

# 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                           | v1.31 02-08-2006                         |
| Time of report generation                | 29JUN2007 03:21:41                       |
| Data source version                      | MIPAS/4.67-P                             |
| Processing scope for products            | 11JUN2007 00:00:00 to 12JUN2007 00:00:00 |
| Start time of first product within scope | 11JUN2007 07:27:49                       |
| Stop time of last product within scope   | 11JUN2007 07:31:45                       |
| Total number of level 1 products         | 1  |
| 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.

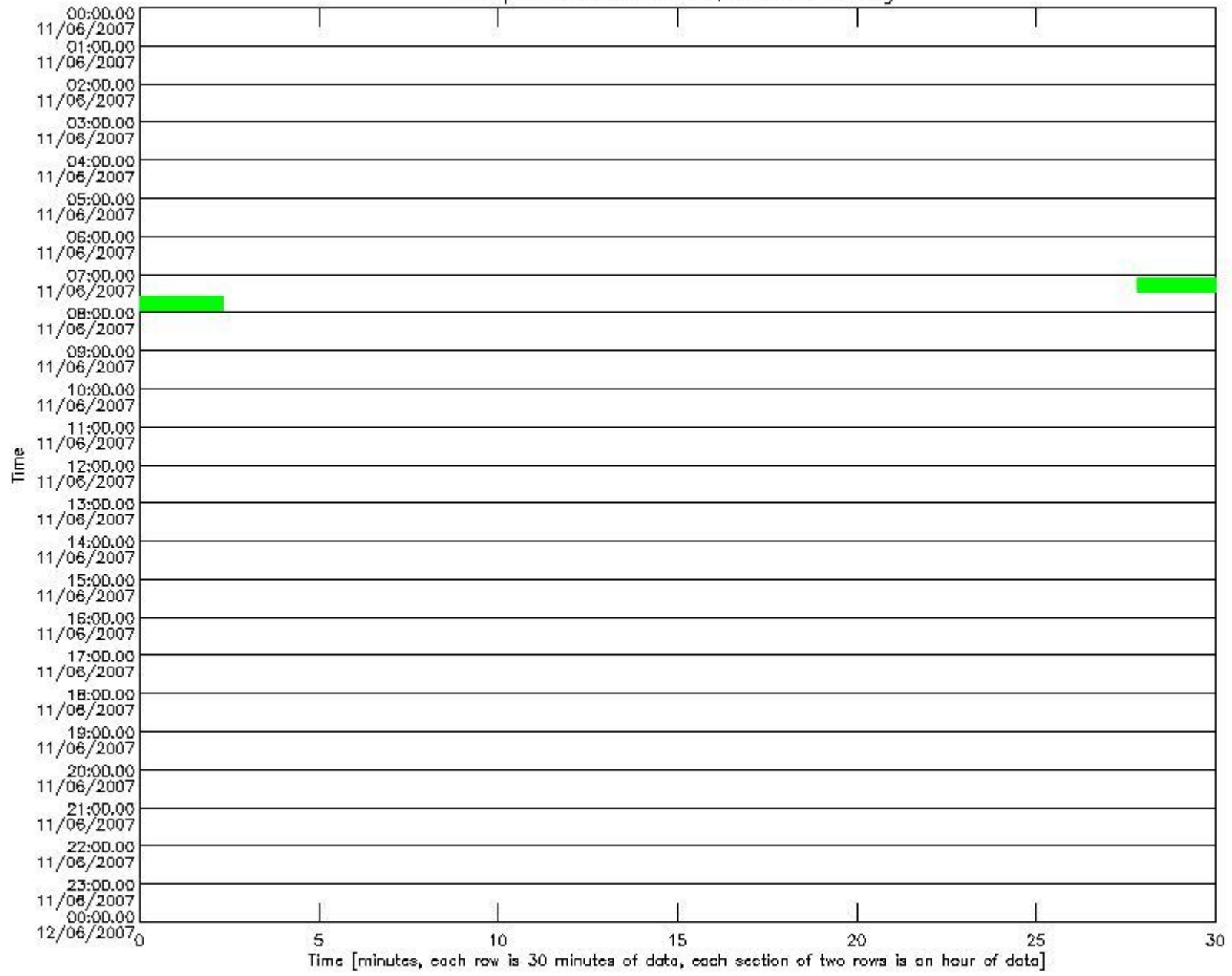
| # | Product name   | Start time         | Stop time          | Prod err | Slice position (prod/tot) |
|---|--|--------------------|--------------------|----------|---------------------------|
| 0 | MIP_NL__1PPDPA20070611_072749_000002372058_00493_27601_1252.N1 | 11JUN2007 07:27:49 | 11JUN2007 07:31:45 | 0        | 1/1                       |

### 1.2 Product Quality Indicators

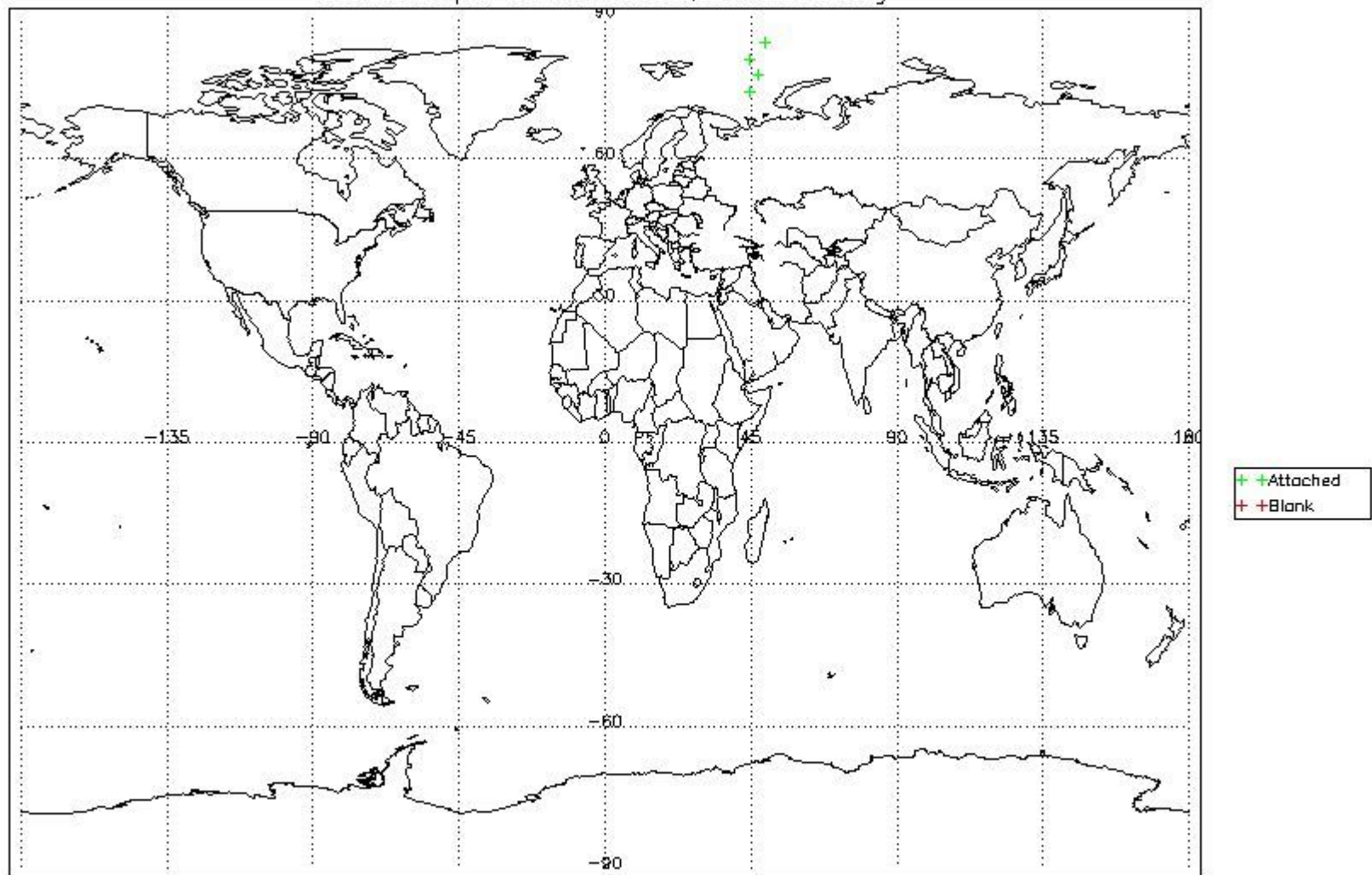
This report contains an analysis on product quality related parameters within the MIP\_NL\_\_1P product.

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

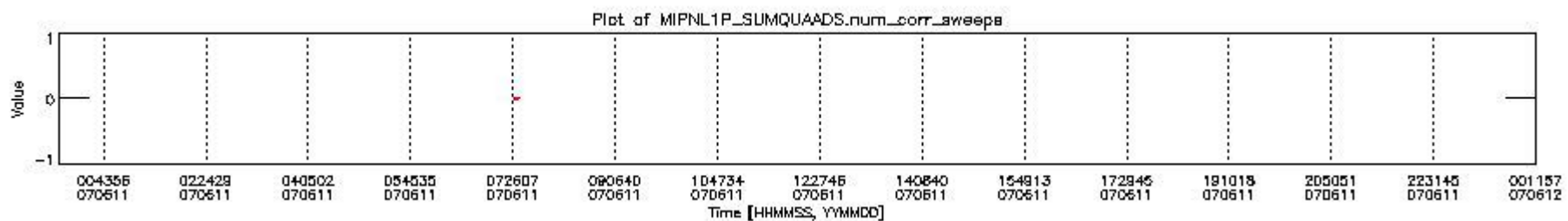
Bar plot of MIPNL1P\_SUMQUAADS.attach\_flag



Geolocation plot of MIPNL1P\_SUMQUAADS.attach\_flag

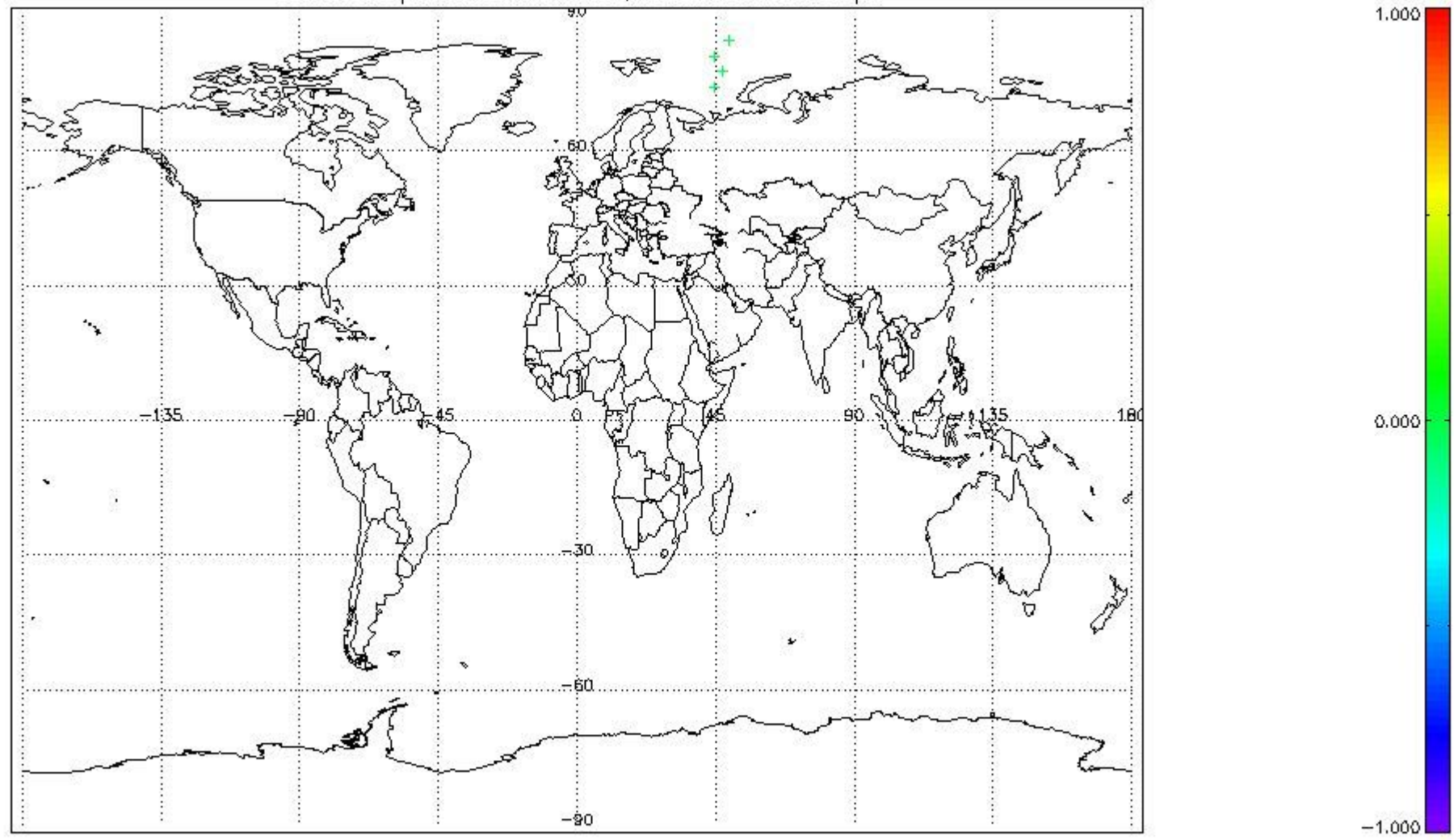


mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_1.PNG

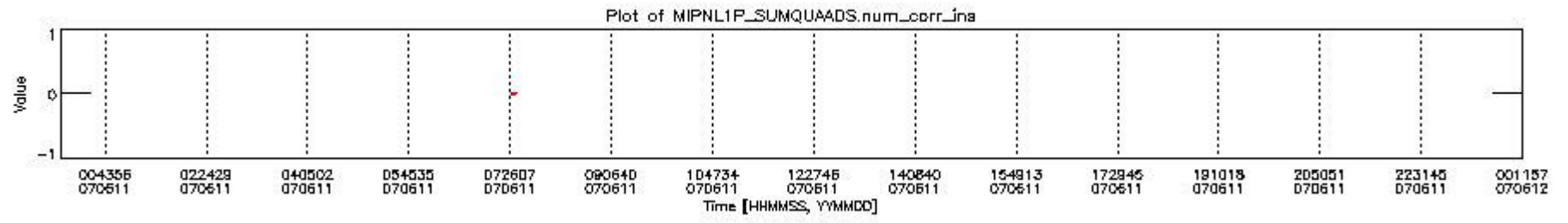


mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_2.PNG

Geolocation plot of MIPNL1P\_SUMQUAADS.num\_corr\_sweeps



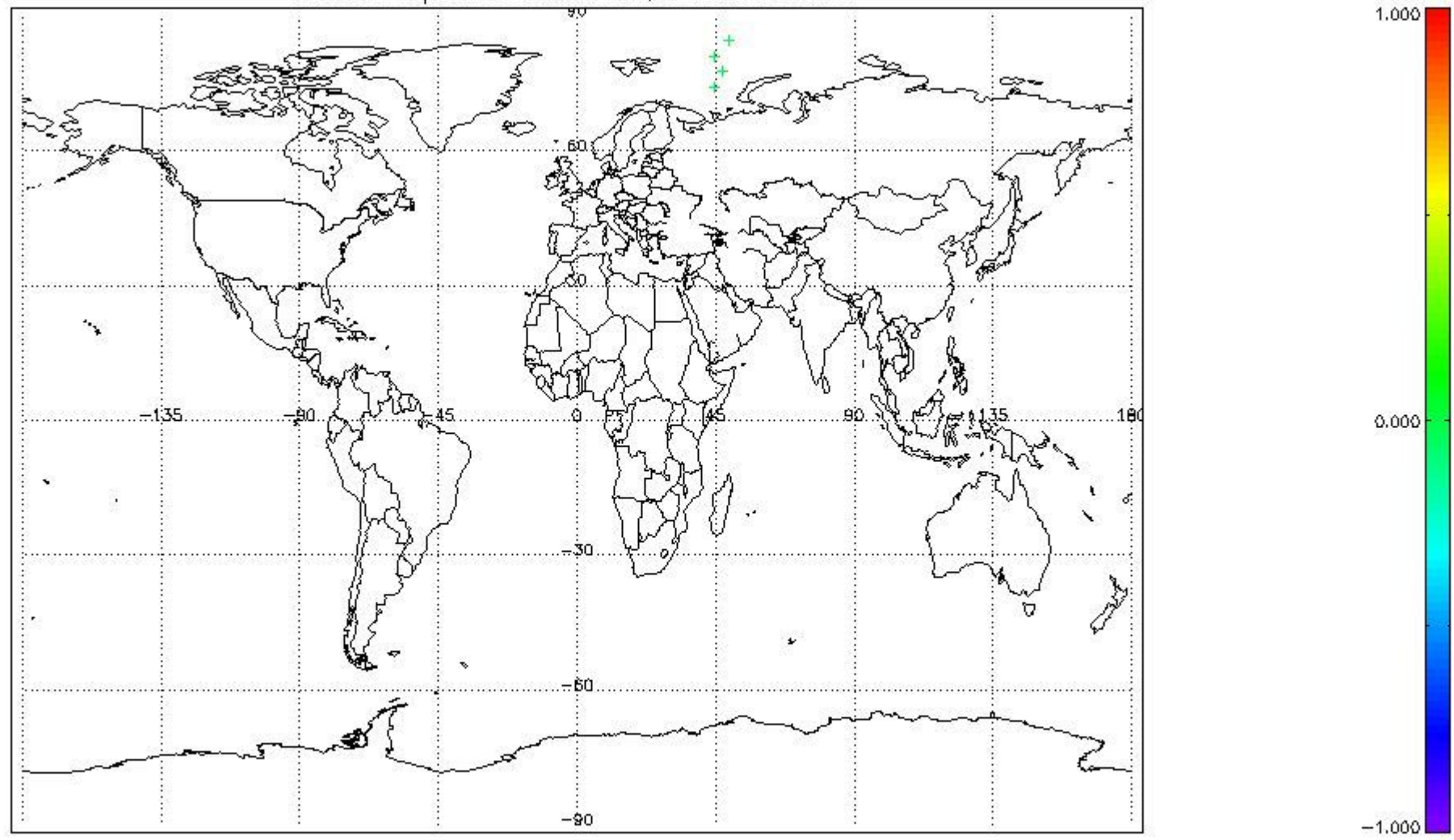
mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_3.PNG



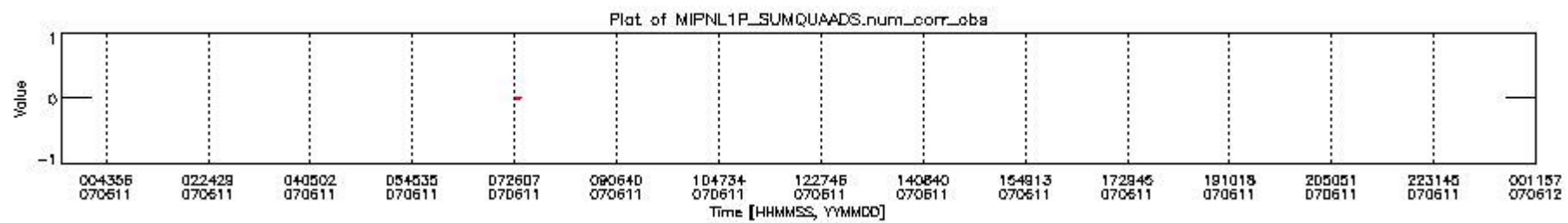
mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_4.PNG



Geolocation plot of MIPNL1P\_SUMQUAADS.num\_corr\_ins

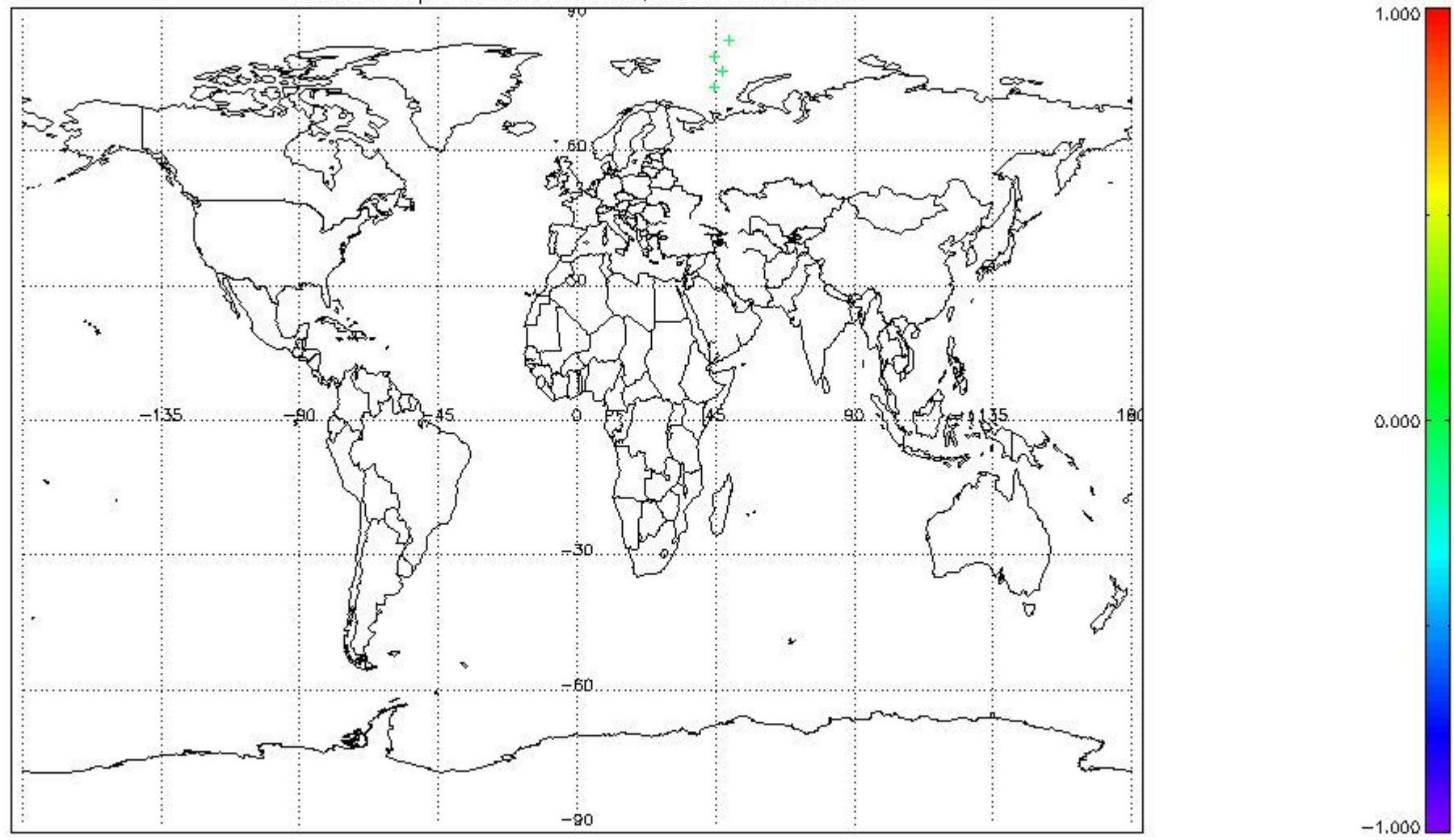


mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_5.PNG

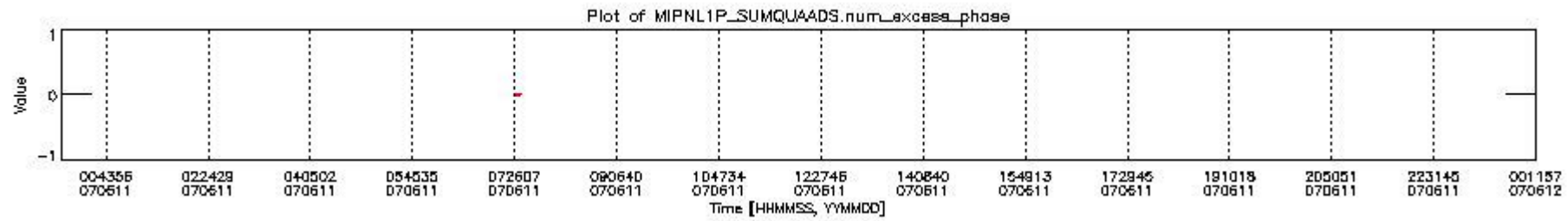


mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_6.PNG

Geolocation plot of MIPNL1P\_SUMQUAADS.num\_corr\_obs

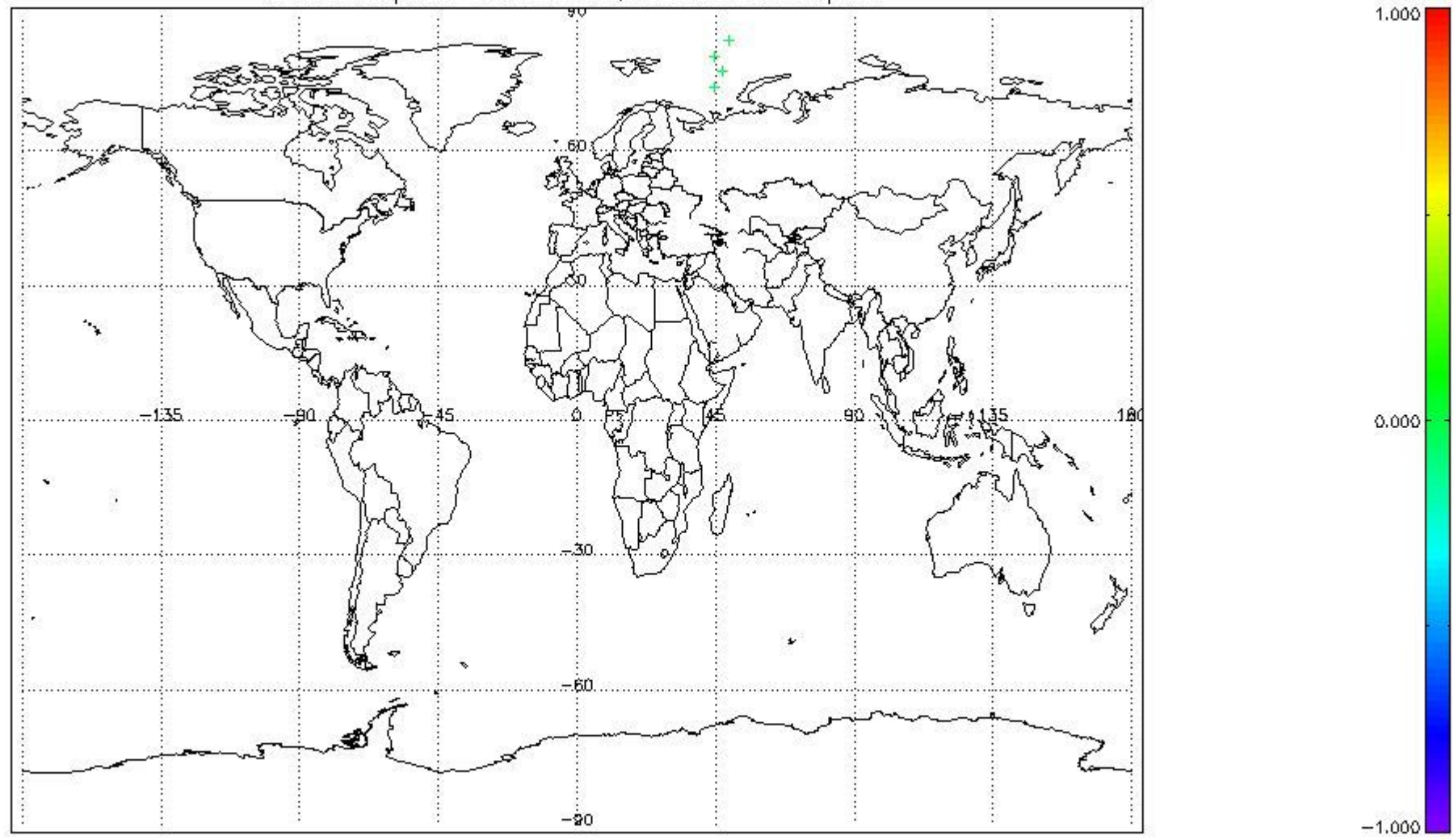


mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_7.PNG

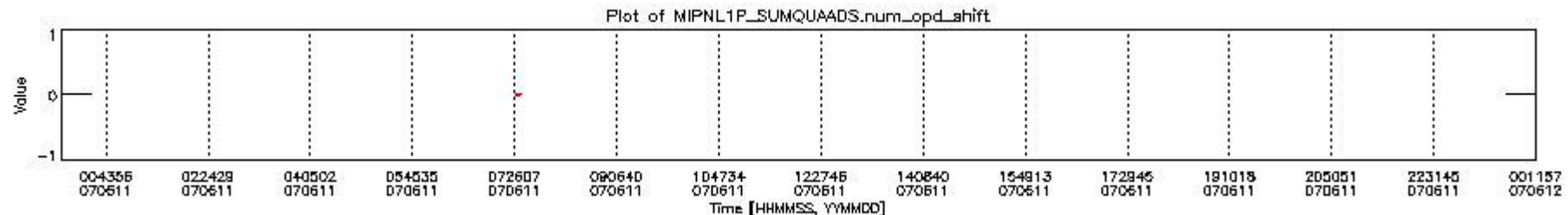


mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_8.PNG

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



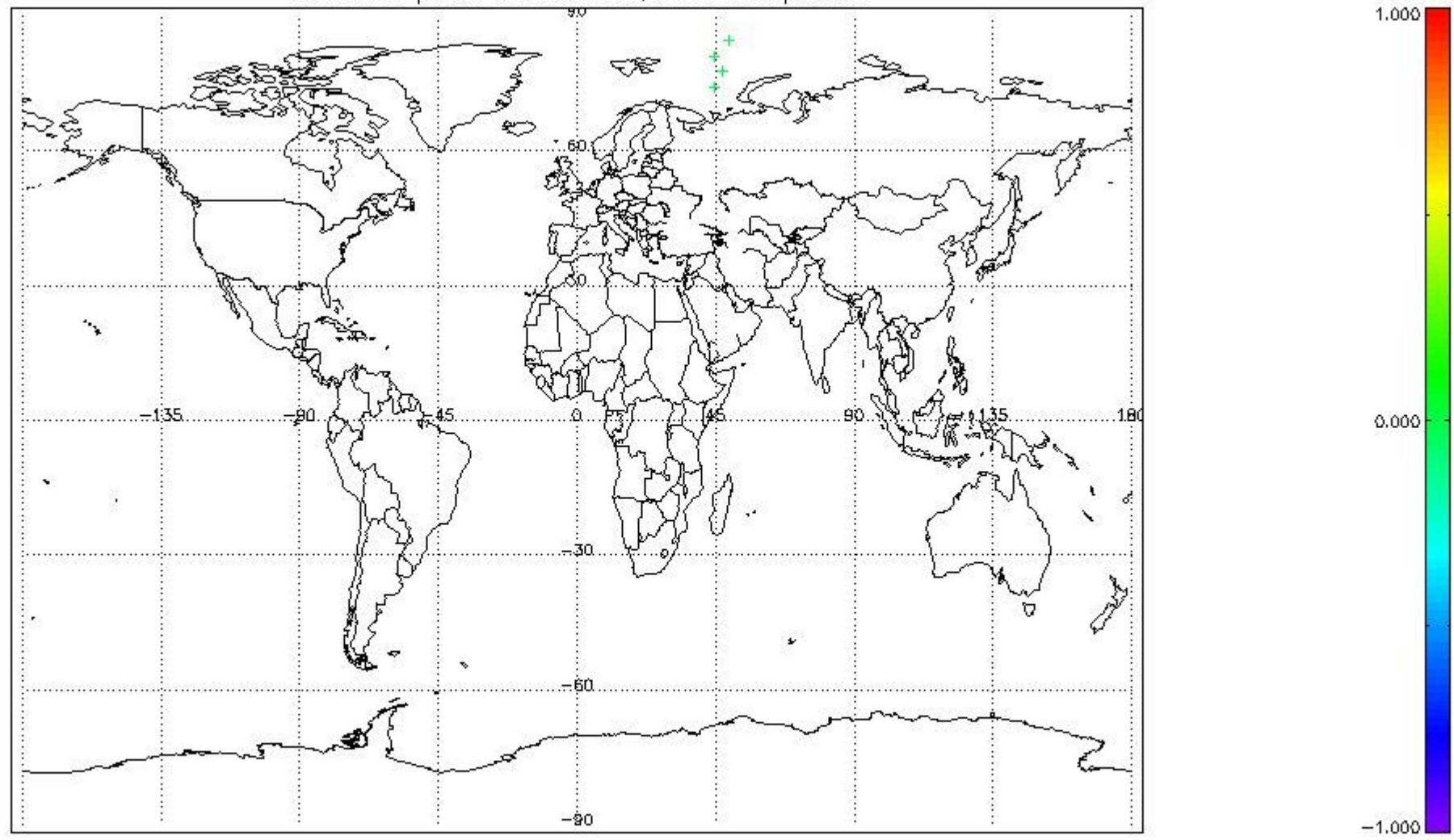
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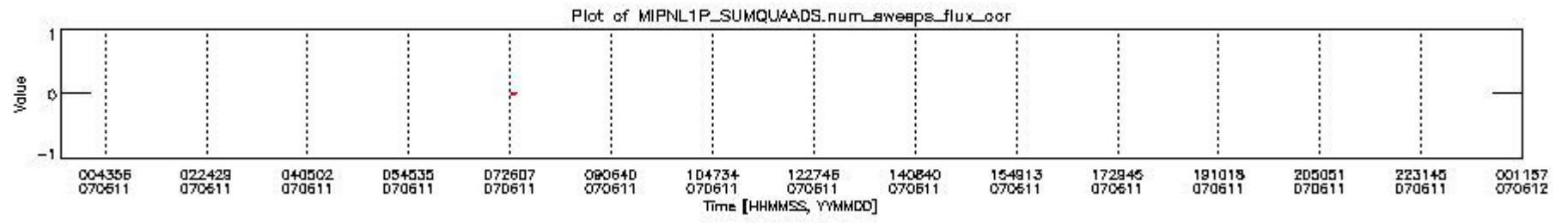
mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_10.PNG



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

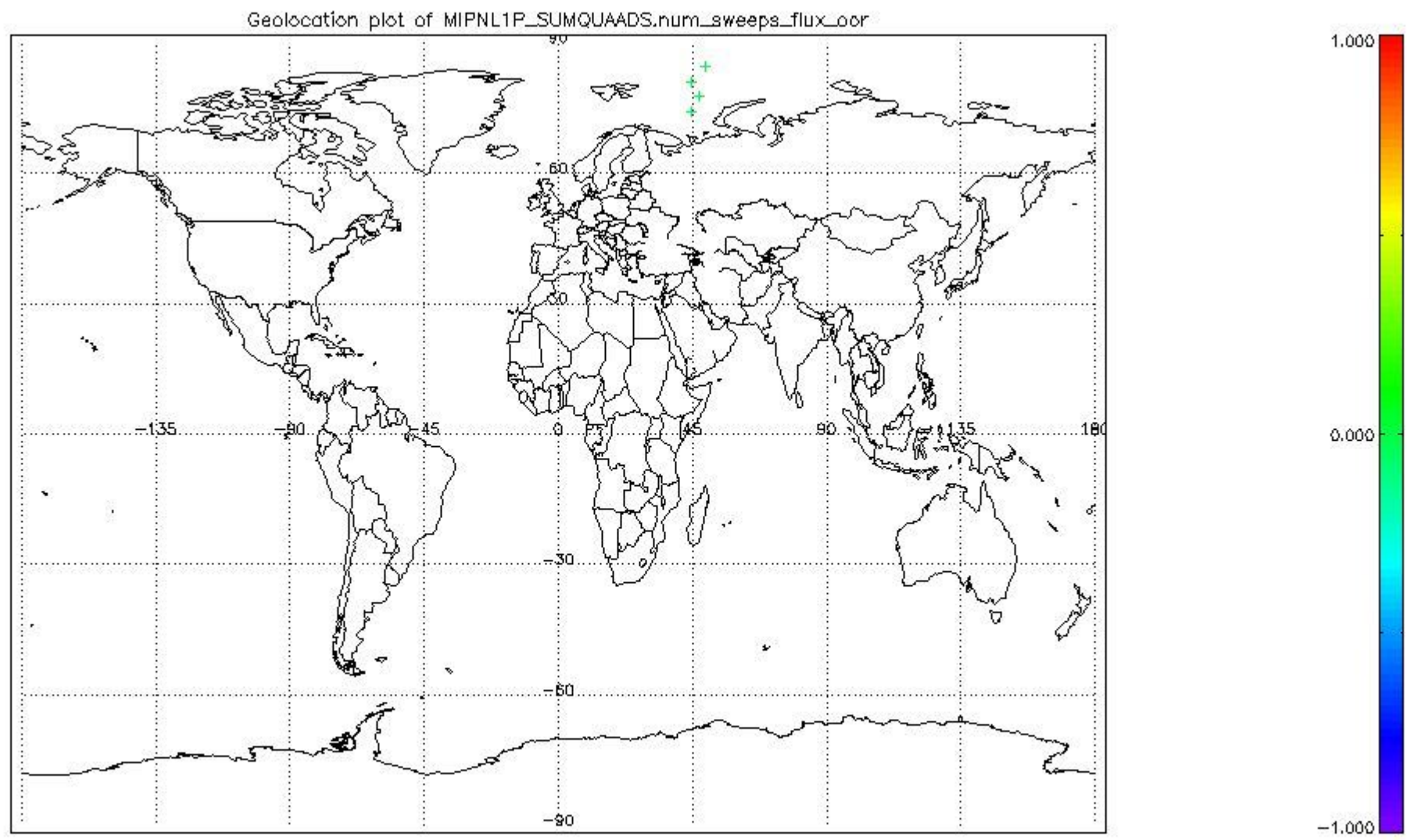


mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_11.PNG



mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_12.PNG

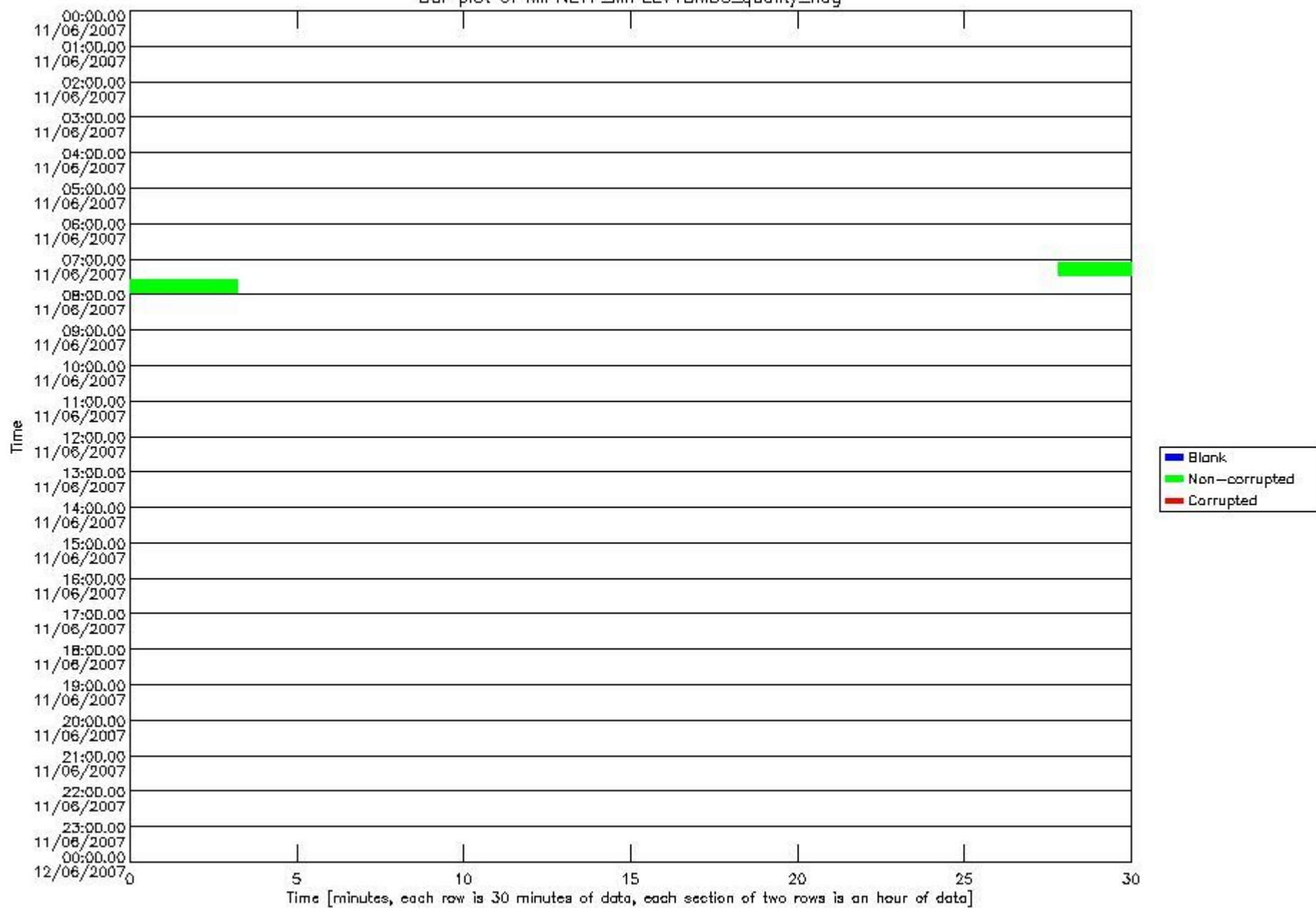




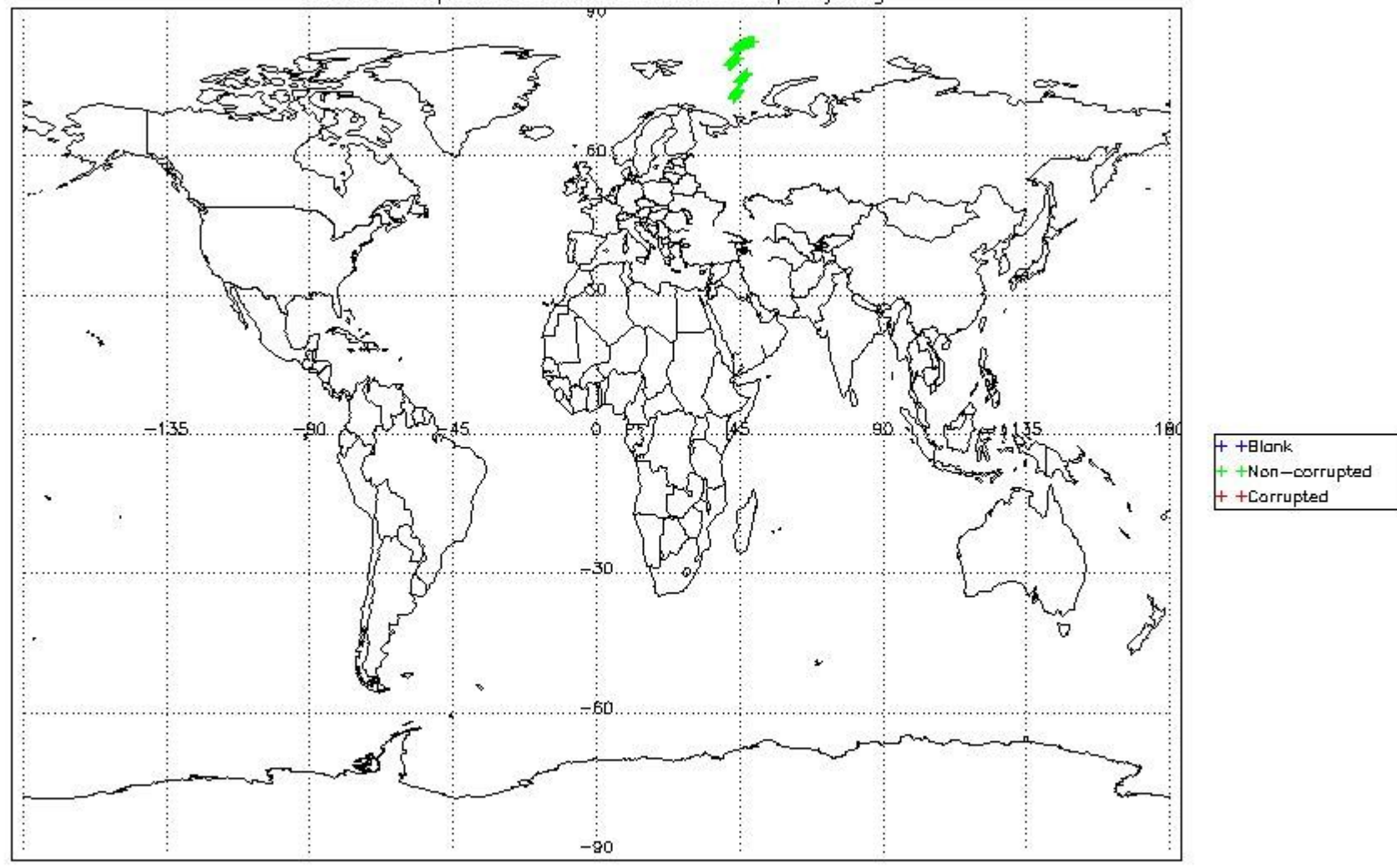
mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_13.PNG

## 1.2.2 Trends and geolocation of MIPAS LEVEL 1 MDS

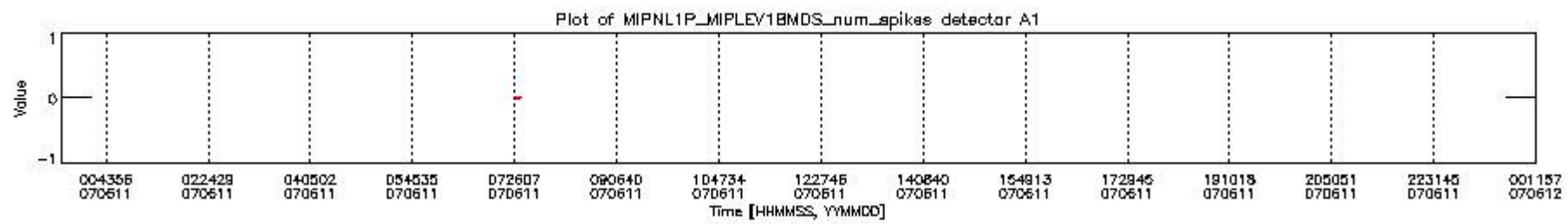
Bar plot of MIPNL1P\_MIPLEY1BMDS\_quality\_flag



Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_quality\_flag

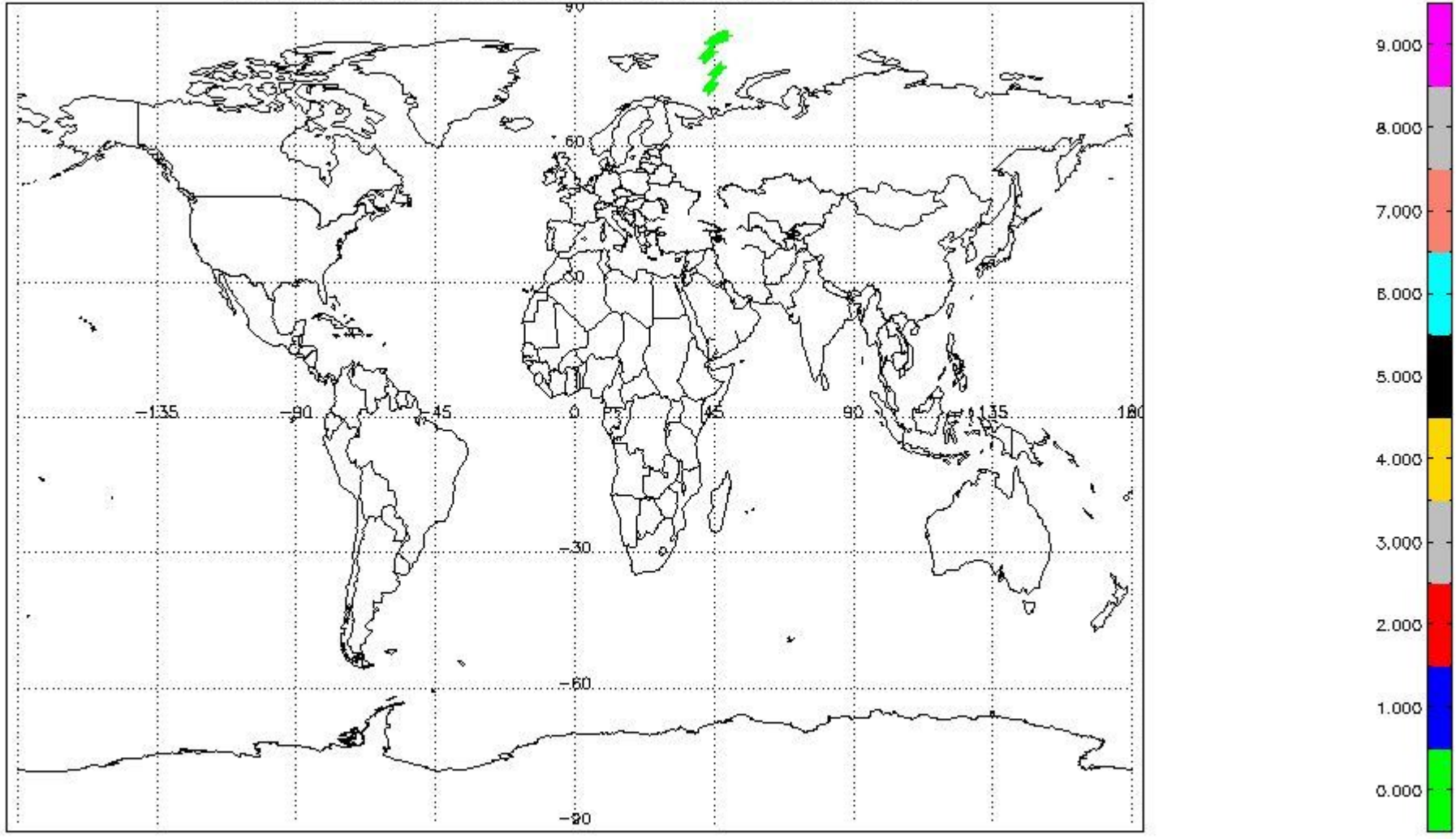


mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_15.PNG

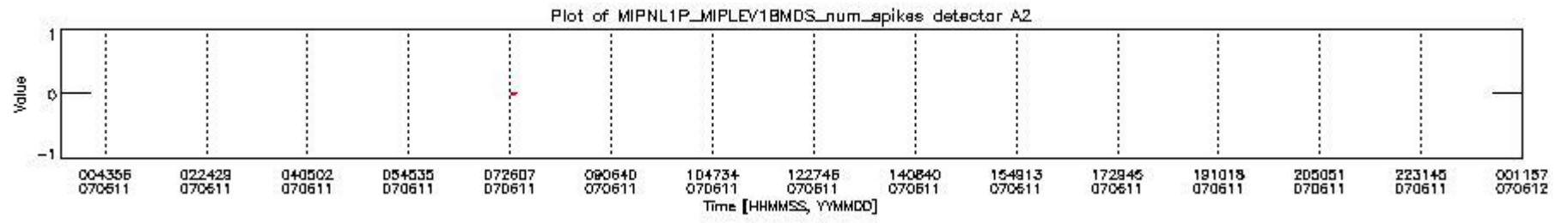


mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_16.PNG

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



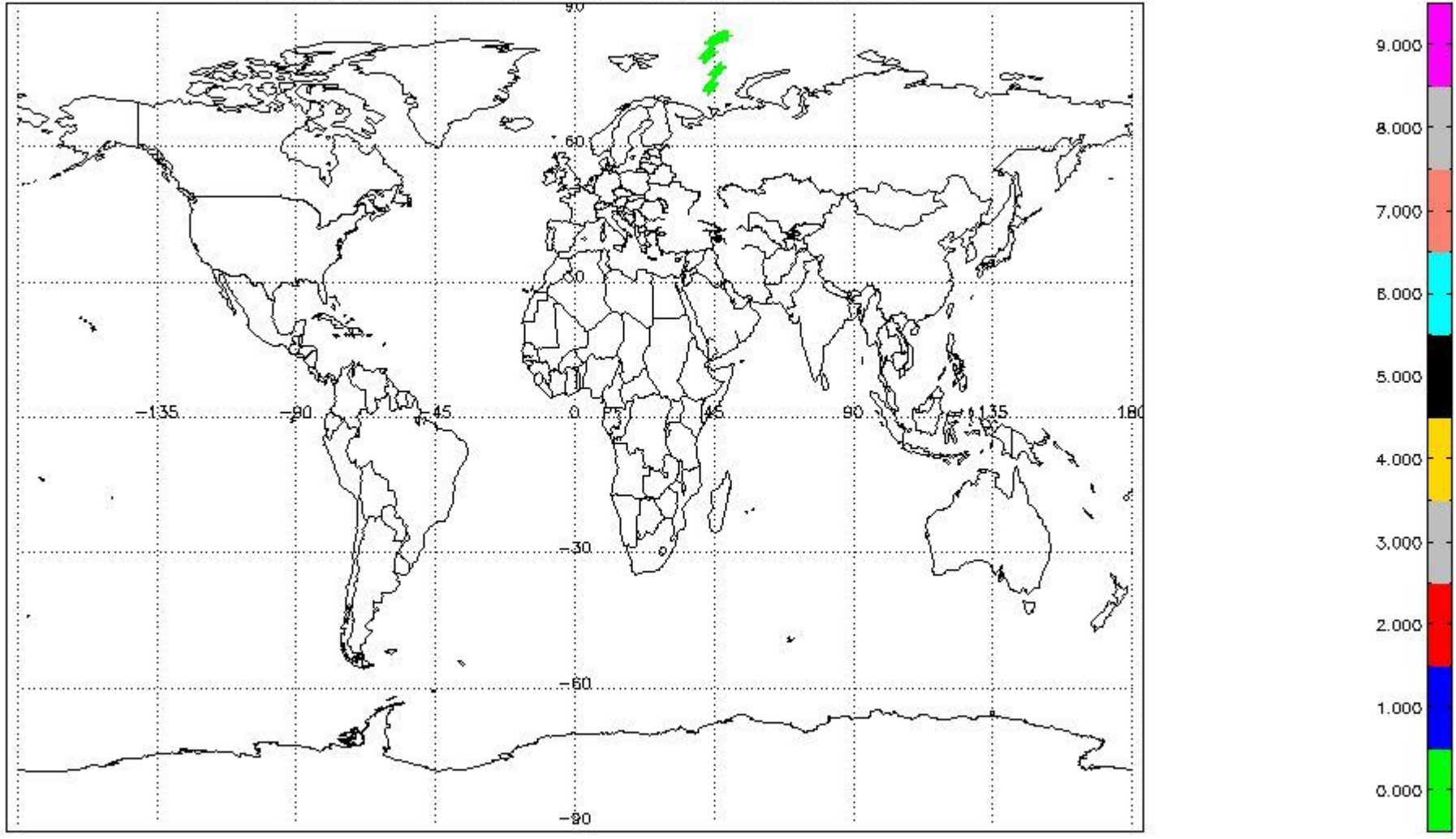
mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_17.PNG



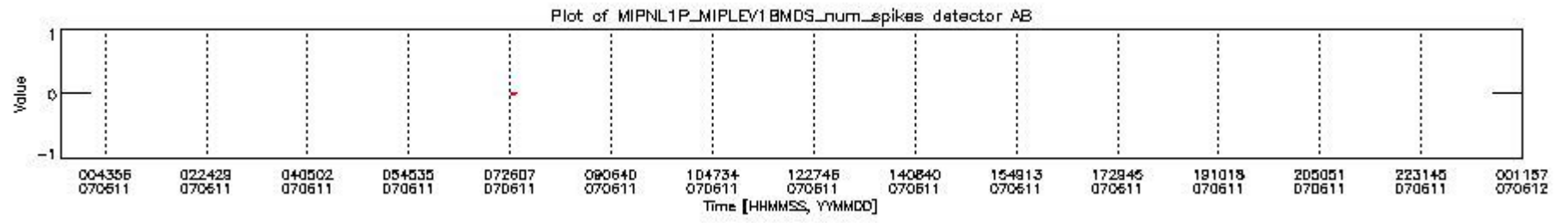
mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_18.PNG



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

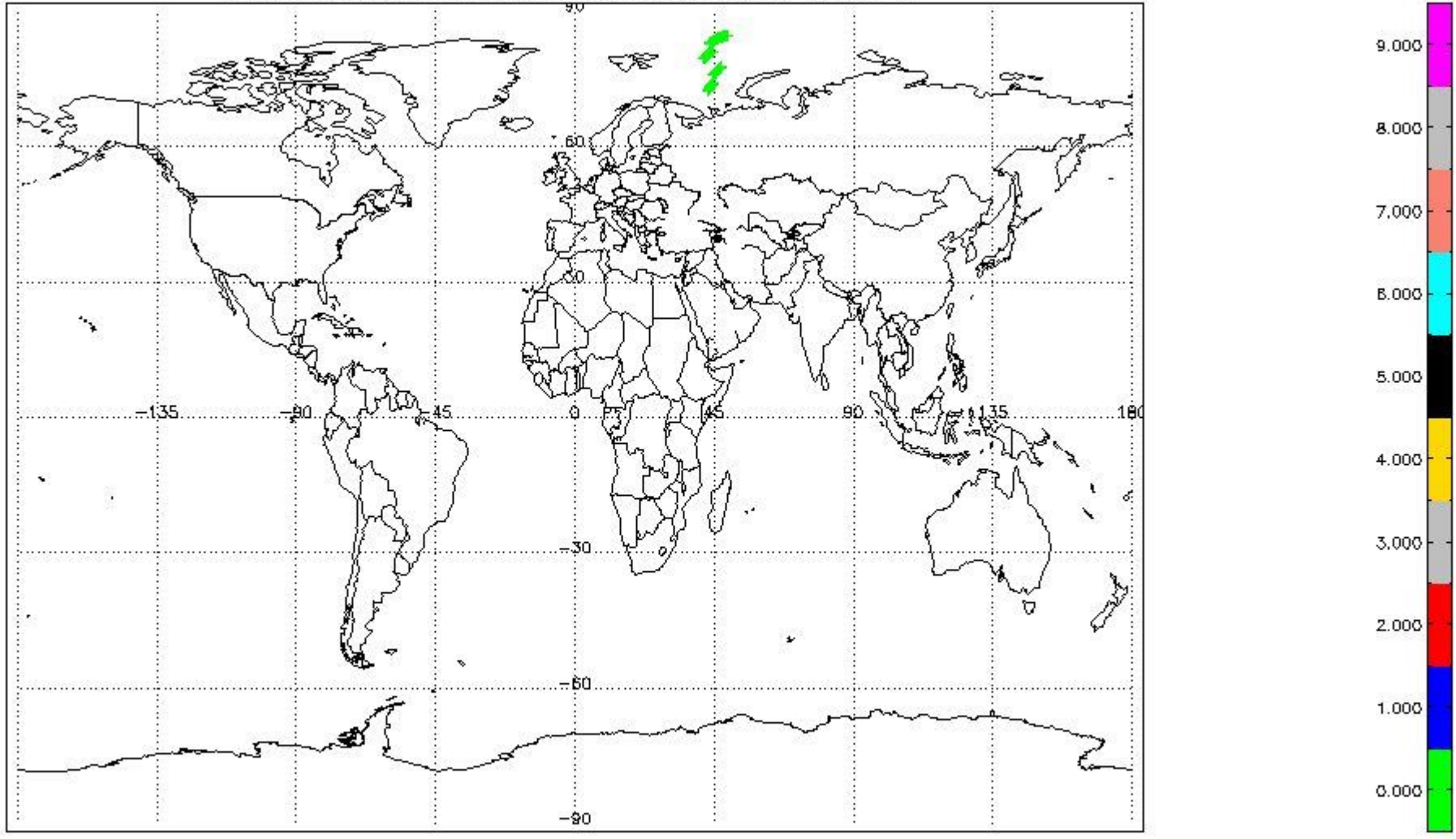


mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_19.PNG

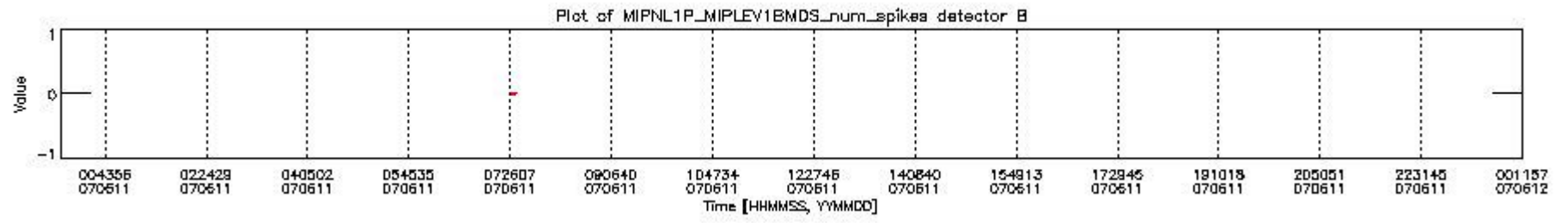


mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_20.PNG

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

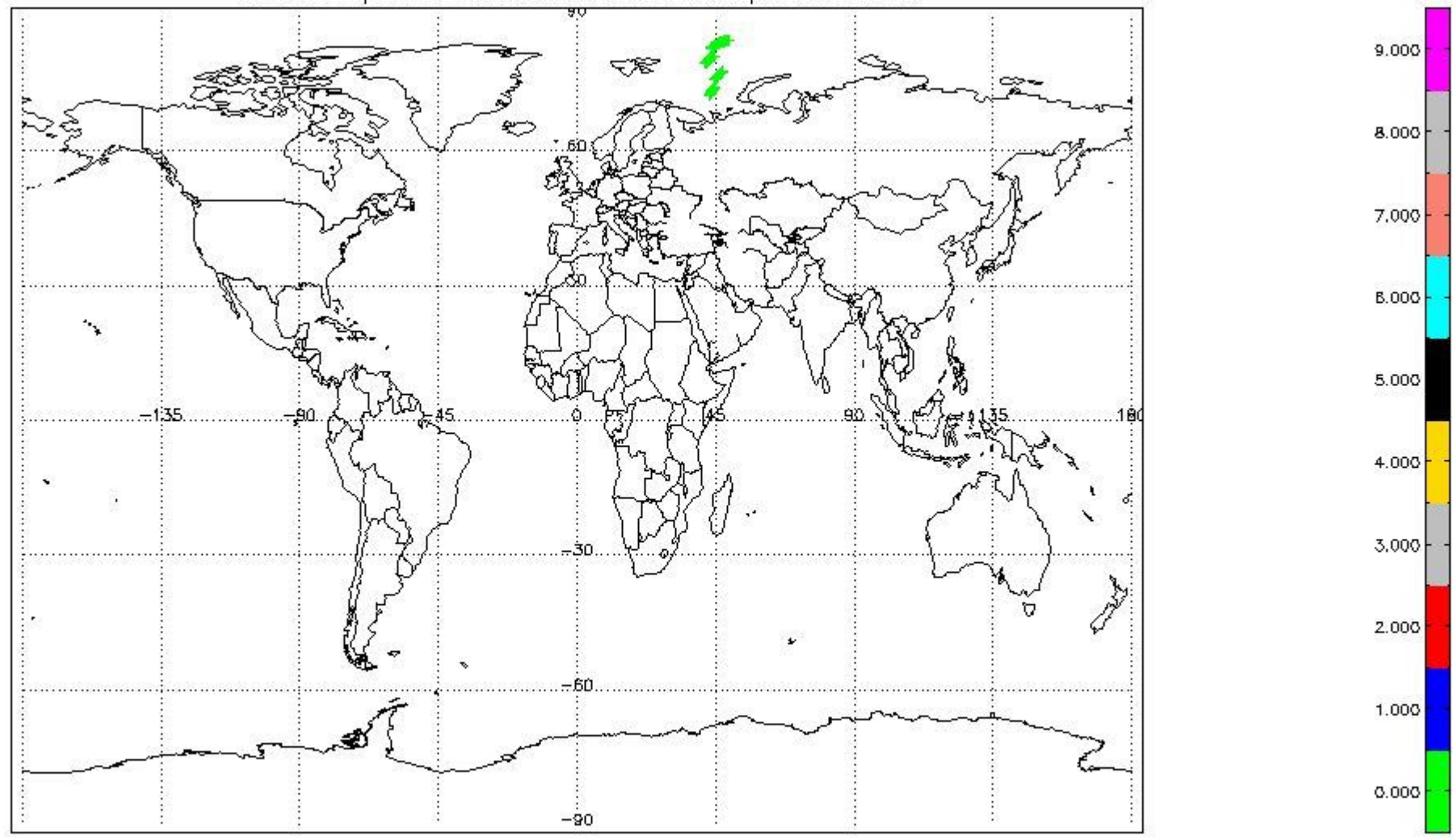


mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_21.PNG

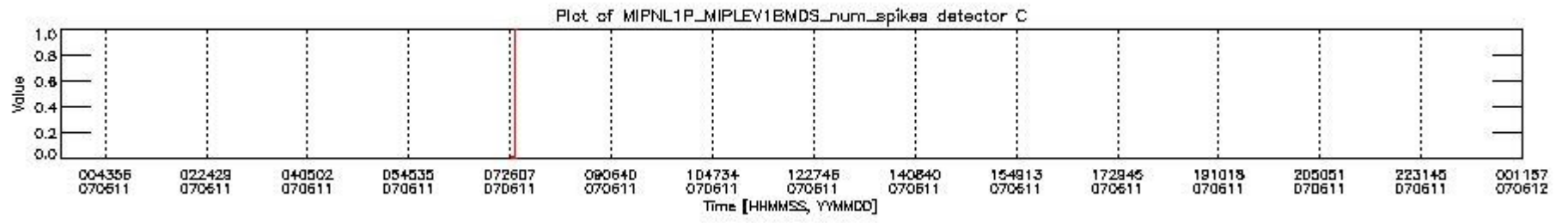


mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_22.PNG

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



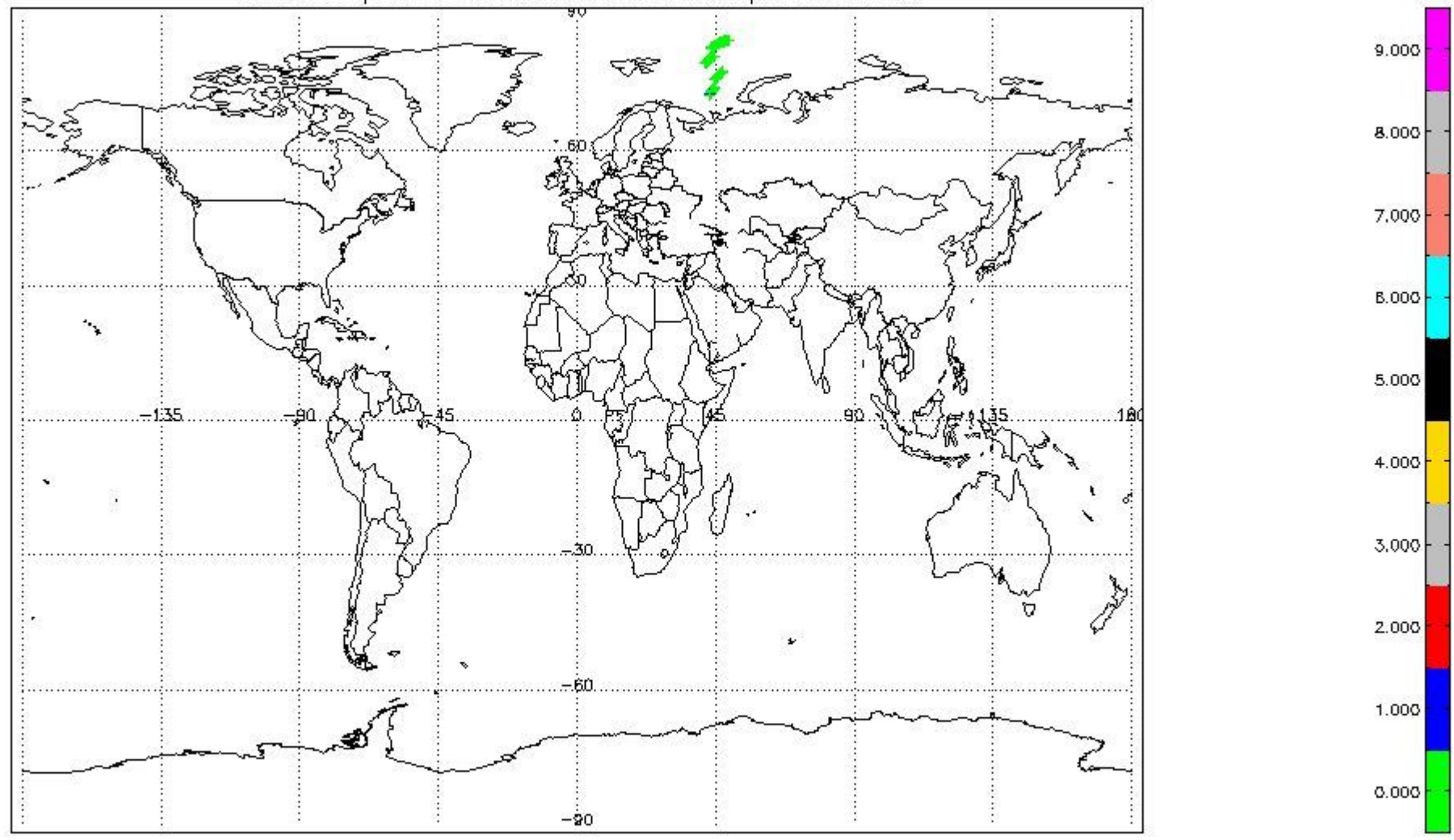
mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_23.PNG



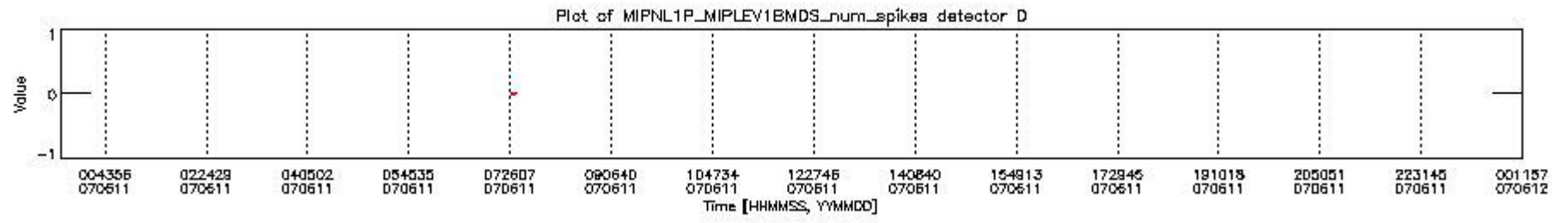
mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_24.PNG



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



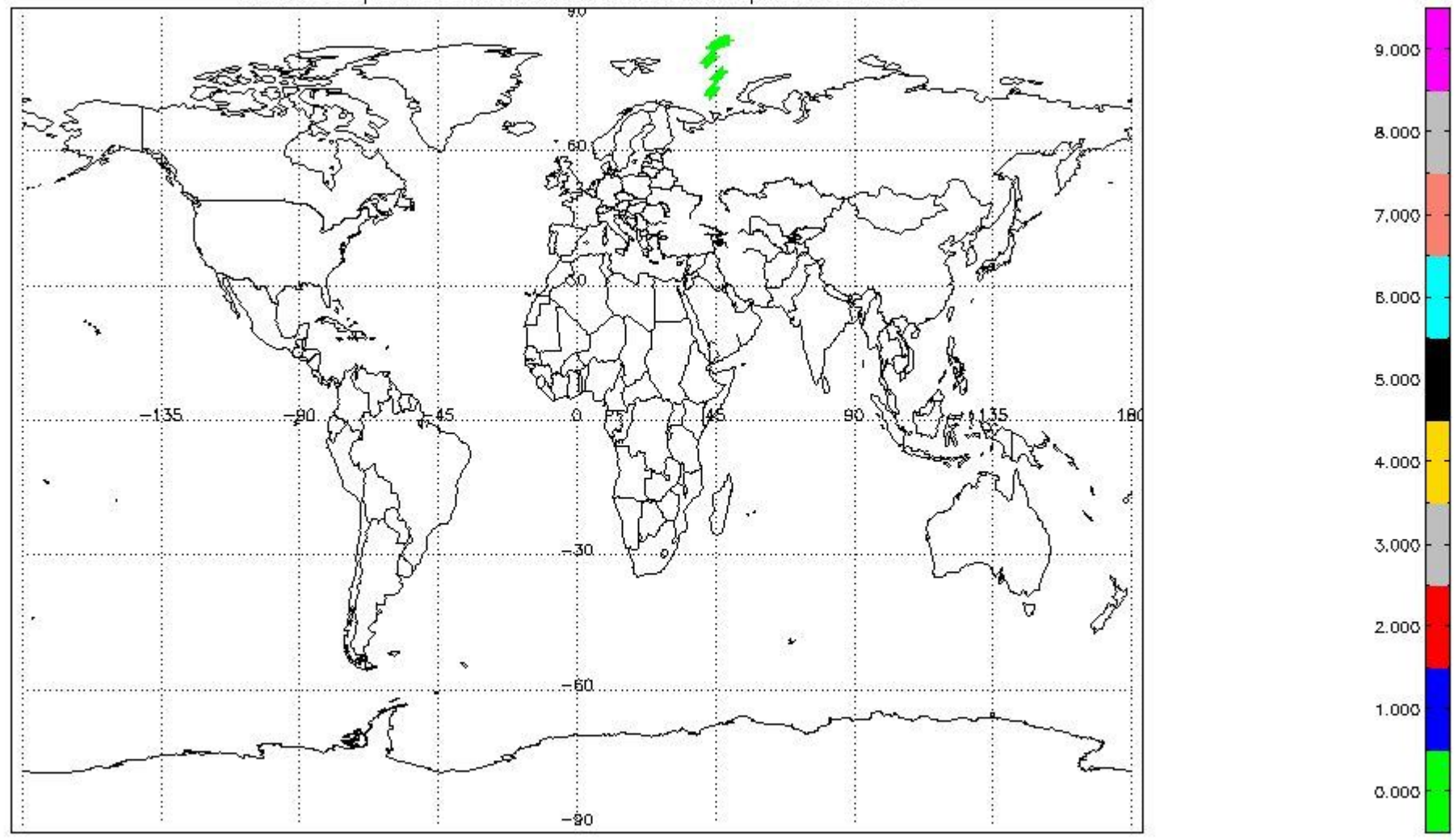
mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_25.PNG



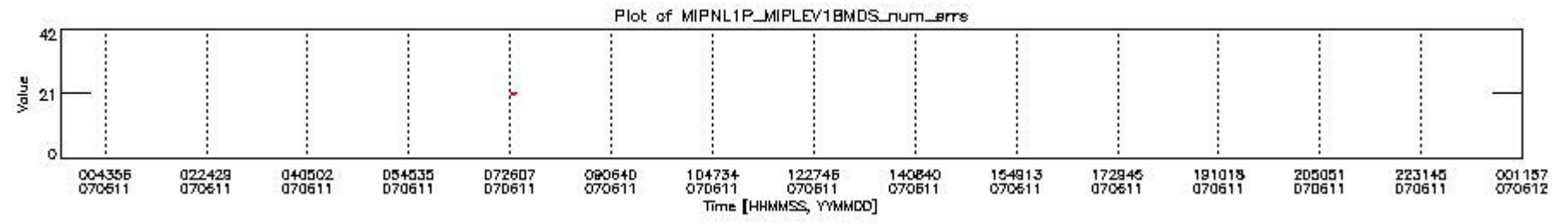
mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_26.PNG



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

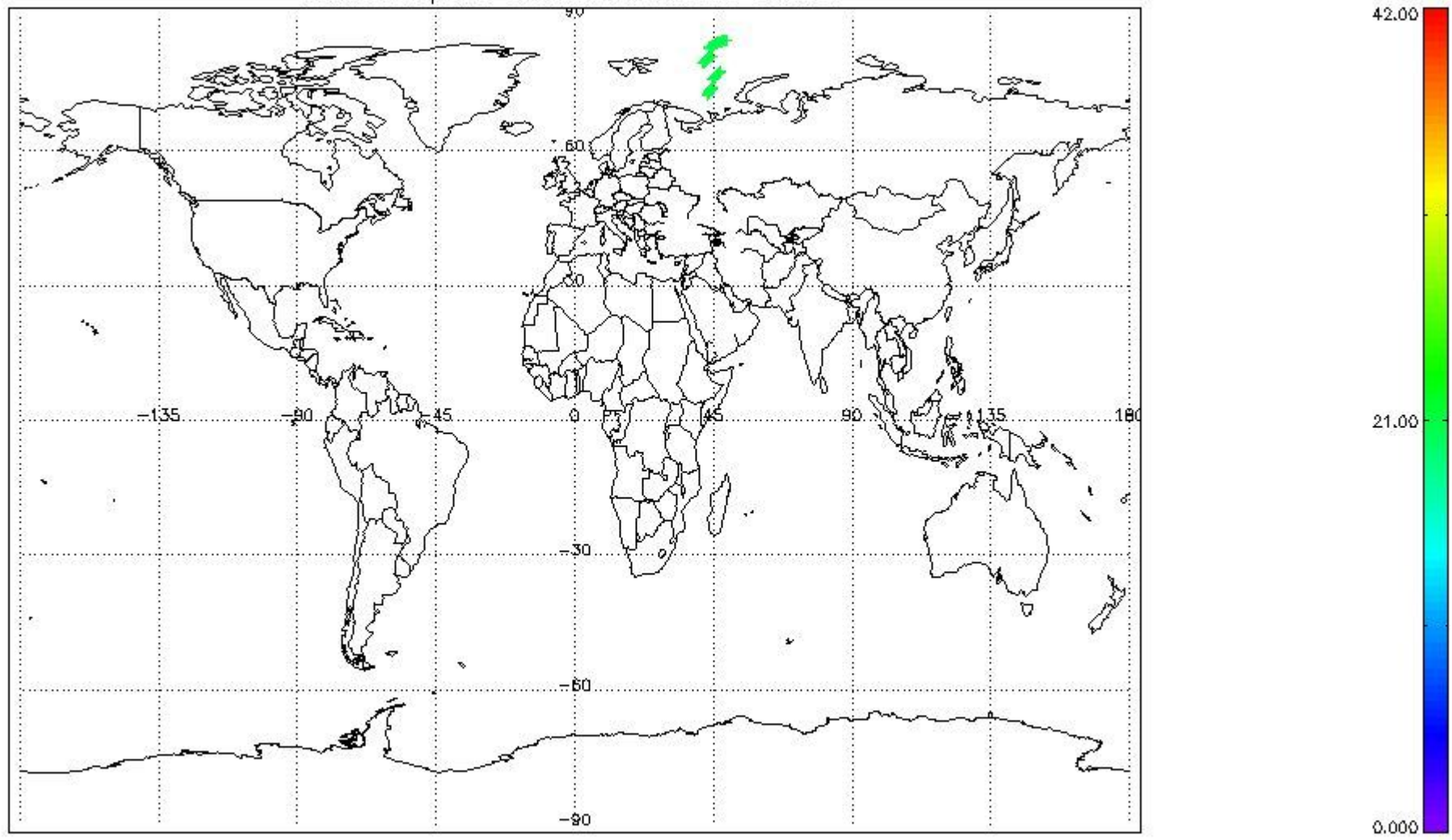


mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_27.PNG

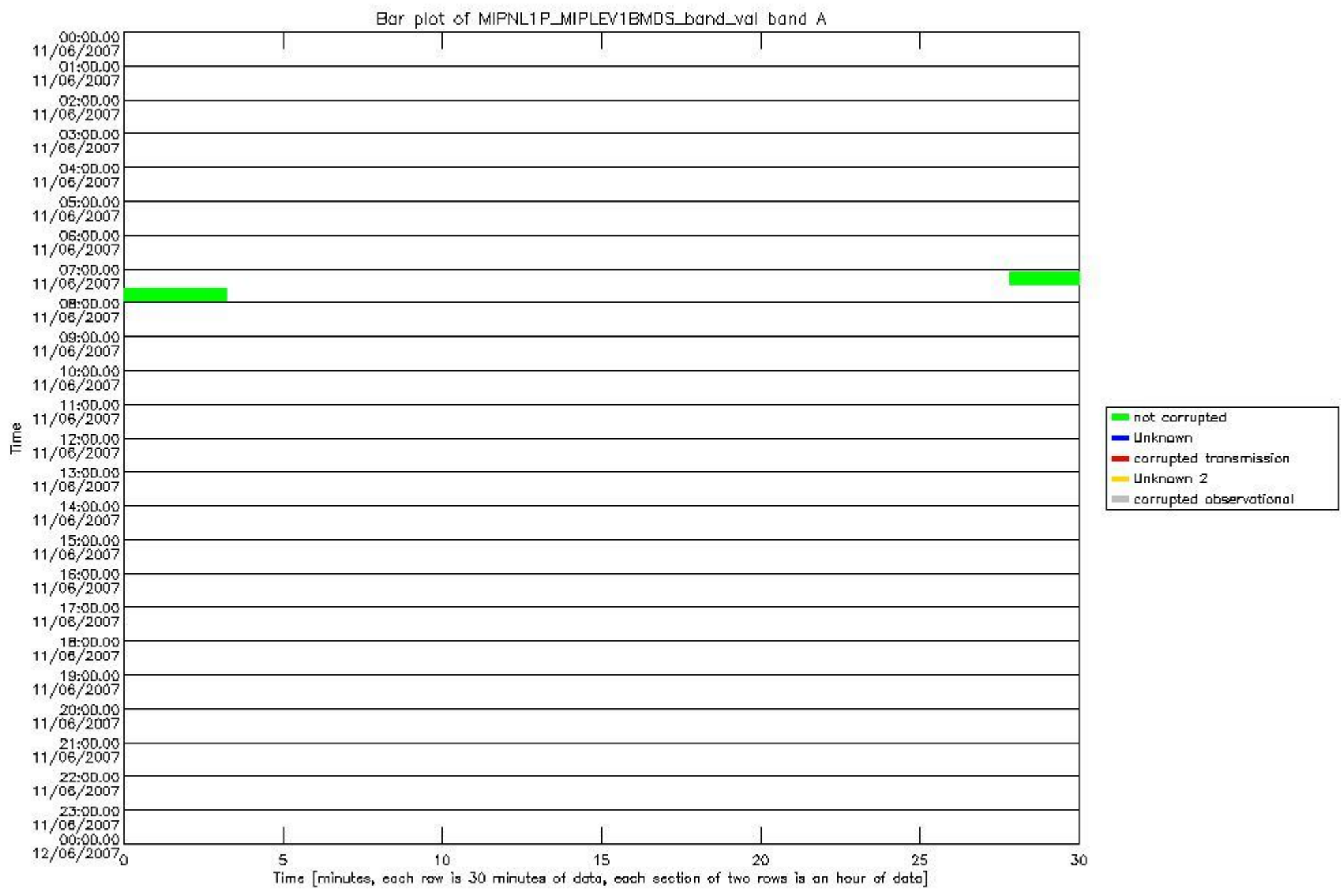


mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_28.PNG

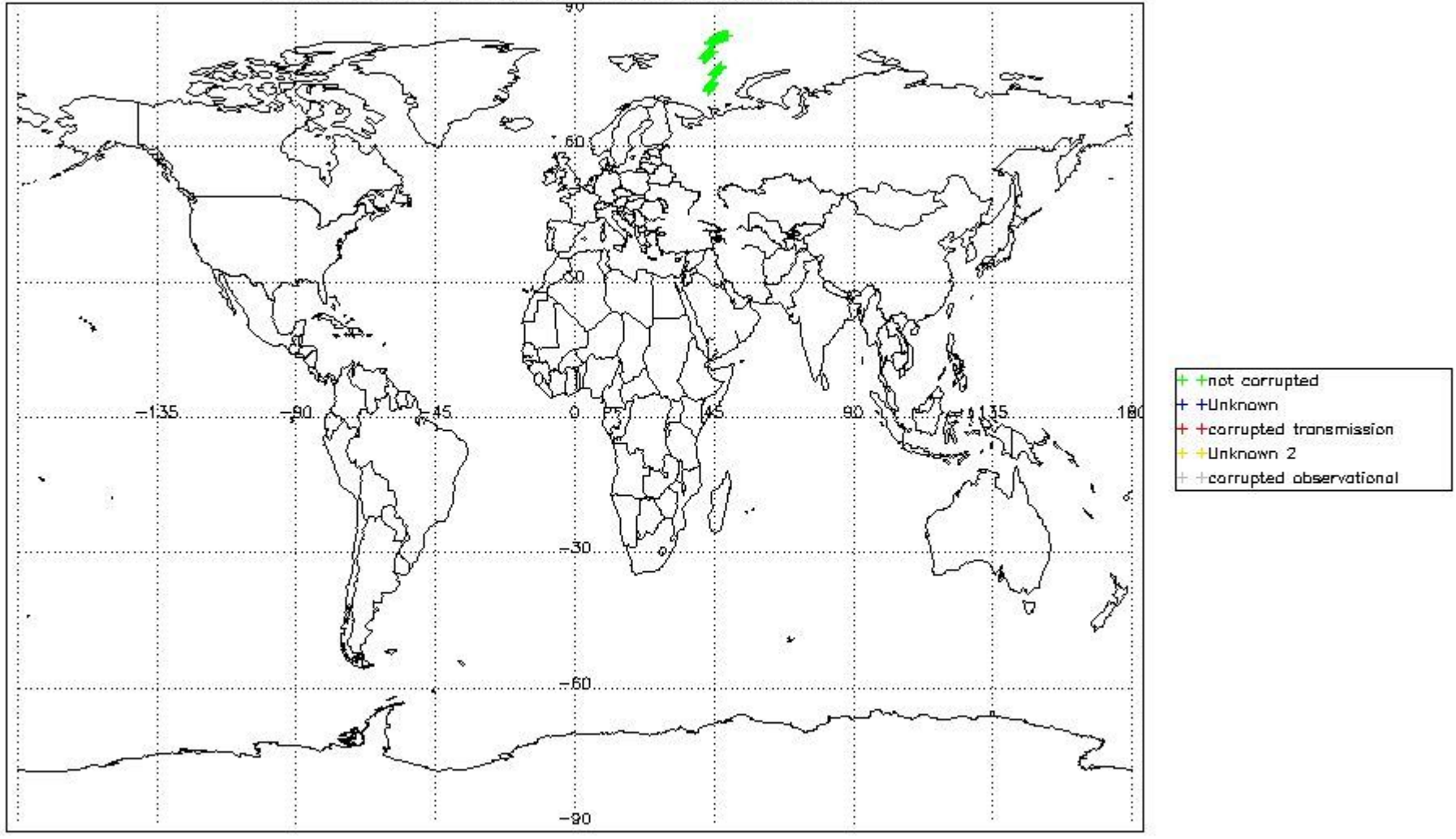
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_num\_errs



mipas\_daily\_report\_level1\_OFI\_MIPAS\_4\_67\_P\_20070611\_29.PNG

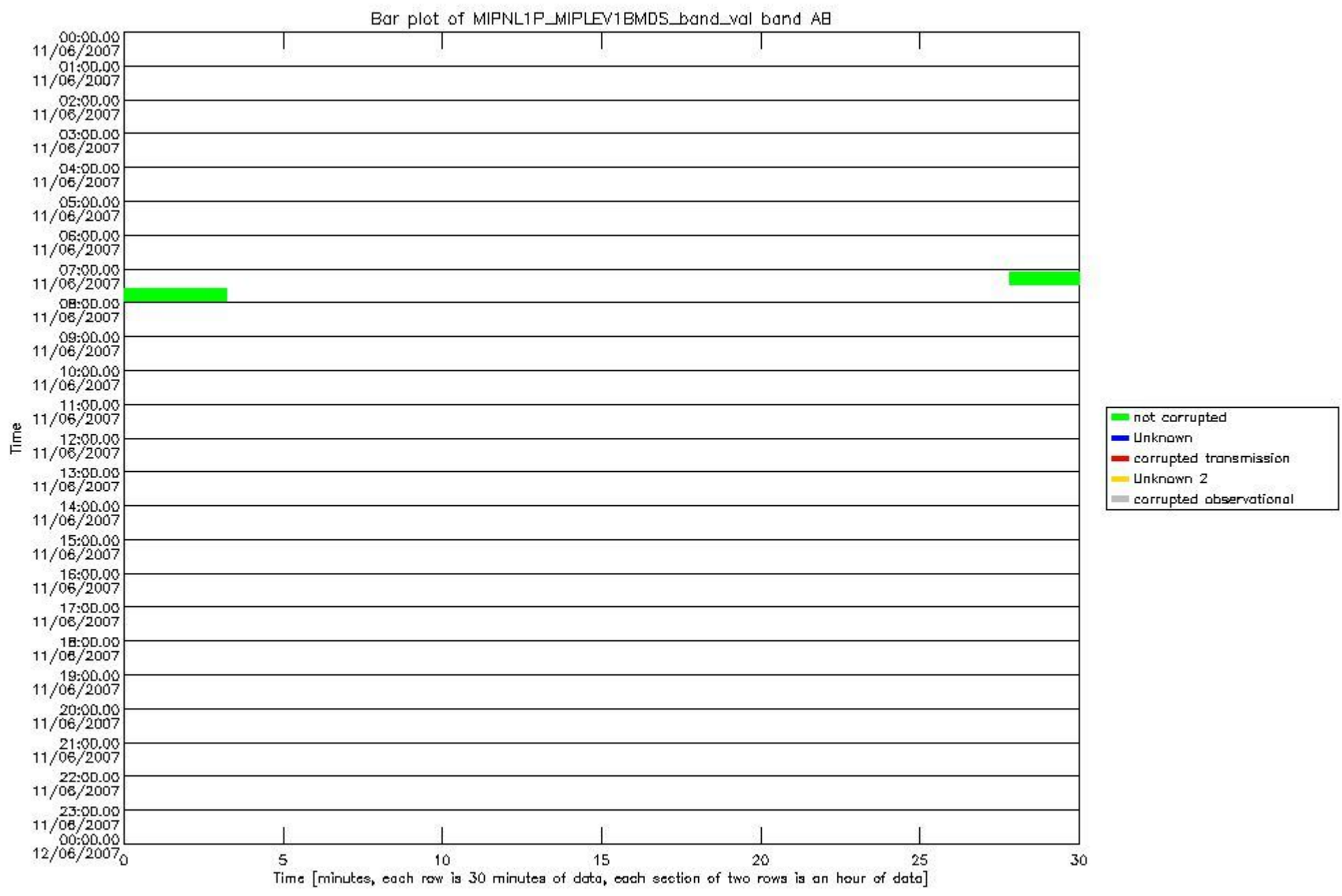


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band A

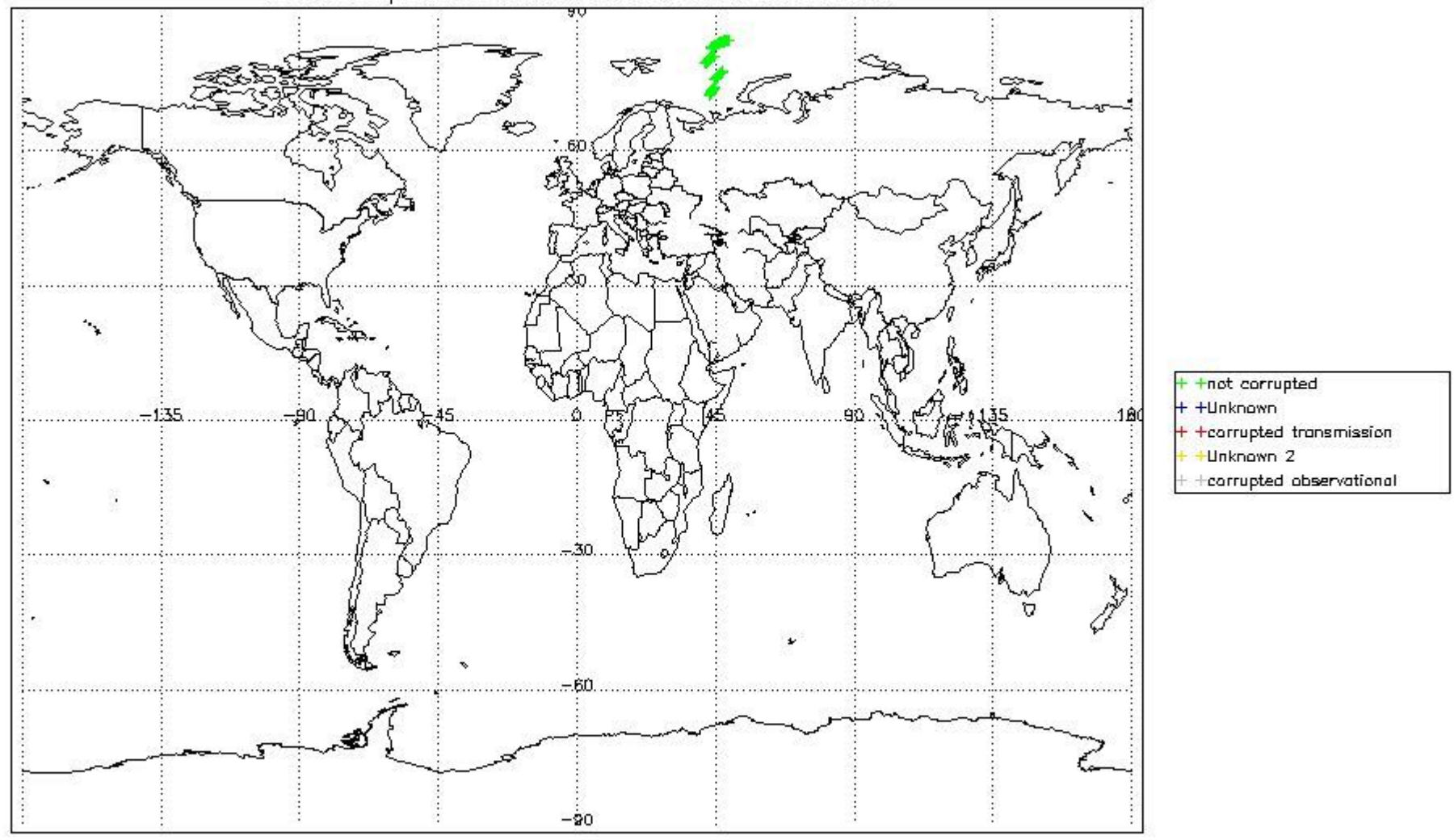


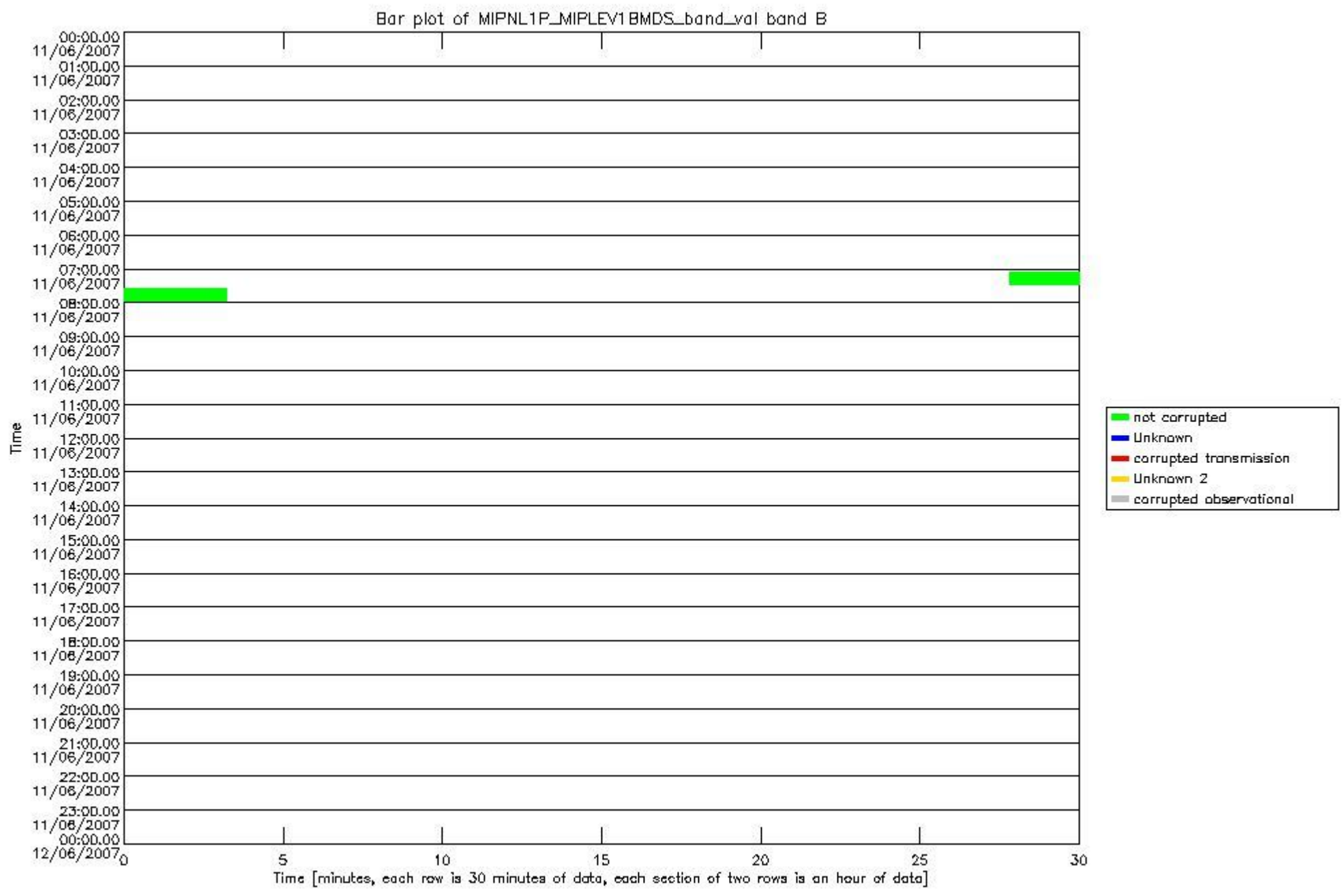
mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_31.PNG



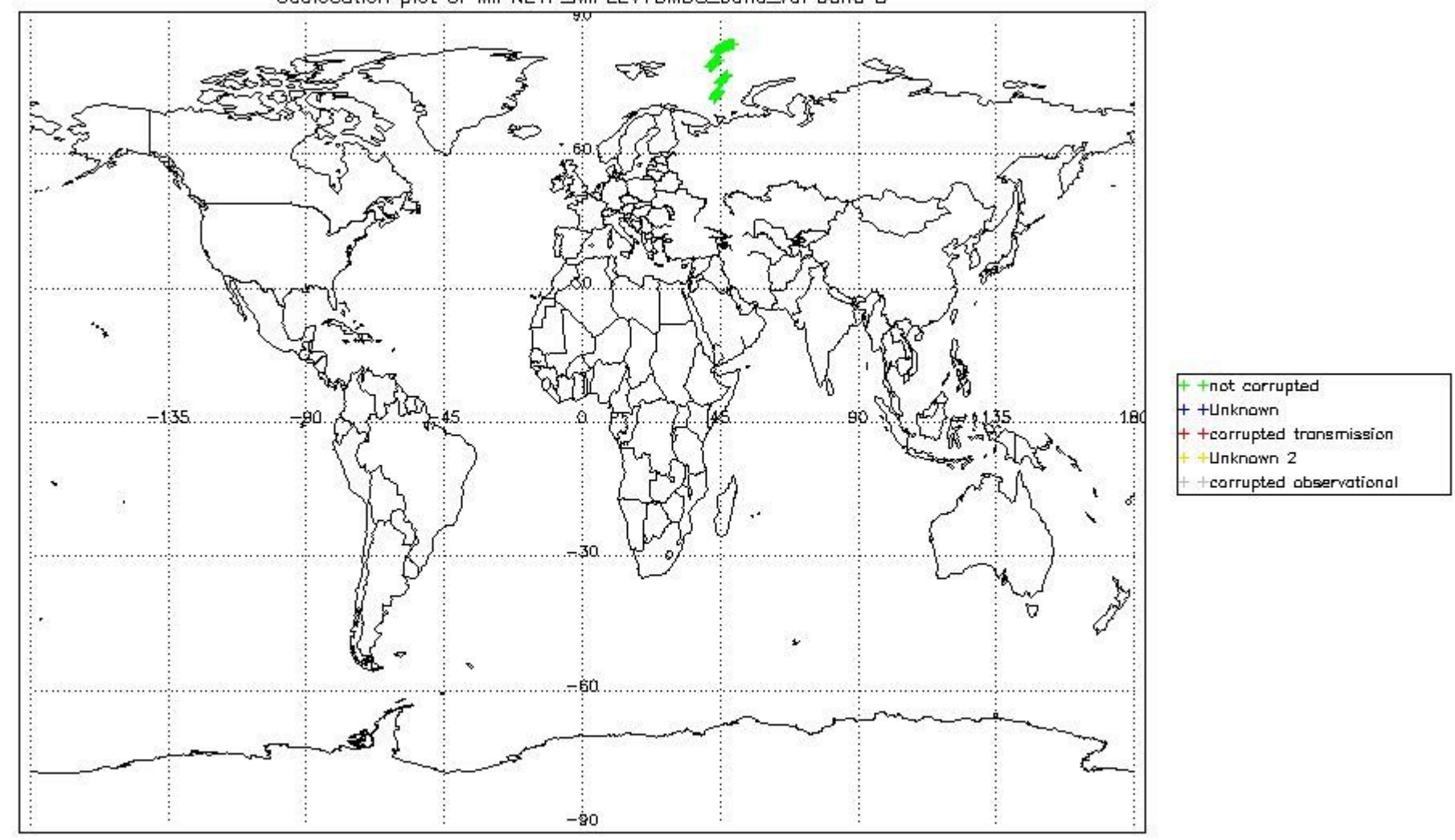


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band AB

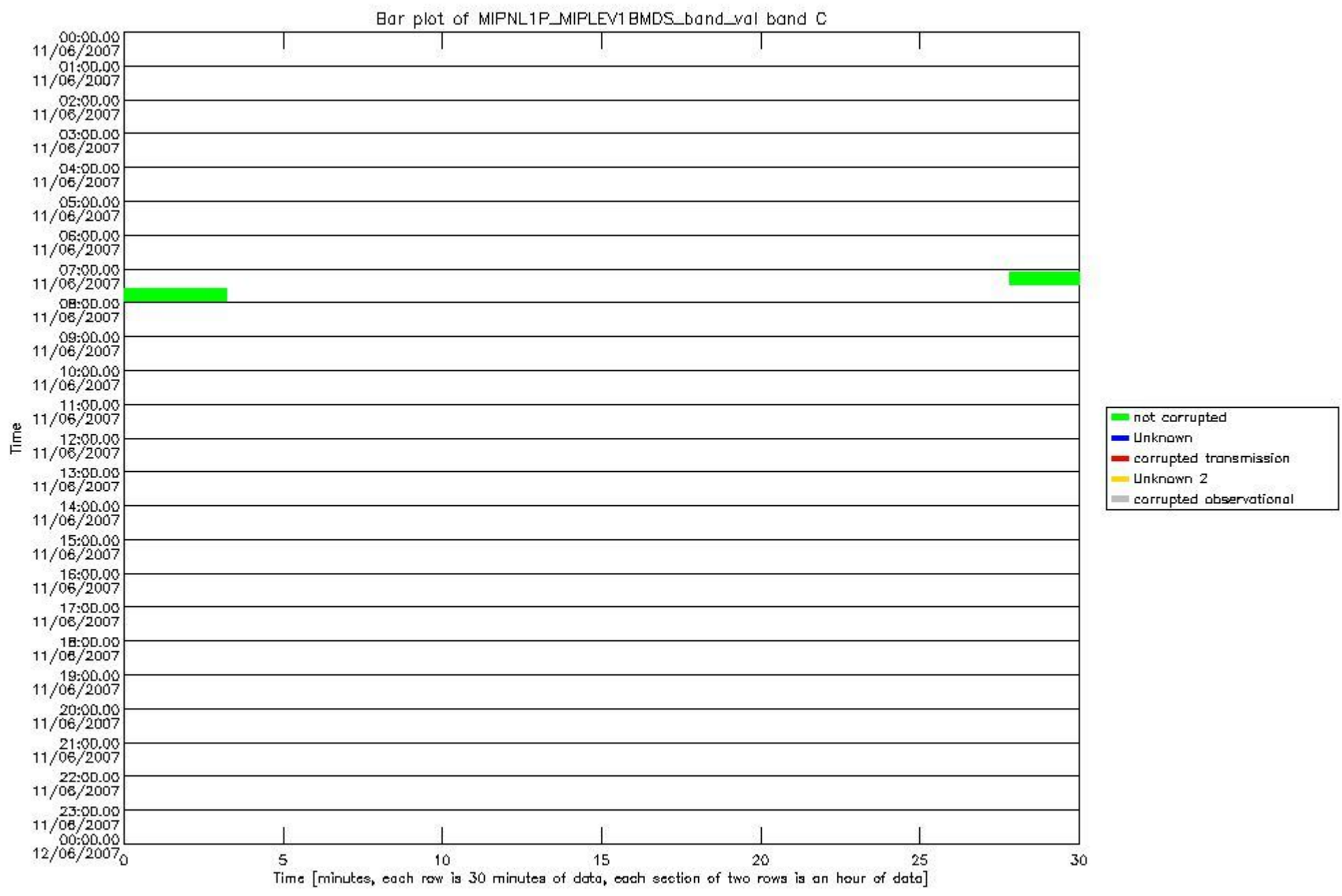




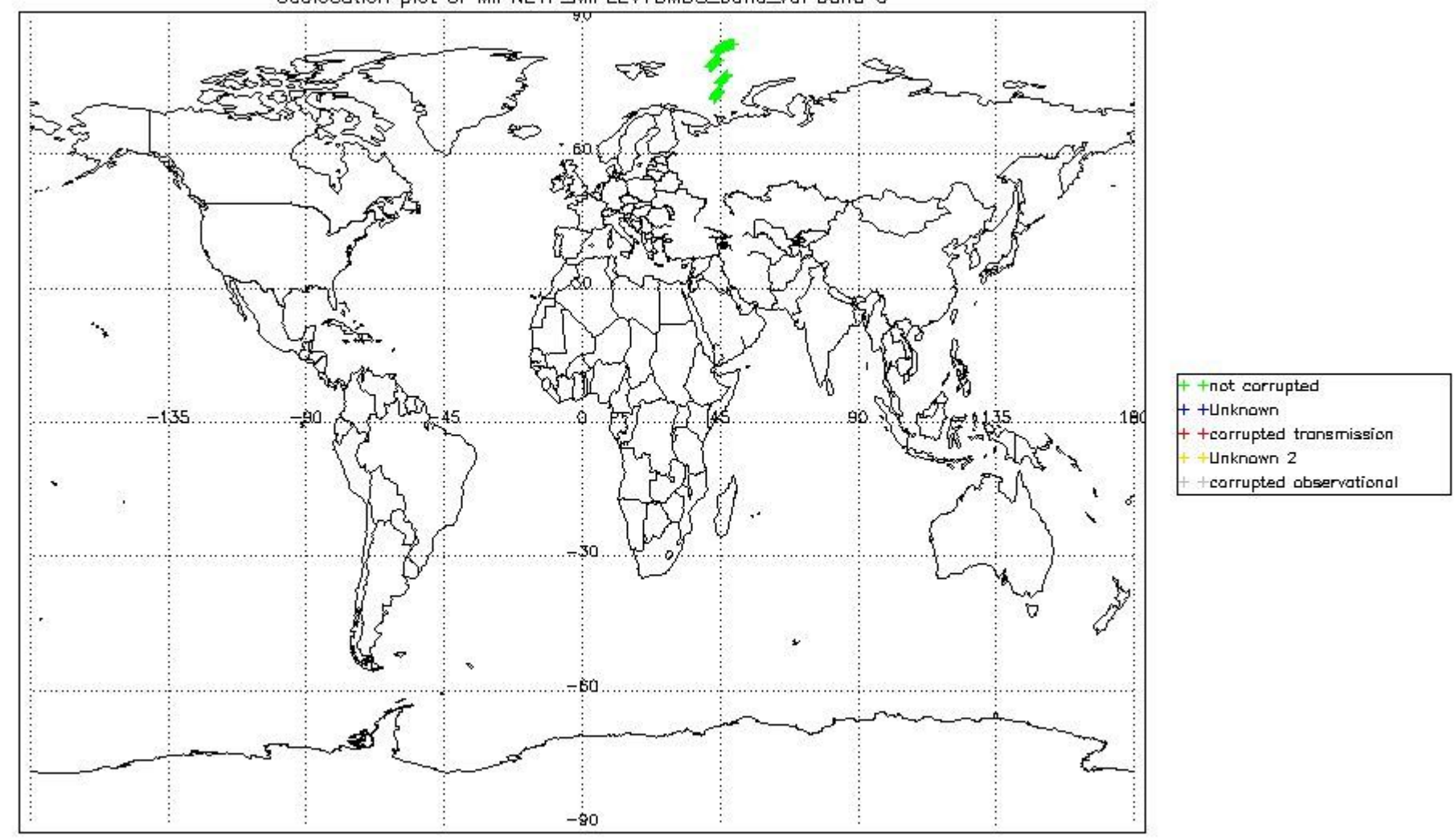
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band B



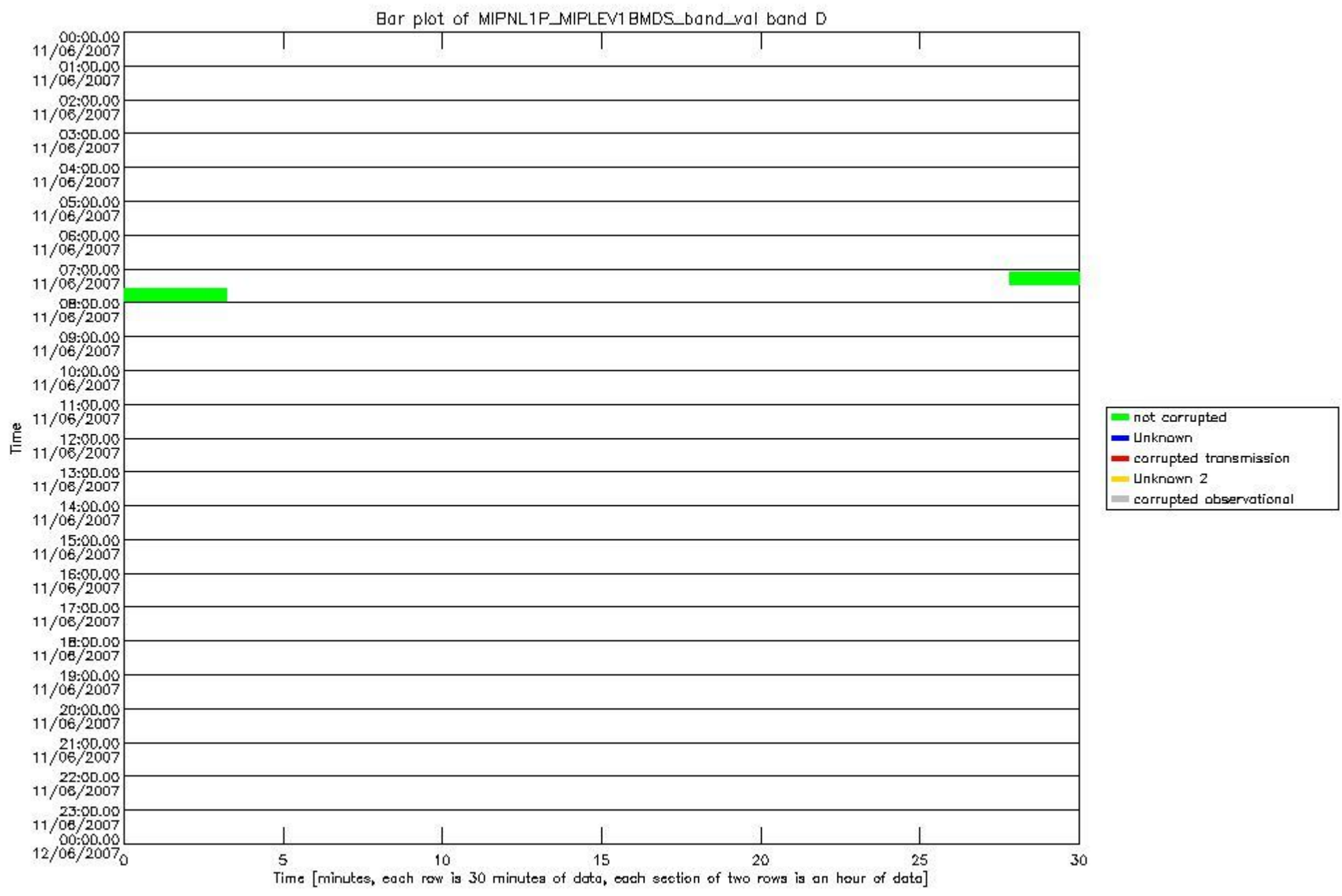




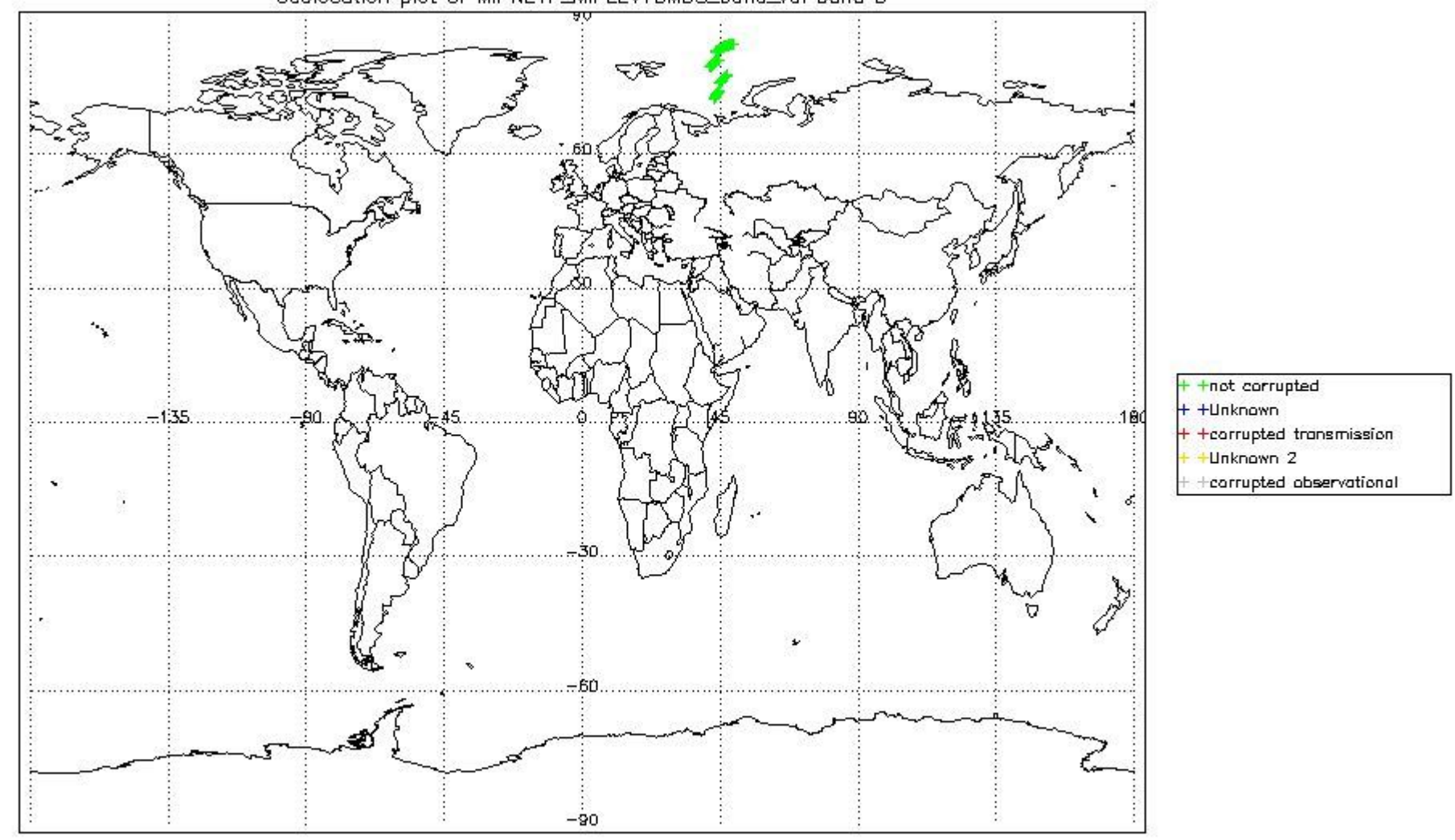
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band C



mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_37.PNG

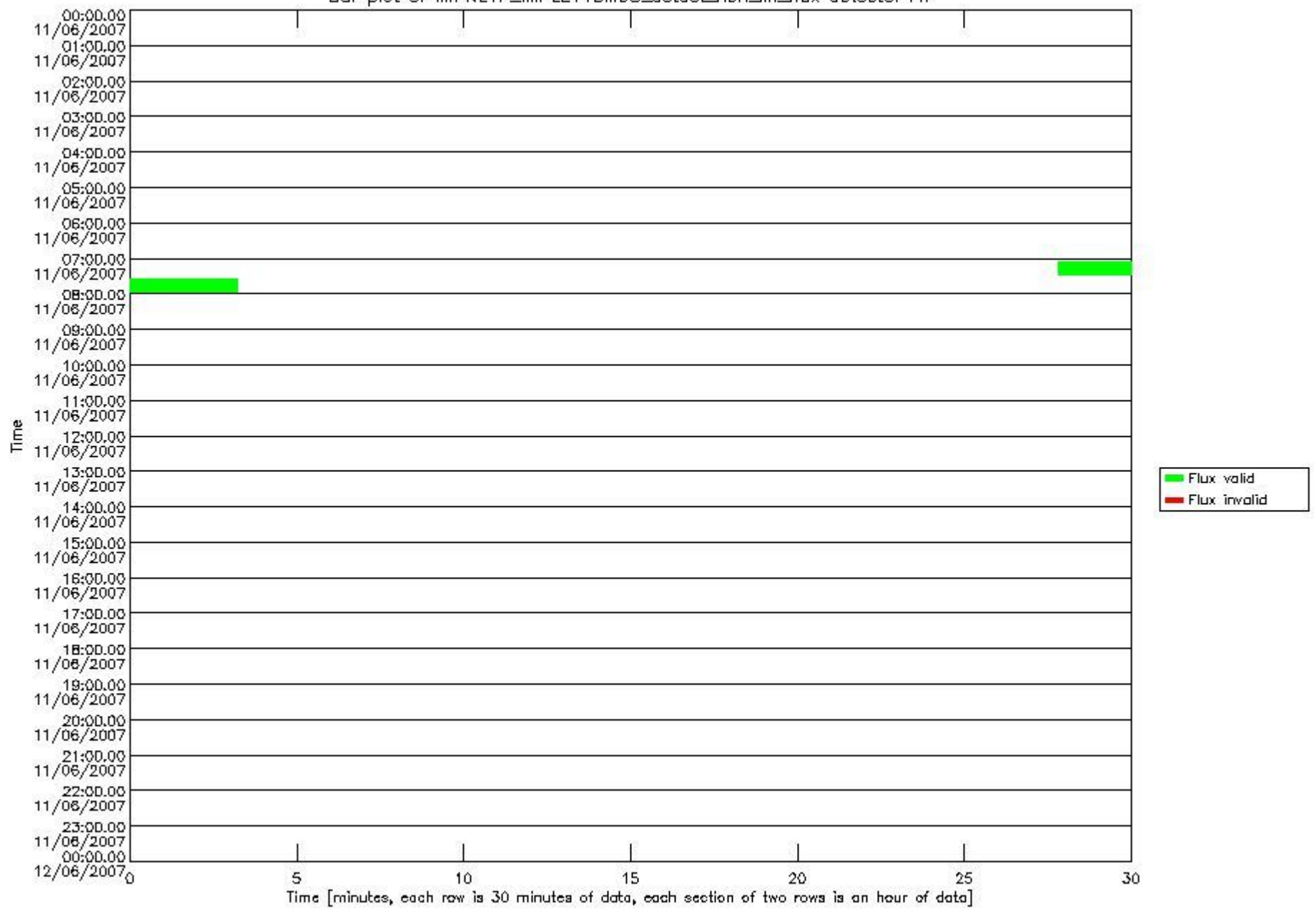


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band D

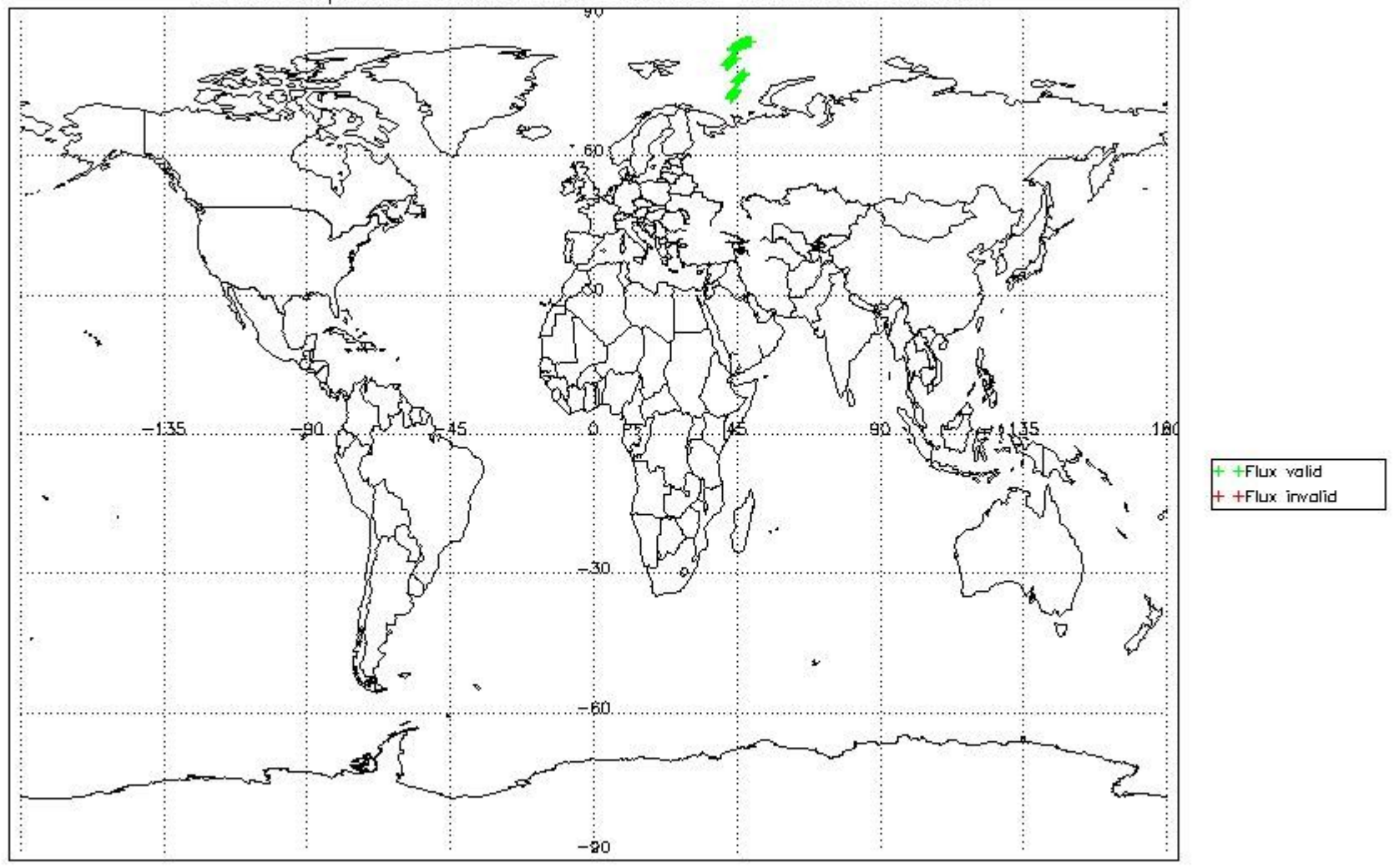




Bar plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_jin\_flux detector A1

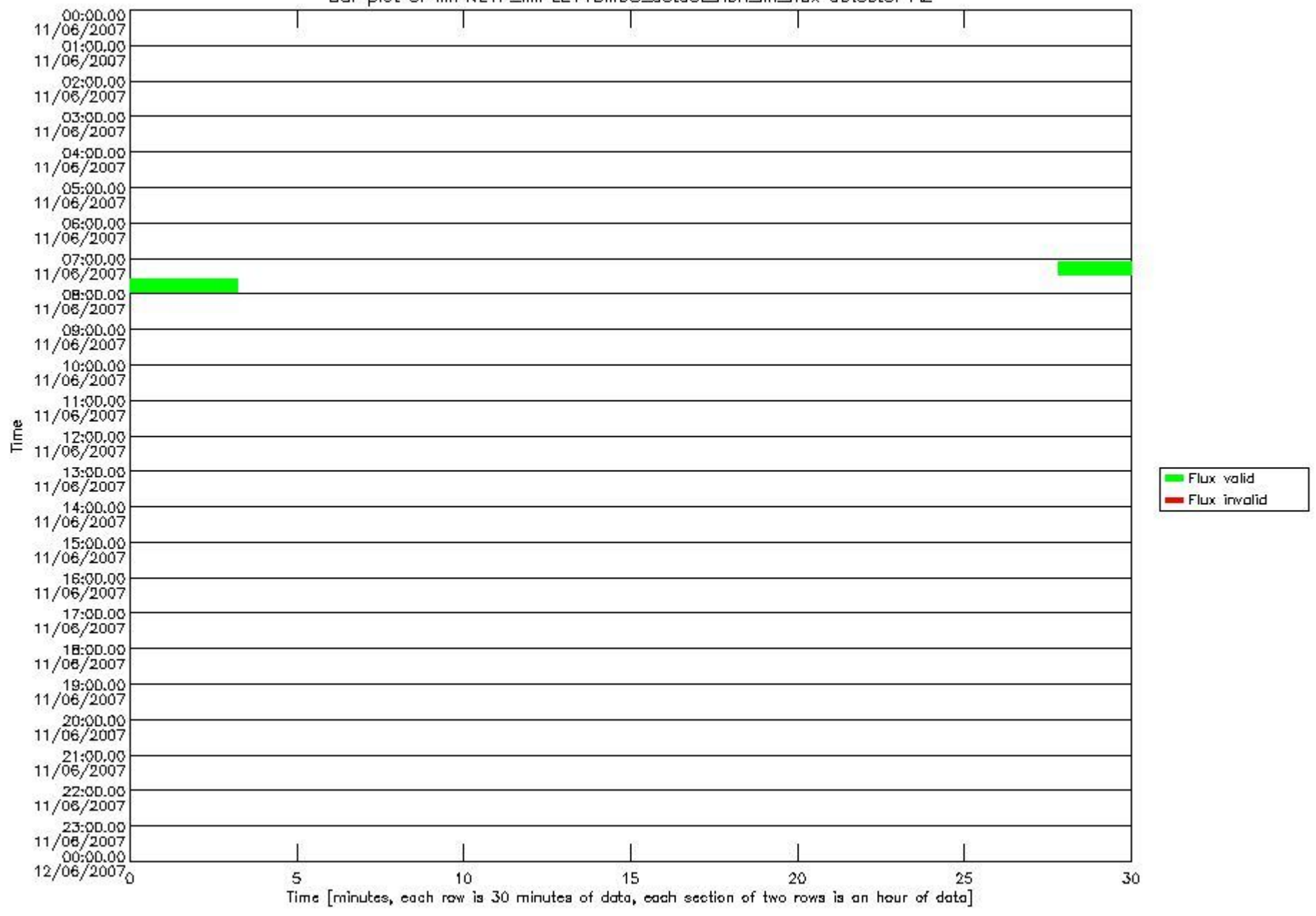


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_in\_flux detector A1

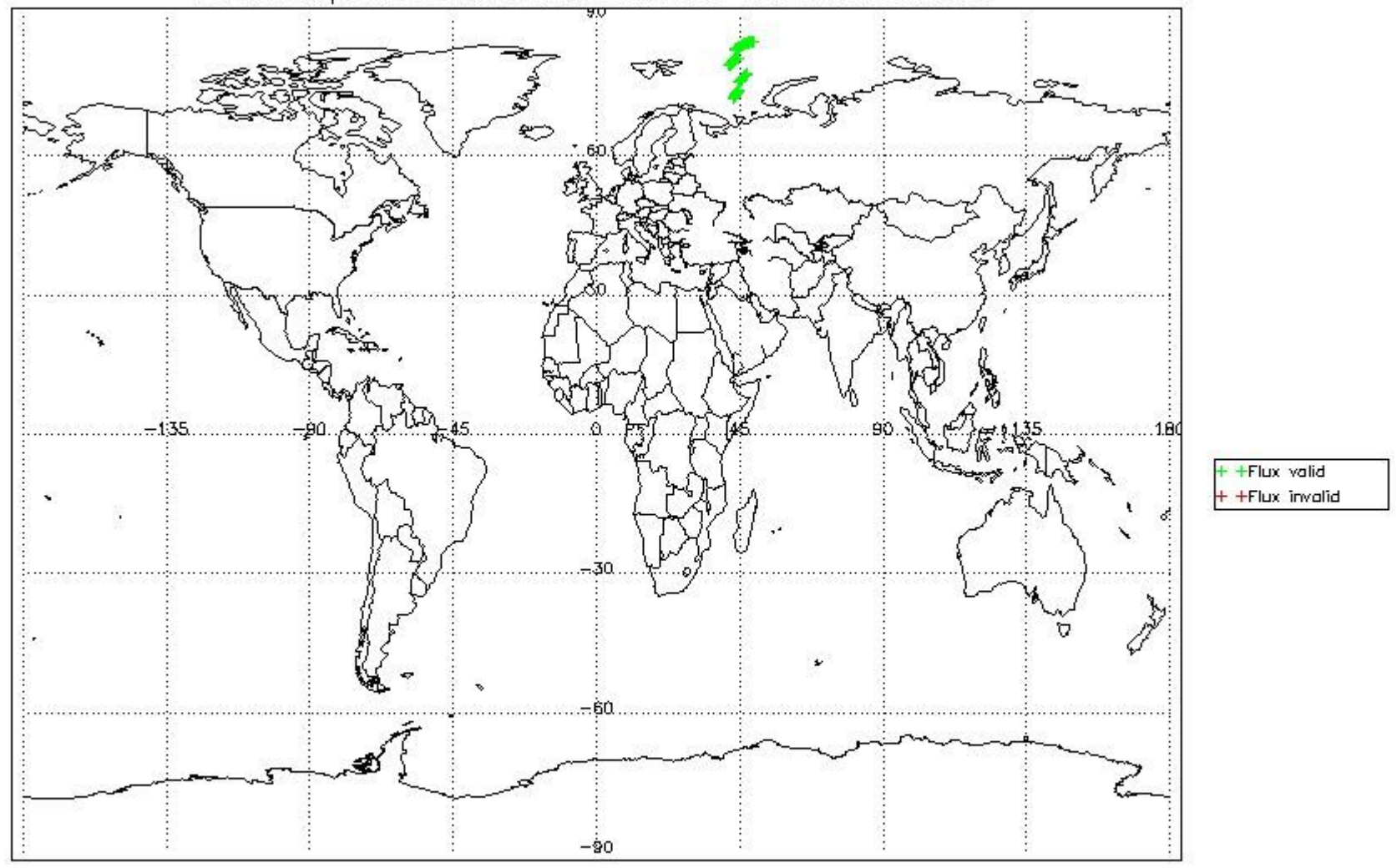


mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_41.PNG

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

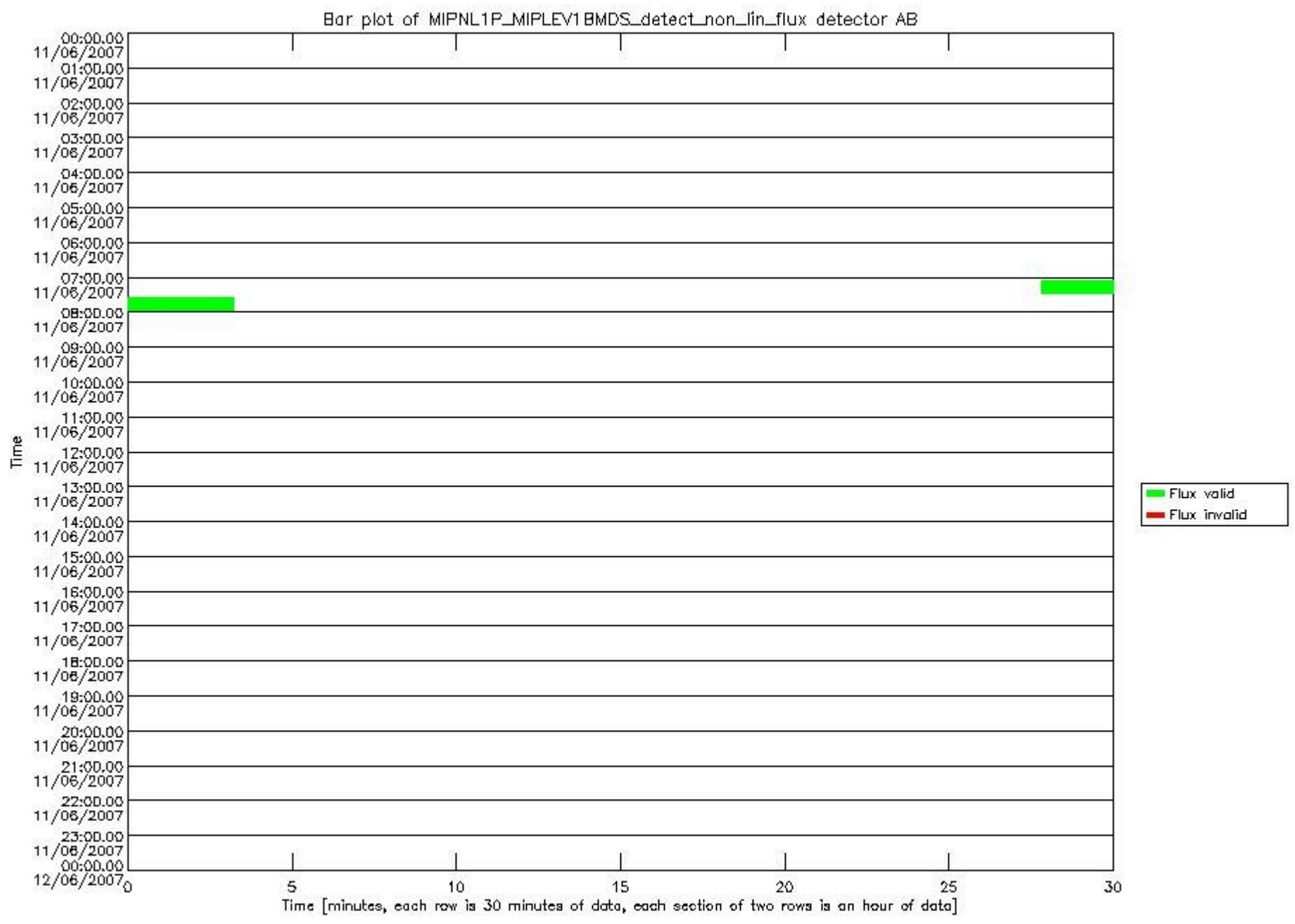


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_in\_flux detector A2

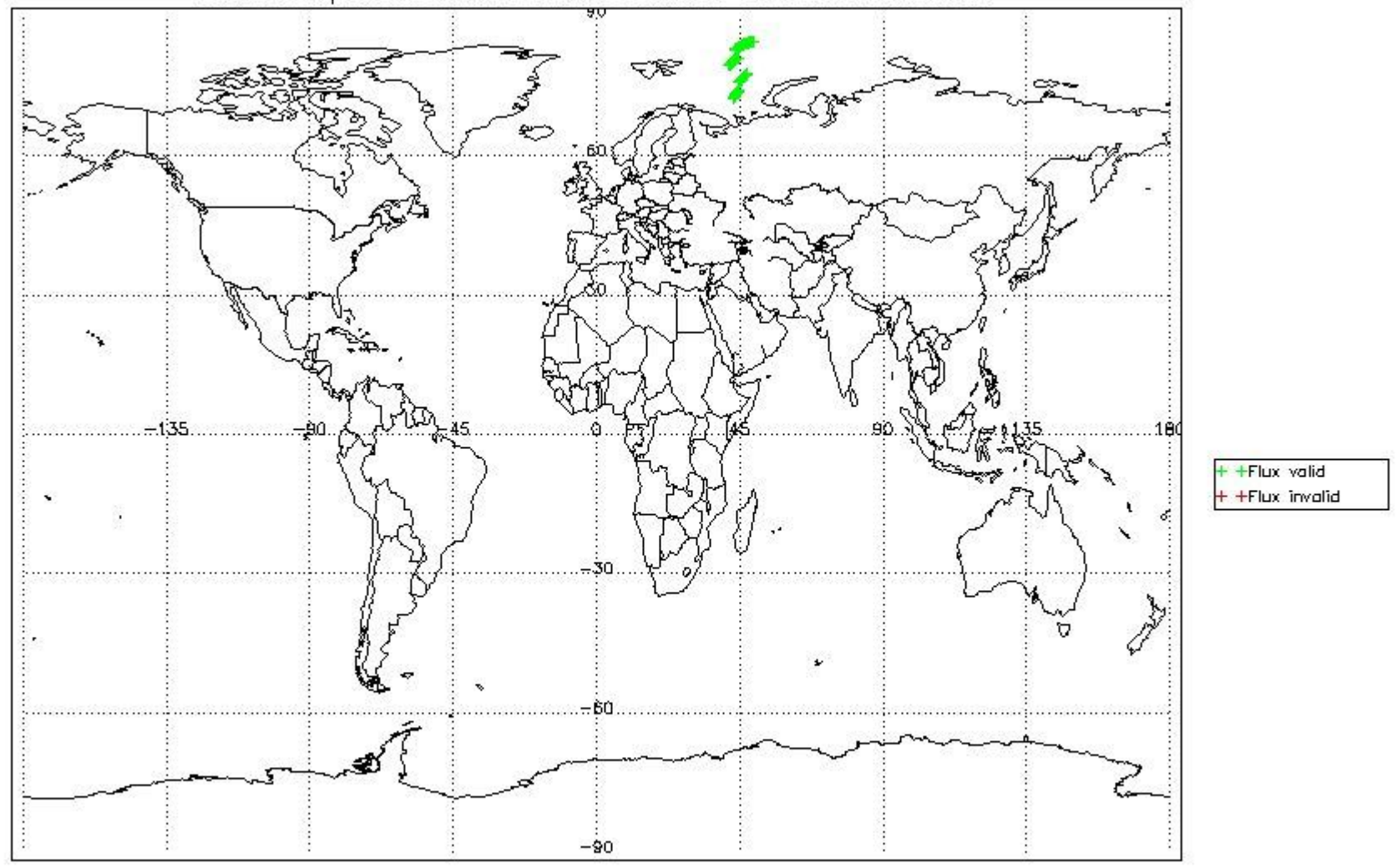


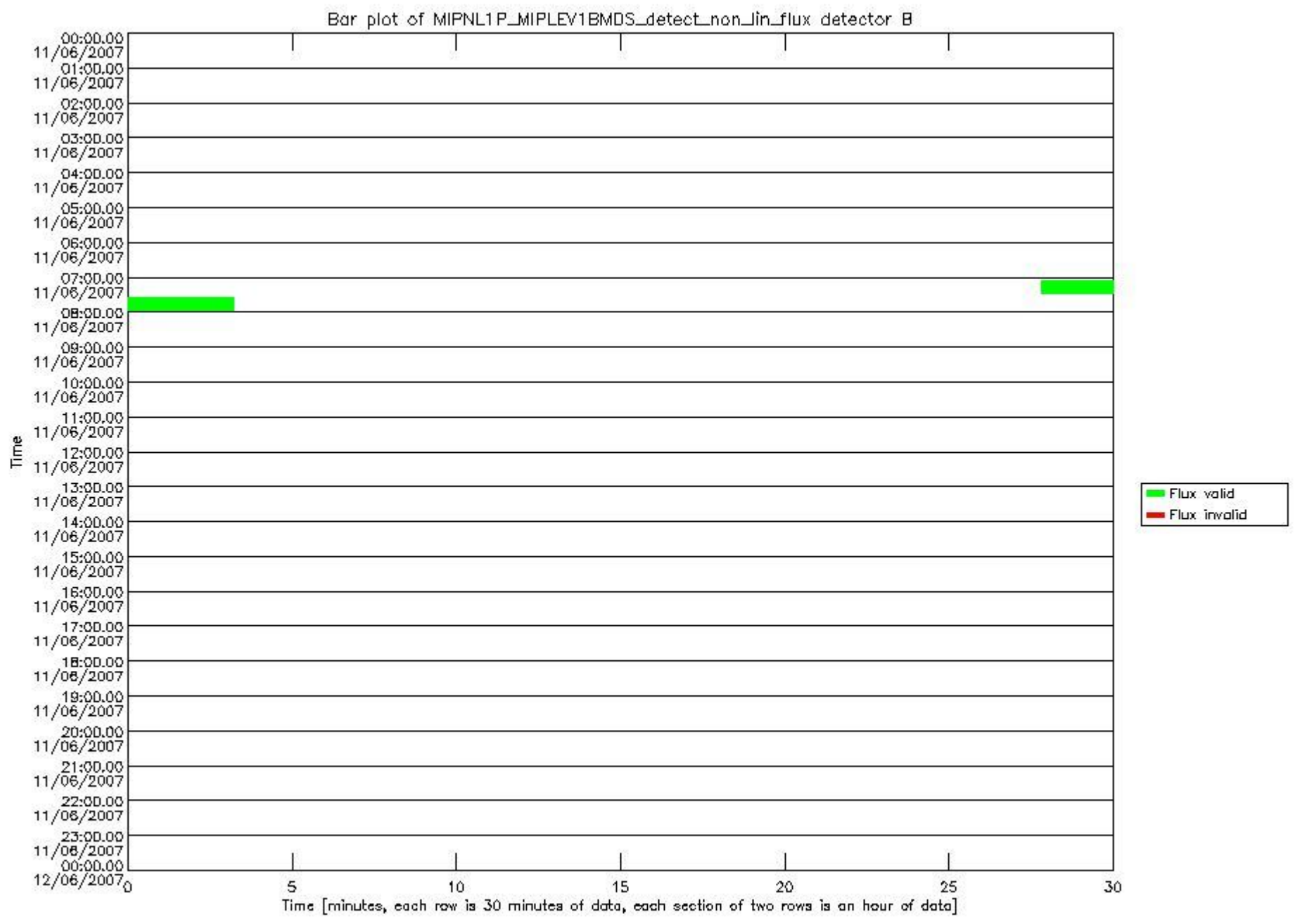
mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_43.PNG

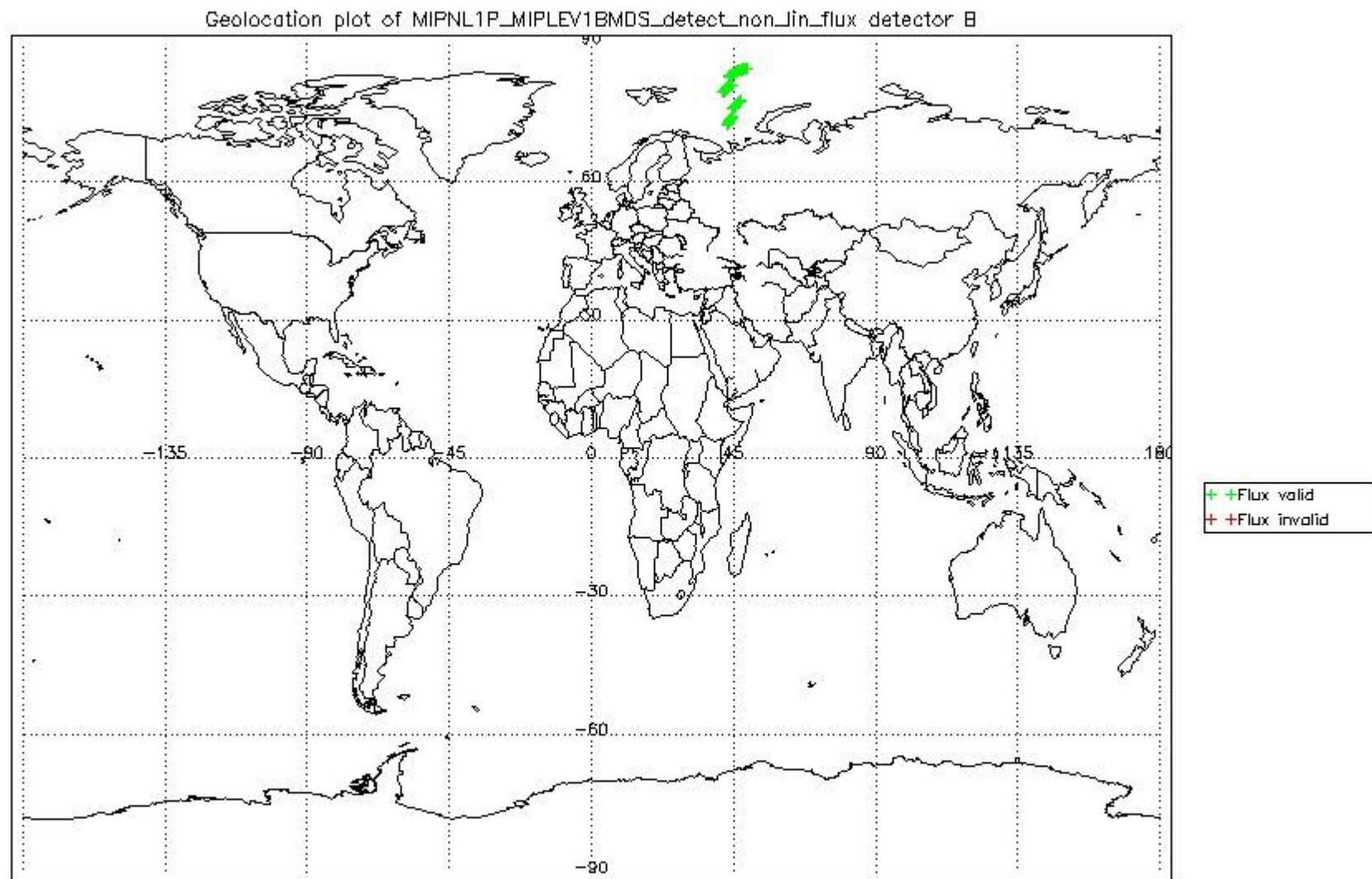




Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_lin\_flux detector AB







mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_47.PNG

### 1.2.3 Scan information ADS

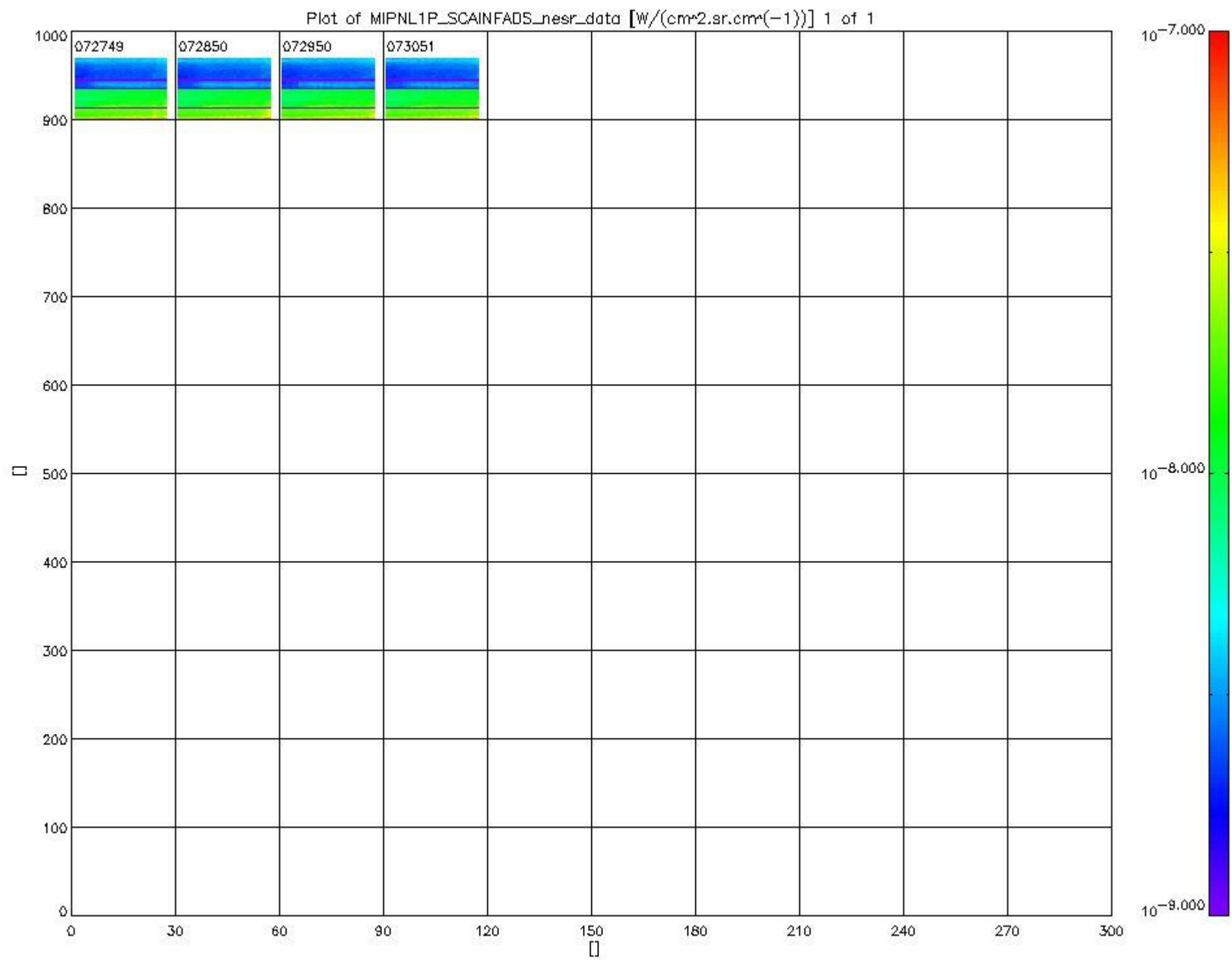
The following plots each contain 100 squares. Each square contains one NESR-scan (from MIPNL1P\_SCAINFADS\_nesr\_data).

The horizontal axis represents the sweep ID (starts at 1). A maximum of 19 sweeps per scan can be displayed.

The vertical axis shows the NESR data point index (starts at 0), which relates to wavenumber. A maximum of 200 wavenumber-points per NESR-measurement can be displayed.

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.



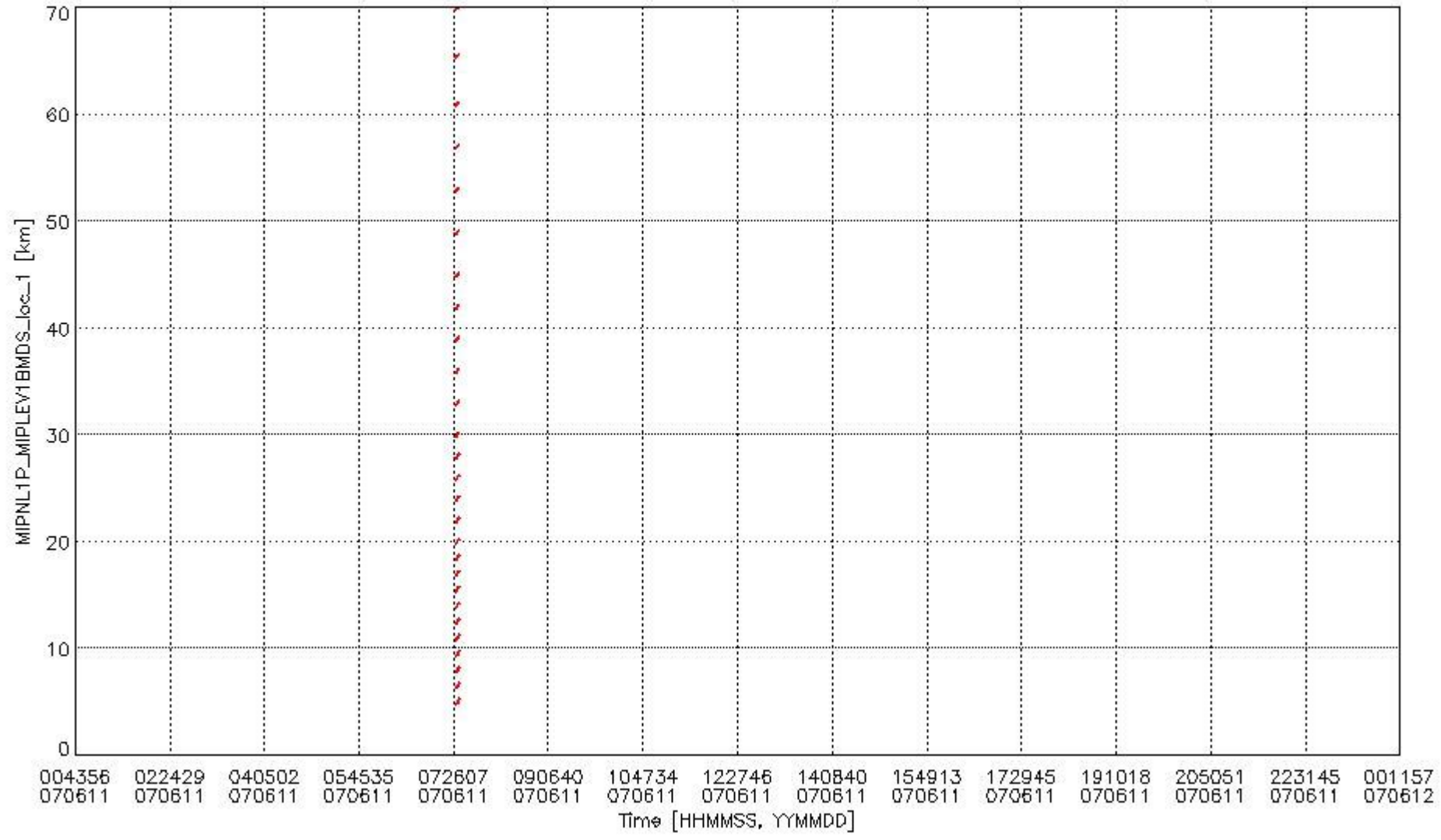


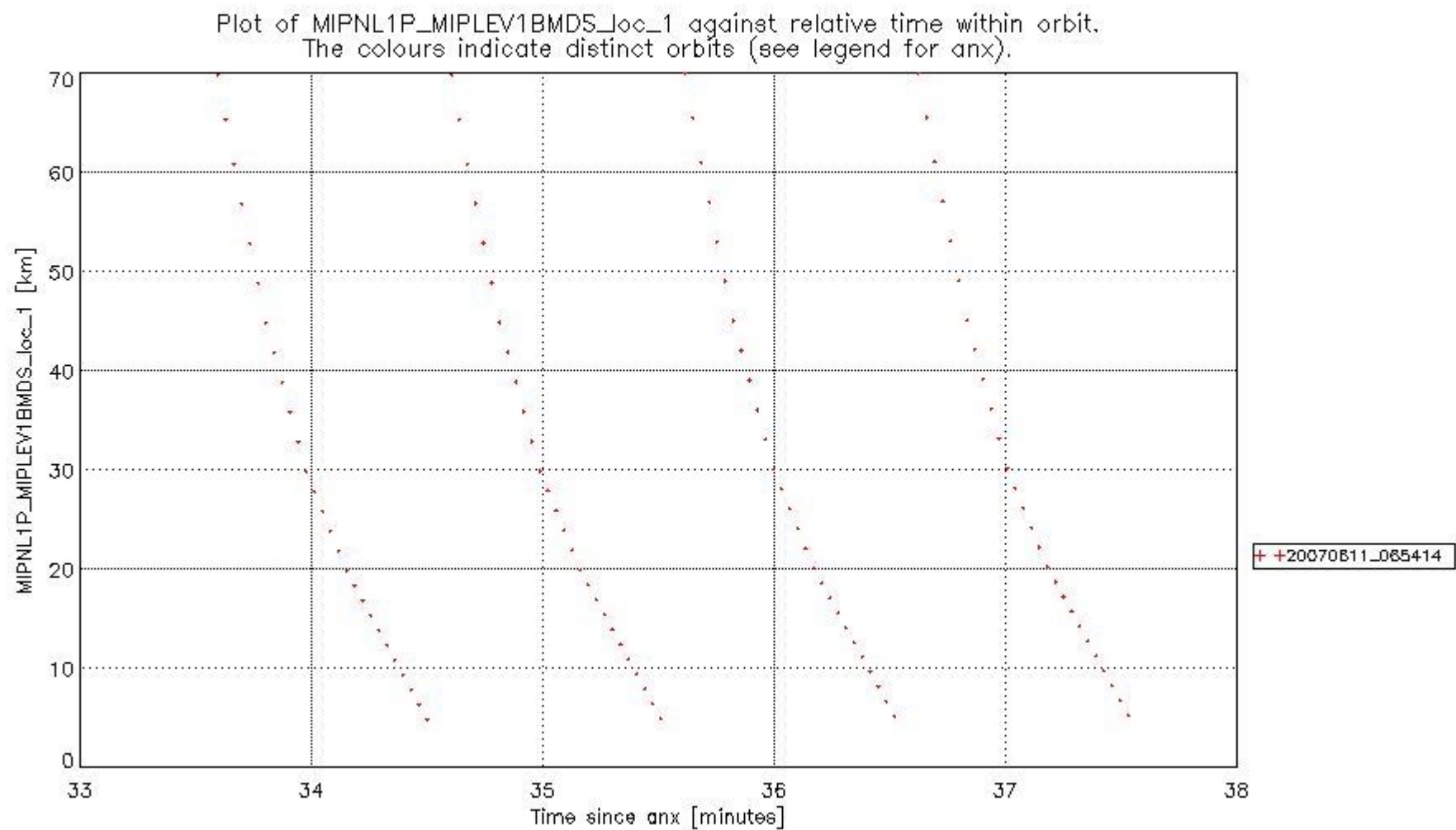
mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_48.PNG

### 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.





mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_50.PNG

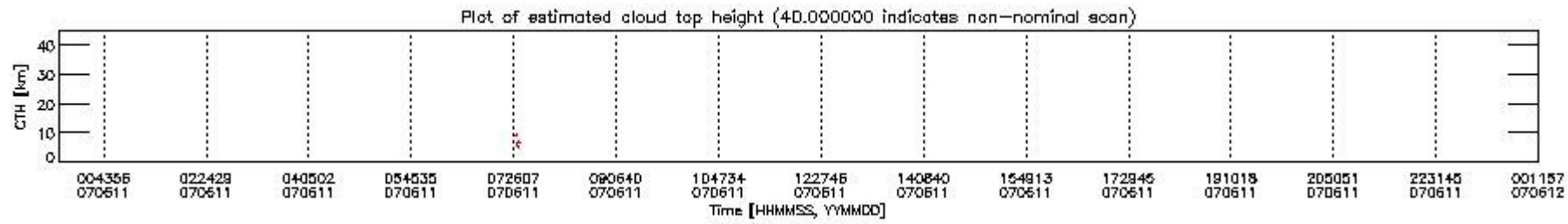
### 1.3.2 Cloud top height

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)

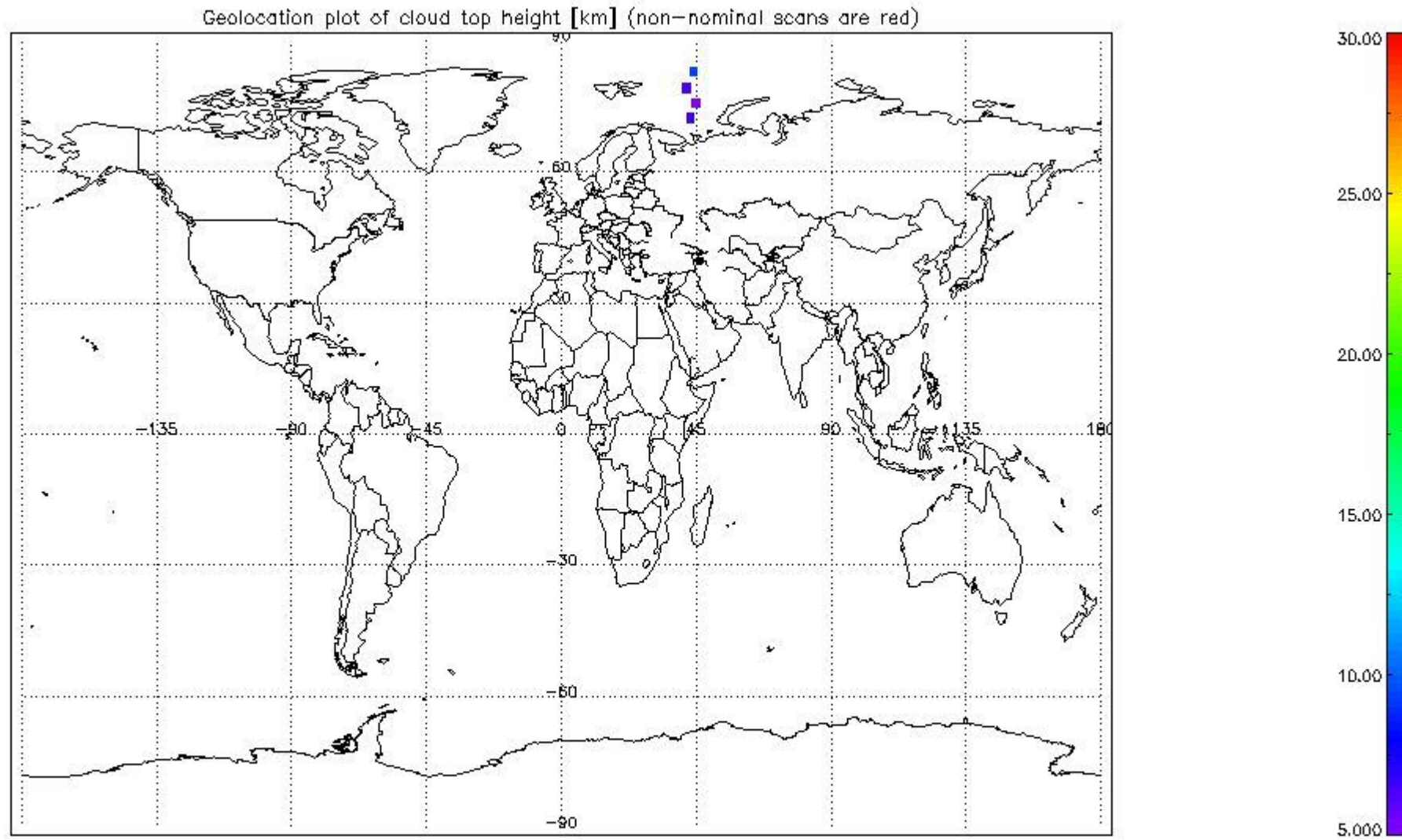
The non-nominal scans mentioned in the plots are scans that are rejected by the cloud top height algorithm for several reasons:

- Unconsidered instrument mode. The algorithm only considers nominal (39169) and special event (39172) instrument modes.
- Incomplete scan (missing sweeps)

| 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  |



mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_51.PNG



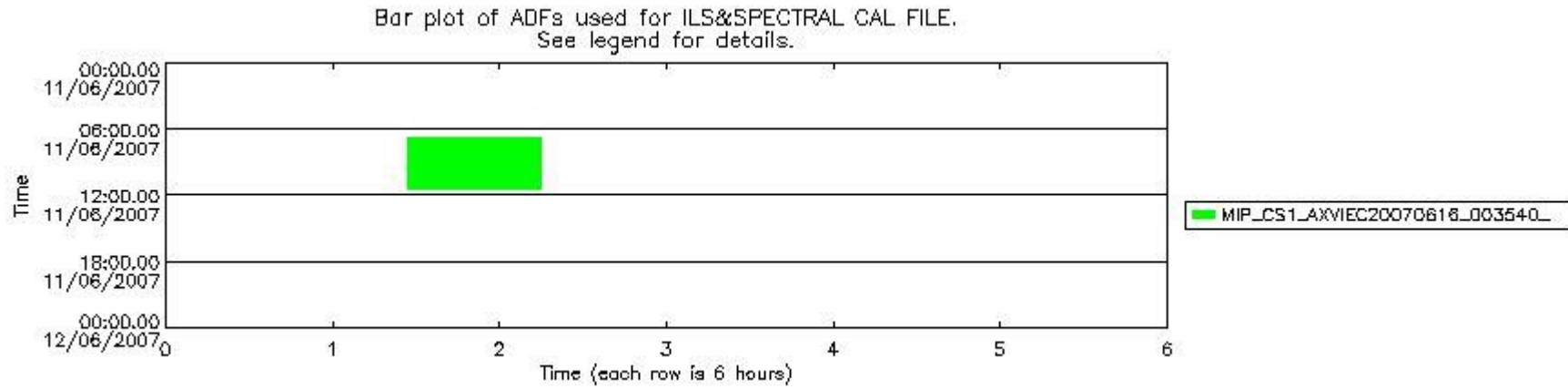
mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_52.PNG

## 1.4 ADF monitoring

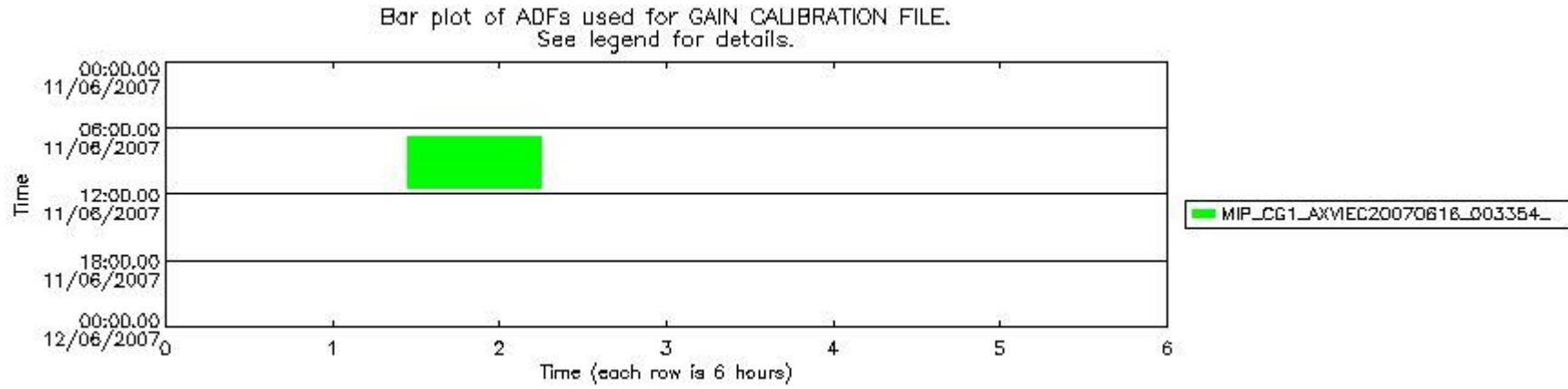
| Number | ADF   |
|--------|---|
| 0      | AUX_FRO_AXVPDS20070614_065111_20070610_221000_20070613_005000 |
| 1      | MIP_CA1_AXVIEC20050627_094412_20040809_000000_20090809_000000 |
| 2      | MIP_CG1_AXVIEC20070616_003354_20070606_000000_20120606_000000 |
| 3      | MIP_CL1_AXVIEC20050420_152028_20050420_095747_20100420_095747 |
| 4      | MIP_CO1_AXVIEC20070616_003233_20070606_000000_20120606_000000 |
| 5      | MIP_CS1_AXVIEC20070616_003540_20070606_000000_20120606_000000 |
| 6      | MIP_MW1_AXVIEC20050627_094928_20040809_000000_20090809_000000 |



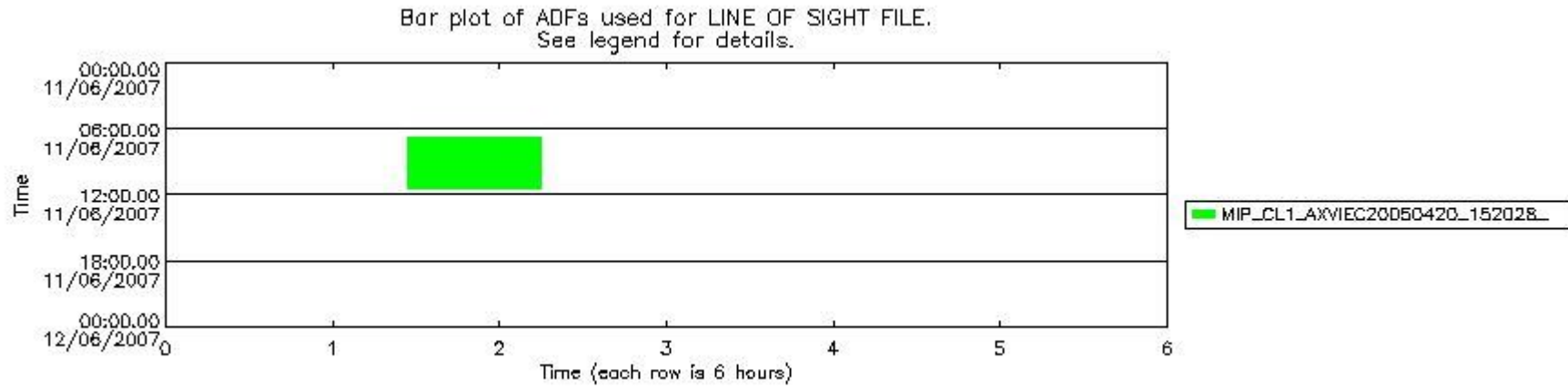
| Number | Product name  | #CS1 | #CG1 | #CL1 | #CA1 | #CO1 | #MW1 | #PS1 | #FPO |
|--------|---|------|------|------|------|------|------|------|------|
| 0      | MIP_NL_1PPDPA20070611_072749_000002372058_00493_27601_1252.N1 | 5    | 2    | 3    | 1    | 4    | 6    | 7    | 0    |



mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_53.PNG

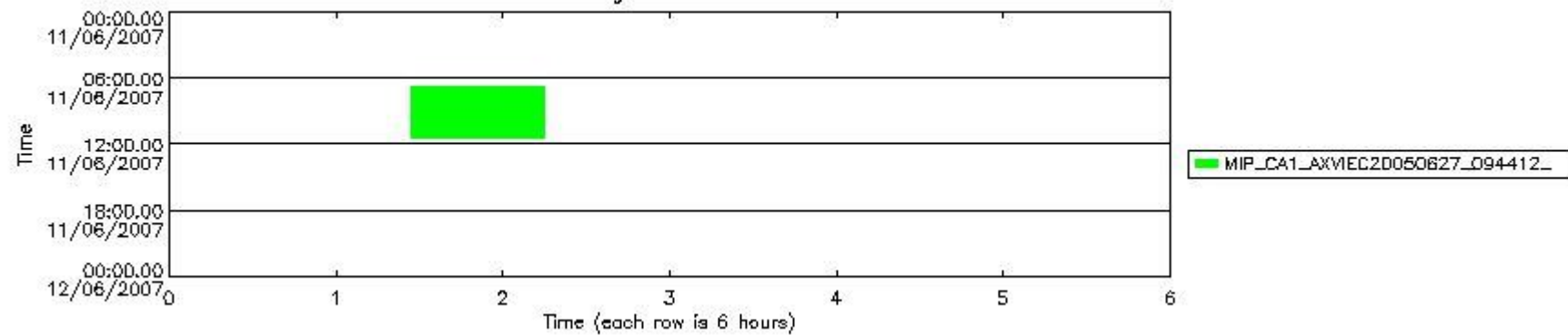


mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_54.PNG



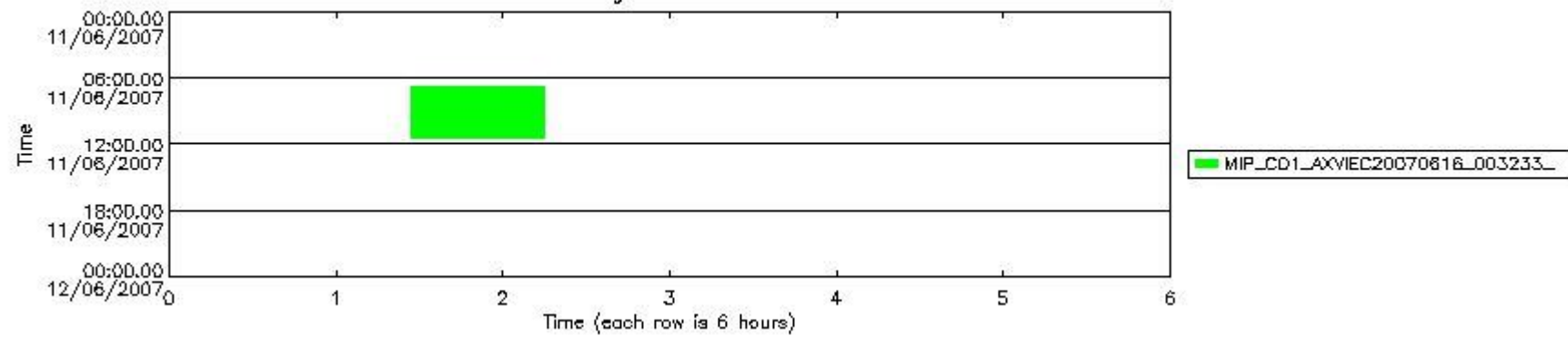
mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_55.PNG

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



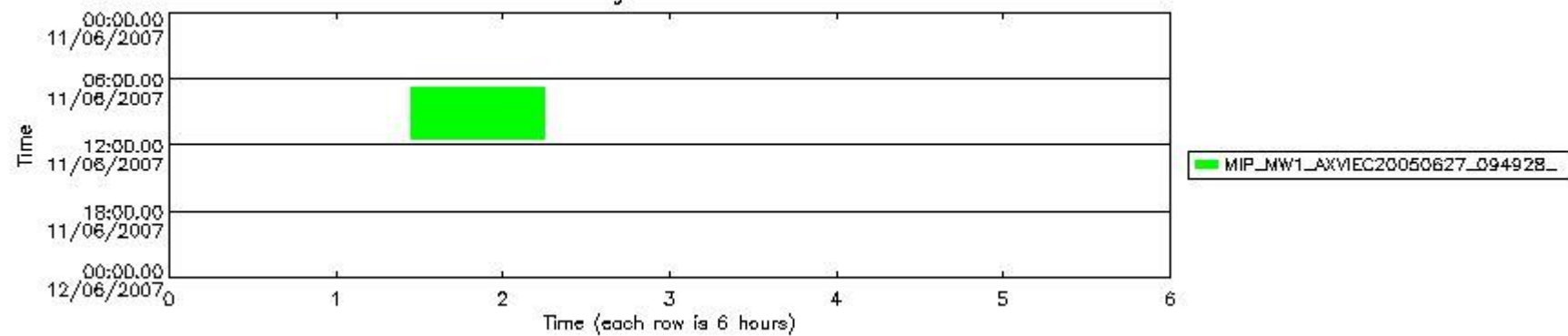
mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_56.PNG

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



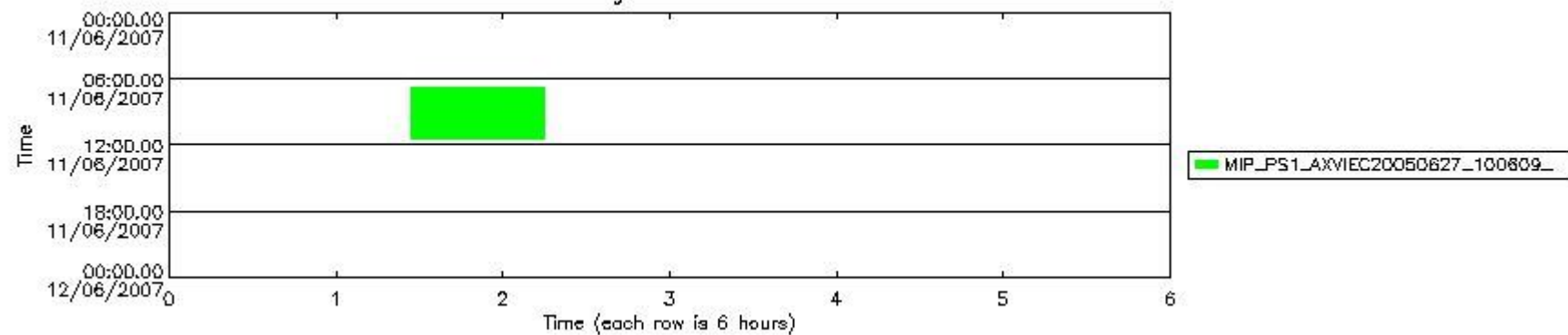
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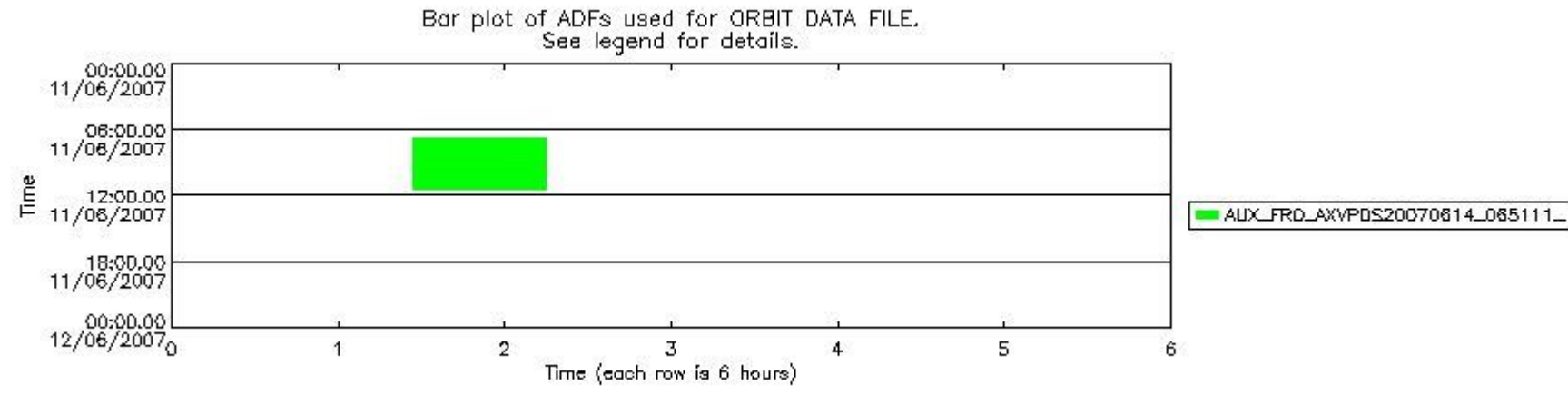
Bar plot of ADFs used for MICROWINDOWS FILE.  
See legend for details.



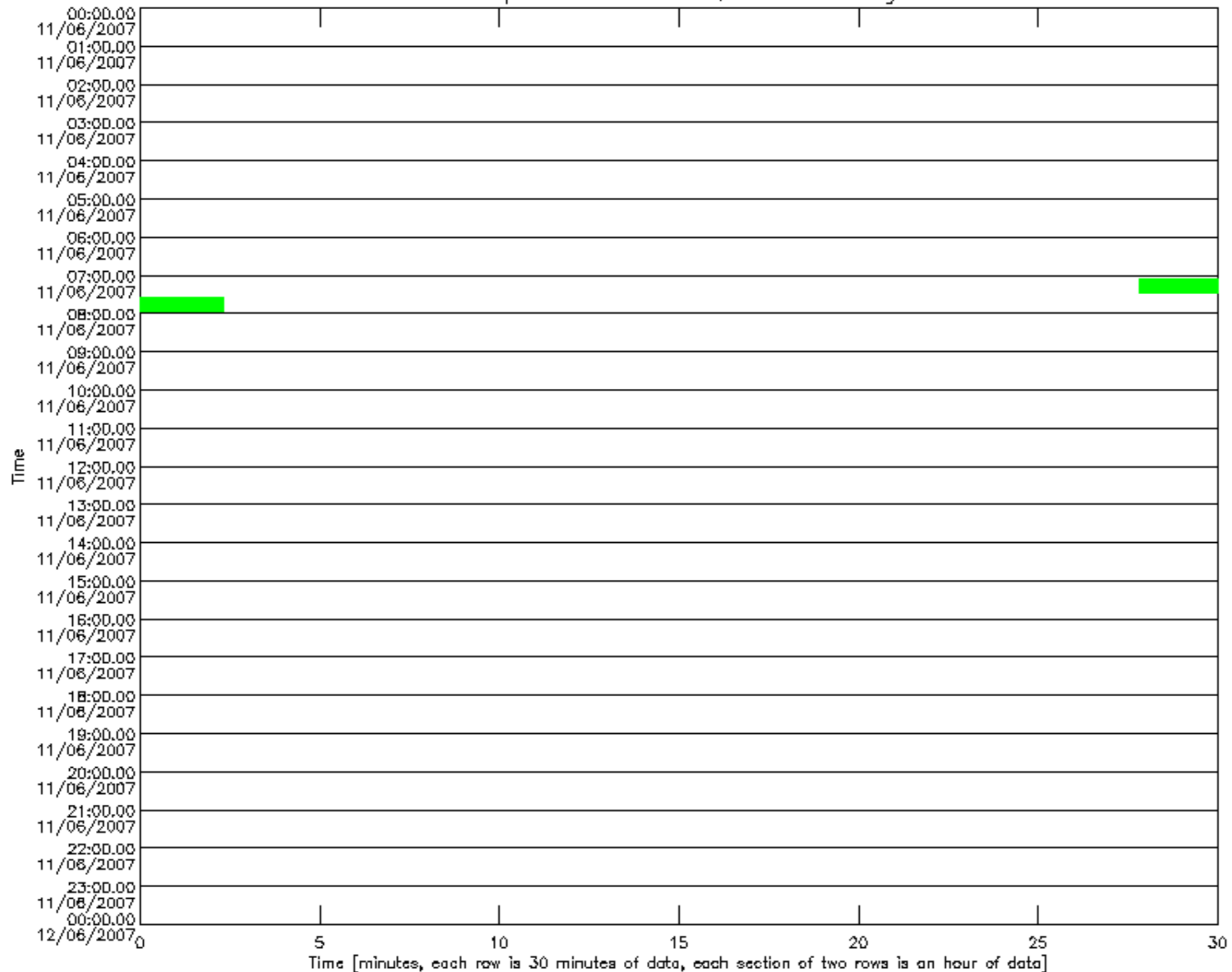
mipas\_daily\_report\_level1\_OFL\_MIPAS\_4\_67\_P\_20070611\_58.PNG

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



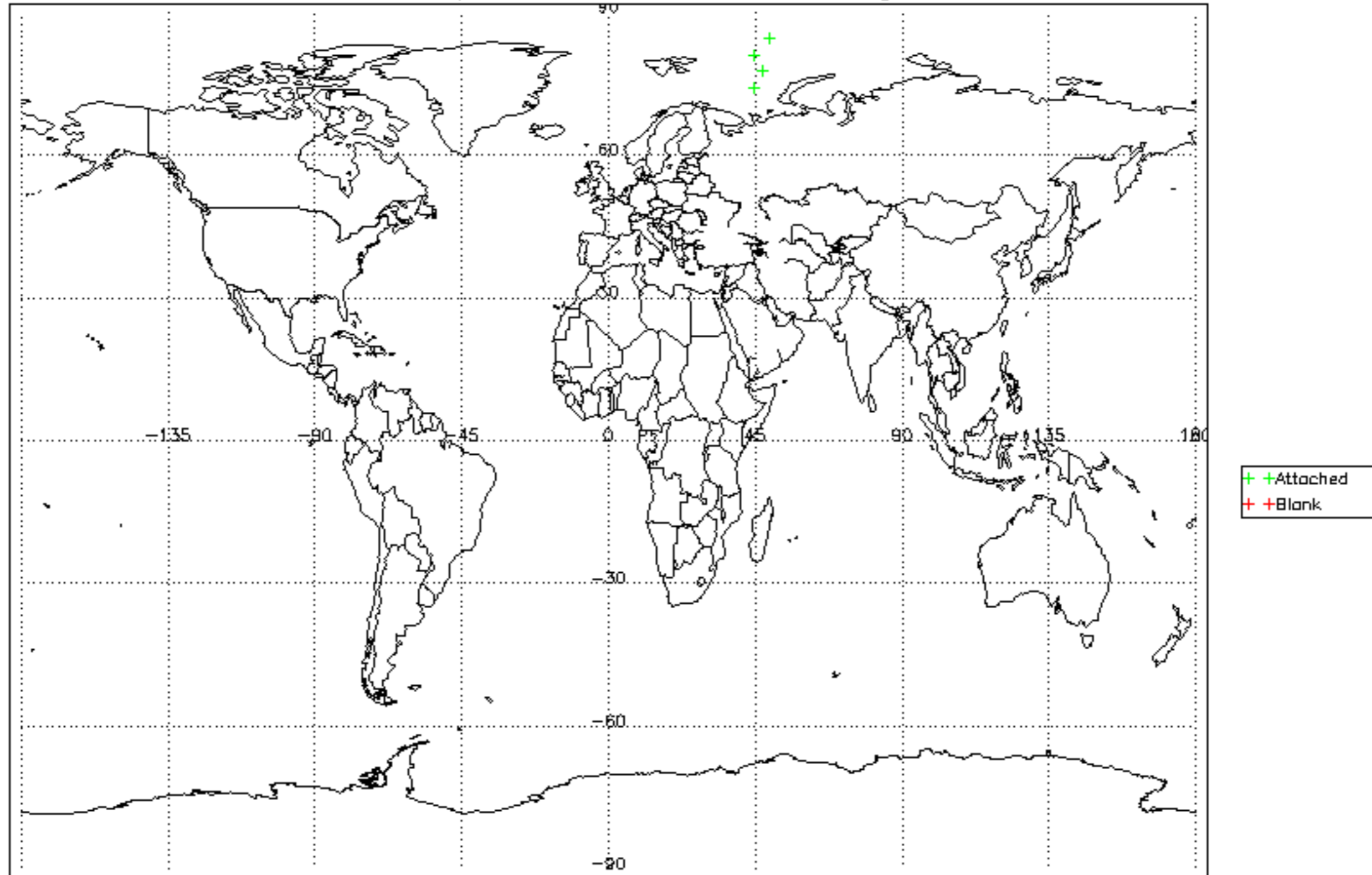


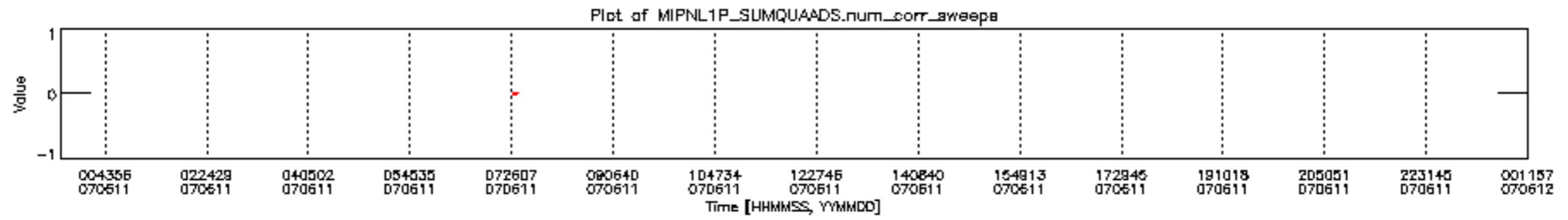
Bar plot of MIPNL1P\_SUMQUAADS.attach\_flag



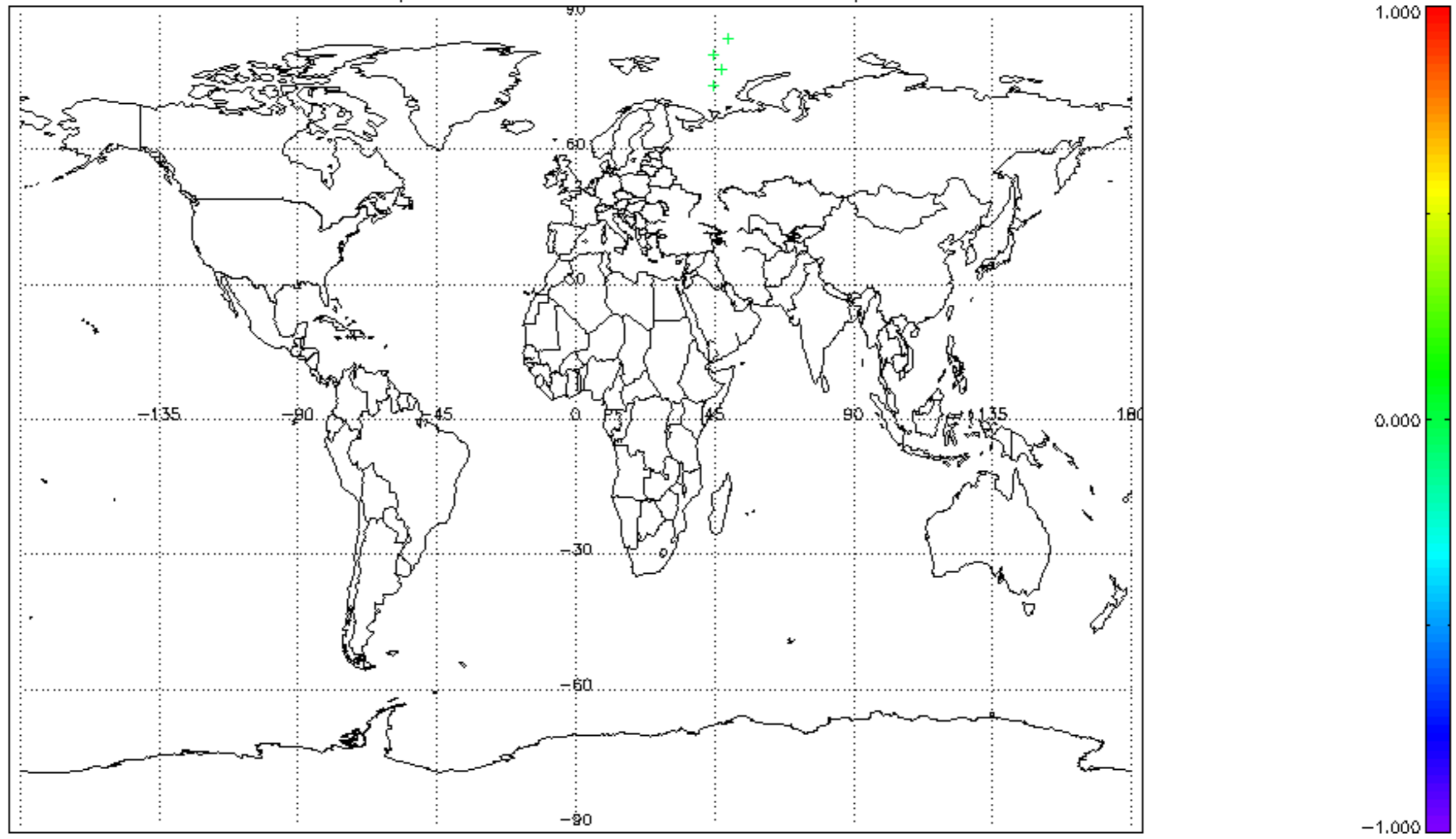


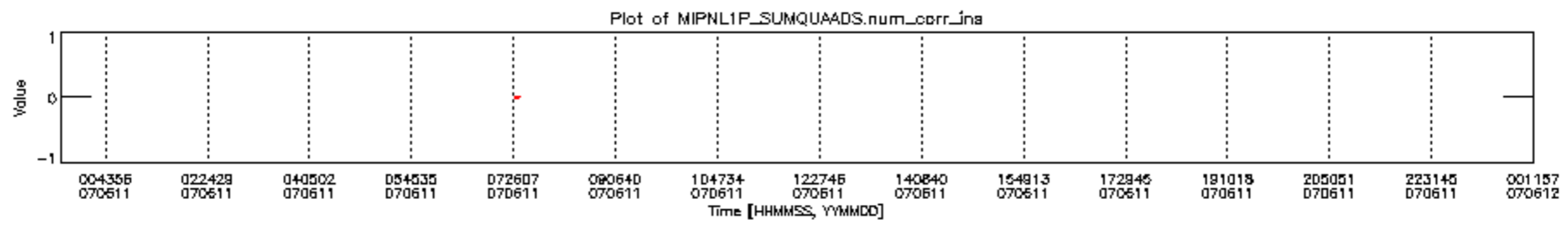
Geolocation plot of MIPNL1P\_SUMQUAADS.attach\_flag





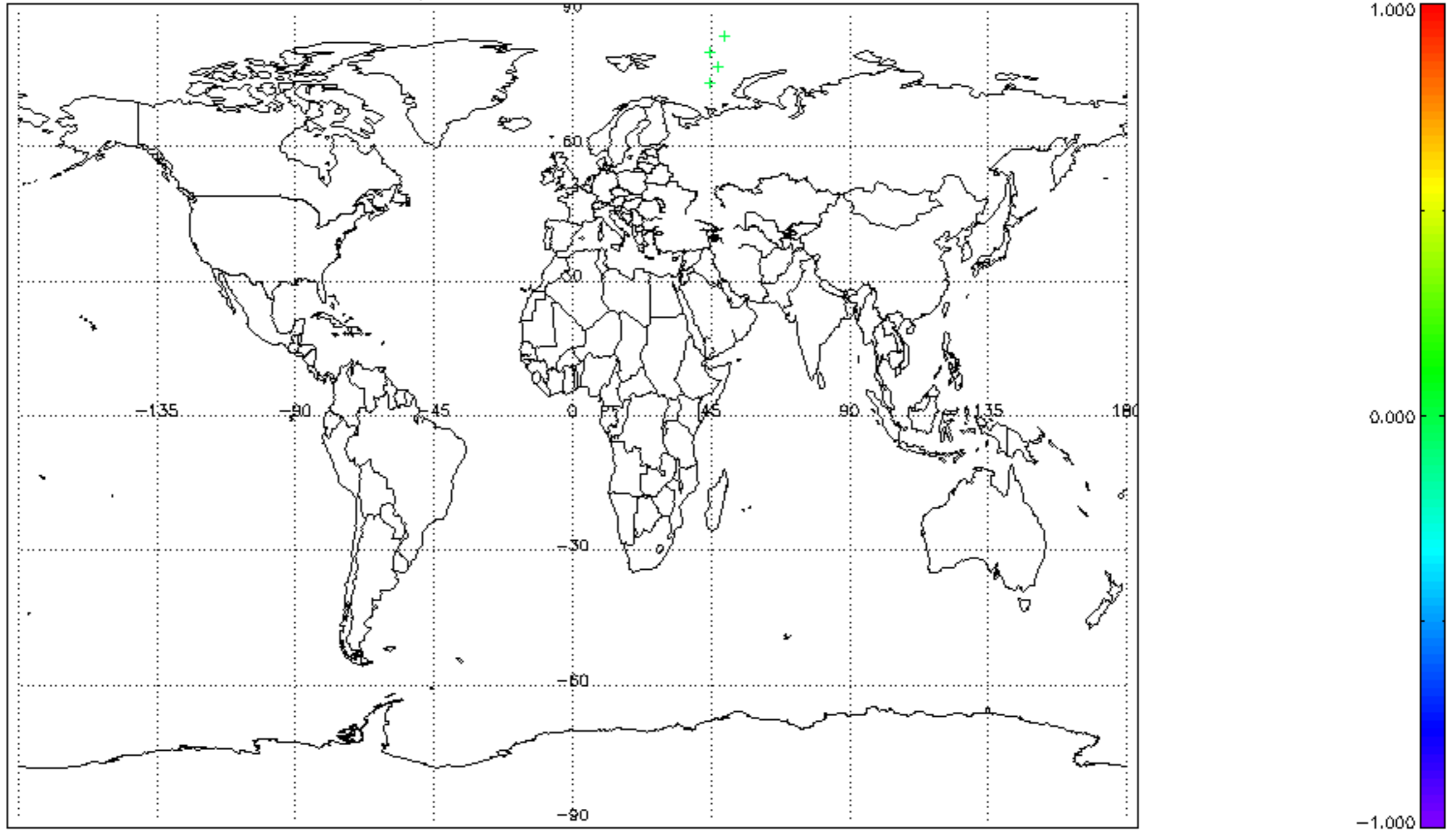
Geolocation plot of MIPNL1P\_SUMQUADS.num\_corr\_sweeps

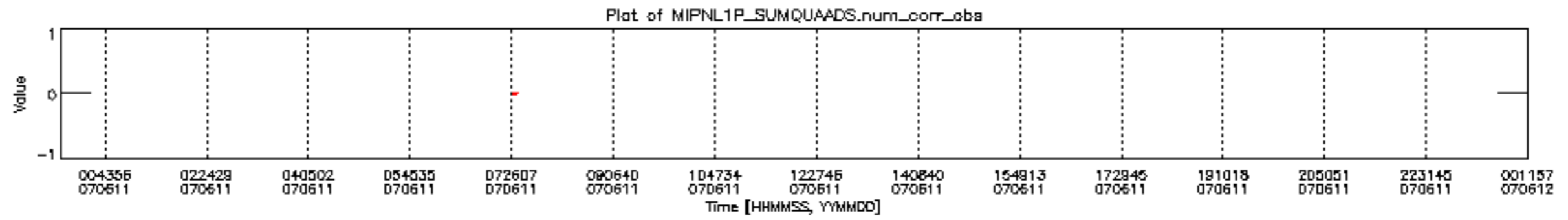




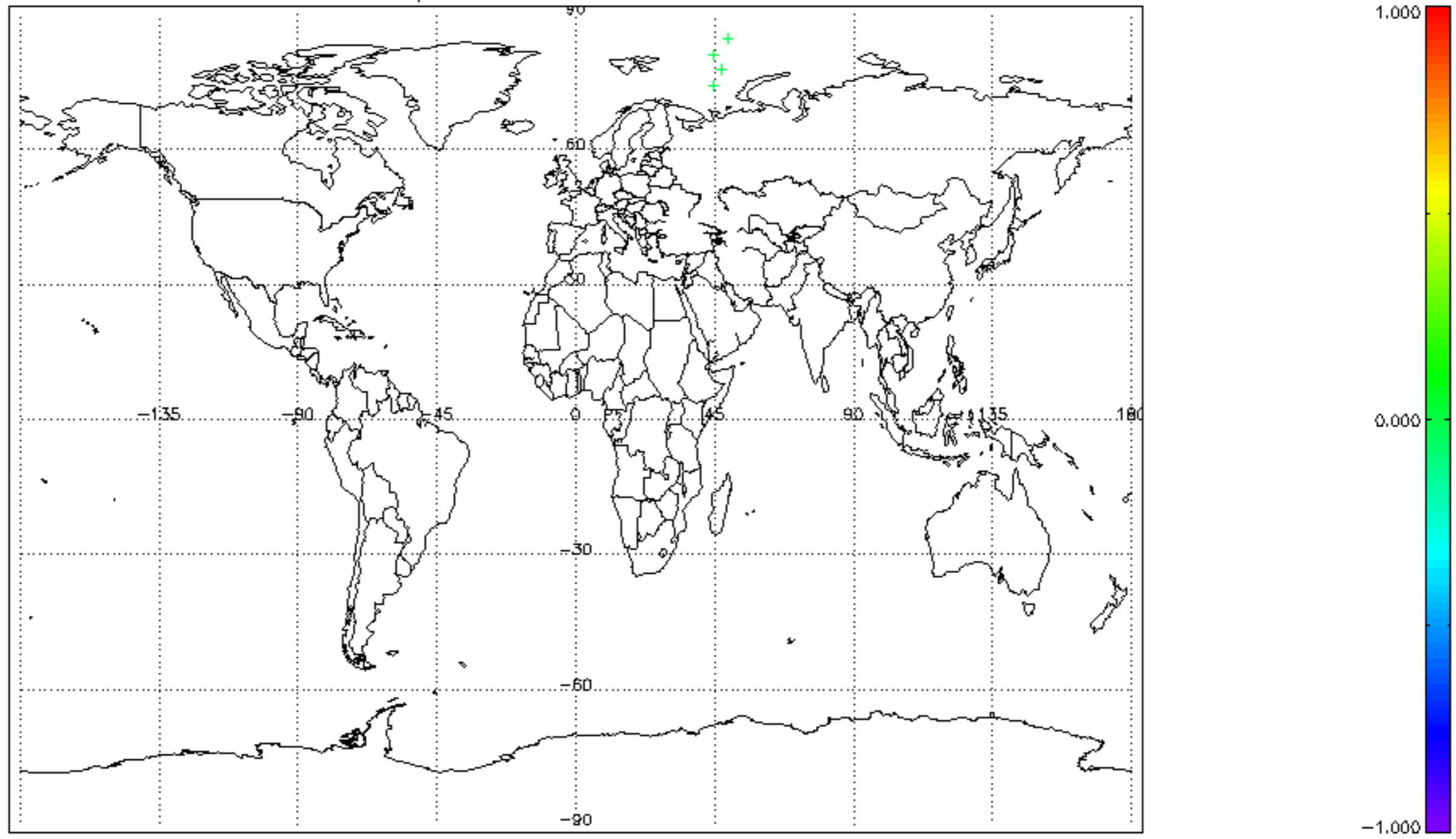


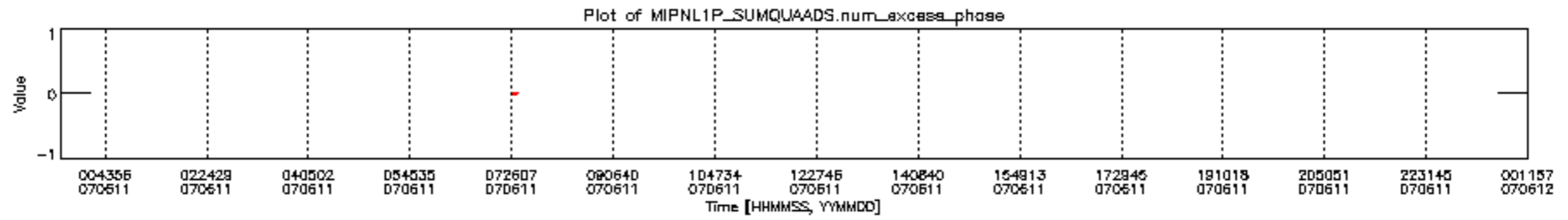
Geolocation plot of MIPNL1P\_SUMQUAADS.num\_corr\_ins





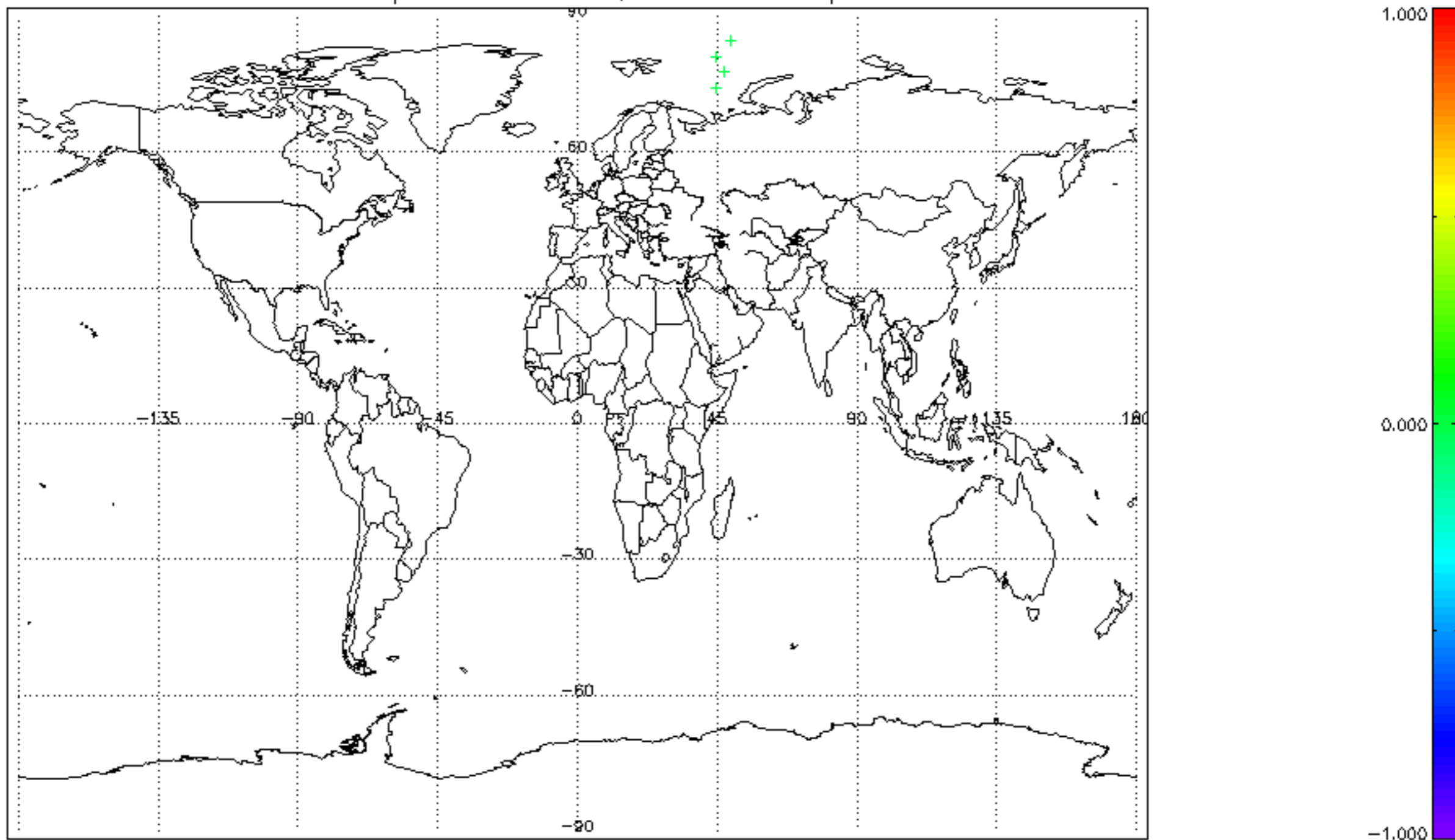
Geolocation plot of MIPNL1P\_SUMQUAADS.num\_corr\_obs

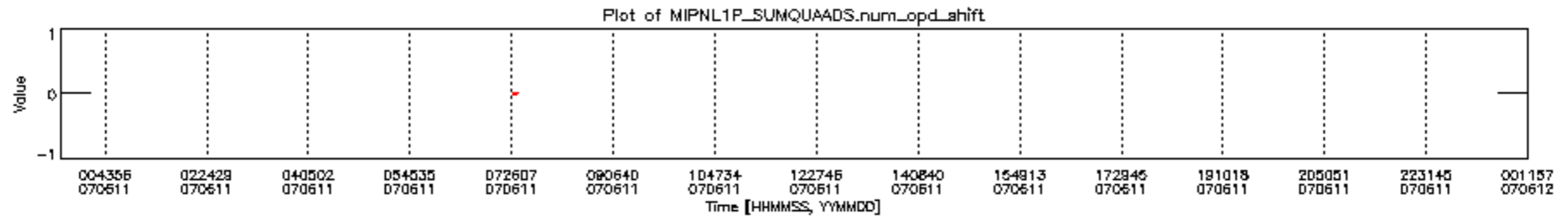




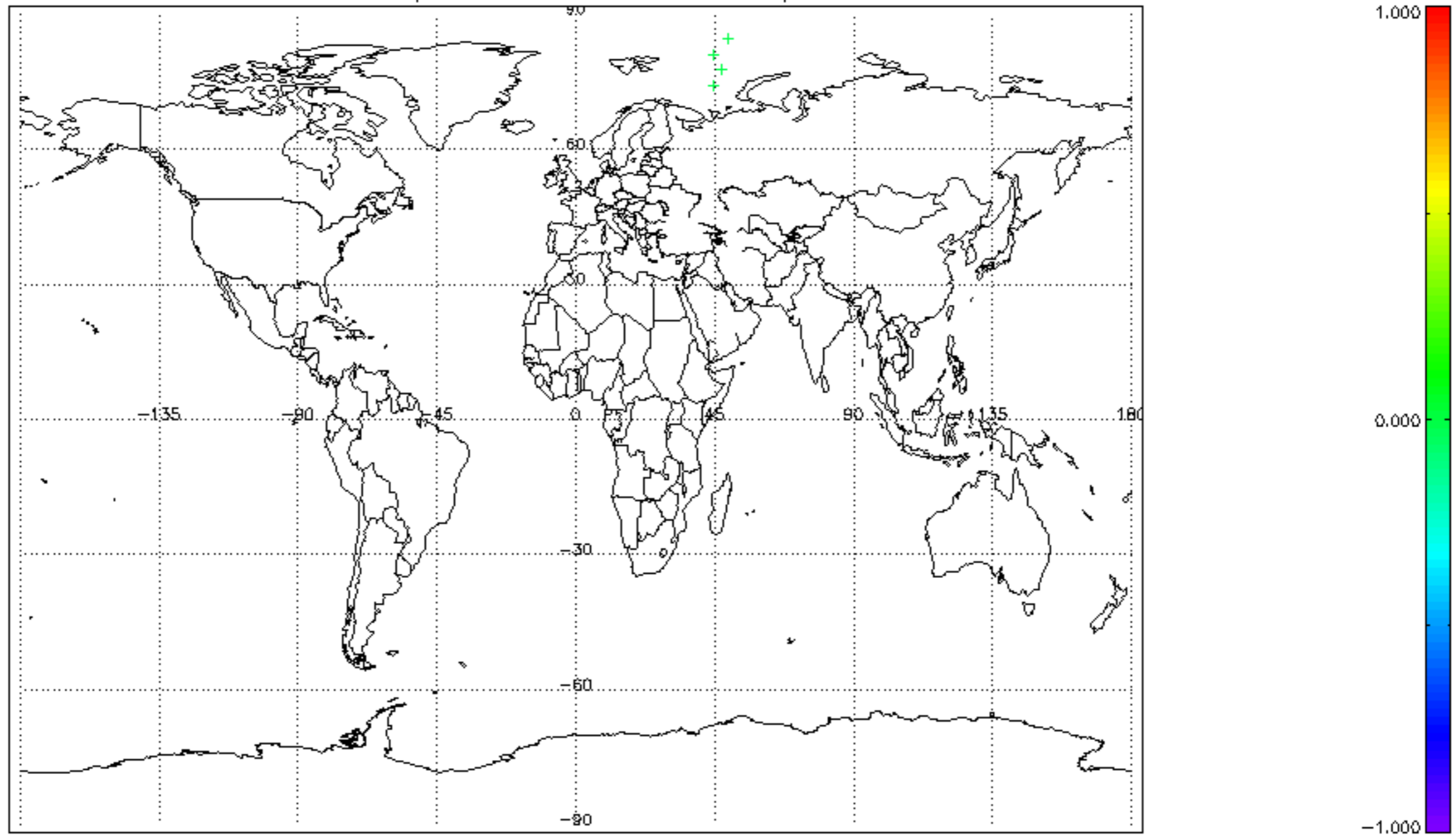


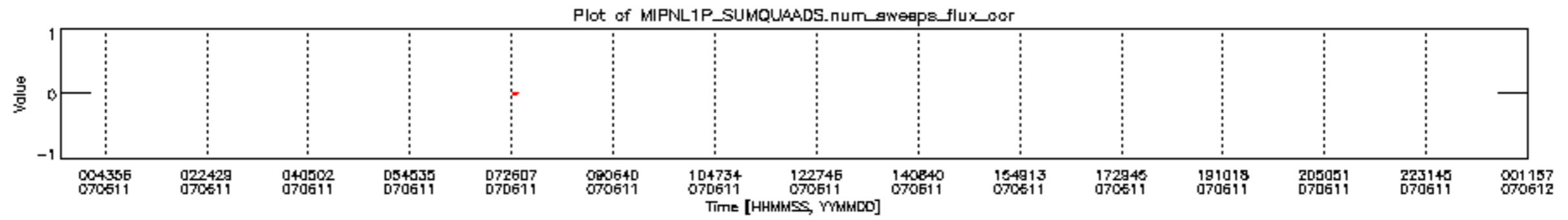
Geolocation plot of MIPNL1P\_SUMQUAADS.num\_excess\_phase



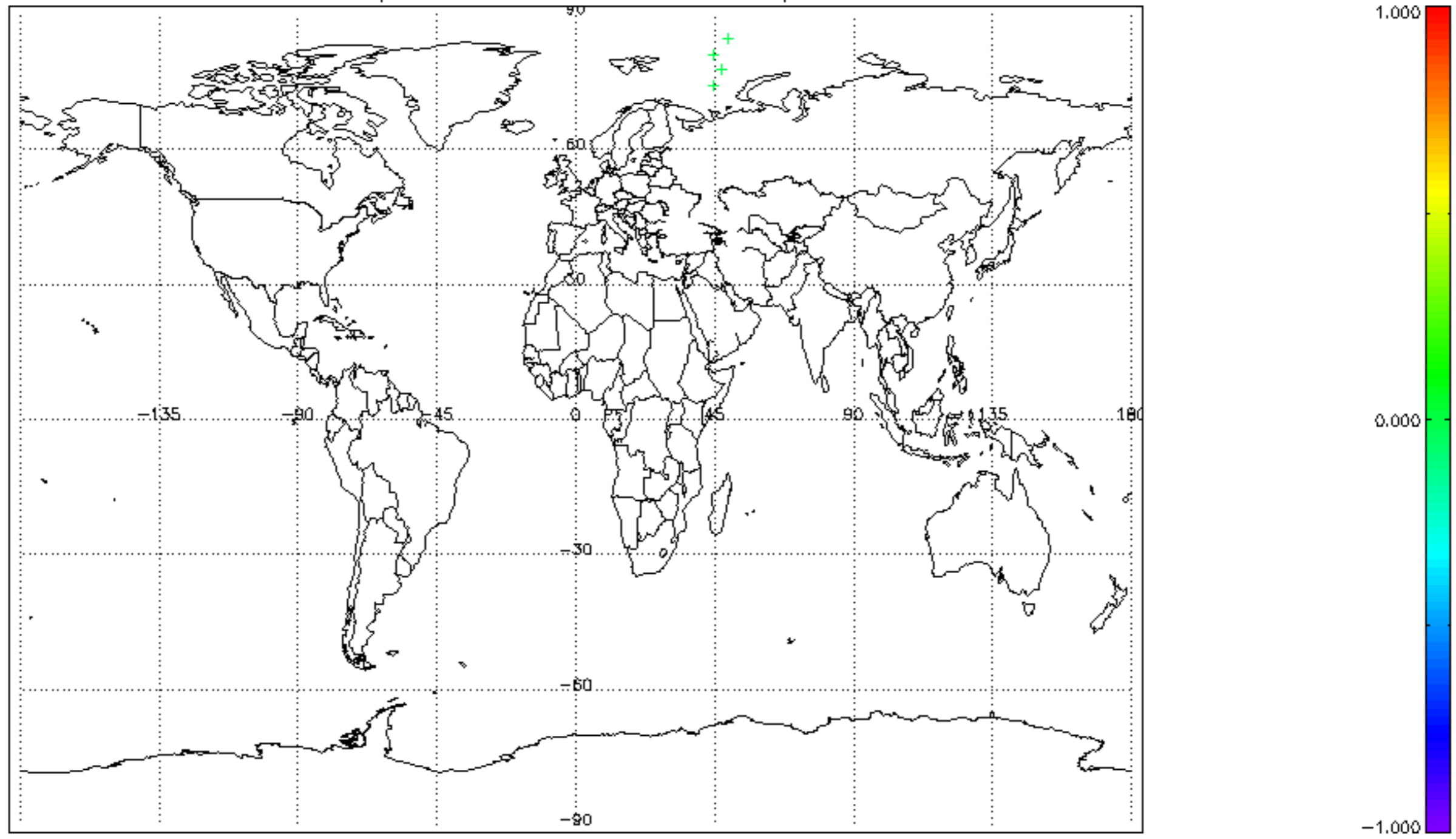


Geolocation plot of MIPNL1P\_SUMQUAADS.num\_opd\_shift



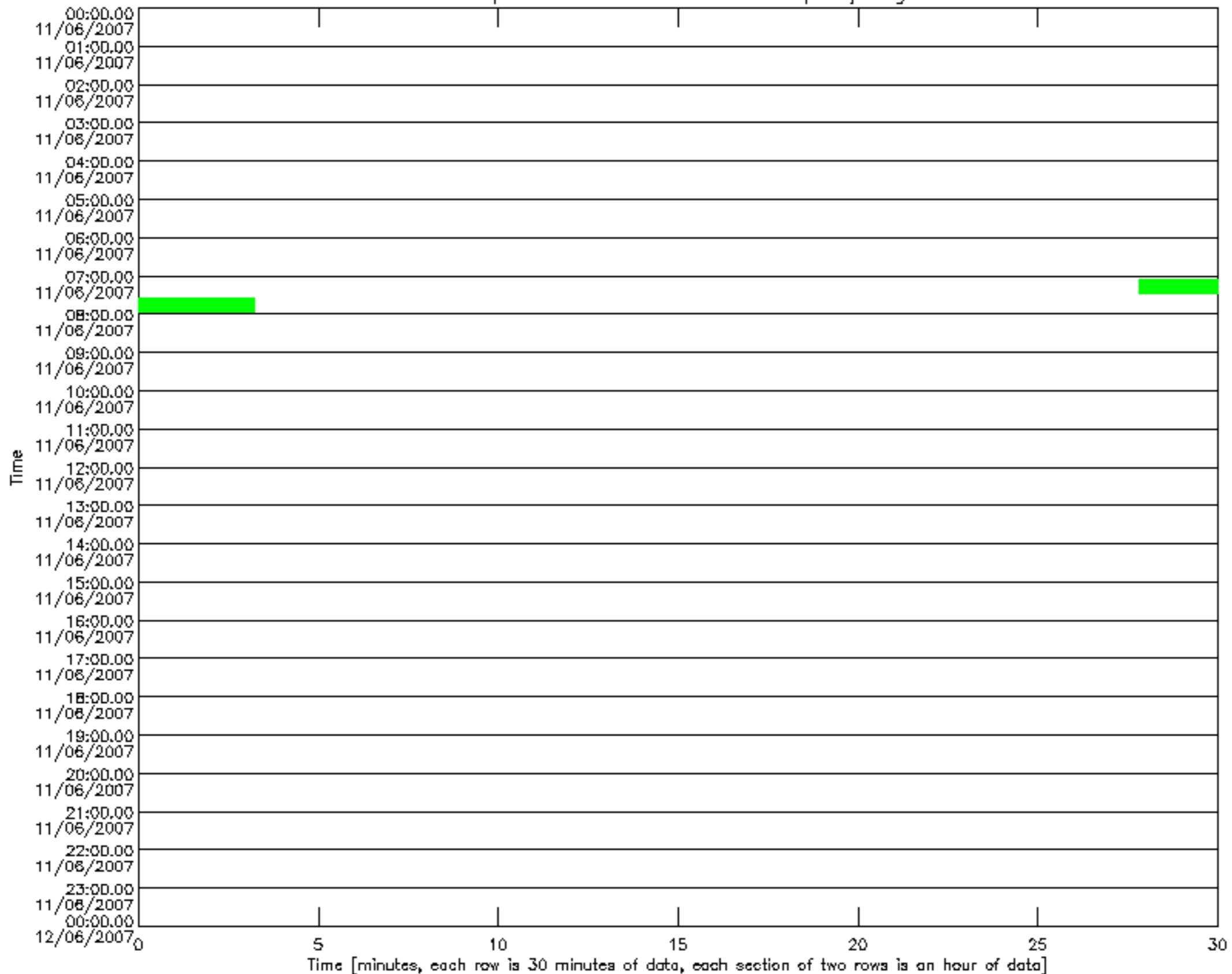


Geolocation plot of MIPNL1P\_SUMQUADS.num\_sweeps\_flux\_oor

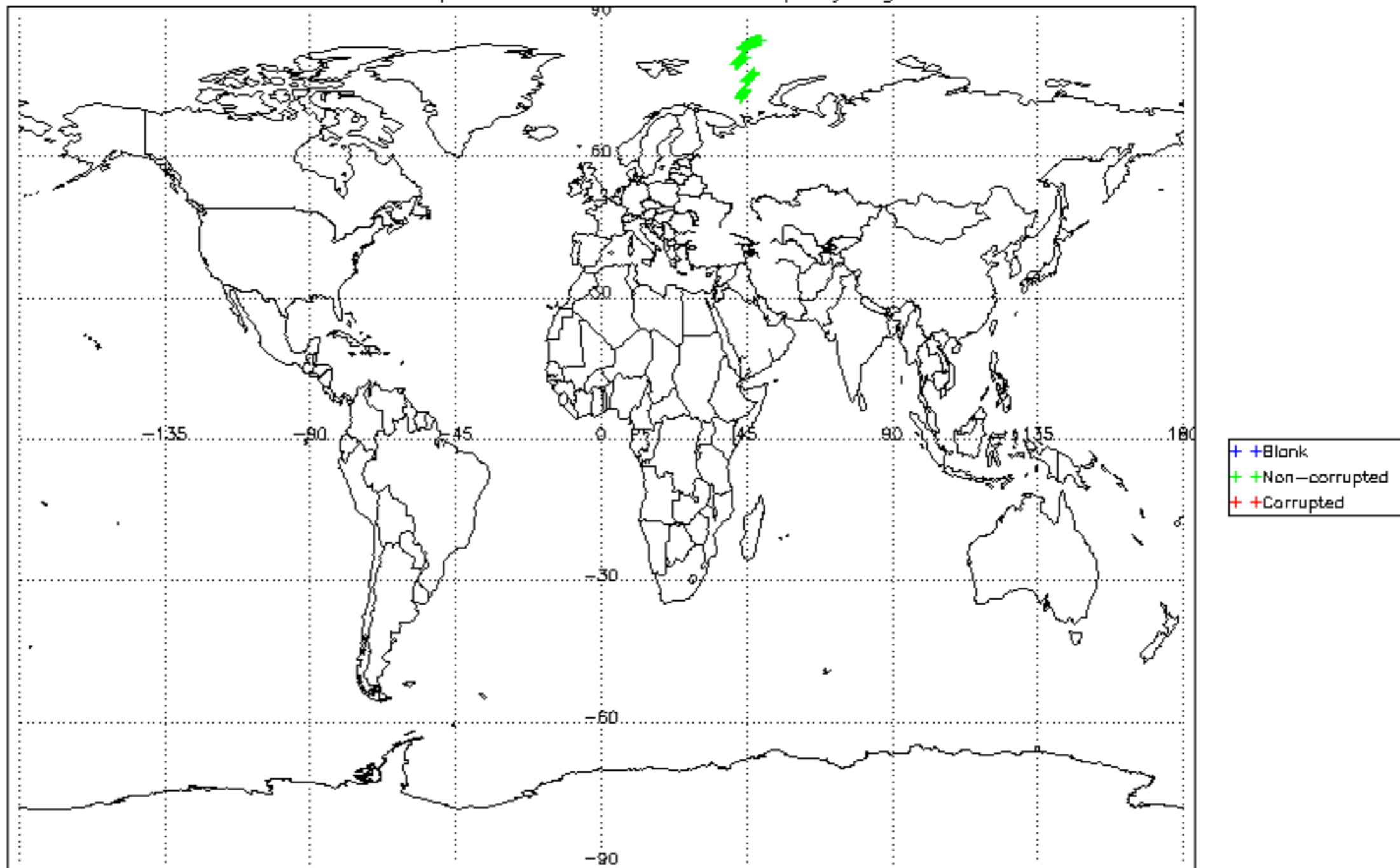


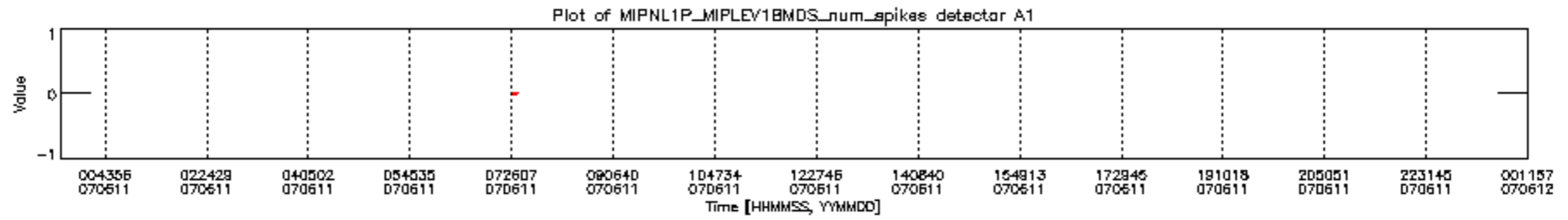


Bar plot of MIPNL1P\_MIPLEV1BMDS\_quality\_flag

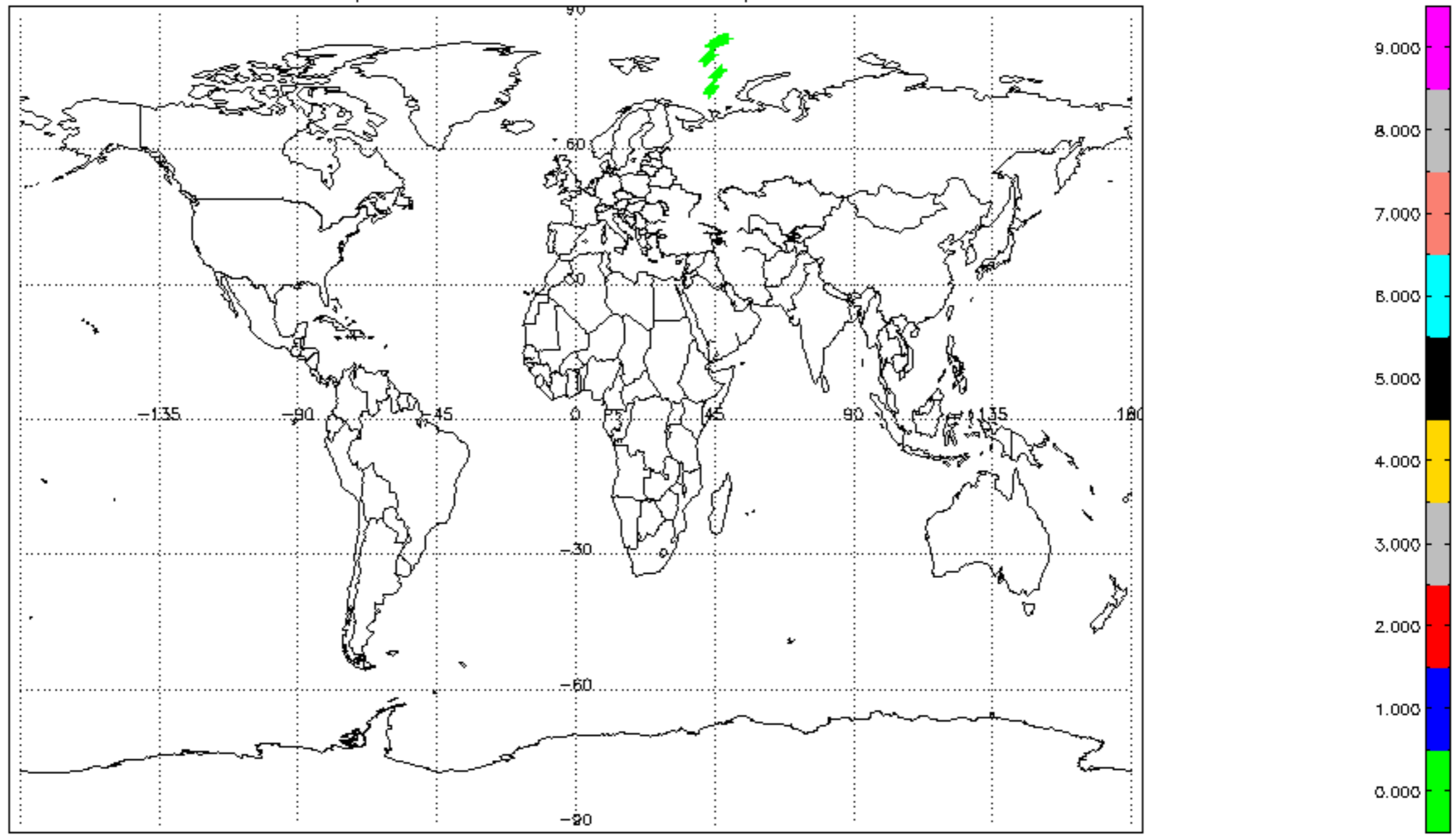


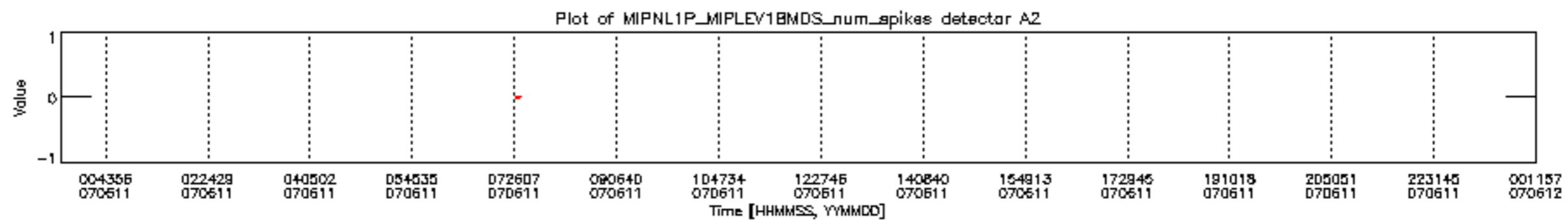
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_quality\_flag





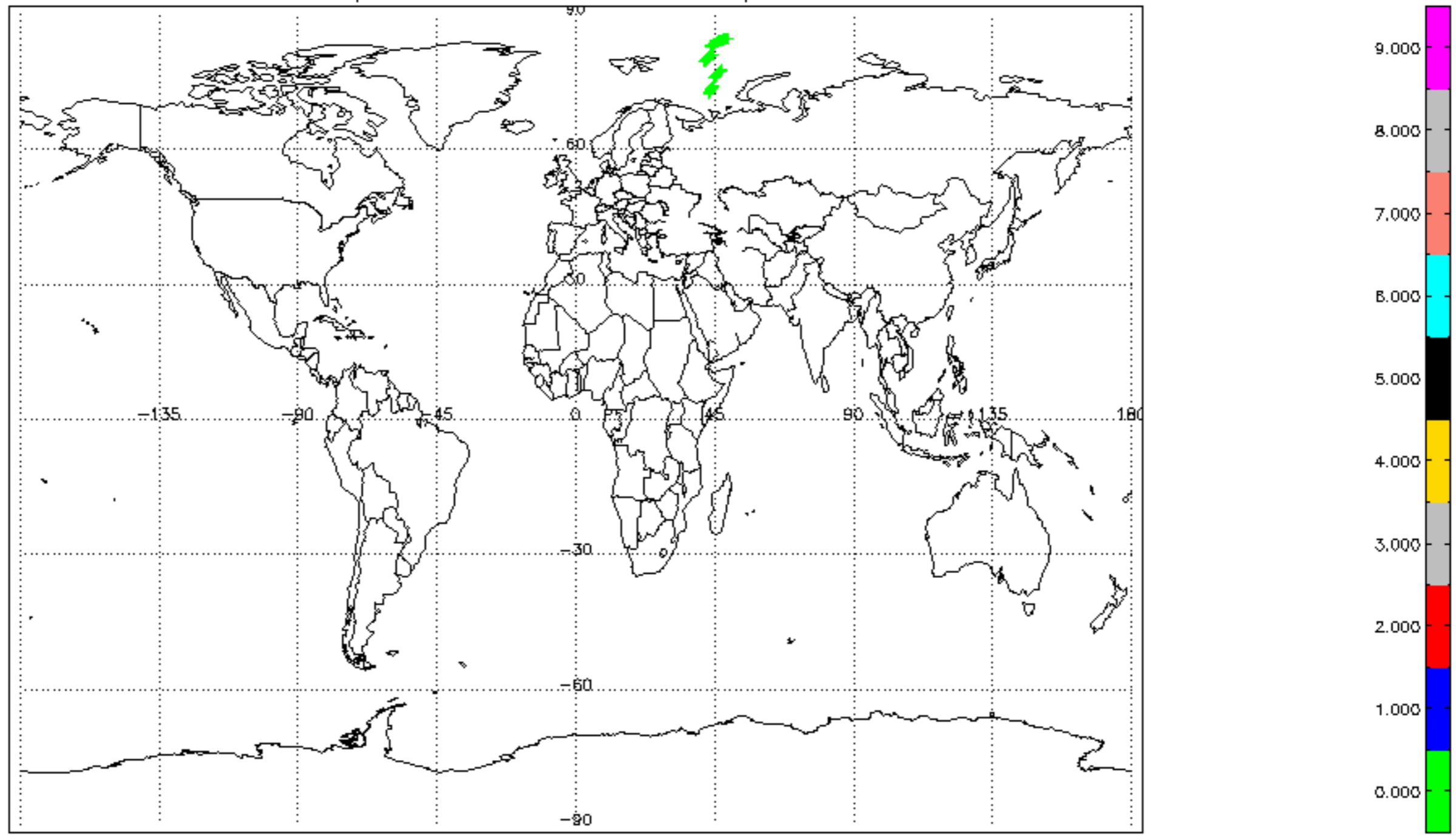
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_num\_spikes detector A1

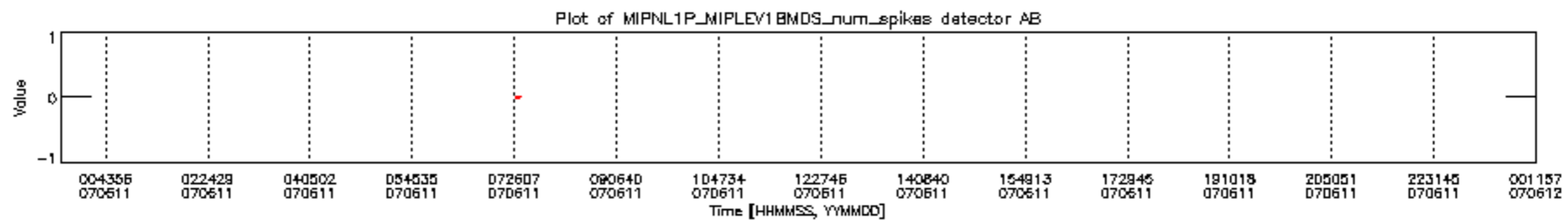




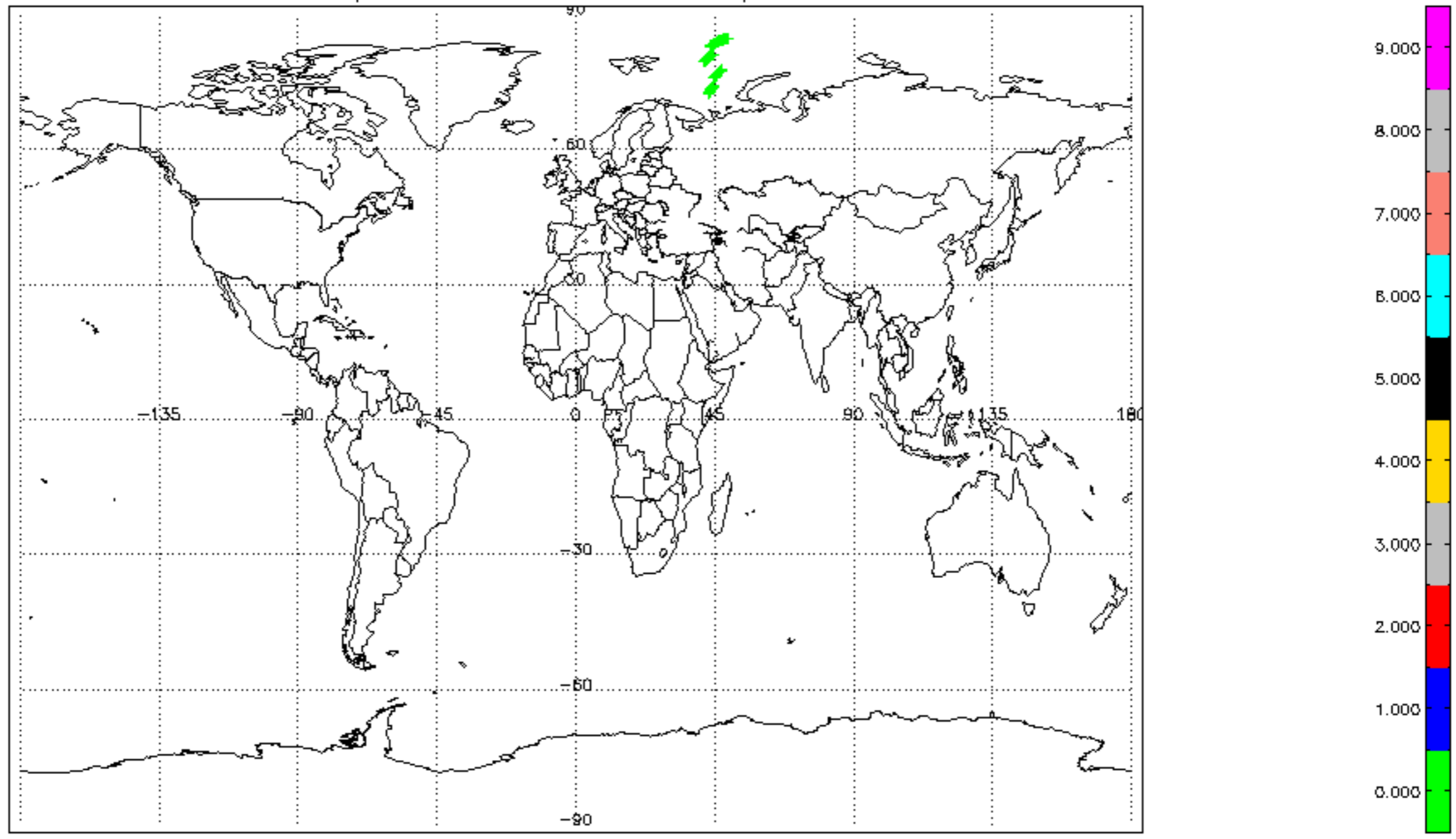


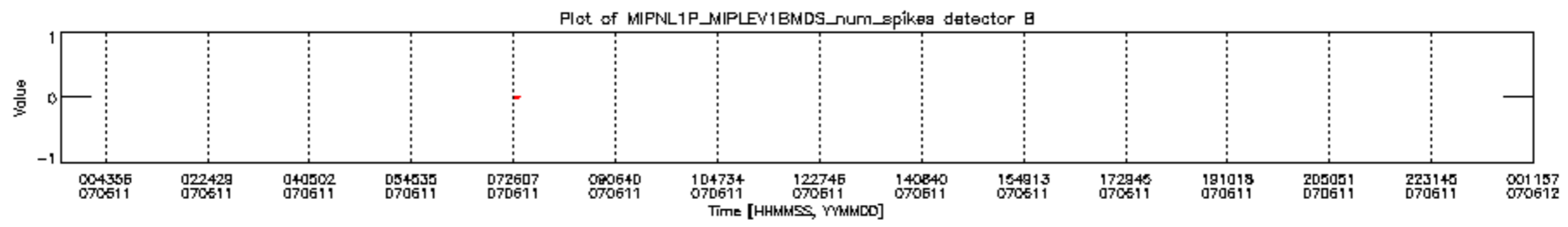
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_num\_spikes detector A2



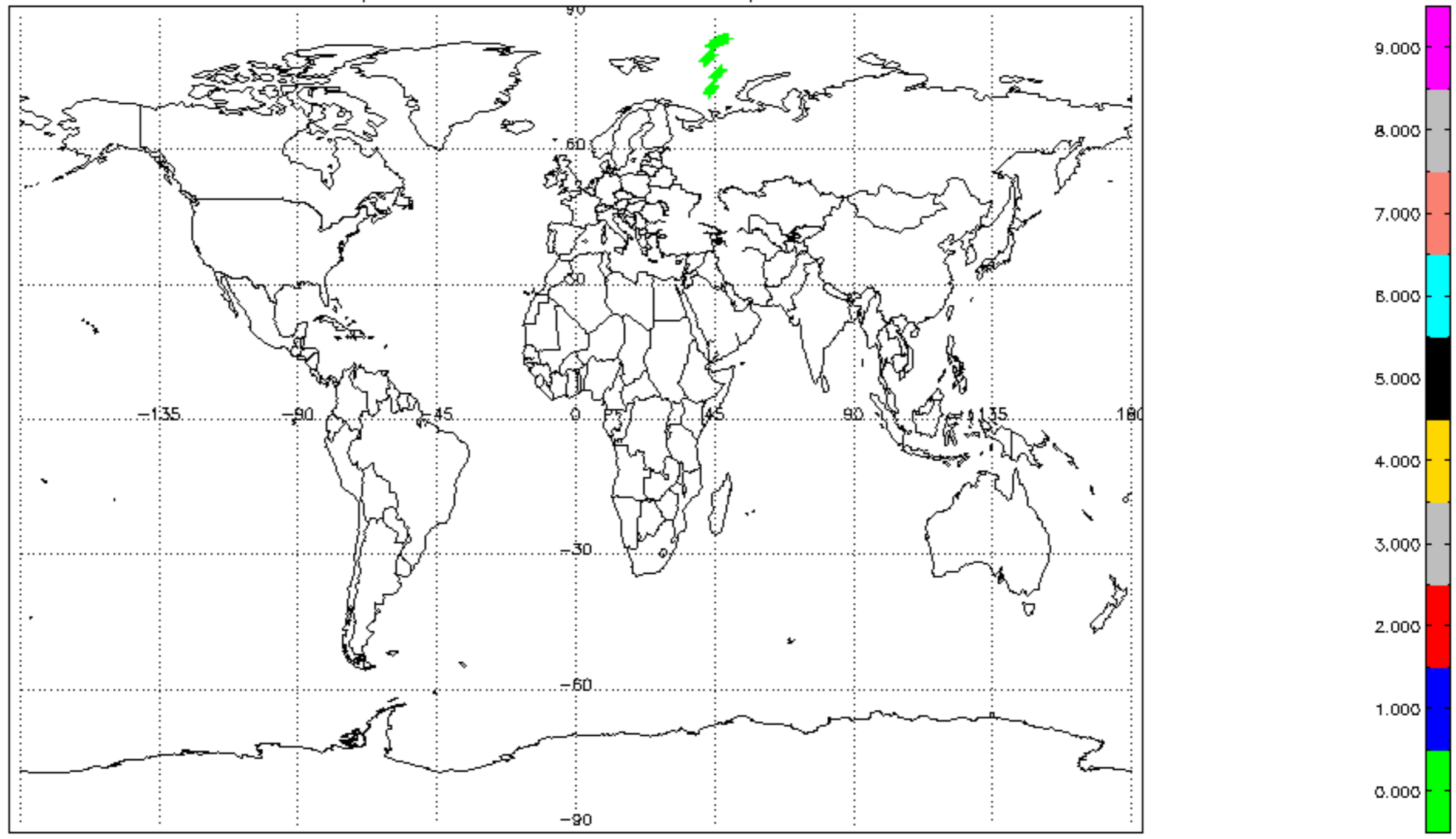


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_num\_spikes detector AB

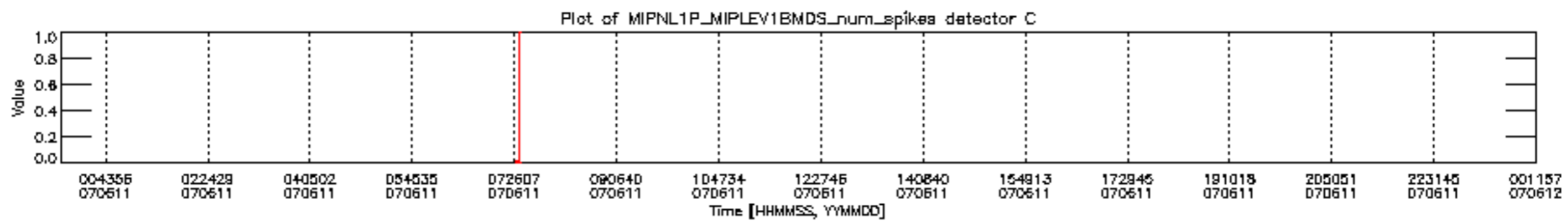




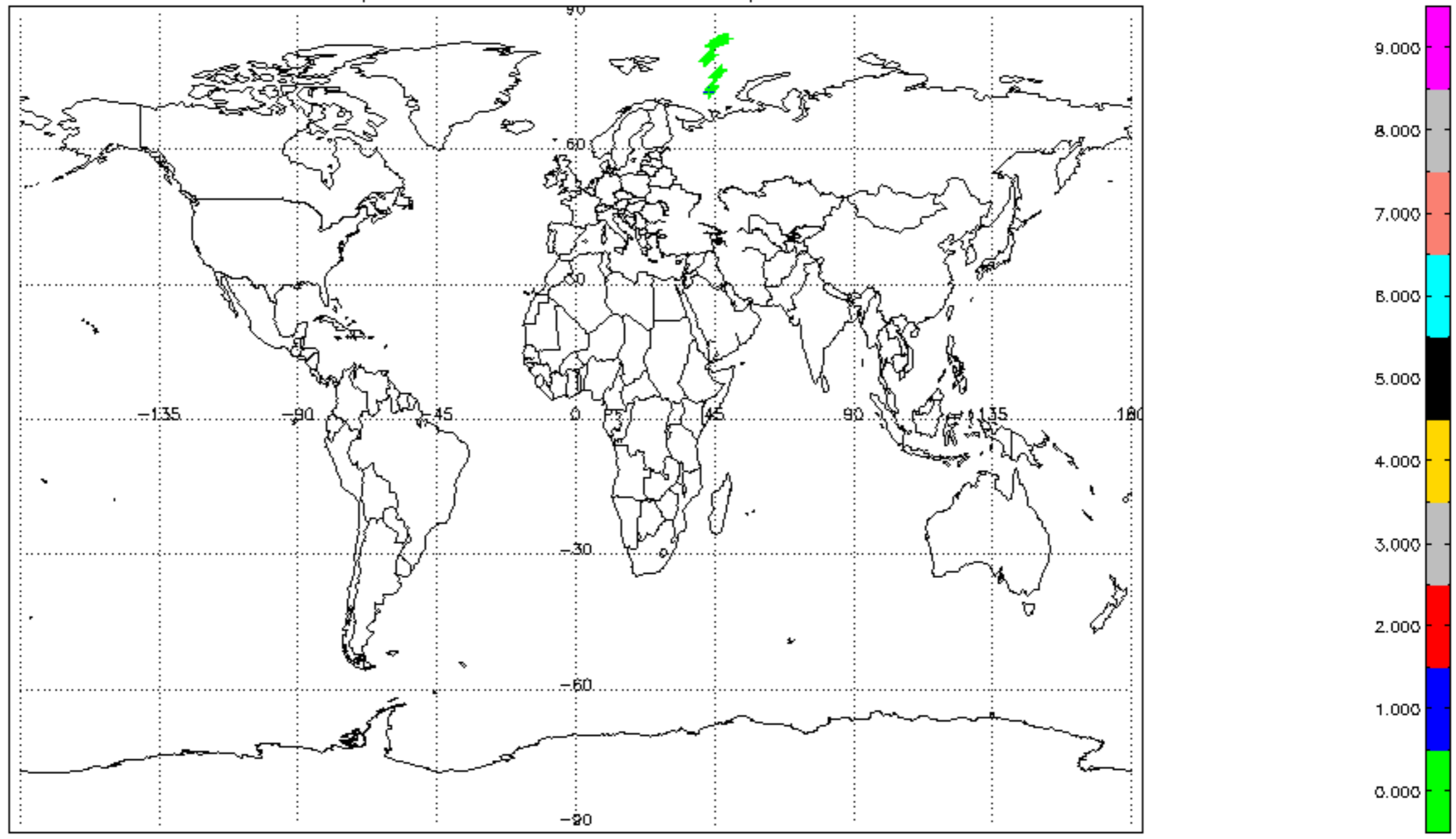
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_num\_spikes detector B

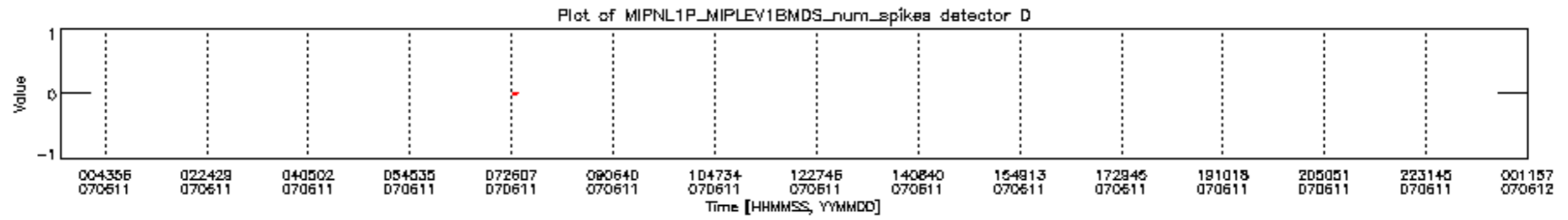




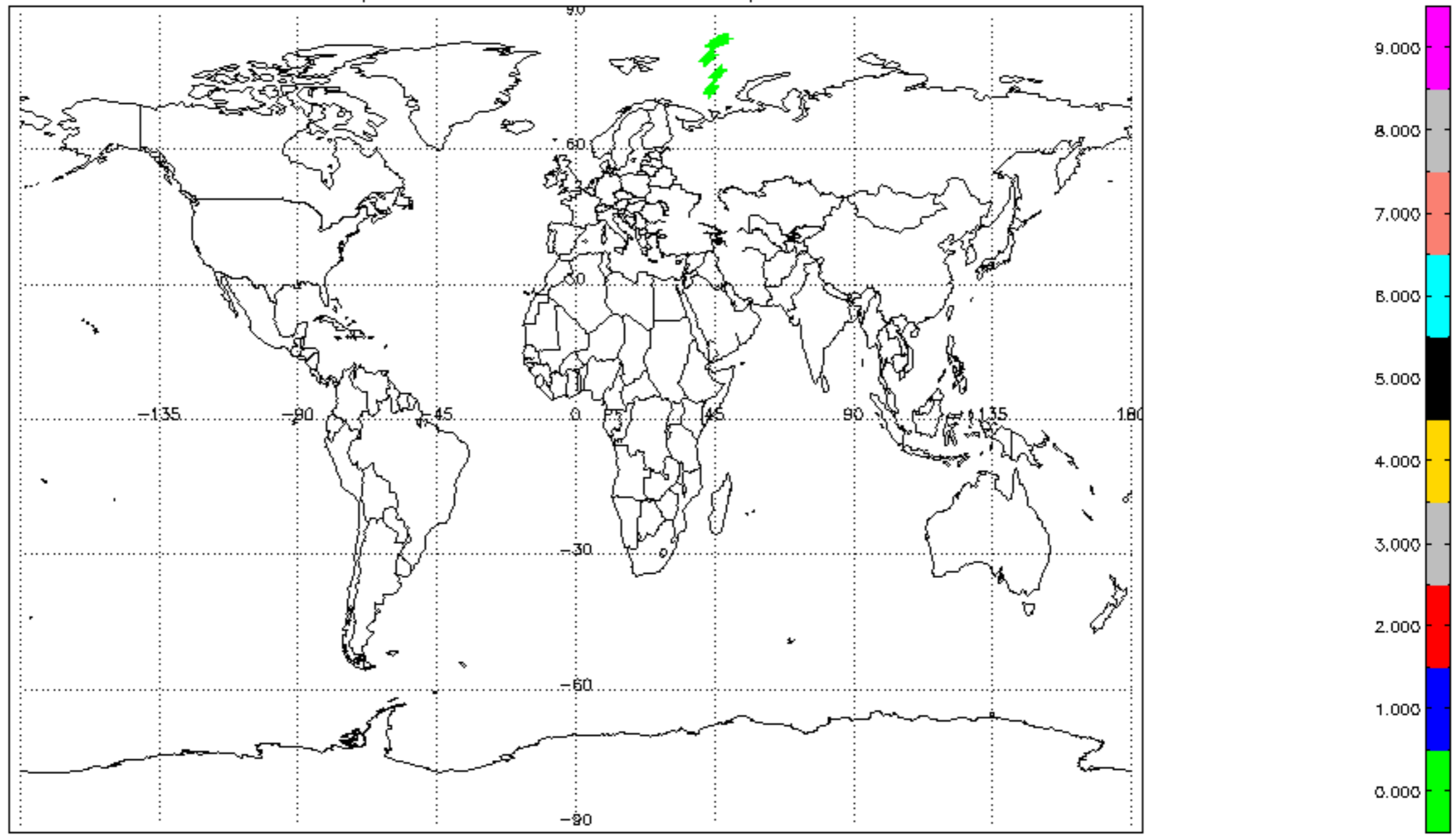


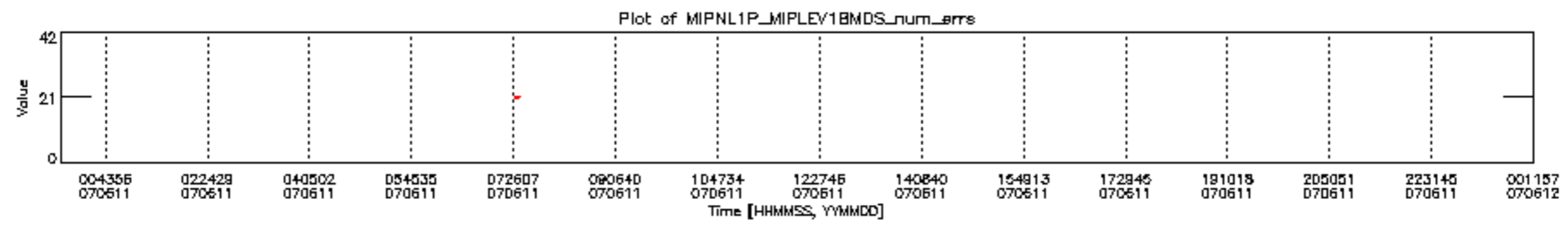
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_num\_spikes detector C





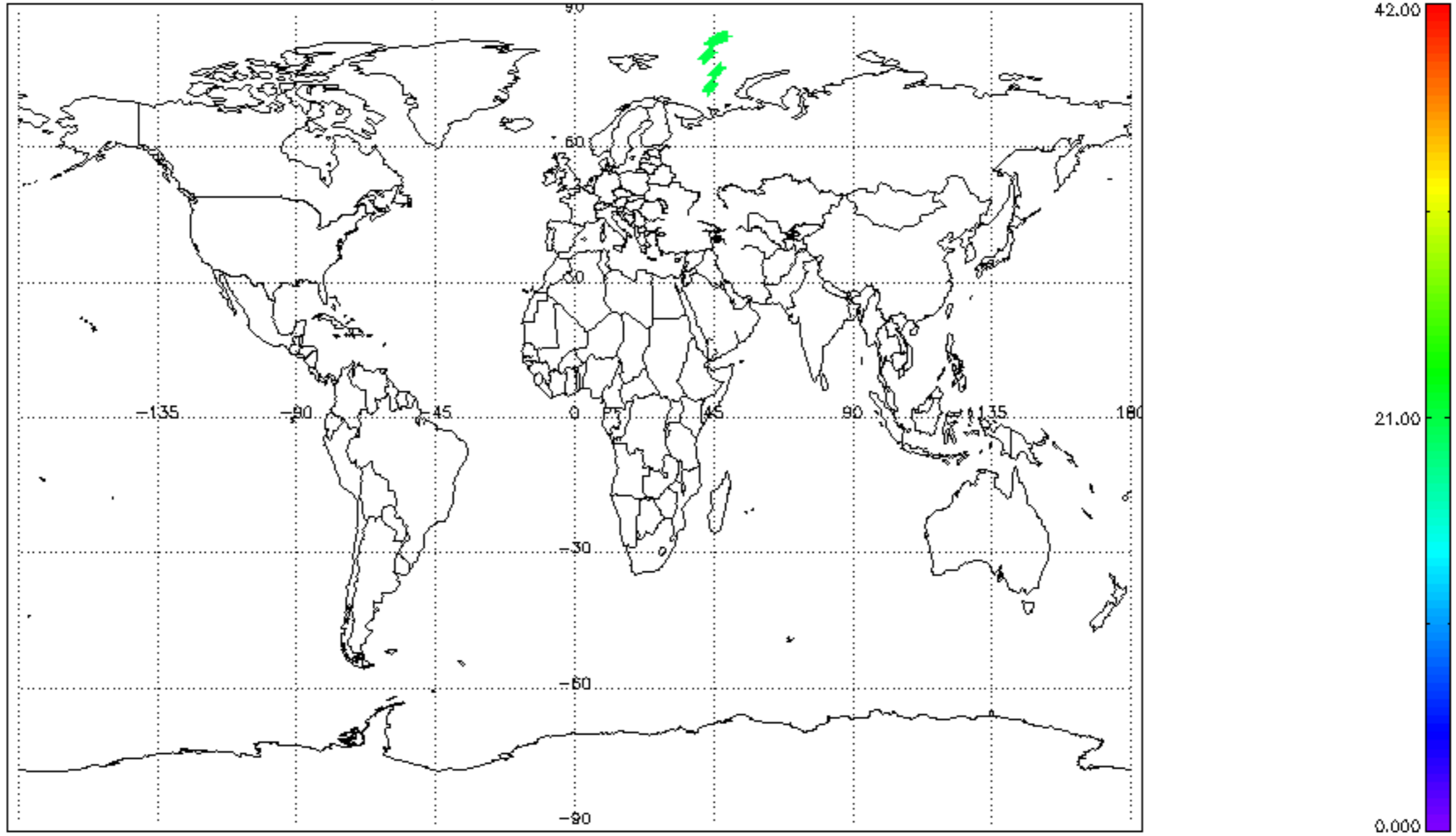
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_num\_spikes detector D



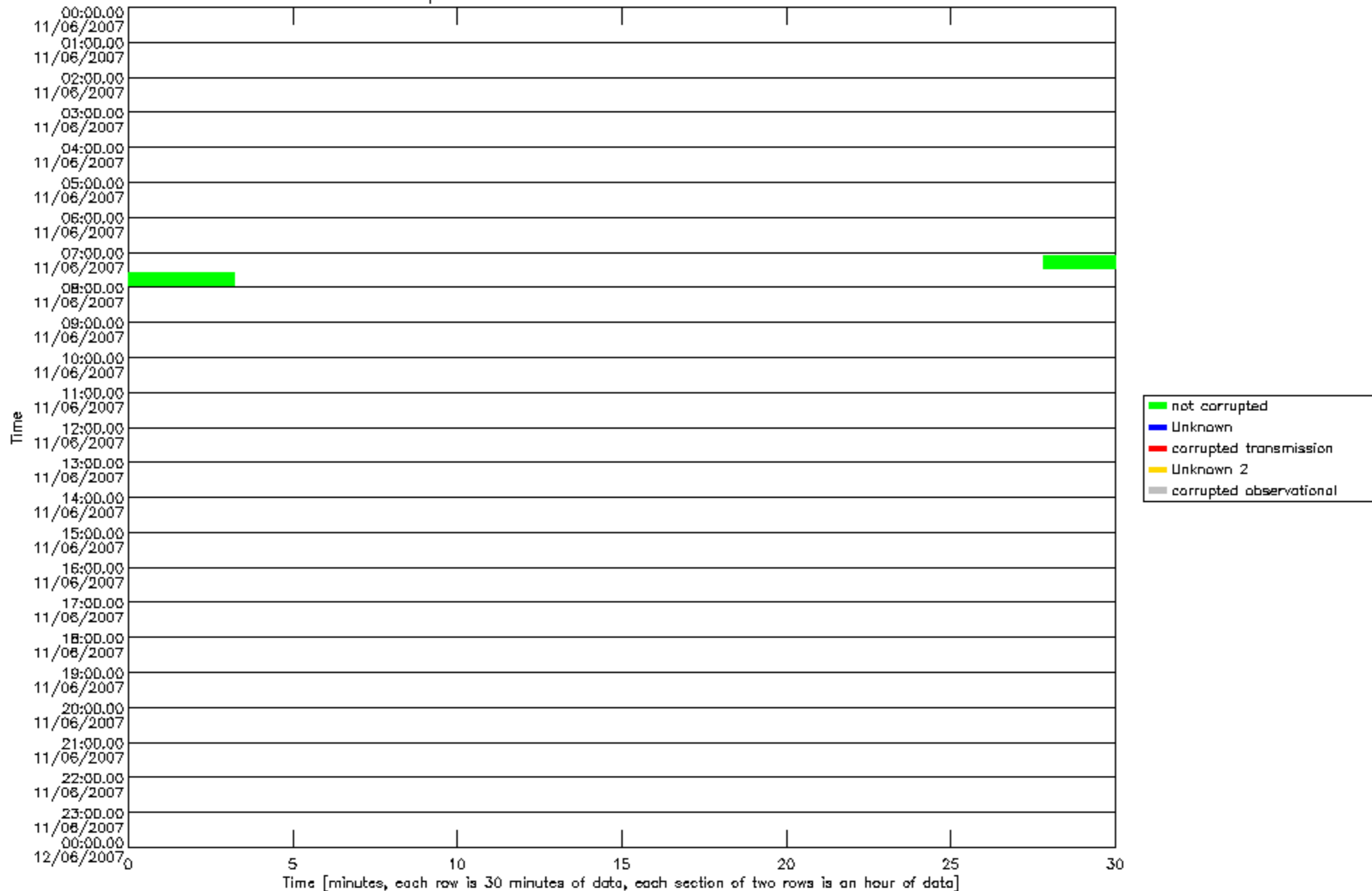




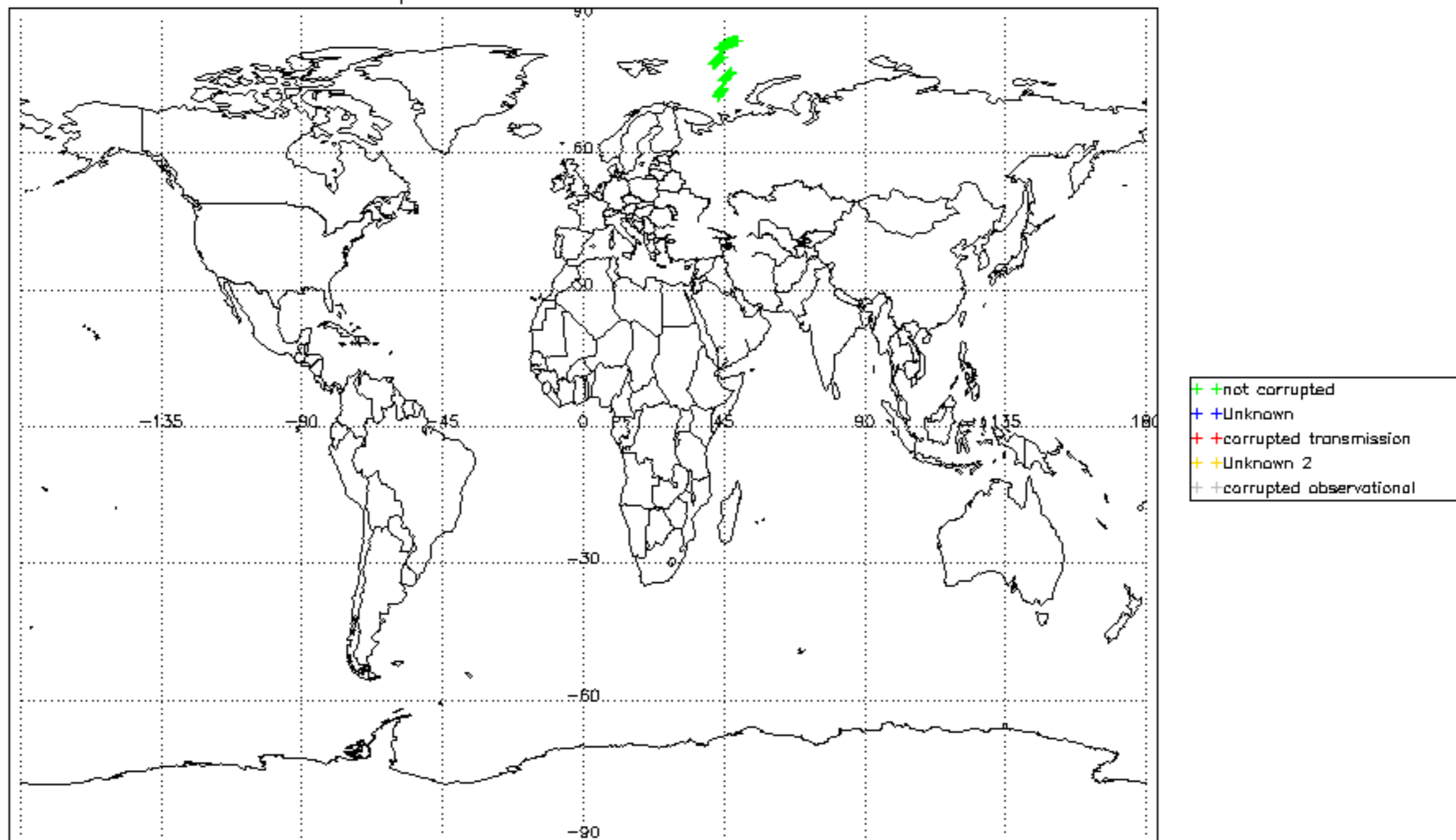
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_num\_errs



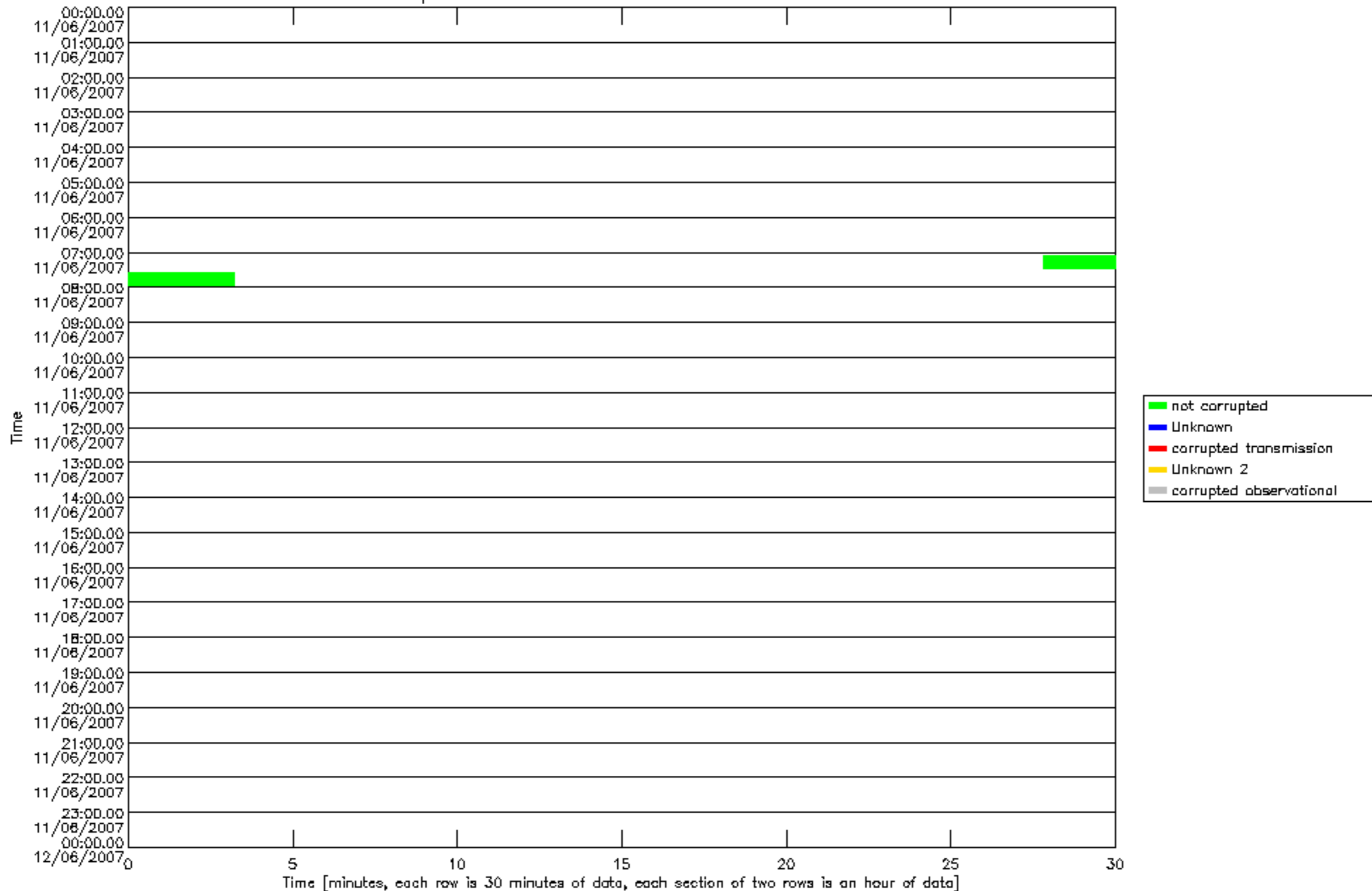
Bar plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band A



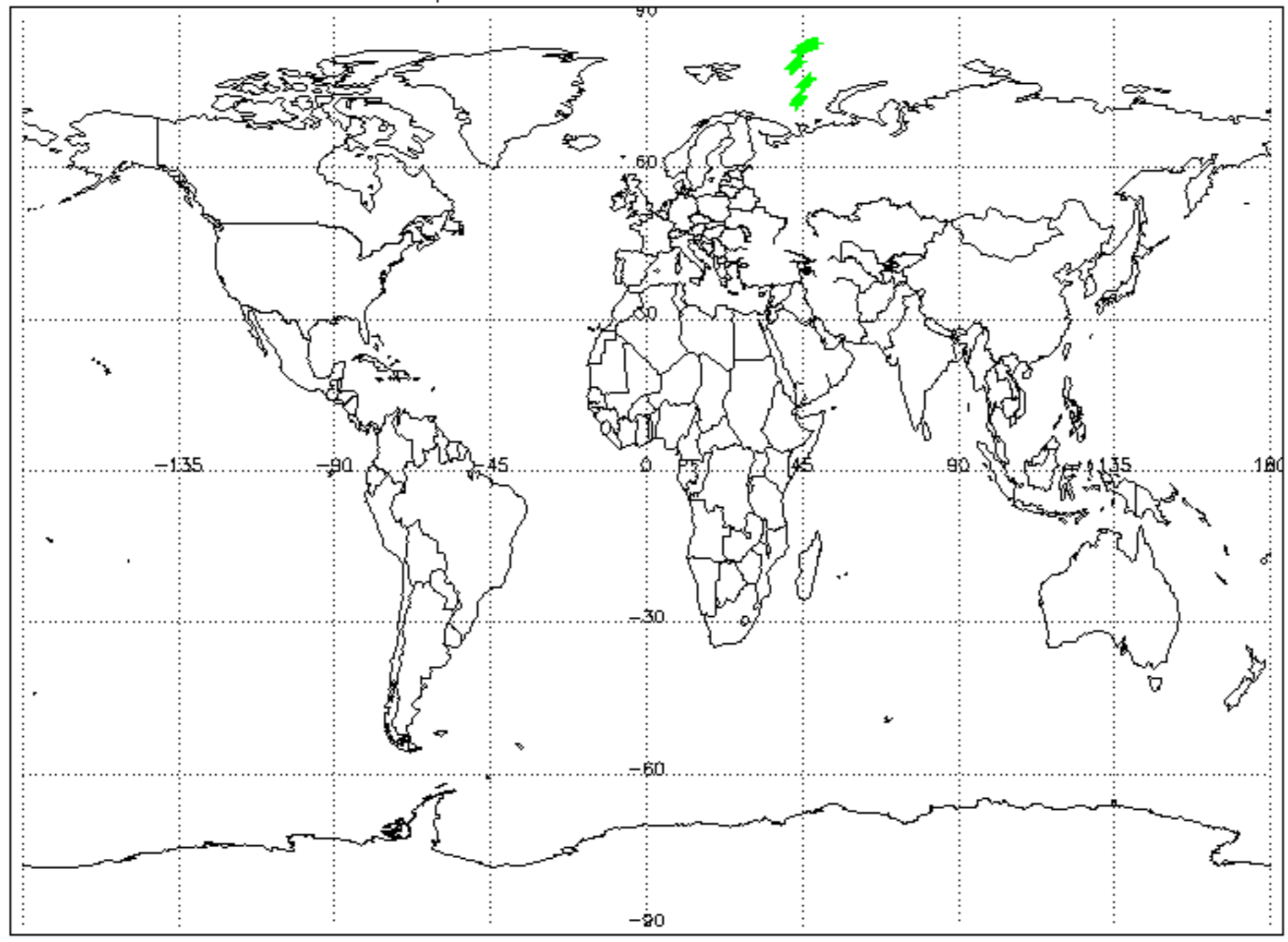
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band A



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

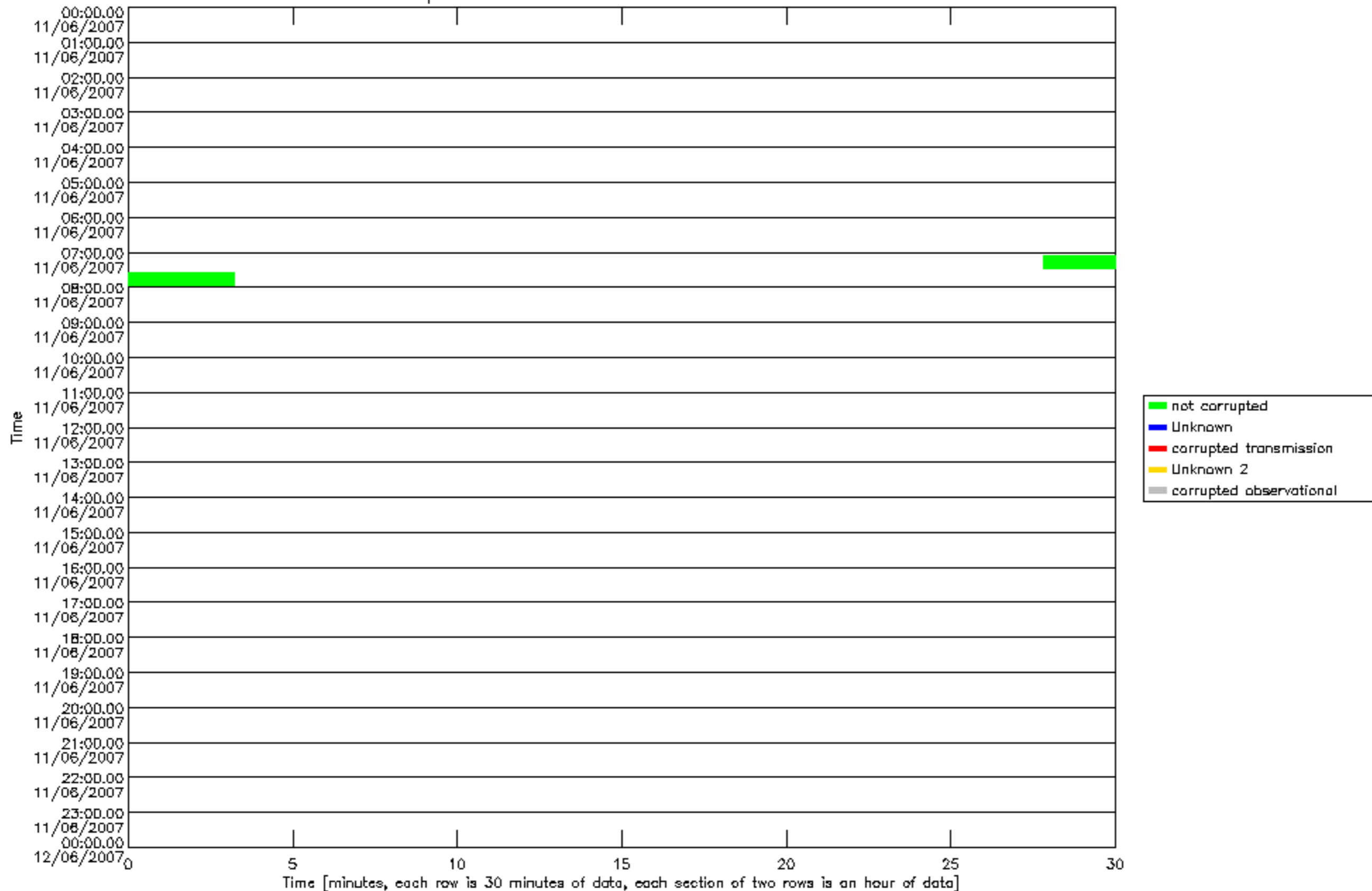


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band AB



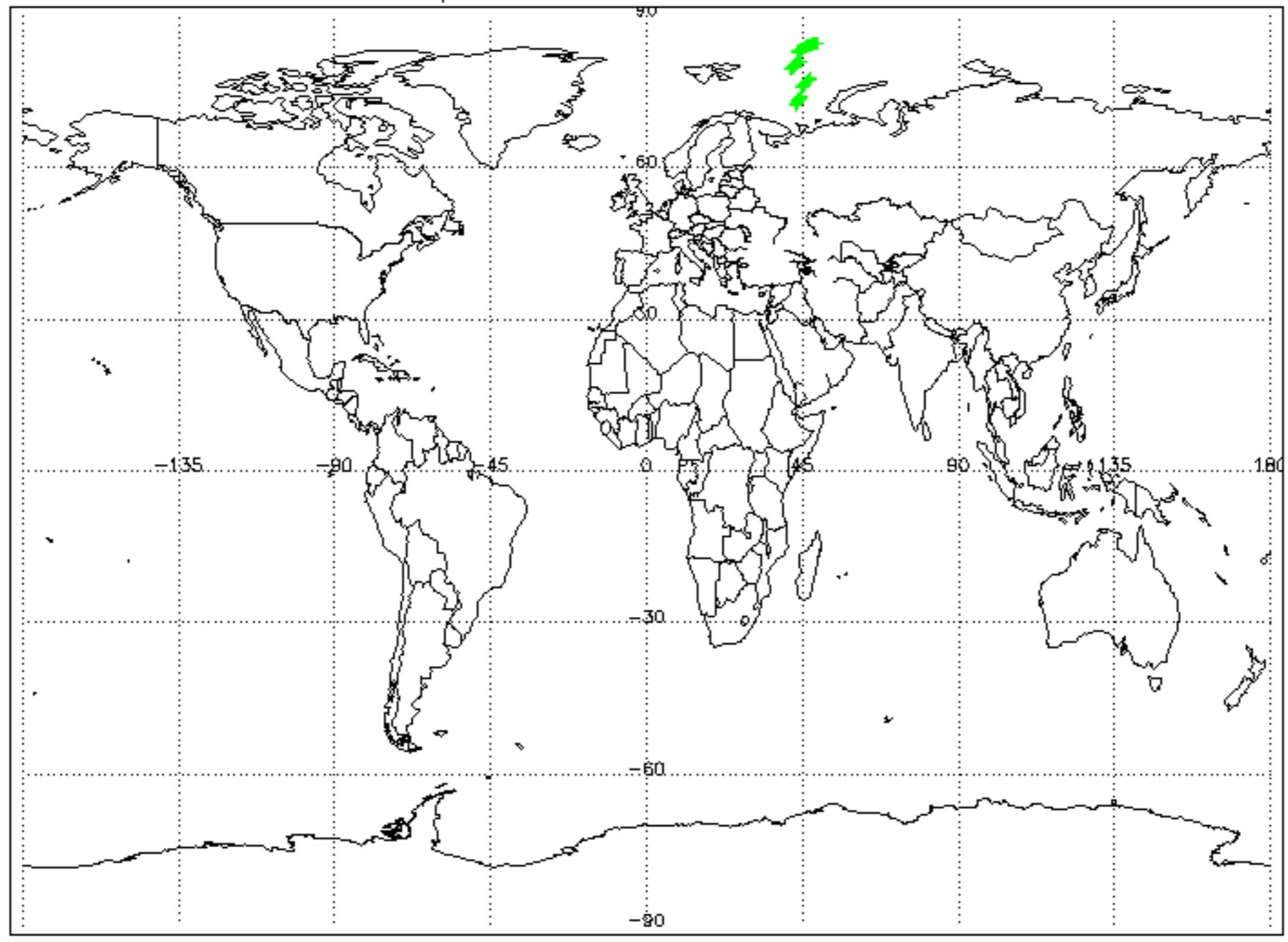
- + not corrupted
- + Unknown
- + corrupted transmission
- + Unknown 2
- + corrupted observational

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



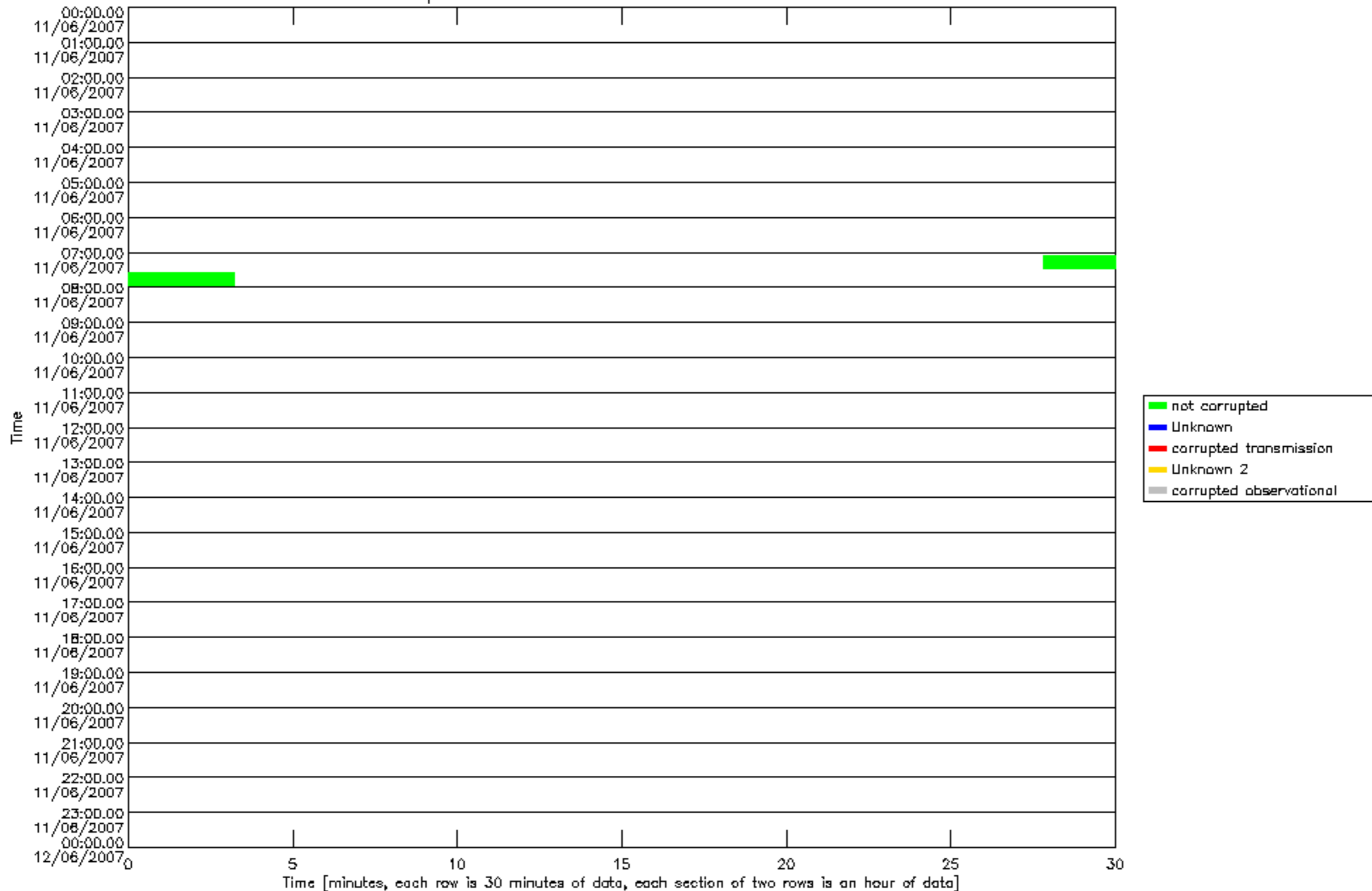


Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band B

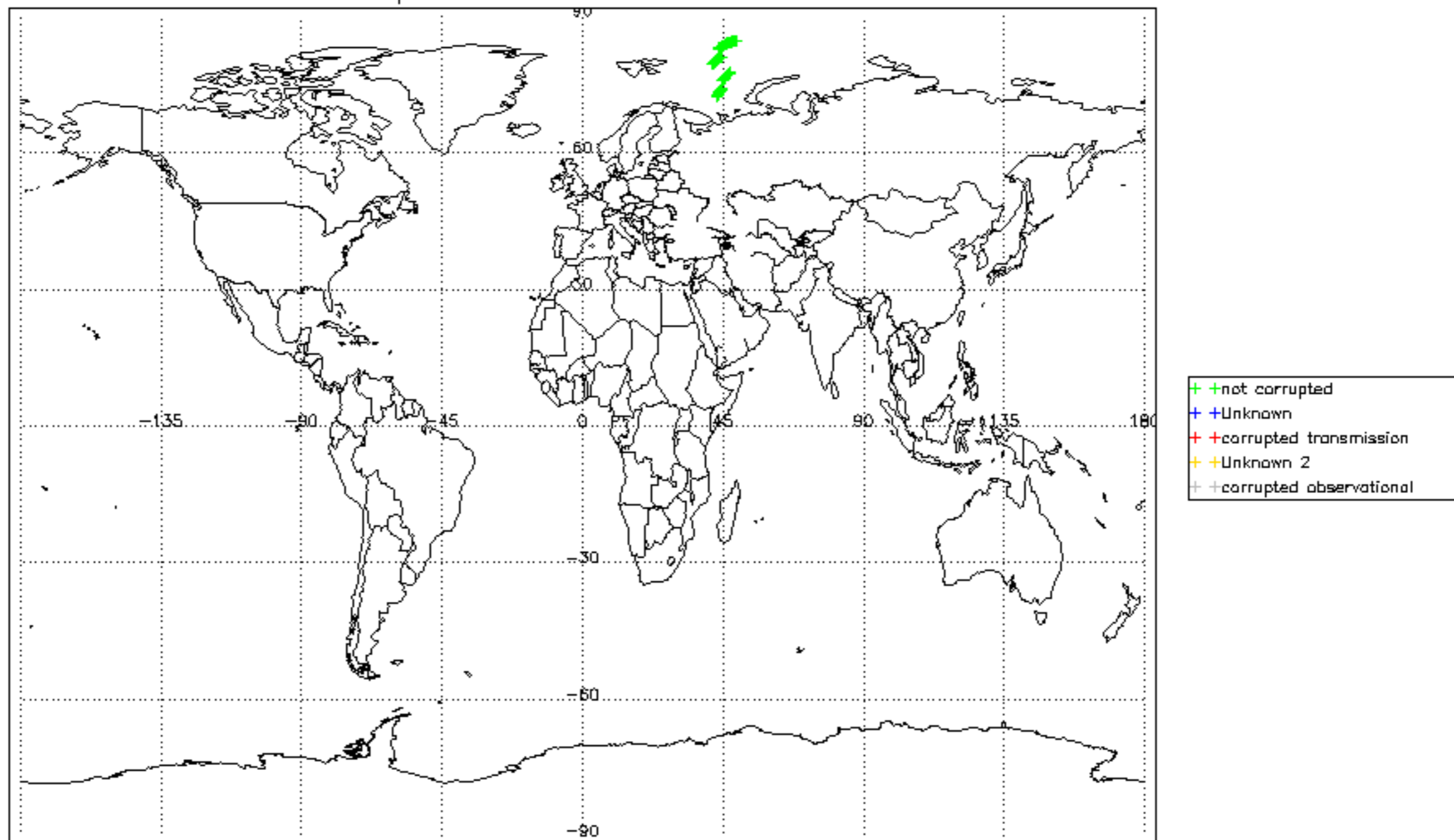


- + not corrupted
- + Unknown
- + corrupted transmission
- + Unknown 2
- + corrupted observational

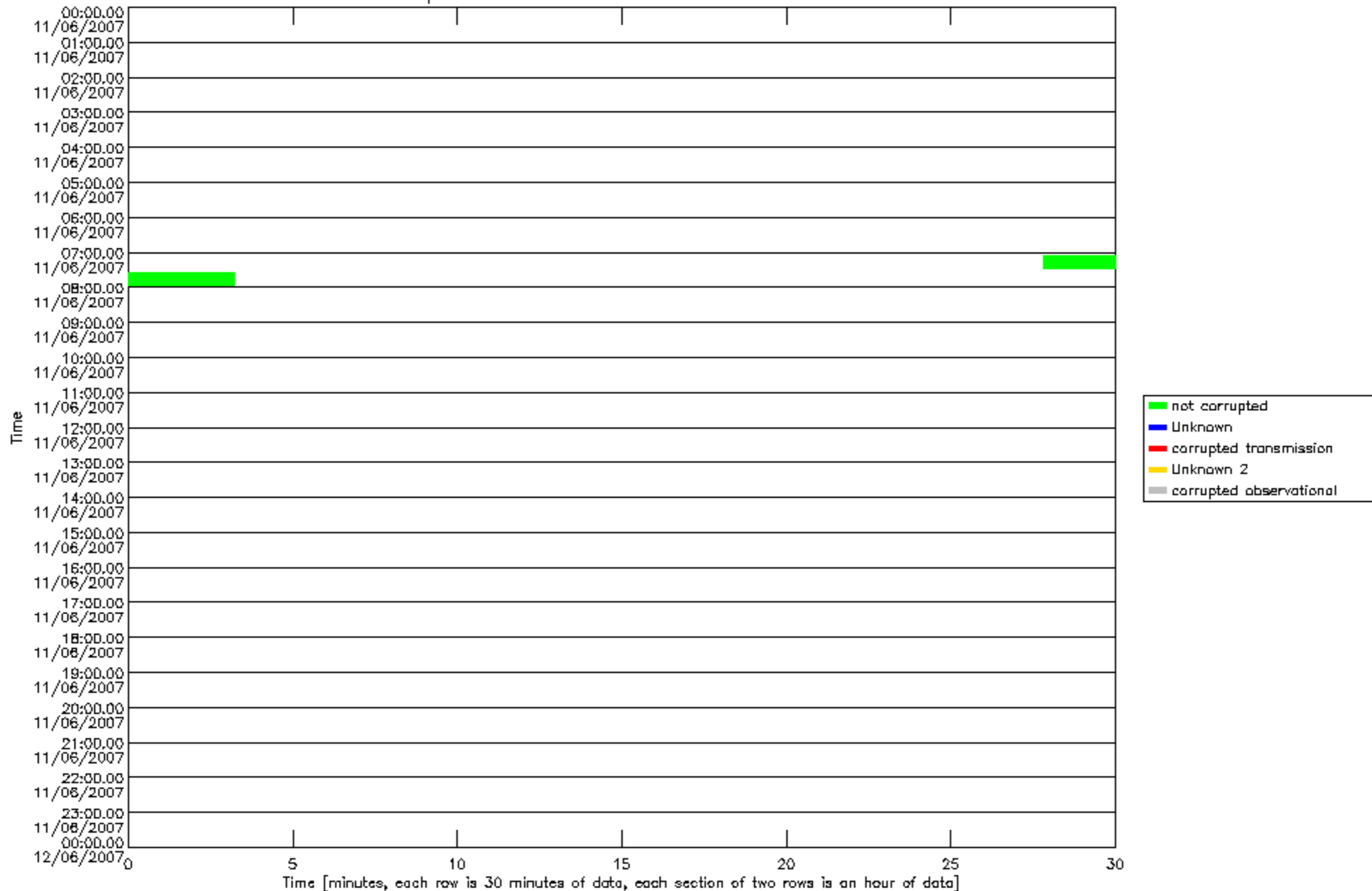
Bar plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band C



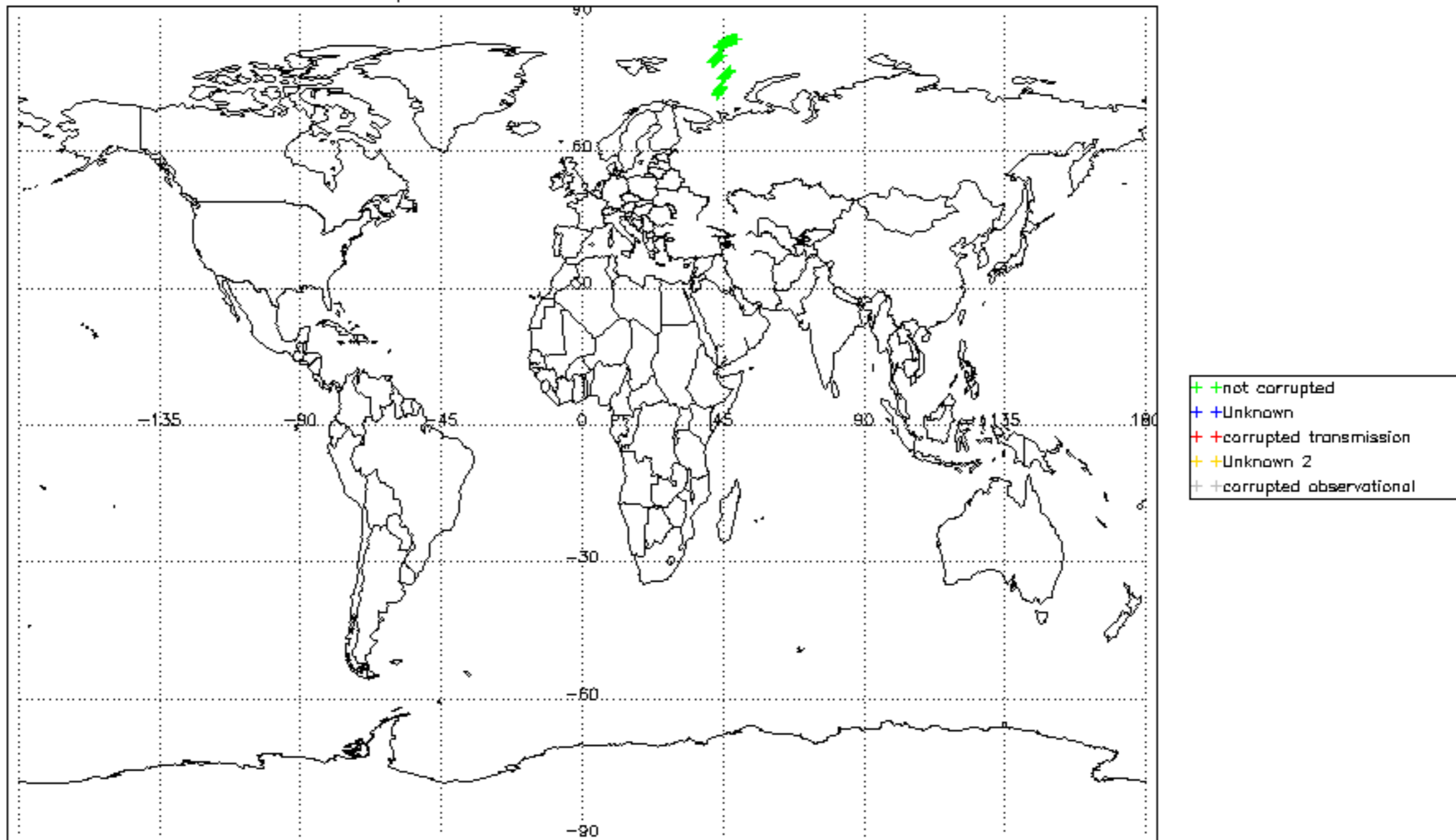
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band C



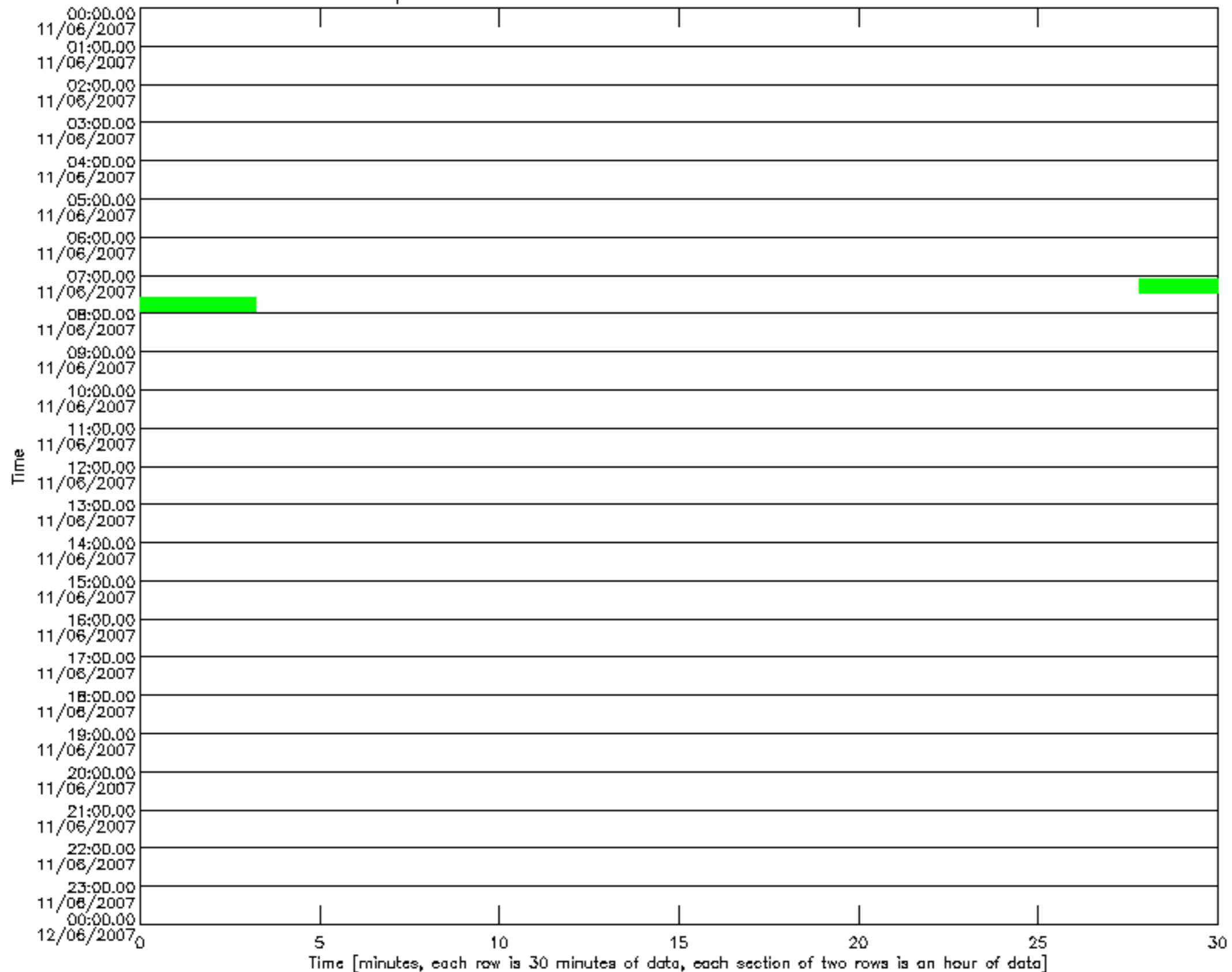
Bar plot of MIPNL1P\_MIPLEV1BMDS\_band\_val band D



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

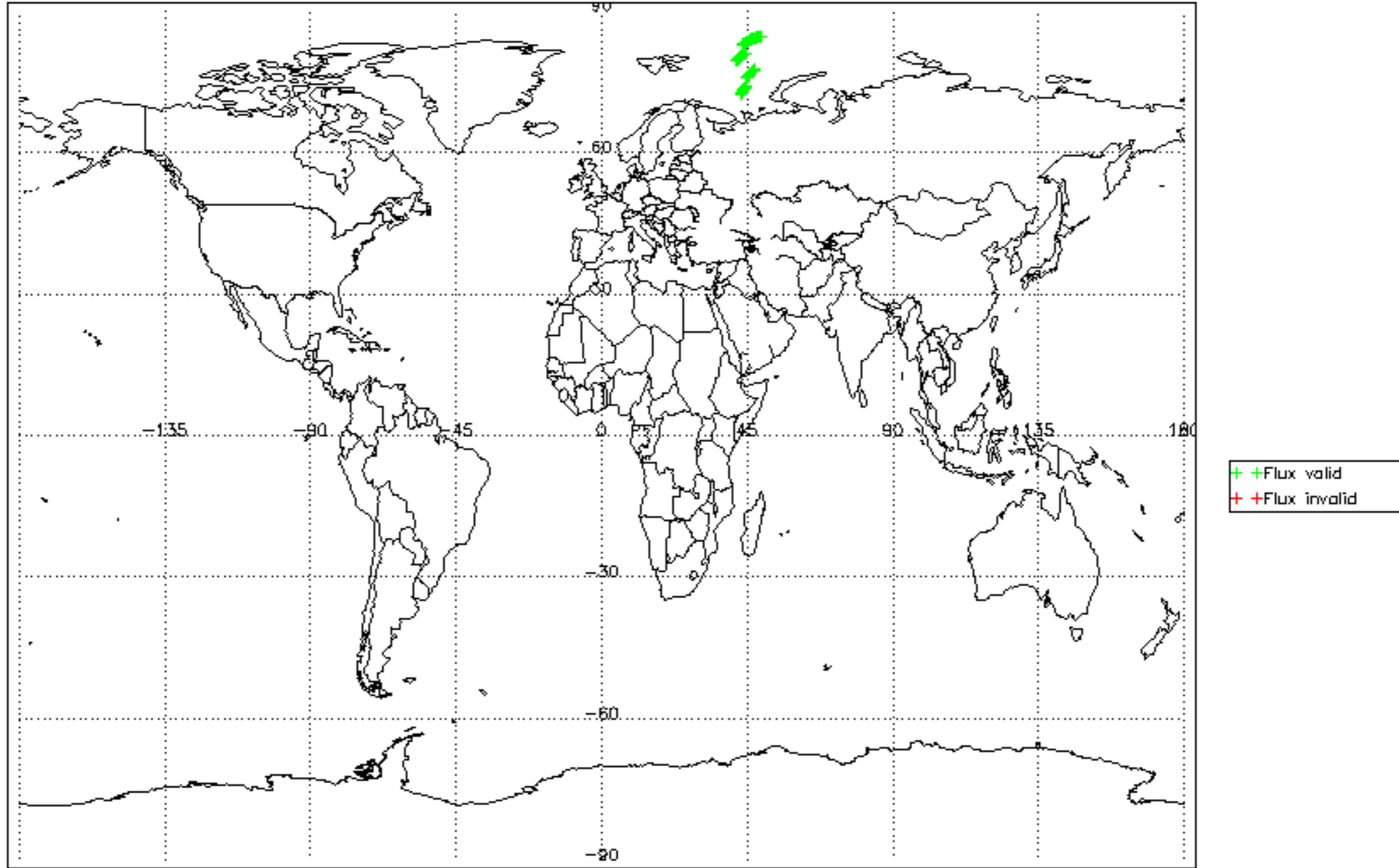


Bar plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_lin\_flux detector A1

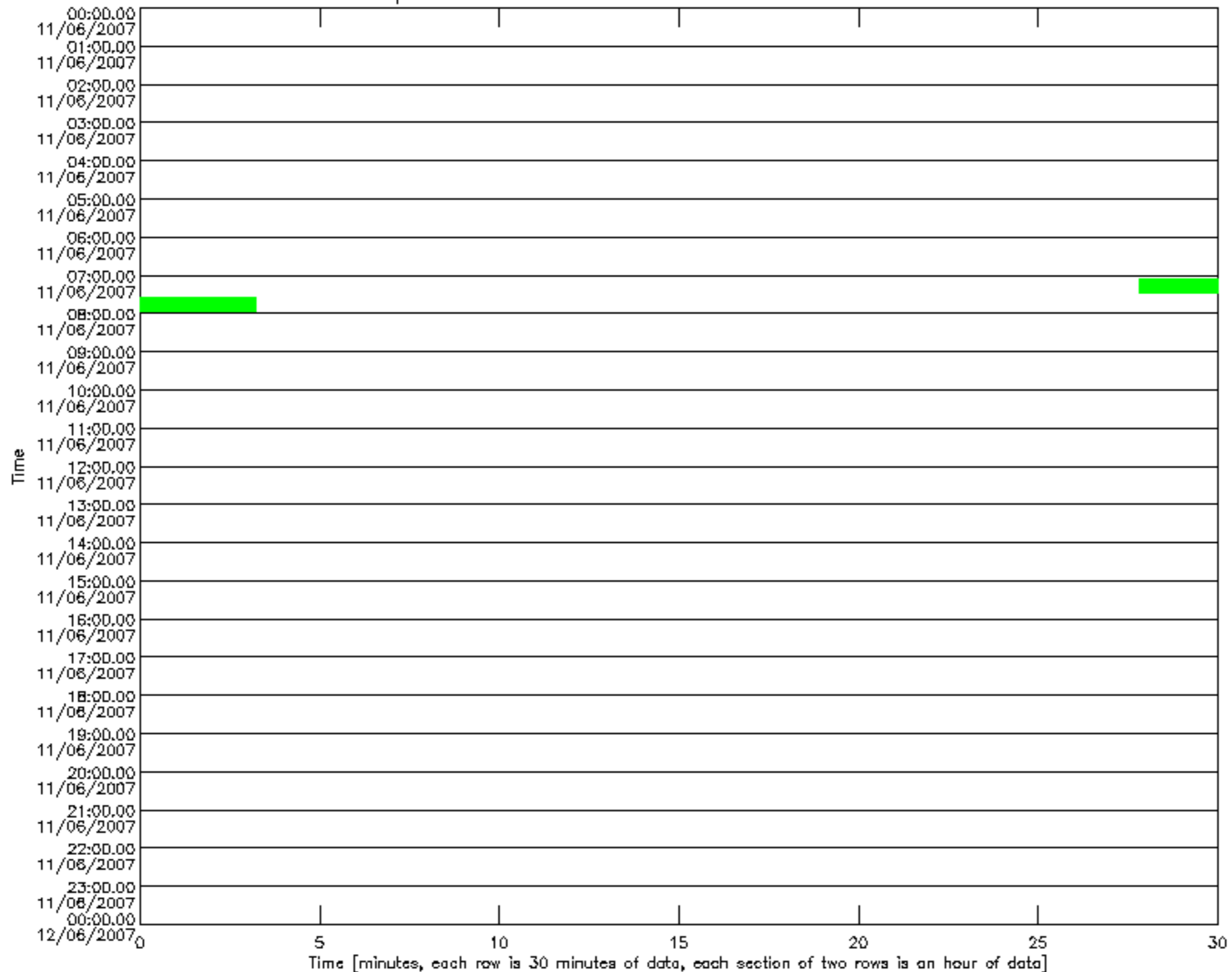




Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_jin\_flux detector A1

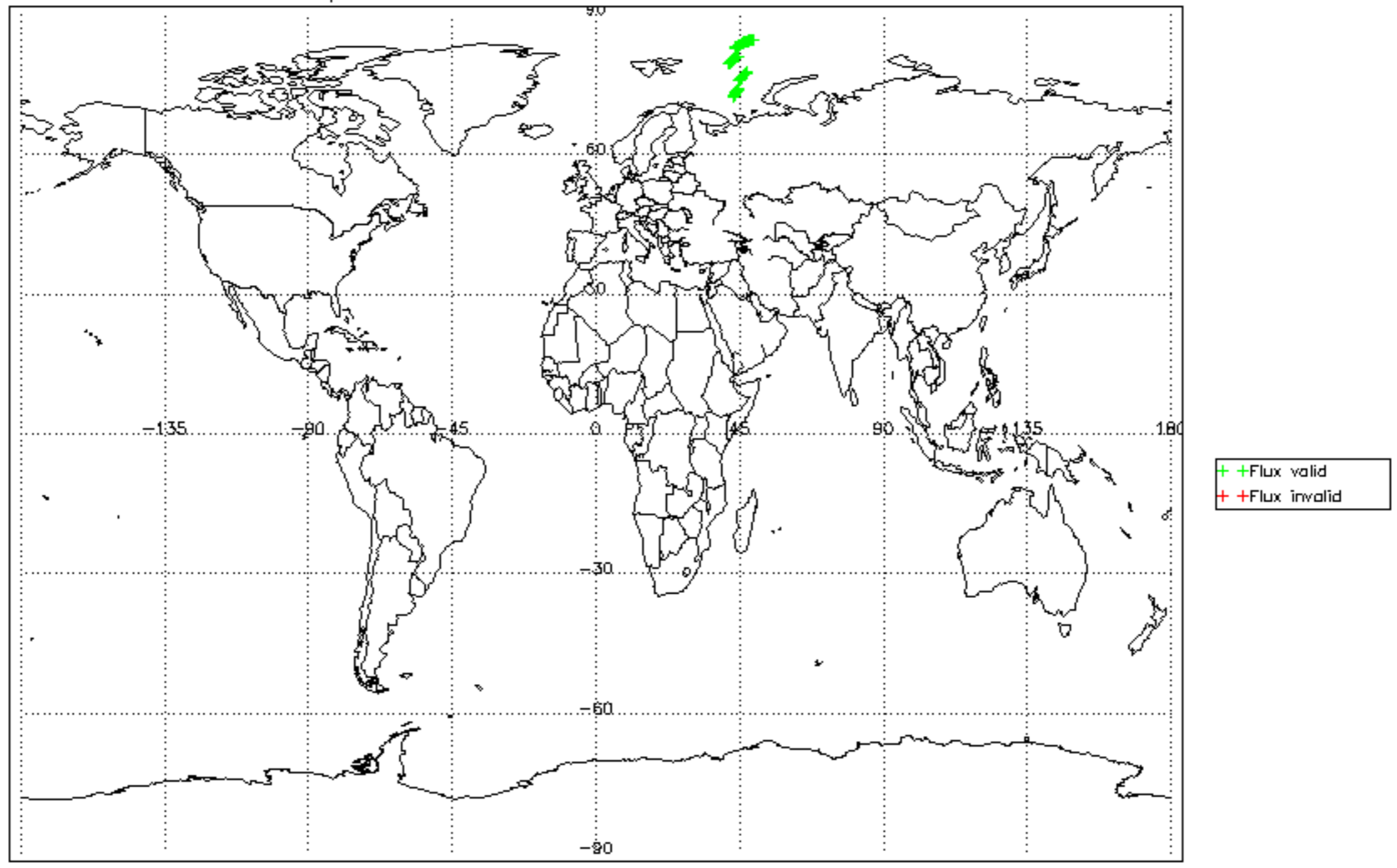


Bar plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_lin\_flux detector A2

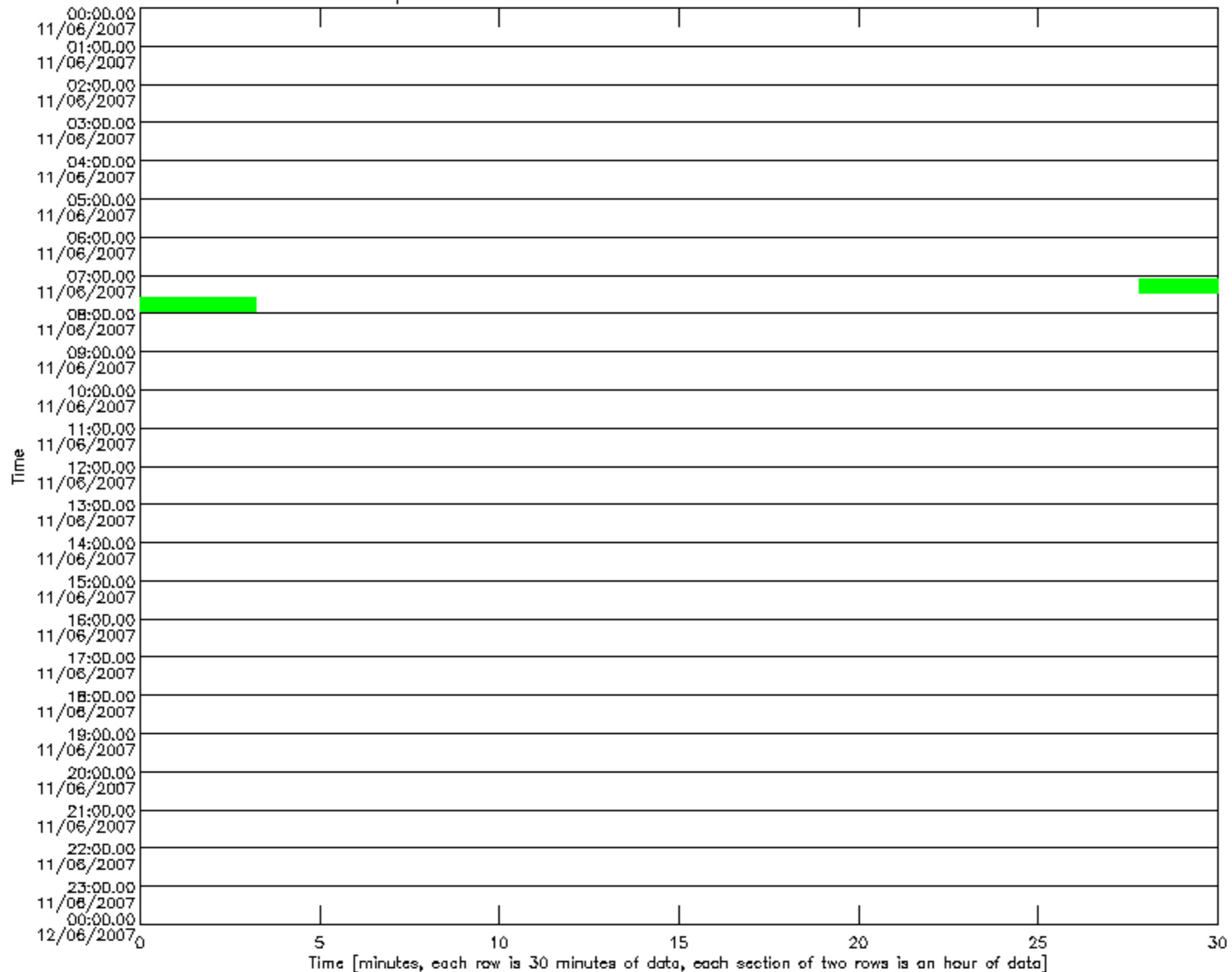


■ Flux valid  
■ Flux invalid

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

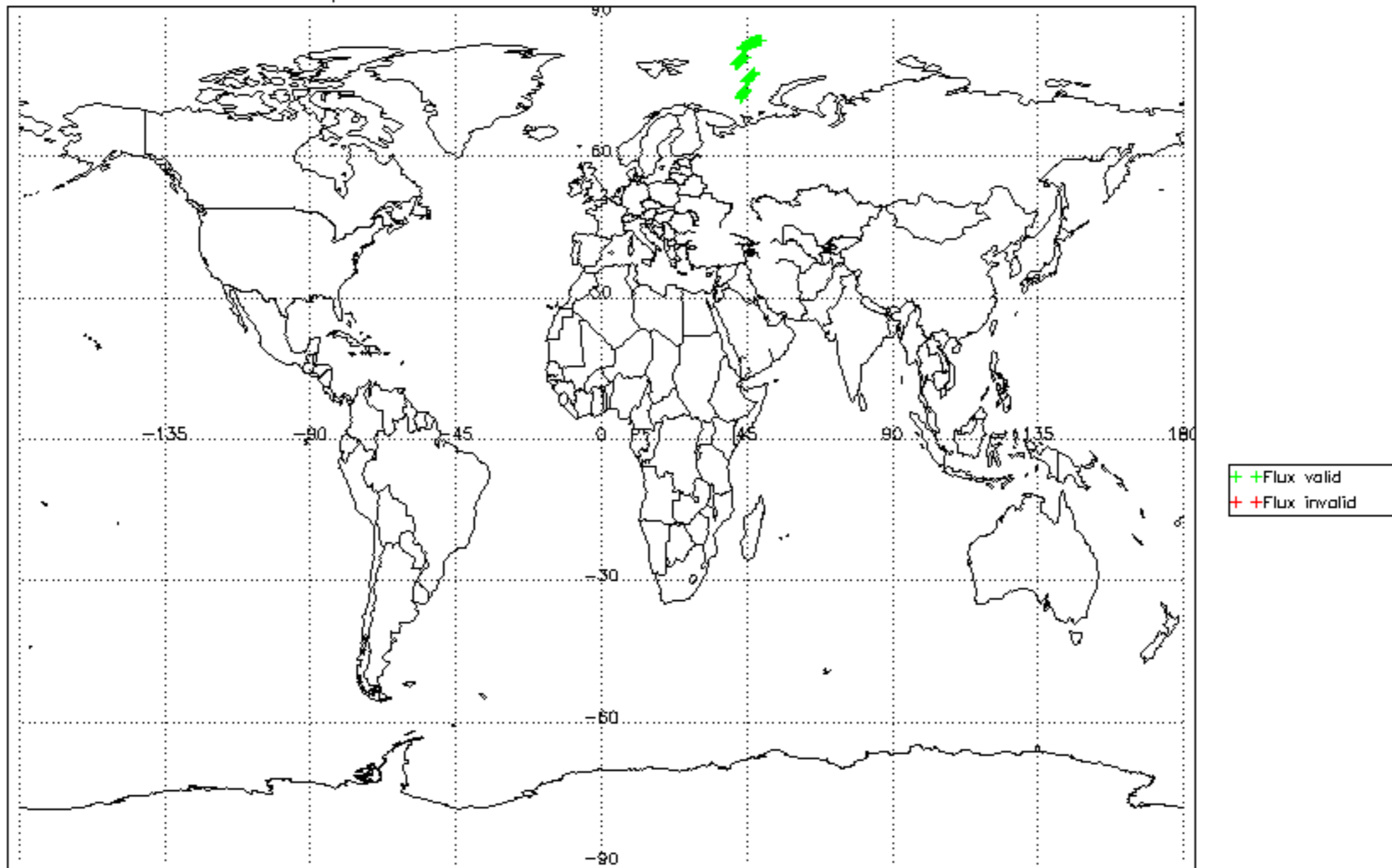


Bar plot of MIPNL1P\_MIPLEV1 BMDS\_detect\_non\_lin\_flux detector AB

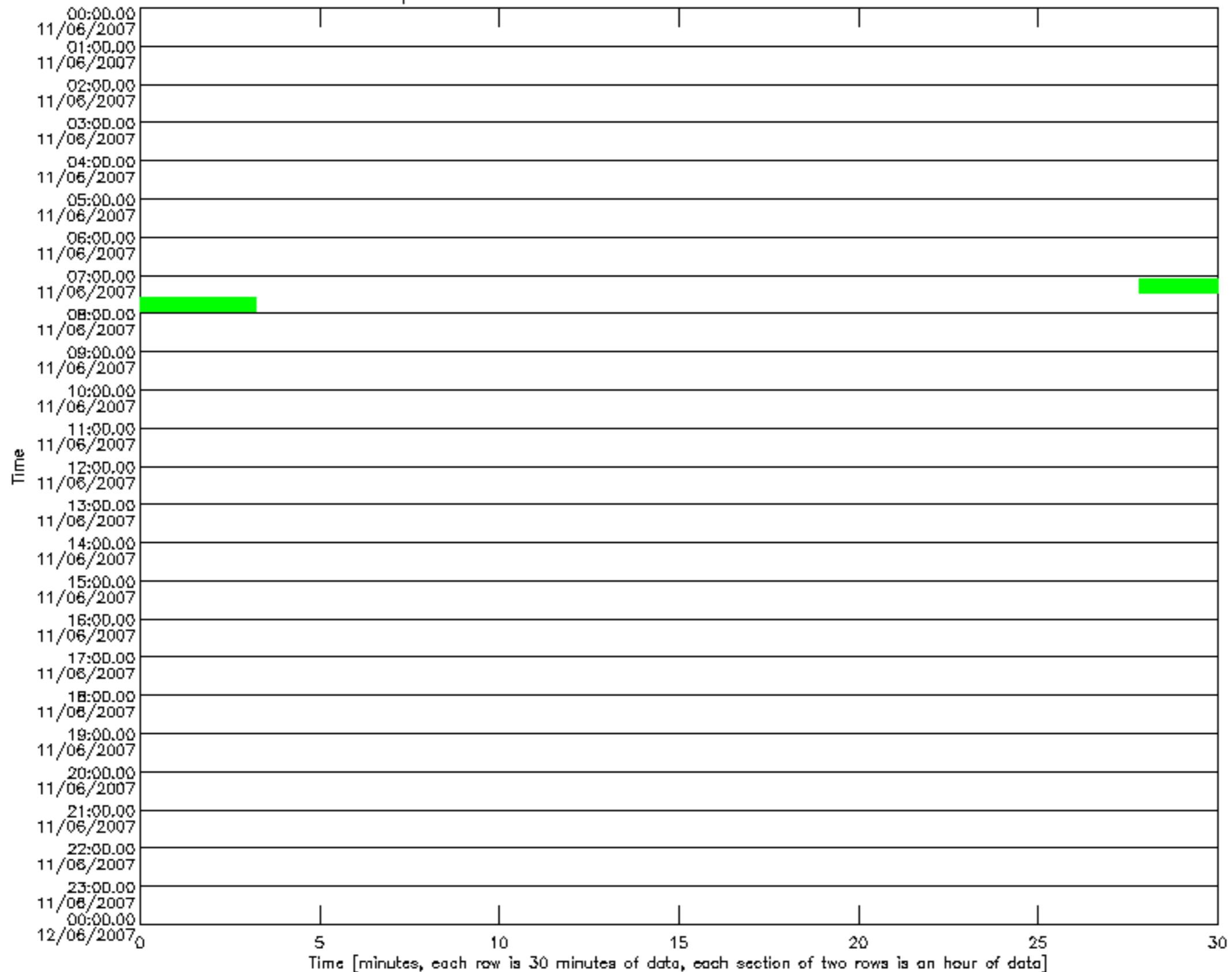


■ Flux valid  
■ Flux invalid

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



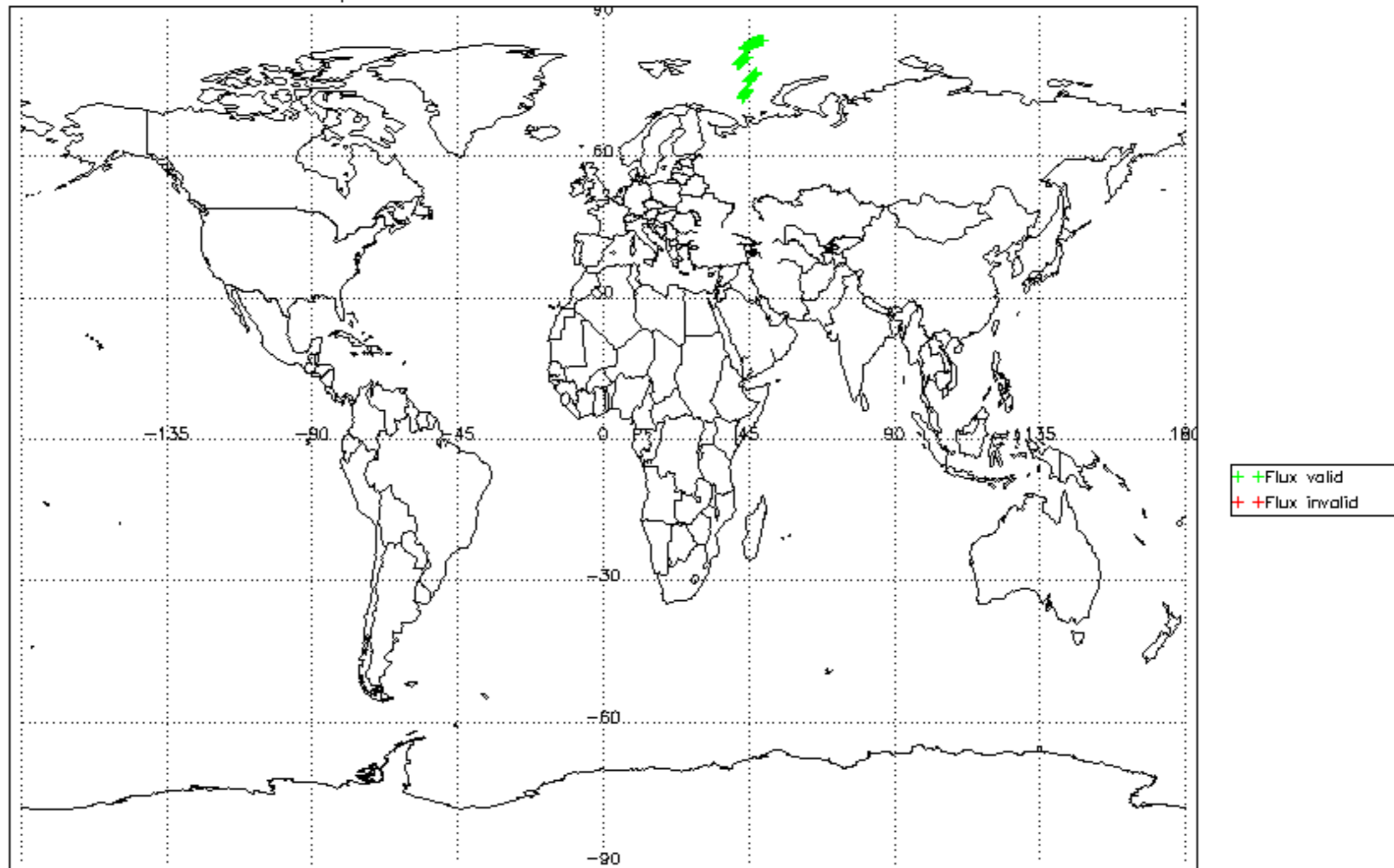
Bar plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_in\_flux detector B



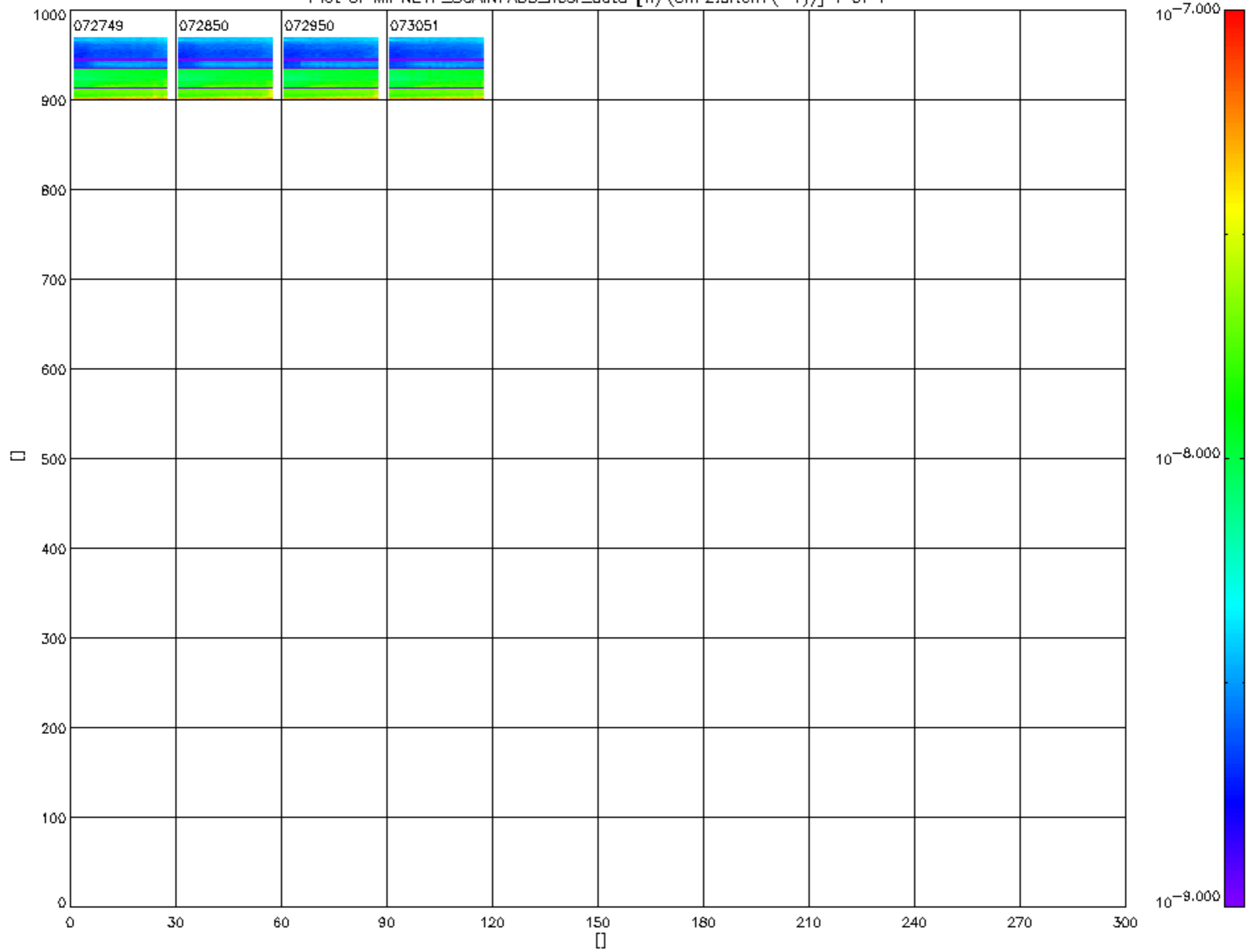
■ Flux valid  
■ Flux invalid



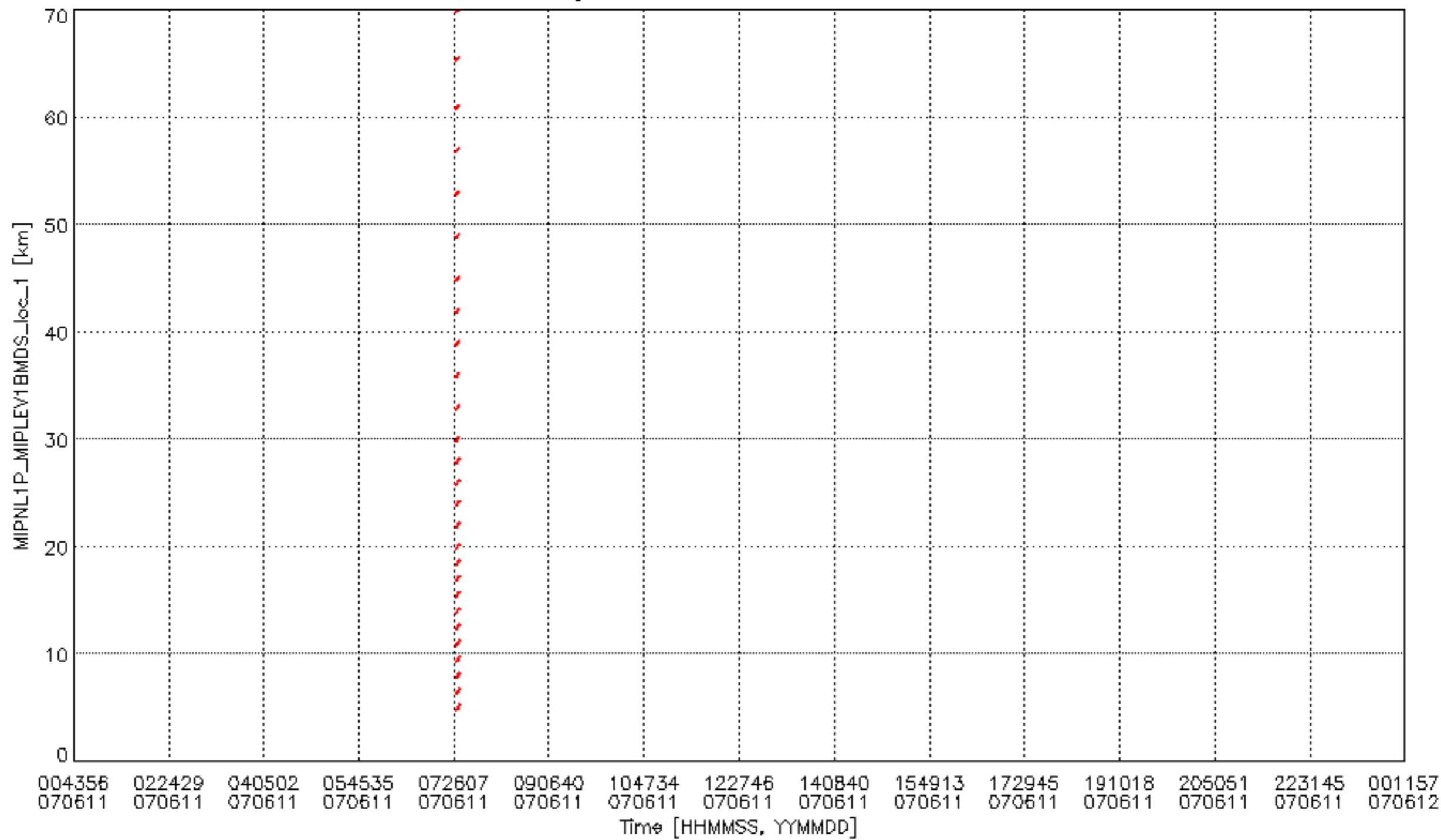
Geolocation plot of MIPNL1P\_MIPLEV1BMDS\_detect\_non\_Jin\_flux detector B



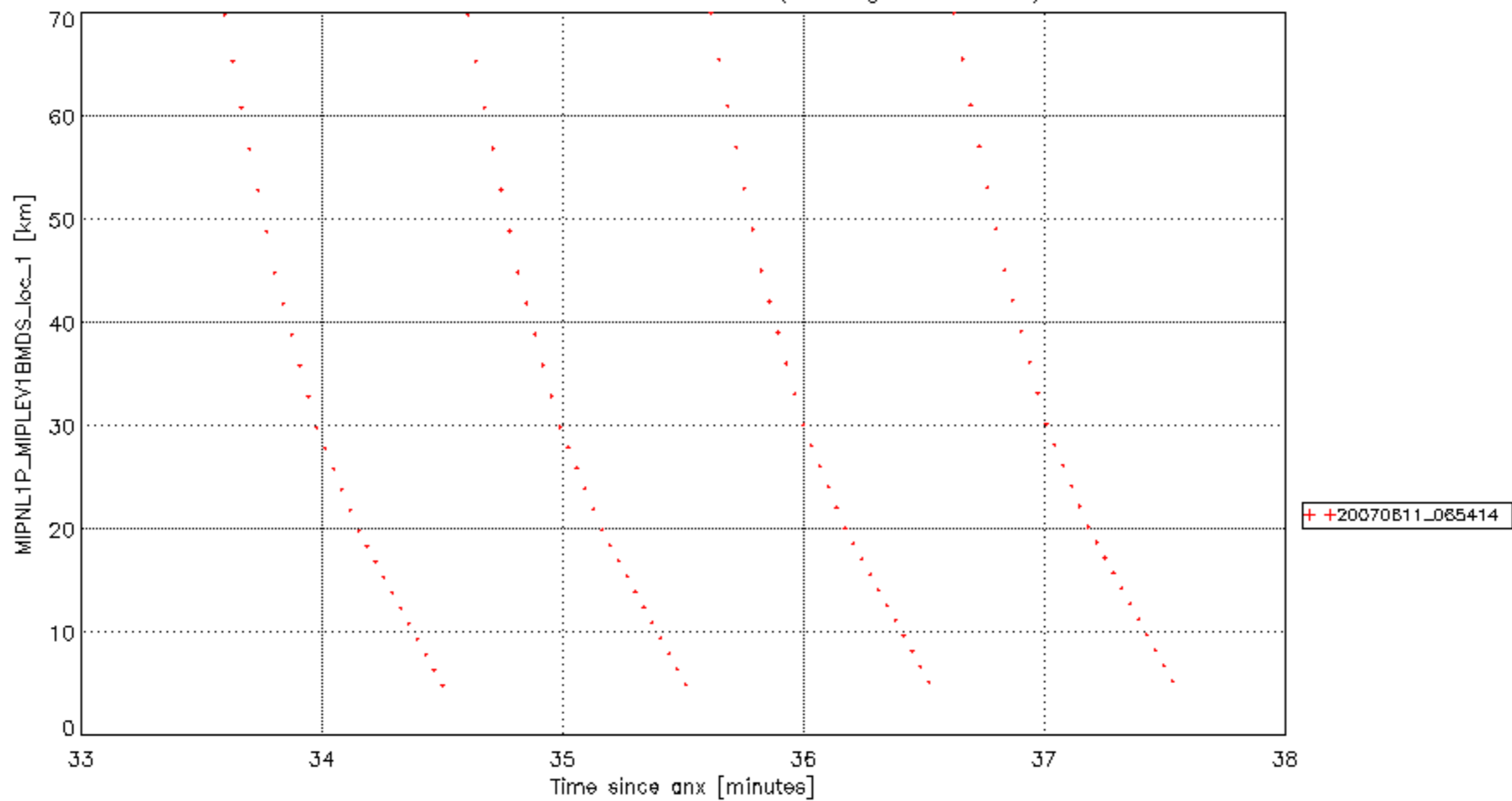
Plot of MIPNL1P\_SCAINFADS\_nesr\_data [W/(cm<sup>2</sup>.sr.cm<sup>-1</sup>)] 1 of 1

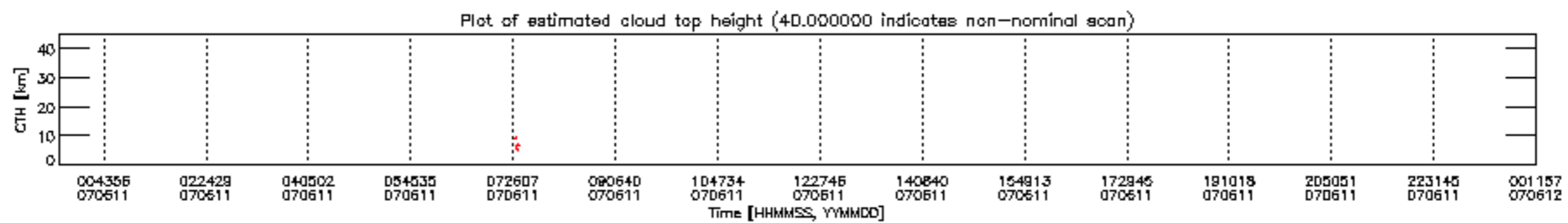


Plot of MIPNL1P\_MIPLEV1BMDS\_loc\_1 against time.  
The vertical grid lines indicate estimated anx events.



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)

