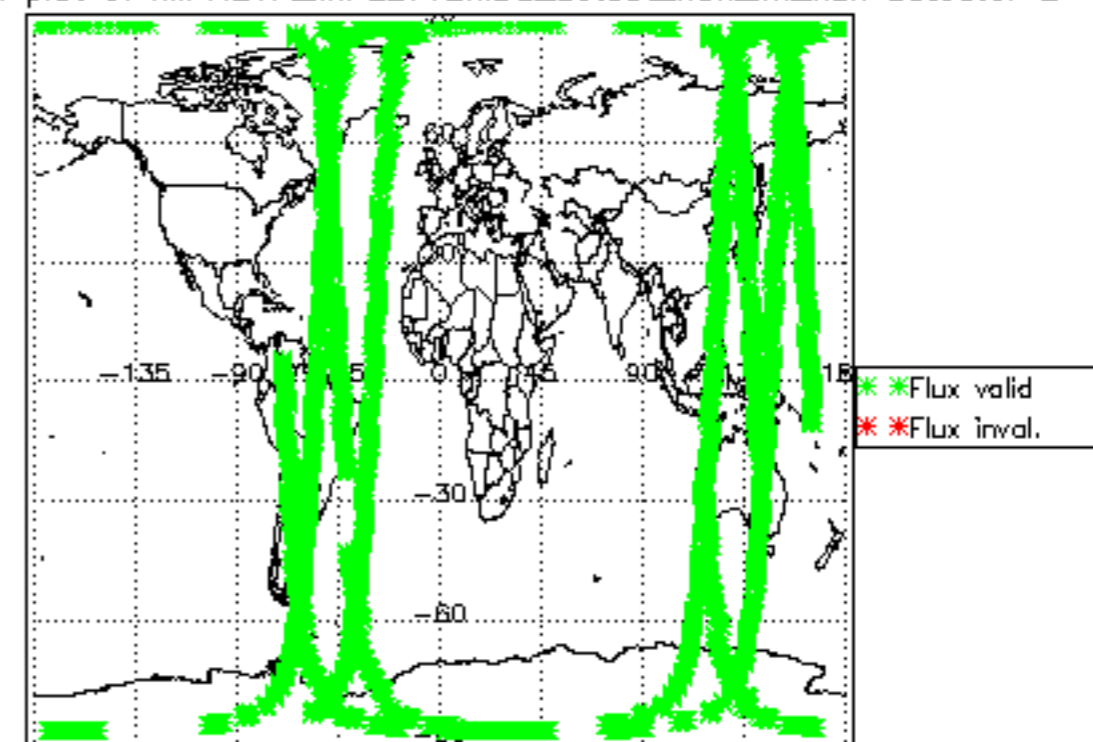
Geolocation plot of MIPNL1P_MIPLEV1BMDS_detect_non_lin_flux detector A2



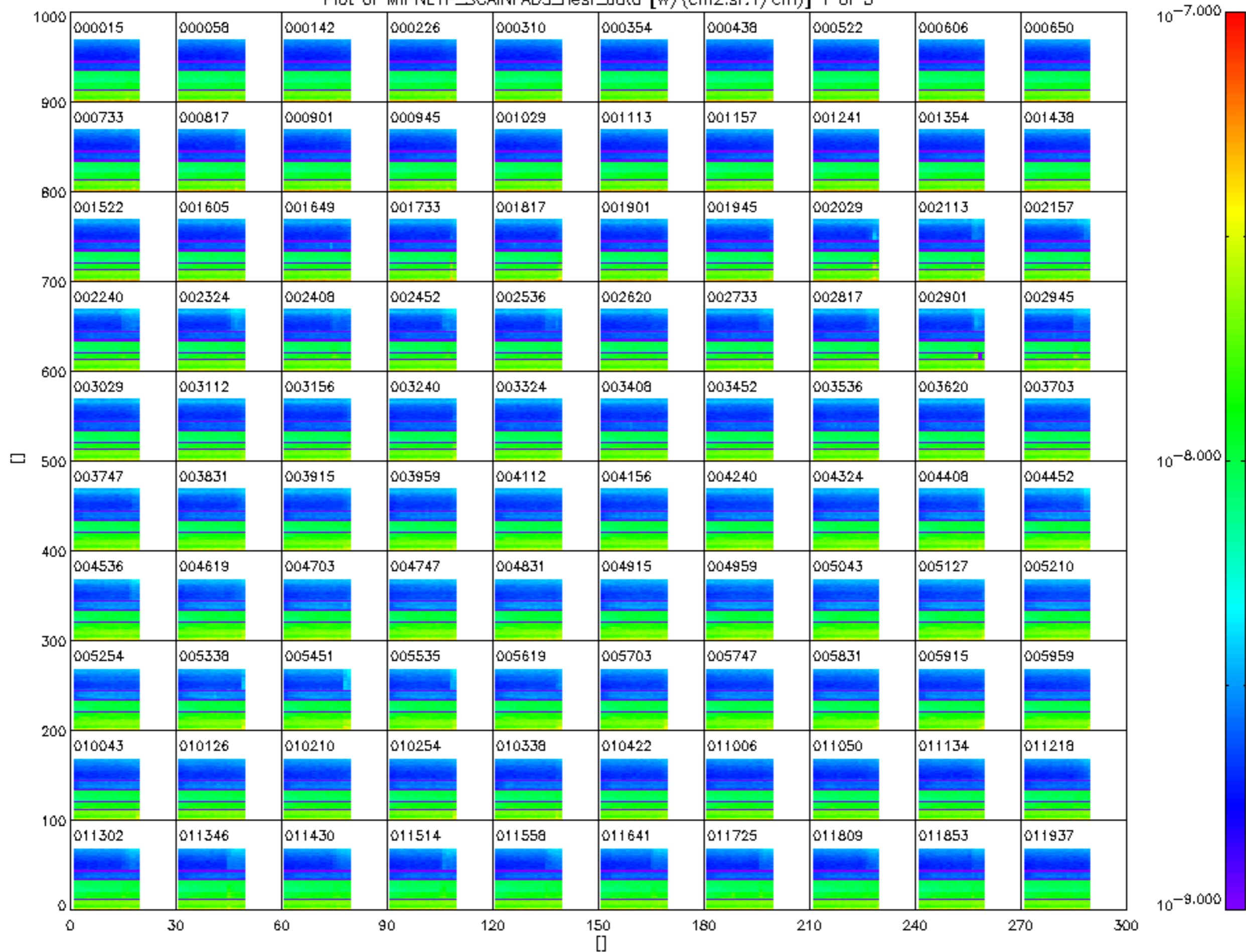




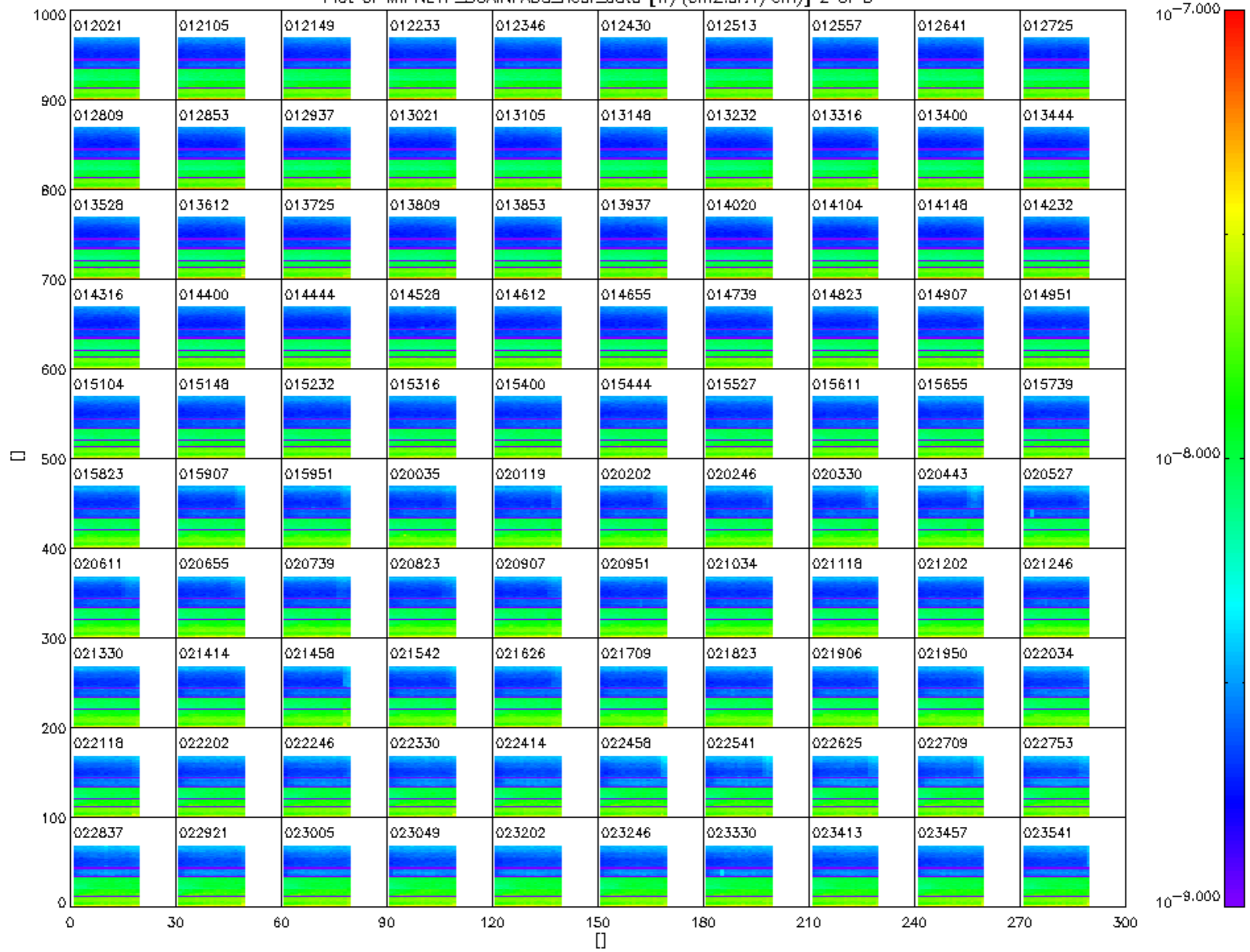
Geolocation plot of MIPNL1P_MIPLEV1BMDS_detect_non_lin_flux detector B



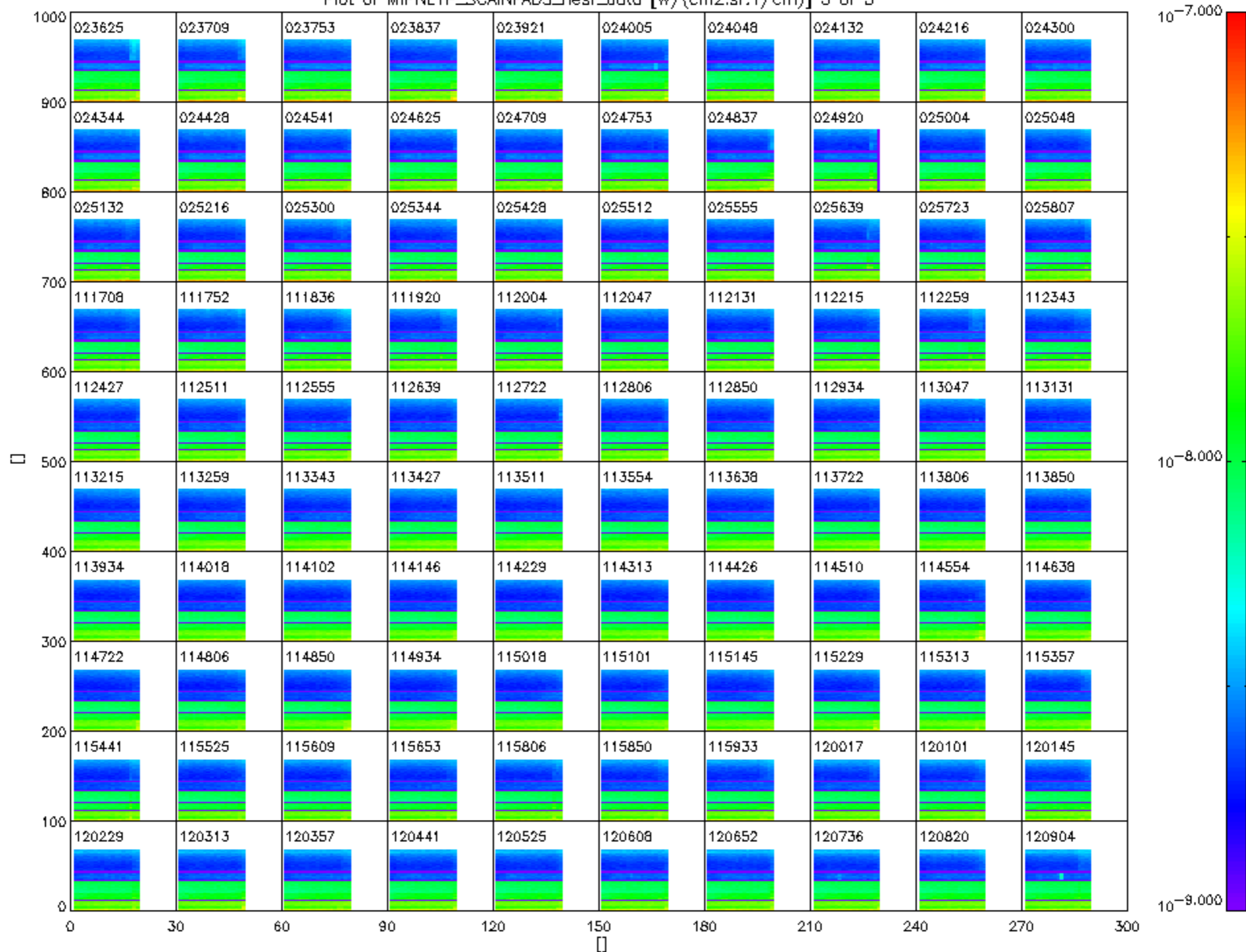
Plot of MIPNL1P_SCAINFADS_near_data [W/(cm2.sr.1/cm)] 1 of 5



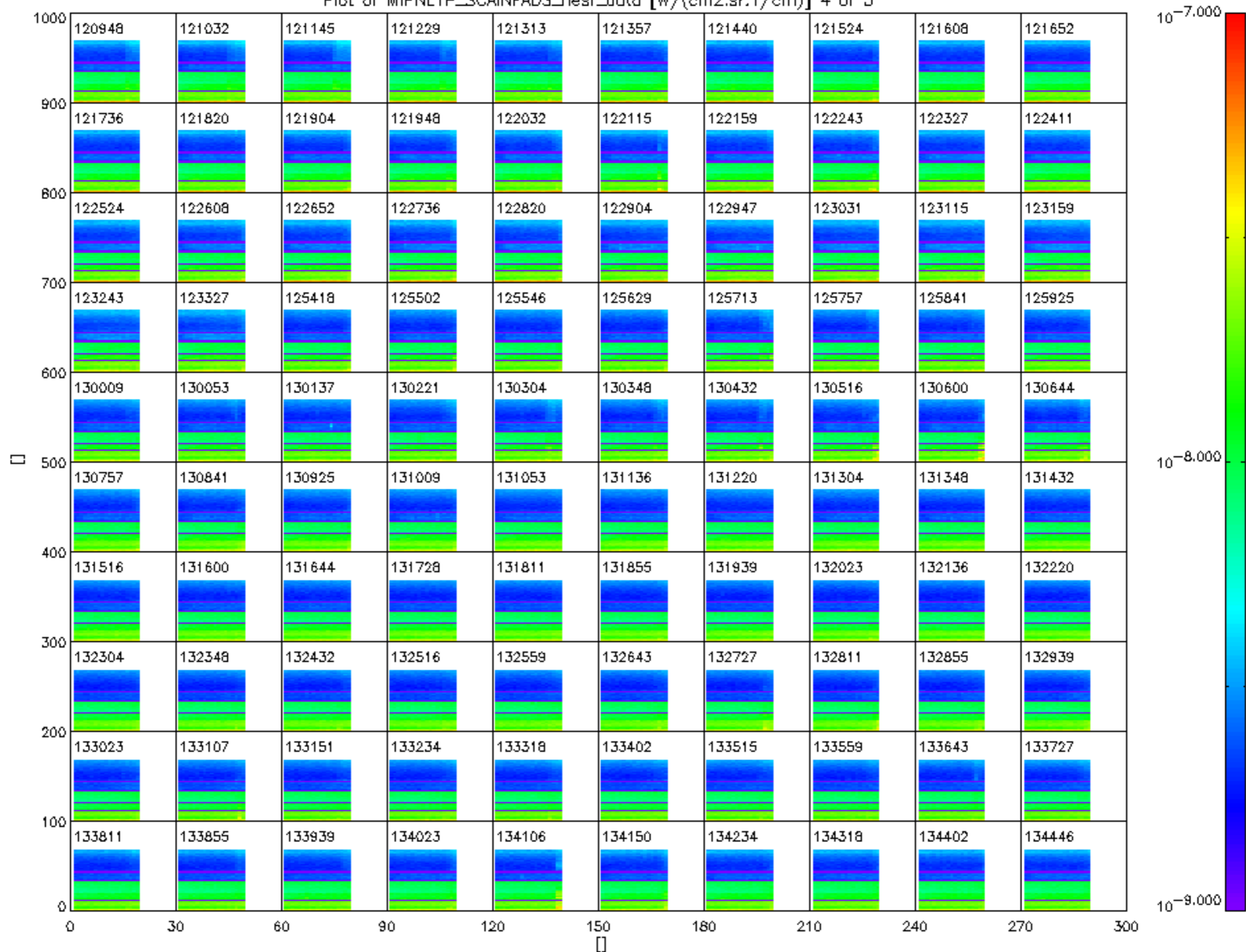
Plot of MIPNL1P_SCAINFADS_near_data [W/(cm2.sr.1/cm)] 2 of 5



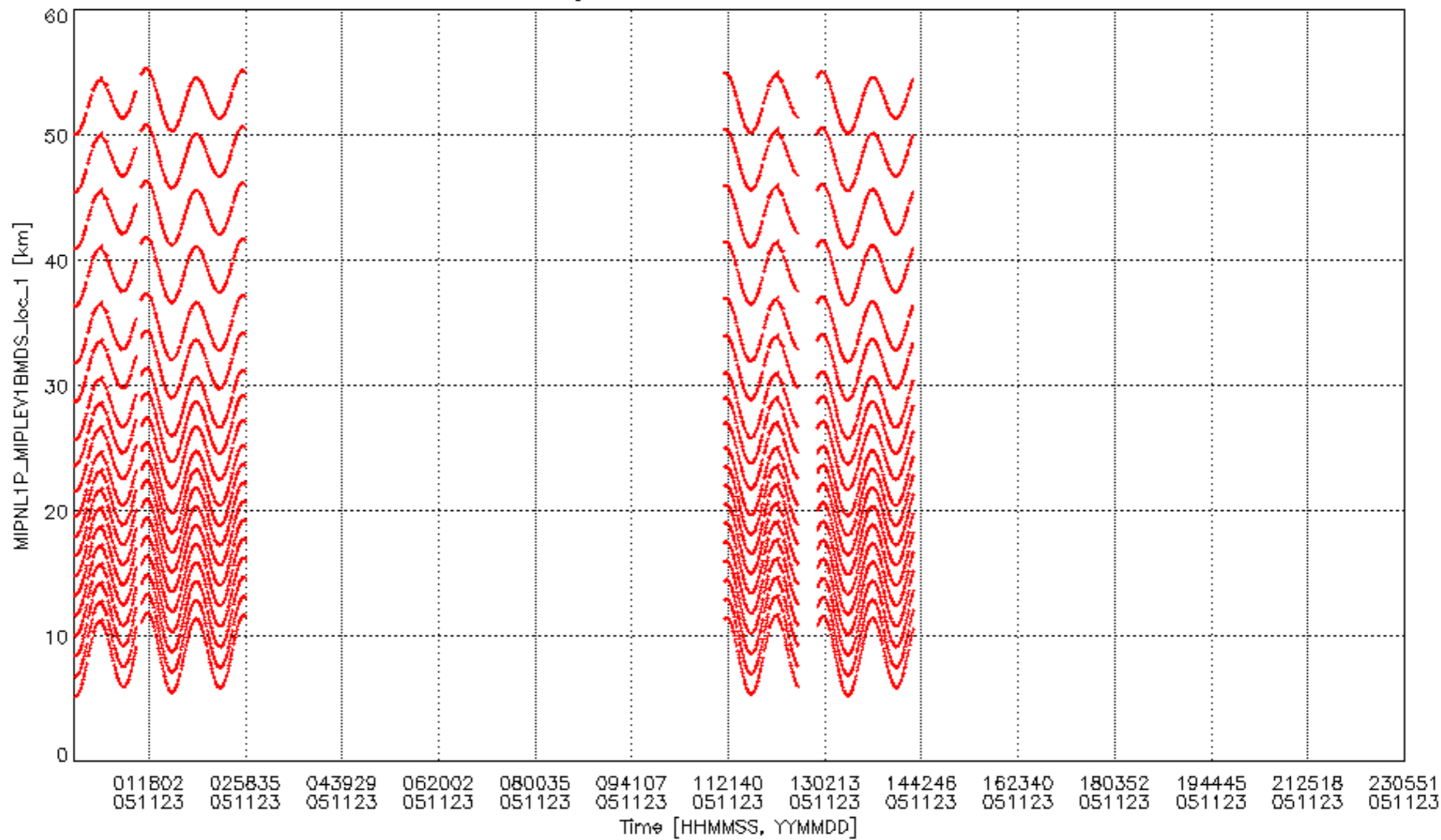
Plot of MIPNL1P_SCAINFADS_near_data [W/(cm².sr.1/cm)] 3 of 5



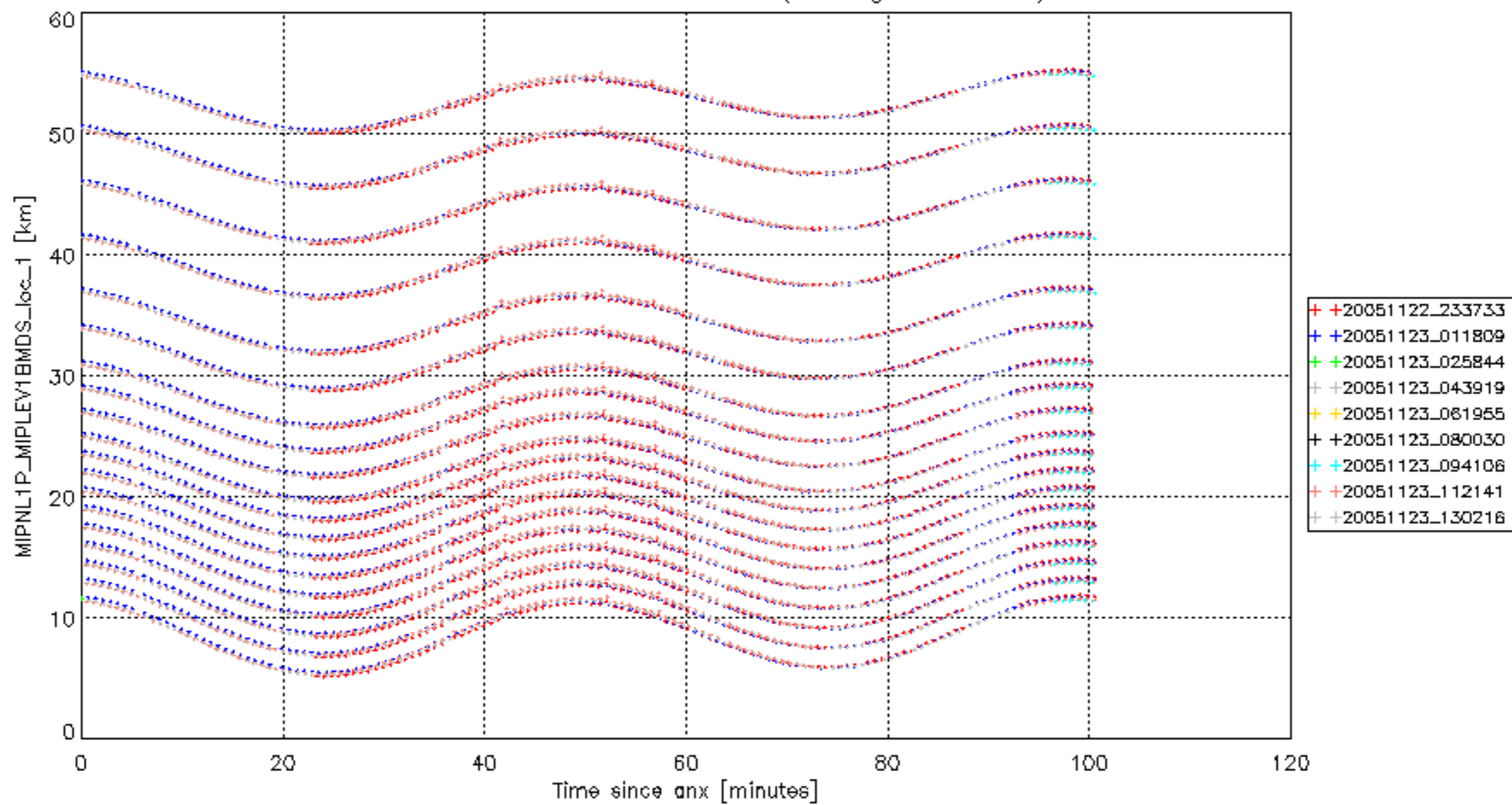
Plot of MIPNL1P_SCAINFADS_nesr_data [W/(cm².sr.1/cm)] 4 of 5

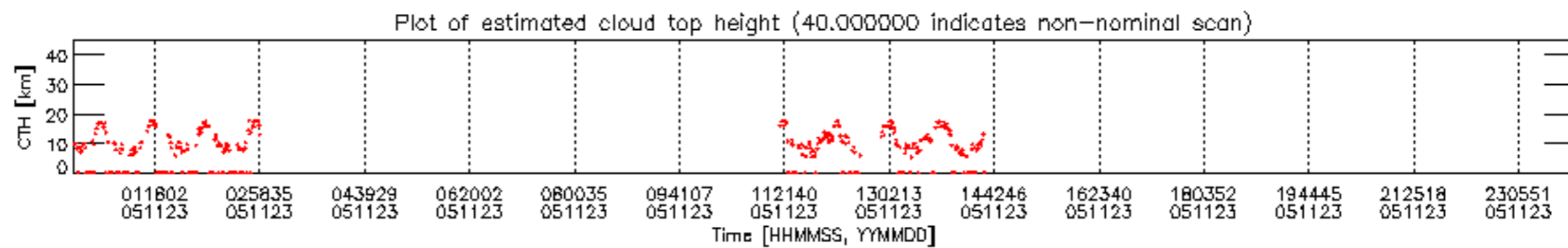


Plot of MIPNL1P_MIPLEV1BMDS_loc_1 against time.
The vertical grid lines indicate estimated anx events.



Plot of MIPNL1P_MIPLEV1BMDS_Joc_1 against relative time within orbit.
 The colours indicate distinct orbits (see legend for anx).





Geolocation plot of cloud top height [km] (non-nominal scans are red)

