

# 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 12:27:04
Data source version	MIPAS/7.11-W
Processing scope for products	03OCT2005 00:00:00 to 04OCT2005 00:00:00
Start time of first product within scope	02OCT2005 23:32:11
Stop time of last product within scope	04OCT2005 00:41:10
Total number of level 1 products	10
Number of level 1 products with errors	0

#### 1.1.2 Summary per product

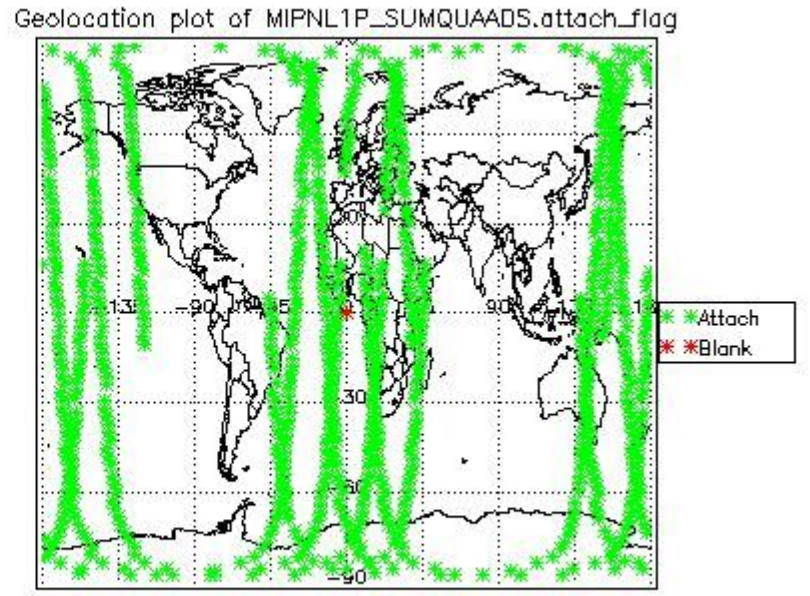
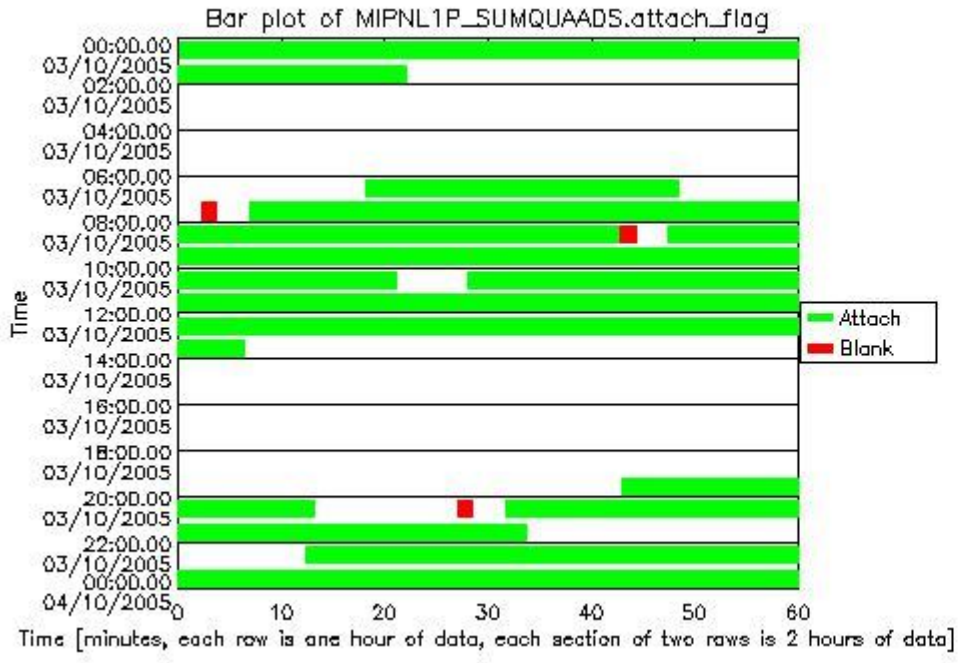
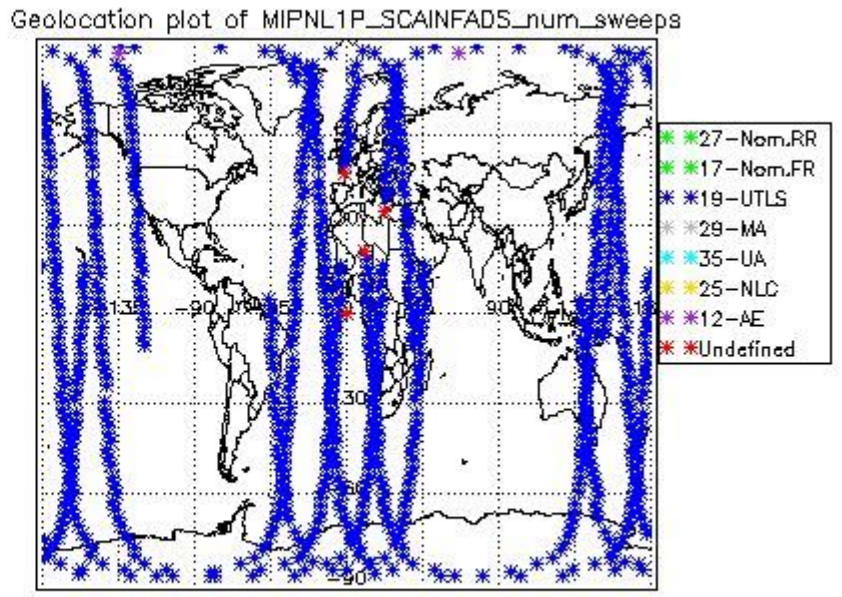
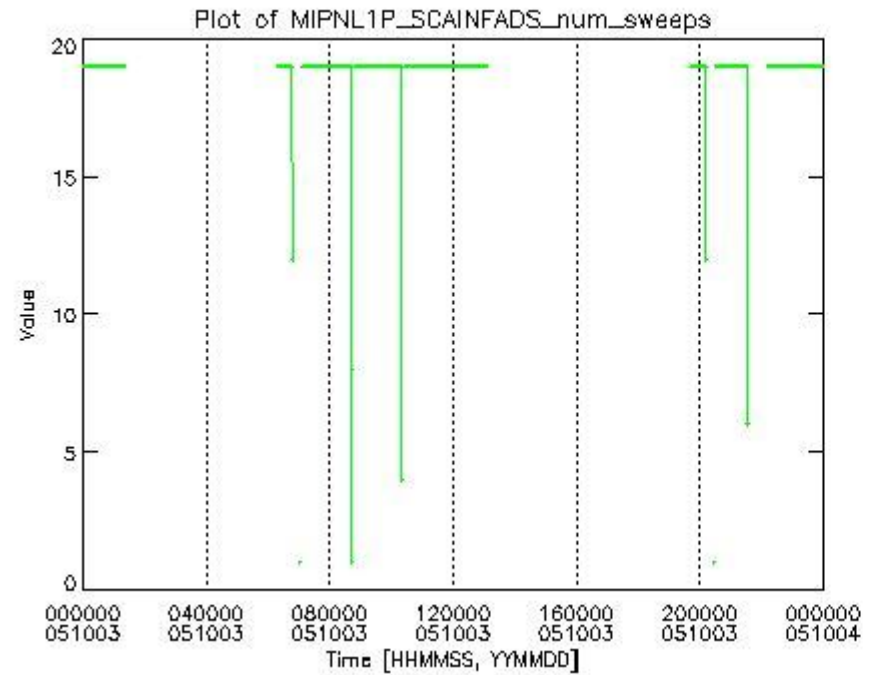
The following table shows a summary for each product used in this report.

#	Product name	Start time	Stop time	Prod err	Slice position (prod/tot)	#sweeps SPH
0	MIP_NL__1PWDSI20051002_233211_000060362041_00188_18779_0000.N1	02OCT2005 23:32:11	03OCT2005 01:12:47	0	0/0	19
1	MIP_NL__1PWDSI20051003_011253_000005062041_00189_18780_0000.N1	03OCT2005 01:12:53	03OCT2005 01:21:19	0	0/0	19
2	MIP_NL__1PWDSI20051003_061814_000057682041_00192_18783_0000.N1	03OCT2005 06:18:14	03OCT2005 07:54:21	0	0/0	19
3	MIP_NL__1PWDSI20051003_075511_000060302041_00193_18784_0000.N1	03OCT2005 07:55:11	03OCT2005 09:35:40	0	0/0	19
4	MIP_NL__1PWDSI20051003_093547_000060302041_00194_18785_0000.N1	03OCT2005 09:35:47	03OCT2005 11:16:16	0	0/0	19
5	MIP_NL__1PWDSI20051003_111622_000060362041_00195_18786_0000.N1	03OCT2005 11:16:22	03OCT2005 12:56:58	0	0/0	19
6	MIP_NL__1PWDSI20051003_125704_000005062041_00196_18787_0000.N1	03OCT2005 12:57:04	03OCT2005 13:05:30	0	0/0	19
7	MIP_NL__1PWDSI20051003_194302_000057672041_00200_18791_0000.N1	03OCT2005 19:43:02	03OCT2005 21:19:08	0	0/0	19
8	MIP_NL__1PWDSI20051003_211958_000060302041_00201_18792_0000.N1	03OCT2005 21:19:58	03OCT2005 23:00:28	0	0/0	19
9	MIP_NL__1PWDSI20051003_230034_000060362041_00202_18793_0000.N1	03OCT2005 23:00:34	04OCT2005 00:41:10	0	0/0	19

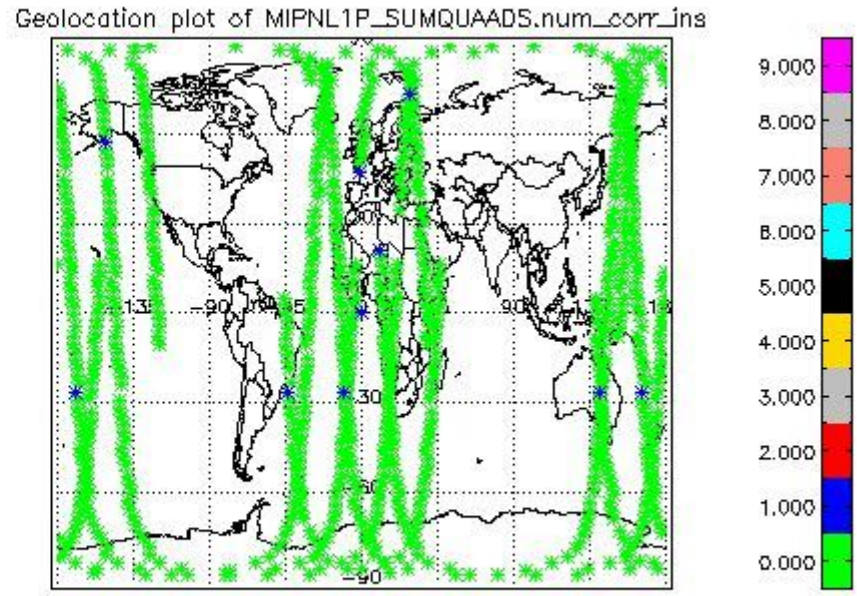
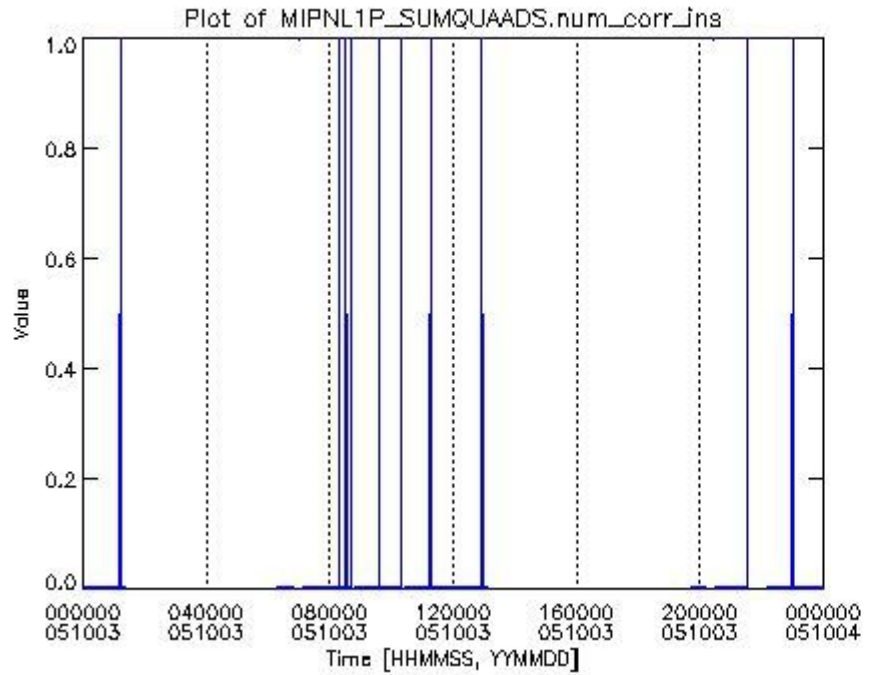
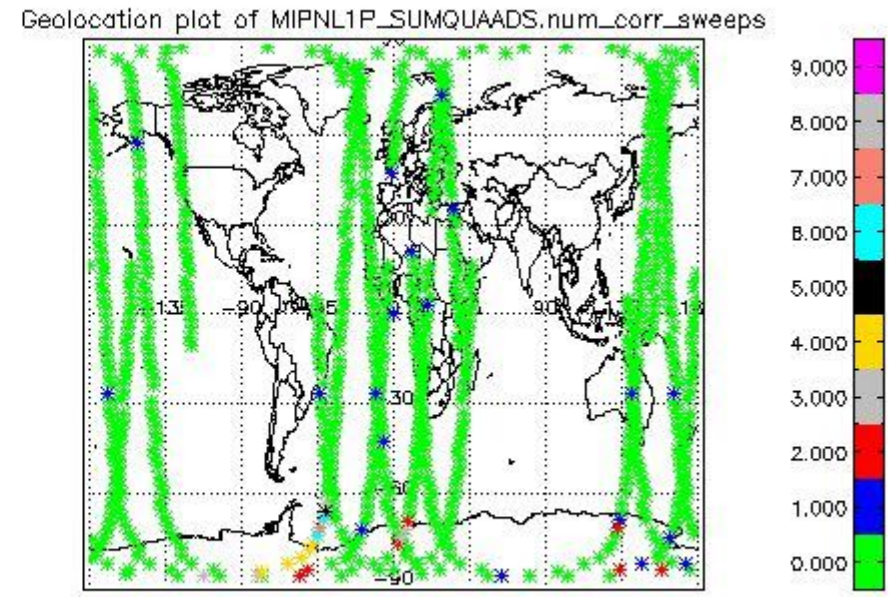
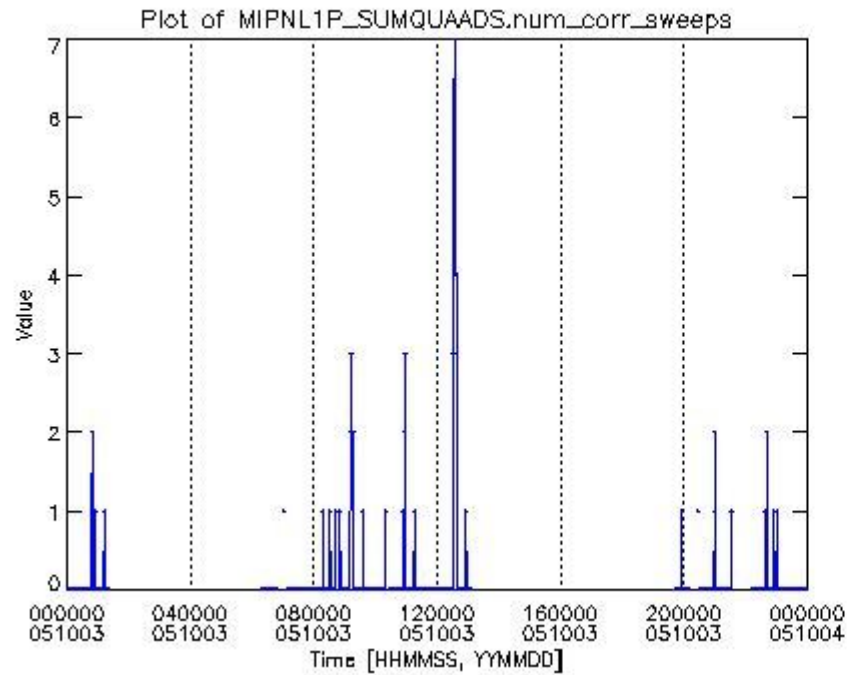
## 1.2 Product Quality Indicators

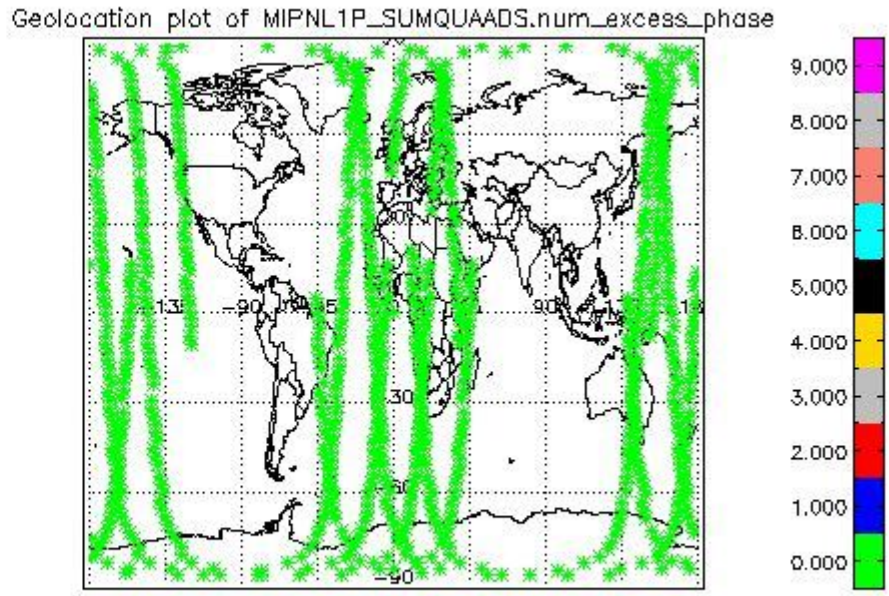
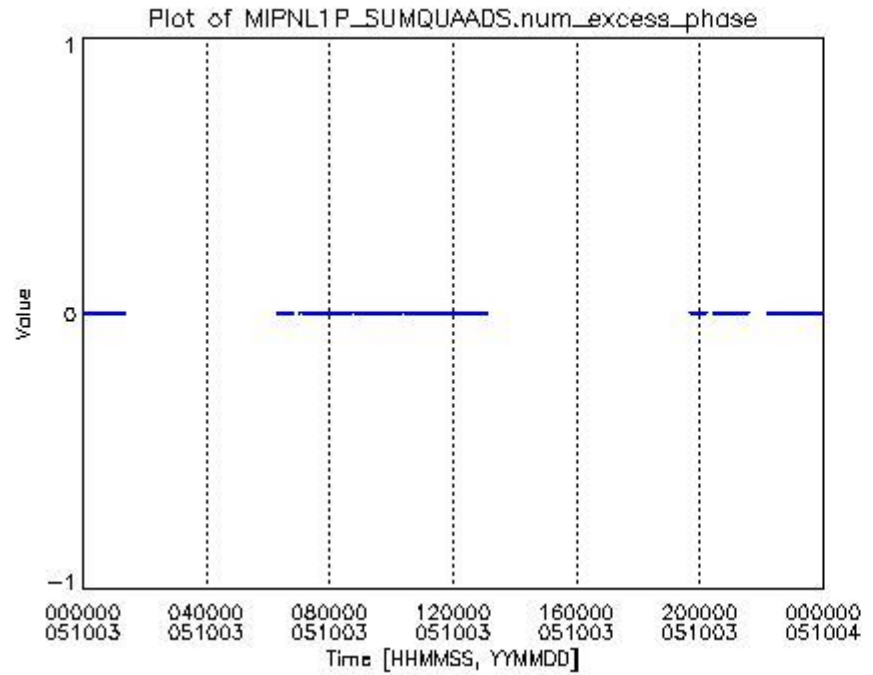
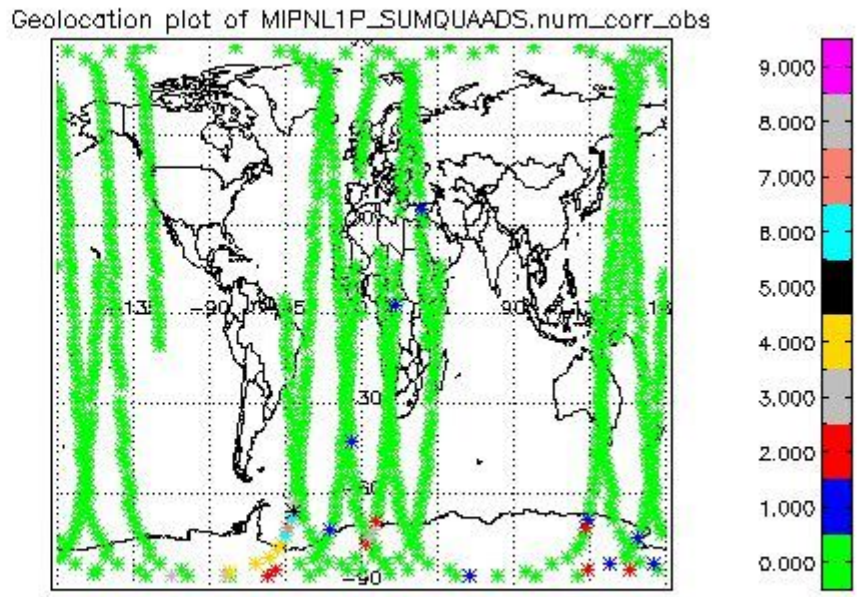
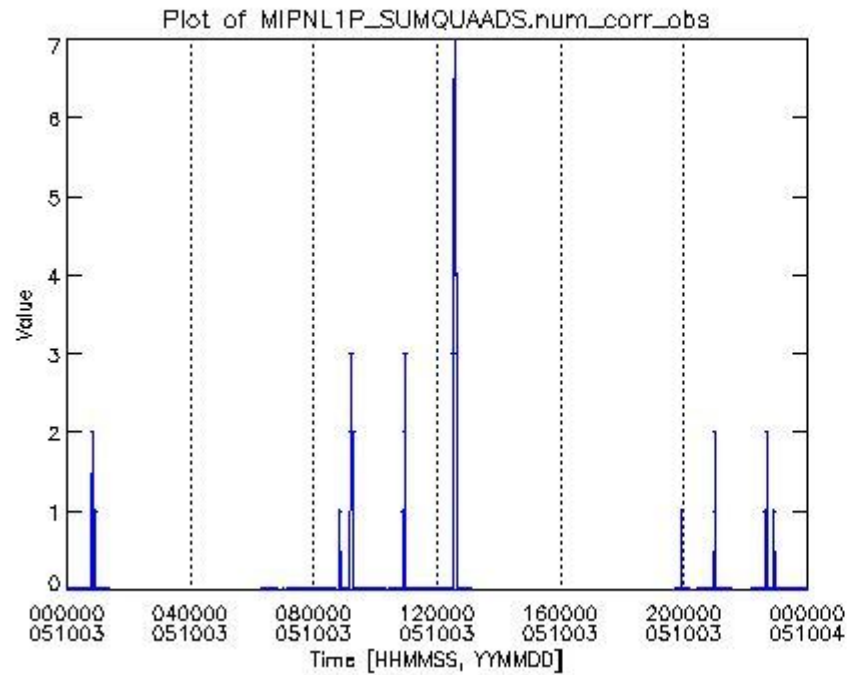
This report contains an analysis on product quality related parameters within the MIP\_NL\_\_1P product.

### 1.2.1 Trends and geolocation of Summary Quality and Scan Information ADS

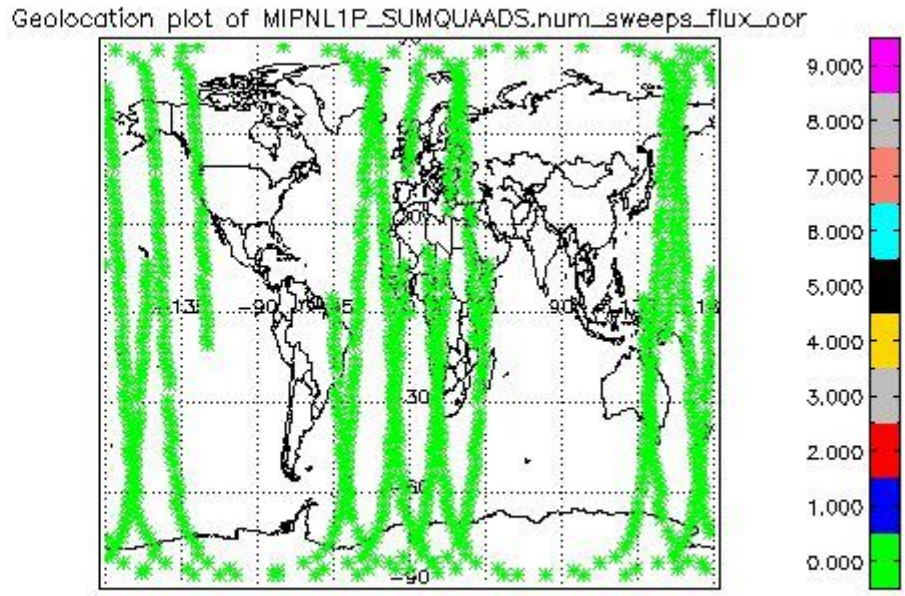
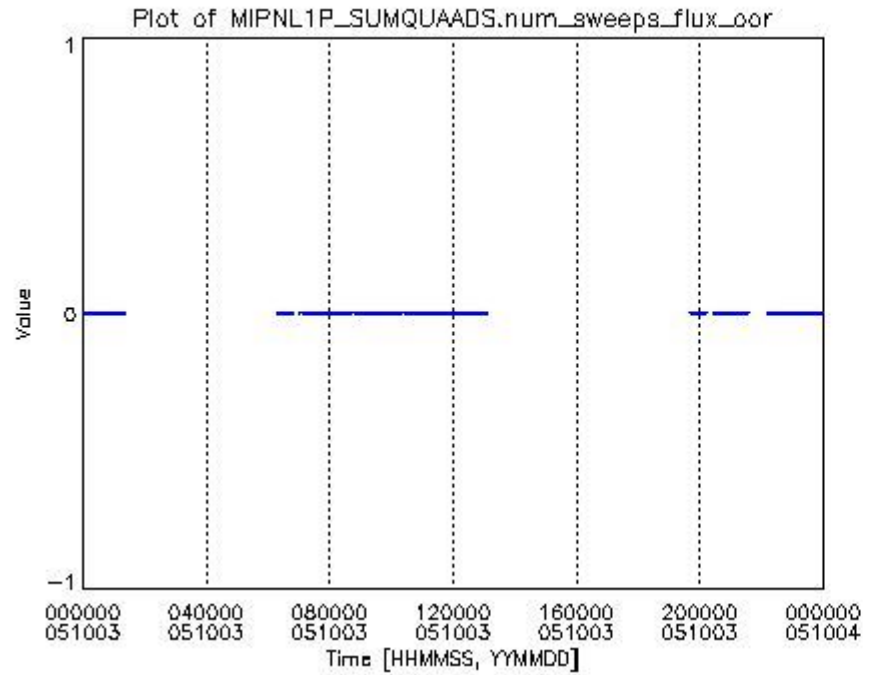
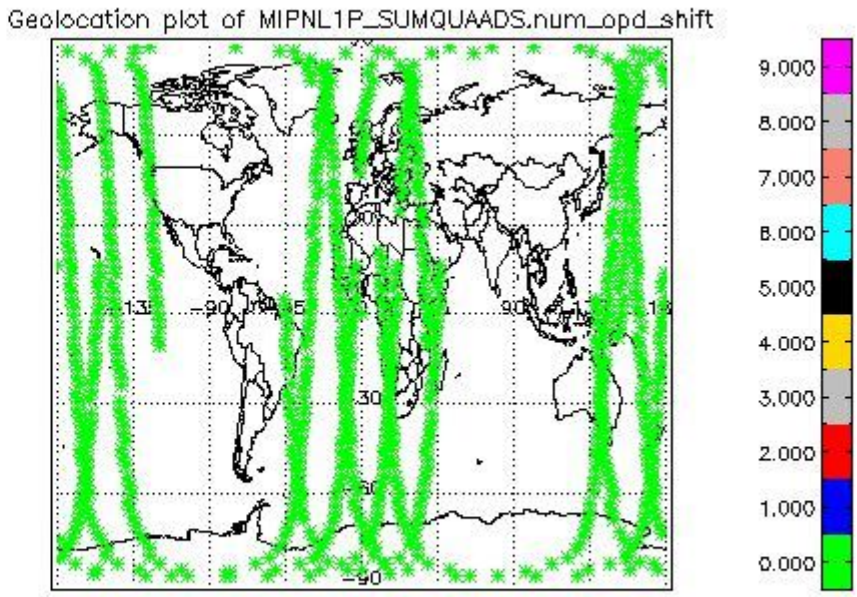
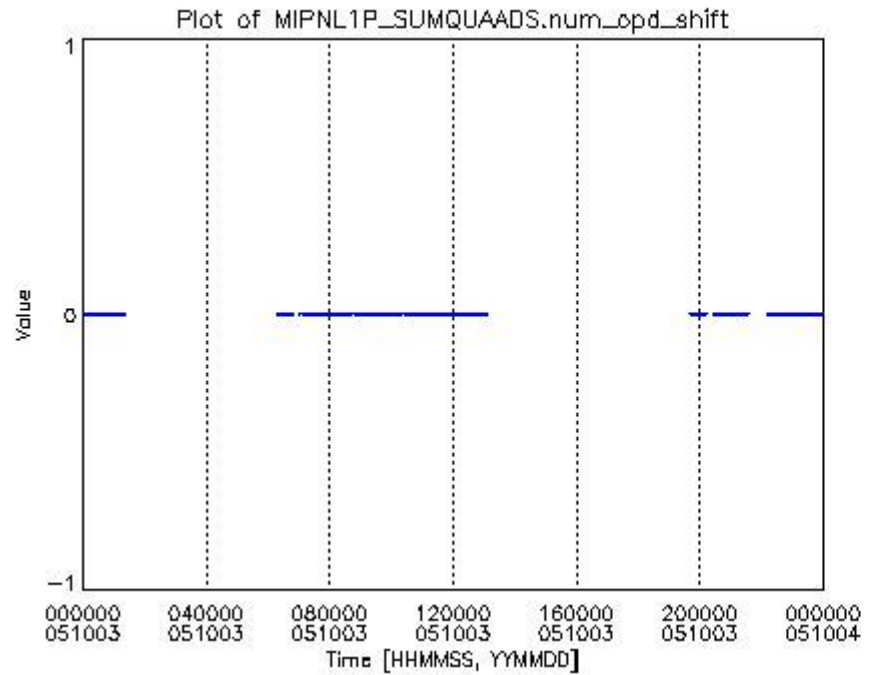






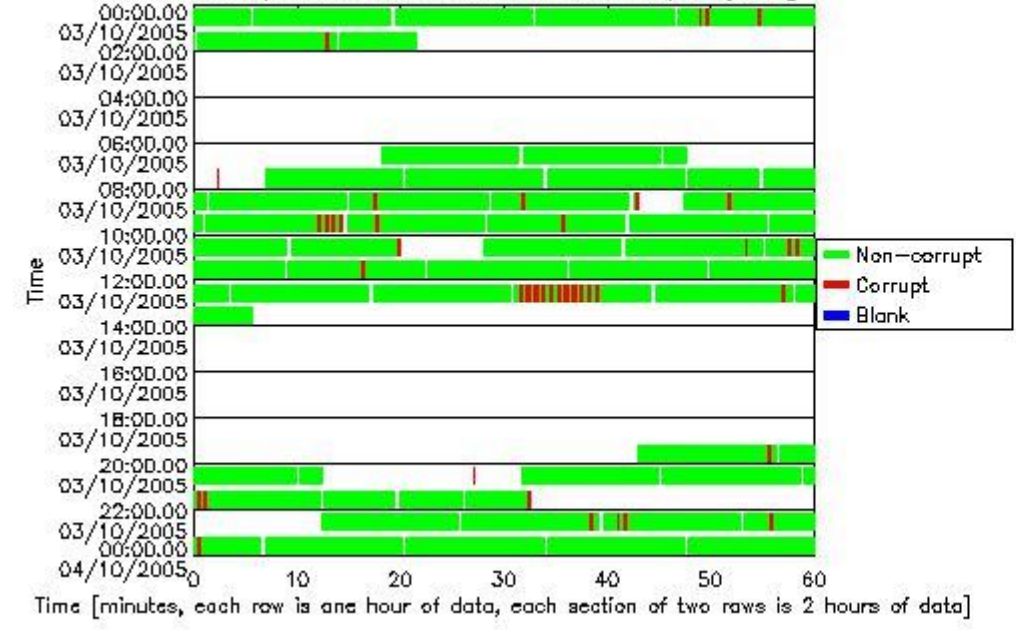




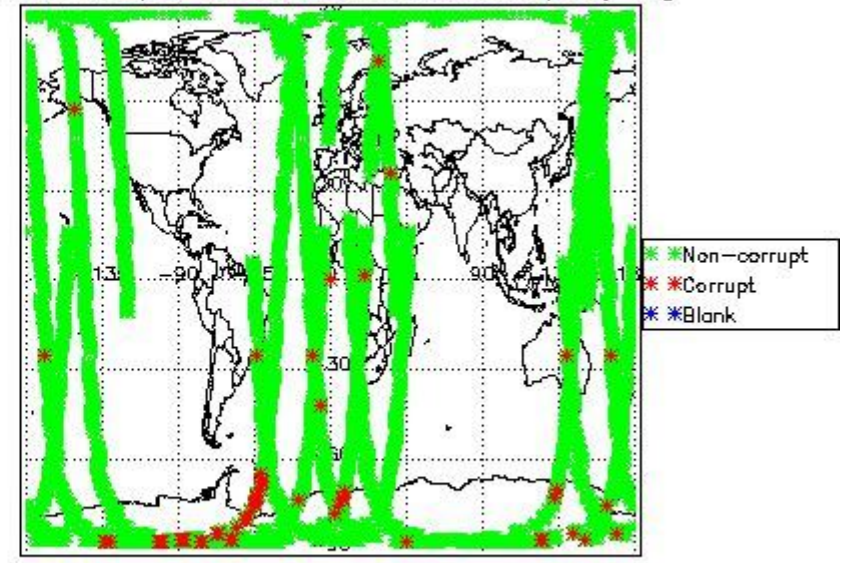


1.2.2 Trends and geolocation of MIPAS LEVEL 1 MDS

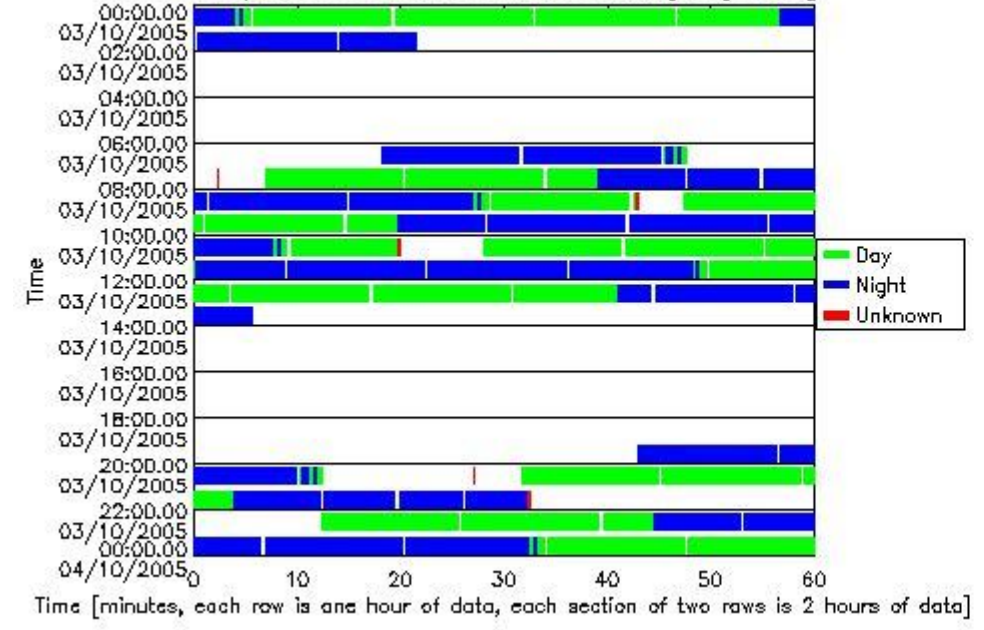
Bar plot of MIPNL1P\_MIPLEV1BMDS\_quality\_flag



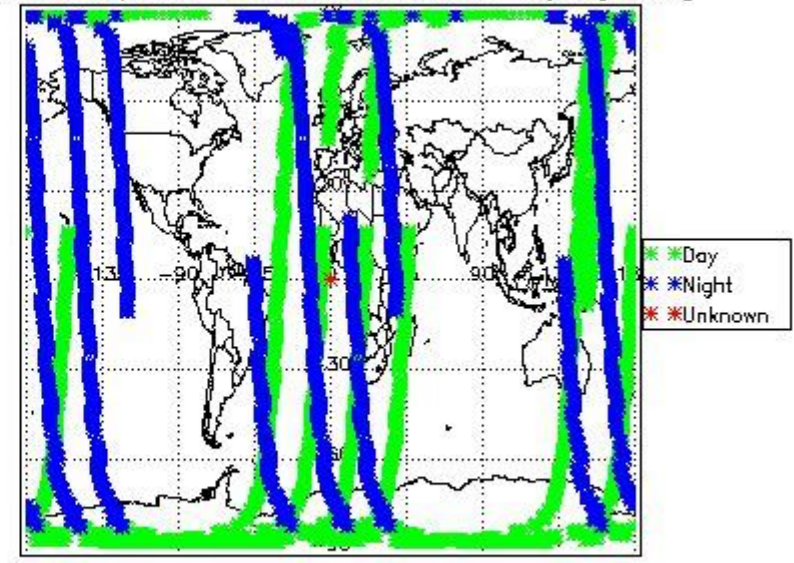
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_quality\_flag



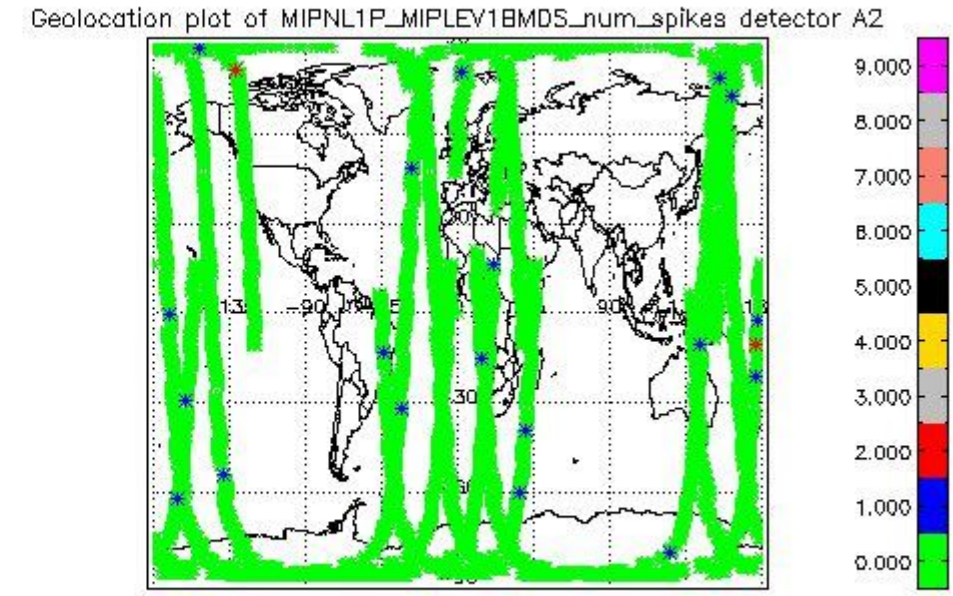
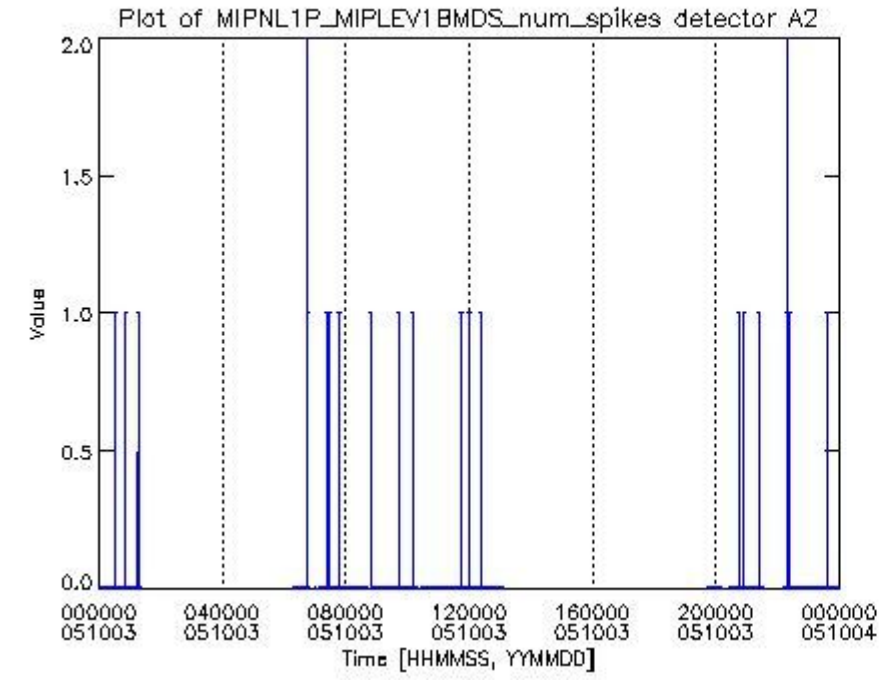
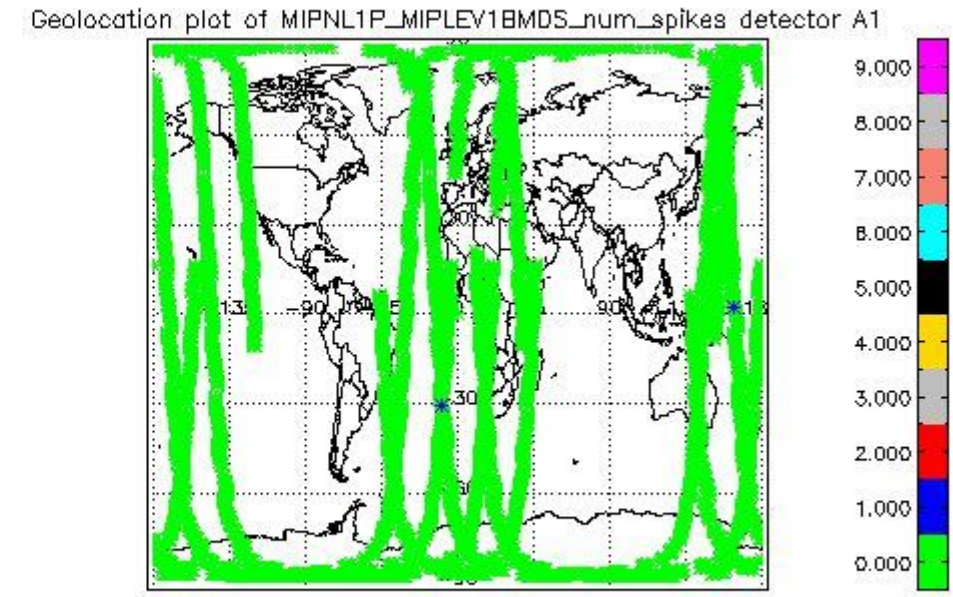
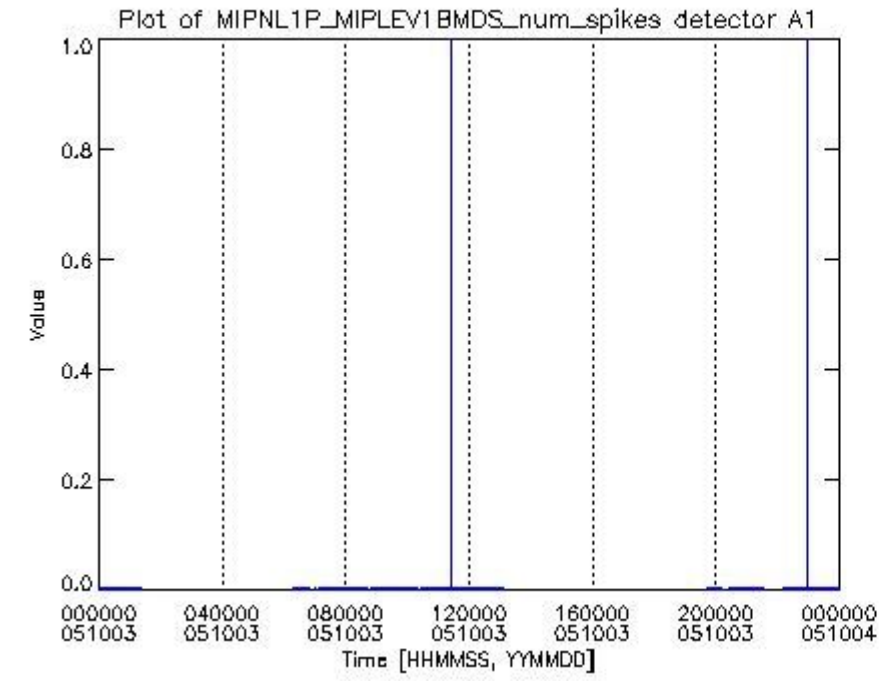
Bar plot of MIPNL1P\_MIPLEV1BMDS\_day\_night\_flag

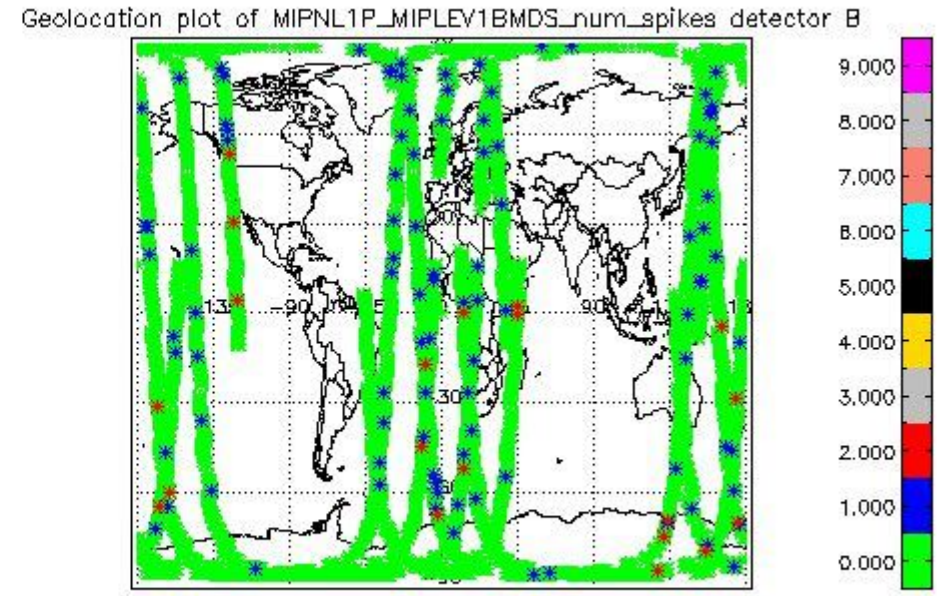
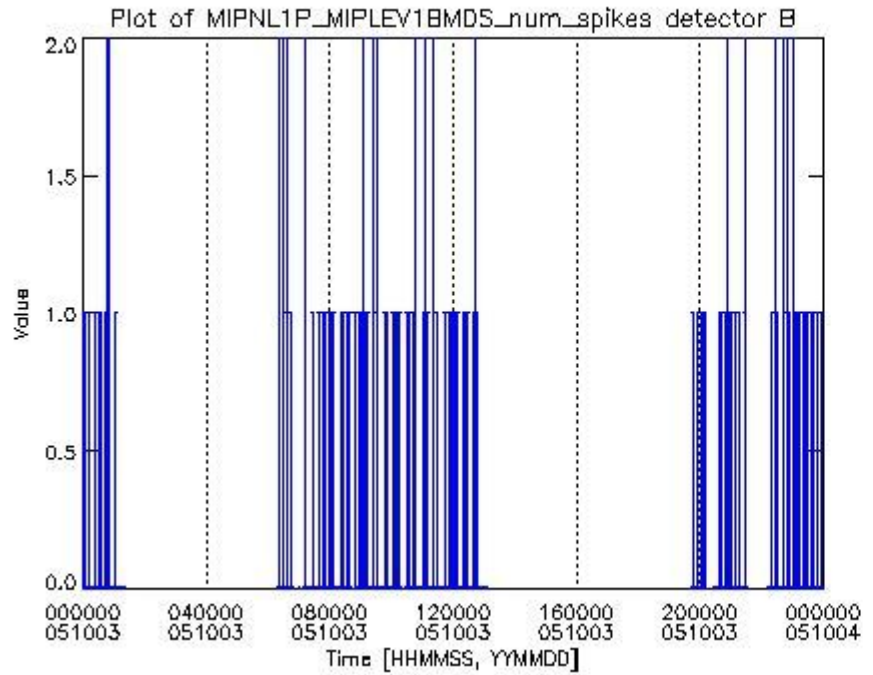
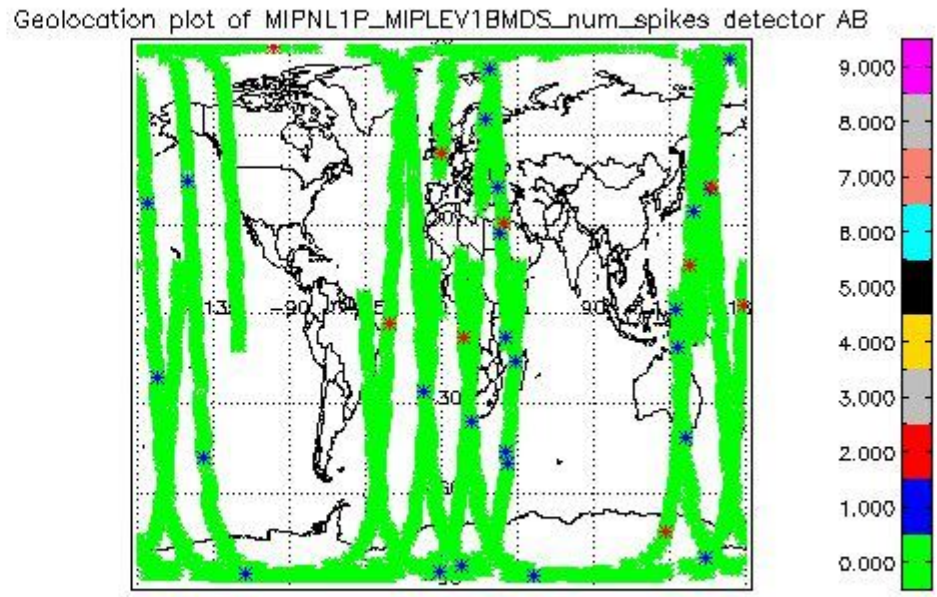
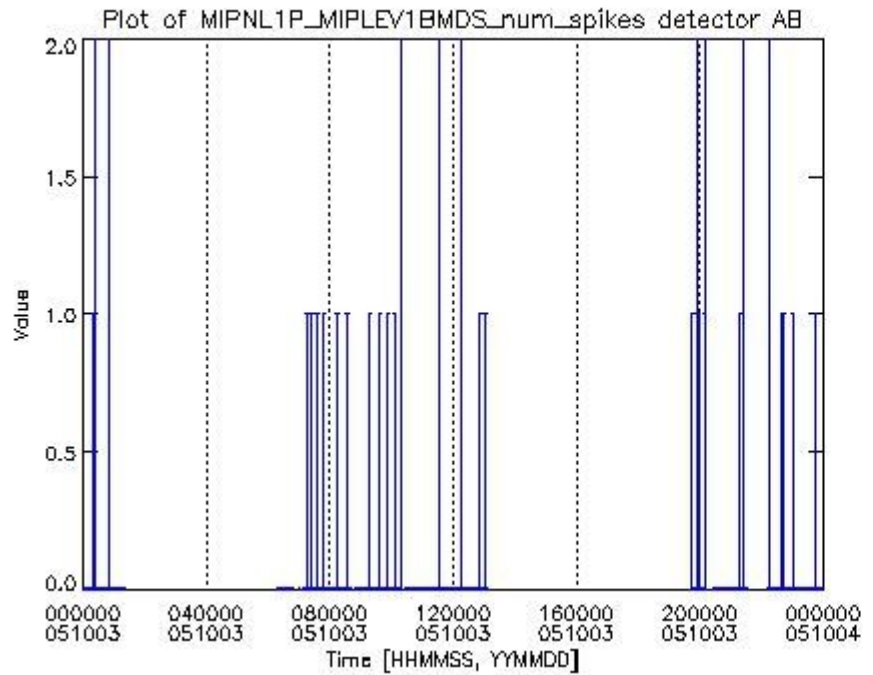


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_day\_night\_flag

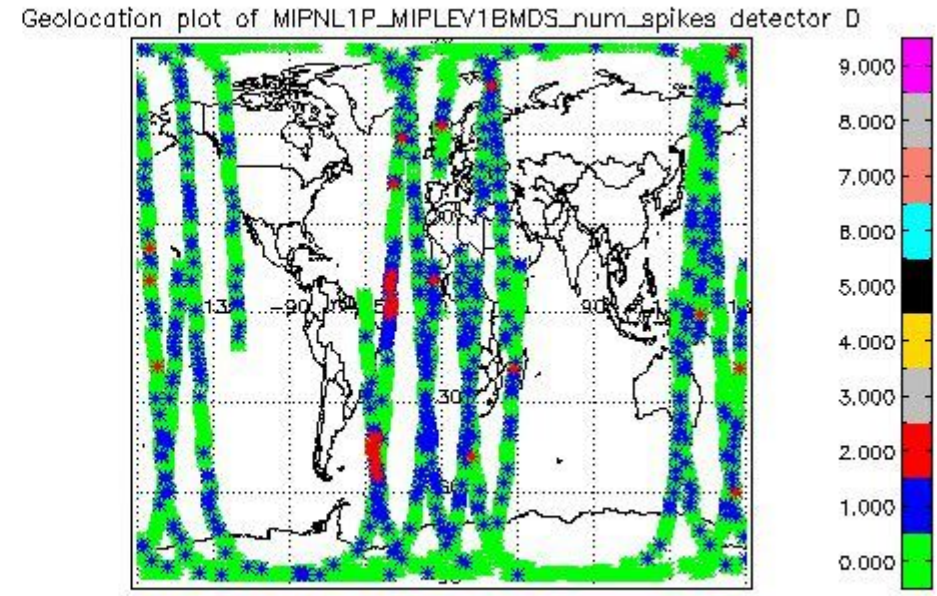
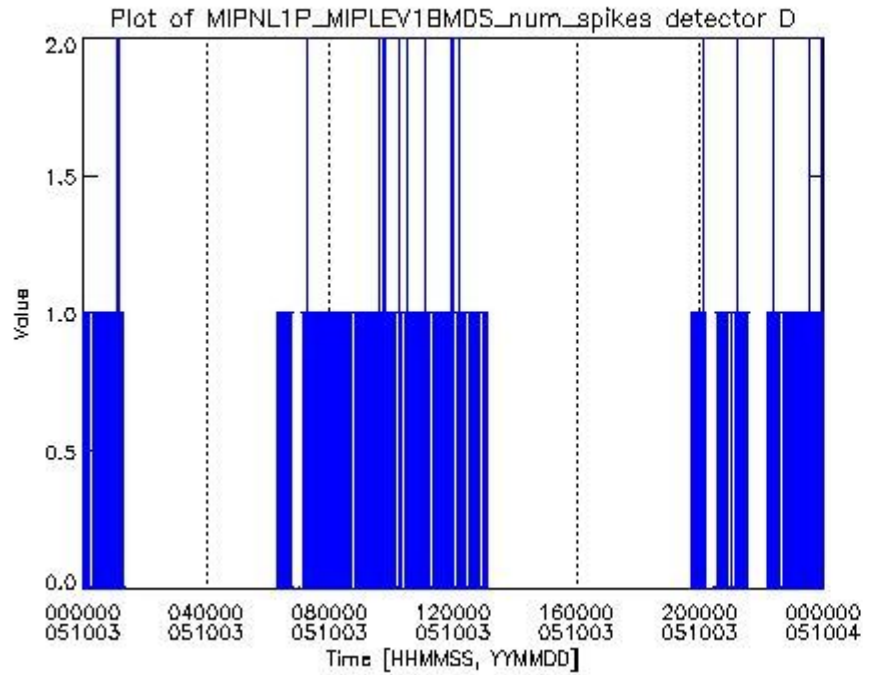
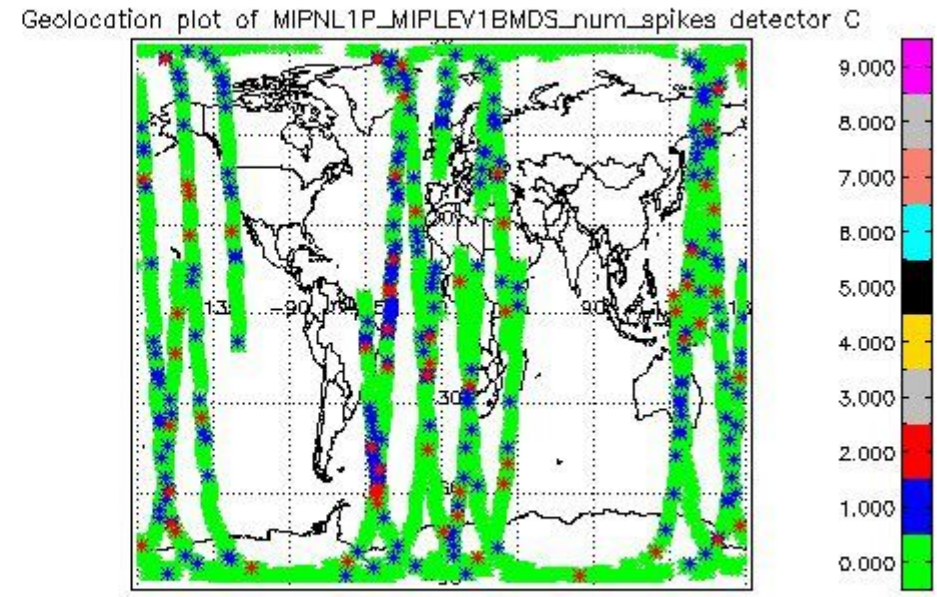
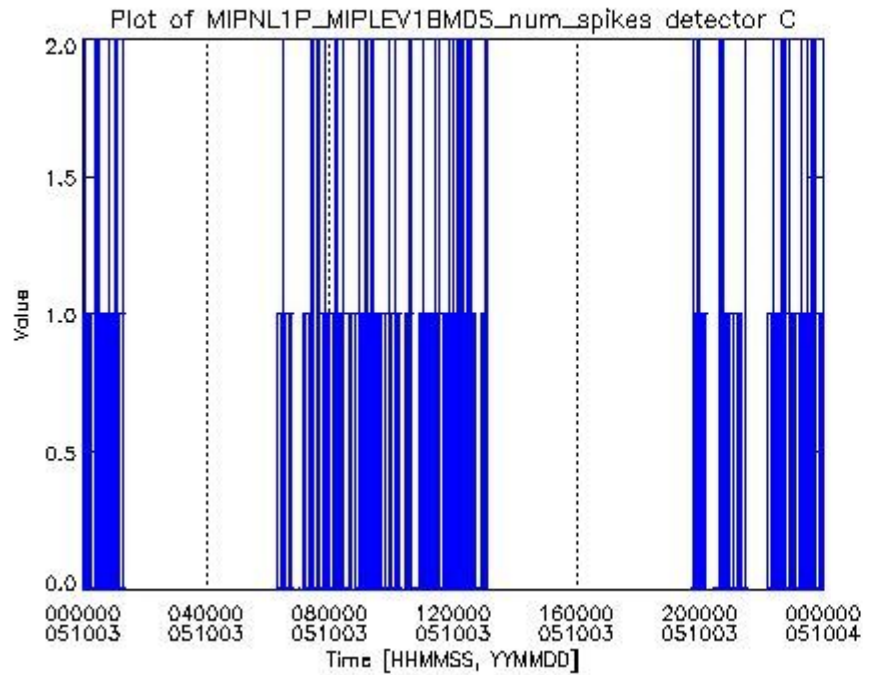


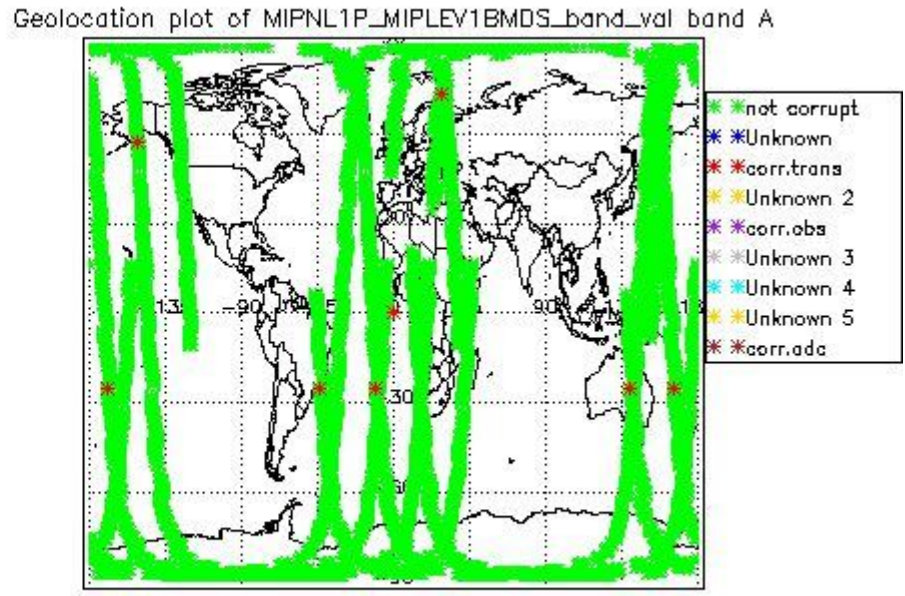
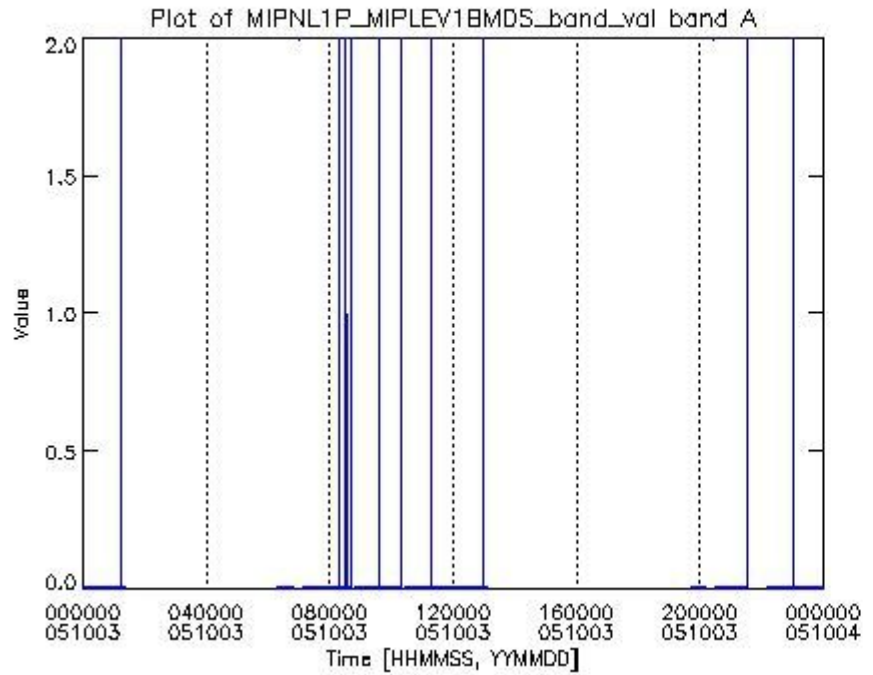
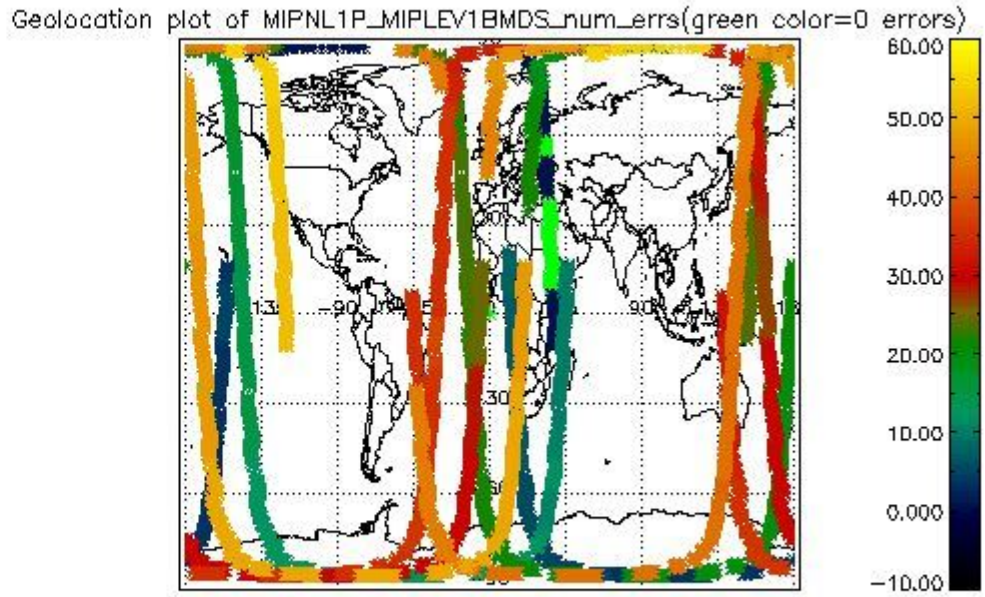
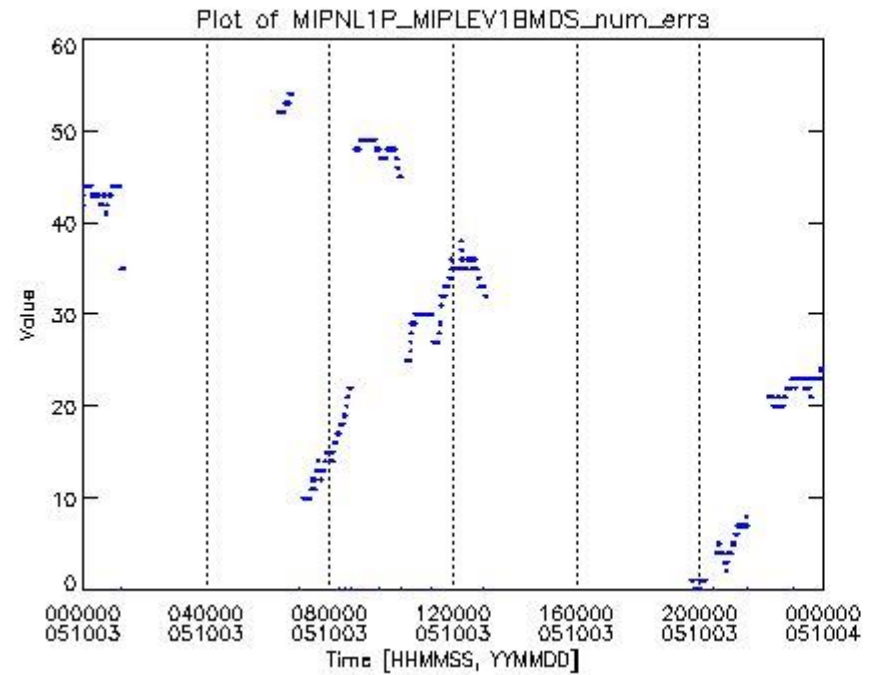




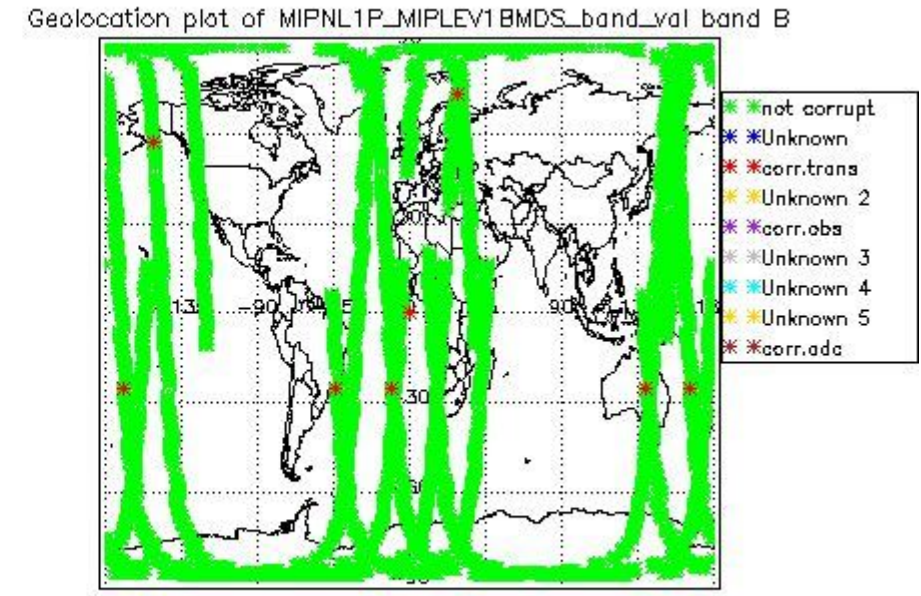
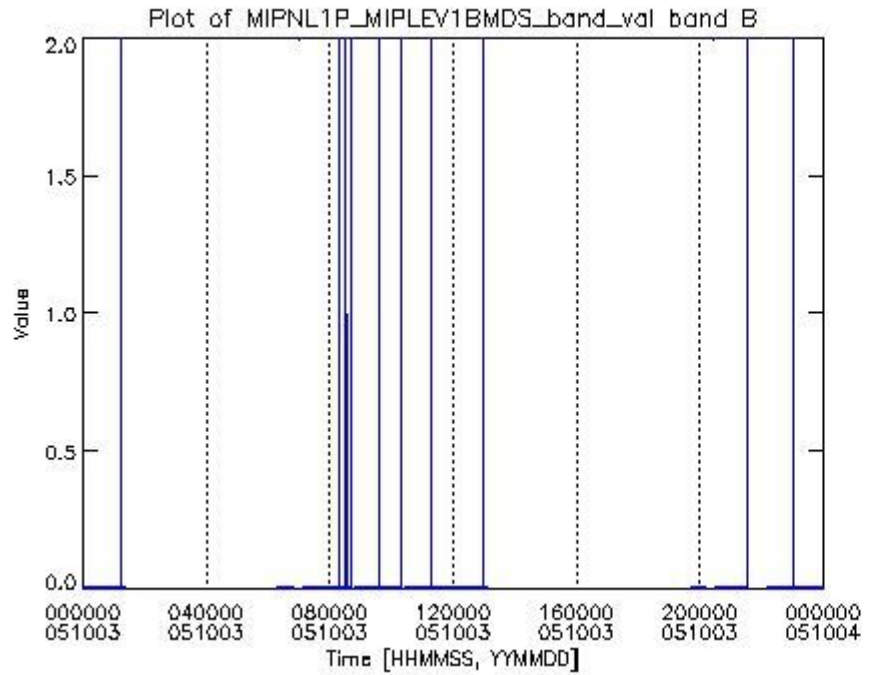
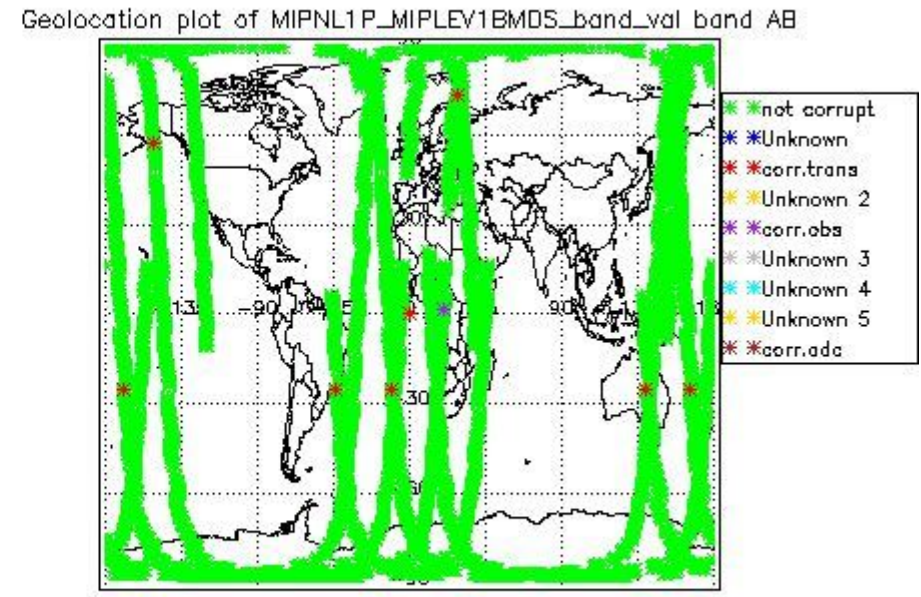
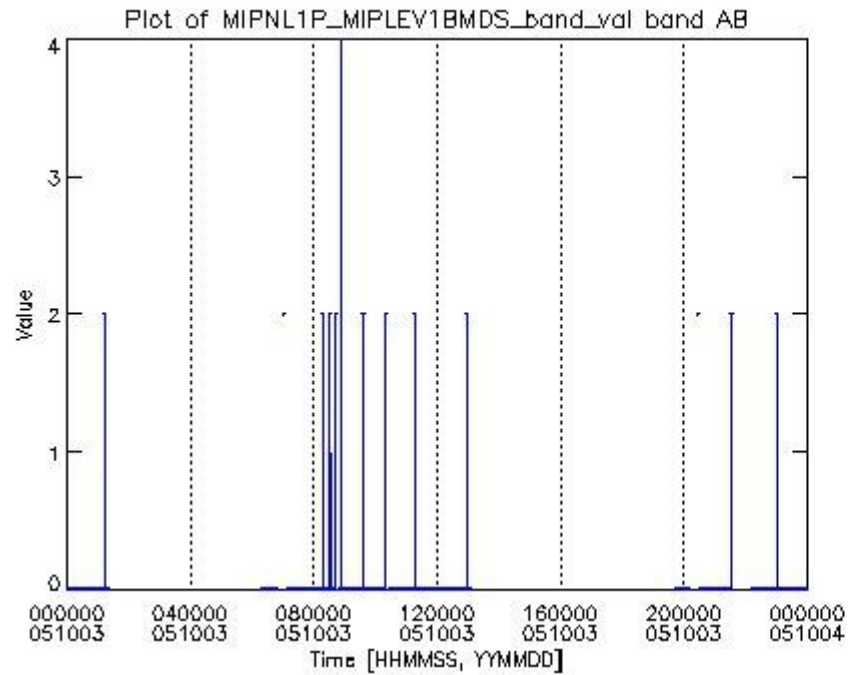


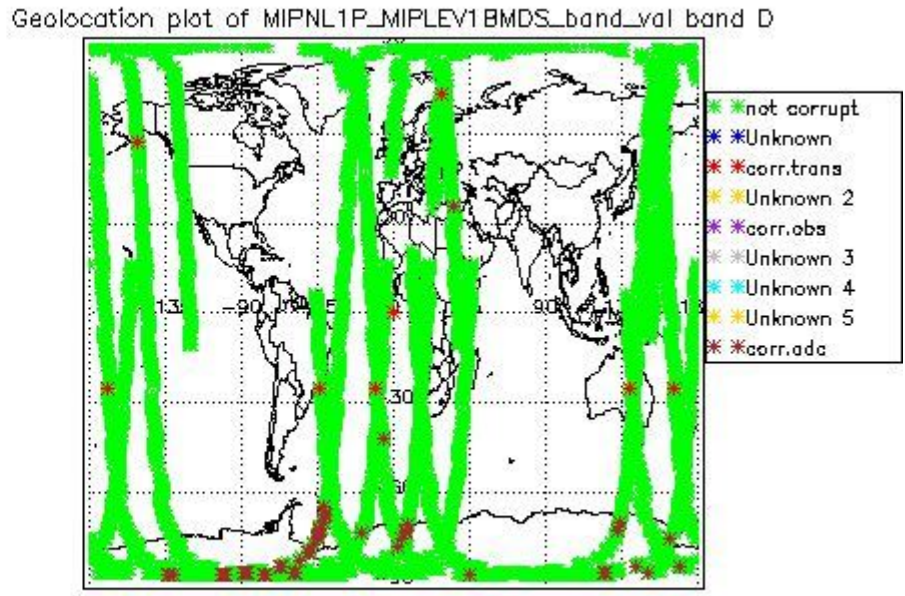
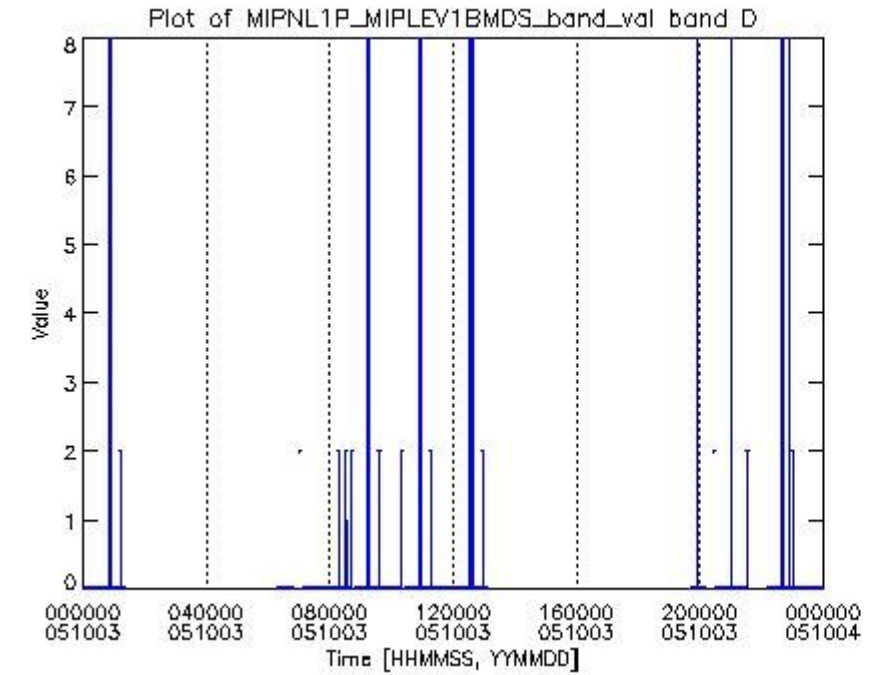
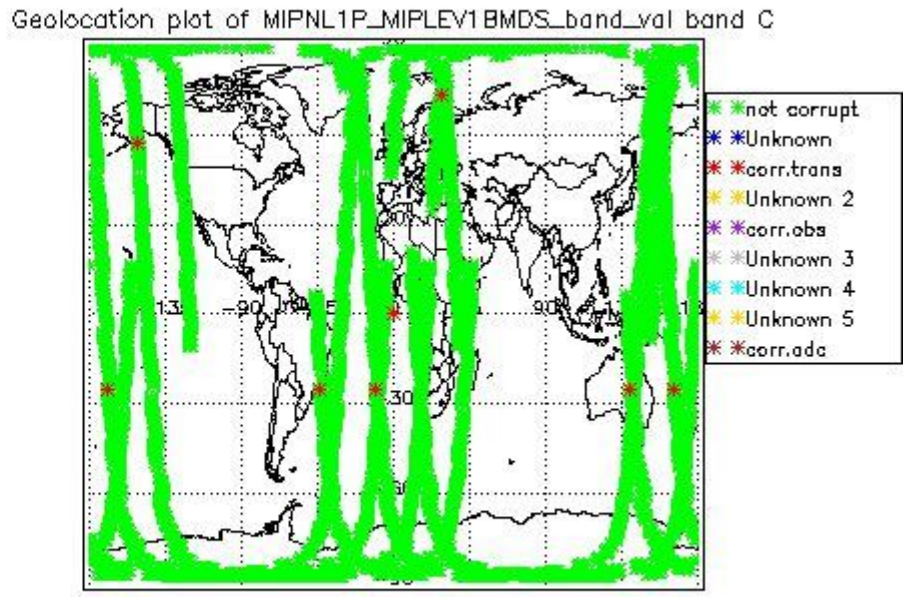
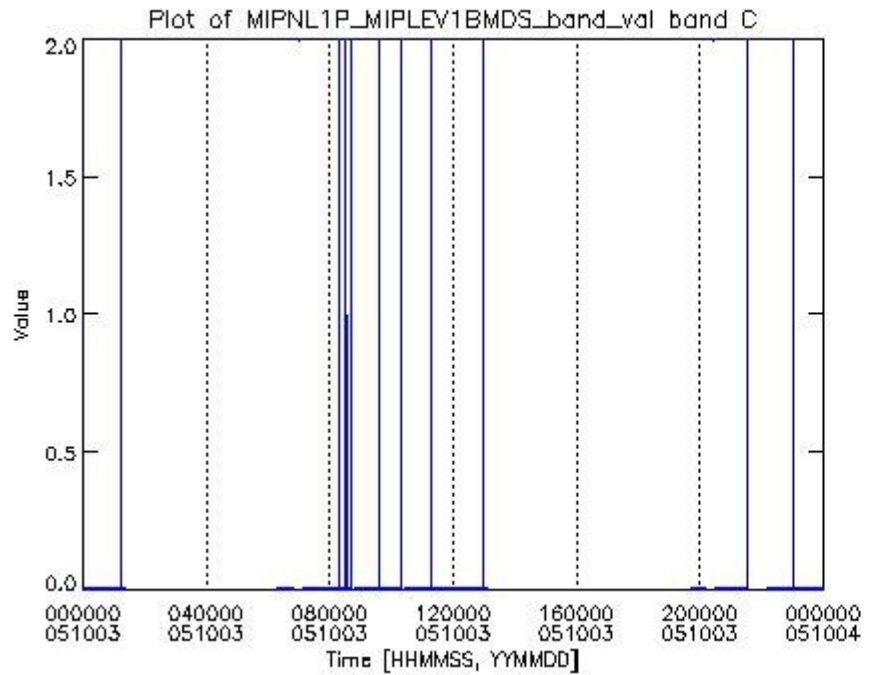






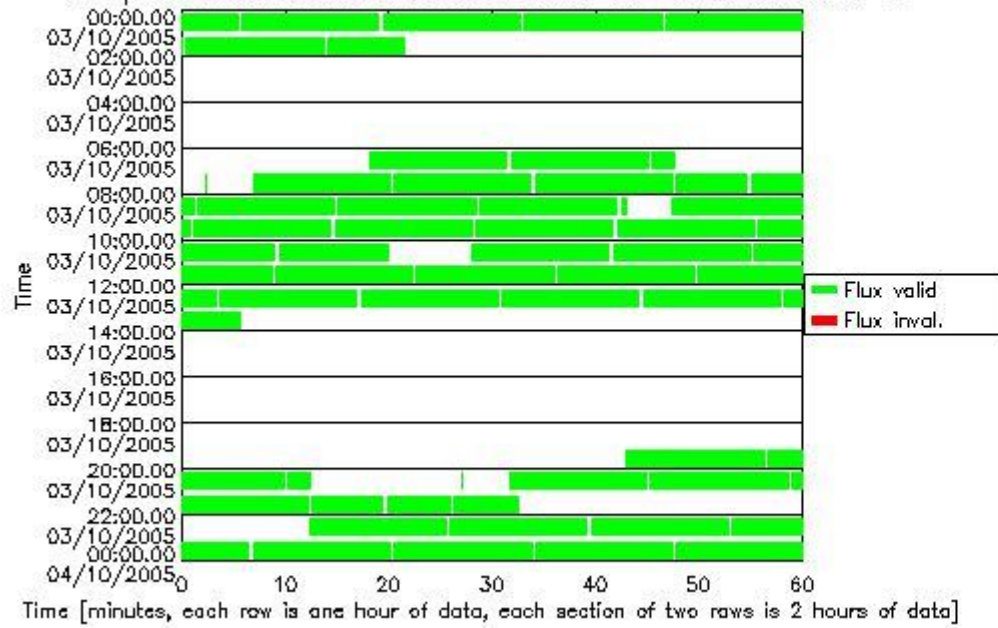




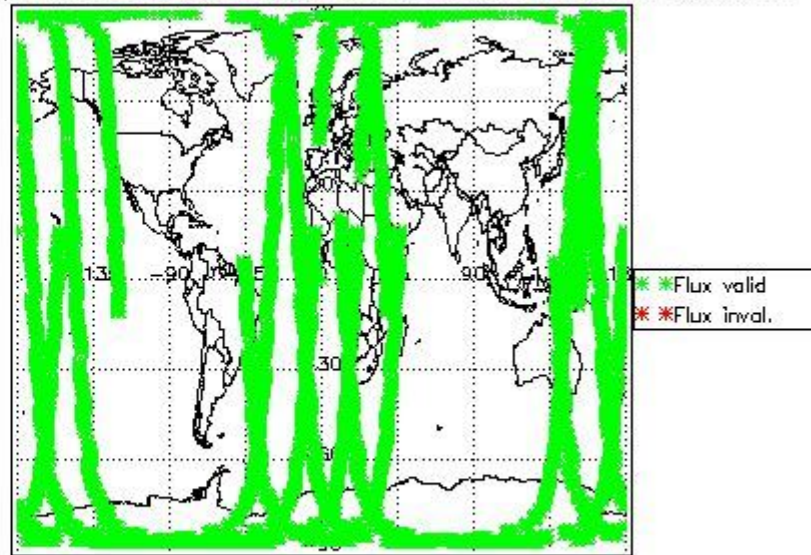




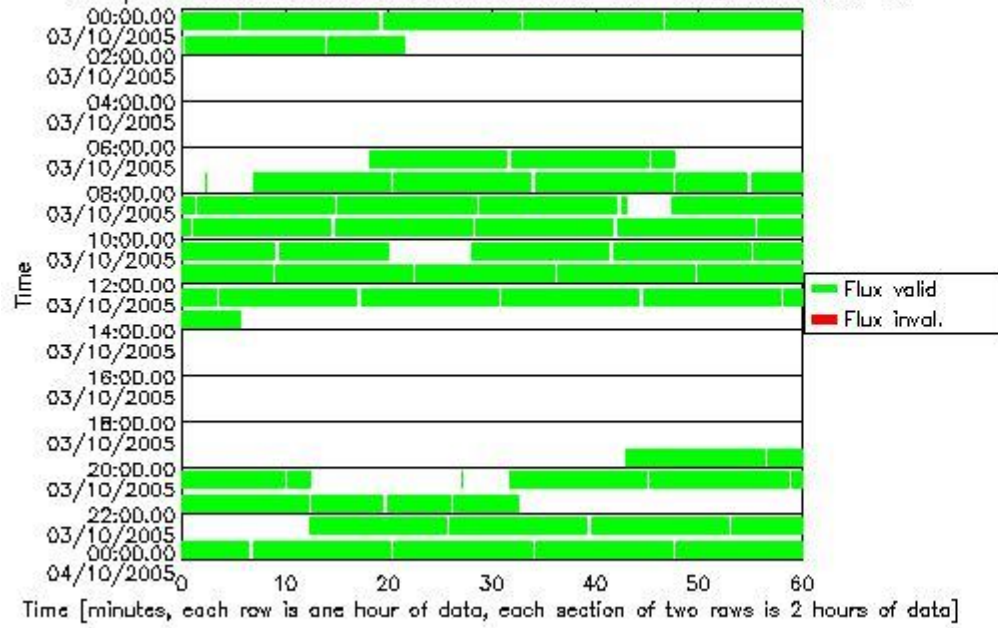
Bar plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_lin\_flux detector A1



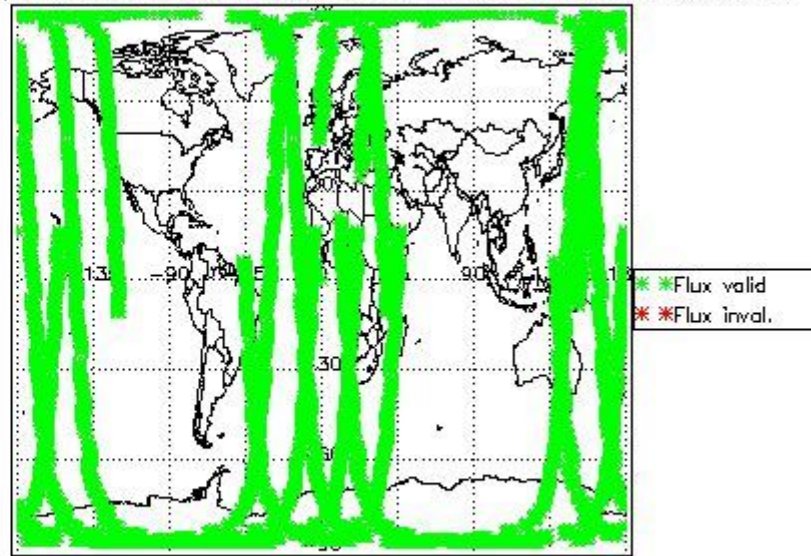
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_lin\_flux detector A1



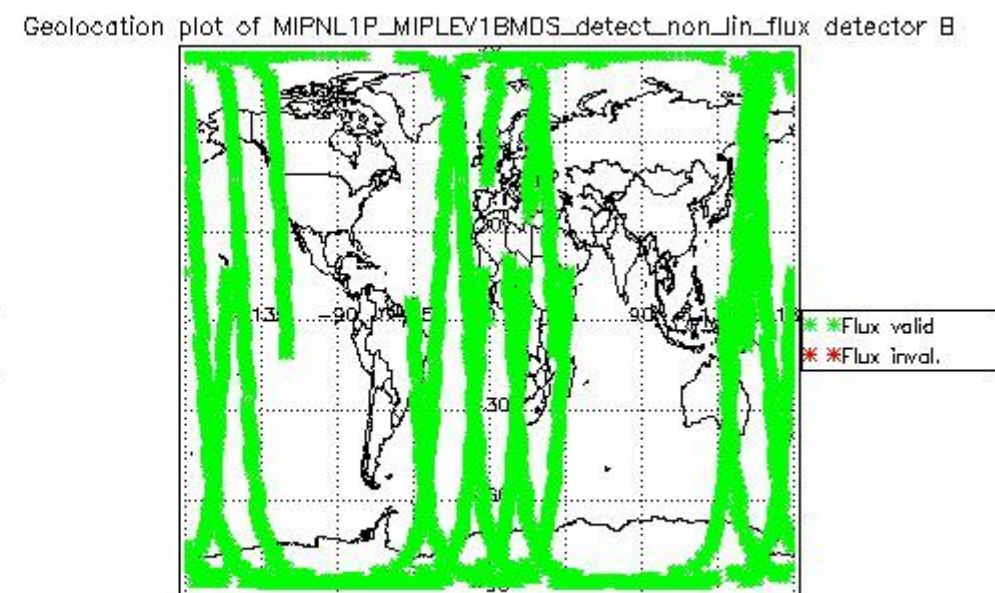
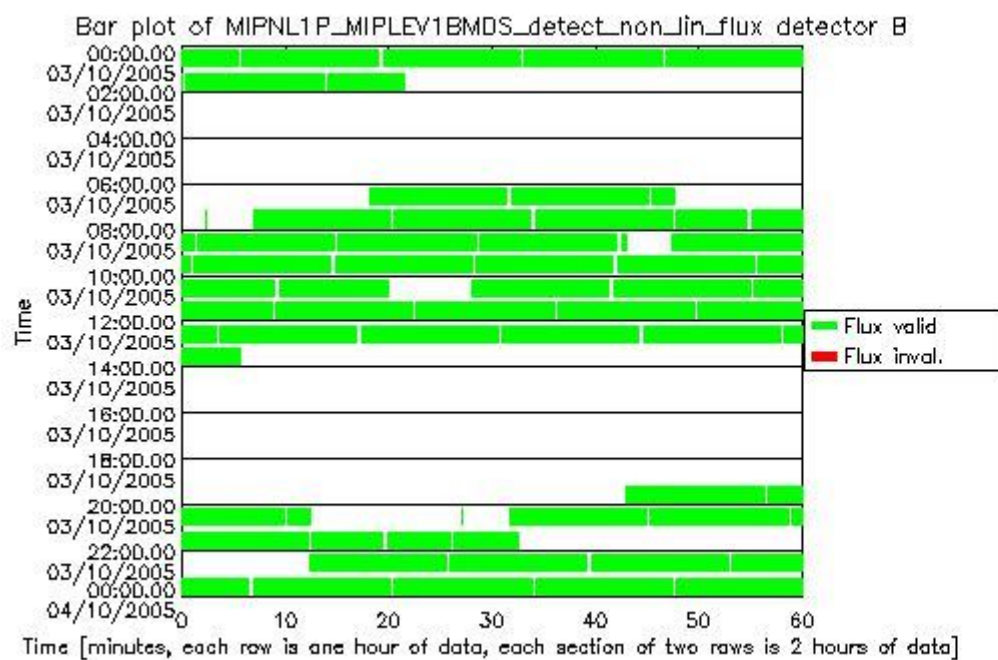
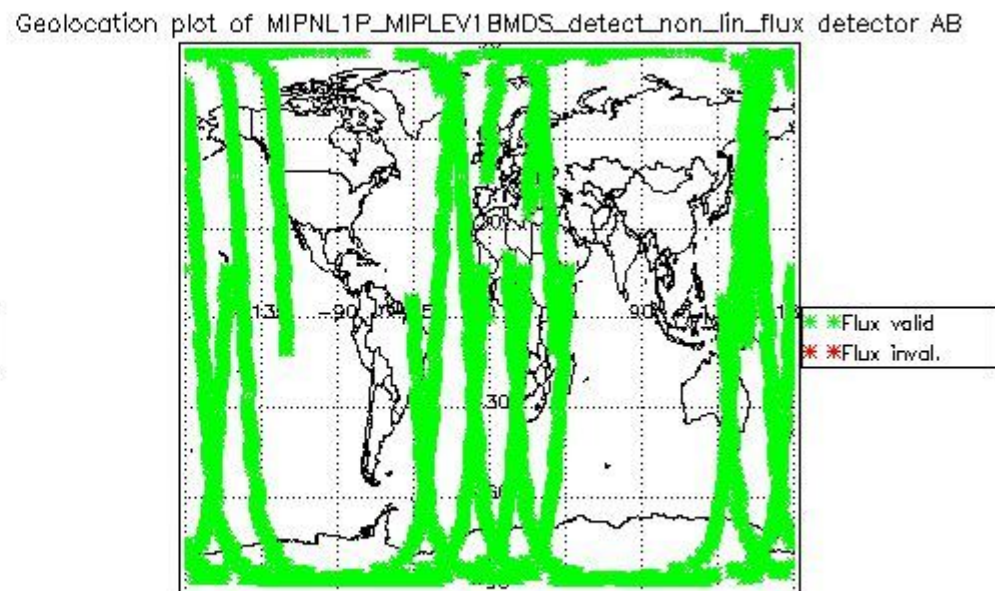
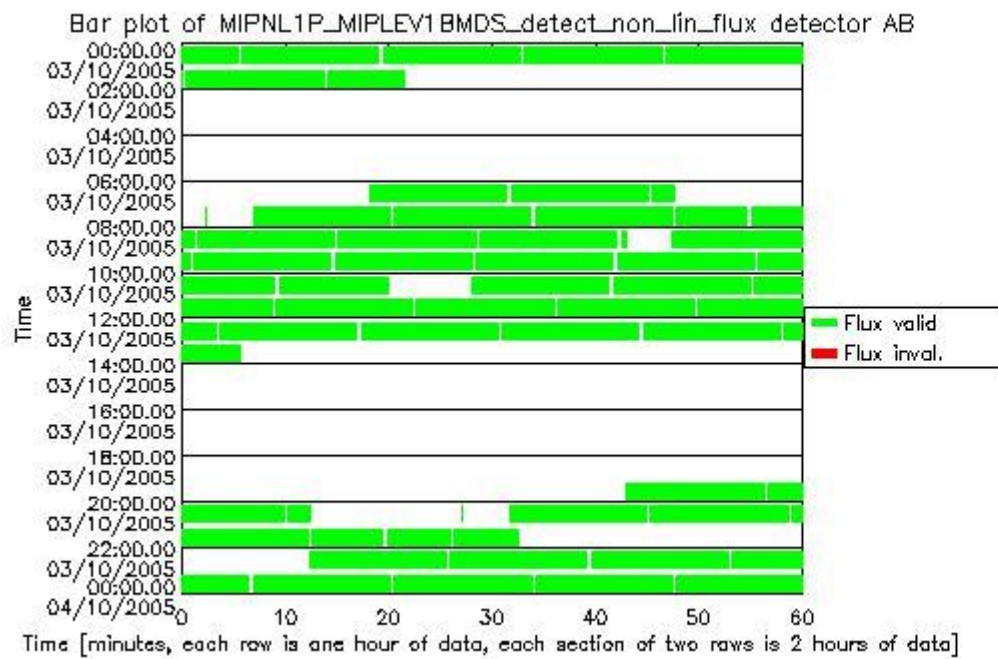
Bar plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_lin\_flux detector A2



Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_lin\_flux detector A2







### 1.2.3 Scan information ADS

The following plots each contain 100 squares. Each square contains one NESR-scan (from MIPNL1P\_SCAINFADS\_nesr\_data).

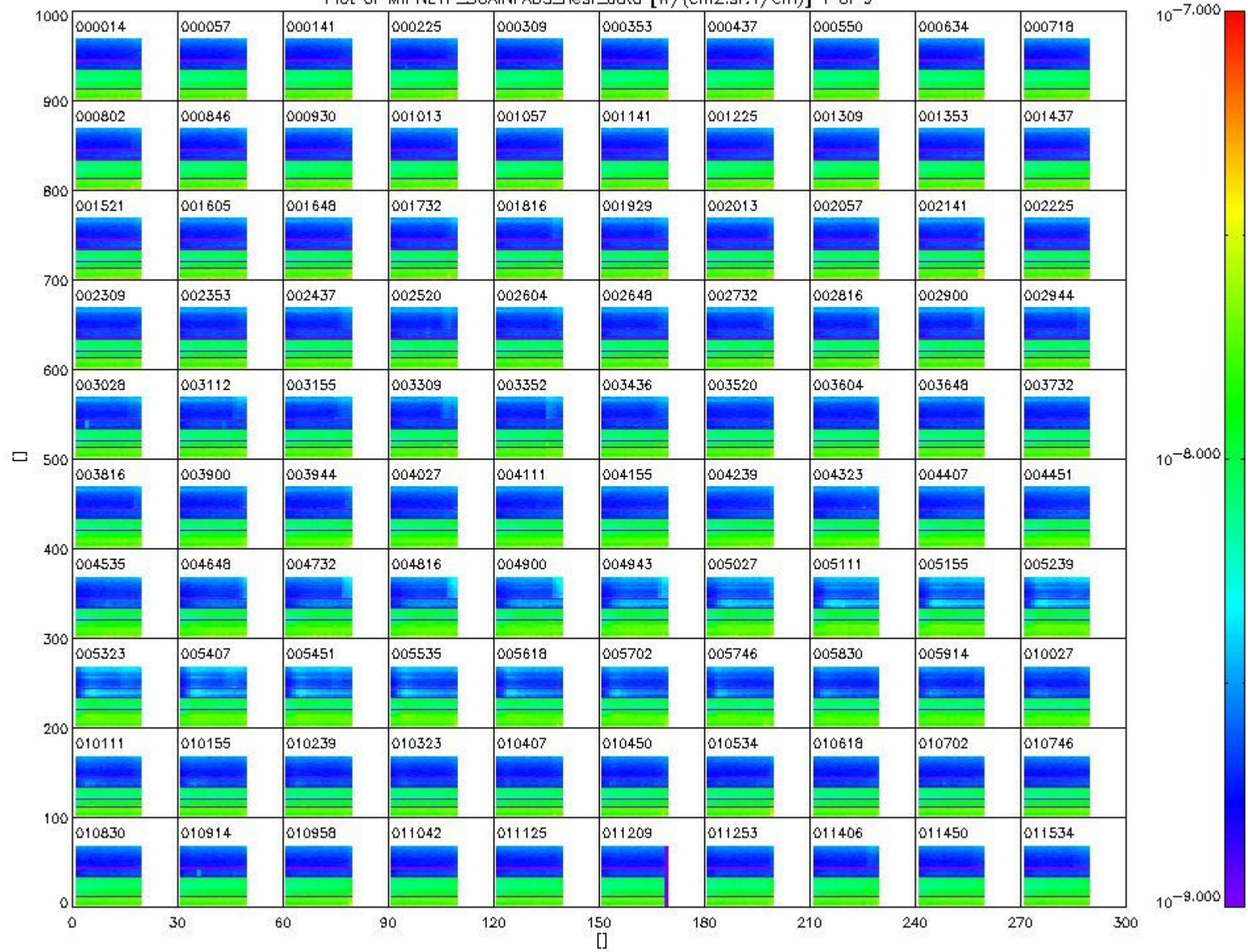
The horizontal axis represents the sweep ID (starts at 1).

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.

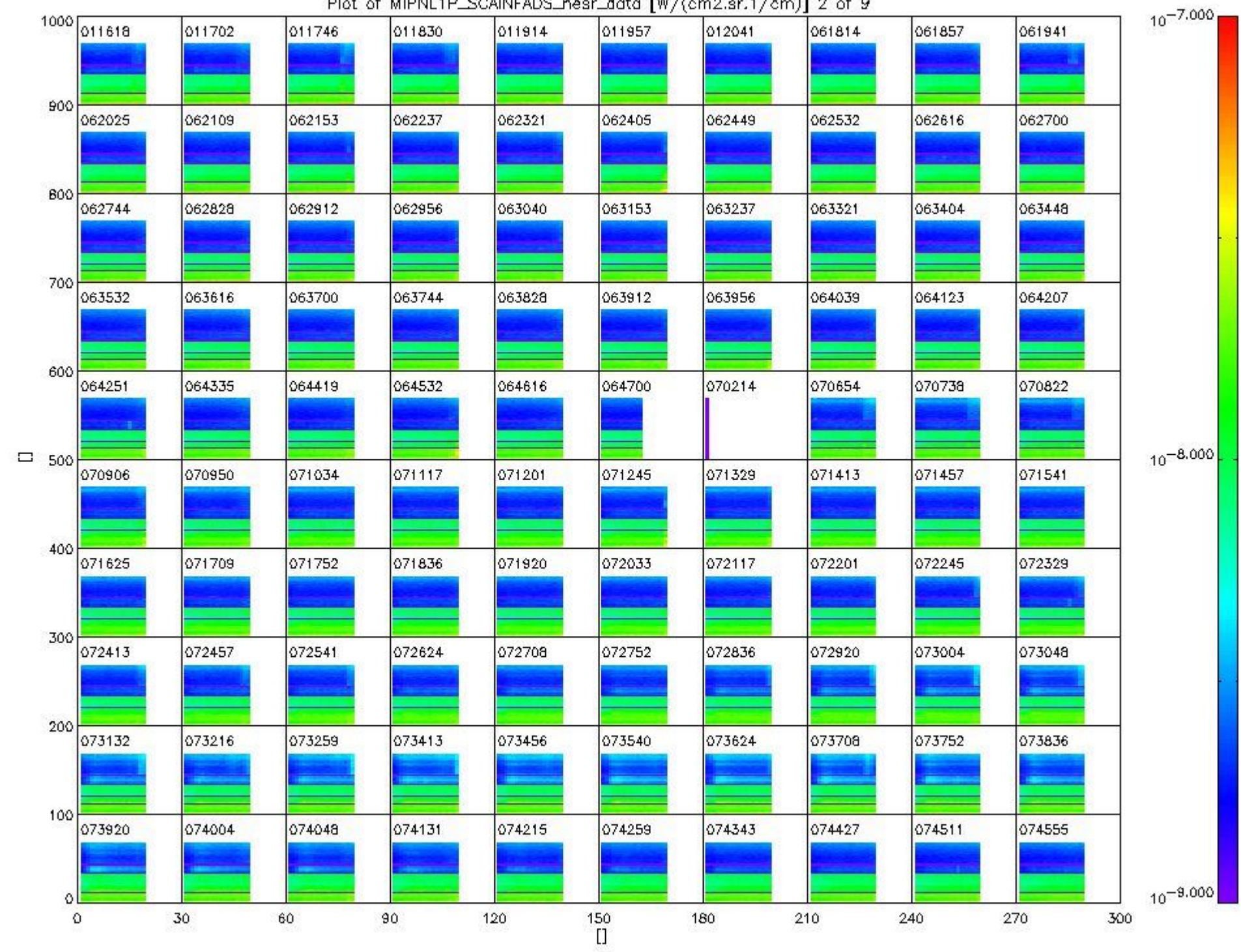


Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm<sup>2</sup>.sr.1/cm)] 1 of 9



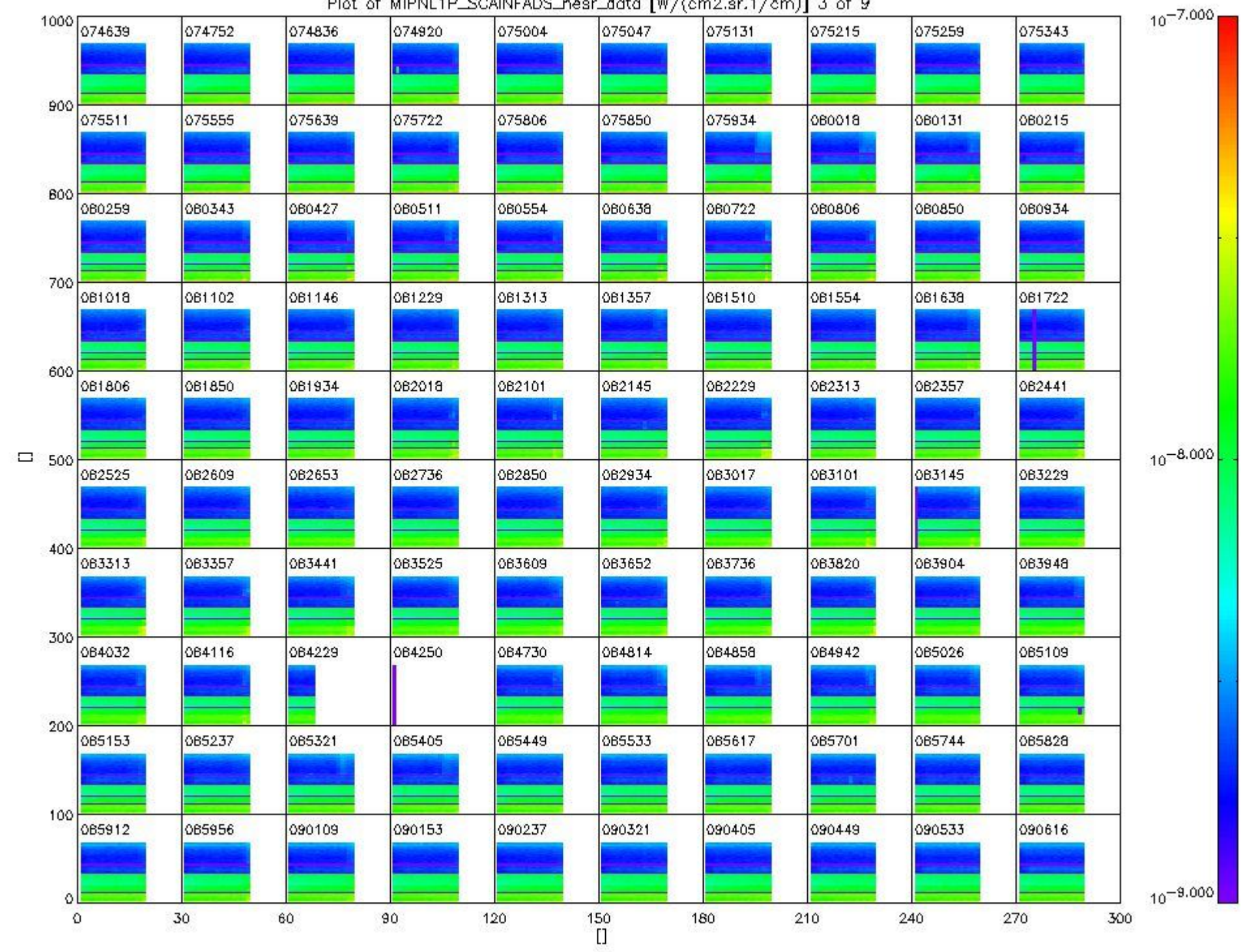


Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm2.sr.1/cm)] 2 of 9



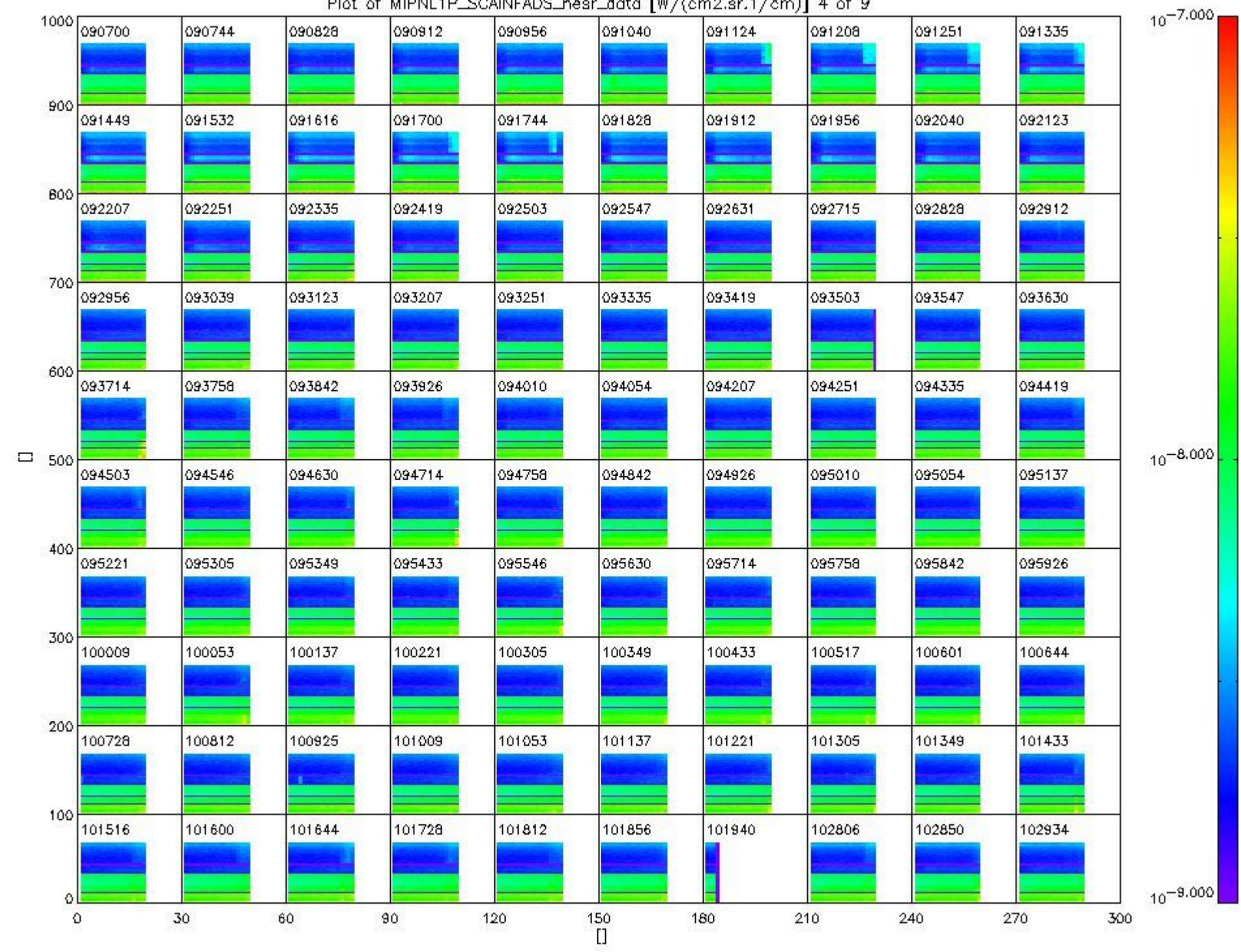


Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm2.ar.1/cm)] 3 of 9



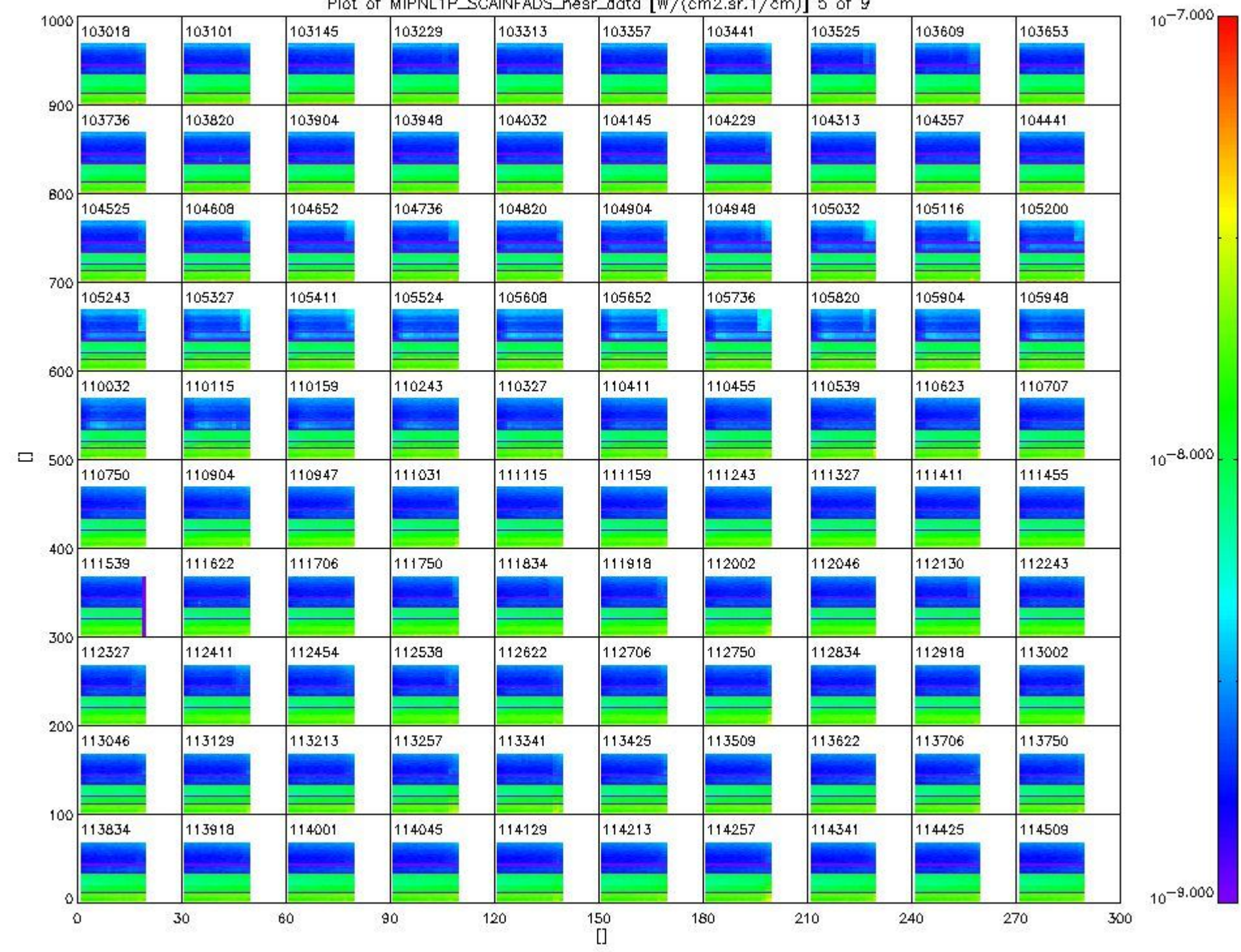


Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm<sup>2</sup>.sr.1/cm)] 4 of 9



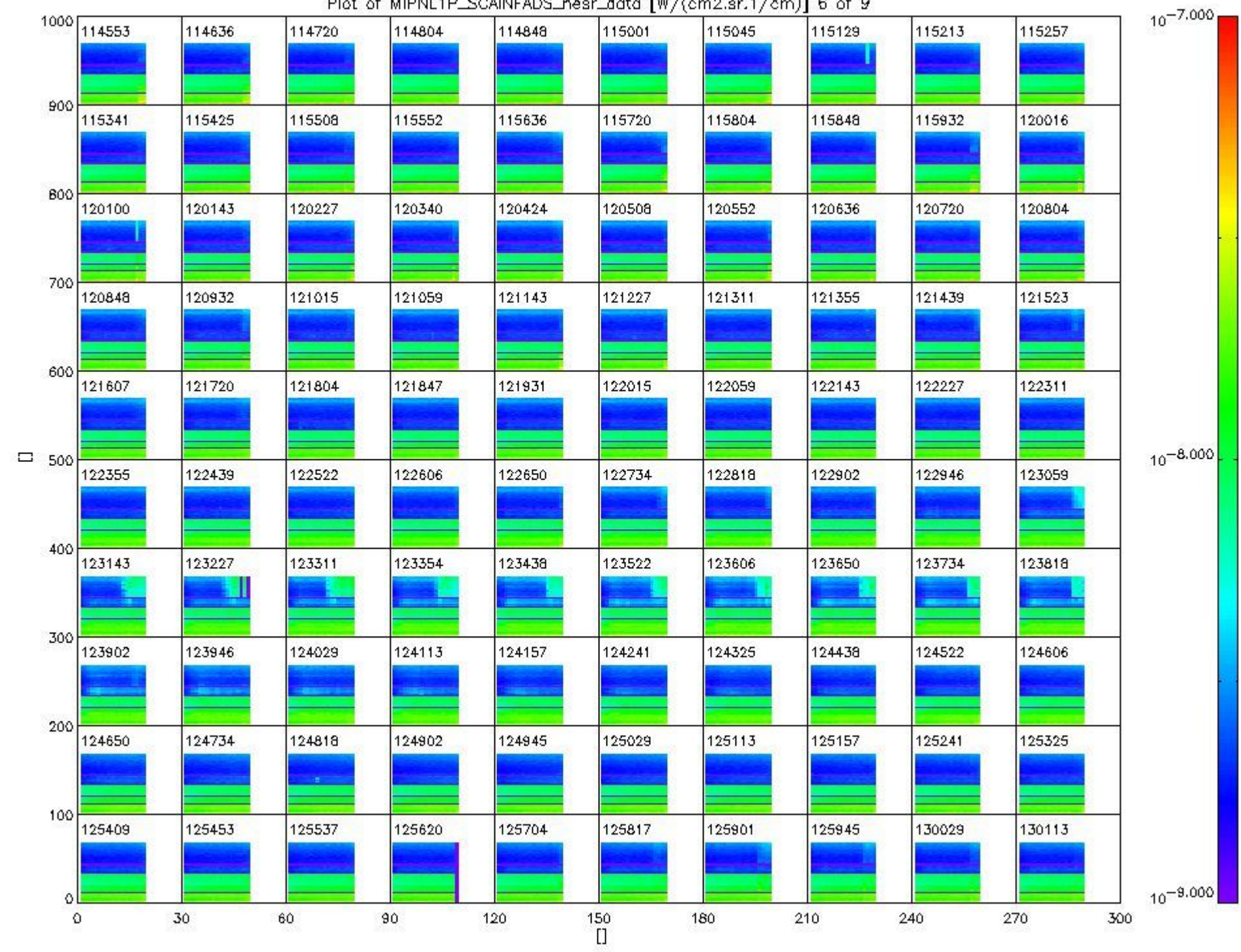


Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm<sup>2</sup>.sr.1/cm)] 5 of 9



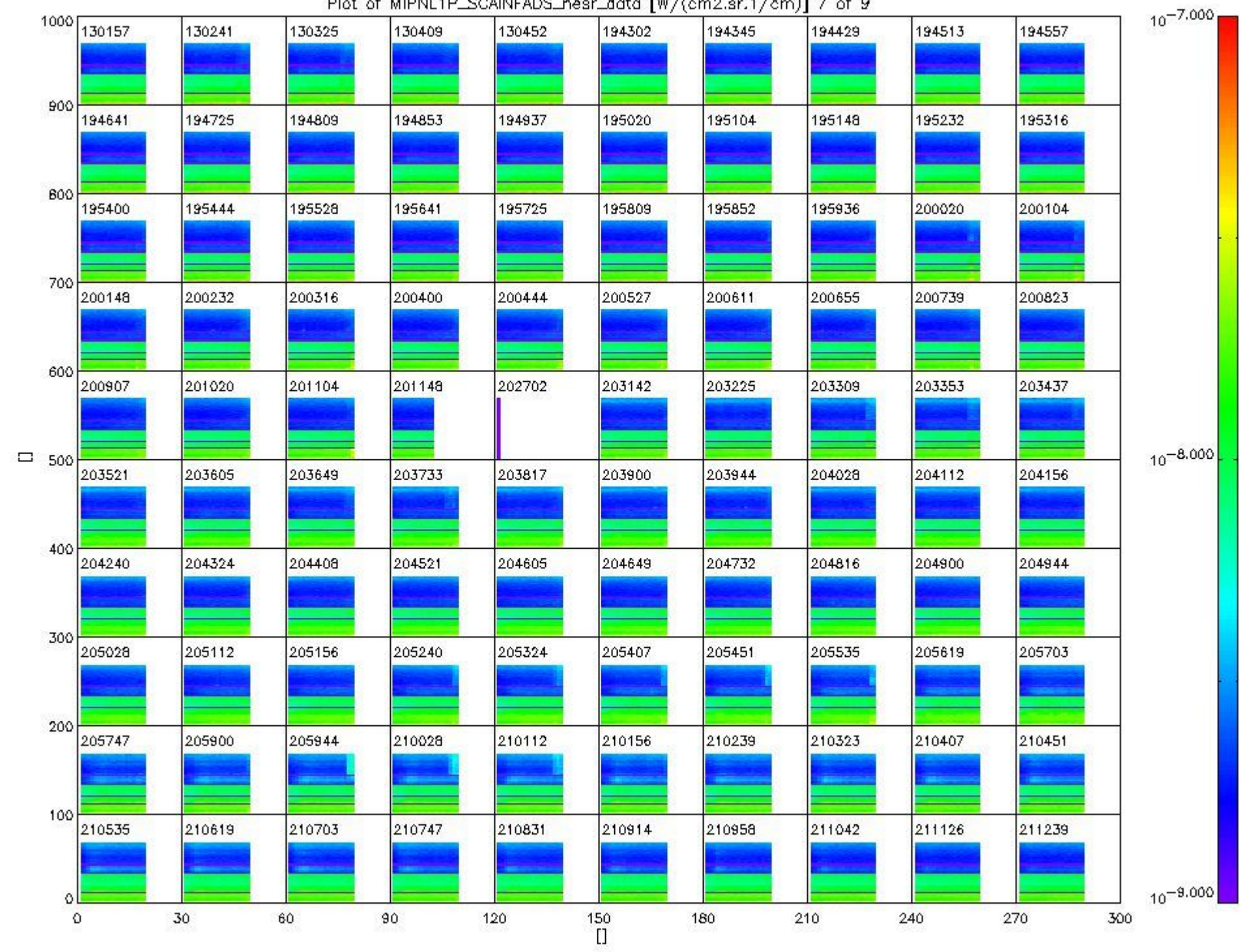


Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm<sup>2</sup>.sr.1/cm)] 6 of 9



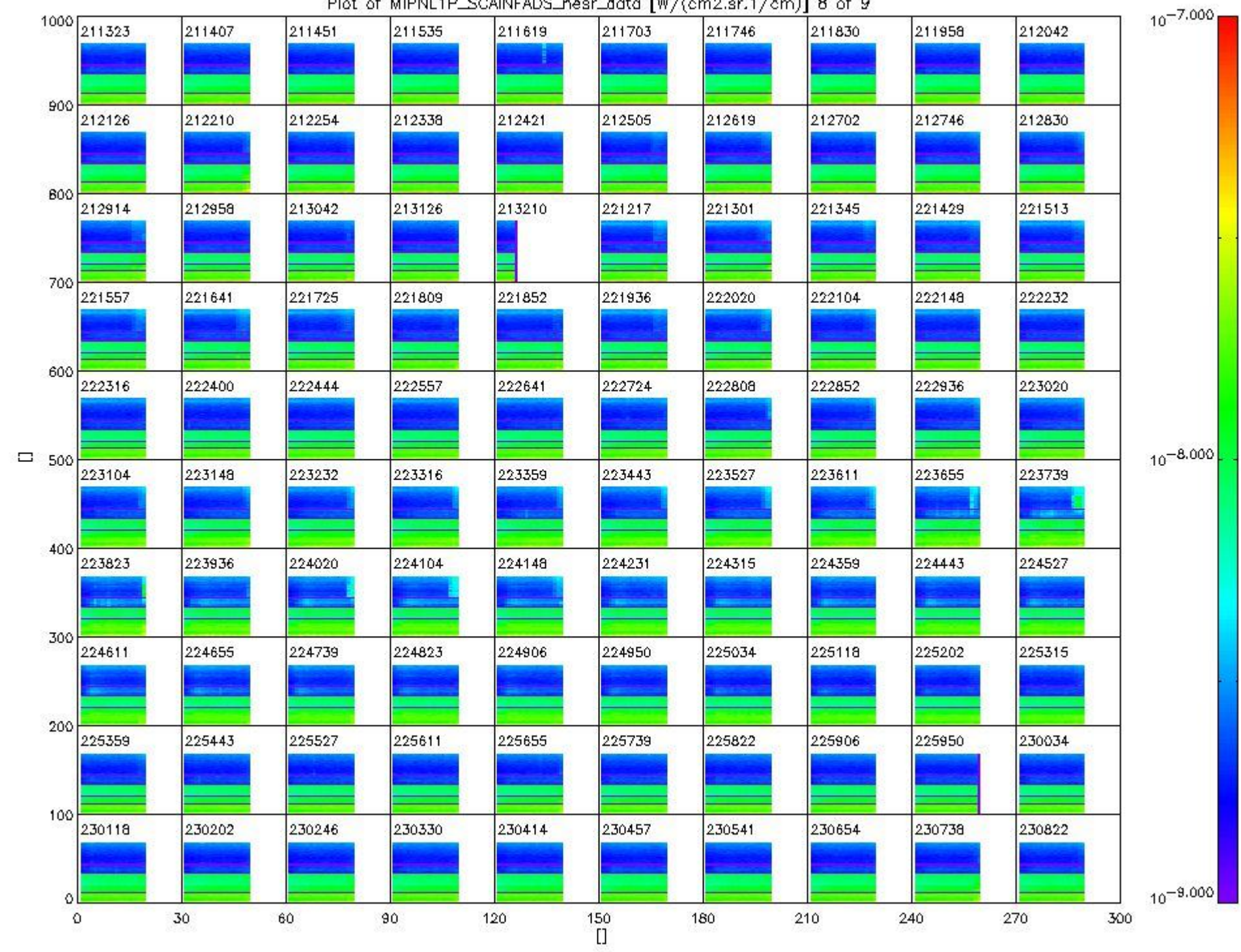


Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm<sup>2</sup>.sr.1/cm)] 7 of 9

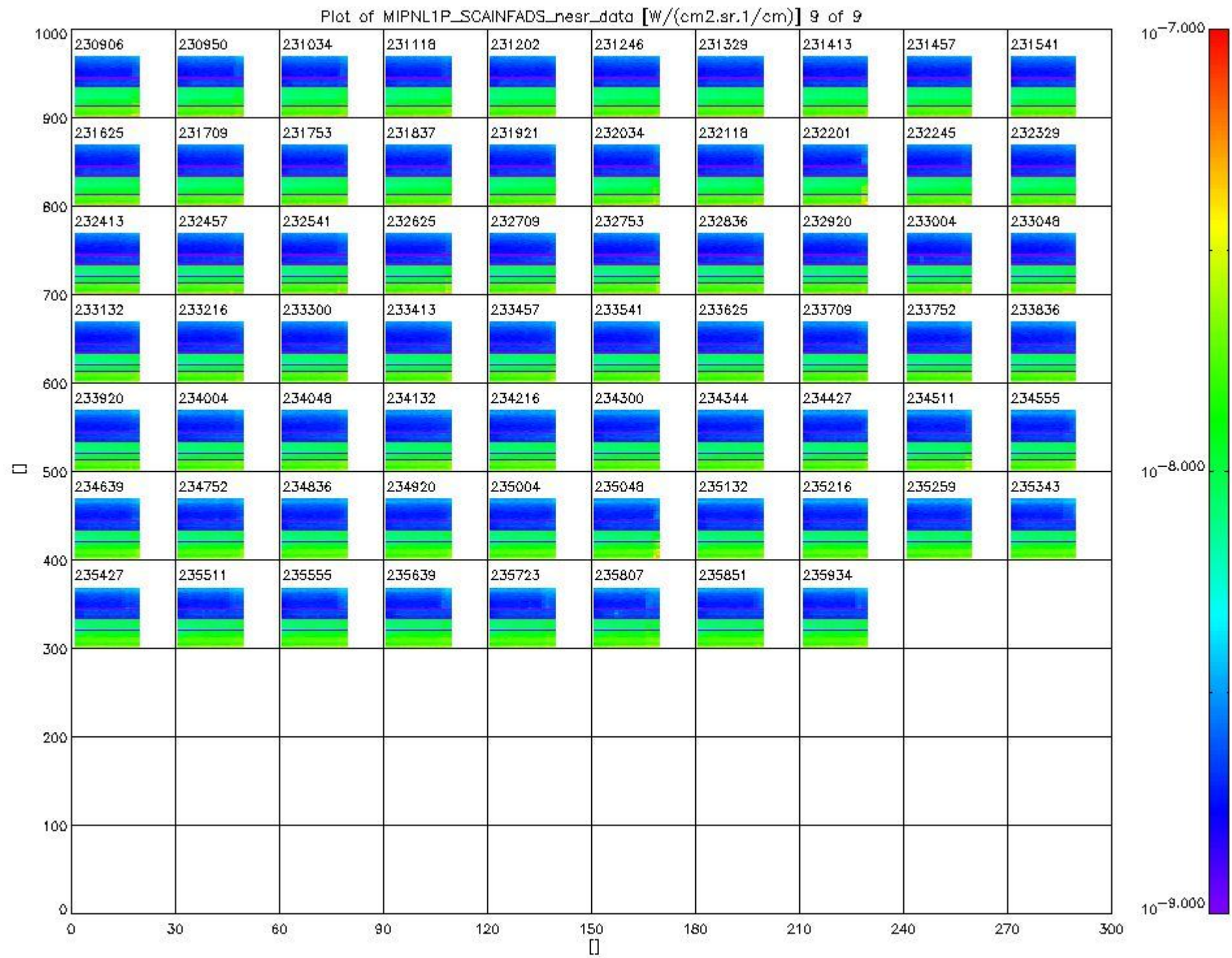




Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm<sup>2</sup>.sr.1/cm)] 8 of 9



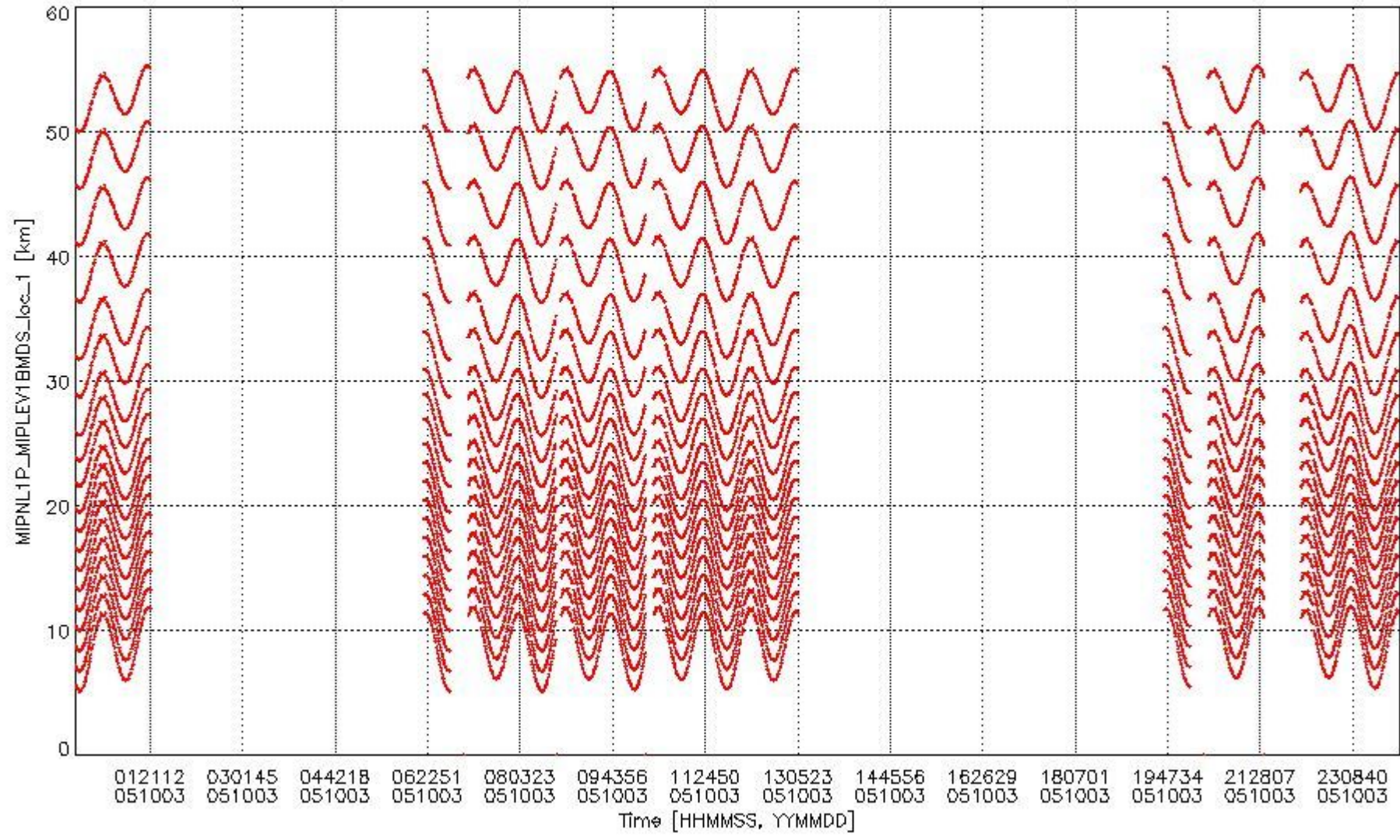




### 1.3 Physical Quality Indicators

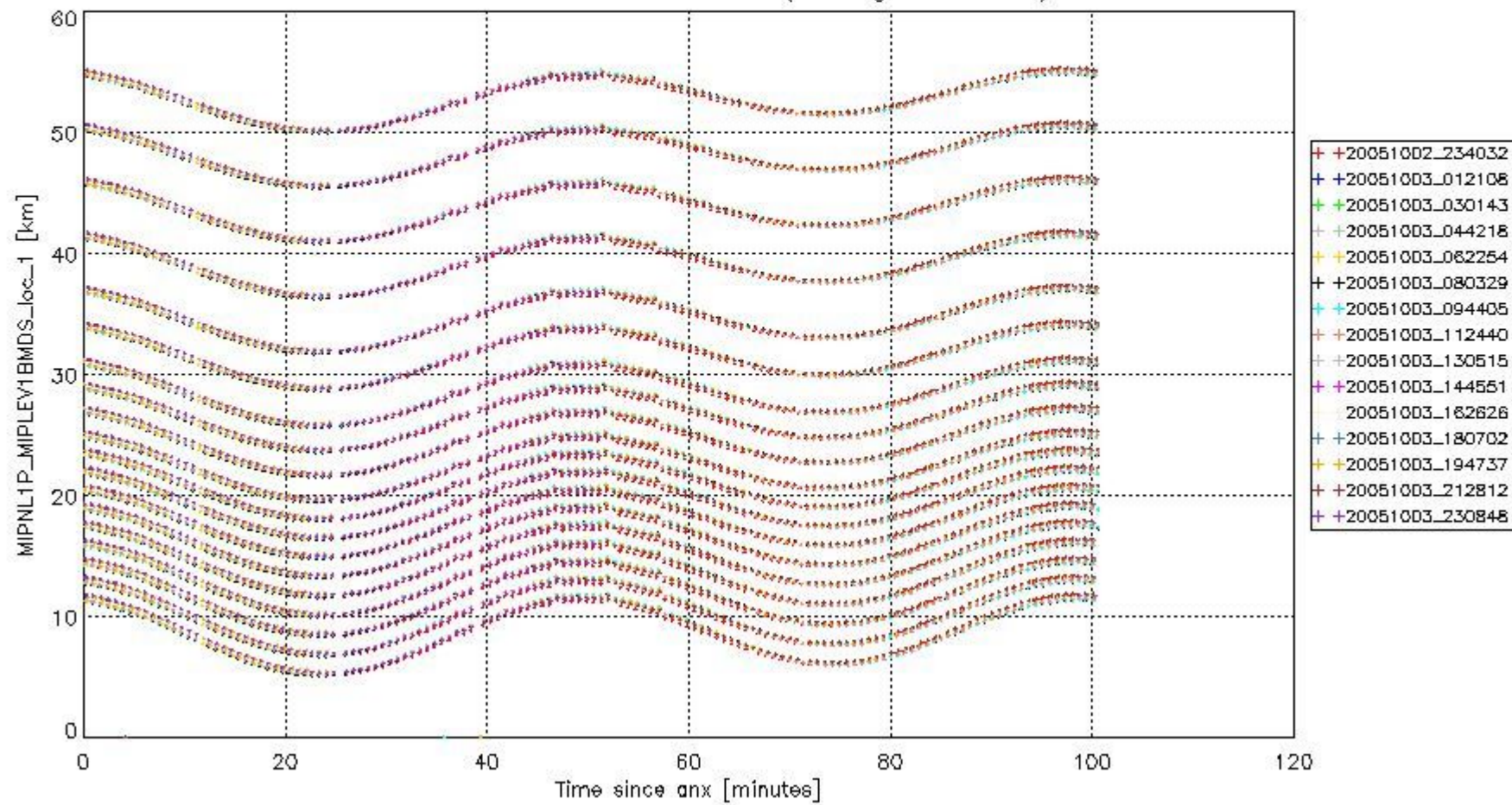
#### 1.3.1 Tangent altitude

Plot of MIPNL1P\_MIPLEV1BMDS\_loc\_1 against time.  
The vertical grid lines indicate estimated anx events.





Plot of MIPNL1P\_MIPLEV1BMDS\_loc\_1 against relative time within orbit.  
The colours indicate distinct orbits (see legend for anx).



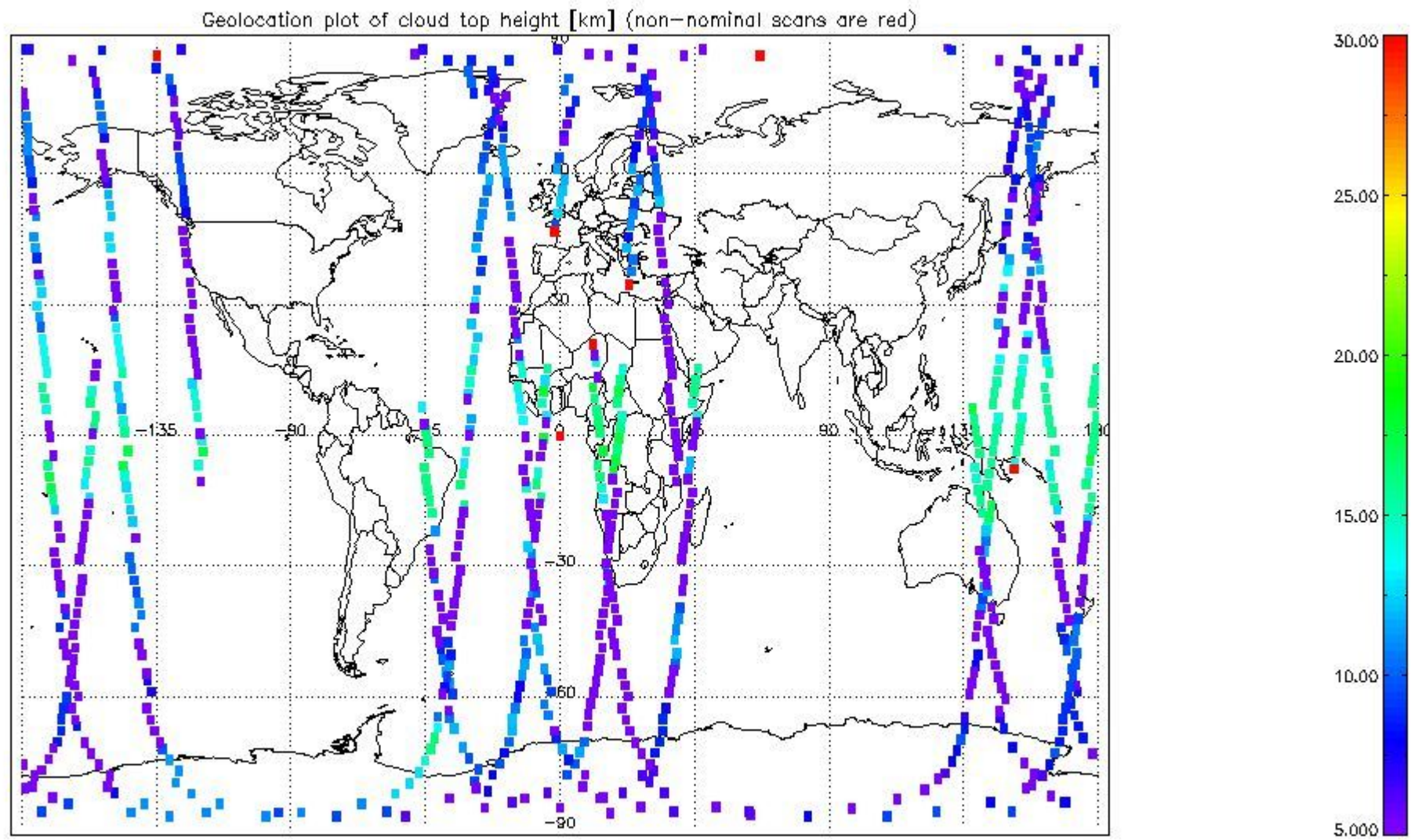
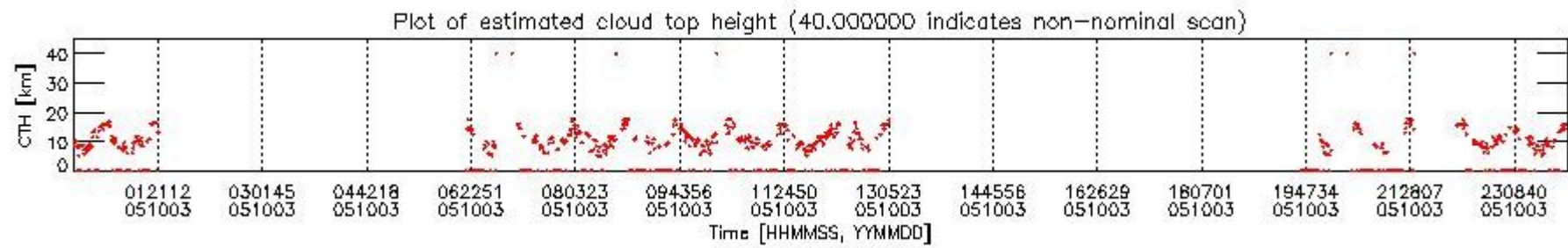
### 1.3.2 Cloud top height

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

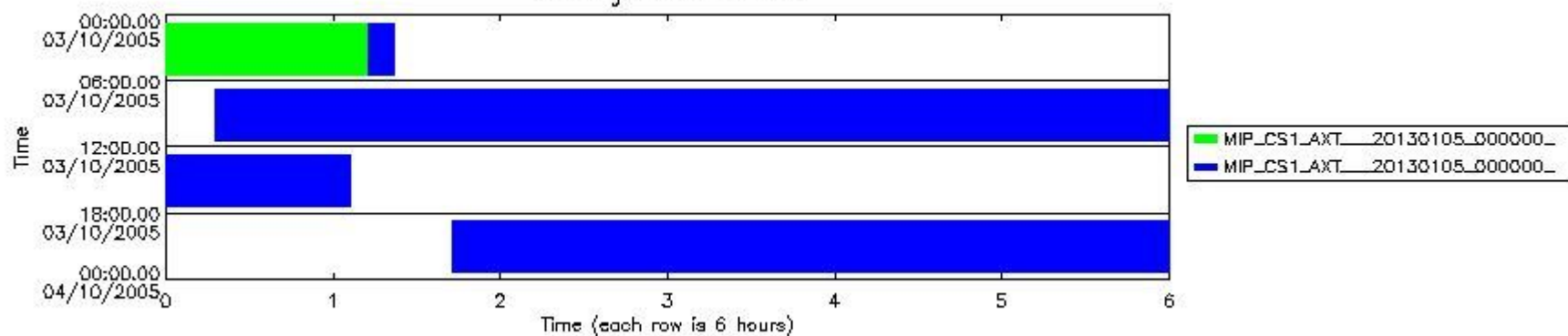
Number	ADF
0	AUX_FRA_AXVFOS20070125_160021_20051002_000000_20051004_000000
1	AUX_FRA_AXVFOS20070125_160023_20051003_000000_20051005_000000
2	DOR_VOR_AXVF-P20120424_193900_20051002_215528_20051004_002328
3	DOR_VOR_AXVF-P20120424_194100_20051003_215528_20051005_002328
4	MIP_CA1_AXT_20130105_000000_20050926_000000_20051026_000000
5	MIP_CA1_AXT_20130105_000000_20051003_000000_20051103_000000
6	MIP_CG1_AXT_20130105_000000_20050926_000000_20051026_000000
7	MIP_CG1_AXT_20130105_000000_20051003_000000_20051103_000000
8	MIP_CL1_AXT_20080729_075920_20020401_000000_20161214_000000
9	MIP_CO1_AXT_20130105_000000_20050926_000000_20051026_000000
10	MIP_CO1_AXT_20130105_000000_20051003_000000_20051103_000000



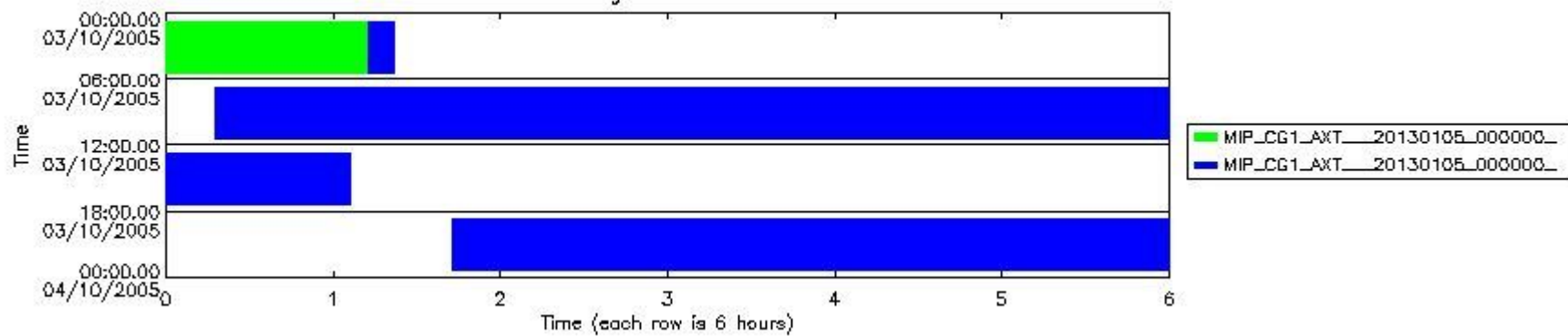
11	MIP_CS1_AXT___20130105_000000_20050926_000000_20051026_000000
12	MIP_CS1_AXT___20130105_000000_20051003_000000_20051103_000000
13	MIP_MW1_AXT___20120105_091859_20020401_000000_20161214_000000
14	MIP_PS1_AXT___20130718_100321_20040809_000000_20161214_000000

Number	Product name	#CS1	#CG1	#CL1	#CA1	#CO1	#MW1	#PS1	#FPO	#FRA
0	MIP_NL__1PWDSI20051002_233211_000060362041_00188_18779_0000.N1	11	6	8	4	9	13	14	2	0
1	MIP_NL__1PWDSI20051003_011253_000005062041_00189_18780_0000.N1	12	7	8	5	10	13	14	2	1
2	MIP_NL__1PWDSI20051003_061814_000057682041_00192_18783_0000.N1	12	7	8	5	10	13	14	2	1
3	MIP_NL__1PWDSI20051003_075511_000060302041_00193_18784_0000.N1	12	7	8	5	10	13	14	2	1
4	MIP_NL__1PWDSI20051003_093547_000060302041_00194_18785_0000.N1	12	7	8	5	10	13	14	2	1
5	MIP_NL__1PWDSI20051003_111622_000060362041_00195_18786_0000.N1	12	7	8	5	10	13	14	2	1
6	MIP_NL__1PWDSI20051003_125704_000005062041_00196_18787_0000.N1	12	7	8	5	10	13	14	2	1
7	MIP_NL__1PWDSI20051003_194302_000057672041_00200_18791_0000.N1	12	7	8	5	10	13	14	2	1
8	MIP_NL__1PWDSI20051003_211958_000060302041_00201_18792_0000.N1	12	7	8	5	10	13	14	2	1
9	MIP_NL__1PWDSI20051003_230034_000060362041_00202_18793_0000.N1	12	7	8	5	10	13	14	3	1

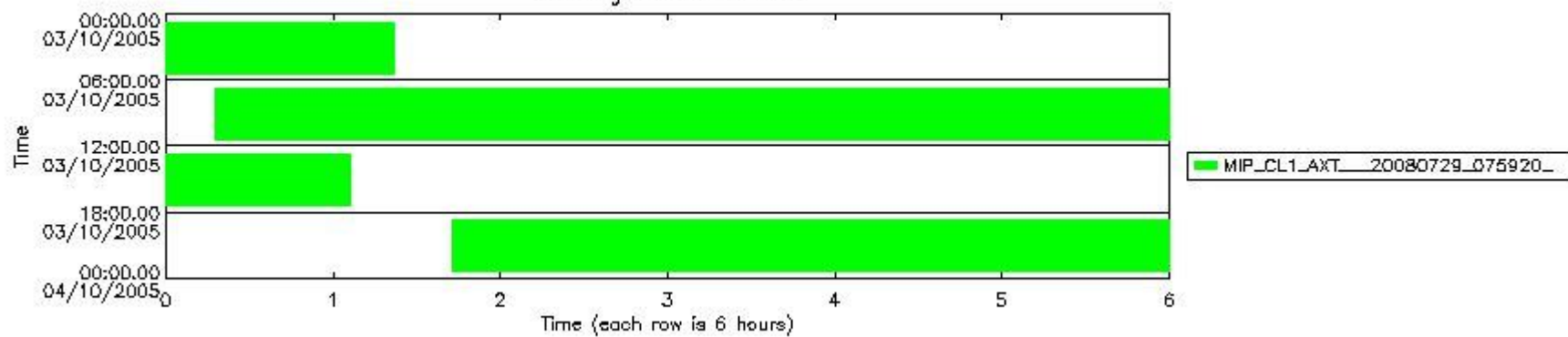
Bar plot of ADFs used for ILS&SPECTRAL CAL FILE.  
See legend for details.

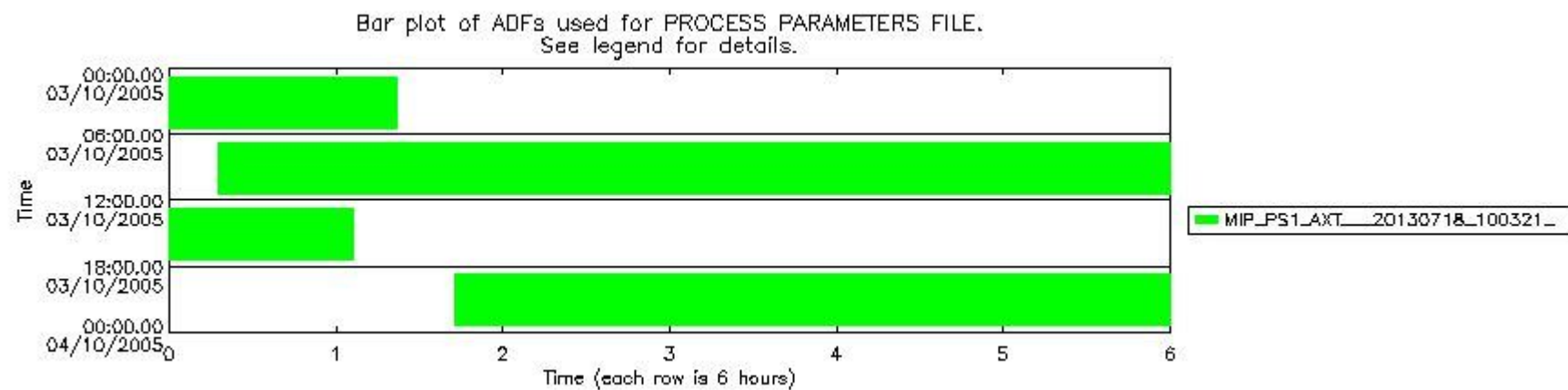
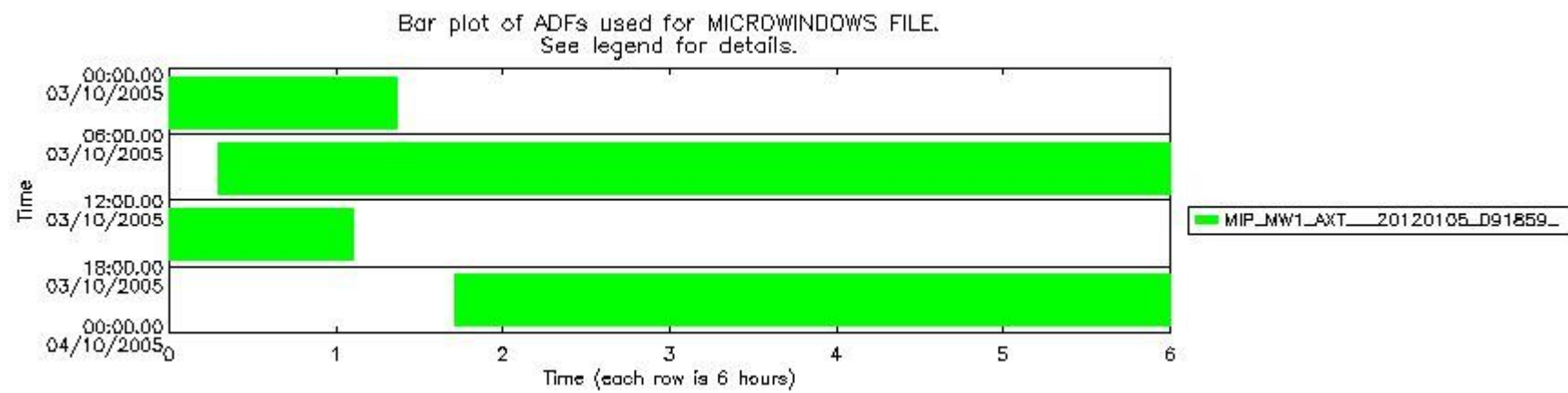
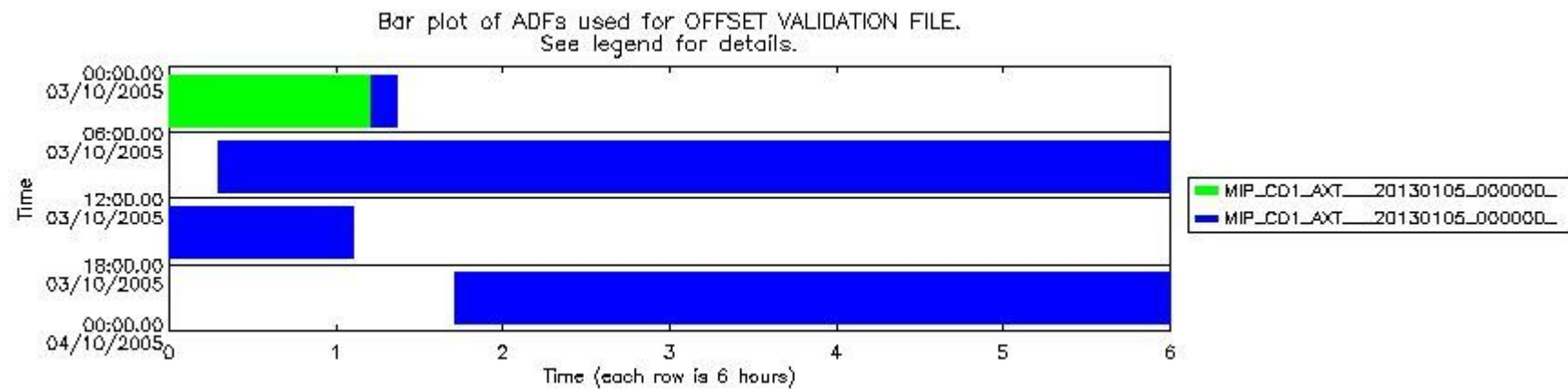
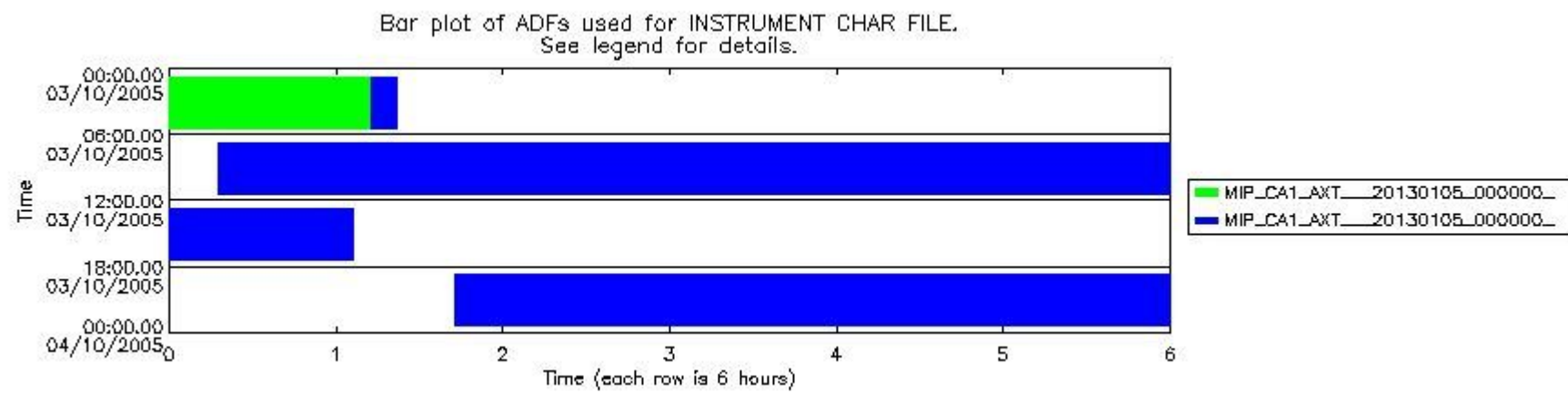


Bar plot of ADFs used for GAIN CALIBRATION FILE.  
See legend for details.



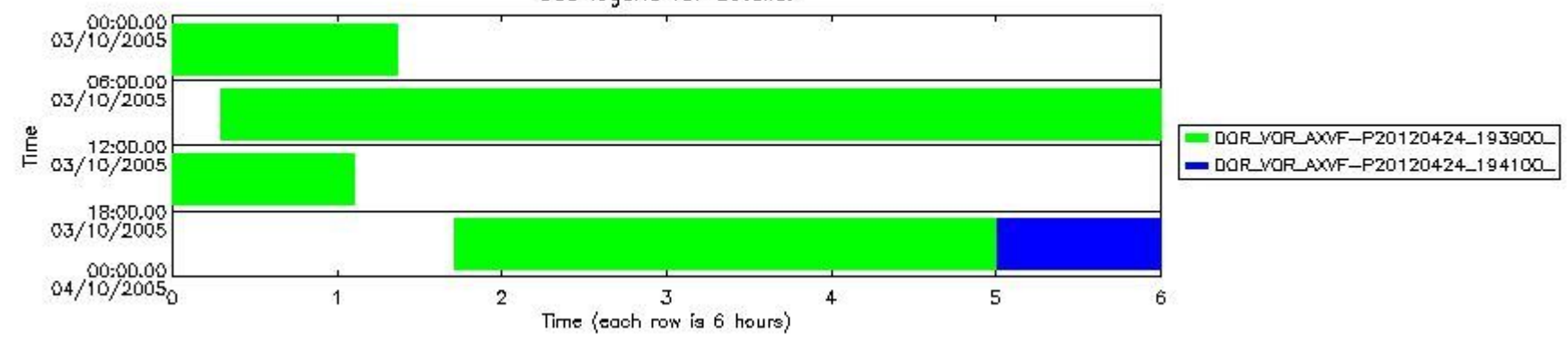
Bar plot of ADFs used for LINE OF SIGHT FILE.  
See legend for details.



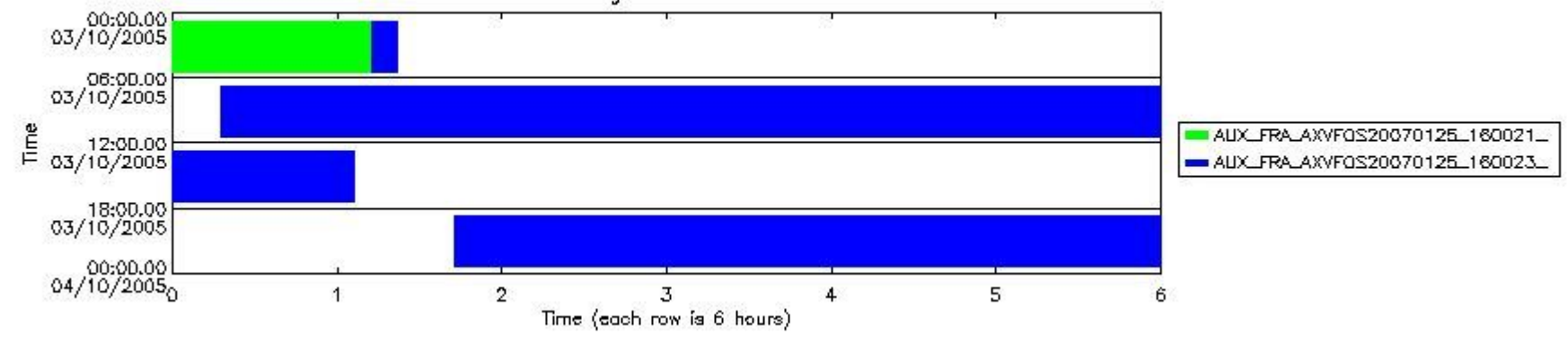




Bar plot of ADFs used for ORBIT DATA FILE.  
See legend for details.

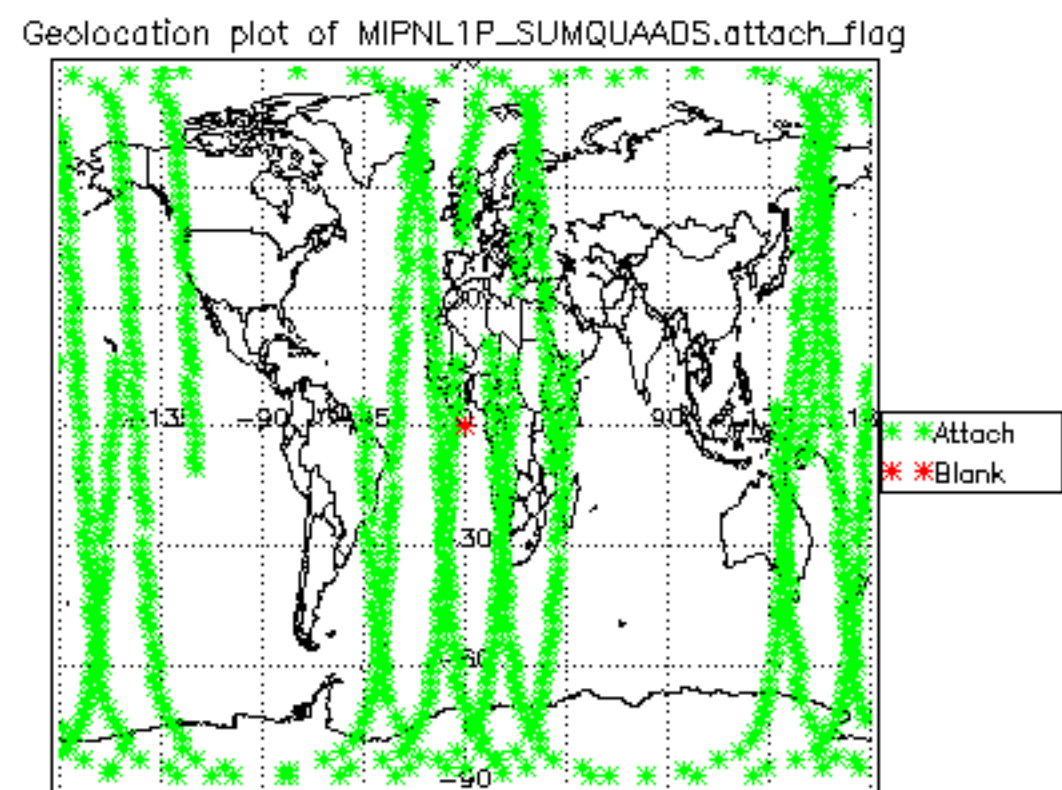
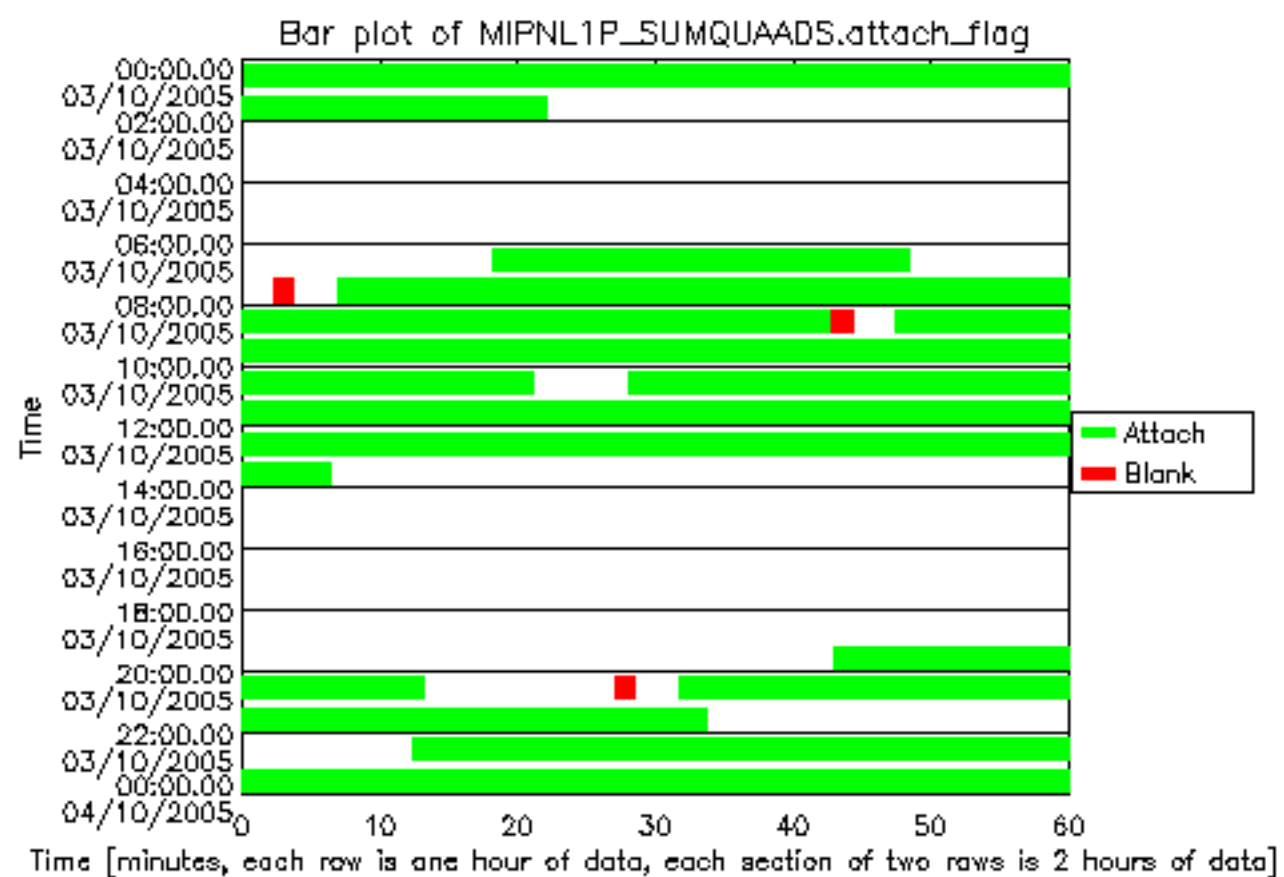


Bar plot of ADFs used for RESTITUTED ATTITUDE FILE.  
See legend for details.



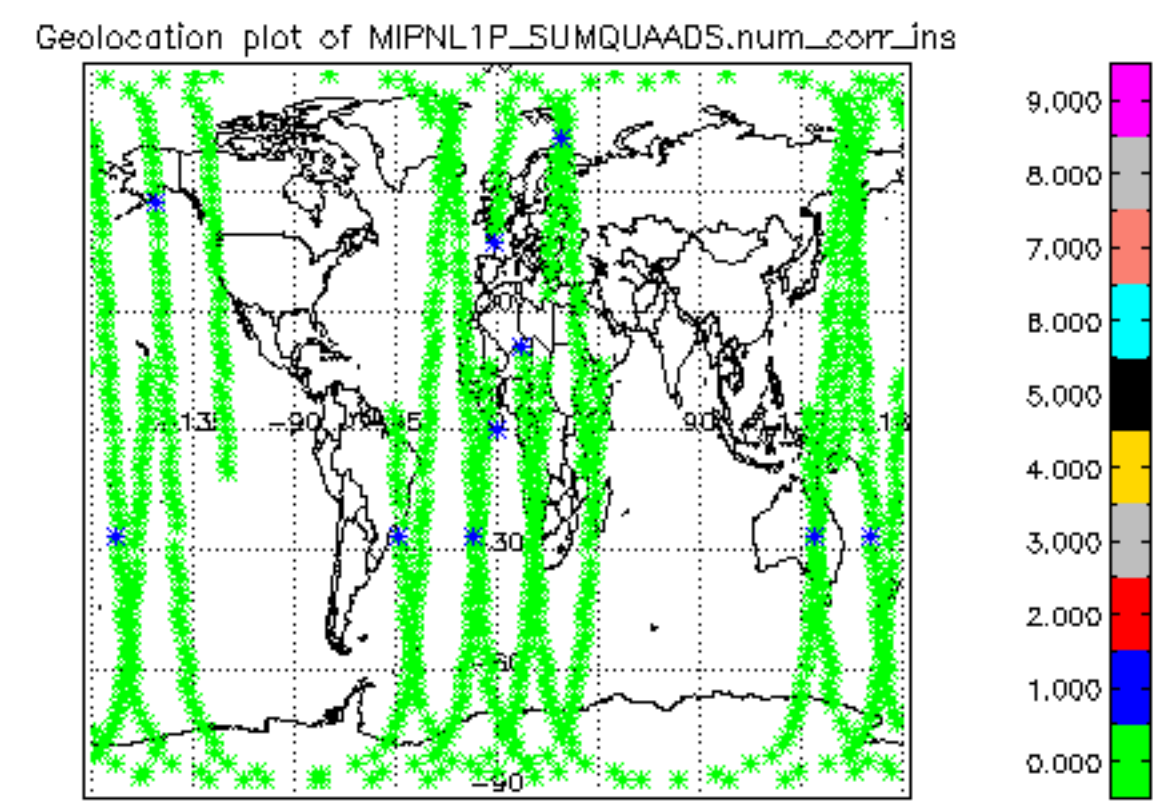
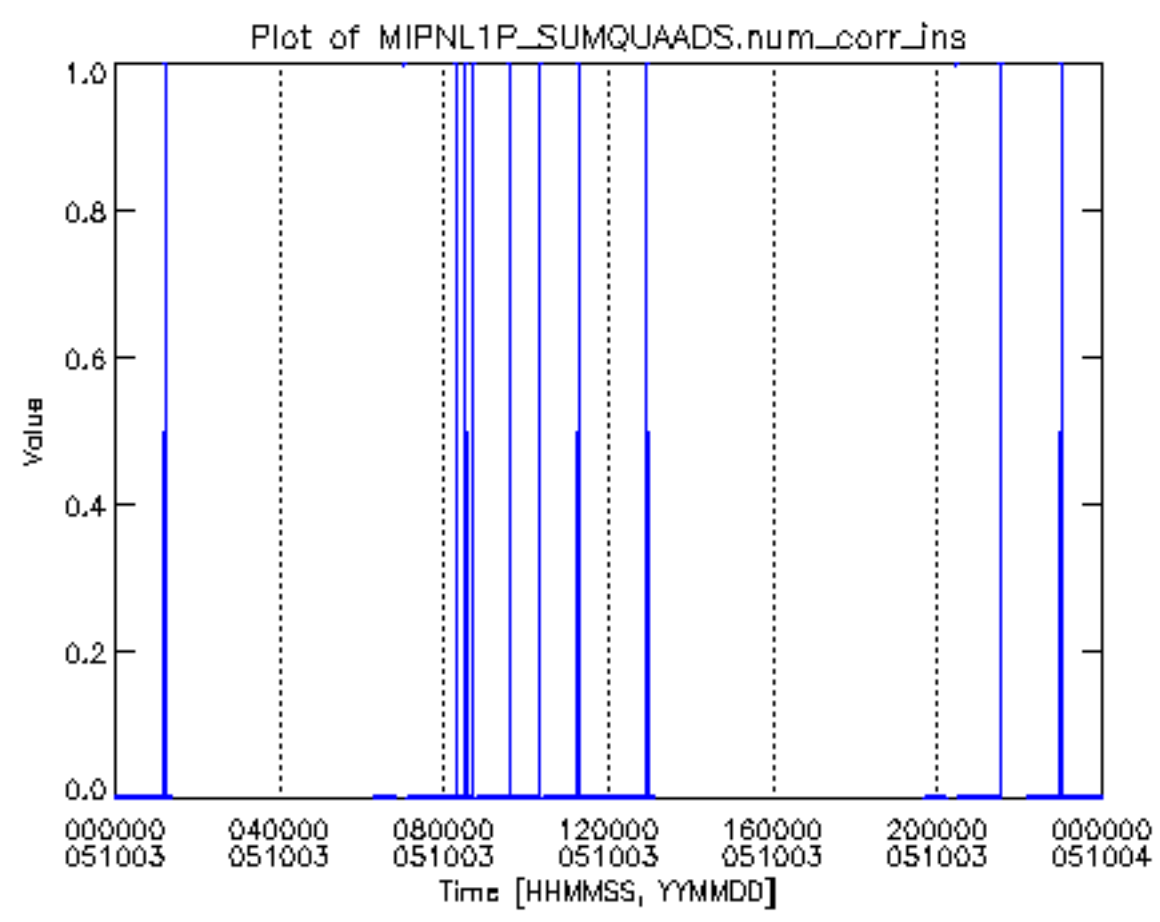


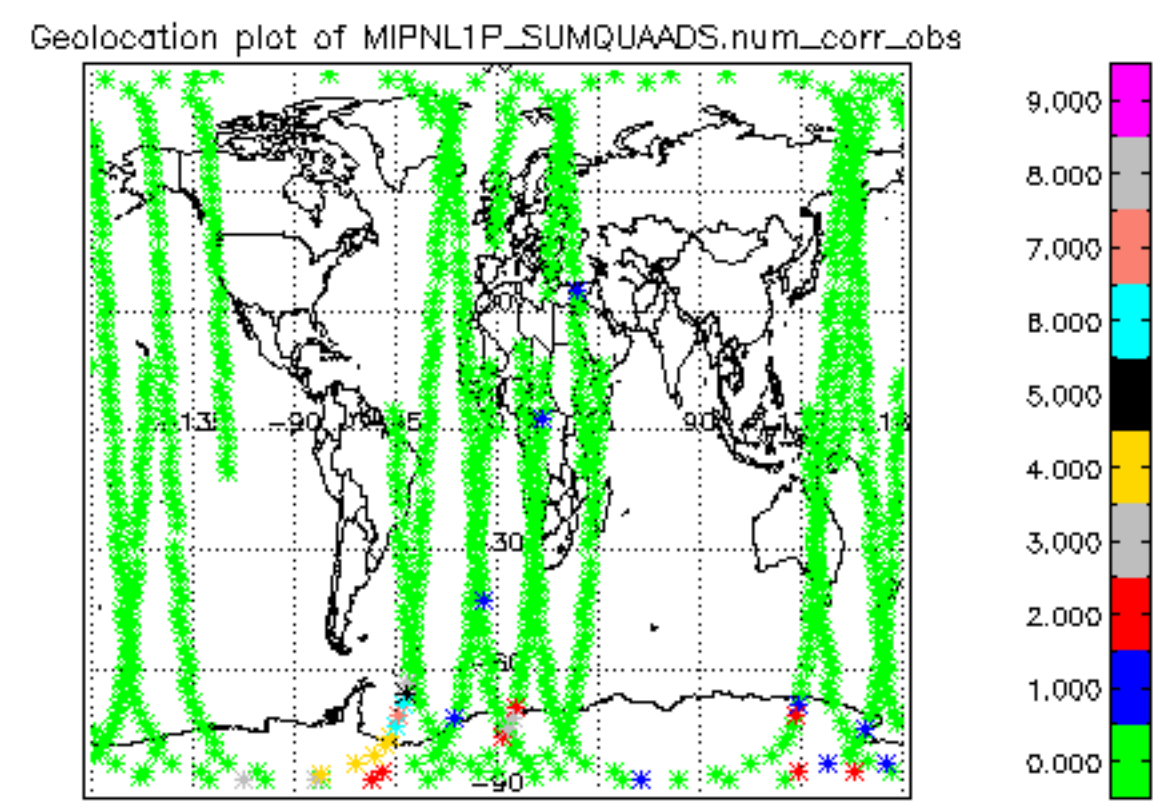
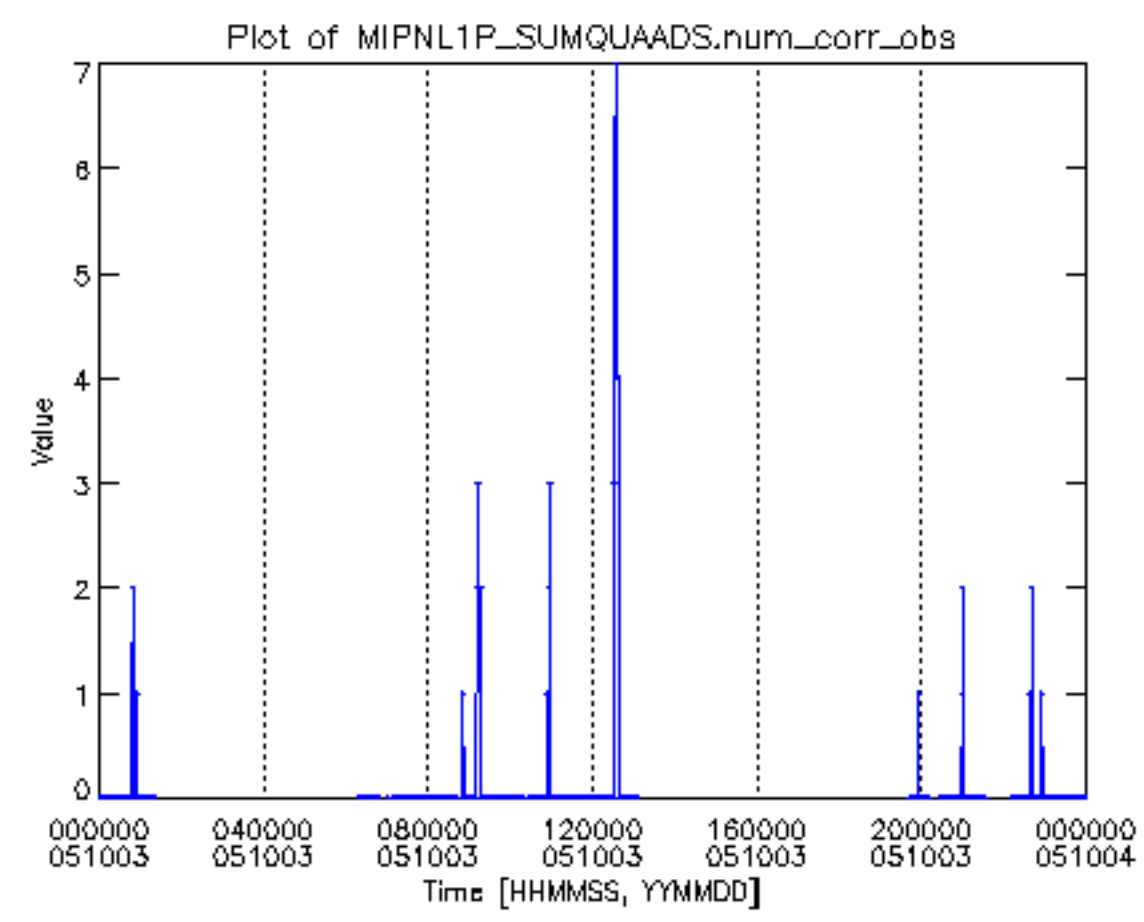




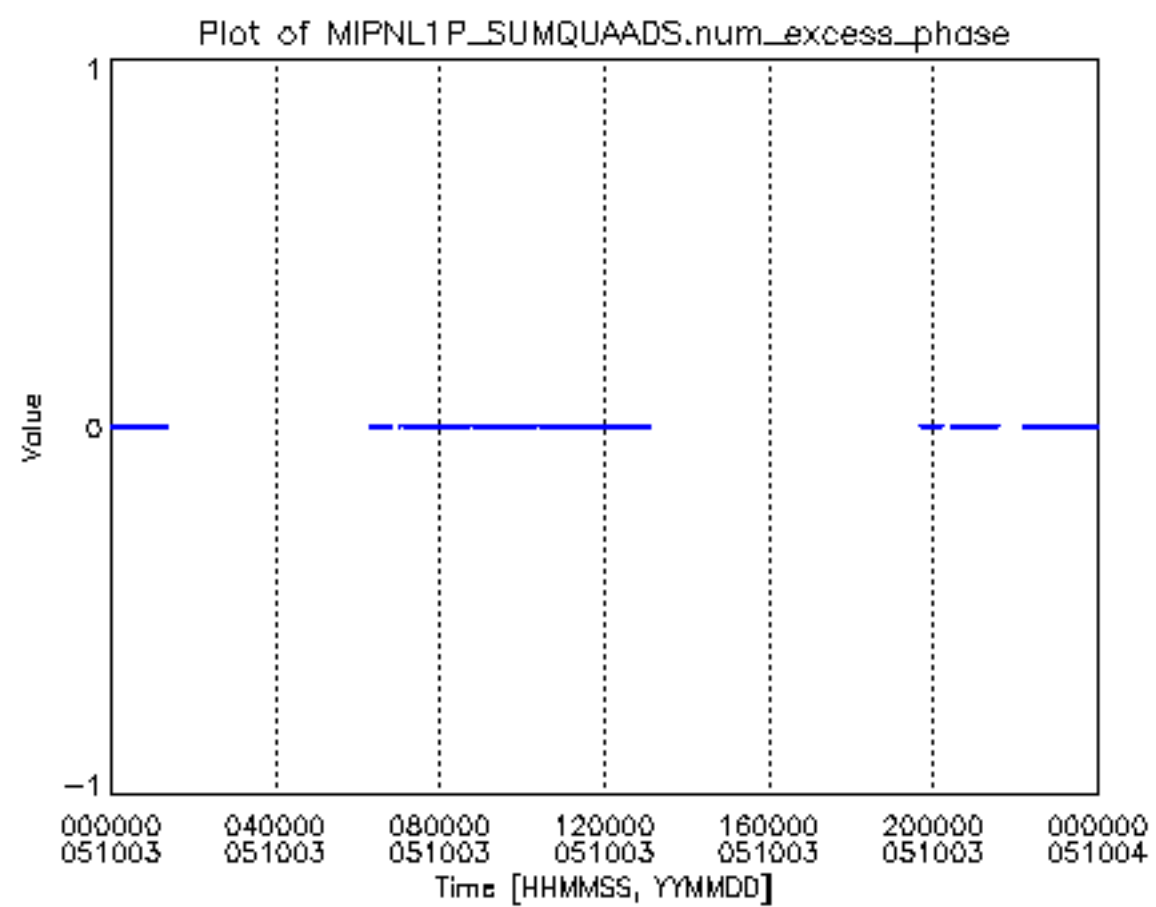




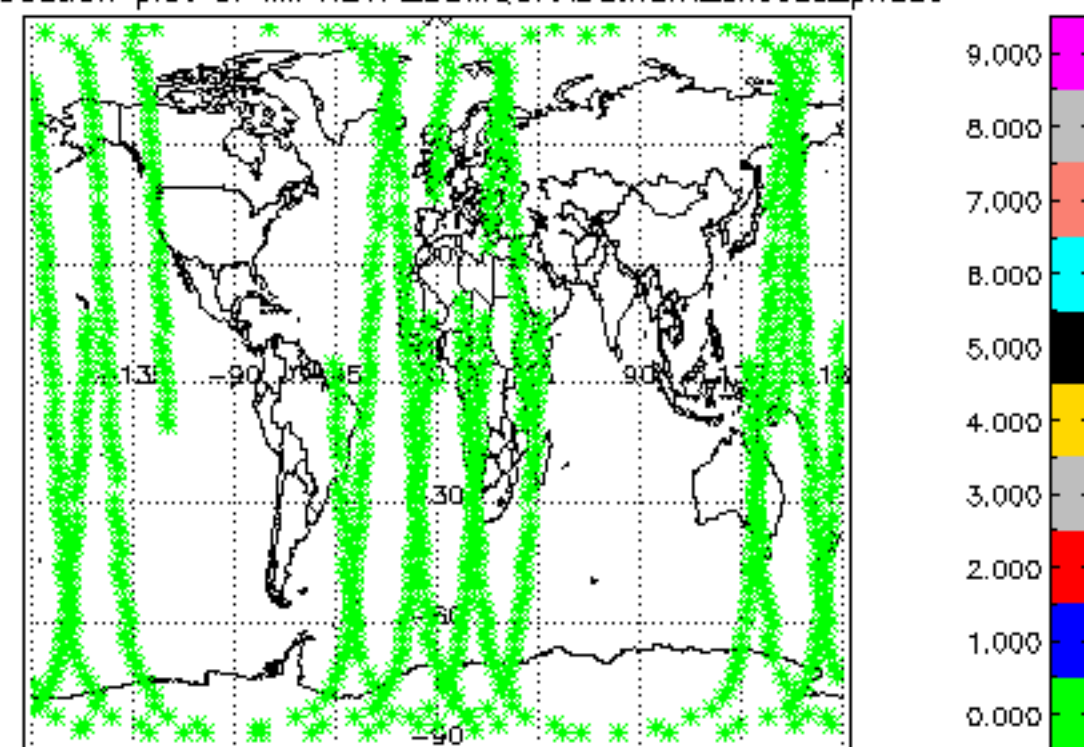


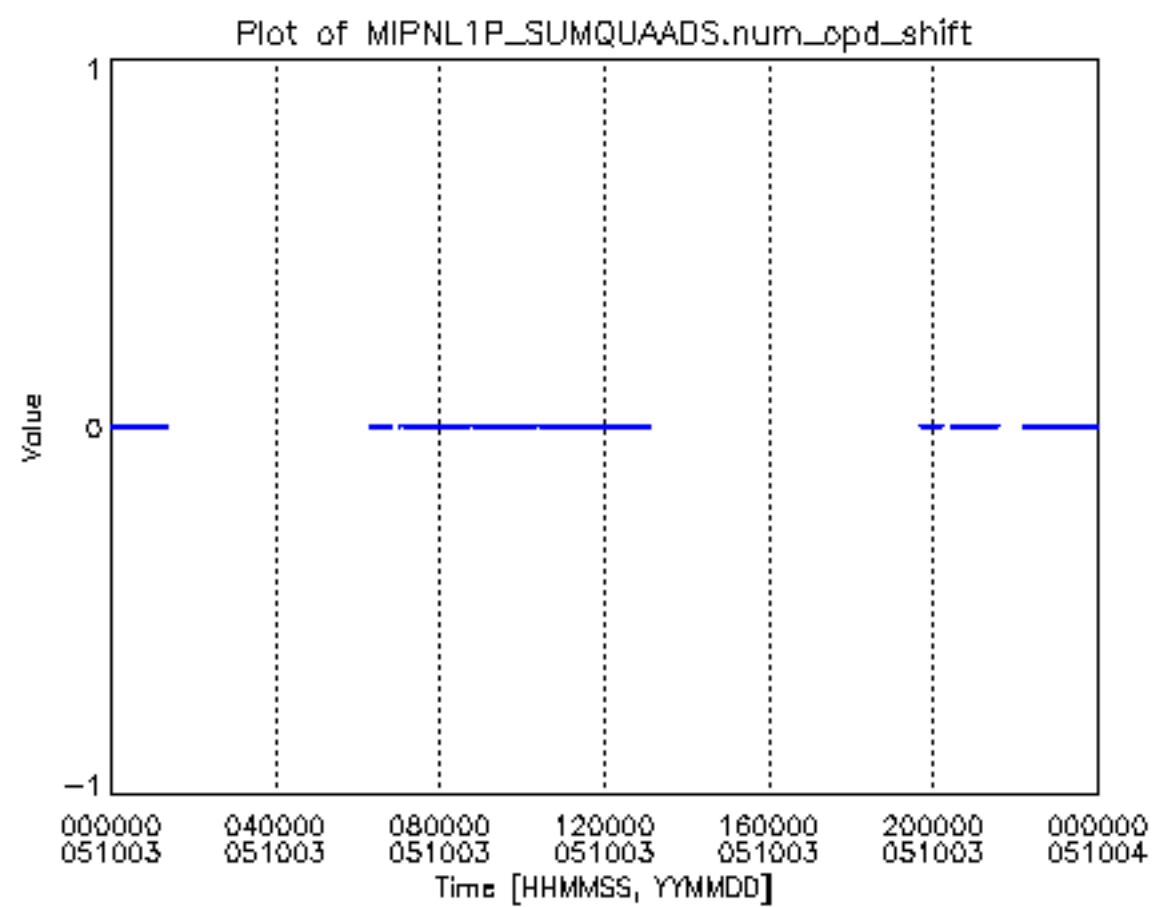




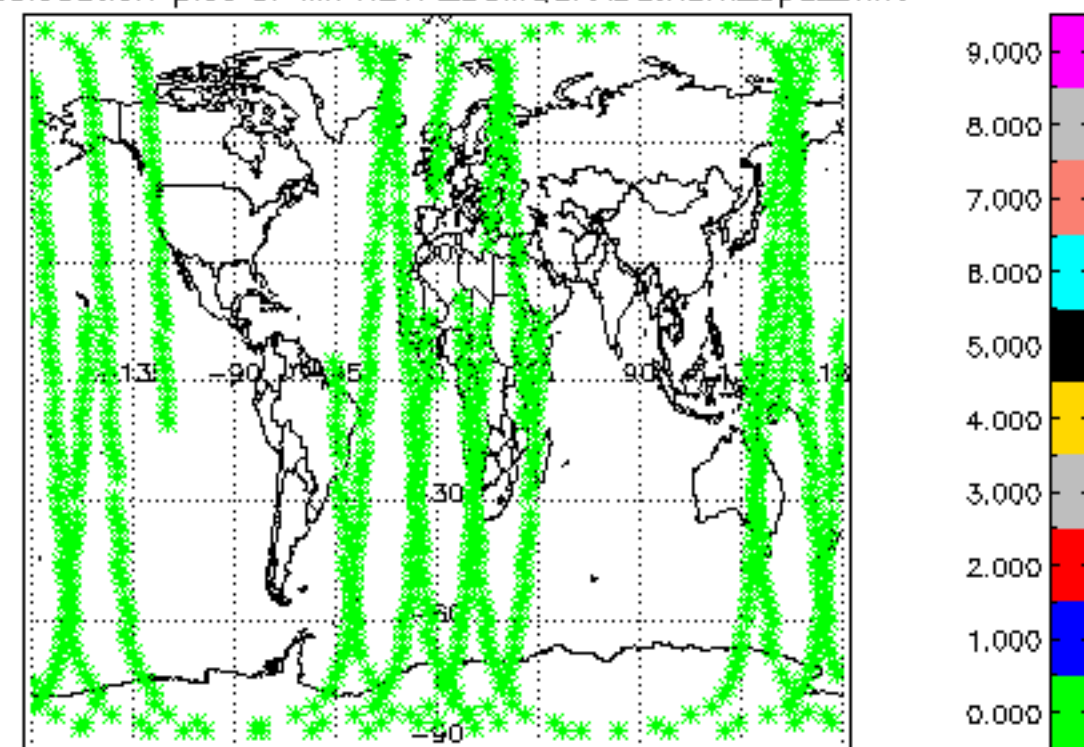


Geolocation plot of MIPNL1P\_SUMQUAADS.num\_excess\_phase

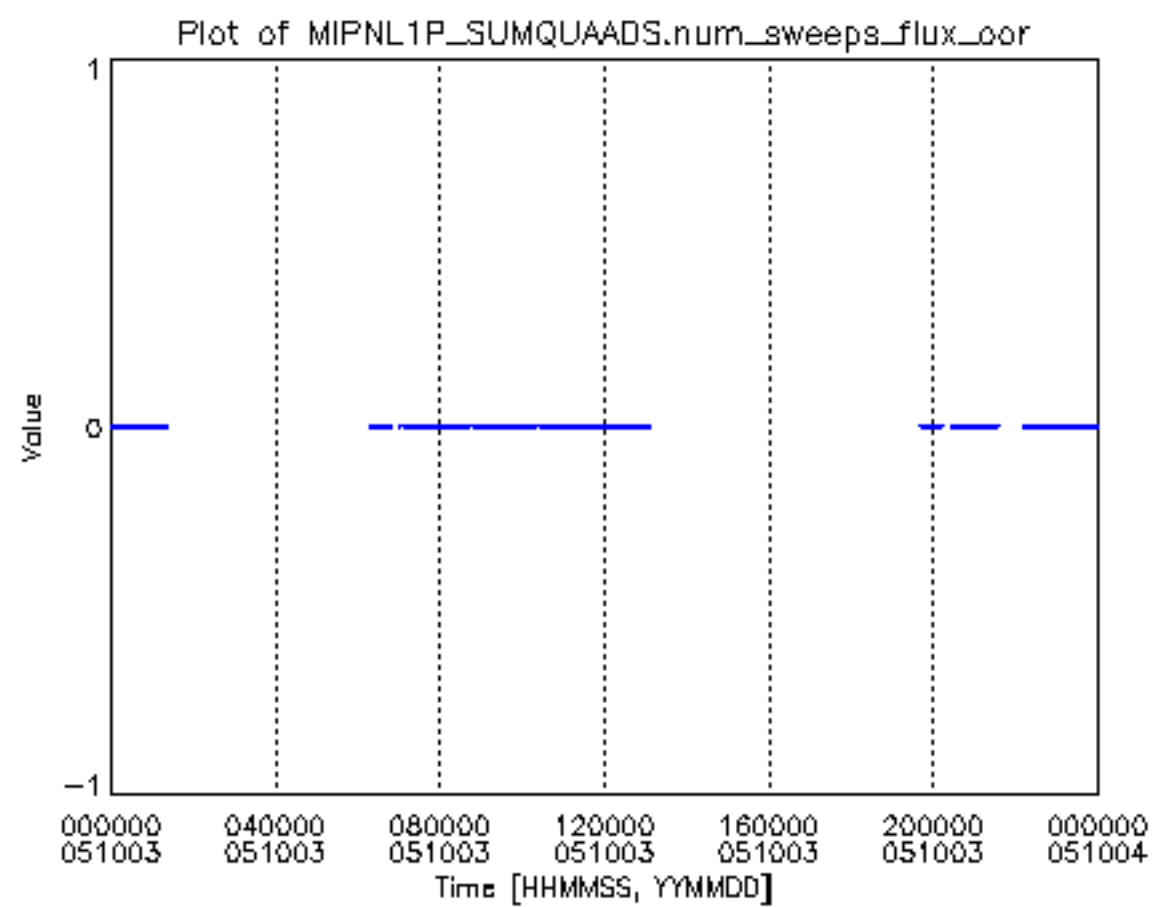




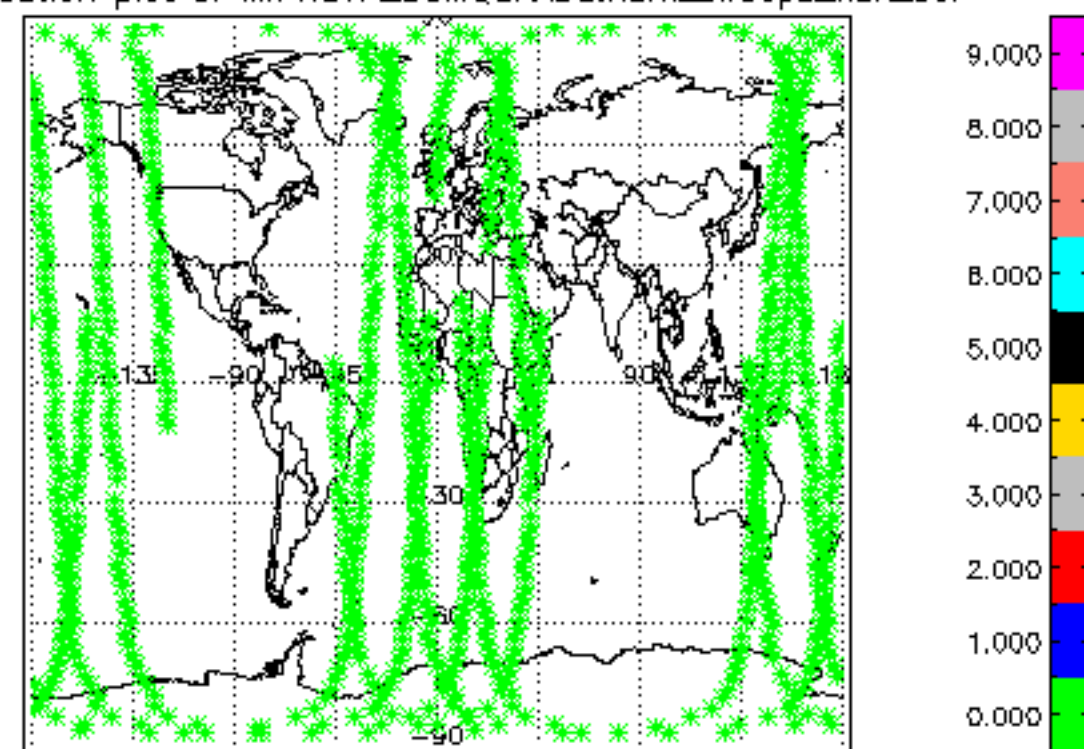
Geolocation plot of MIPNL1P\_SUMQUAADS.num\_opd\_shift

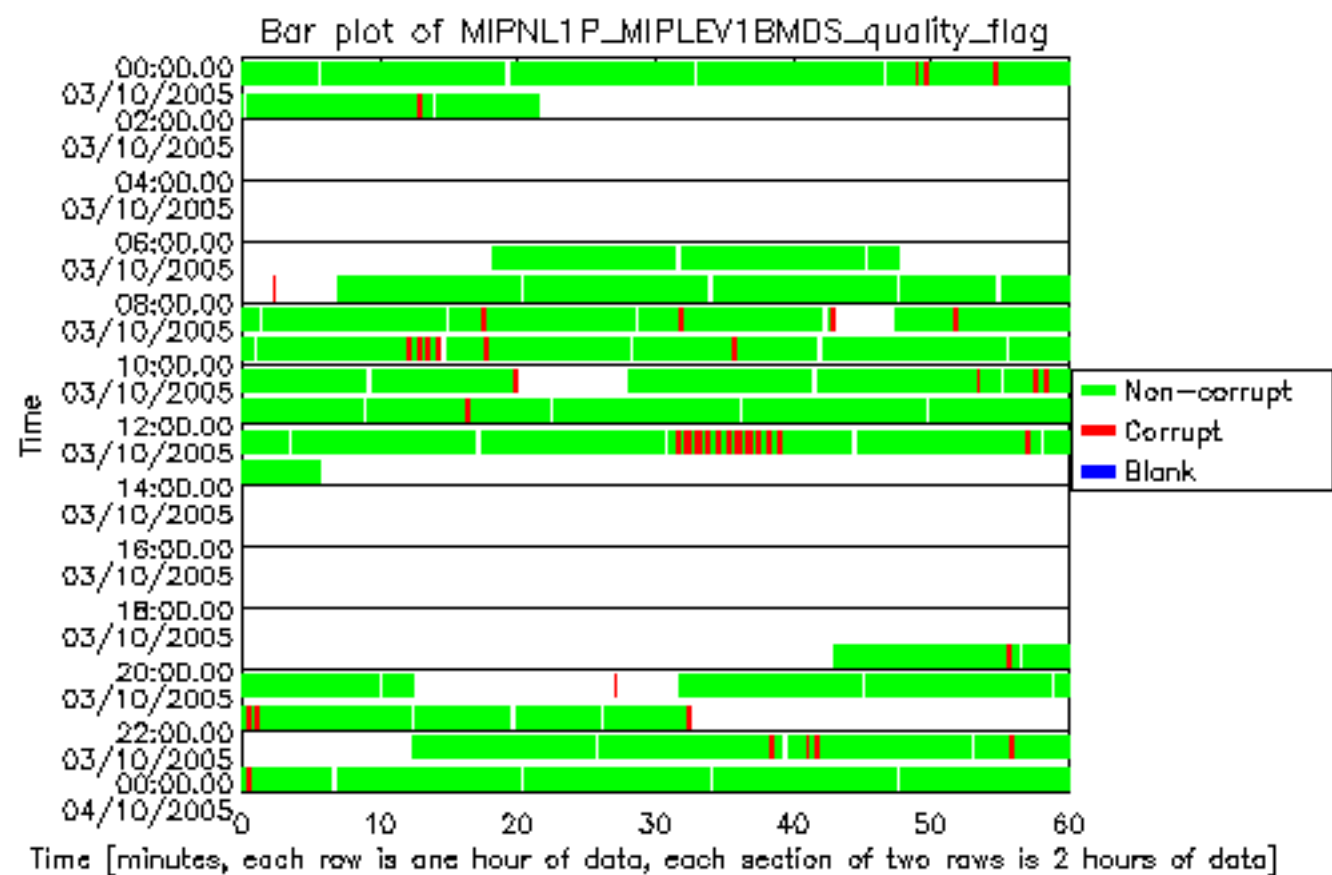




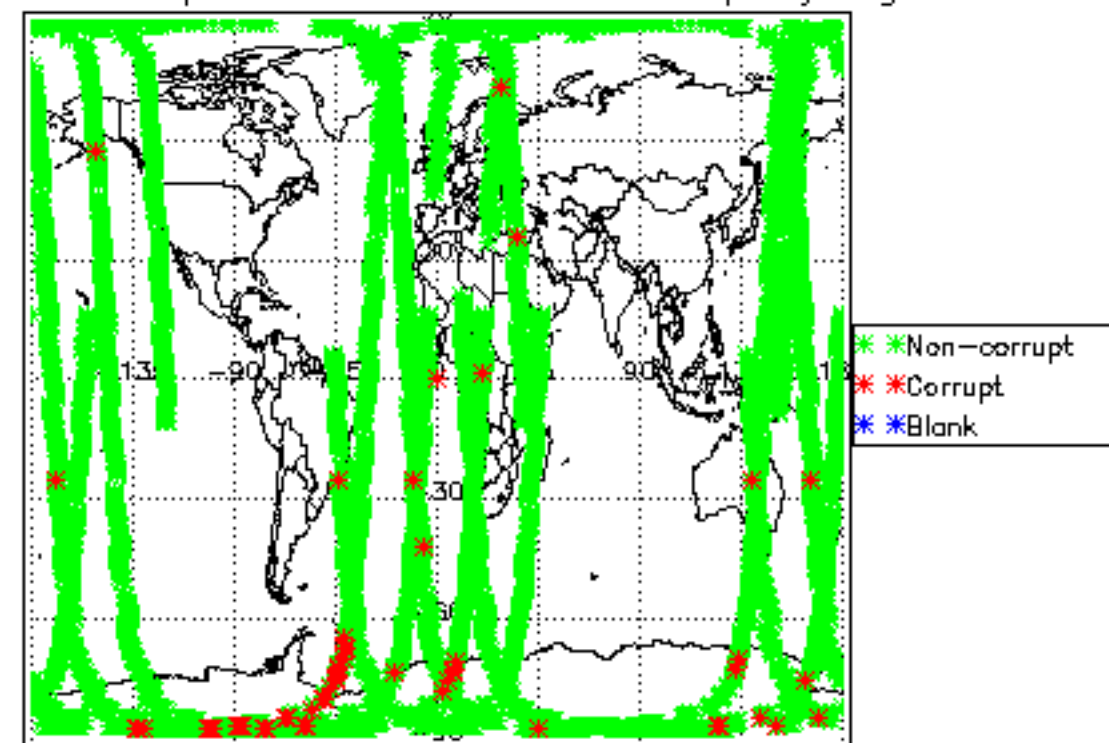


Geolocation plot of MIPNL1P\_SUMQUAADS.num\_sweeps\_flux\_oor

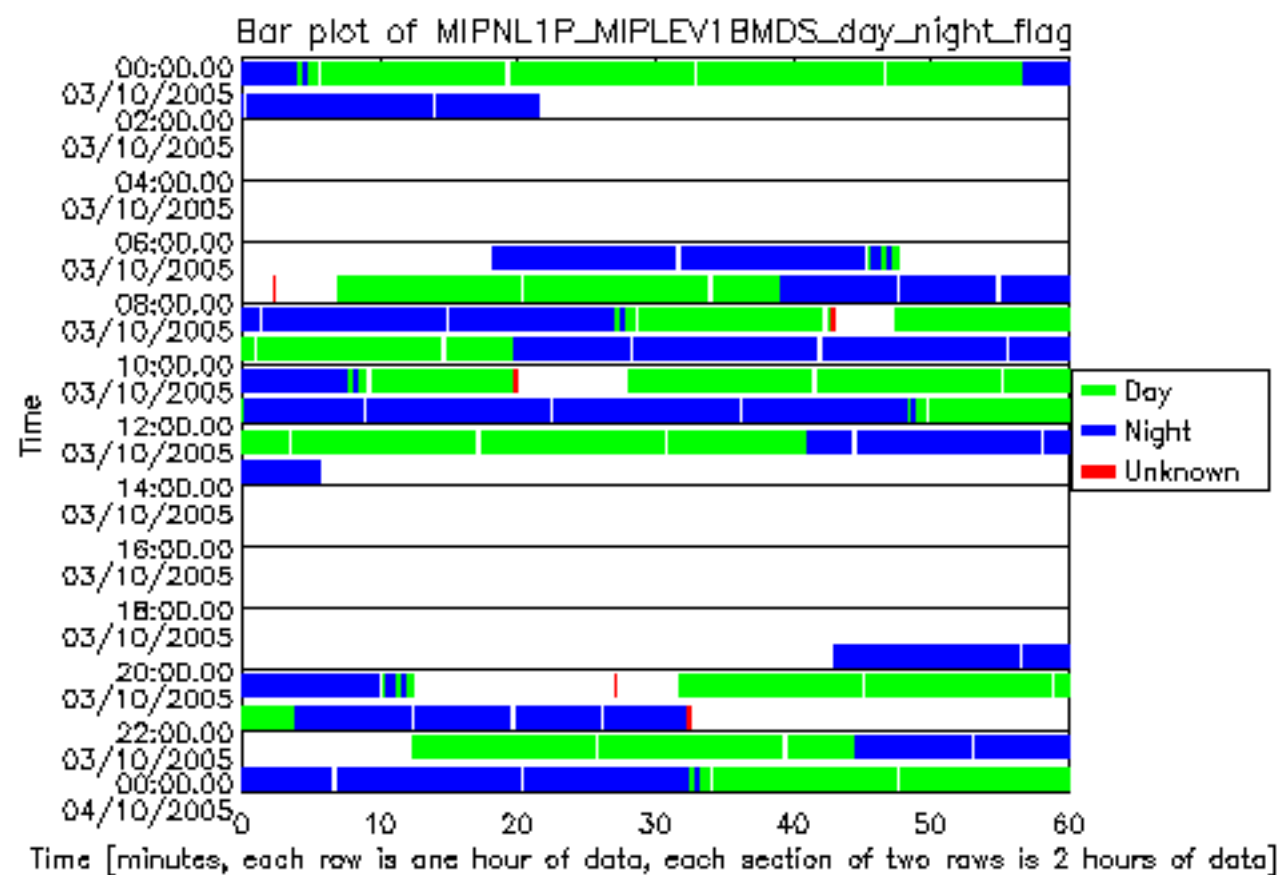




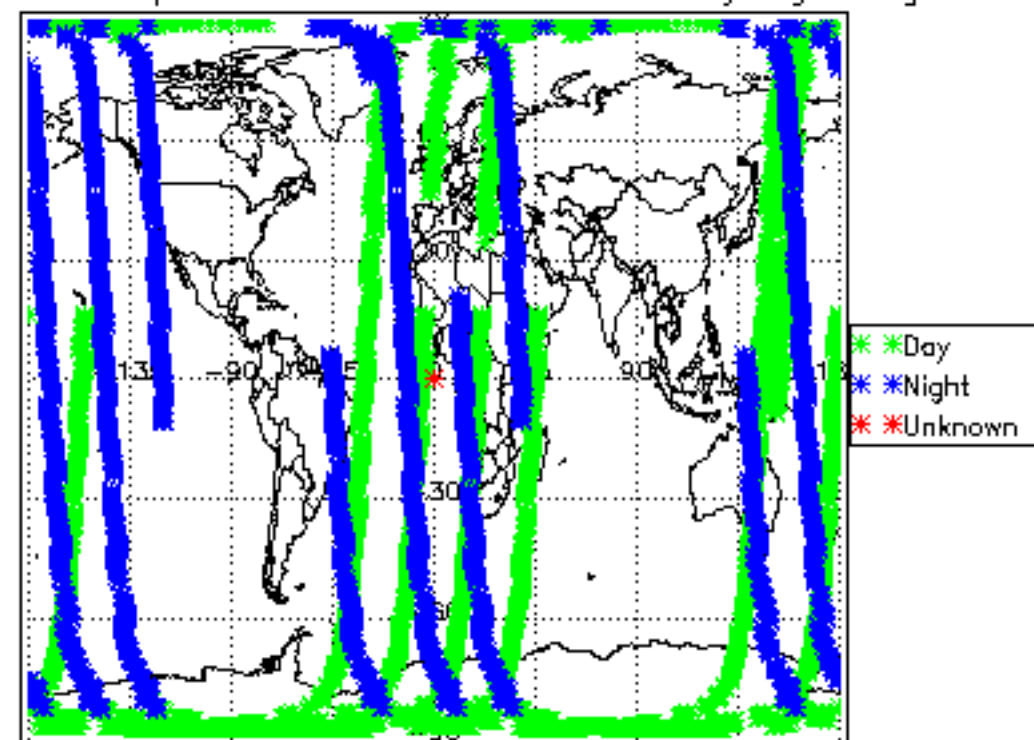
### Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_quality\_flag

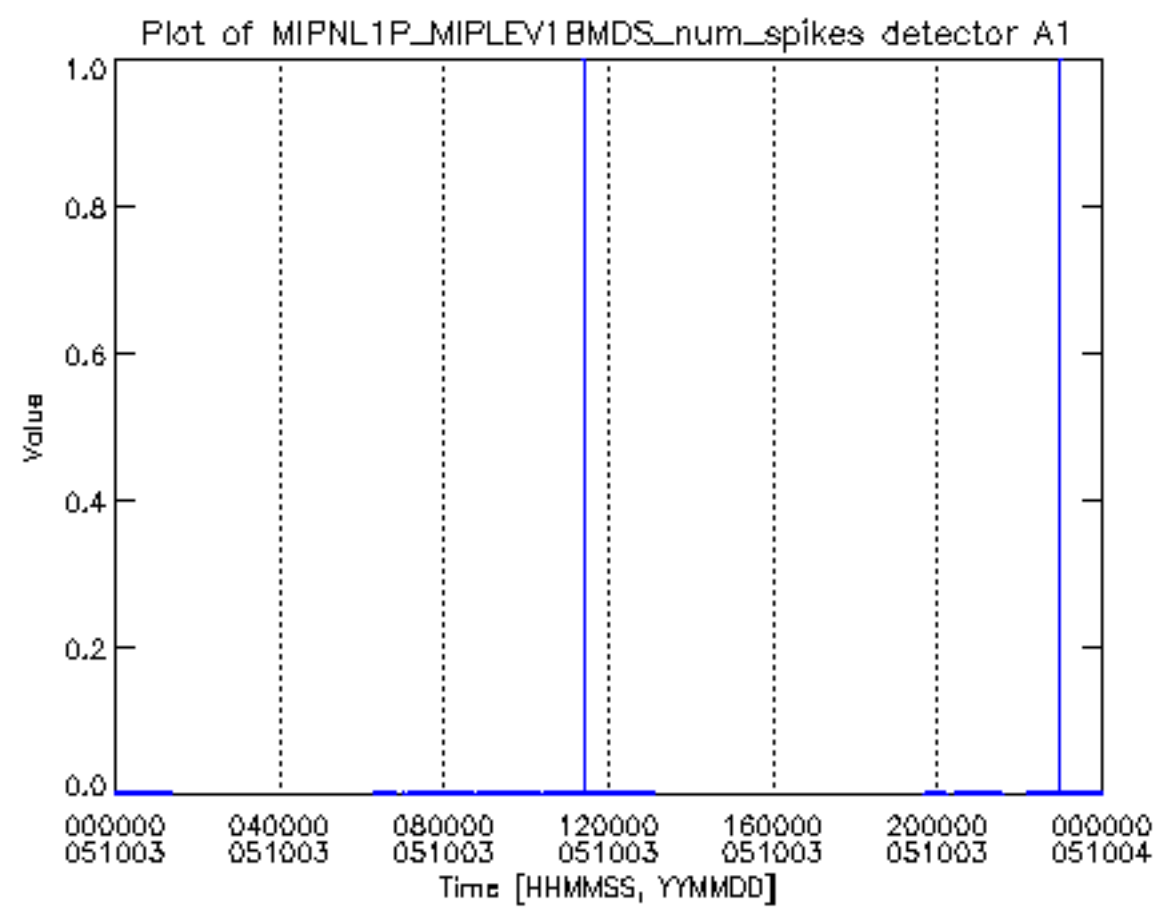




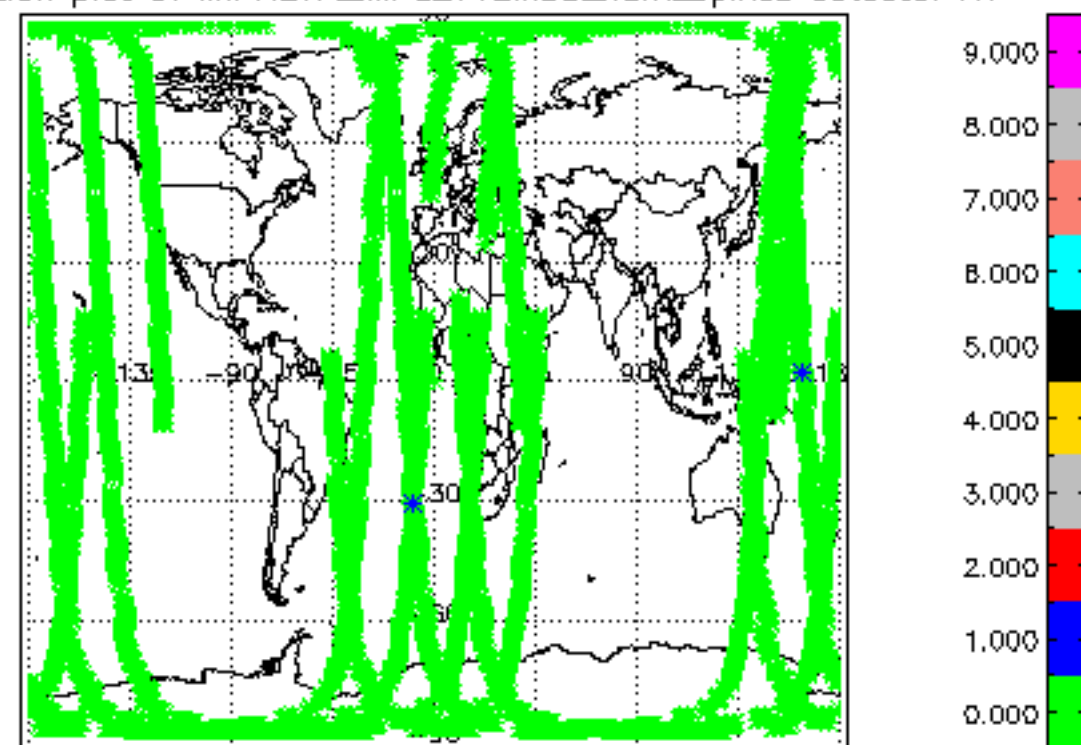


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_day\_night\_flag

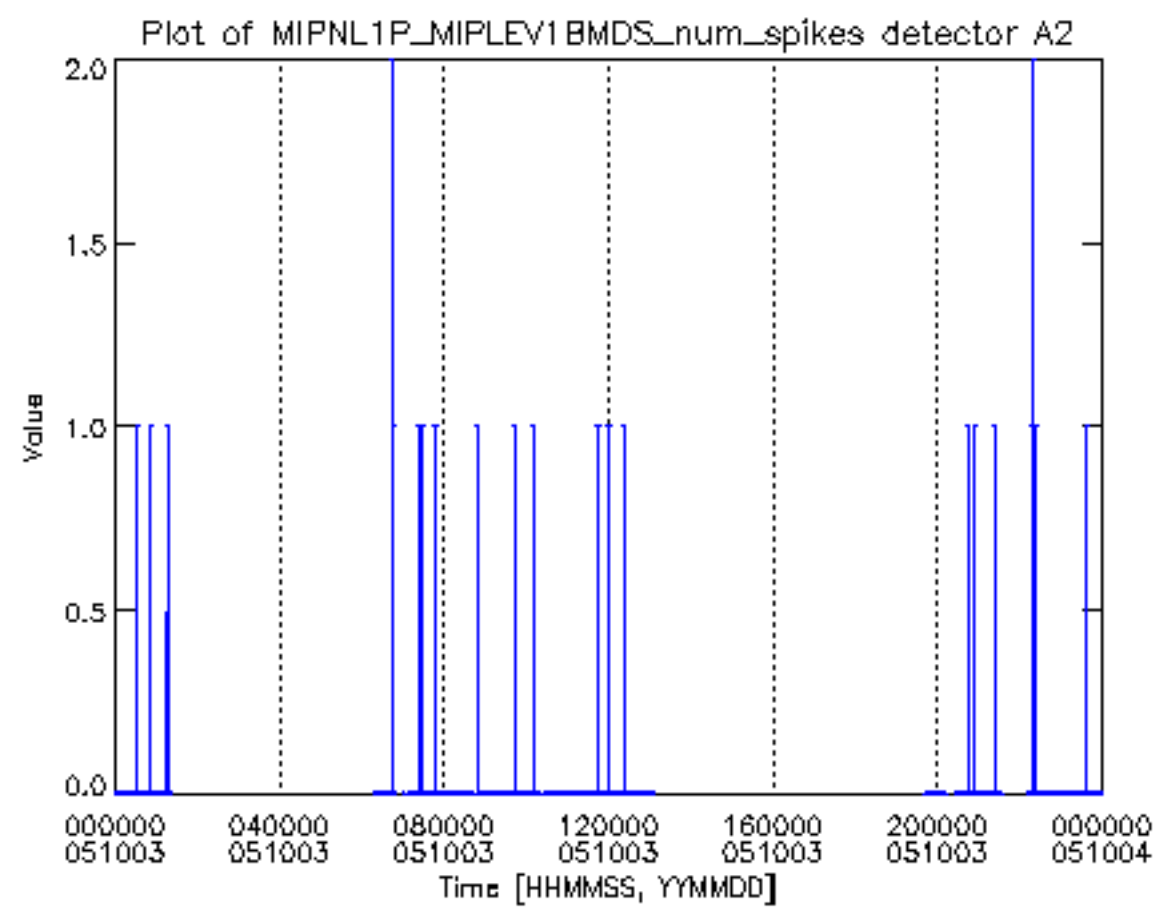




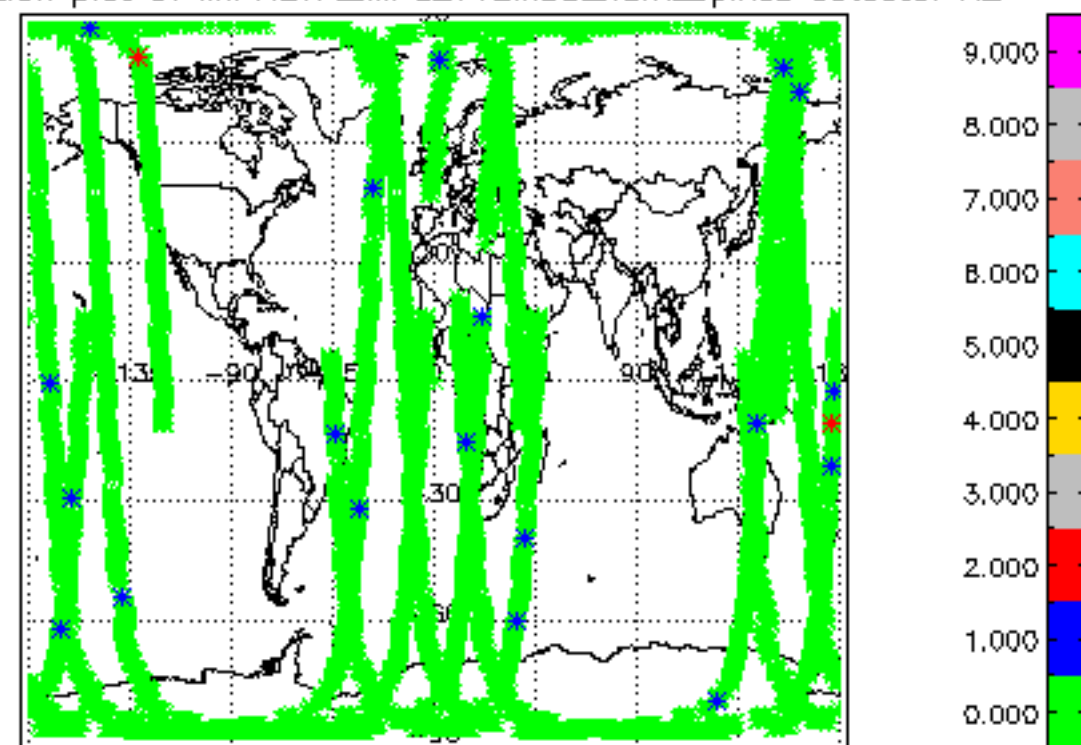
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_num\_spikes detector A1

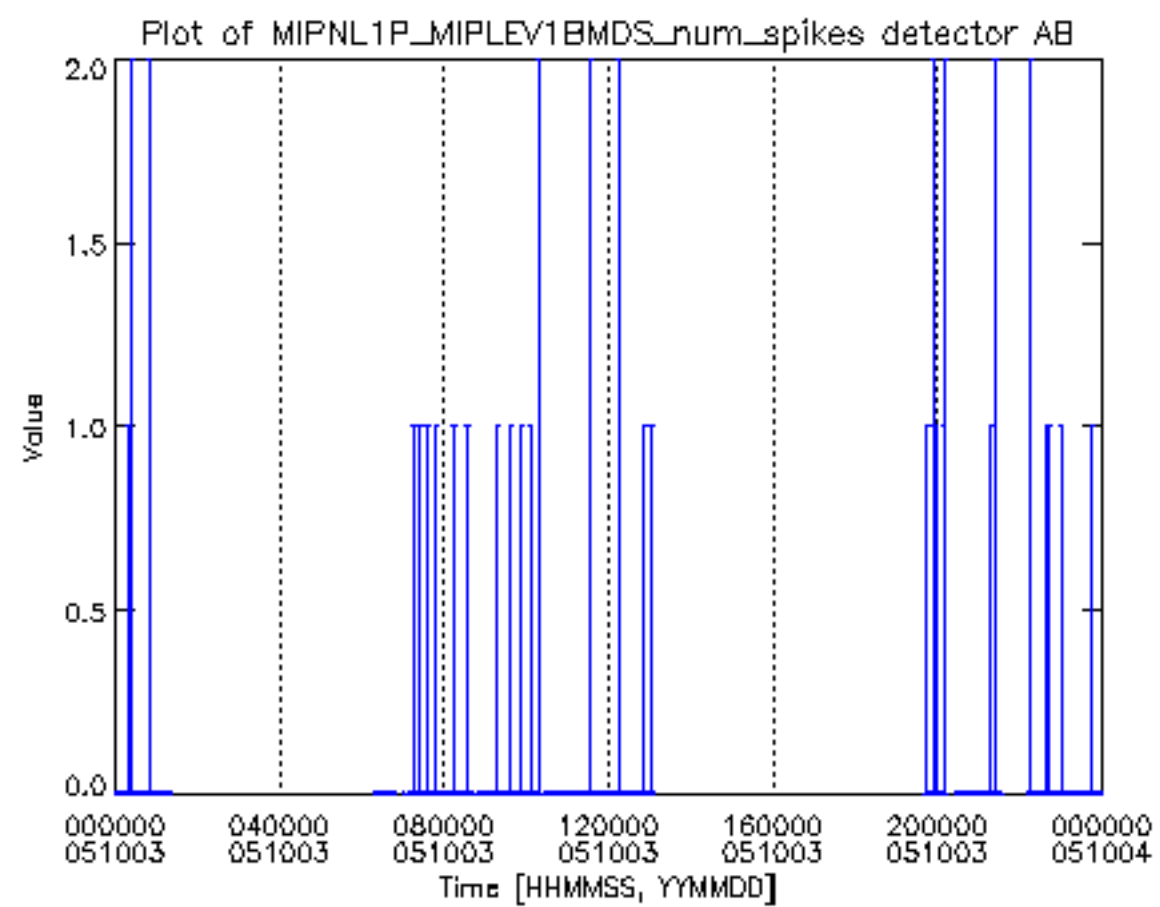




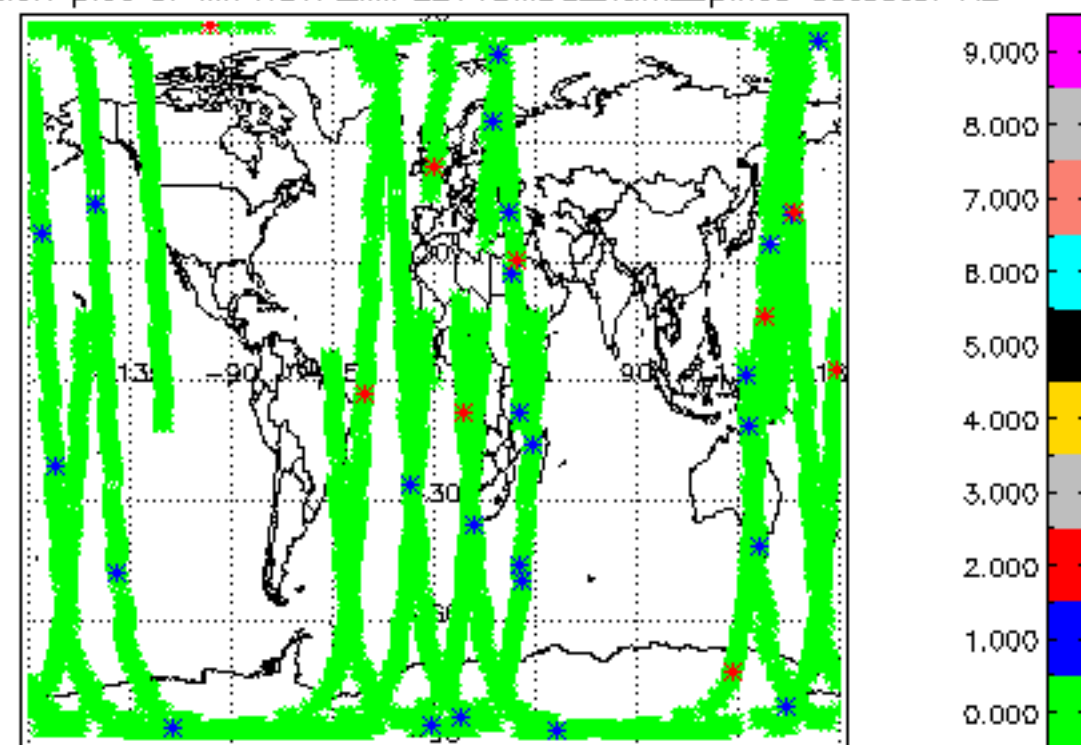


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_num\_spikes detector A2

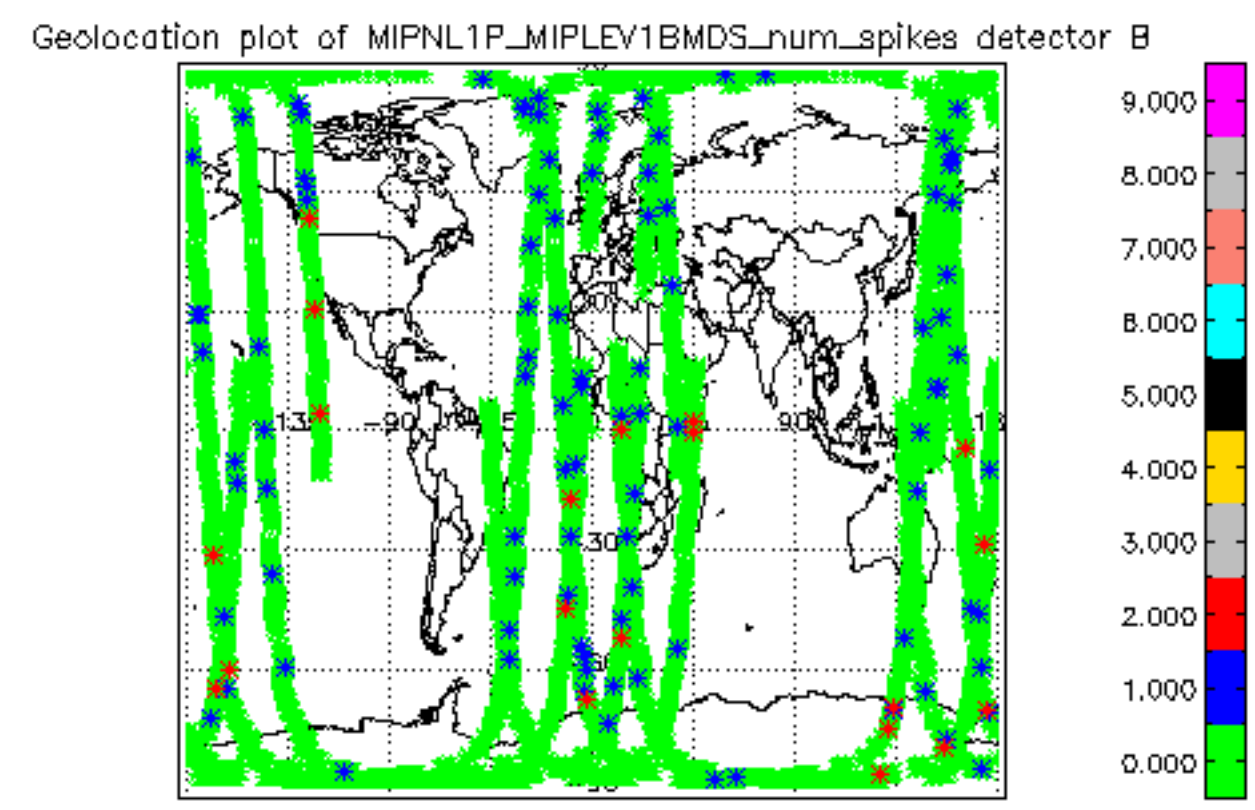
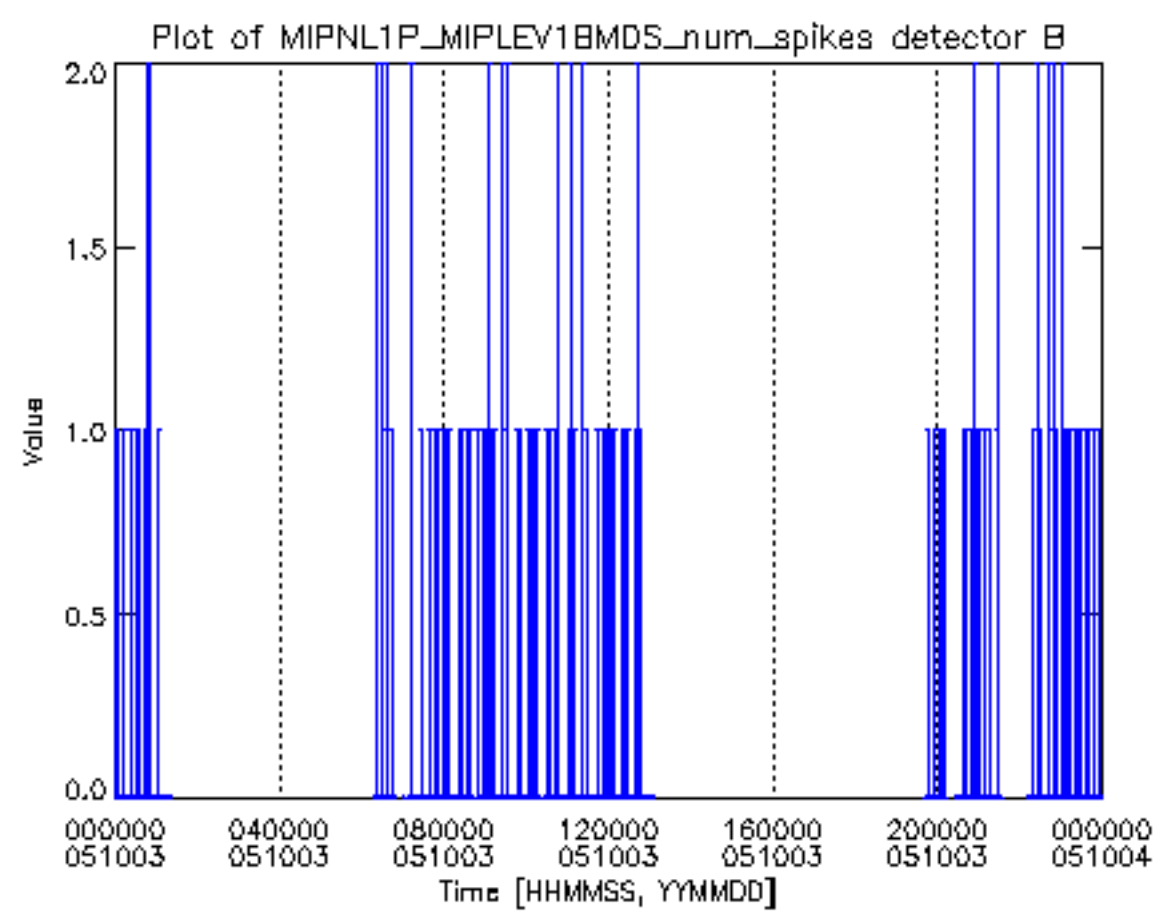


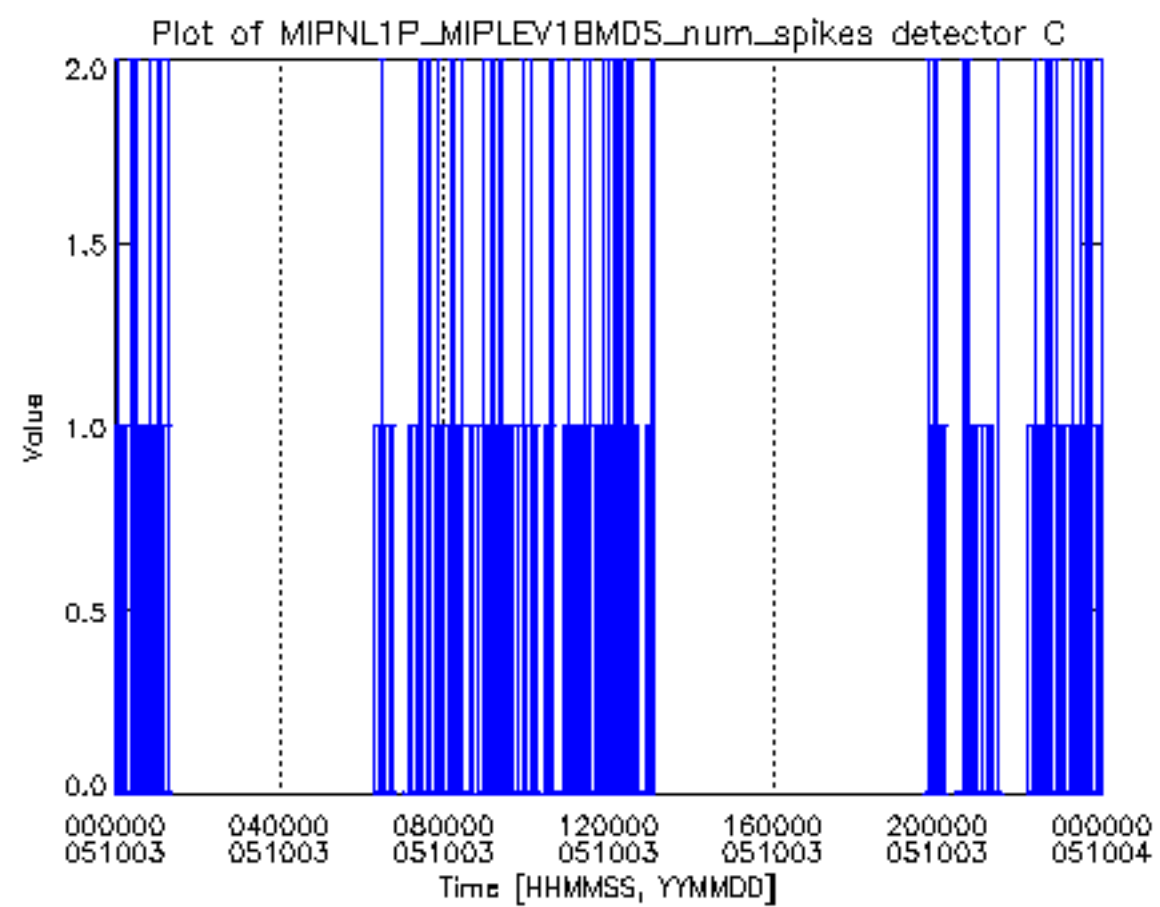


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_num\_spikes detector AB

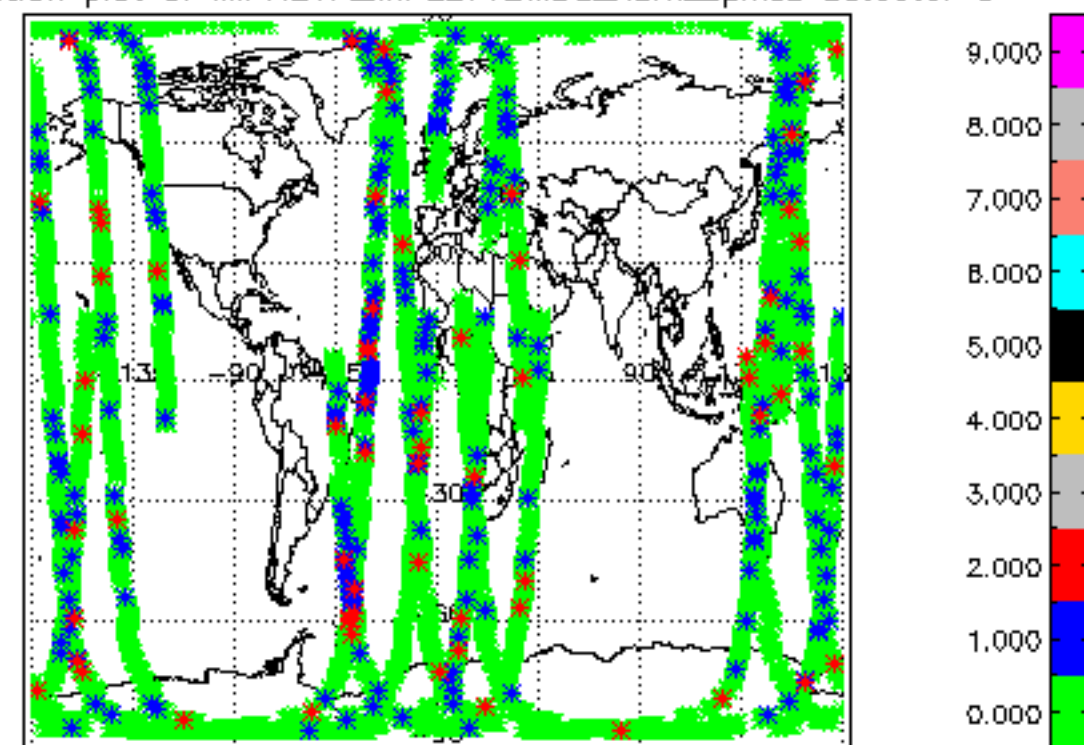




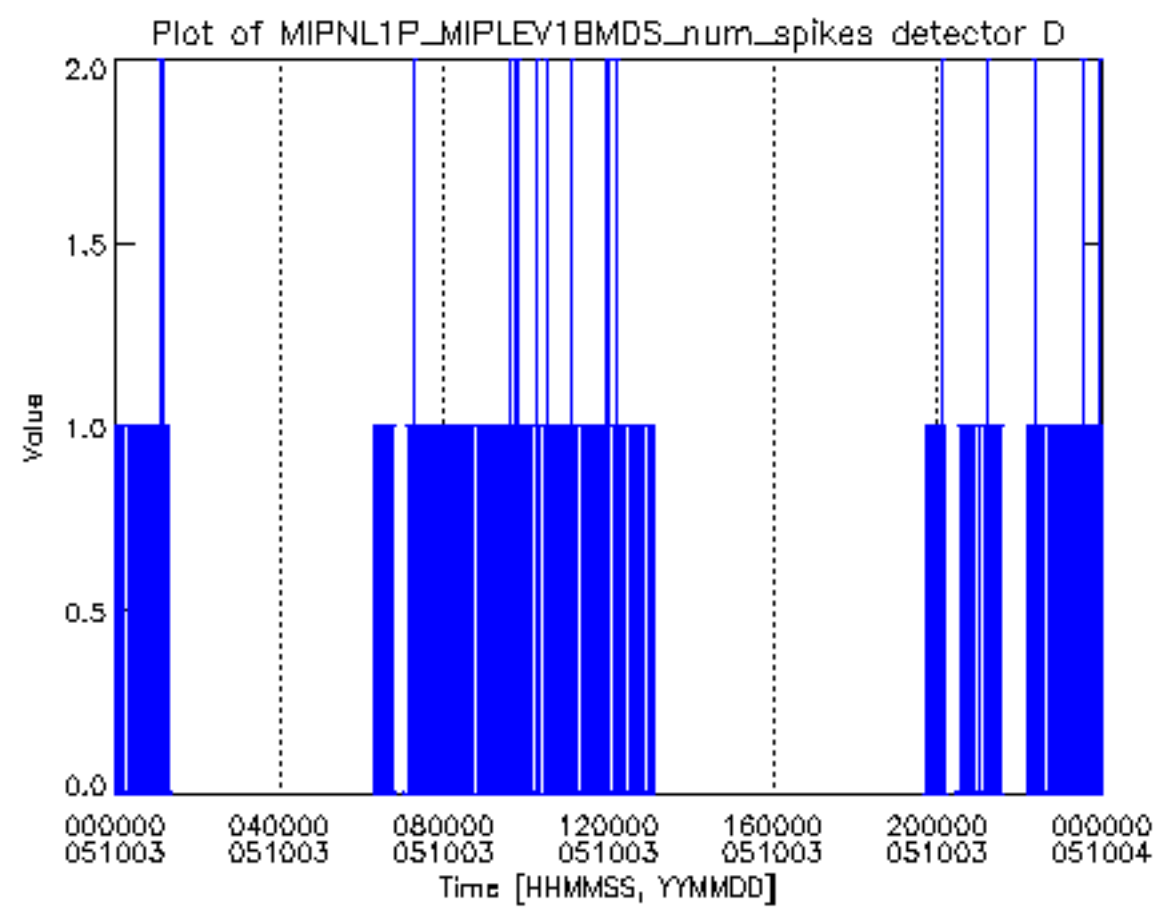




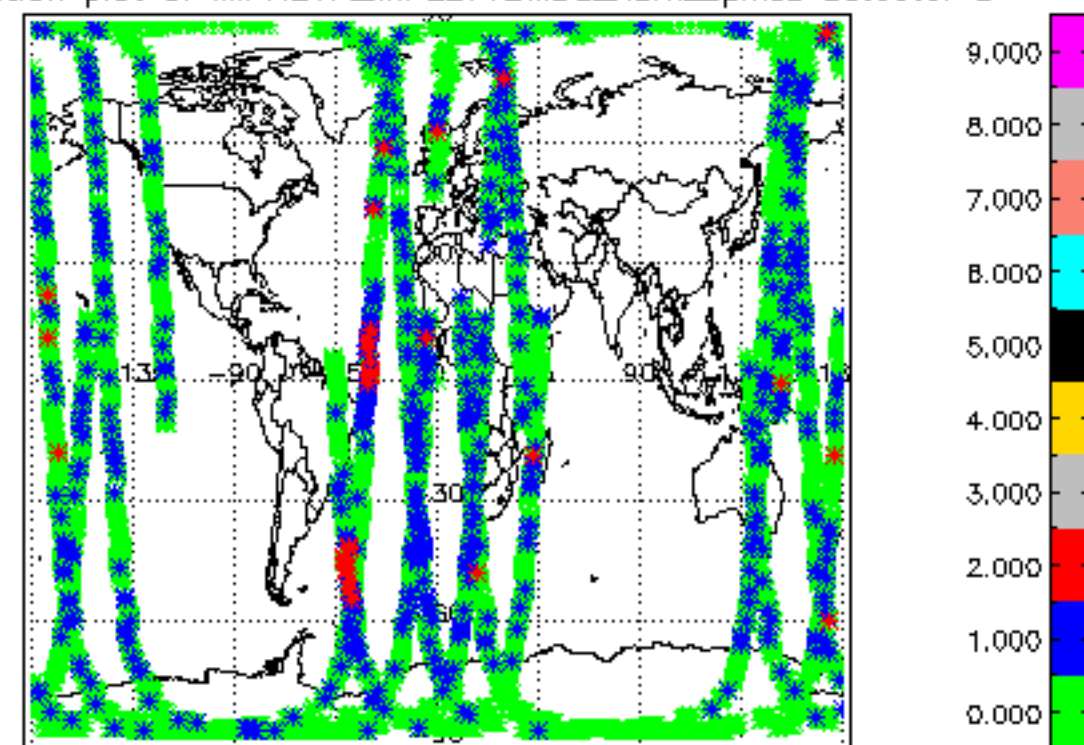
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_num\_spikes detector C

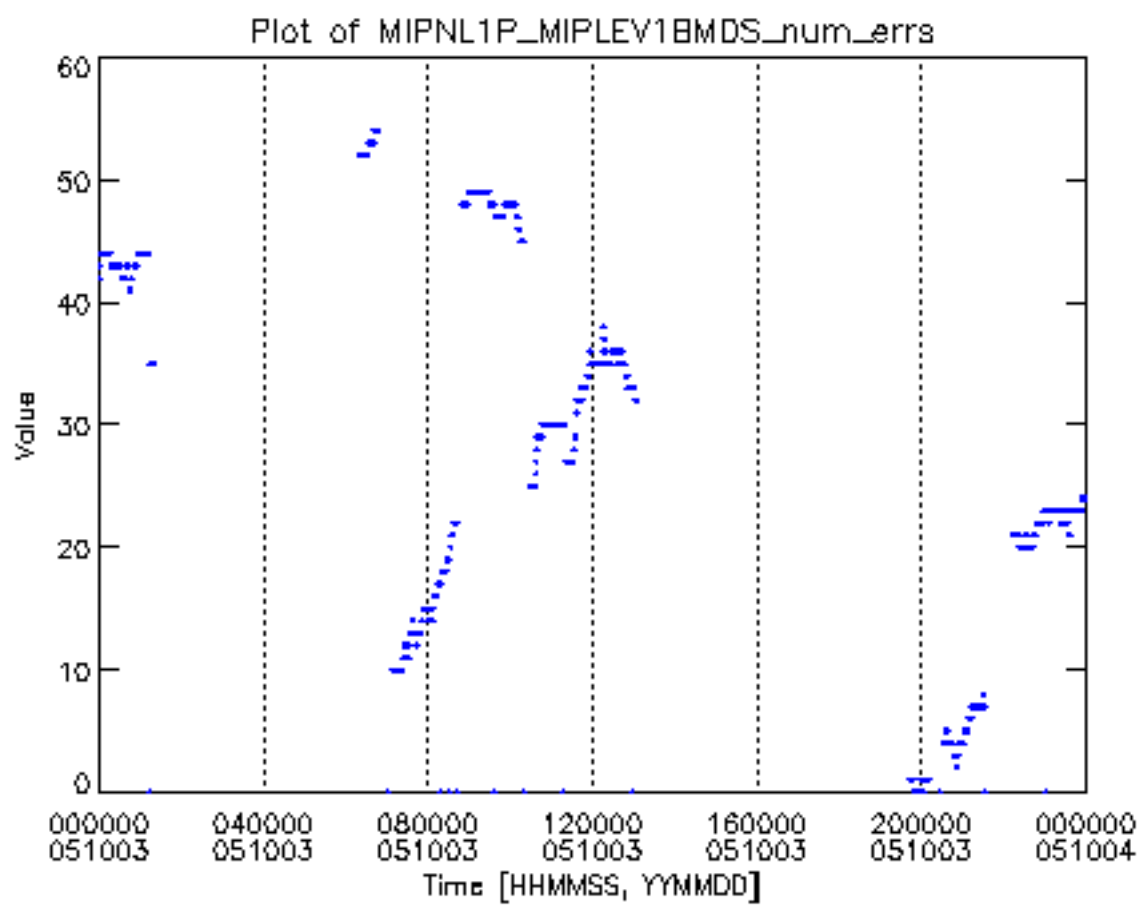




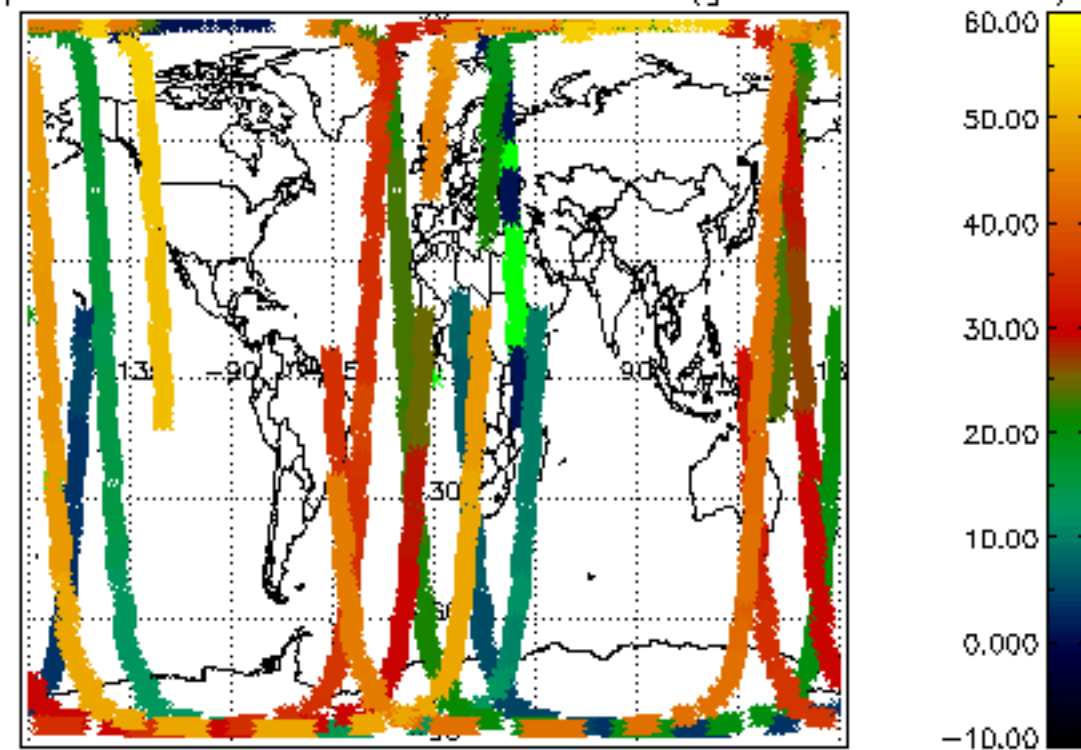


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_num\_spikes detector D

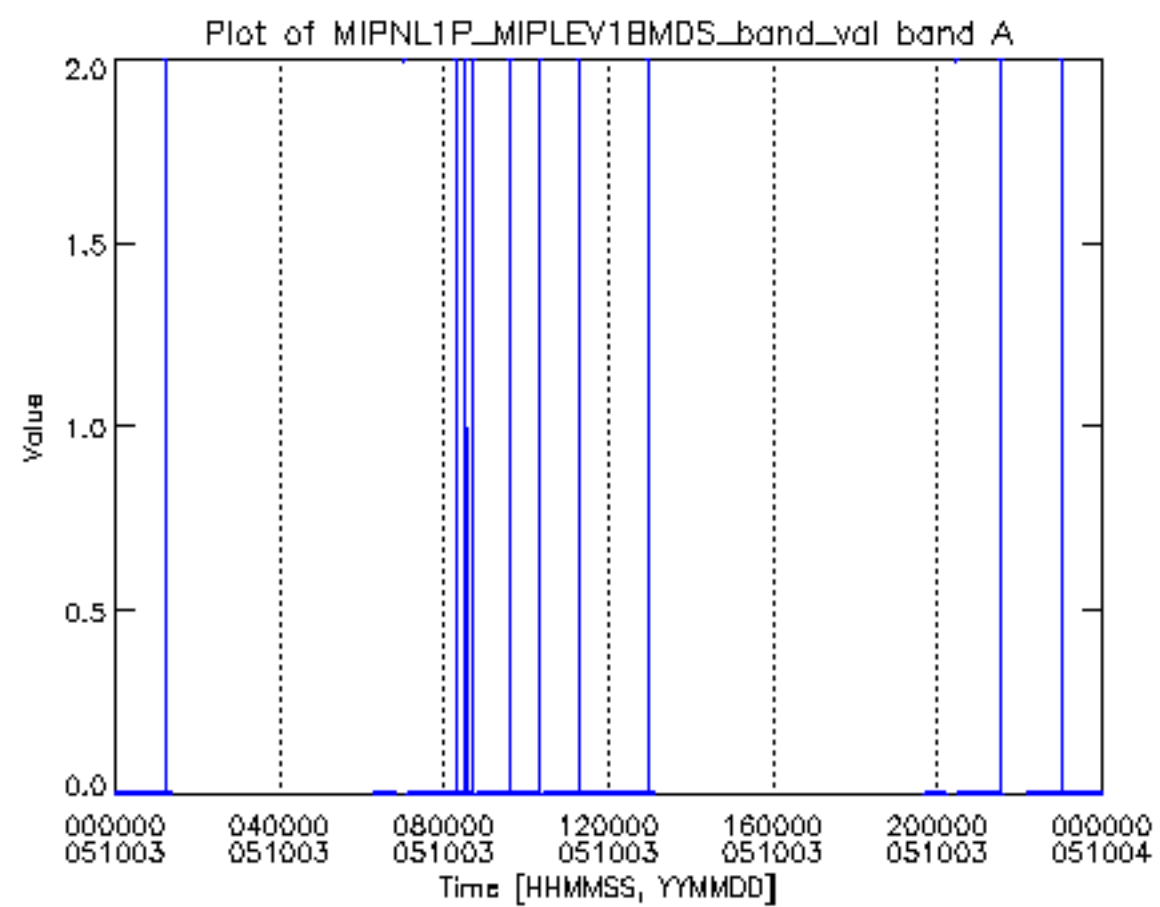




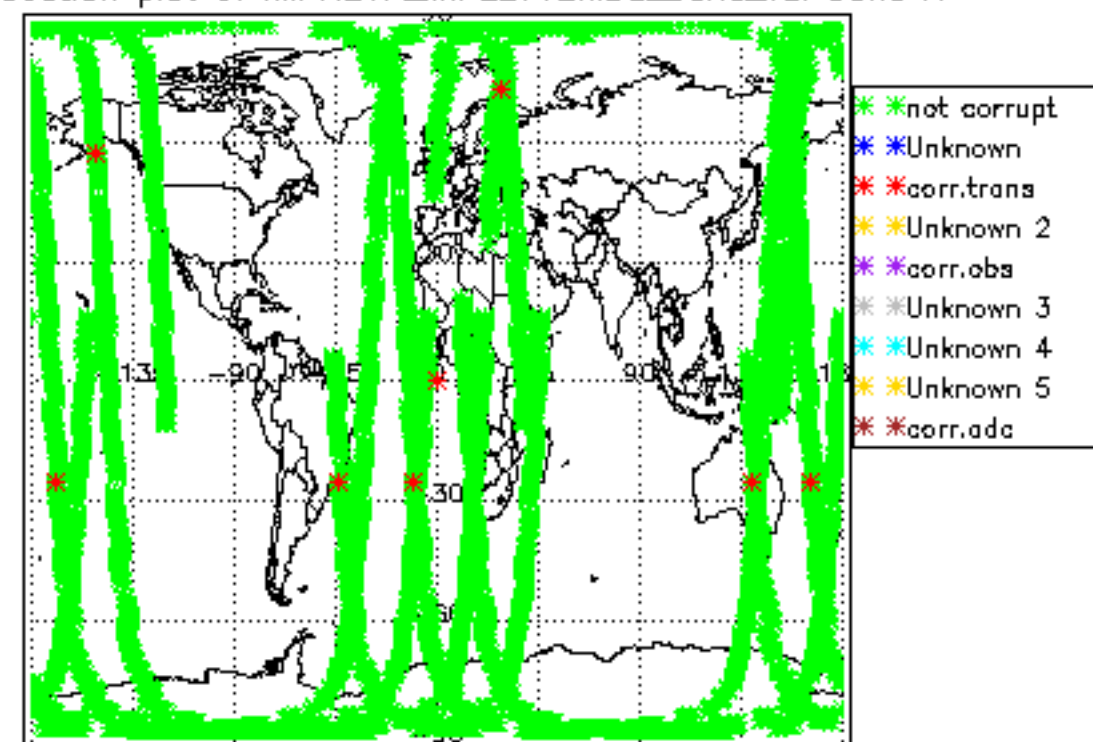
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_num\_errs (green color=0 errors)

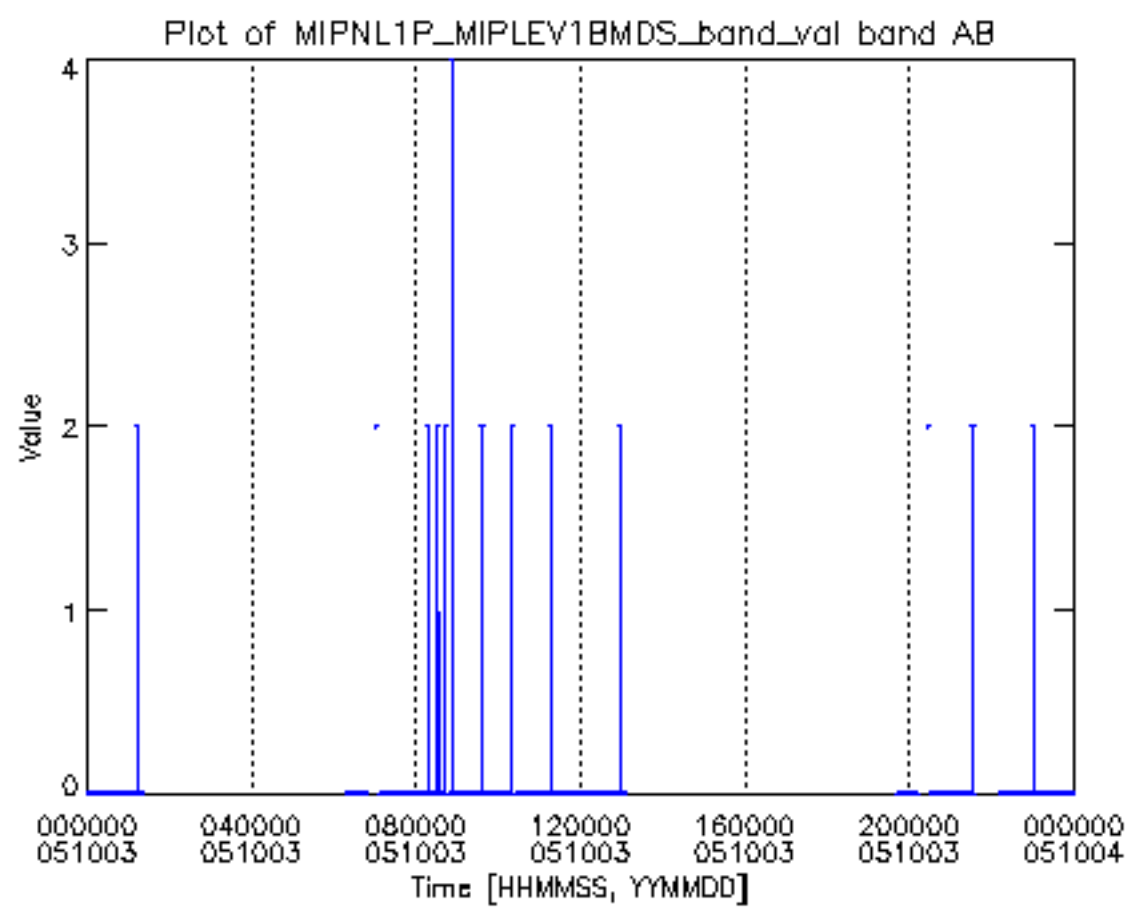




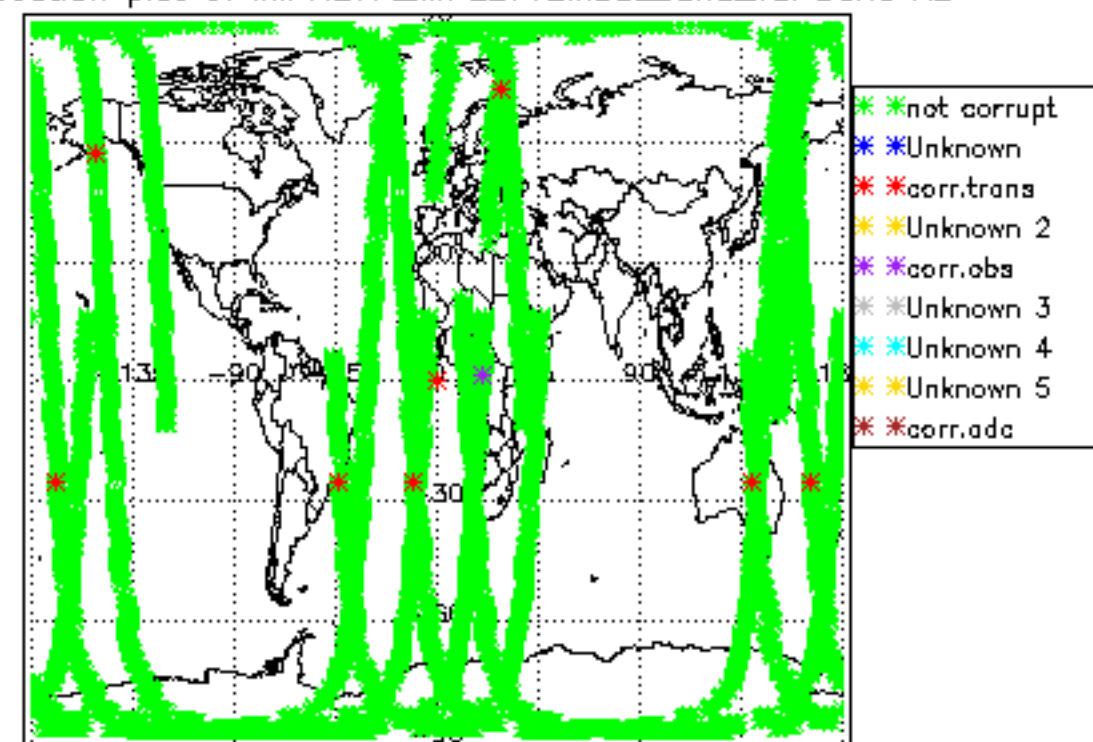


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band A

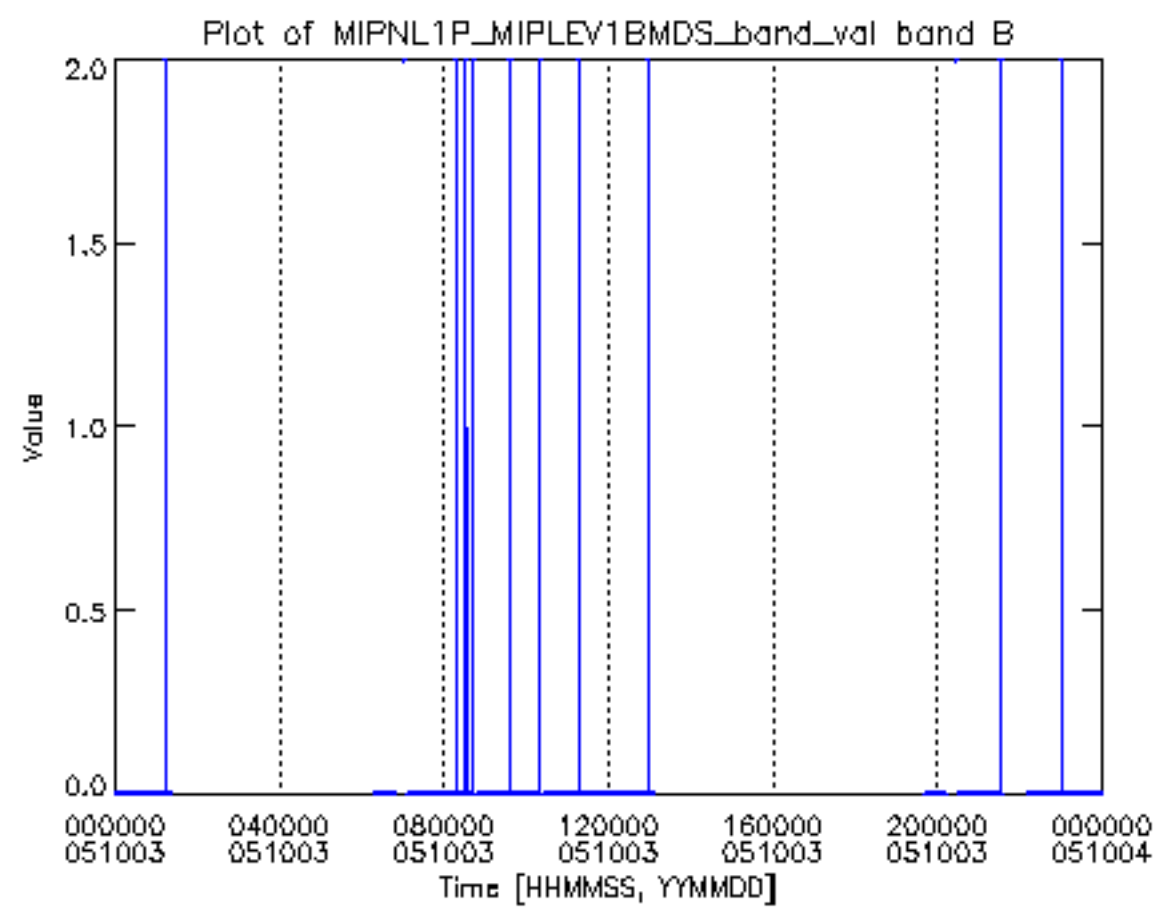




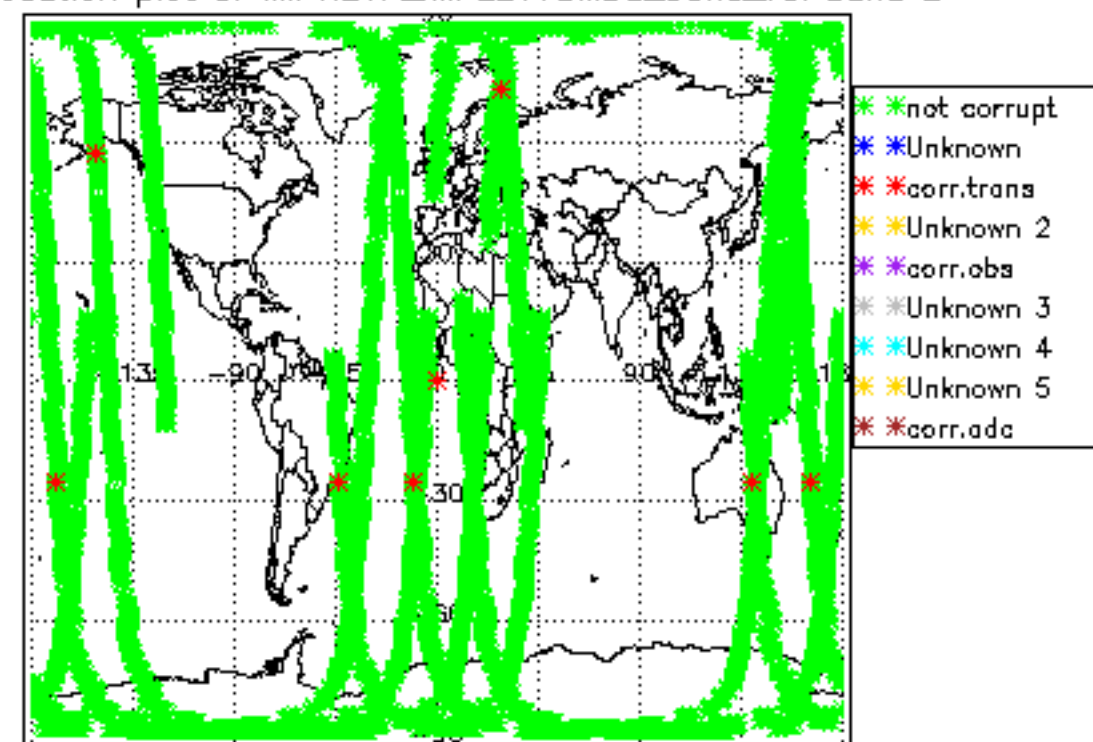
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band AB

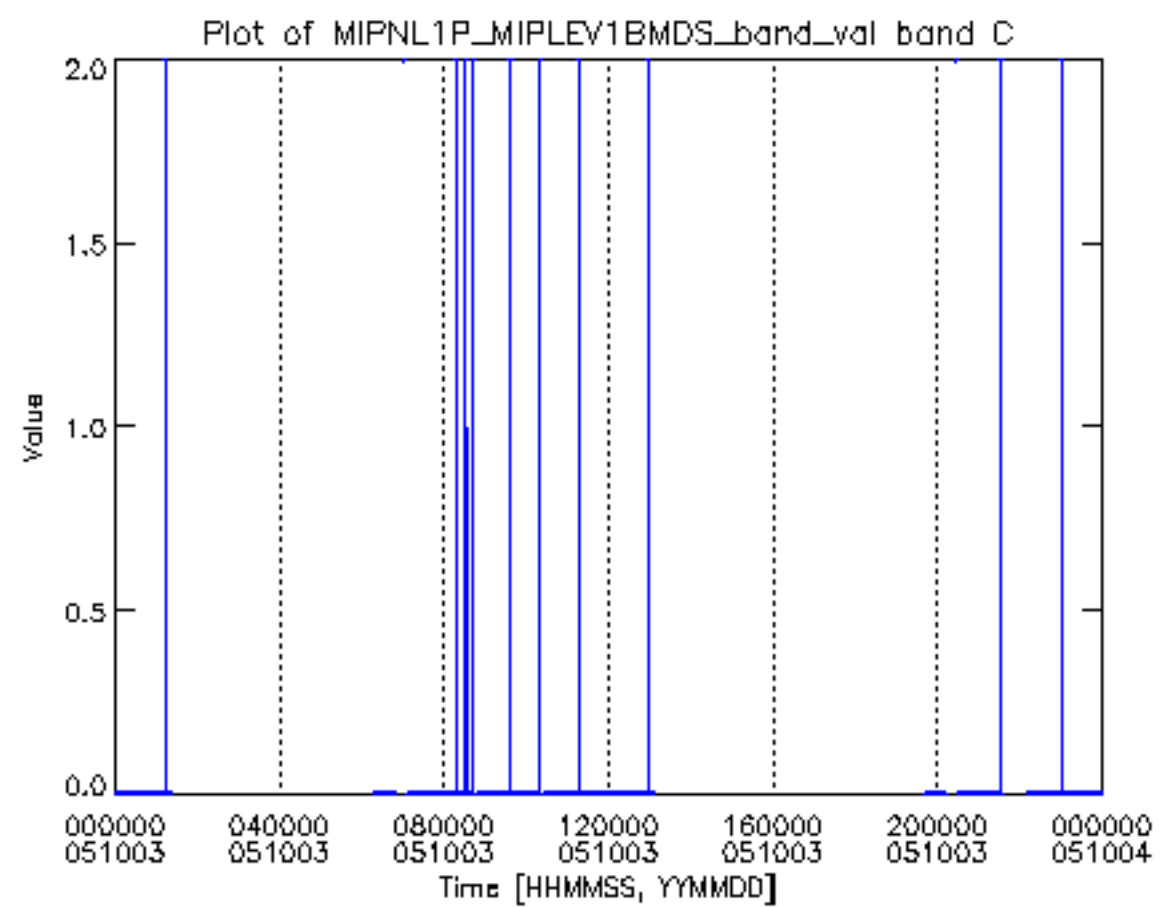




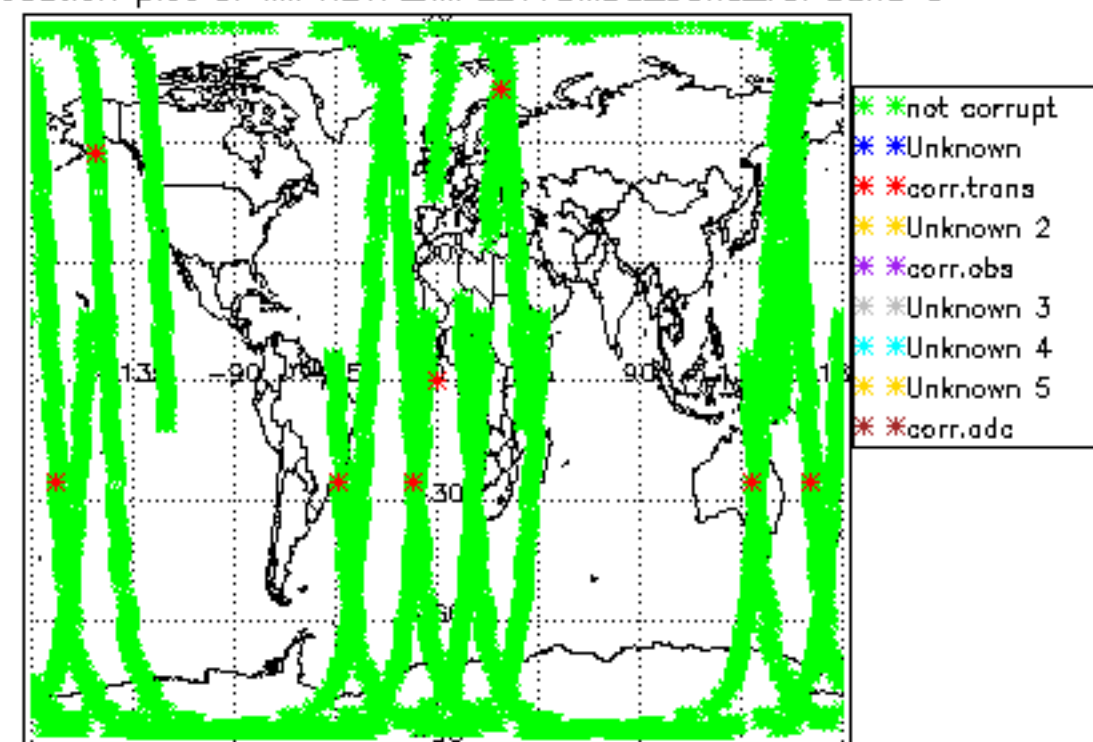


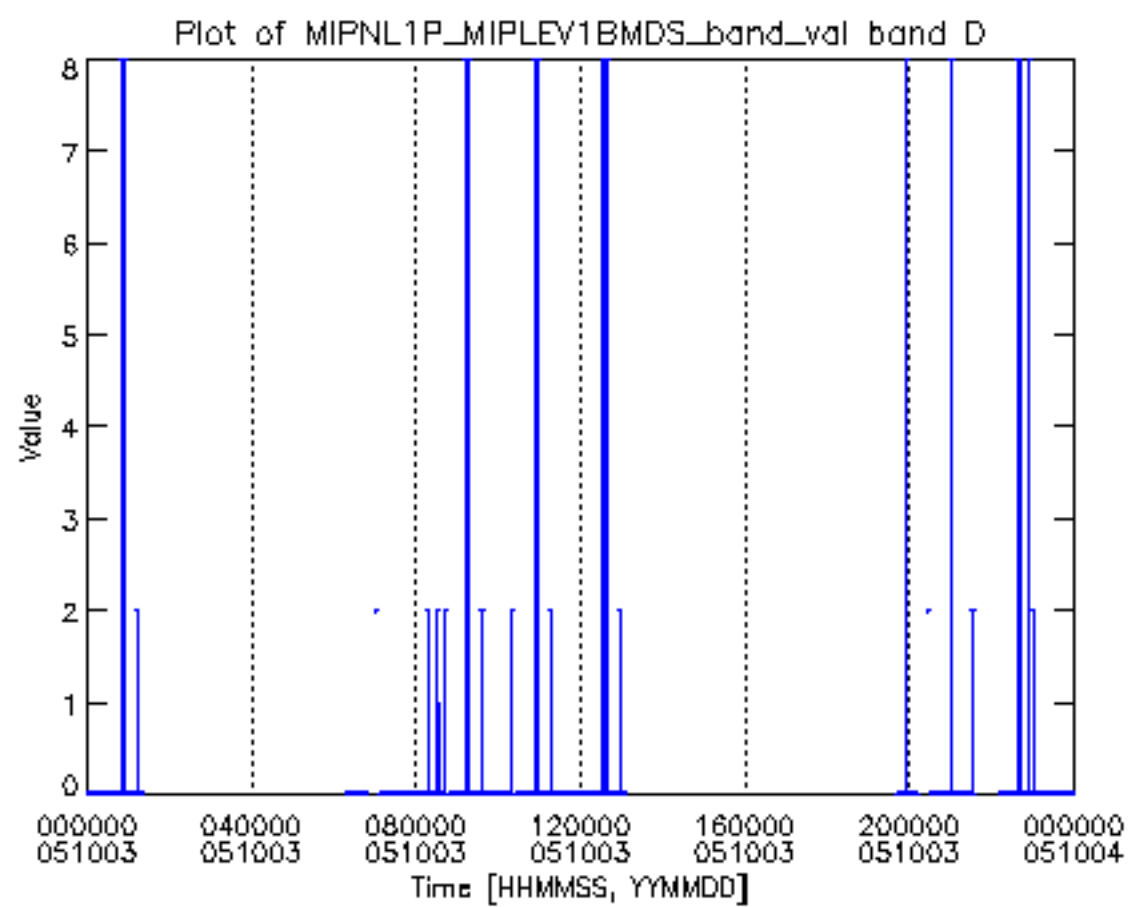
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band B



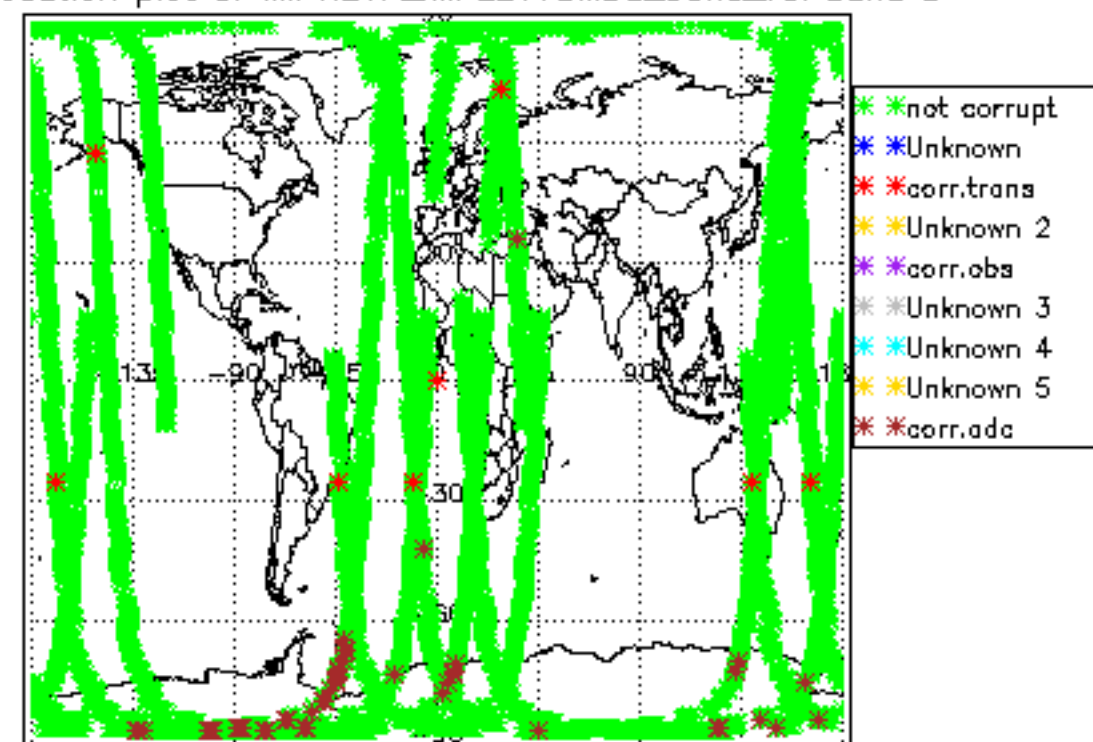


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band C



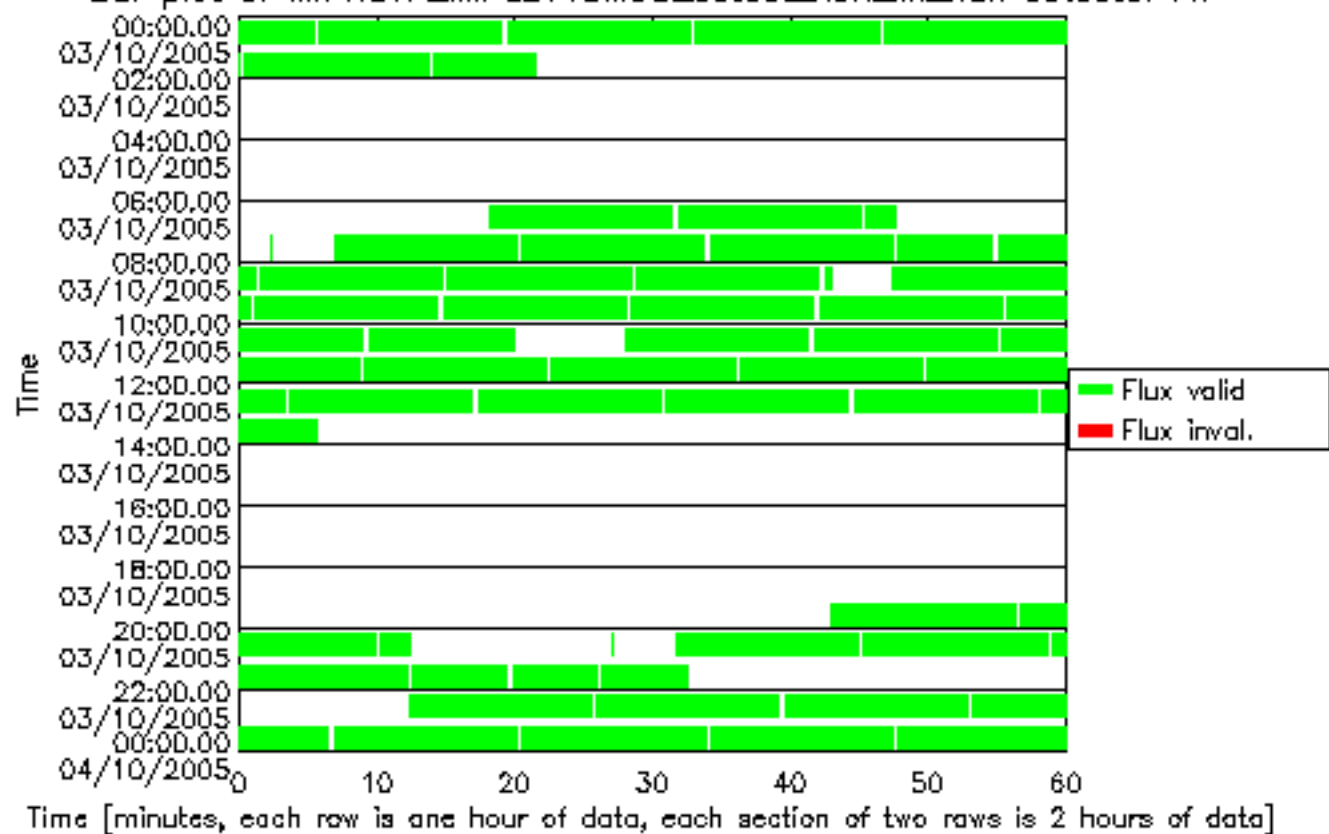


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band D

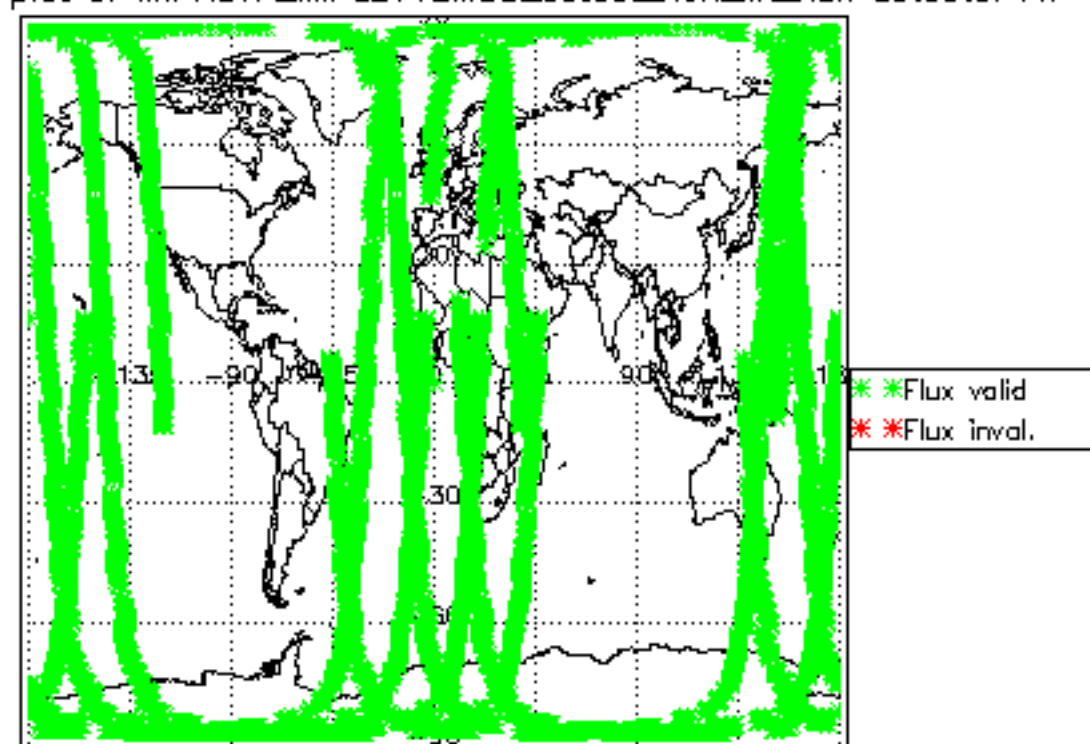




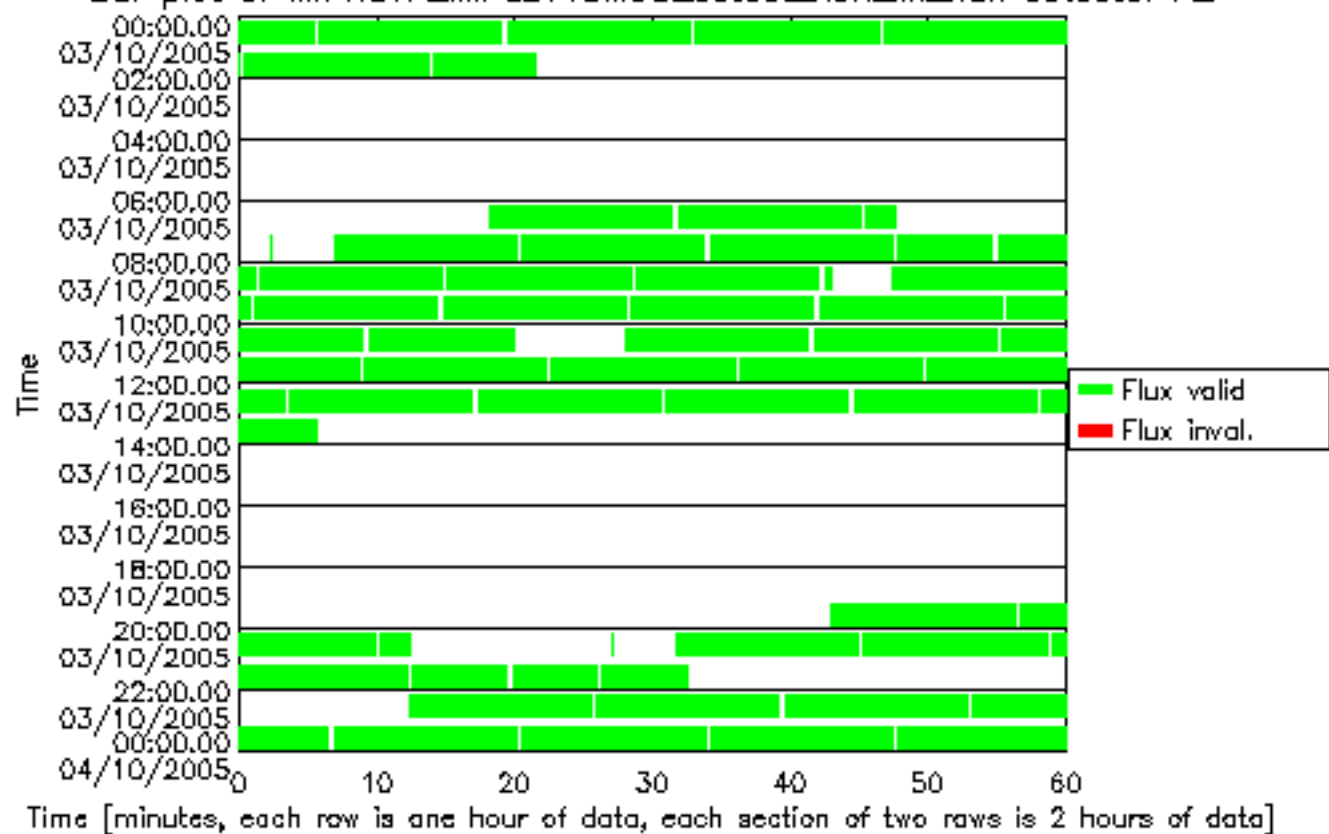
Bar plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_lin\_flux detector A1



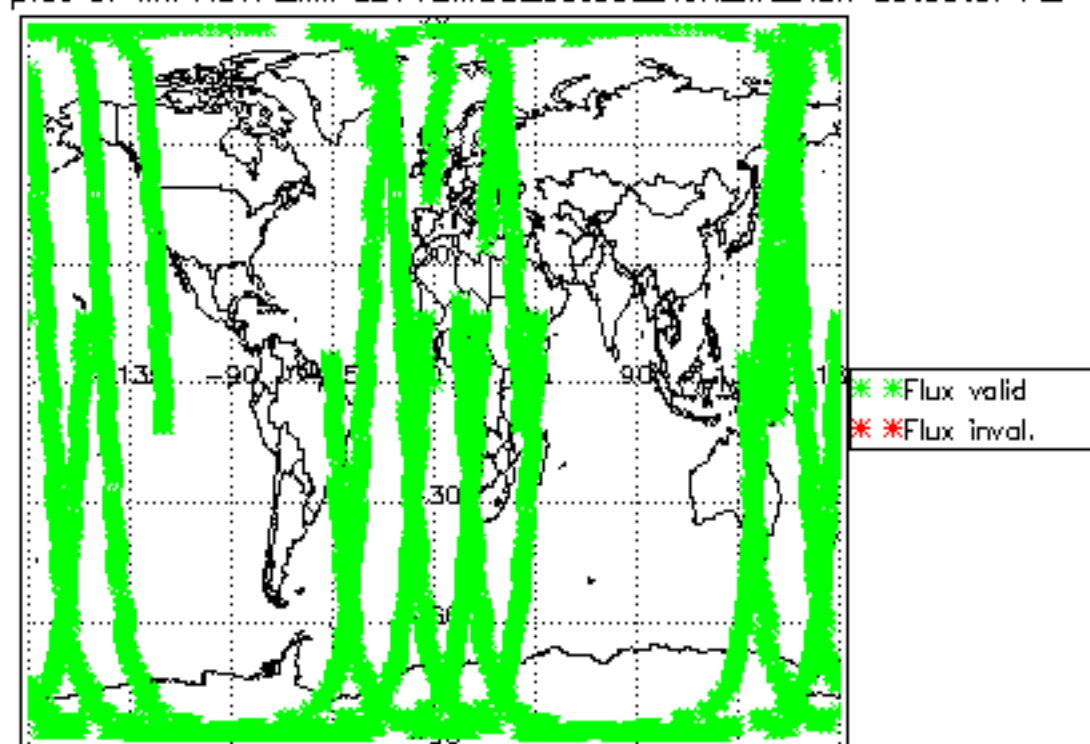
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_lin\_flux detector A1



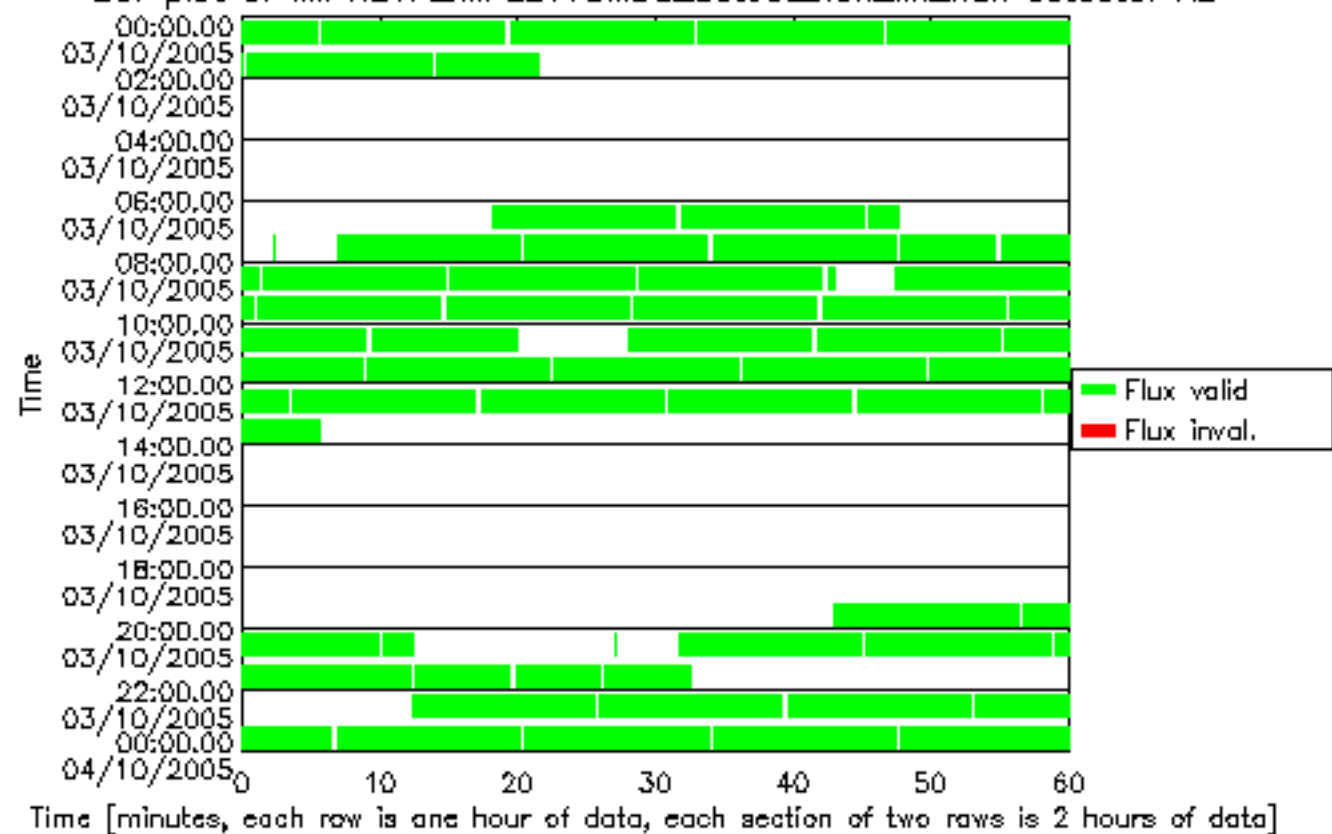
Bar plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_lin\_flux detector A2



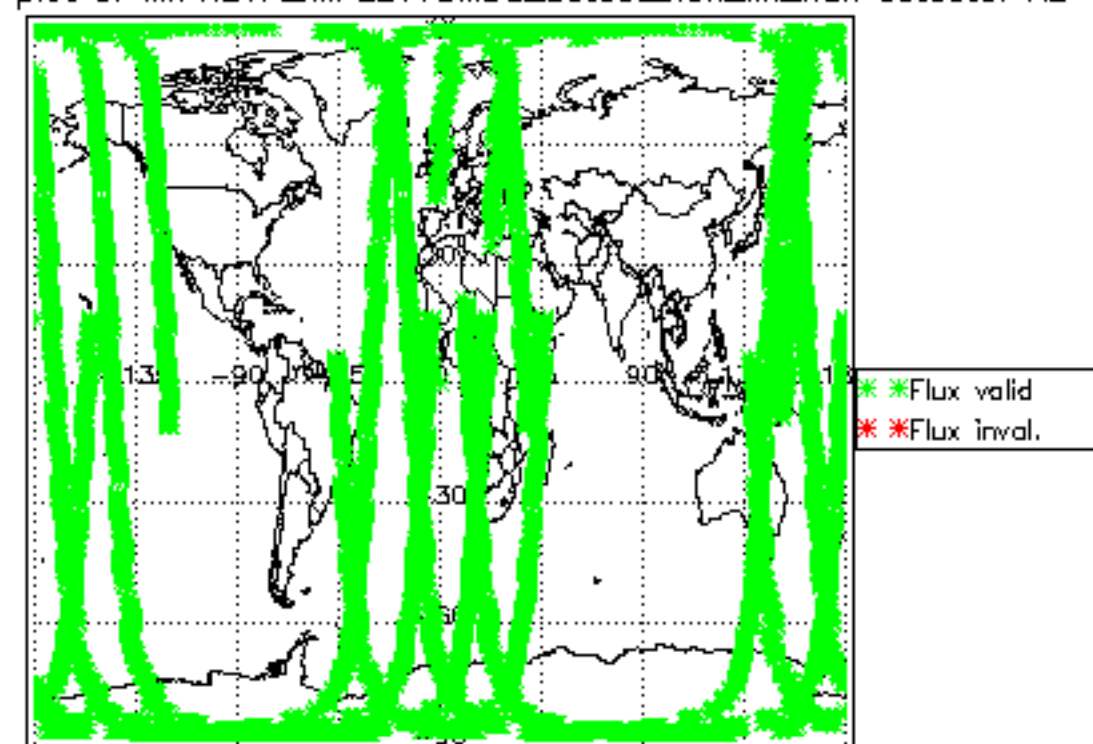
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_lin\_flux detector A2



Bar plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_lin\_flux detector AB

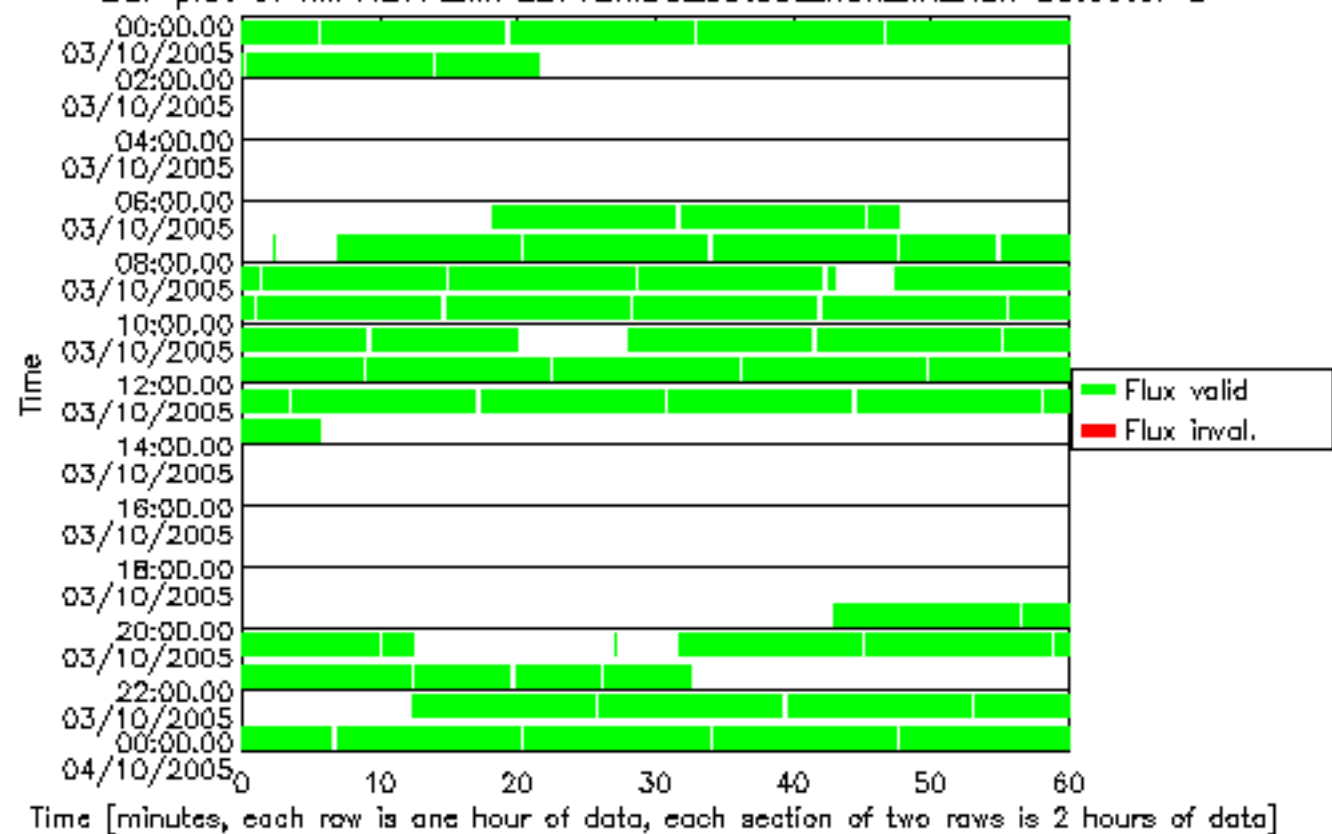


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_lin\_flux detector AB

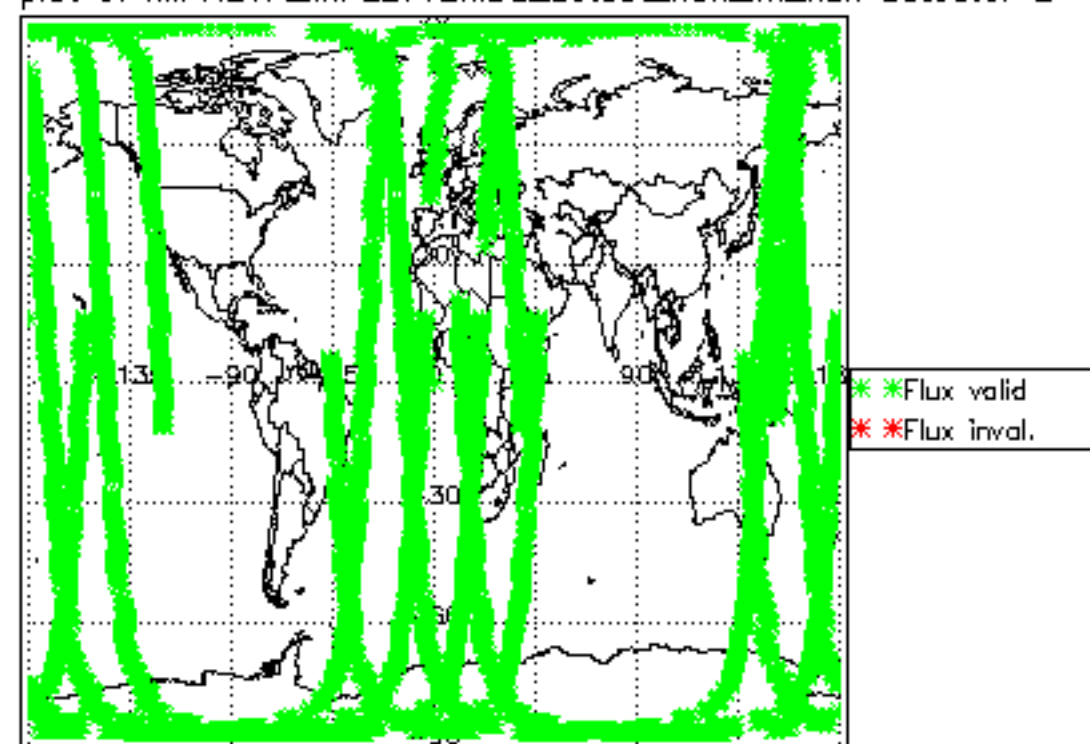




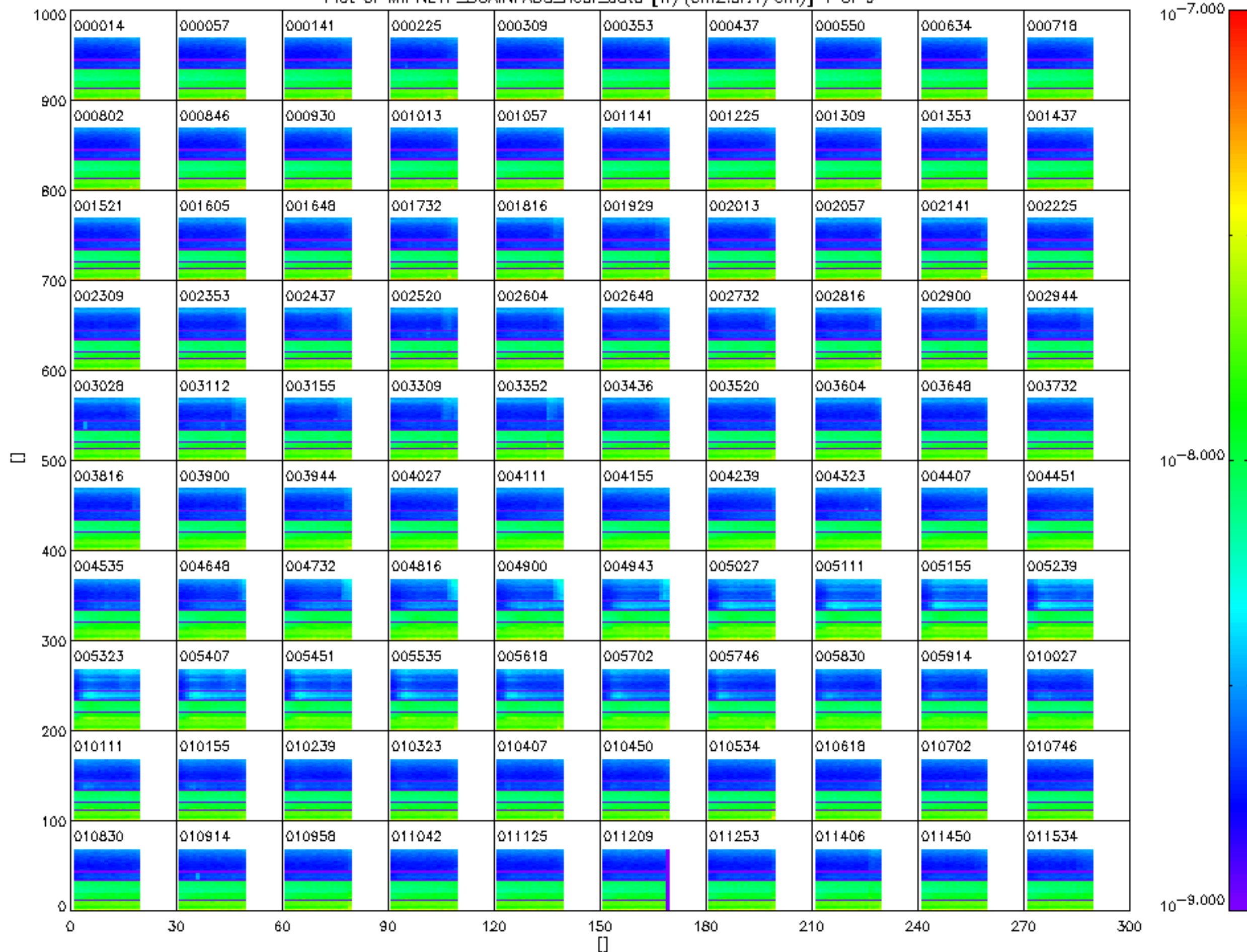
Bar plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_lin\_flux detector B



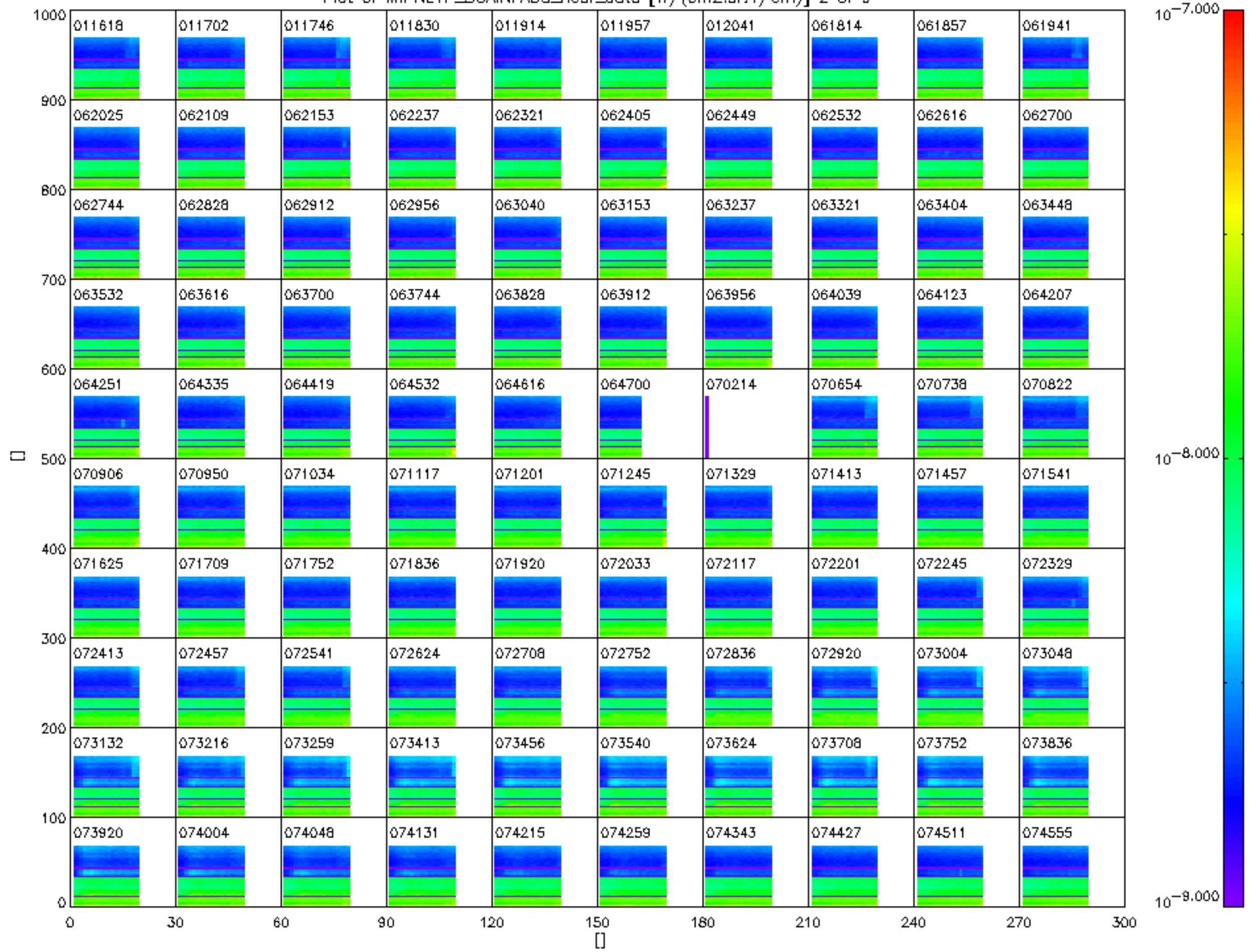
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_lin\_flux detector B



Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm2.sr.1/cm)] 1 of 9

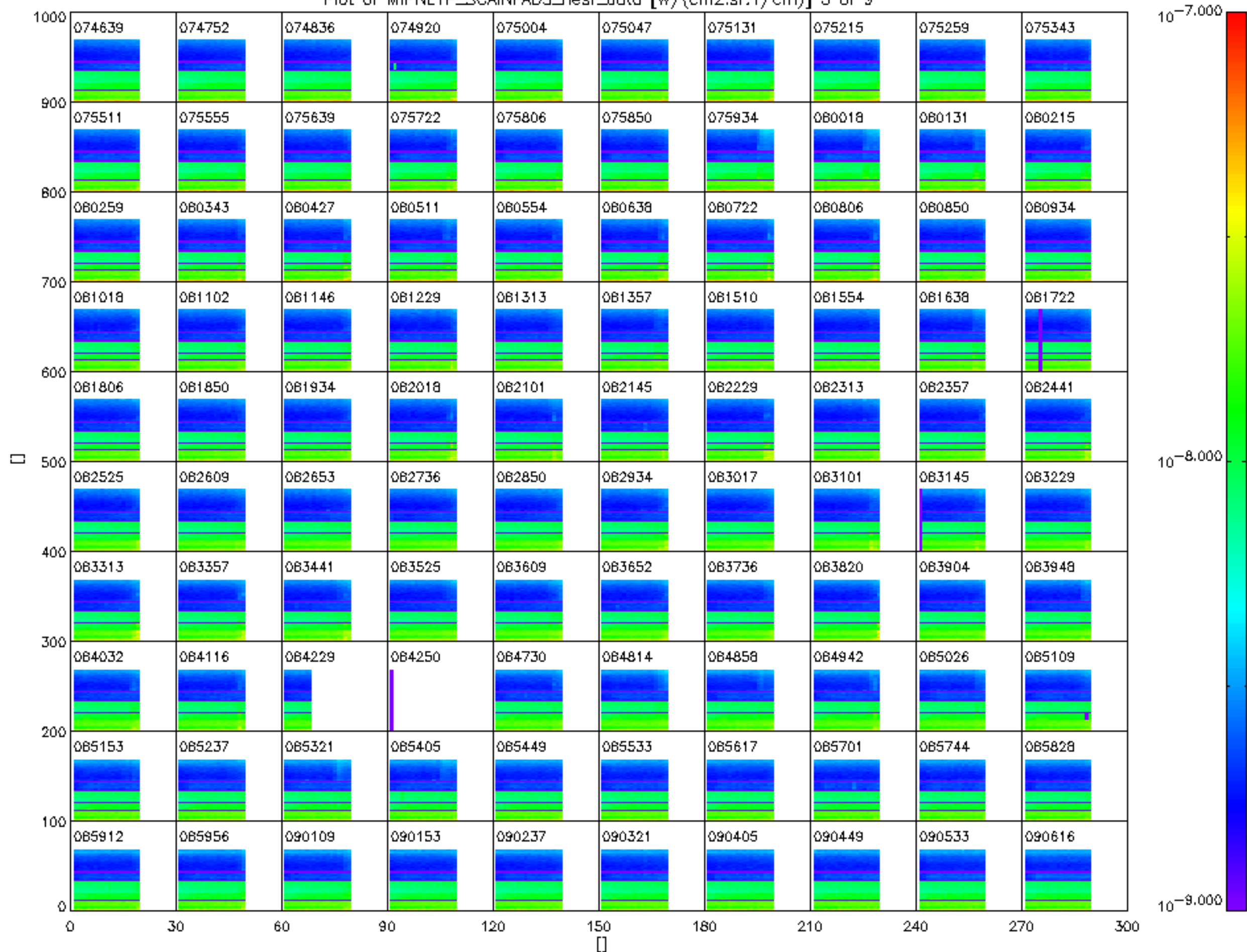


Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm2.sr.1/cm)] 2 of 9

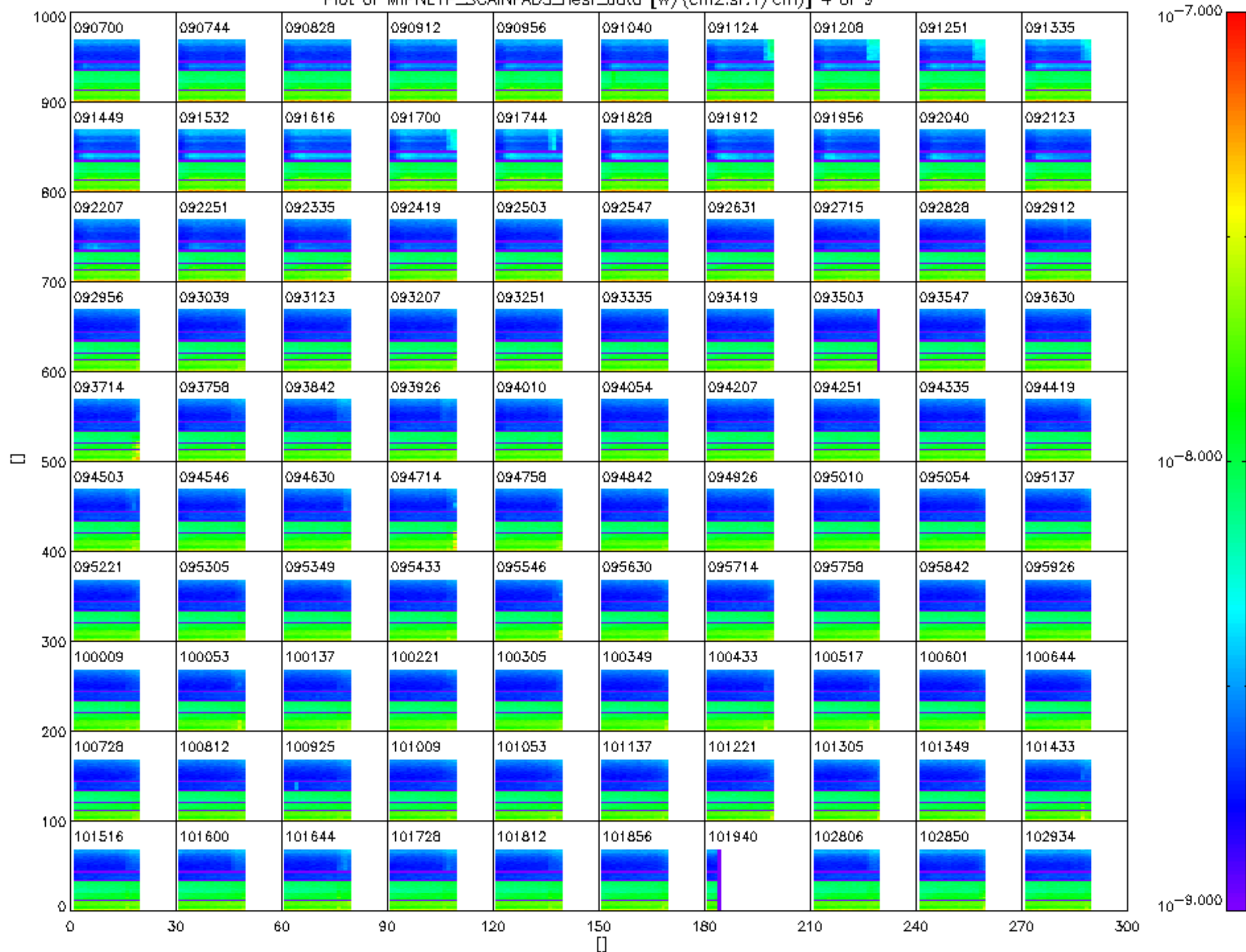




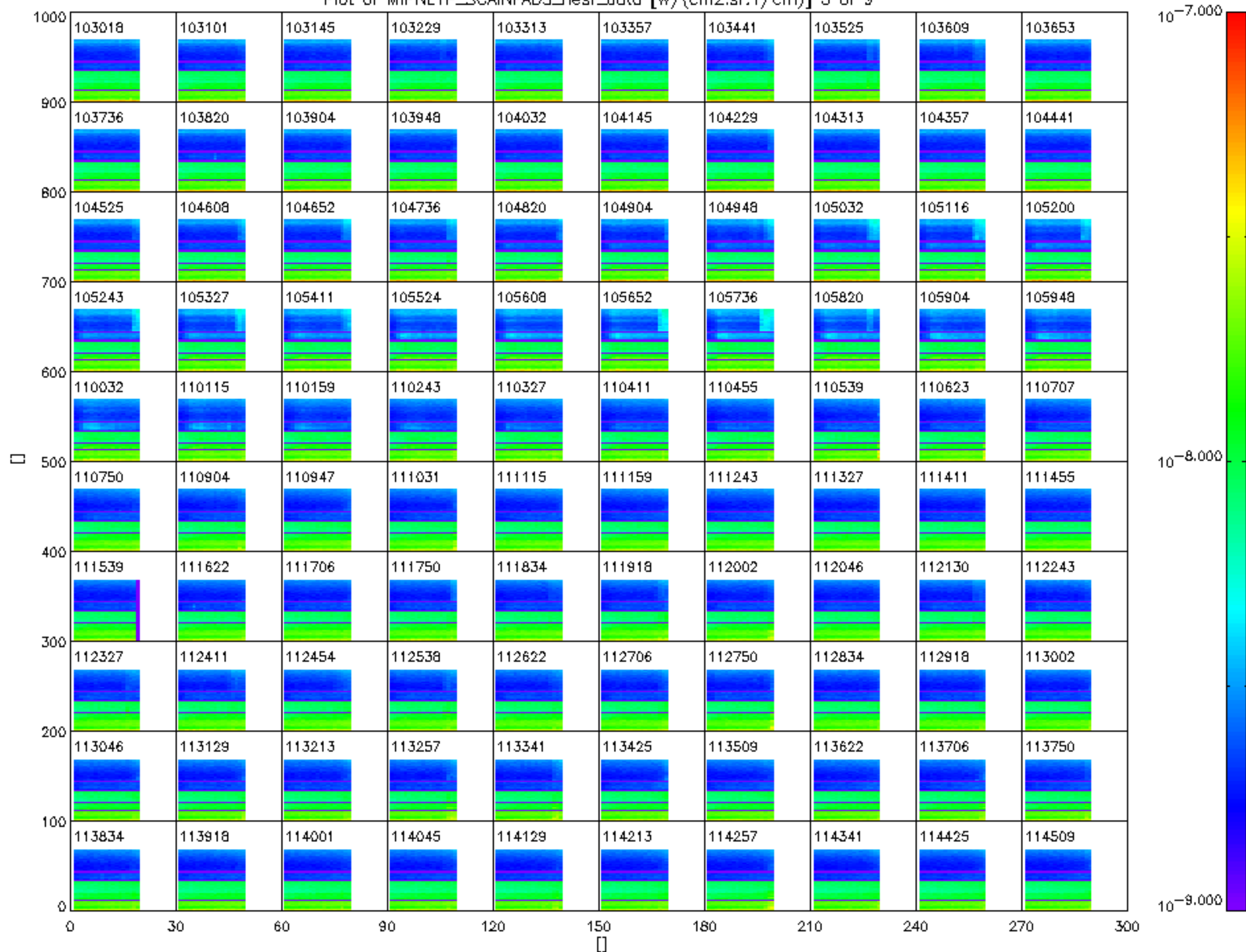
Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm2.sr.1/cm)] 3 of 9



Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm2.sr.1/cm)] 4 of 9

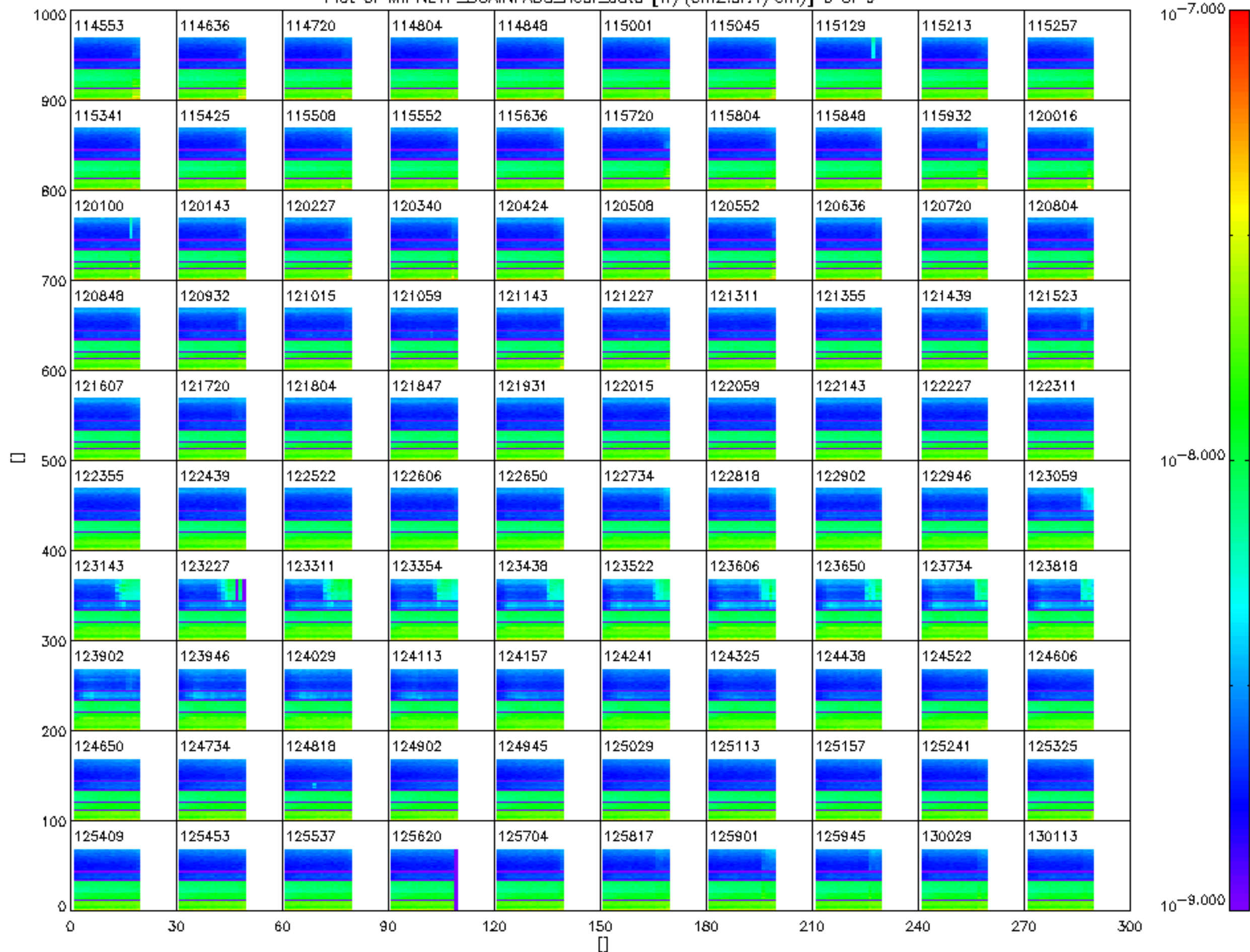


Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm2.sr.1/cm)] 5 of 9

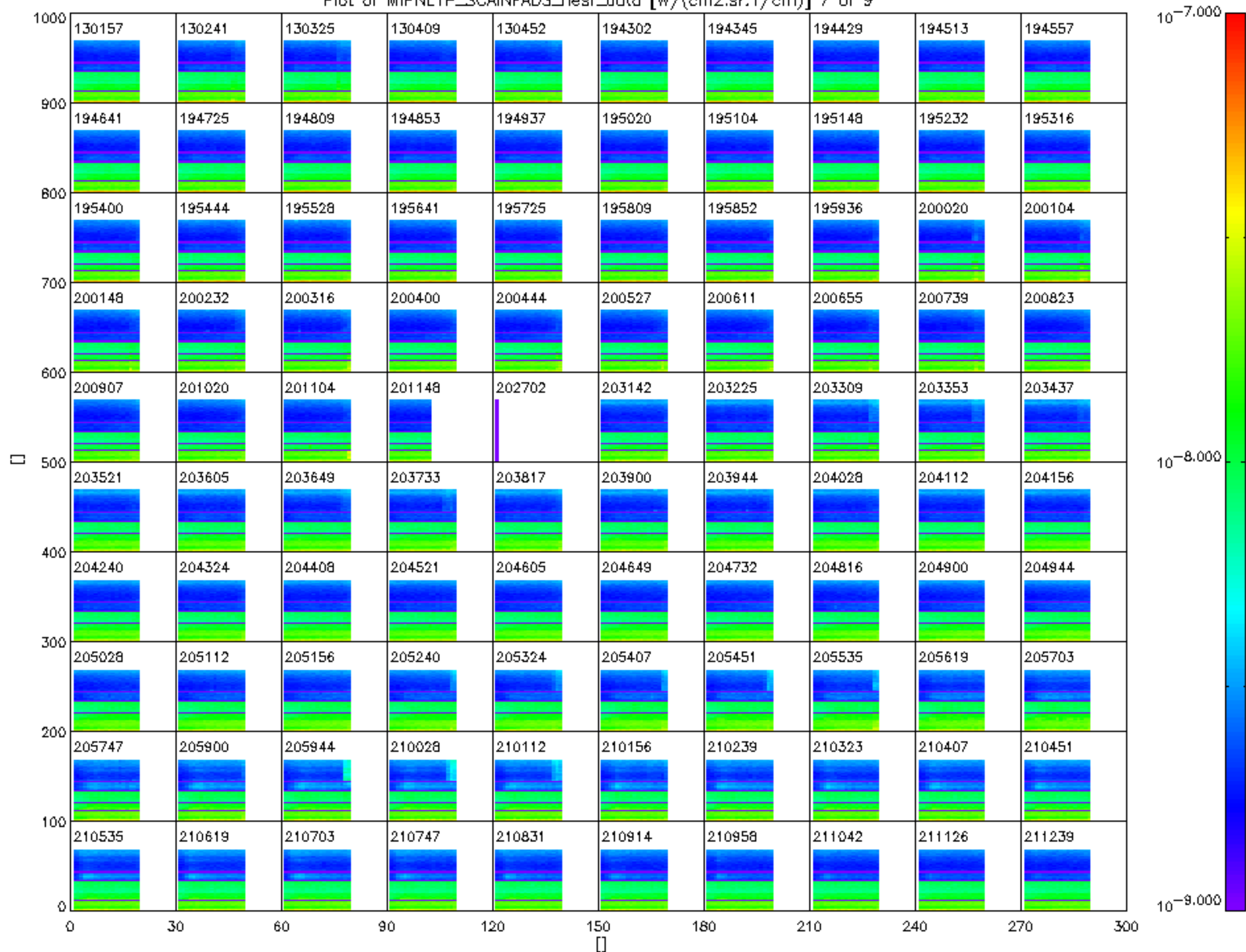




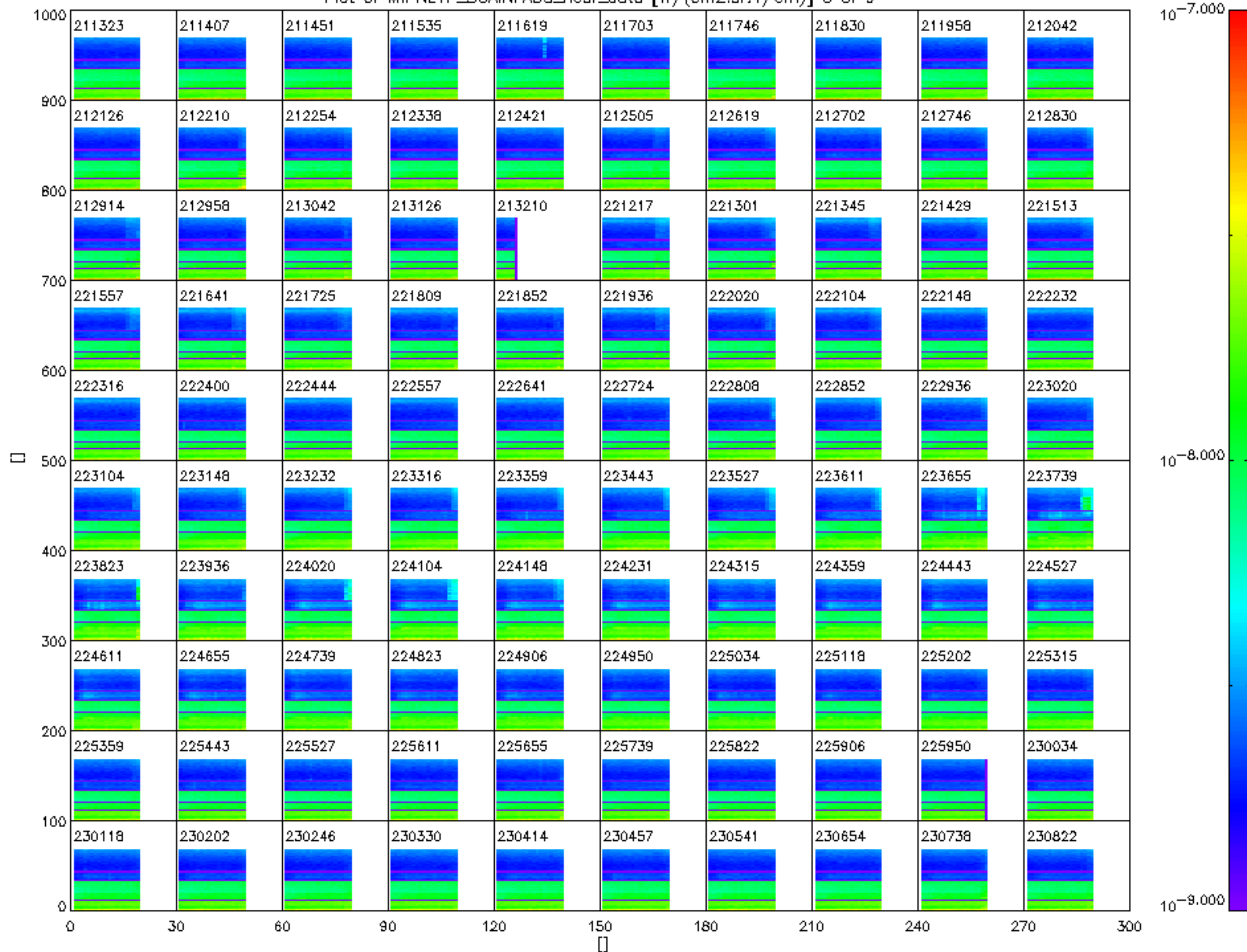
Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm2.sr.1/cm)] 6 of 9



Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm<sup>2</sup>.sr.1/cm)] 7 of 9



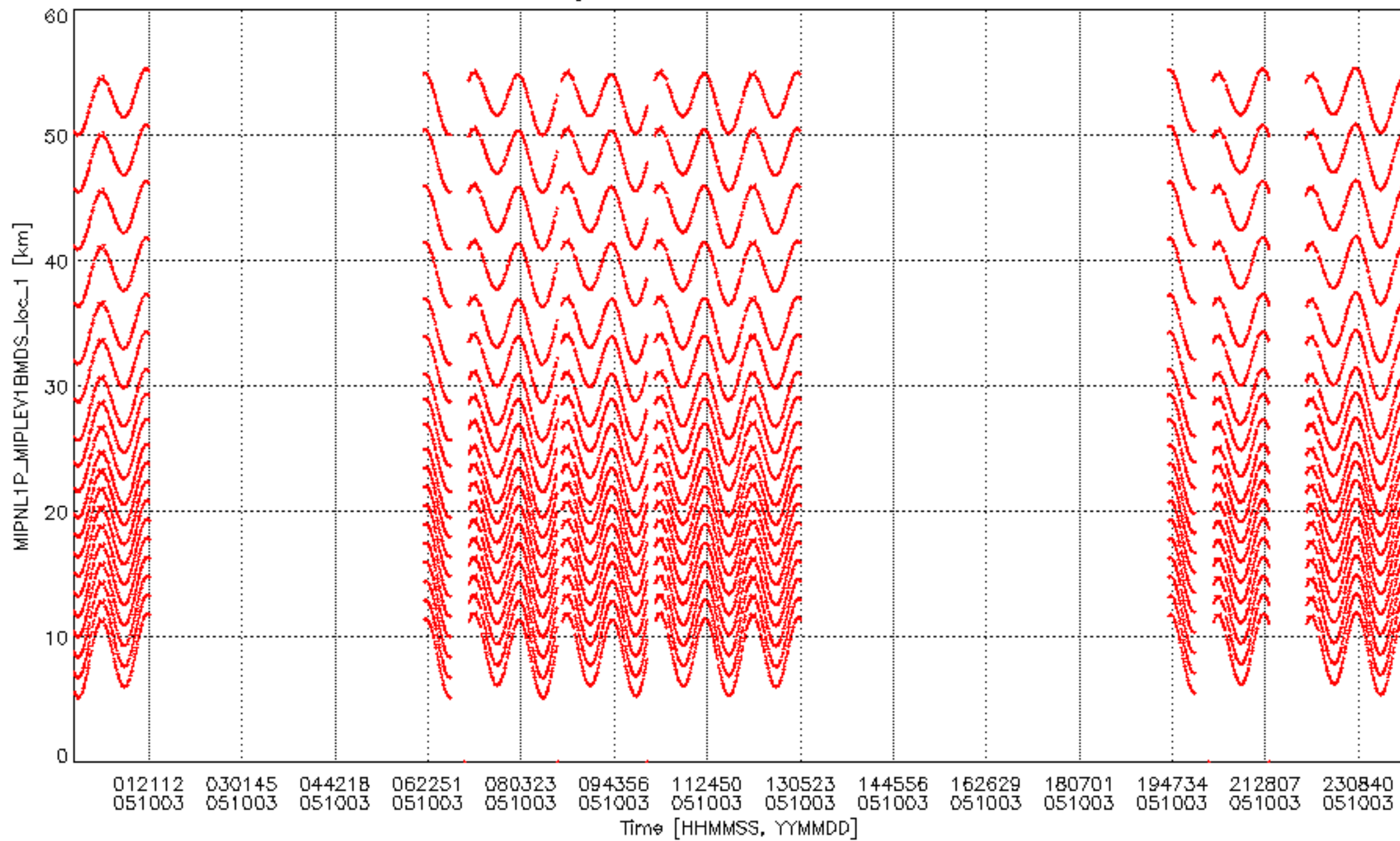
Plot of MIPNL1P\_SCAINFADS\_near\_data [W/(cm2.sr.1/cm)] 8 of 9



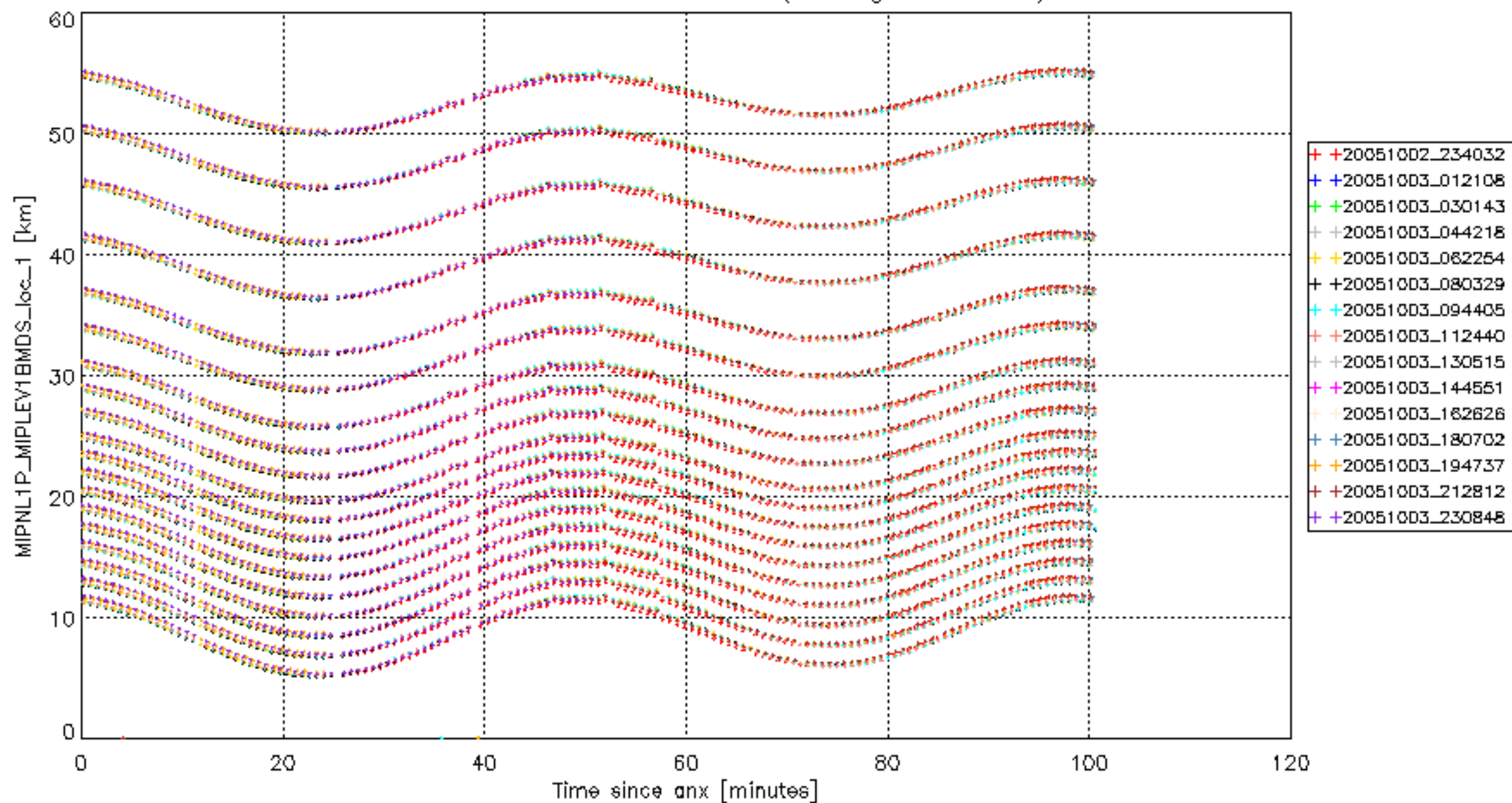




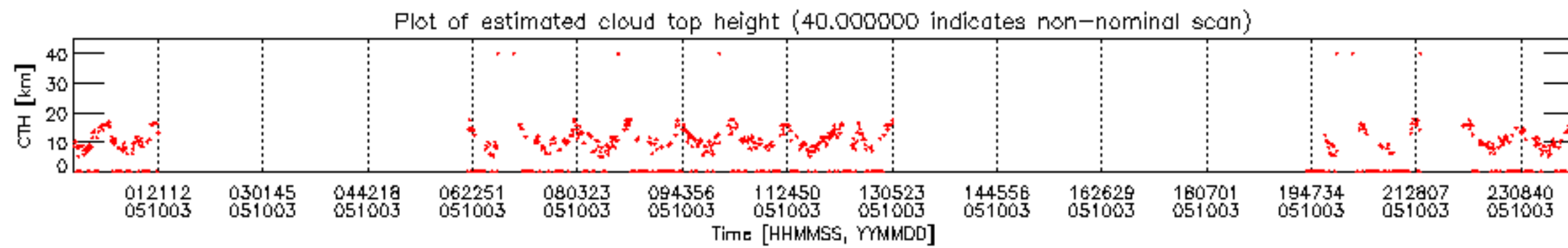
Plot of MIPNL1P\_MIPLEV1BMDS\_loc\_1 against time.  
The vertical grid lines indicate estimated anx events.



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)

