

## 2. SCIAMACHY Daily Report for Level 2 products

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## 2.1 General Info

This report contains a daily analysis on parameters extracted from SCIAMACHY Level 2 data (the SCI\_OL\_\_2P product).

### 2.1.1 Report summary

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

Item	Value
Report version	1.13 (28-02-2011)
Time of report generation	10JUN2011 05:07:44
Data source version	SCIA-OL/5.01-N
Processing scope for products	04JUN2011 00:00:00 to 05JUN2011 00:00:00
Start time of first product within scope	03JUN2011 23:26:57
Stop time of last product within scope	04JUN2011 23:45:04
Total number of level 2 products	17
Number of level 2 products with errors	0

### 2.1.2 Summary per product

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

Products are linked to a corresponding server directory for view/download. Note: Link access may be restricted by security settings of your internet browser or firewall.

Products are checked for a minimum duration of 3500.0000 seconds and a maximum duration of 6000.0000 seconds. Products failing the duration test are highlighted in bold, and their stop time is highlighted in red.

#	Product name	Start time	Stop time	Prod err	Fit summary
0	<a href="#">SCI_OL__2PNDPA20110603_232657_000032693103_00130_48420_3480.N1</a>	03JUN2011 23:26:57	04JUN2011 00:21:27	0	GOOD
1	<a href="#">SCI_OL__2PNDPA20110604_010820_000032133103_00131_48421_3486.N1</a>	04JUN2011 01:08:20	04JUN2011 02:01:53	0	GOOD
2	<a href="#">SCI_OL__2PNDPA20110604_024341_000029823103_00132_48422_3487.N1</a>	04JUN2011 02:43:41	04JUN2011 03:33:23	0	GOOD
3	<a href="#">SCI_OL__2PNDPA20110604_033421_000059563103_00133_48423_3488.N1</a>	04JUN2011 03:34:21	04JUN2011 05:13:37	0	GOOD
4	<a href="#">SCI_OL__2PNDPA20110604_051341_000059413103_00134_48424_3489.N1</a>	04JUN2011 05:13:41	04JUN2011 06:52:43	0	GOOD

5	SCI_OL__2PNDPA20110604_065449_000039923103_00135_48425_3490.N1	04JUN2011 06:54:49	04JUN2011 08:01:21	0	GOOD
6	SCI_OL__2PNDPA20110604_080233_000059953103_00136_48426_3491.N1	04JUN2011 08:02:33	04JUN2011 09:42:29	0	GOOD
7	SCI_OL__2PNDPA20110604_094341_000058333103_00137_48427_3492.N1	04JUN2011 09:43:41	04JUN2011 11:20:55	0	GOOD
8	SCI_OL__2PNDPA20110604_112058_000021513103_00138_48428_3493.N1	04JUN2011 11:20:58	04JUN2011 11:56:50	0	GOOD
9	SCI_OL__2PNDPA20110604_115910_000037033103_00138_48428_3495.N1	04JUN2011 11:59:10	04JUN2011 13:00:54	0	GOOD
10	SCI_OL__2PNDPA20110604_130057_000059023103_00139_48429_3496.N1	04JUN2011 13:00:57	04JUN2011 14:39:20	0	GOOD
11	SCI_OL__2PNDPA20110604_143924_000058193103_00140_48430_3497.N1	04JUN2011 14:39:24	04JUN2011 16:16:23	0	GOOD
12	SCI_OL__2PNDPA20110604_161626_000058423103_00141_48431_3498.N1	04JUN2011 16:16:26	04JUN2011 17:53:48	0	GOOD
13	SCI_OL__2PNDPA20110604_175352_000058733103_00142_48432_3499.N1	04JUN2011 17:53:52	04JUN2011 19:31:45	0	GOOD
14	SCI_OL__2PNDPA20110604_193149_000060693103_00143_48433_3500.N1	04JUN2011 19:31:49	04JUN2011 21:12:59	0	GOOD
15	SCI_OL__2PNDPA20110604_211208_000031763103_00144_48434_3501.N1	04JUN2011 21:12:08	04JUN2011 22:05:05	0	GOOD
16	SCI_OL__2PNDPA20110604_224628_000035163103_00144_48434_3509.N1	04JUN2011 22:46:28	04JUN2011 23:45:04	0	GOOD

## 2.2 Product Quality Indicators

### 2.2.1 Cloud parameters

This section shows information about the cloud parameters estimation, in particular cloud fractions and cloud top height. IMPORTANT NOTE: The contents and layout of this section are still being validated. Please use with caution.

#### General statistics:

Total number of cloud data DSRs: 168480

Total number of cloud data DSRs with good quality flag (=0): 168480 (100.0 %)

Parameter	#valid	Mean	Median	Min	Max	Stddev	Unit
QUALITY_FLAG	168480	0.0000	0.0000	0.0000	0.0000	0.0000	
INTEGR_TIME	168480	0.16474	0.12500	0.12500	0.25000	0.058208	s
CL_FRAC	168480	0.33293	0.27522	0.0000	1.0000	0.29198	
CL_FRAC_ERR	168480	0.0000	0.0000	0.0000	0.0000	0.0000	%
PMD_READ	168480	5.2716	4.0000	4.0000	8.0000	1.8626	
PMD_READ_CL[0]	168480	0.28755	0.0000	0.0000	8.0000	1.1345	-
PMD_READ_CL[1]	168480	1.4789	0.0000	0.0000	8.0000	2.5790	-
CL_TOP_HEIGHT	130415	3.0426	1.1520	0.0000	17.000	3.5396	km
CL_TOP_HEIGHT_ERR	0	---	---	---	---	---	---
CL_OPT_DEPTH	130415	61.232	100.00	0.0000	101.00	43.774	km
CL_OPT_DEPTH_ERR	0	---	---	---	---	---	---
CL_TYPE_FLAGS	168480	11100000	11100000	11100000	11100000	0.0000	
CLOUD_FLAGS	168480	11001110	11000100	11000000	11100000	3684.0	
AERO_ABSO_IND	168480	0.16908	0.0000	0.0000	4.4745	0.42371	
AERO_IND_DIAG	168480	0.0000	0.0000	0.0000	0.0000	0.0000	
AERO_FLAGS	168480	01010001	00000000	00000000	11000000	24310.	

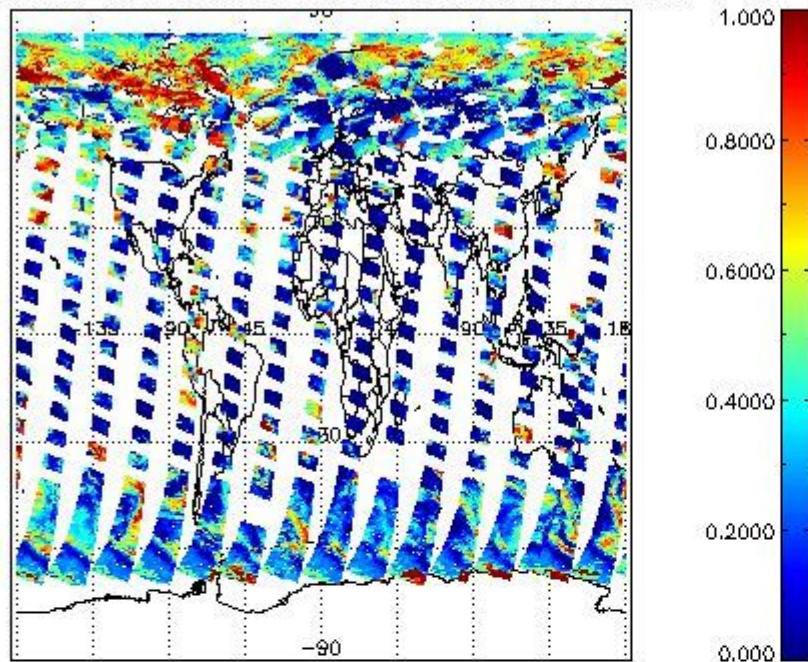
#### Time and geolocation plots:

Plots are available for the following parameters:

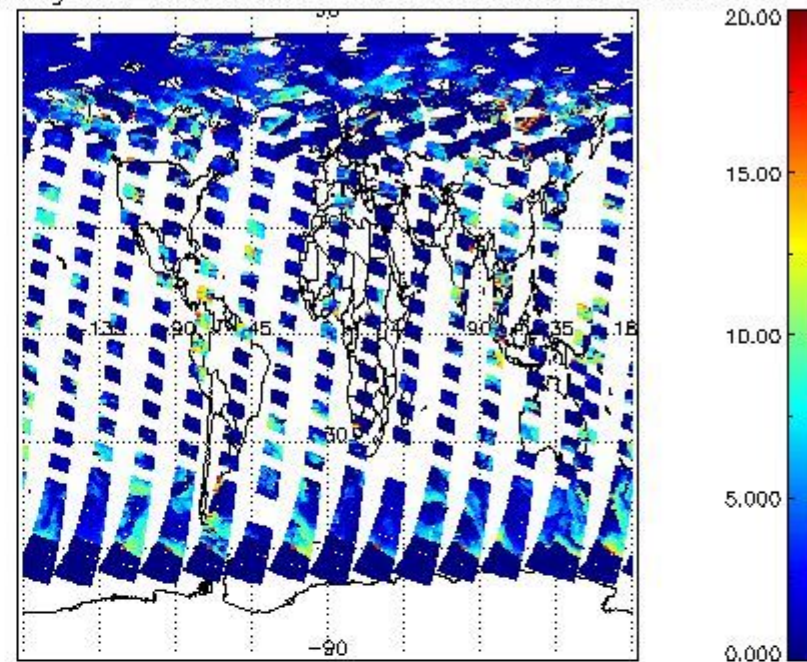
Number	Data item ID
0	cl_frac
1	cl_top_height
2	cl_opt_depth
3	cloud_flags



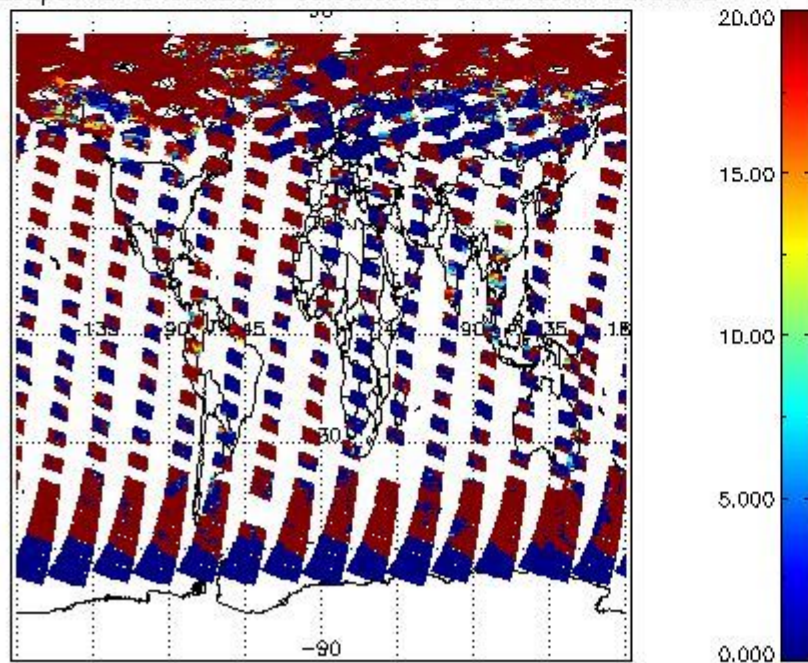
cL\_frac for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



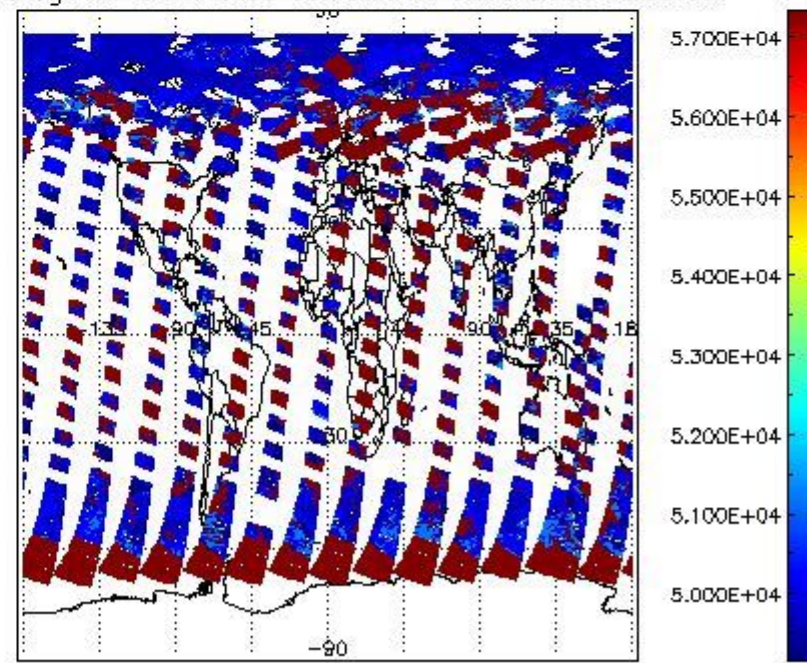
cL\_top\_height for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



cL\_opt\_depth for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



cloud\_flags for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



## 2.2.2 Nadir

This section shows information about product quality of nadir measurements, in particular the quality of retrieved species.

The following data items are currently included into this section:

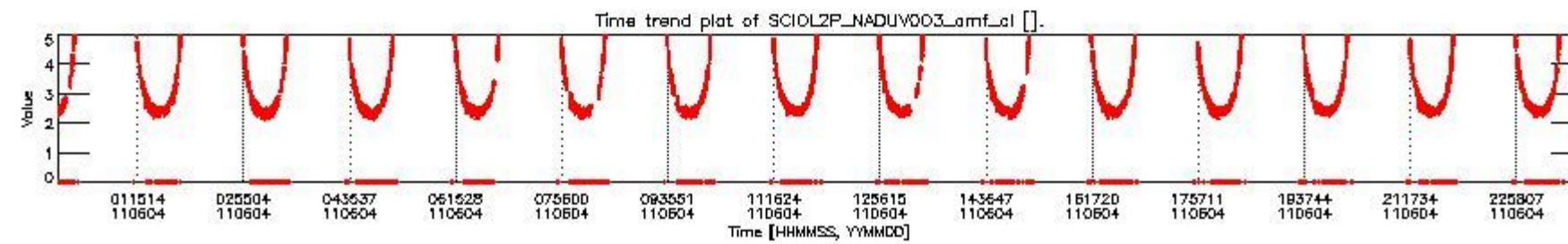
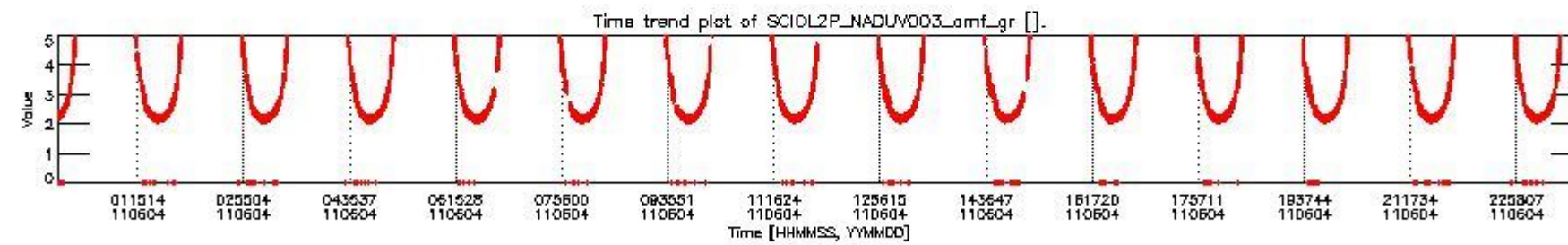
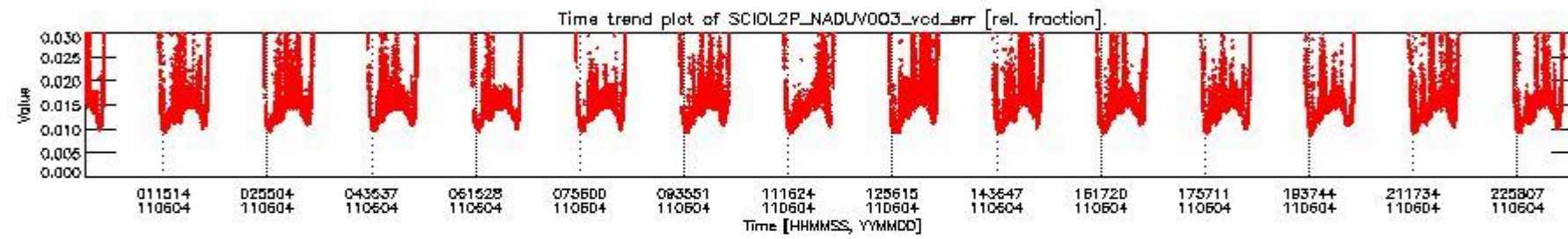
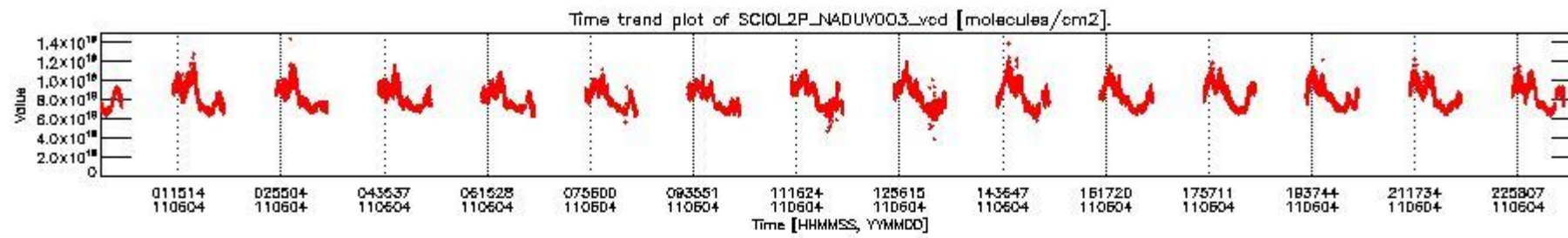
Number	Data item ID
0	SCIOL2P_NADUV003_vcd
1	SCIOL2P_NADUV003_vcd_err
2	SCIOL2P_NADUV003_amf_gr

3	SCIOL2P_NADUV0O3_amf_cl
4	SCIOL2P_NADUV1NO2_vcd
5	SCIOL2P_NADUV1NO2_vcd_err
6	SCIOL2P_NADUV1NO2_amf_gr
7	SCIOL2P_NADUV1NO2_amf_cl
8	SCIOL2P_NADUV3BRO_vcd
9	SCIOL2P_NADUV3BRO_vcd_err
10	SCIOL2P_NADUV3BRO_amf_gr
11	SCIOL2P_NADUV3BRO_amf_cl
12	SCIOL2P_NADUV5SO2_vcd
13	SCIOL2P_NADUV5SO2_vcd_err
14	SCIOL2P_NADUV5SO2_amf_gr
15	SCIOL2P_NADUV5SO2_amf_cl
16	SCIOL2P_NADUV7SO2_vcd
17	SCIOL2P_NADUV7SO2_vcd_err
18	SCIOL2P_NADUV7SO2_amf_gr
19	SCIOL2P_NADUV7SO2_amf_cl
20	SCIOL2P_NADUV6OCL_slant_col_den
21	SCIOL2P_NADUV6OCL_err_slant_col
22	SCIOL2P_NADUV8H2O_vcd
23	SCIOL2P_NADUV8H2O_vcd_err
24	SCIOL2P_NADUV8H2O_amf_gr
25	SCIOL2P_NADIR3CO_vcd
26	SCIOL2P_NADIR3CO_vcd_err

Data is presented both in time trend plots and world map plots, in order to show variations with time and geolocation. The vertical dotted lines in the time trend plots indicate orbits. The orbit times on the X-axis are estimated sensing\_start time as suggested by the product sensing\_start time in the MPH.

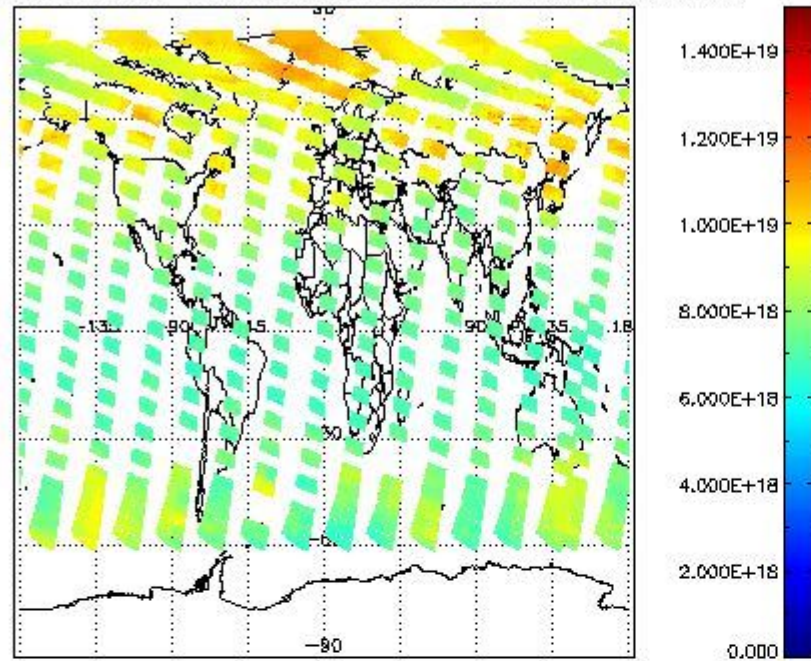
#### 2.2.2.1 O3 (UV0)



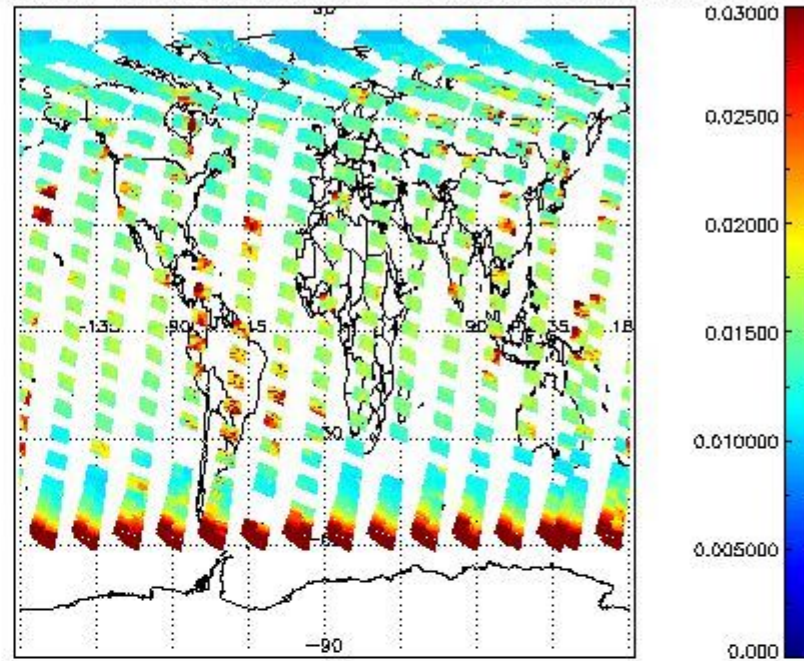




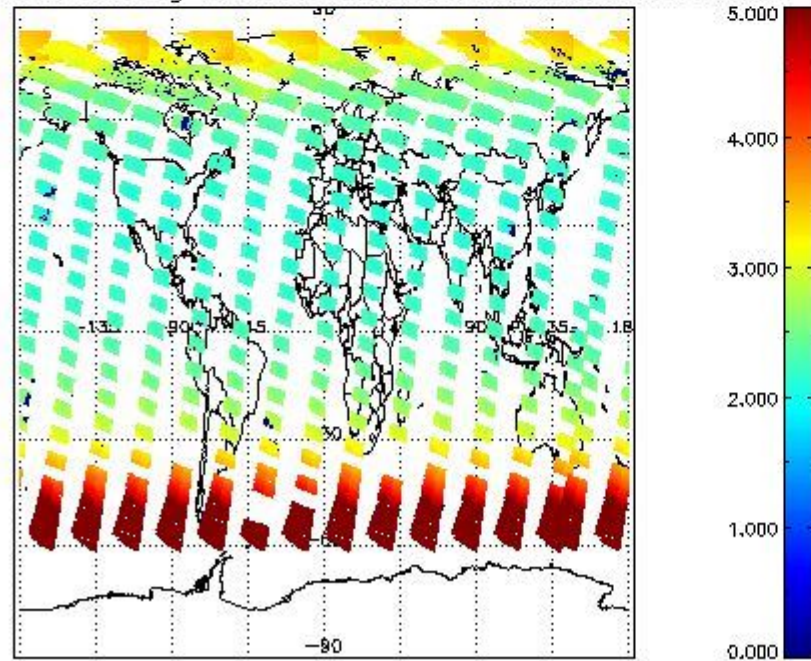
SCIOL2P\_NADUV003\_vcd for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



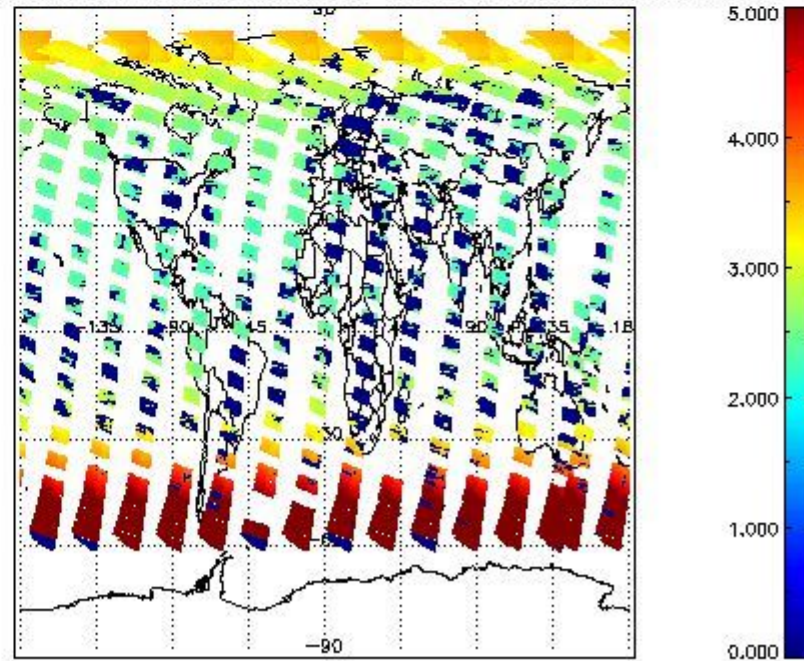
SCIOL2P\_NADUV003\_vcd\_err for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



SCIOL2P\_NADUV003\_amf\_gr for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

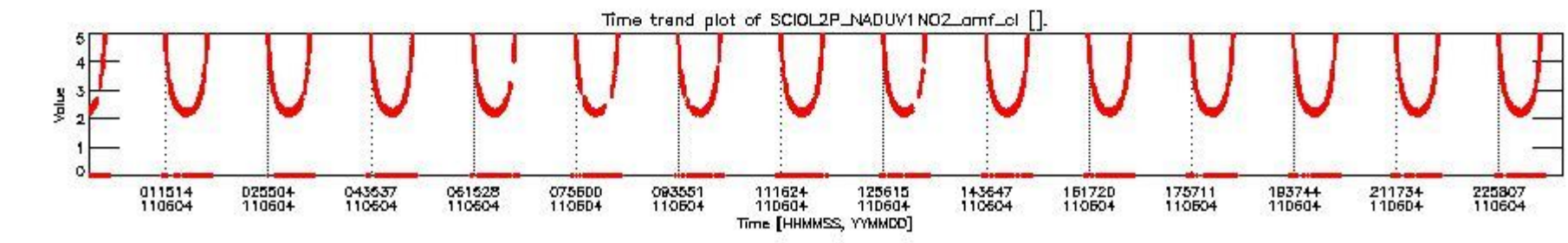
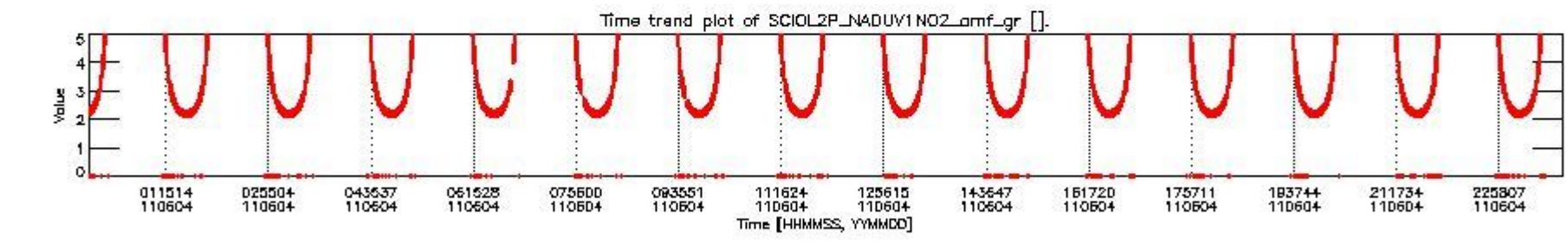
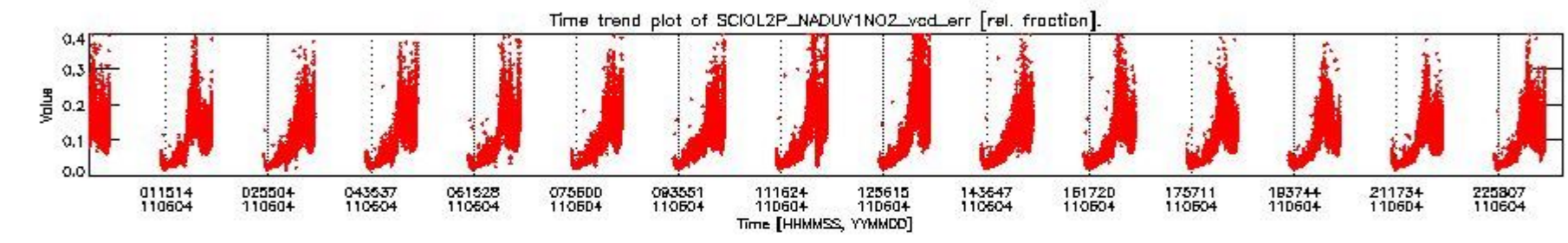
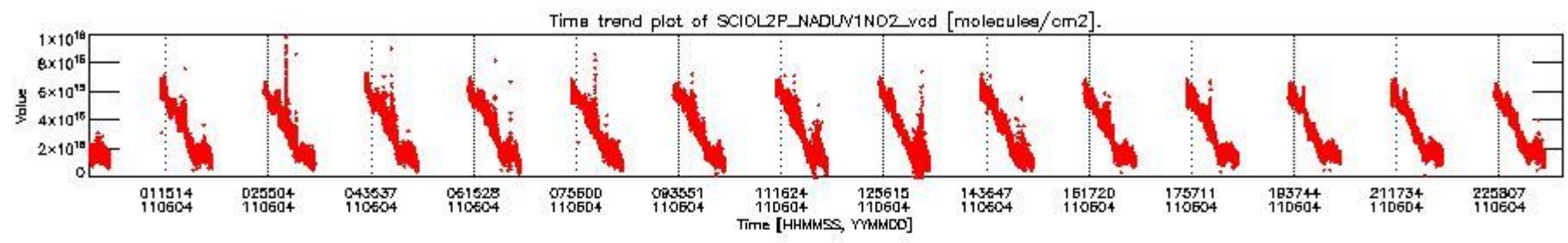


SCIOL2P\_NADUV003\_amf\_cl for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



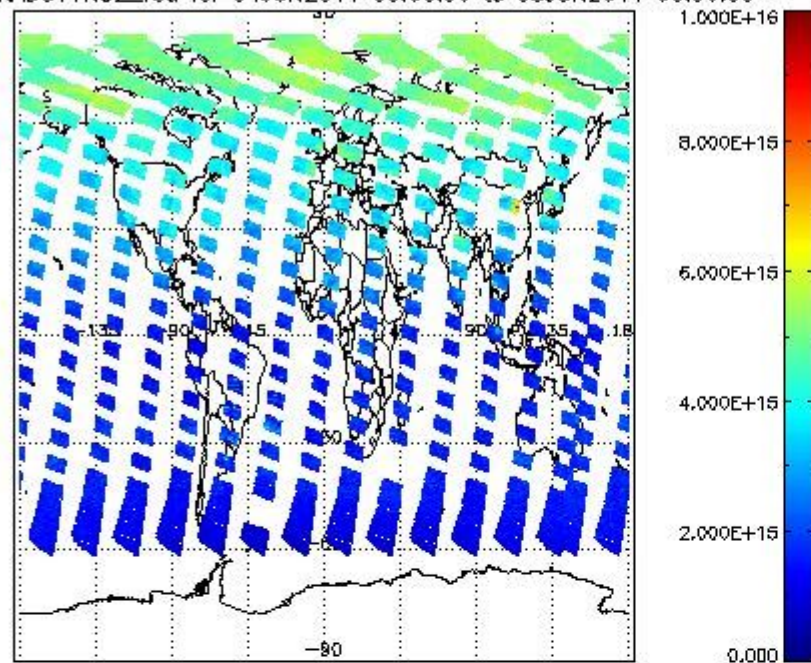
2.2.2.2 NO2 (UV1)



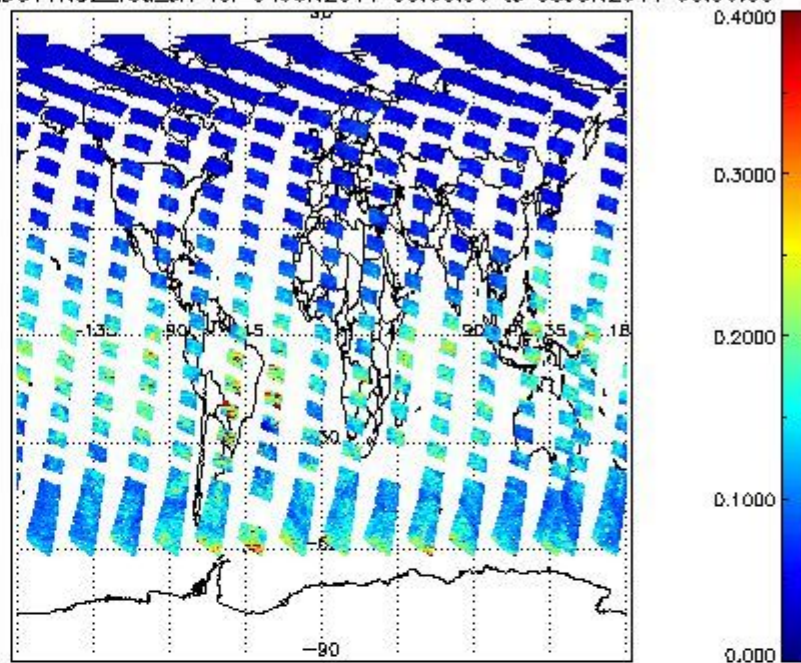




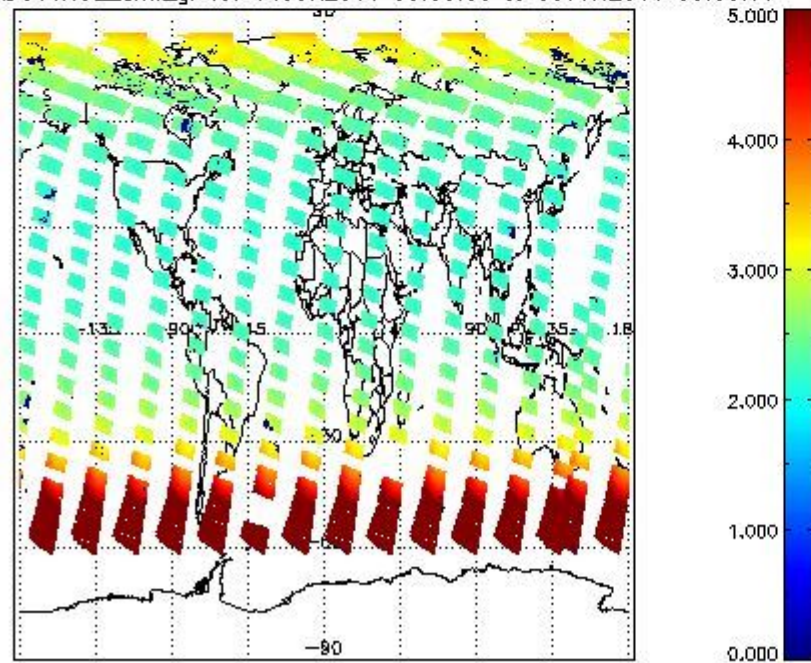
SCIOL2P\_NADUV1N02\_vcd for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



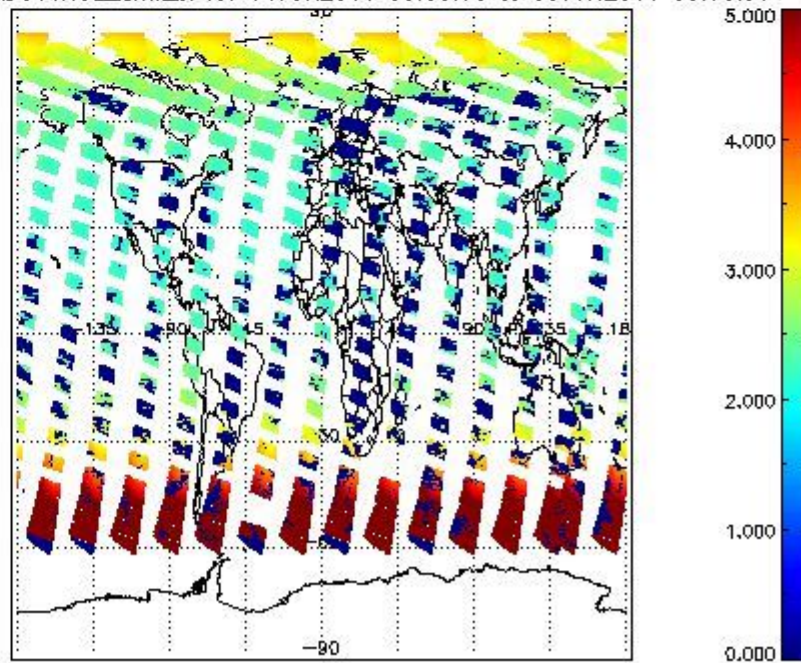
SCIOL2P\_NADUV1N02\_vcd\_err for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



SCIOL2P\_NADUV1N02\_amf\_gr for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

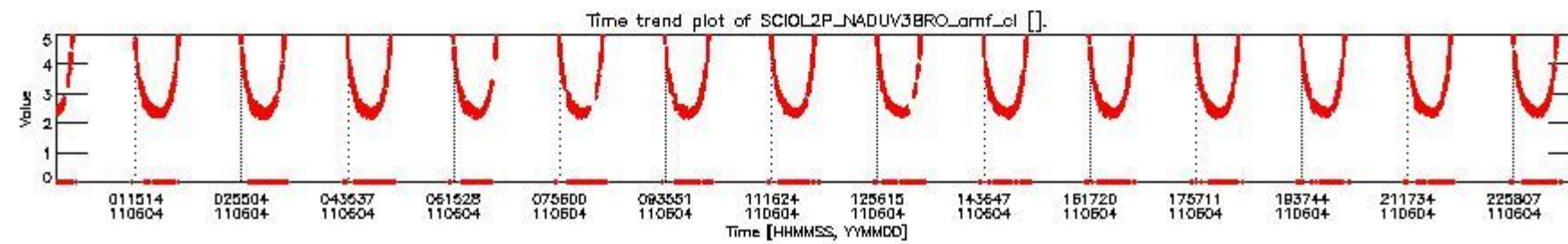
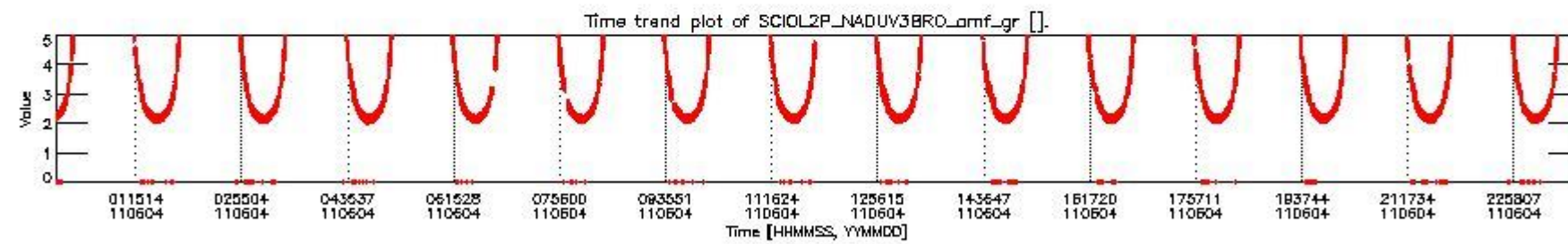
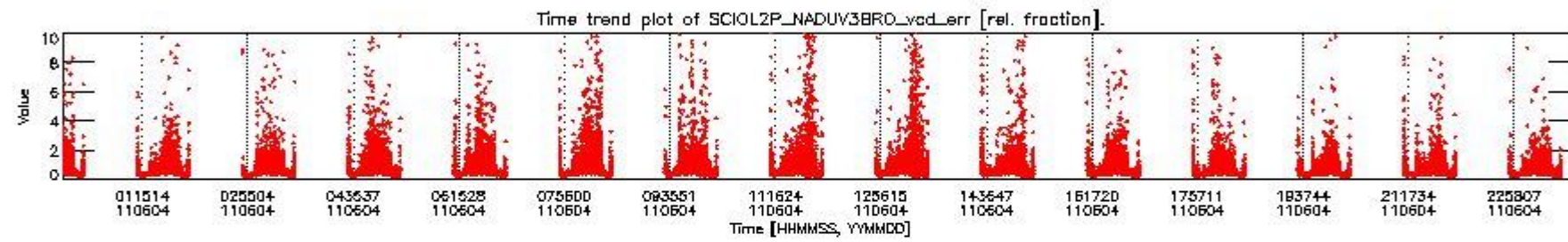
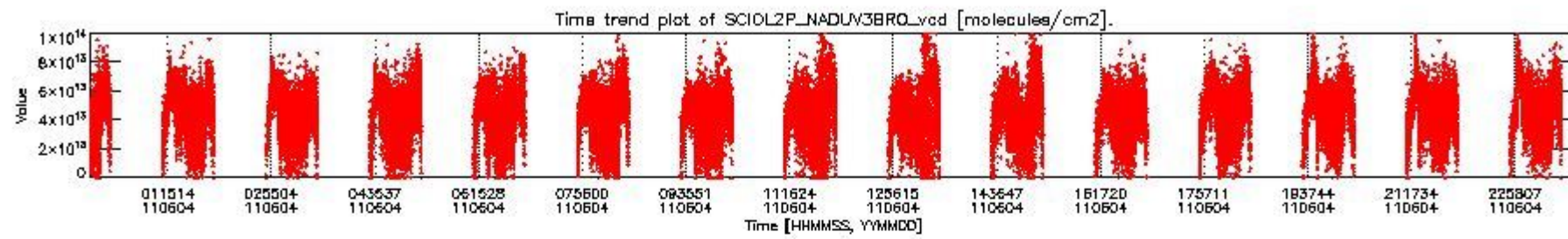


SCIOL2P\_NADUV1N02\_amf\_cl for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



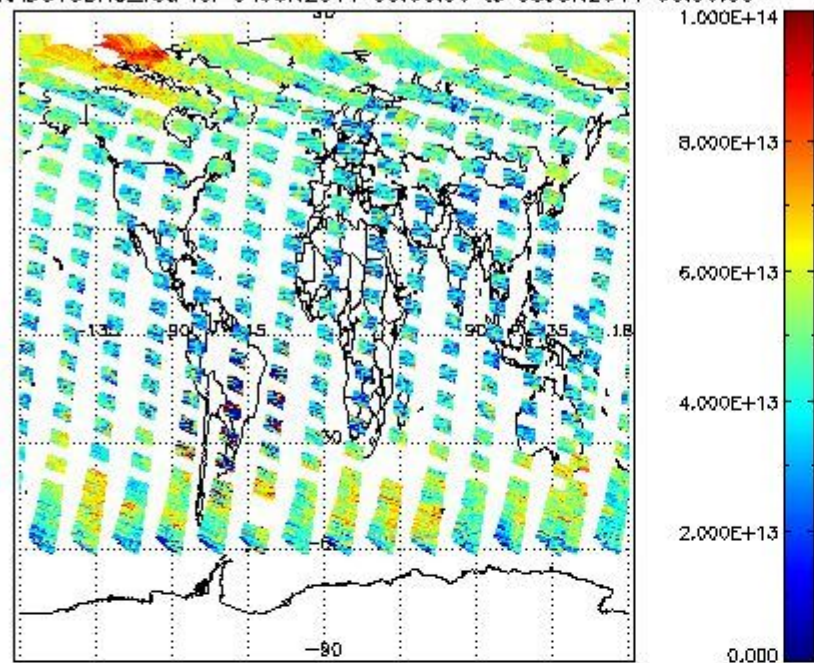
2.2.2.3 BrO (UV3)



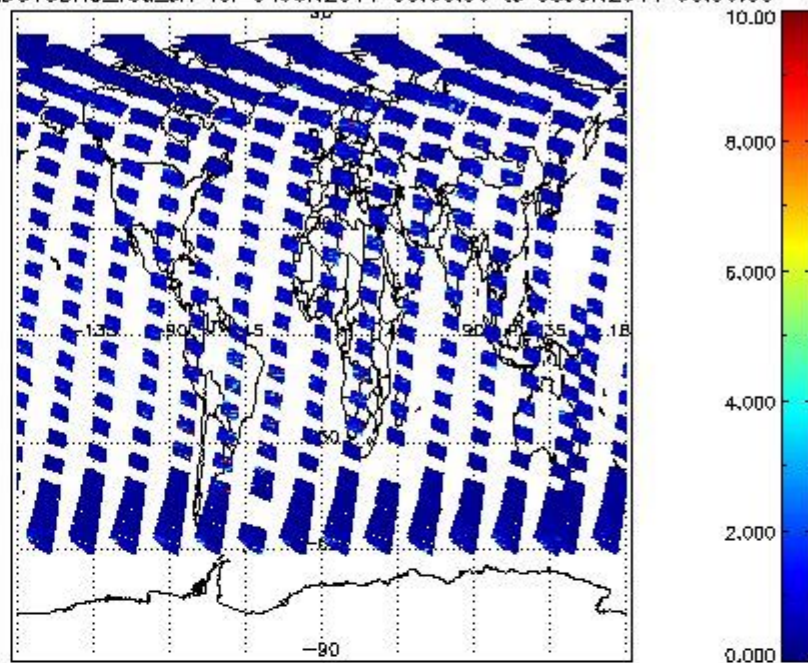




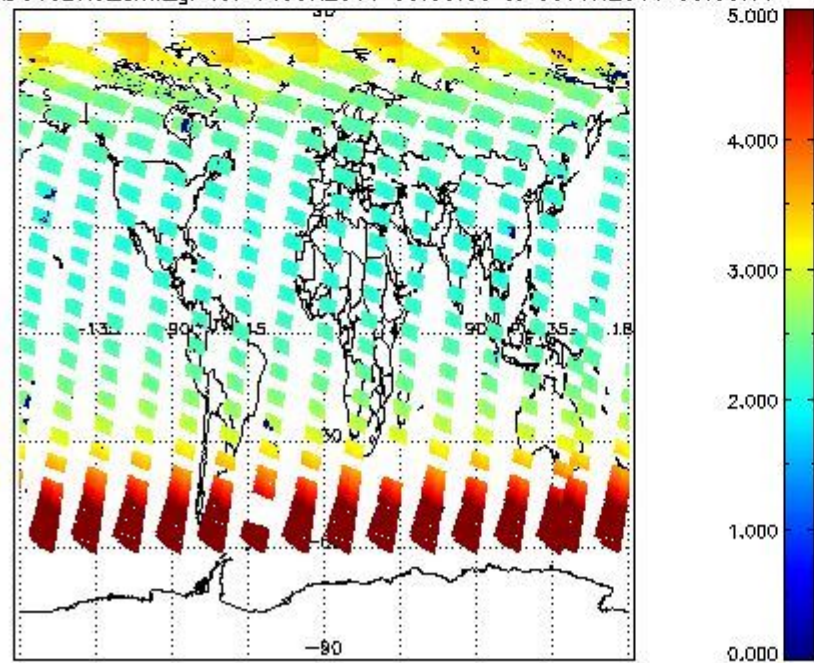
SCIOL2P\_NADUV3BRO\_vcd for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



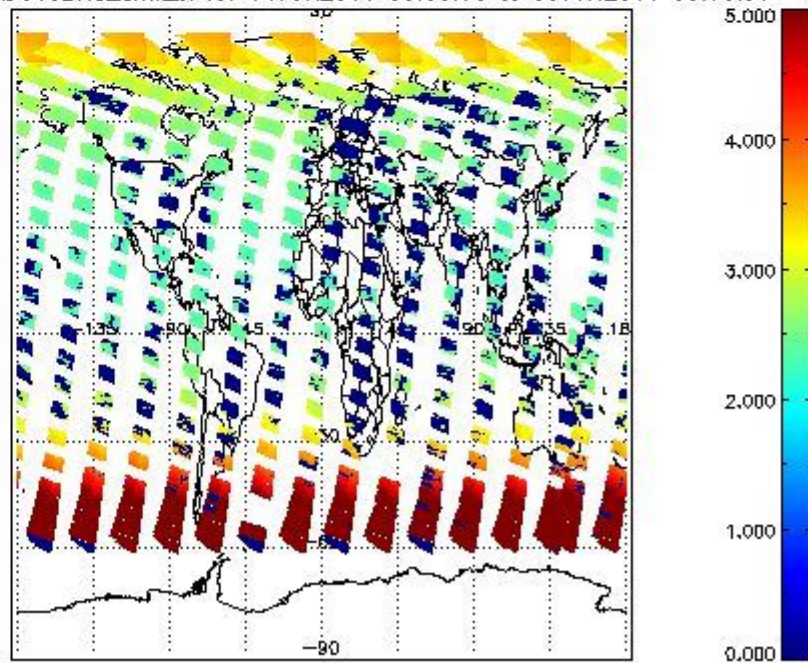
SCIOL2P\_NADUV3BRO\_vcd\_err for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



SCIOL2P\_NADUV3BRO\_amf\_gr for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

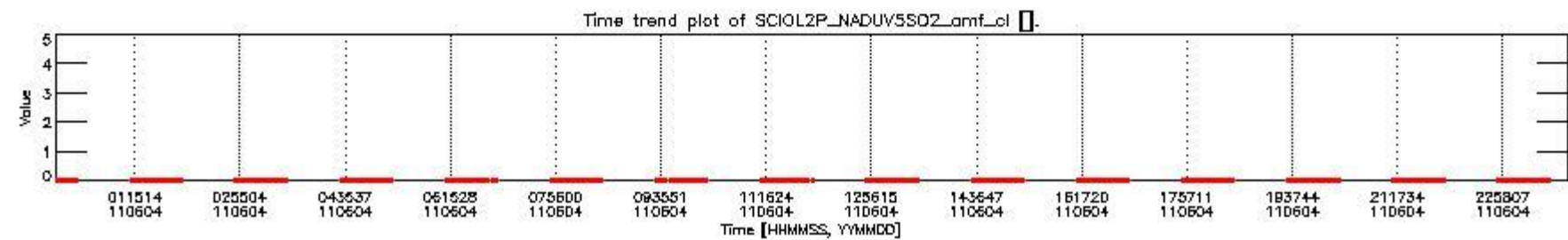
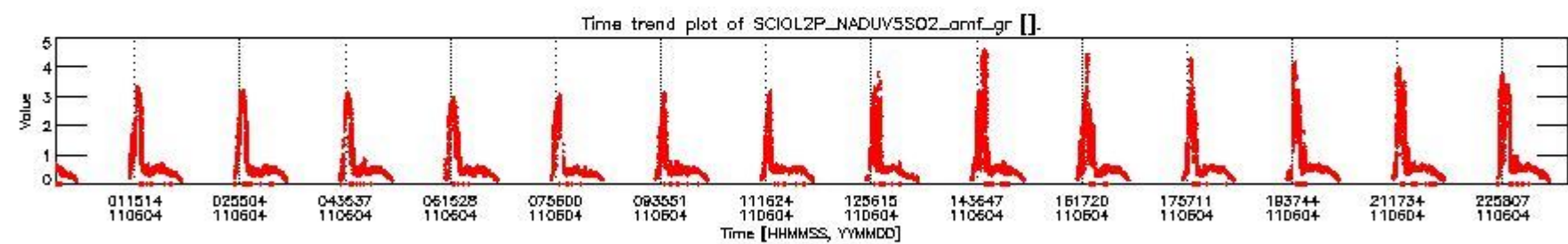
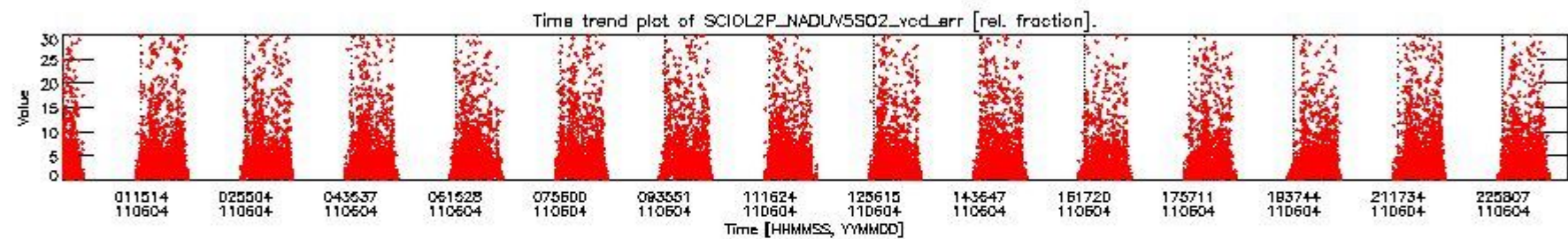
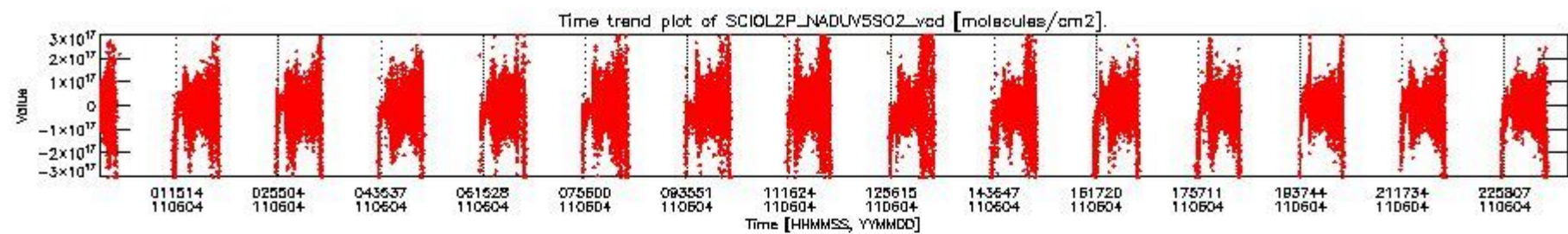


SCIOL2P\_NADUV3BRO\_amf\_cl for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



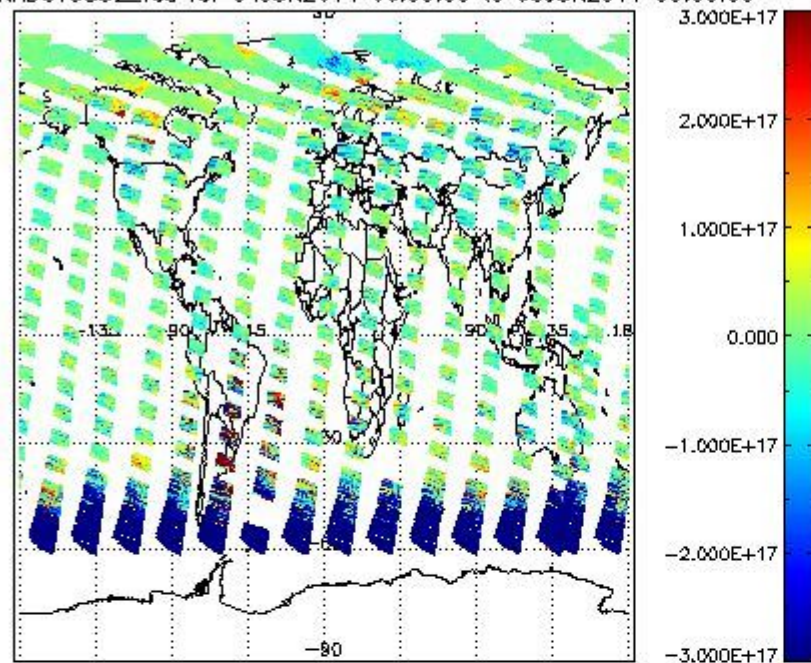
2.2.2.4 SO2 (UV5)



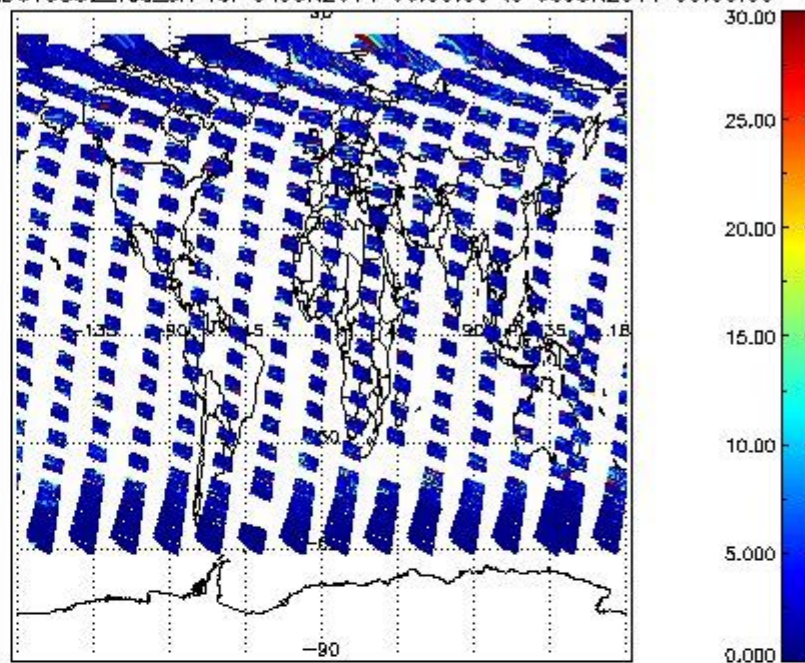




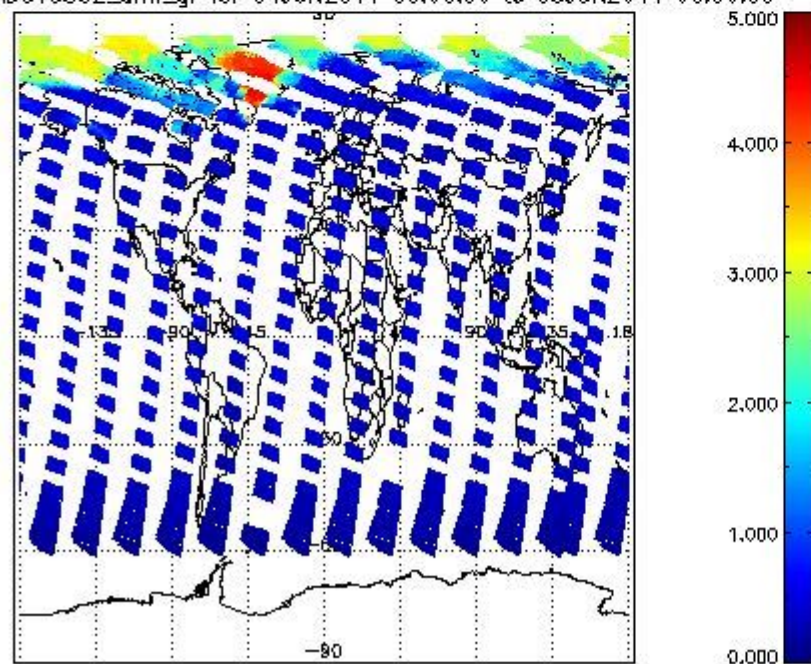
SCIOL2P\_NADUV5S02\_vcd for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



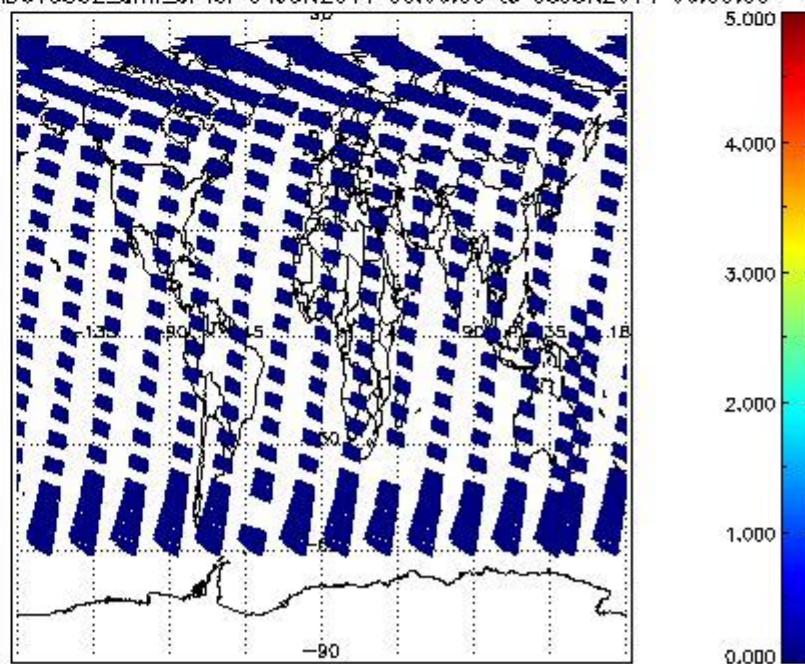
SCIOL2P\_NADUV5S02\_vcd\_err for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



SCIOL2P\_NADUV5S02\_amf\_gr for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

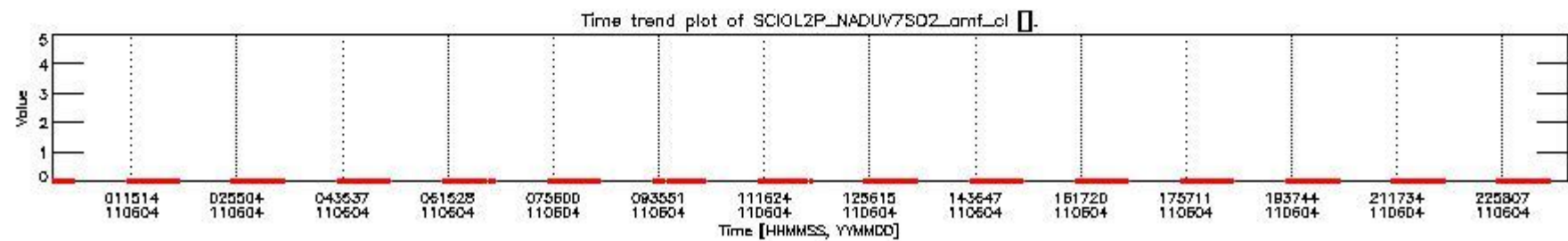
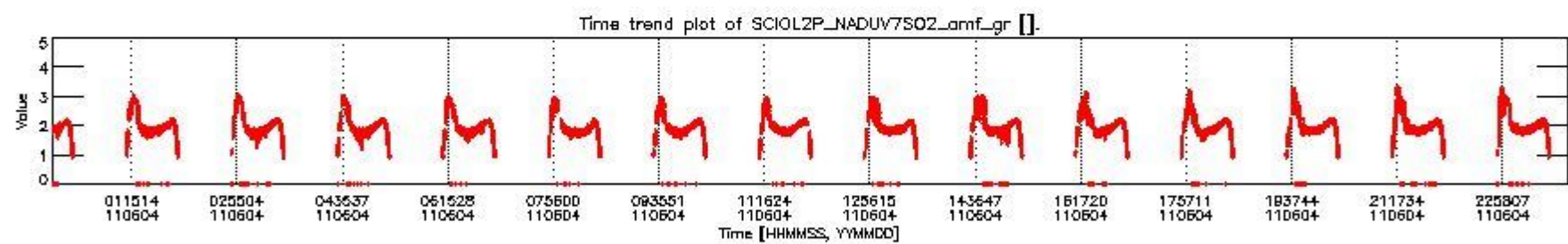
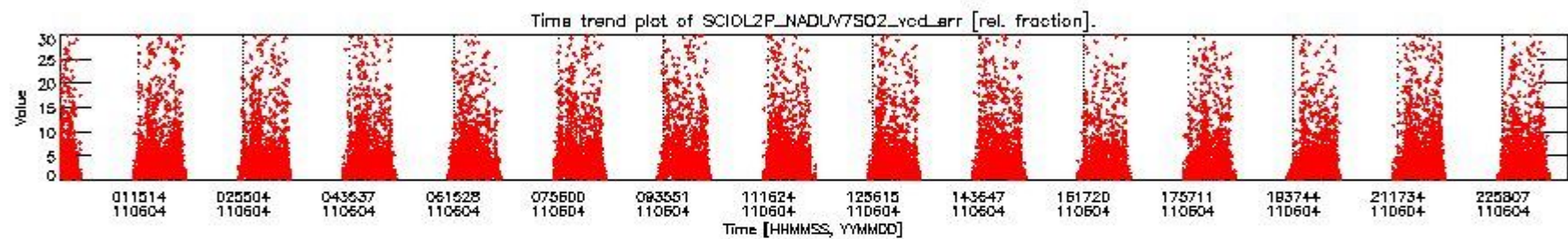
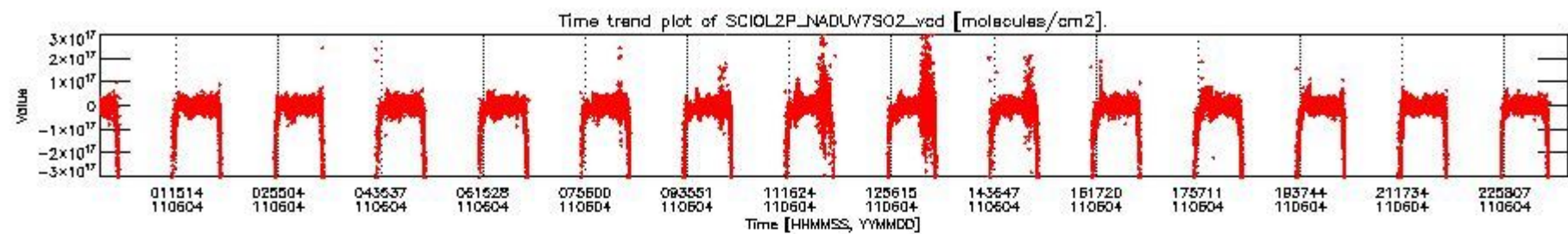


SCIOL2P\_NADUV5S02\_amf\_cl for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



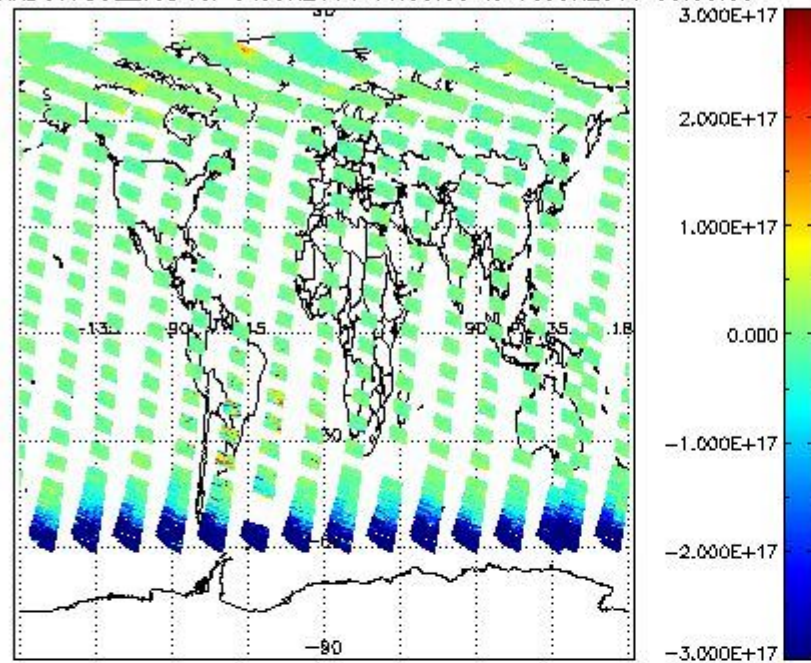
2.2.2.5 SO2 (UV7)



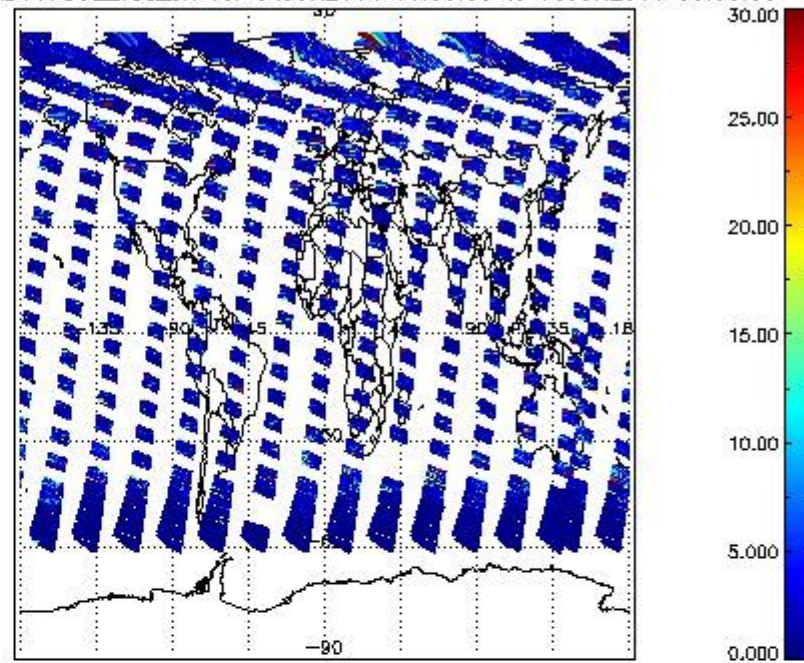




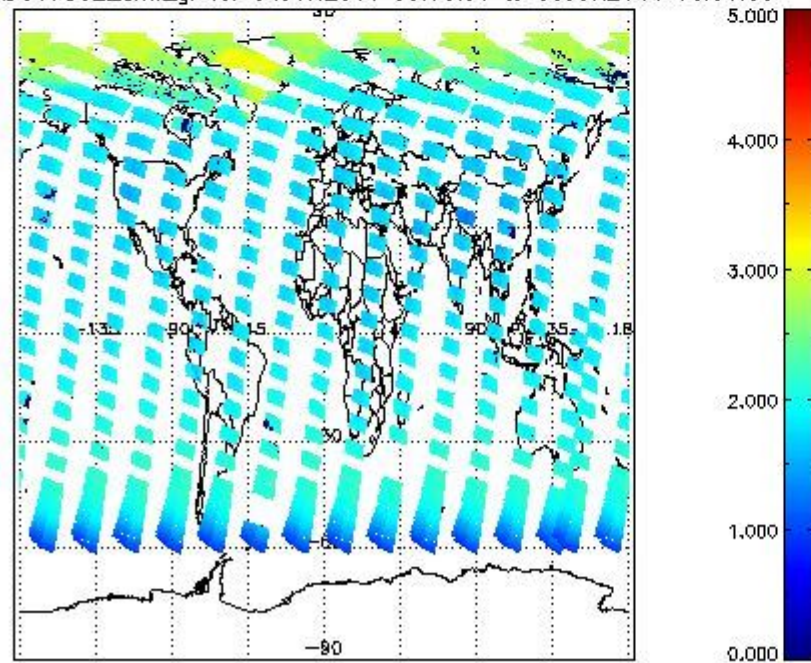
SCIOL2P\_NADUV7S02\_vcd for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



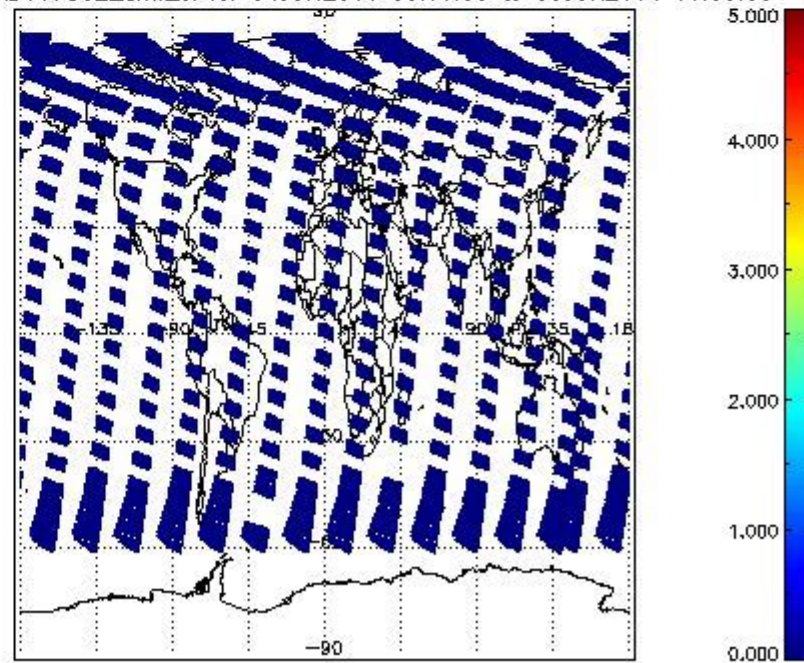
SCIOL2P\_NADUV7S02\_vcd\_err for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



SCIOL2P\_NADUV7S02\_amf\_gr for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

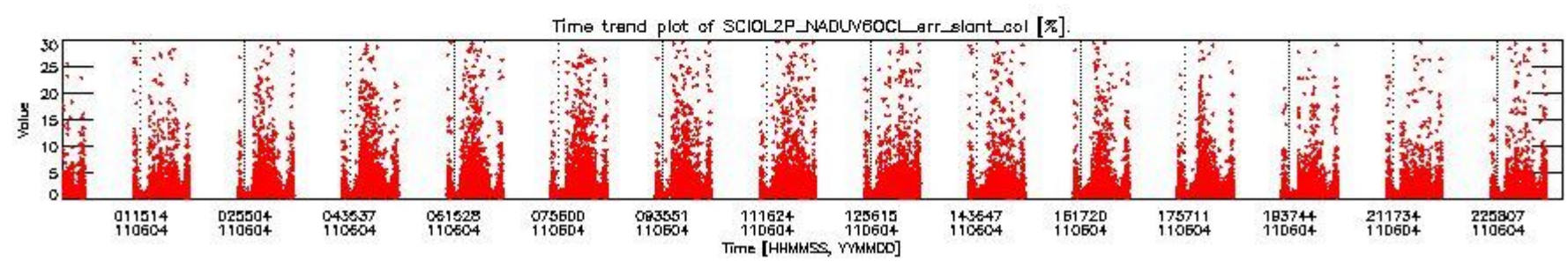
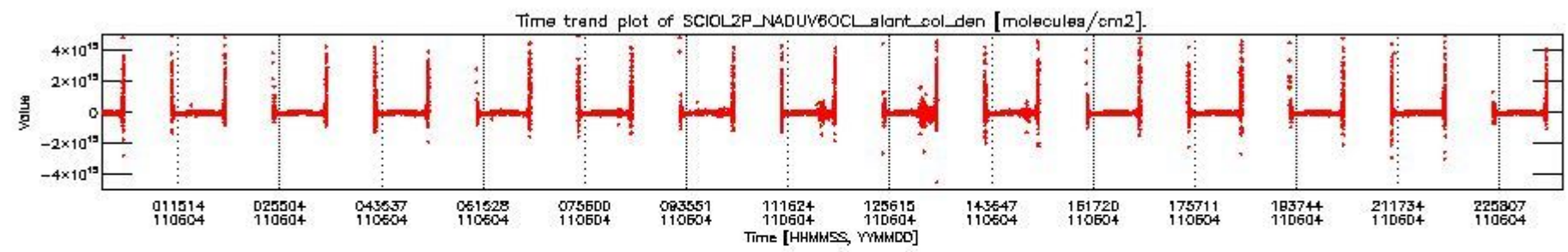


SCIOL2P\_NADUV7S02\_amf\_cl for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

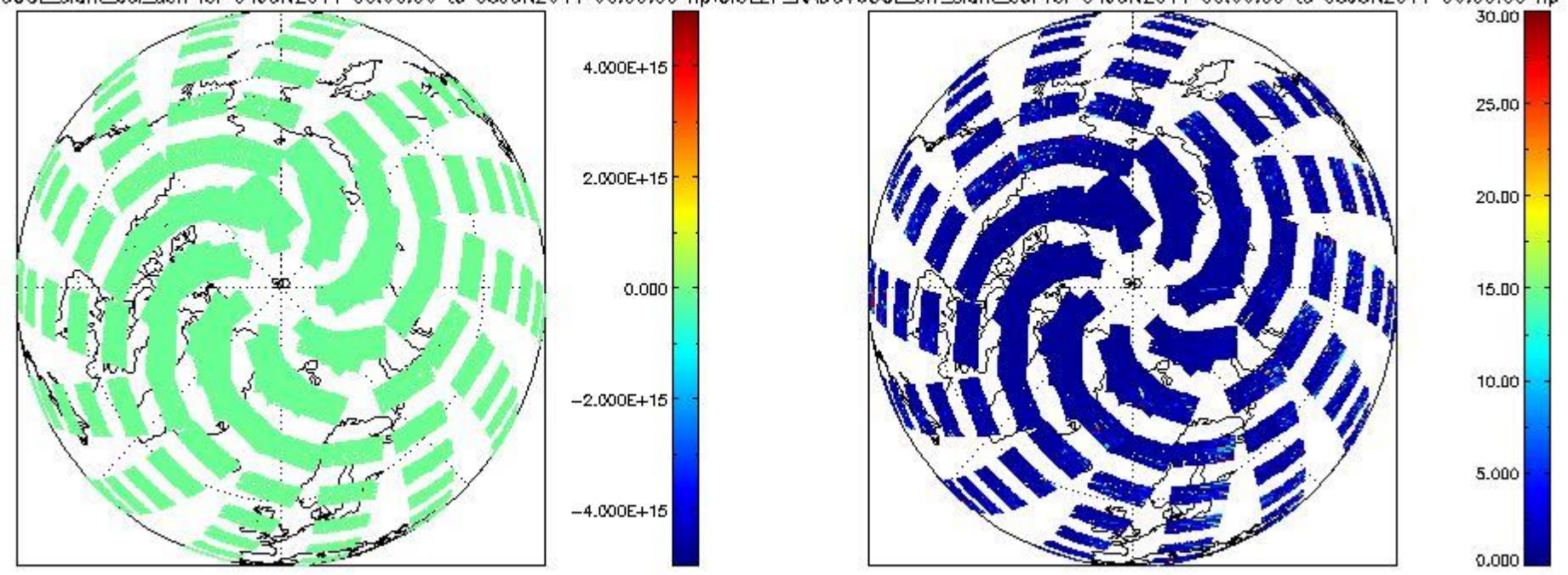


2.2.2.6 OCIO (UV6)



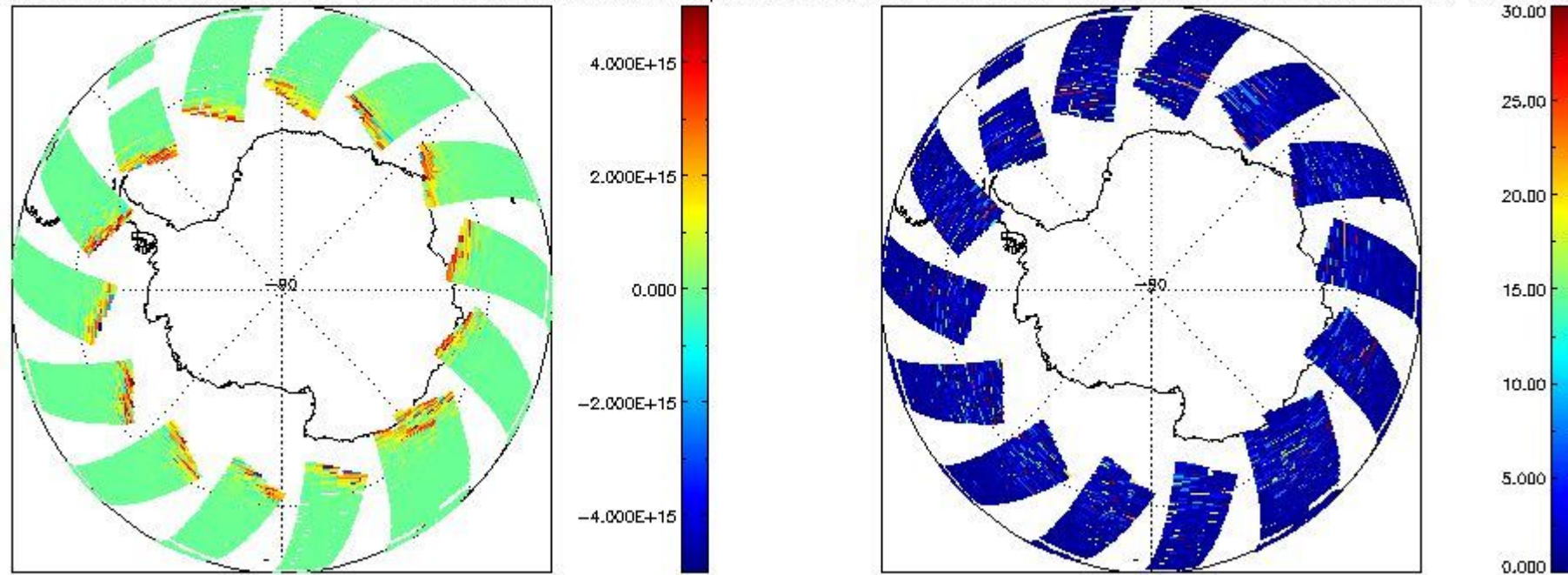


CIOL2P\_NADUV6OCLslant\_col\_den for 04JUN2011 00:00:00 to 05JUN2011 00:00:00 np; CIOL2P\_NADUV6OCLarr\_slant\_col for 04JUN2011 00:00:00 to 05JUN2011 00:00:00 np

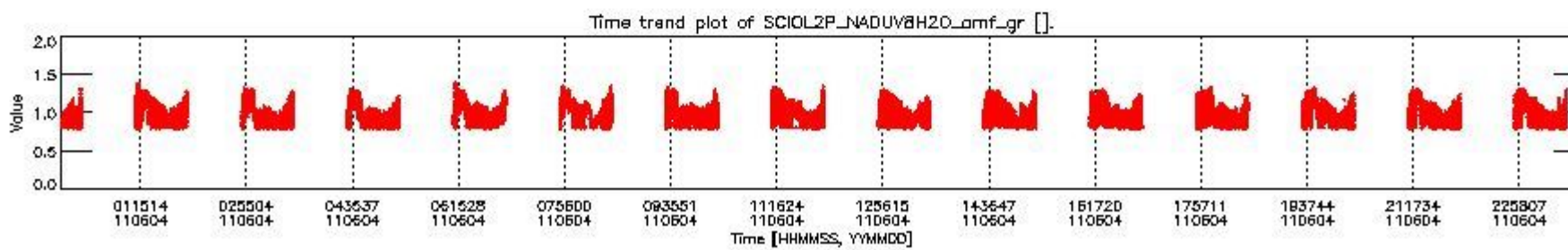
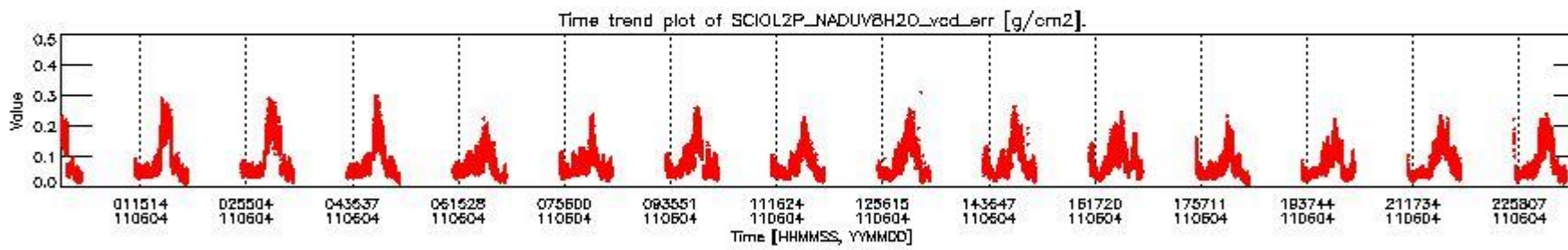
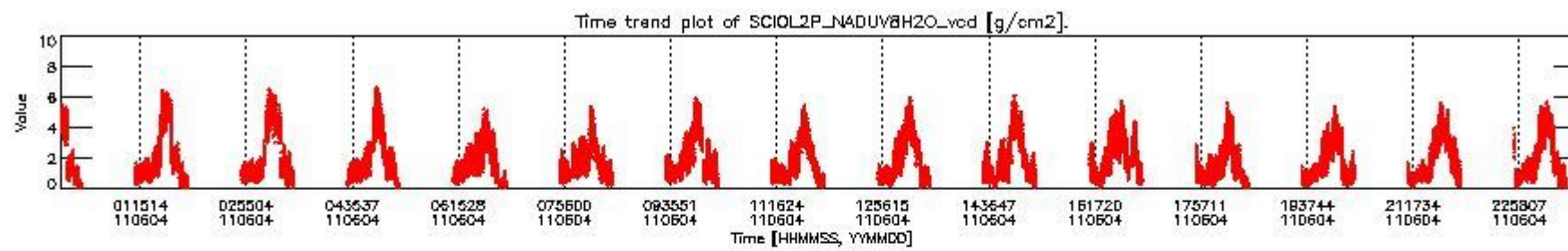




CIOL2P\_NADUV60CL\_slant\_col\_den for 04JUN2011 00:00:00 to 05JUN2011 00:00:00 sp | CIOL2P\_NADUV60CL\_err\_slant\_col for 04JUN2011 00:00:00 to 05JUN2011 00:00:00 sp

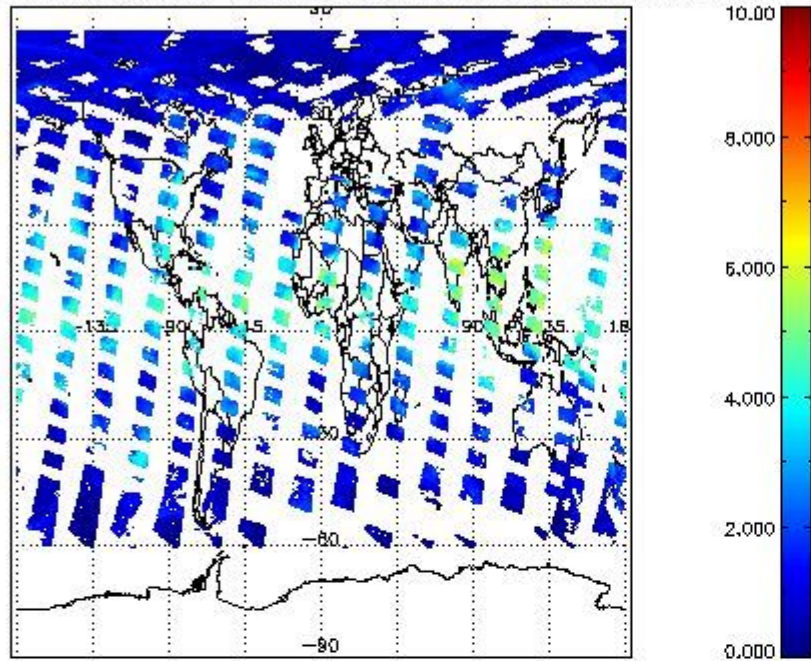


### 2.2.2.7 H2O (UV8)

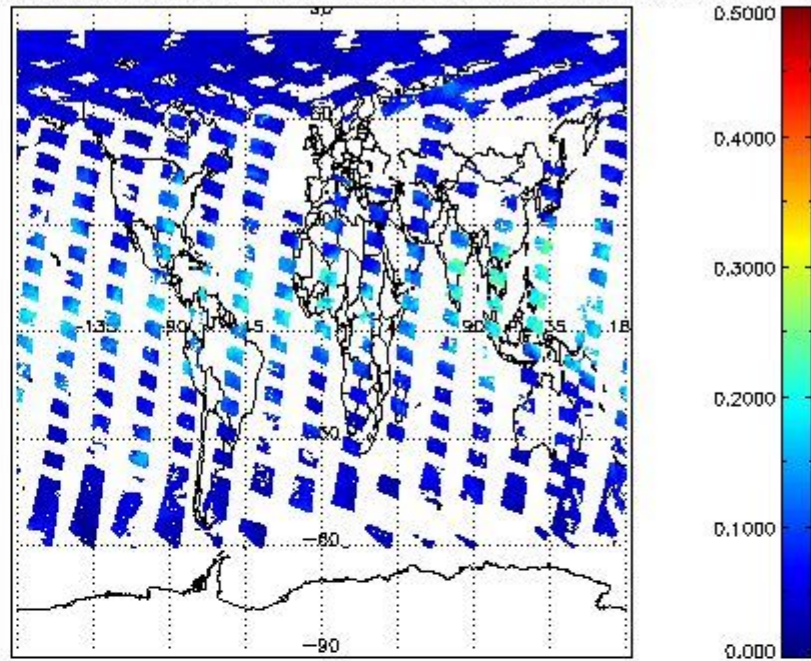




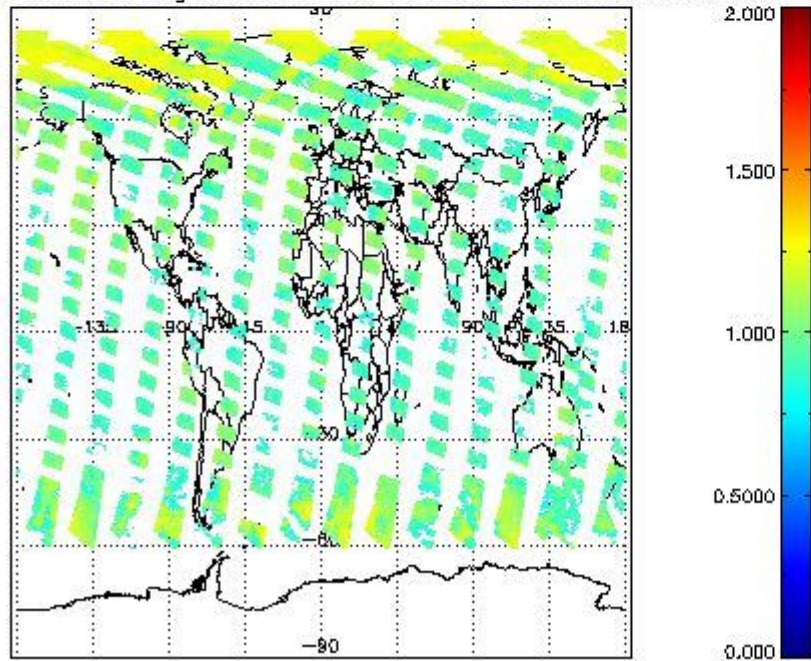
SCIOL2P\_NADUV8H2O\_vcd for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



SCIOL2P\_NADUV8H2O\_vcd\_err for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

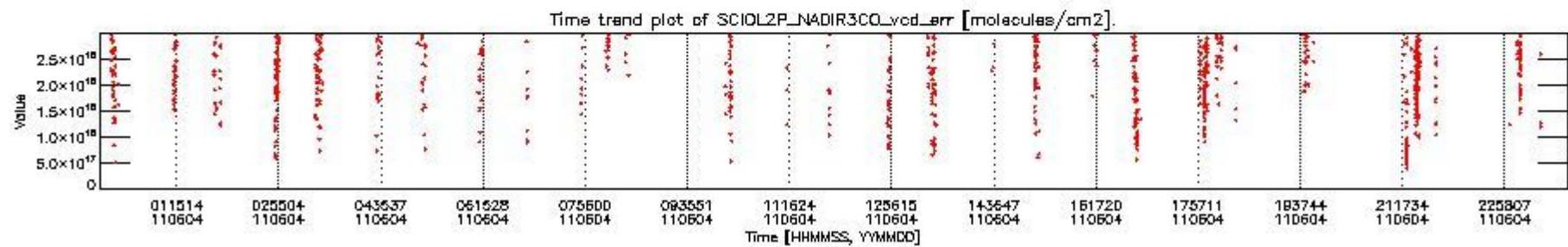
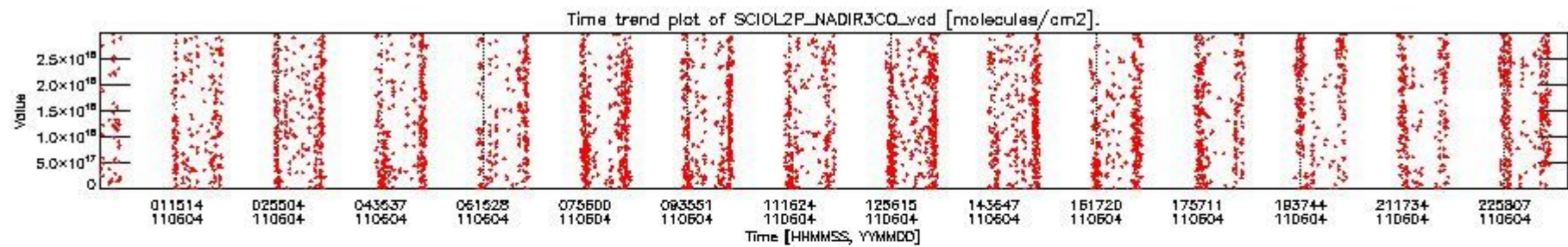


SCIOL2P\_NADUV8H2O\_arnf\_gr for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

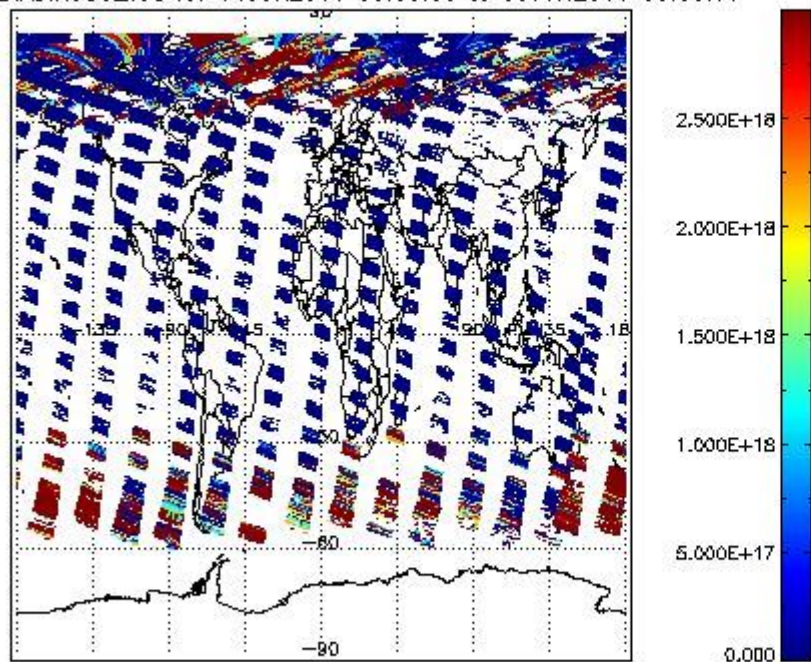


2.2.2.8 CO (IR3)

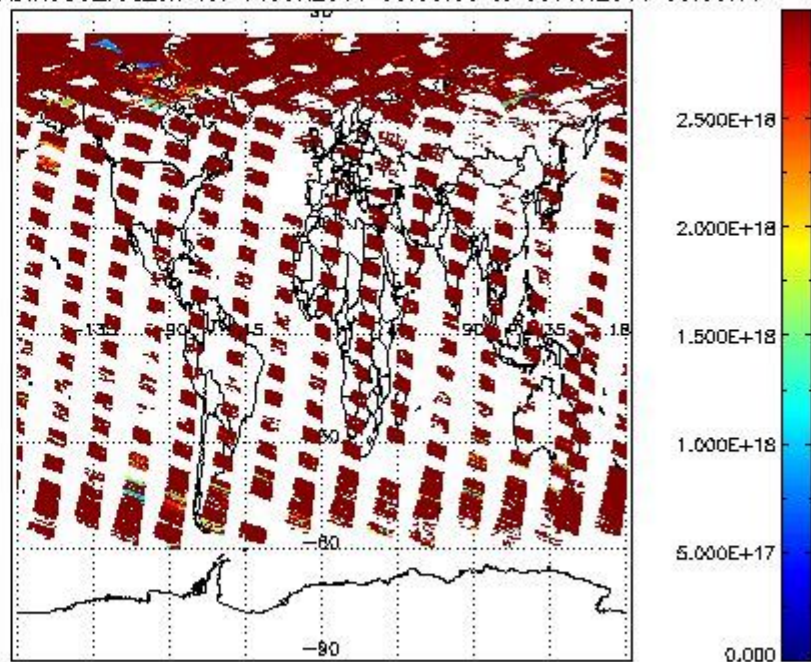




SCIO2P\_NADIR3CO\_vcd for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



SCIO2P\_NADIR3CO\_vcd\_err for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



### 2.2.3 Limb

This section shows information about product quality of the limb retrievals, in particular the quality of retrieved species.

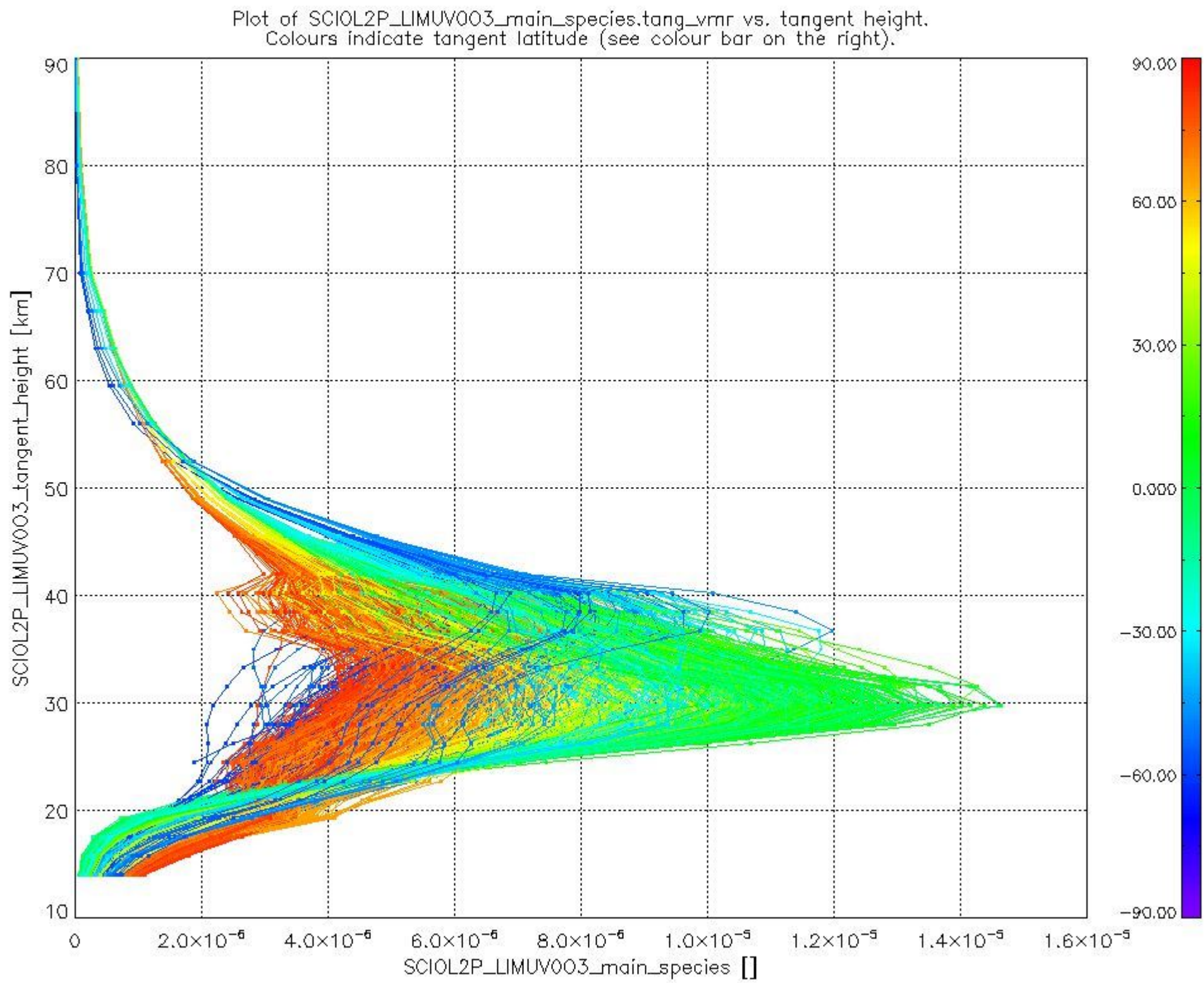
The following data items are currently included into this section:

Number	Data item ID
0	SCIO2P_LIMUV003_main_species
1	SCIO2P_LIMUV1NO2_main_species
2	SCIO2P_LIMUV3BRO_main_species



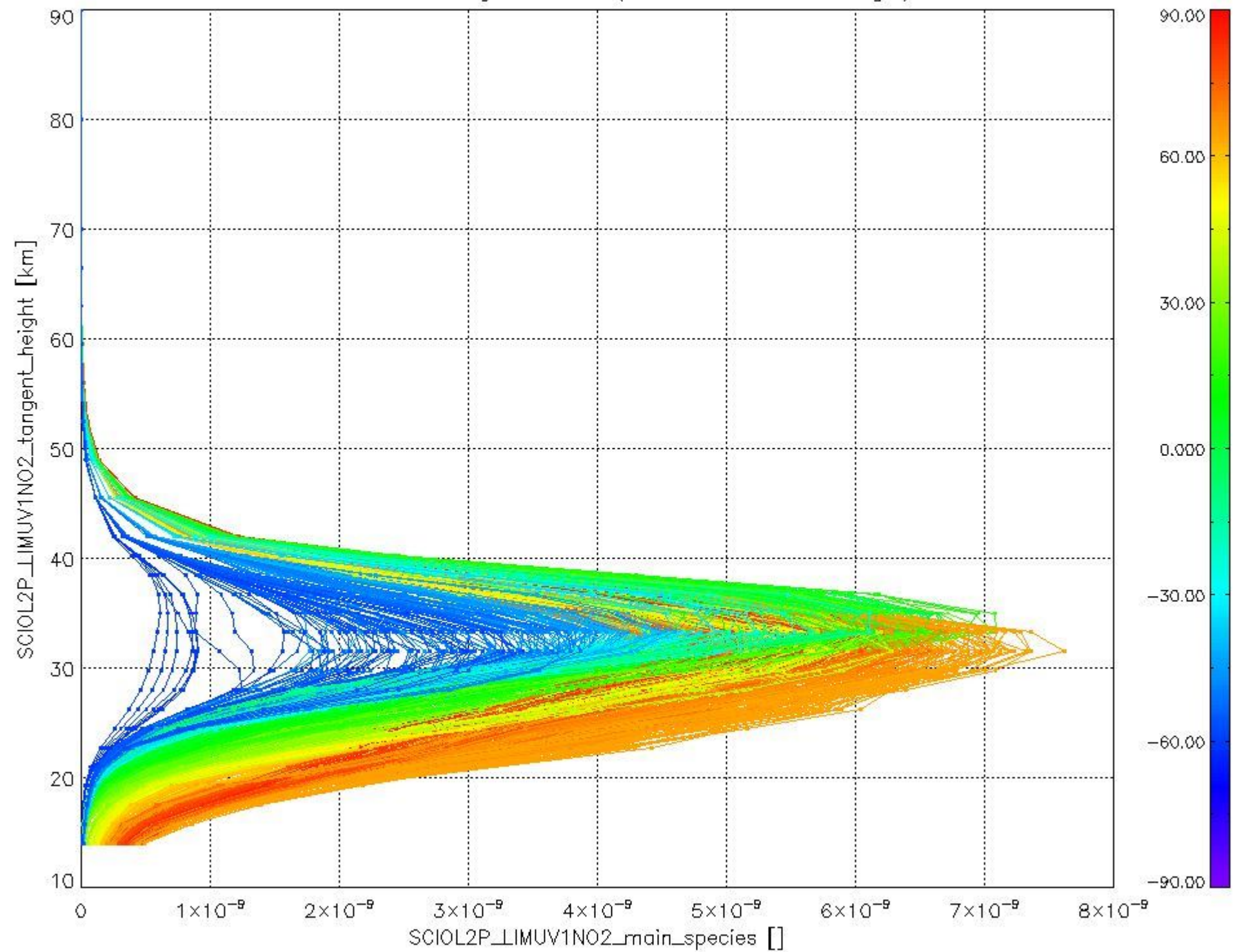
The following plots show for each species the tangent volume mixing ratio vs. tangent height. Colours indicate tangent latitude.

2.2.3.1 O3 (UV0)



2.2.3.2 NO2 (UV1)

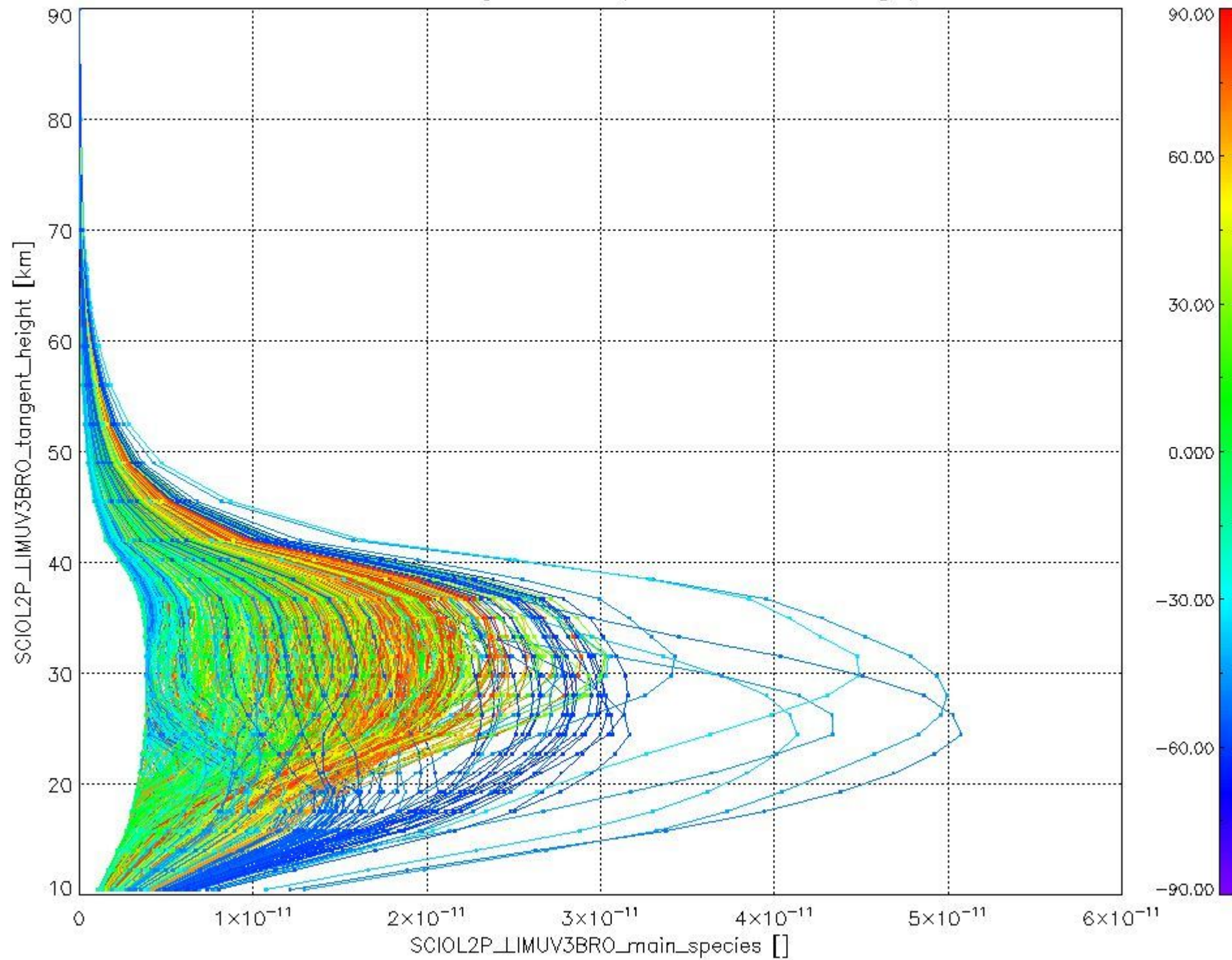
Plot of SCIO2P\_LIMUV1NO2\_main\_species.tang\_vmr vs. tangent height.  
 Colours indicate tangent latitude (see colour bar on the right).



### 2.2.3.3 BrO (UV3)



Plot of SCIOL2P\_LIMUV3BRO\_main\_species.tang\_vmr vs. tangent height.  
Colours indicate tangent latitude (see colour bar on the right).



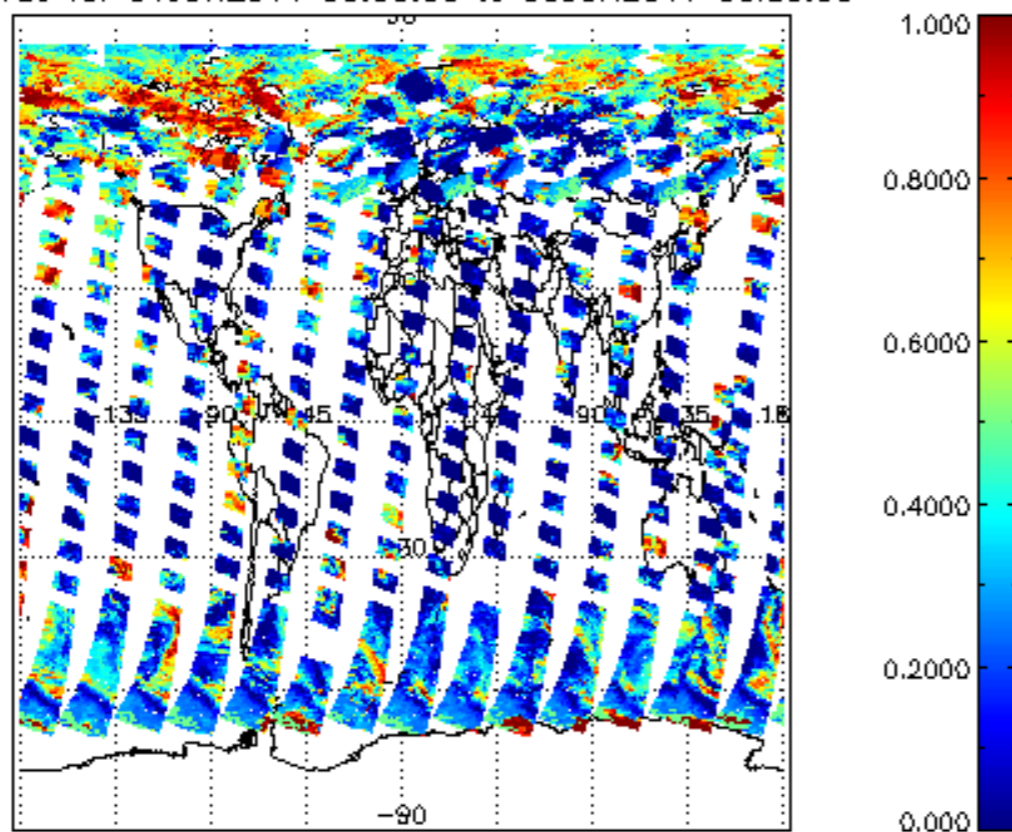
### 2.3 ADF monitoring

Number	ADF
	<b>IN_ (INITIALISATION_FILE)</b>
0	SCI_IN_AXNPDE20090615_120000_20090615_000000_20991231_235959
	<b>ECF (ECMWF_FILE)</b>
1	NOT USED
	<b>MF1 (M_FACTOR_FILE)</b>
2	SCI_MF1_AXVIEC20110531_111117_20110603_193806_20110605_193806
3	SCI_MF1_AXVIEC20110531_111222_20110604_190120_20110606_190120

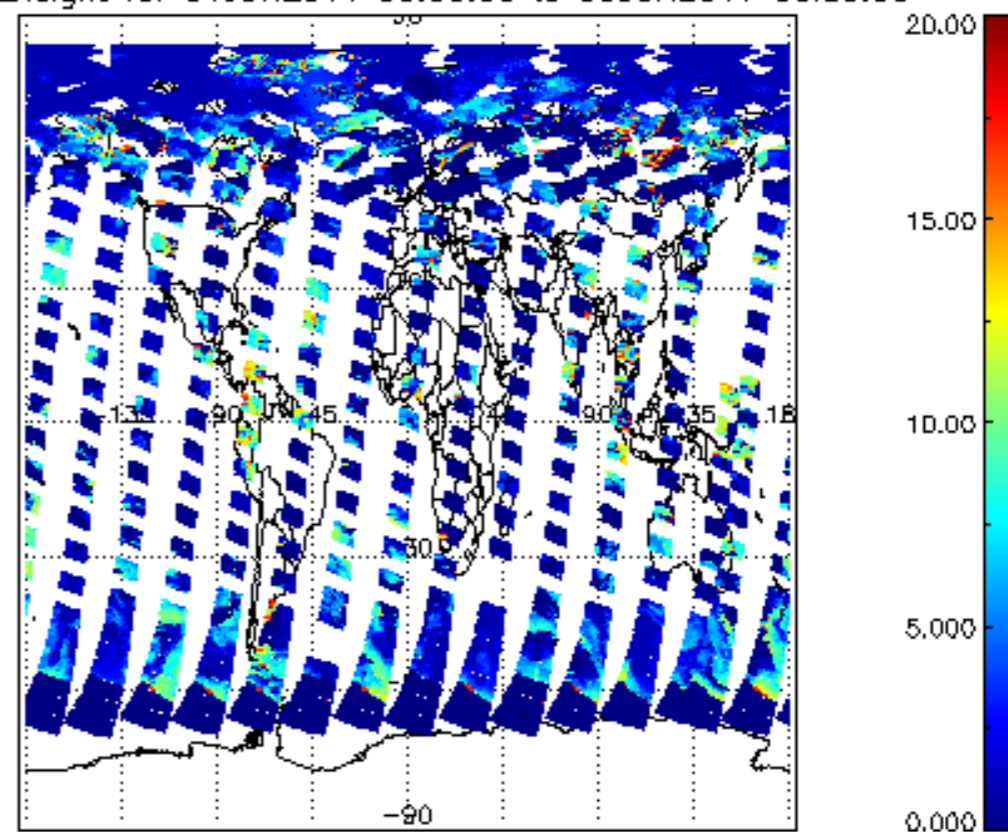




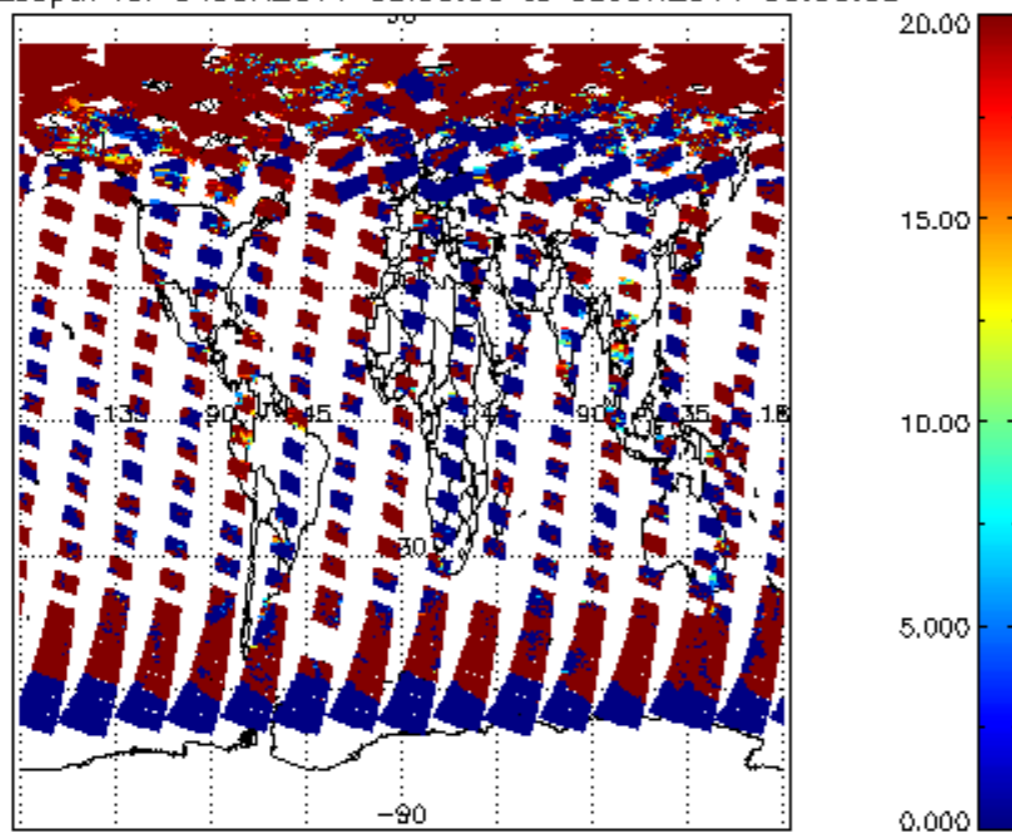
cl\_frac for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



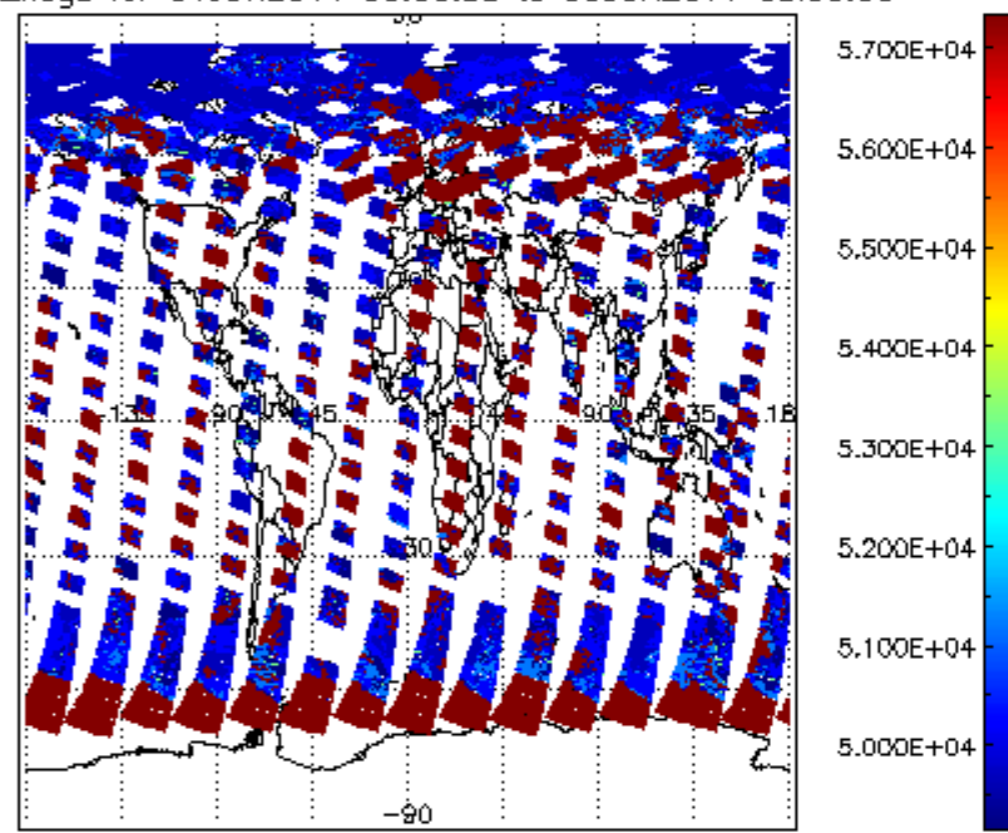
cl\_top\_height for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

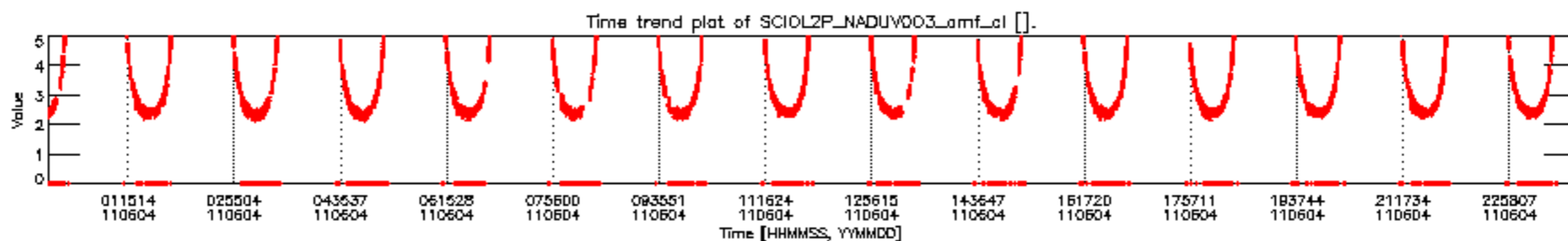
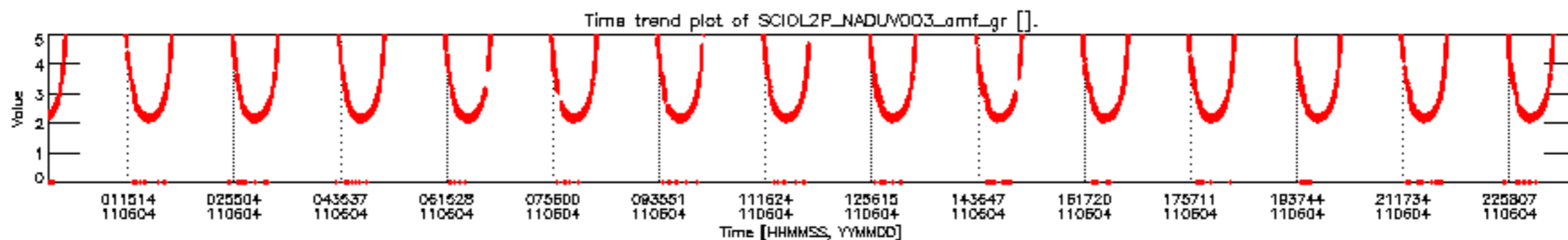
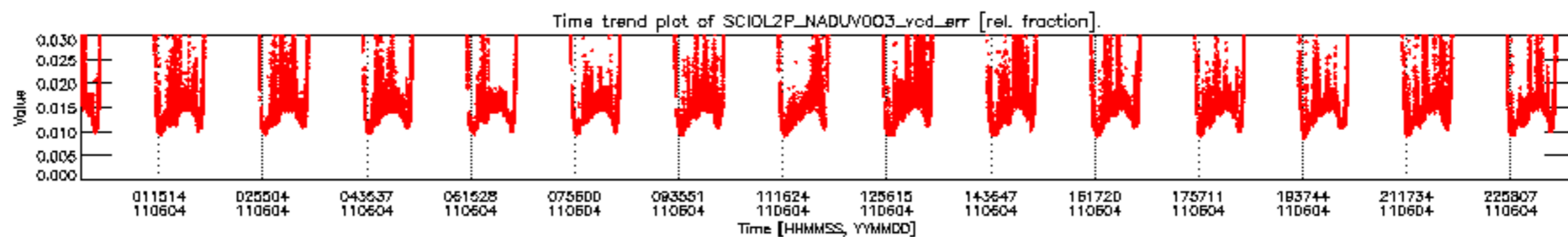
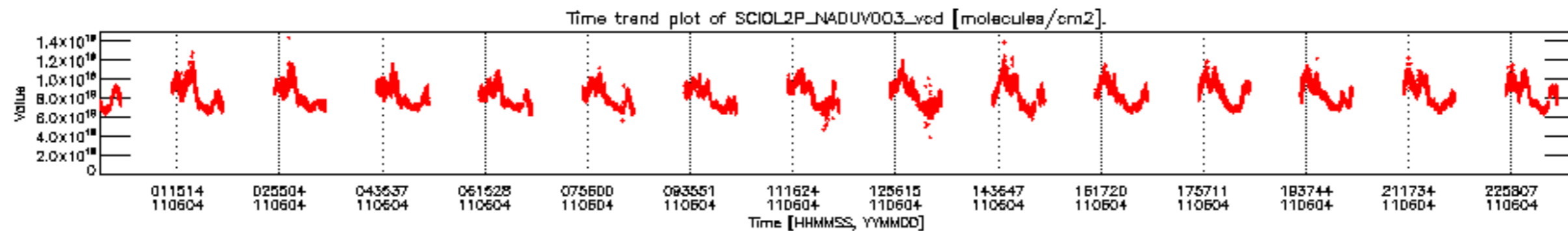


cl\_opt\_depth for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



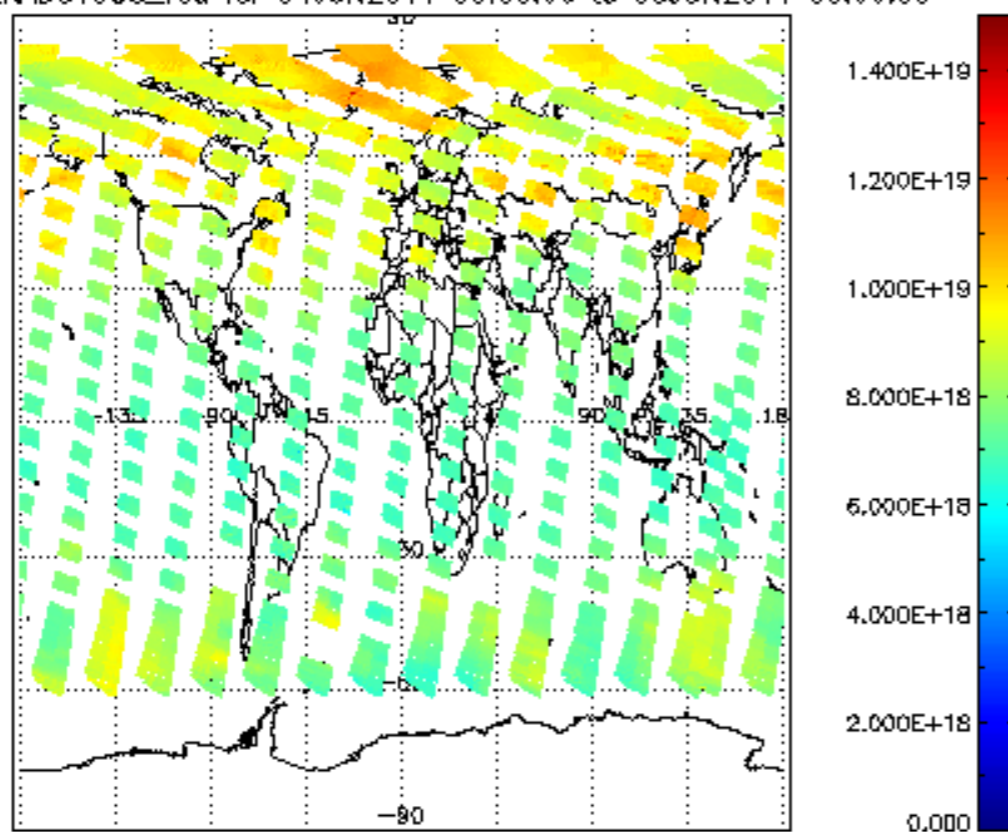
cloud\_flags for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



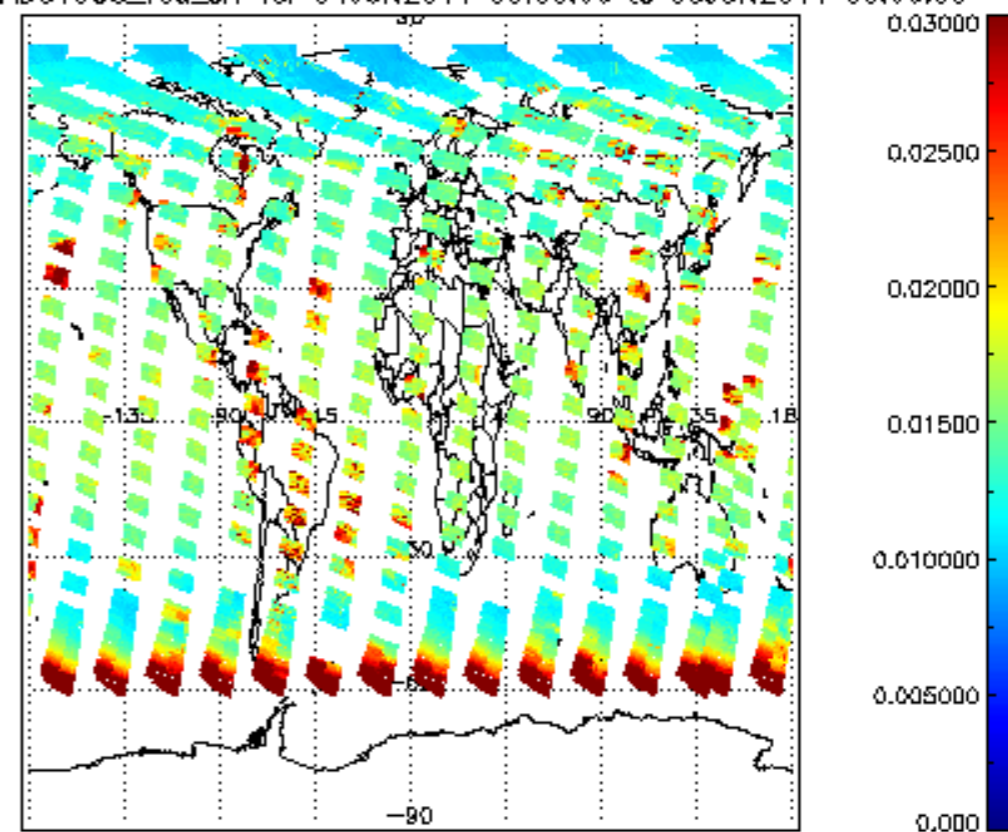




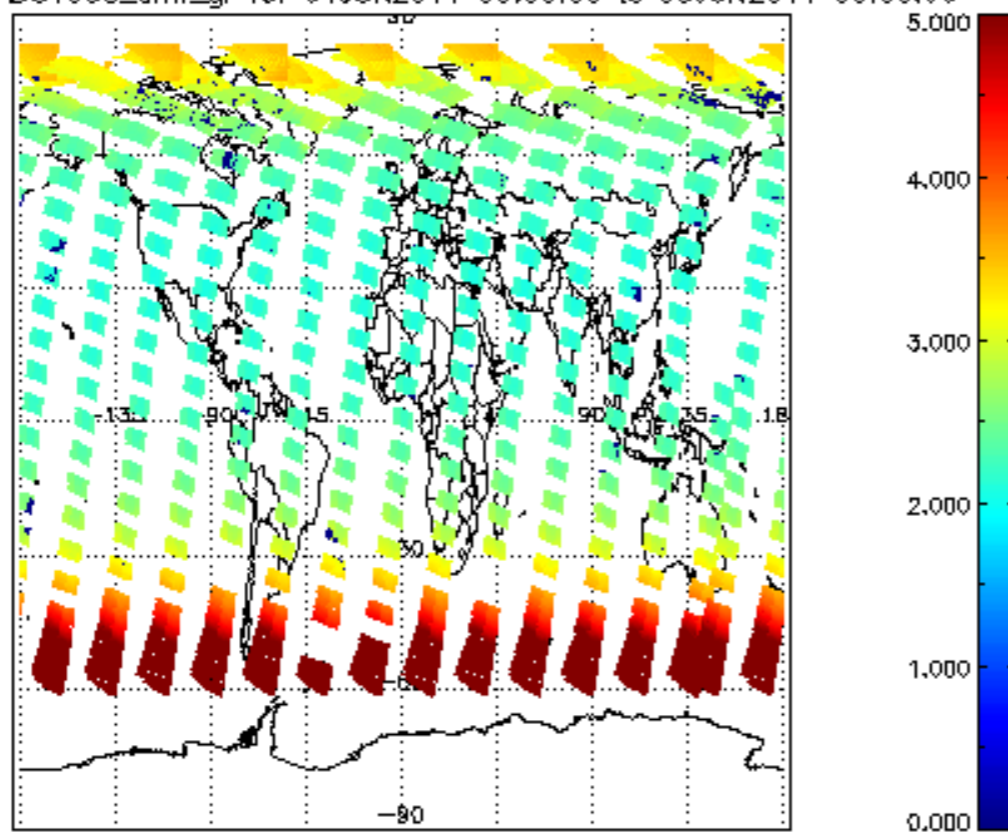
SCIOL2P\_NADUV003\_vcd for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



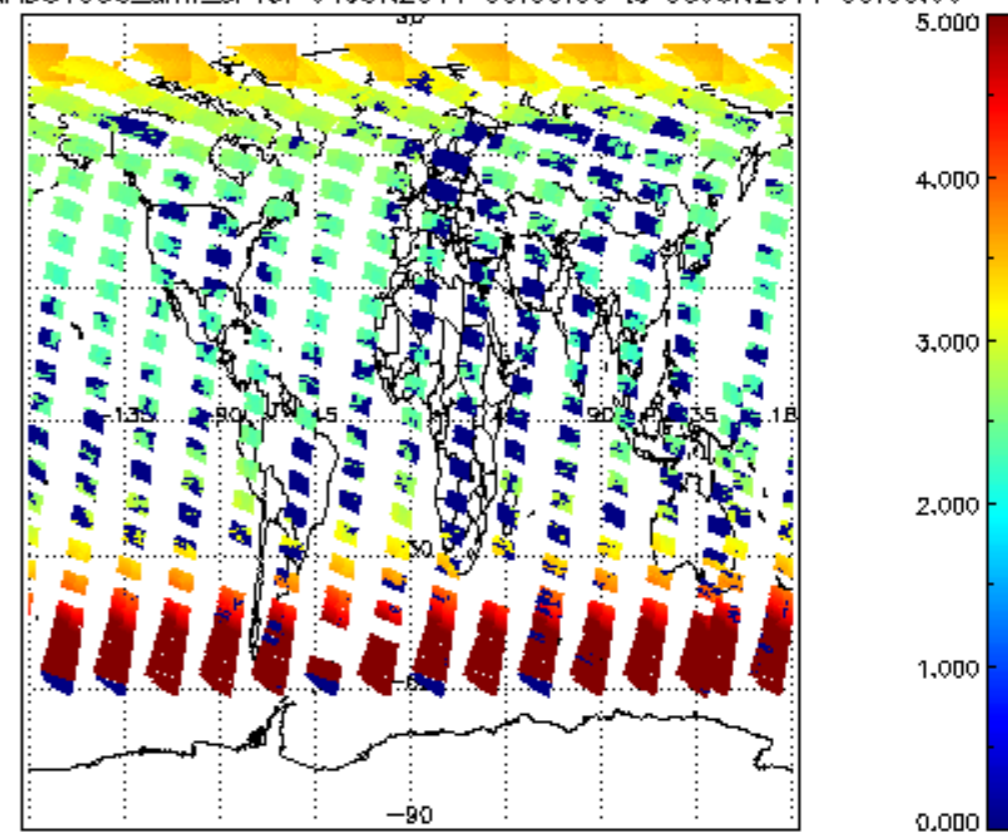
SCIOL2P\_NADUV003\_vcd\_err for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

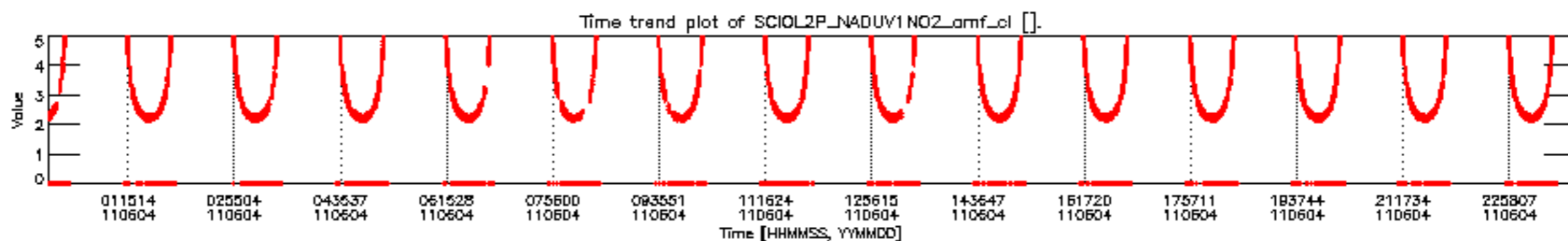
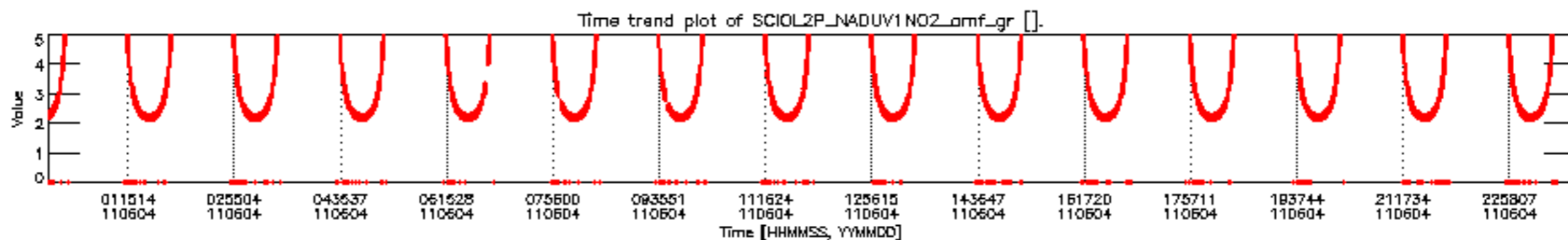
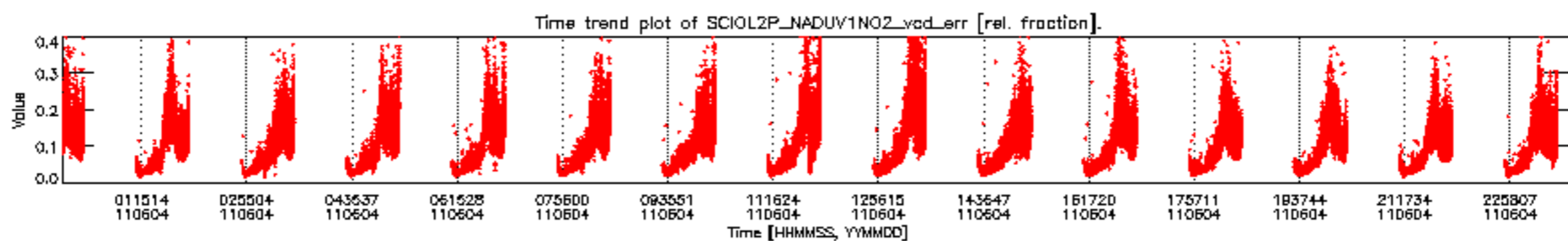
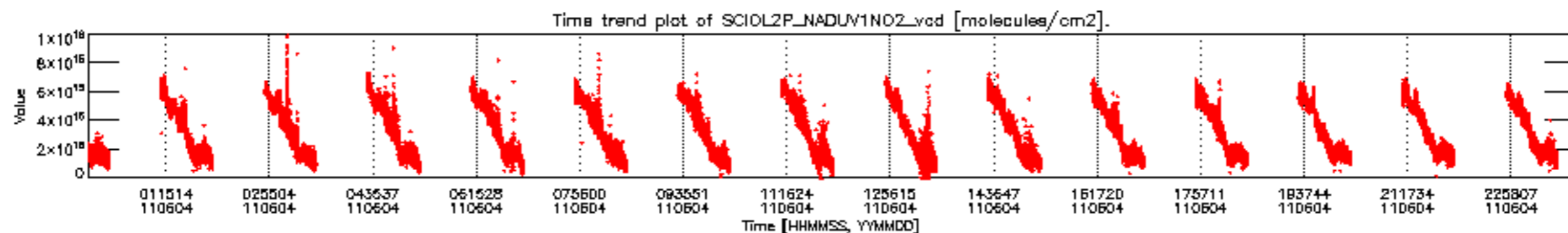


SCIOL2P\_NADUV003\_amf\_gr for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



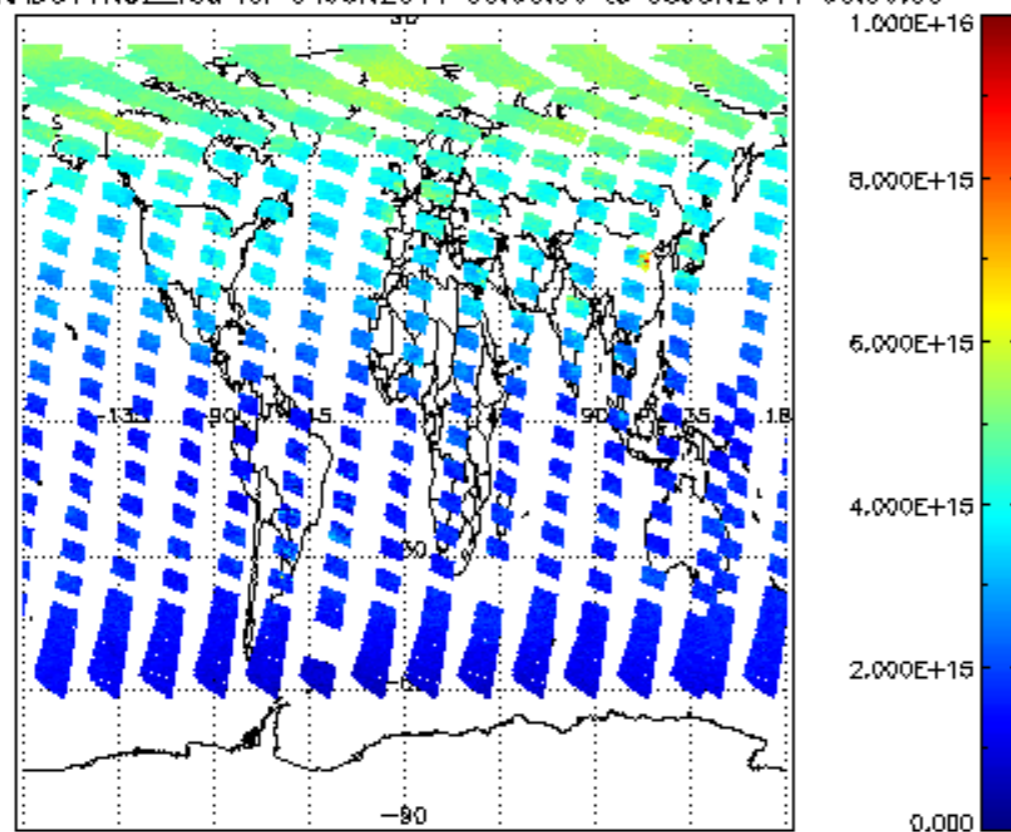
SCIOL2P\_NADUV003\_amf\_cl for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



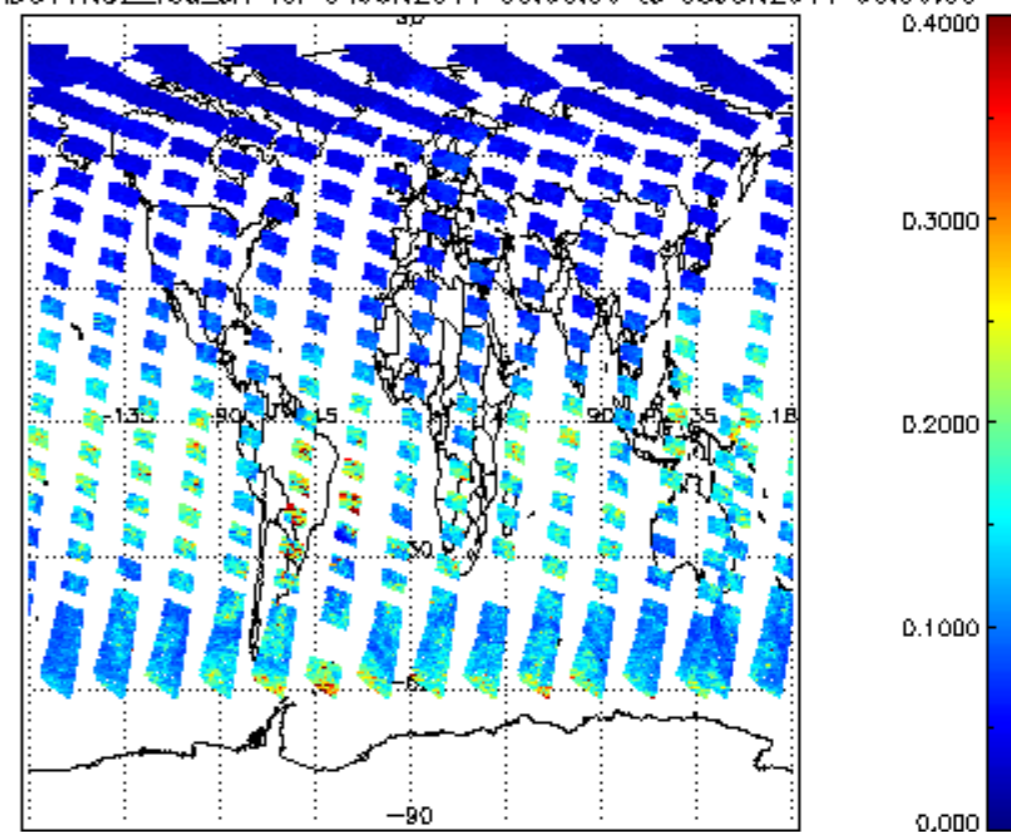




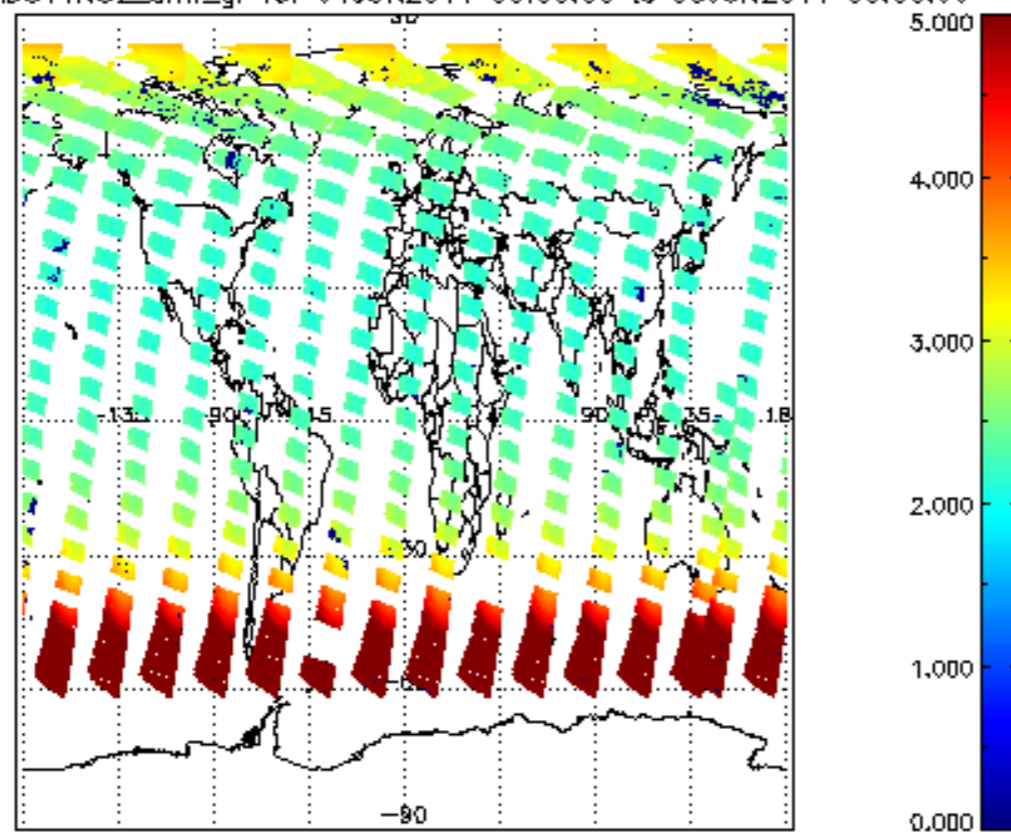
SCIOL2P\_NADUV1NO2\_vcd for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



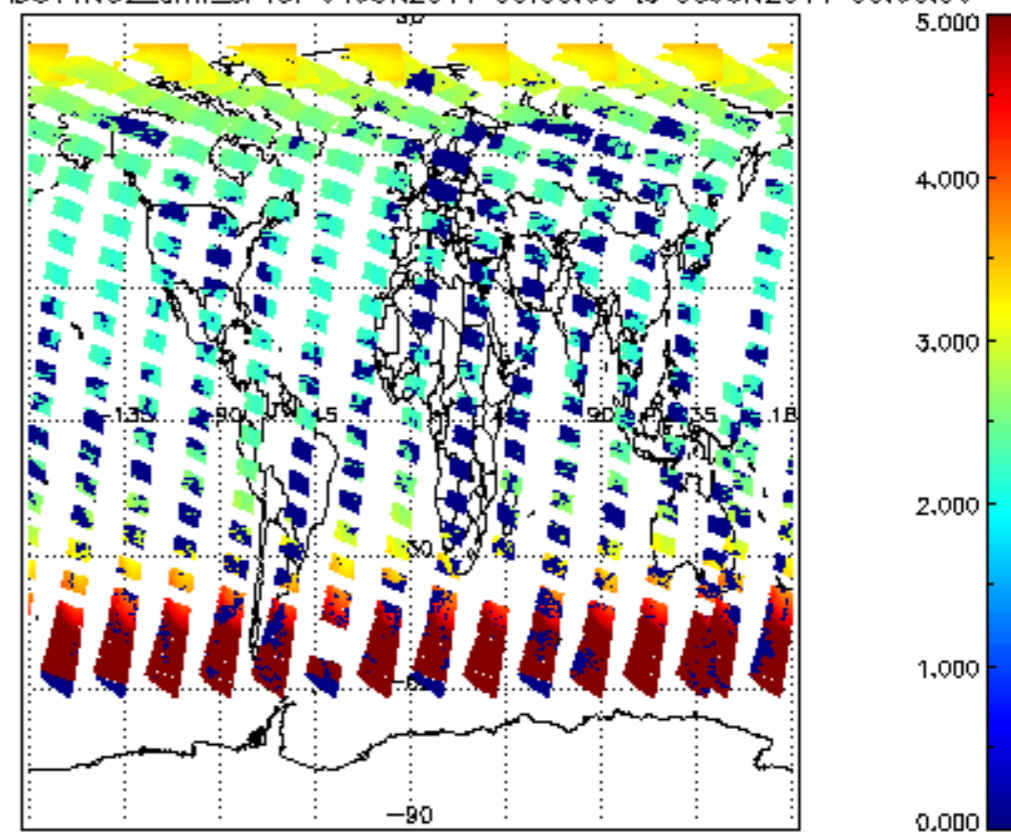
SCIOL2P\_NADUV1NO2\_vcd\_err for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

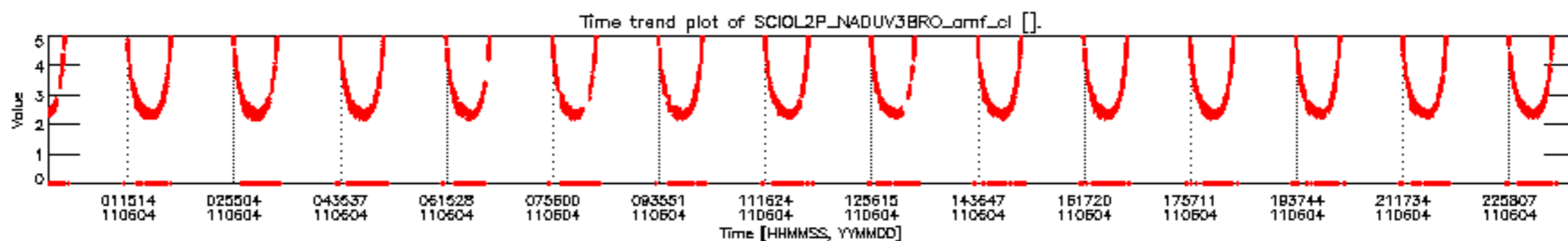
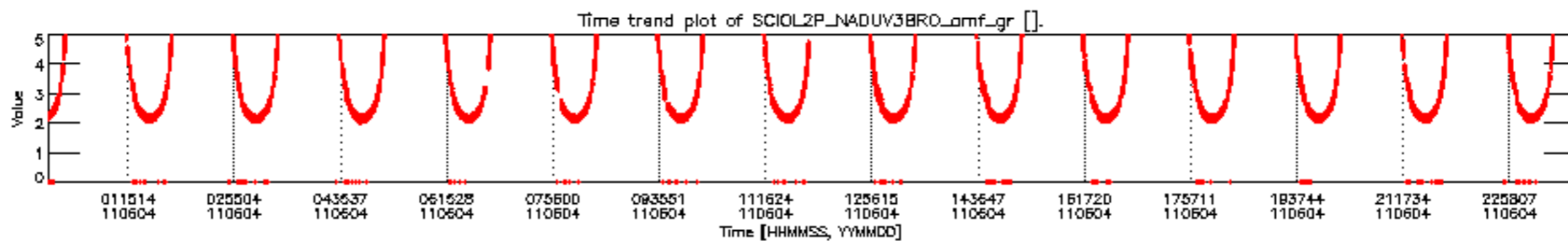
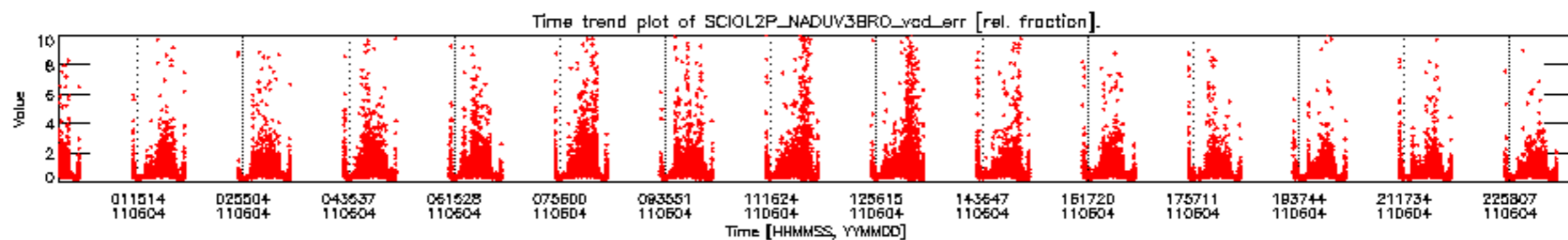
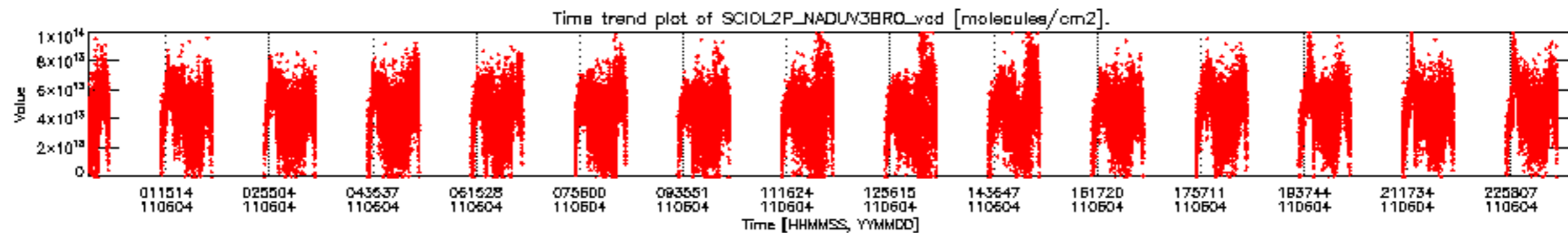


SCIOL2P\_NADUV1NO2\_amf\_gr for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



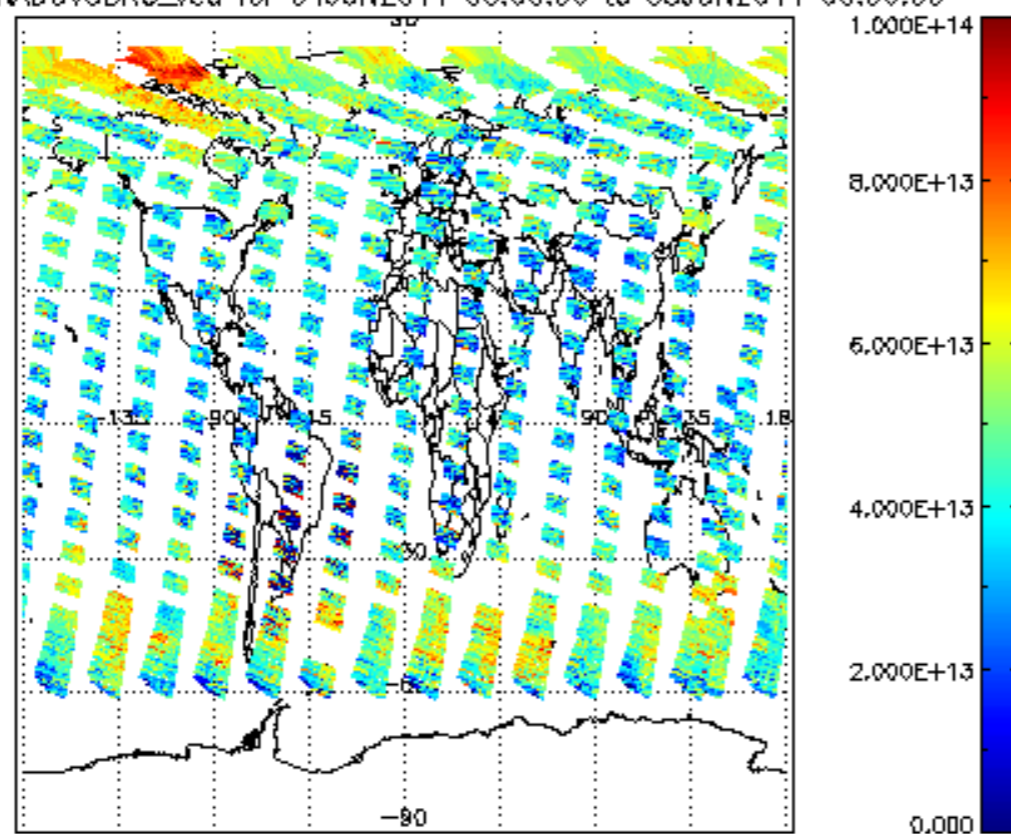
SCIOL2P\_NADUV1NO2\_amf\_cl for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



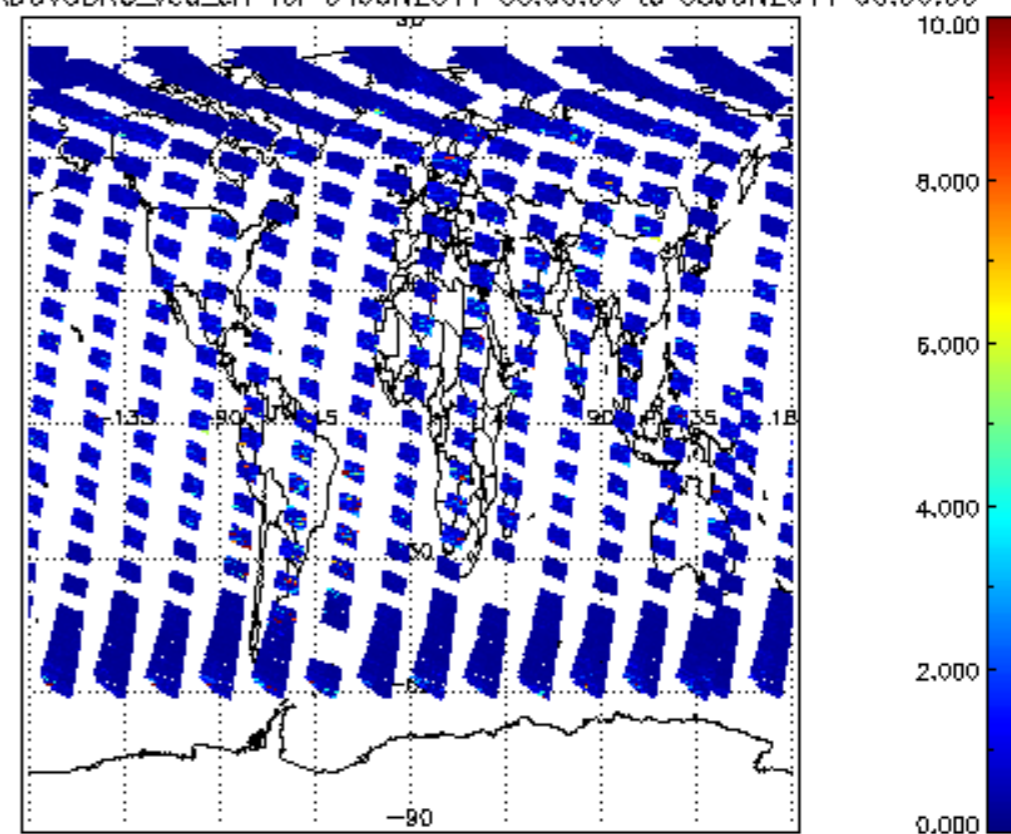




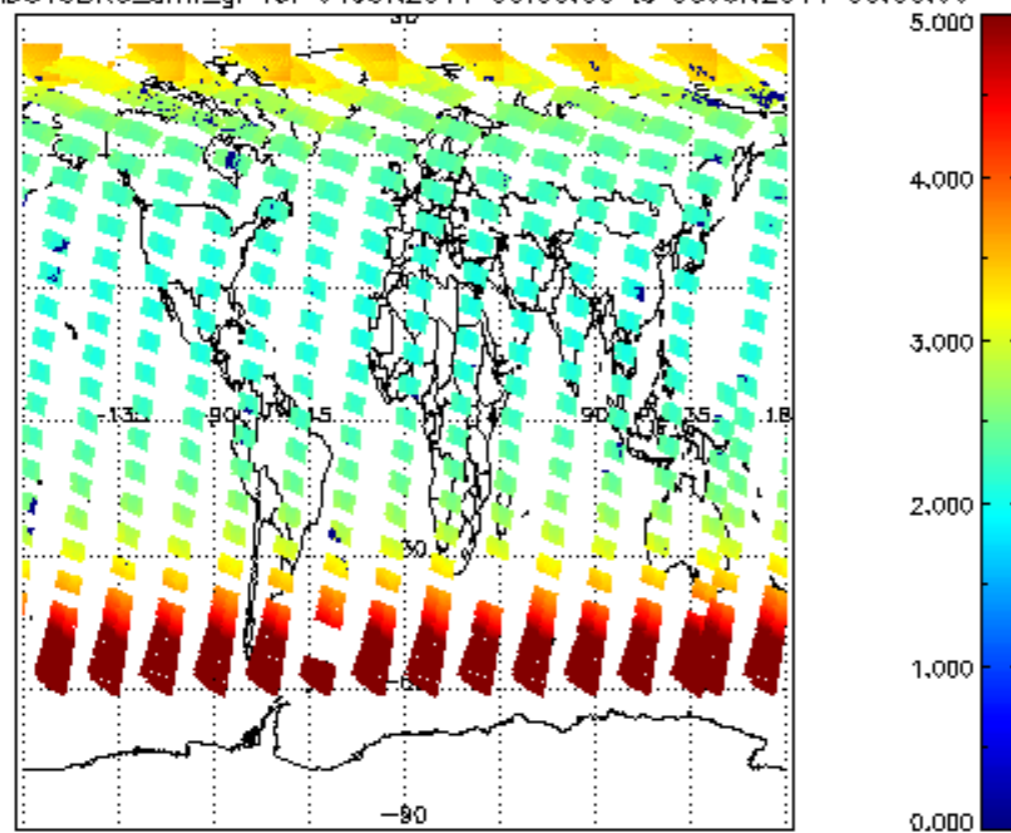
SCIOL2P\_NADUV3BRO\_vcd for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



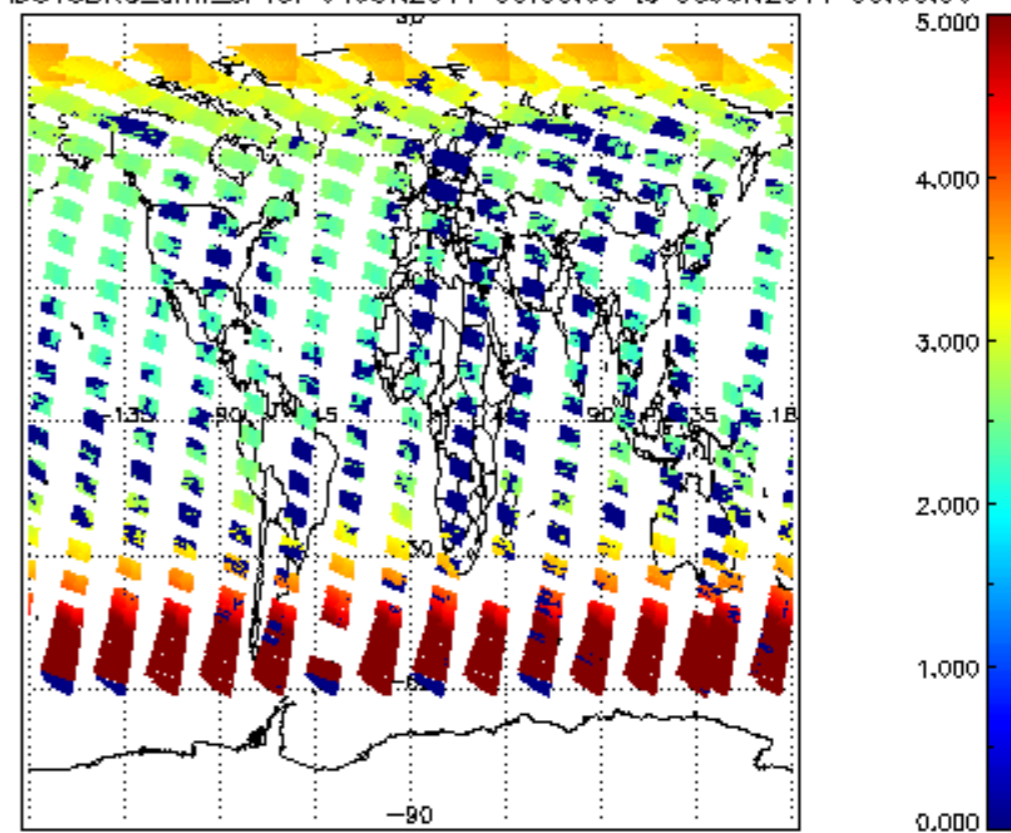
SCIOL2P\_NADUV3BRO\_vcd\_err for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

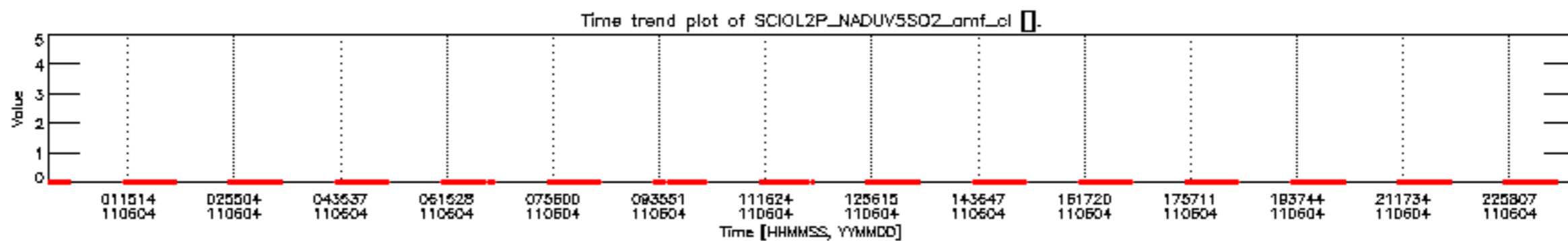
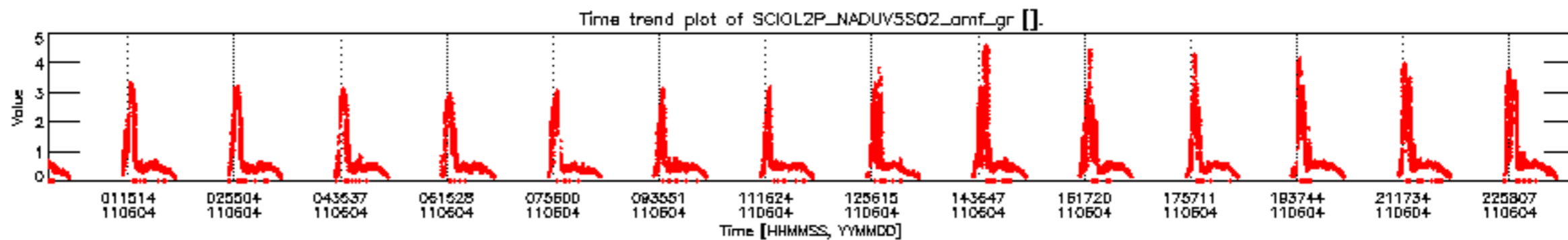
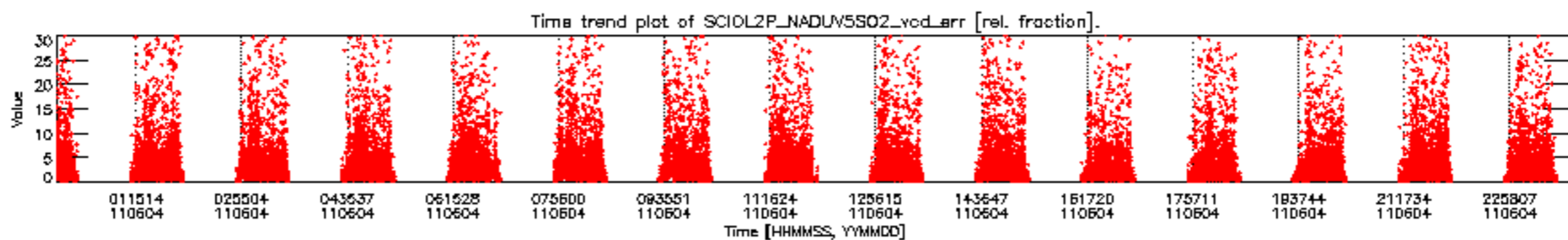
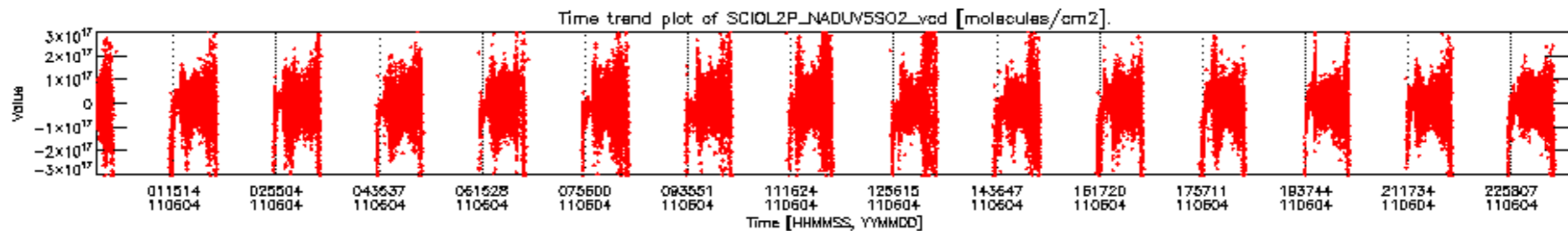


SCIOL2P\_NADUV3BRO\_amf\_gr for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



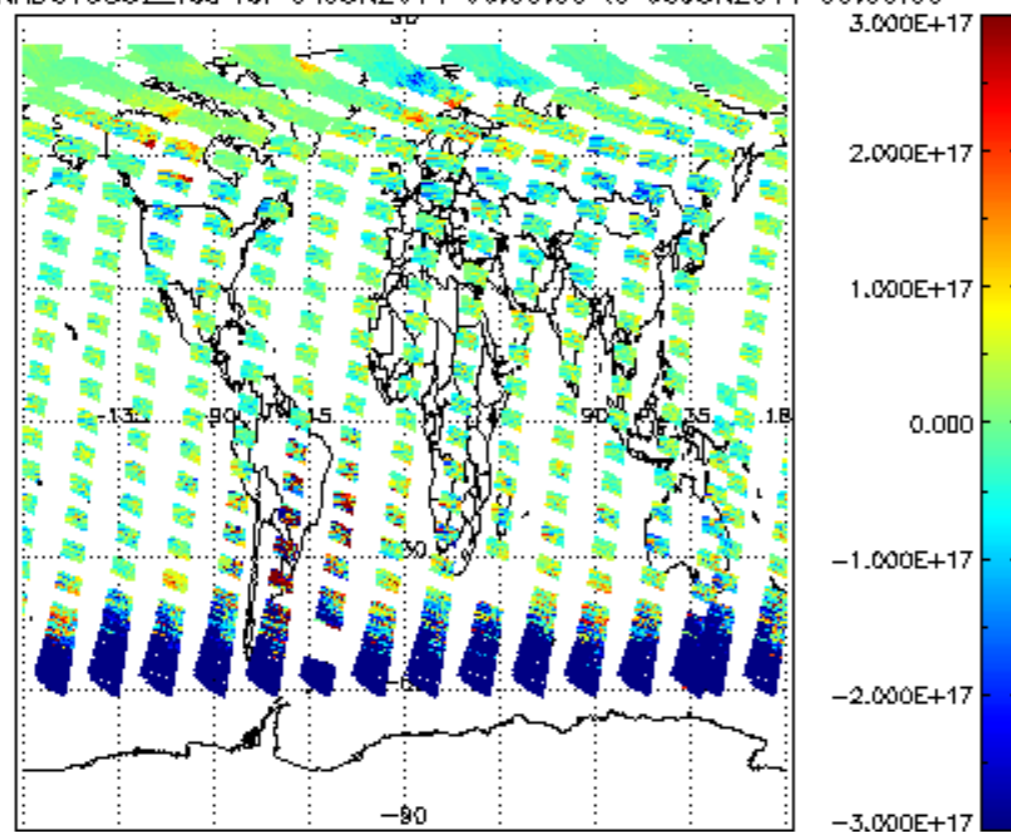
SCIOL2P\_NADUV3BRO\_amf\_sl for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



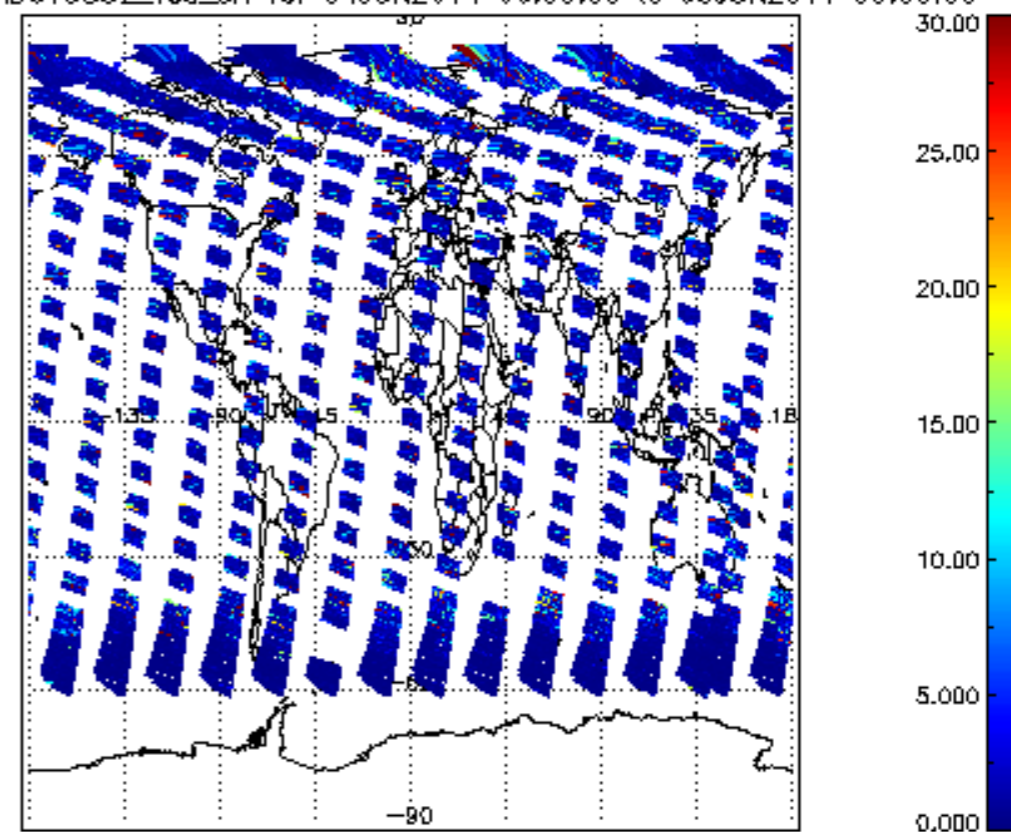




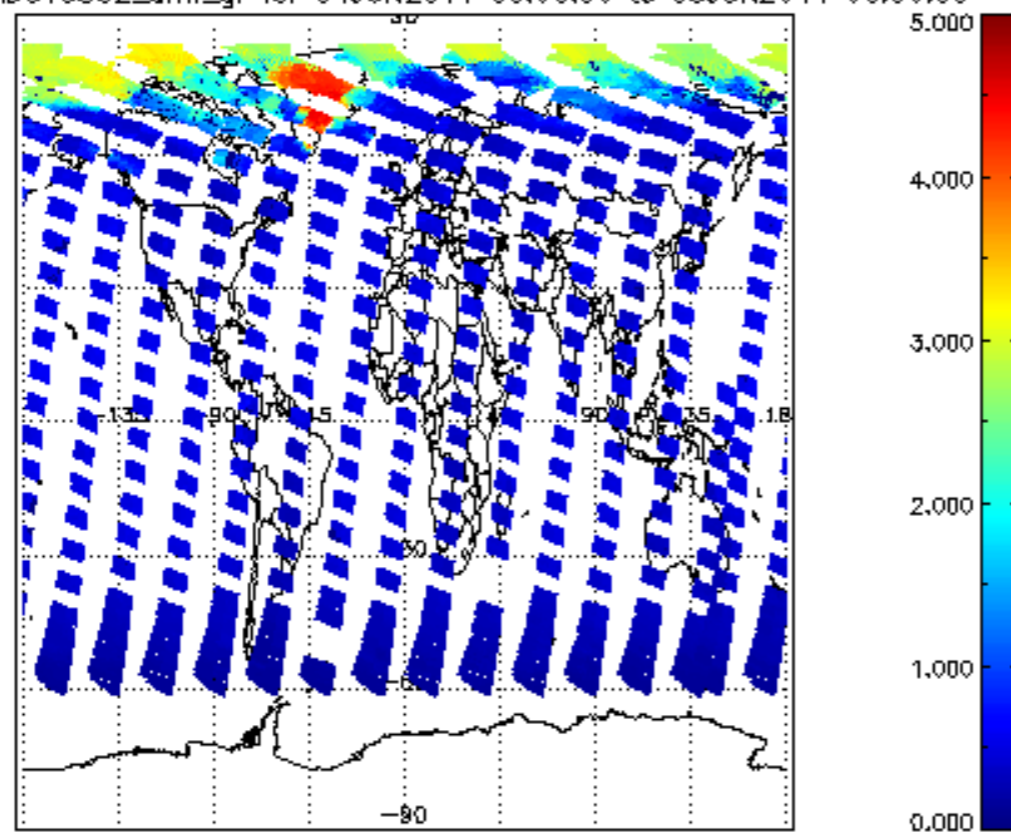
SCIOL2P\_NADUV5S02\_vcd for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



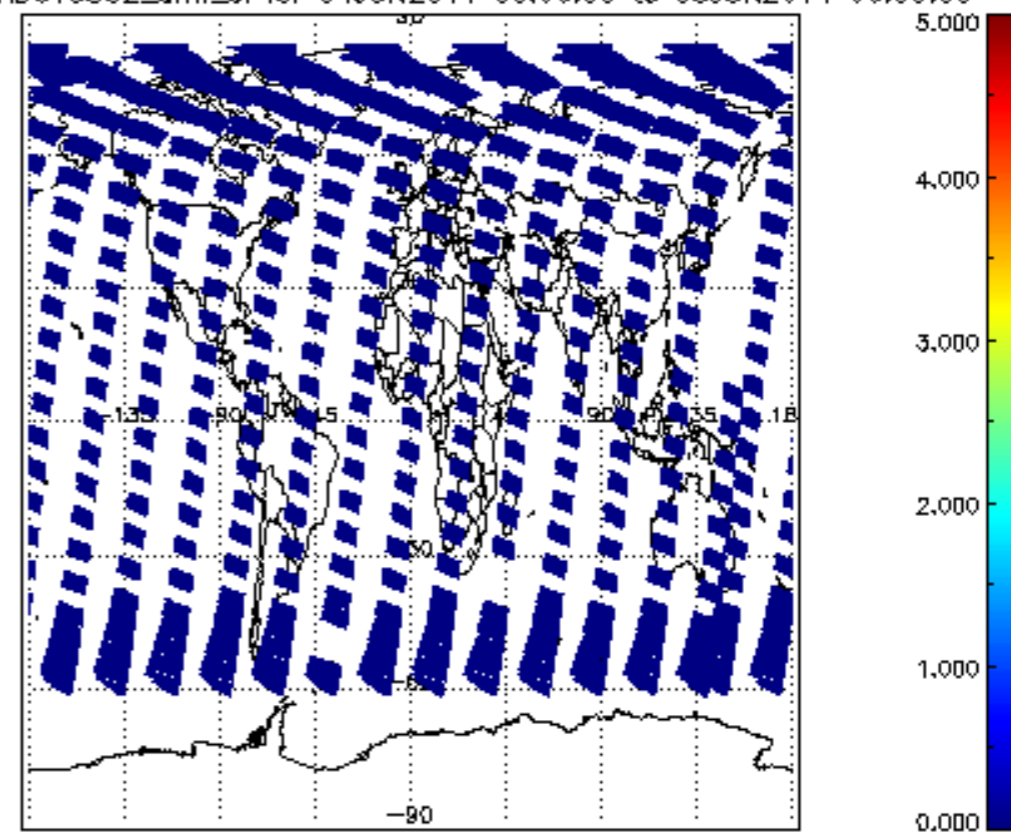
SCIOL2P\_NADUV5S02\_vcd\_err for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

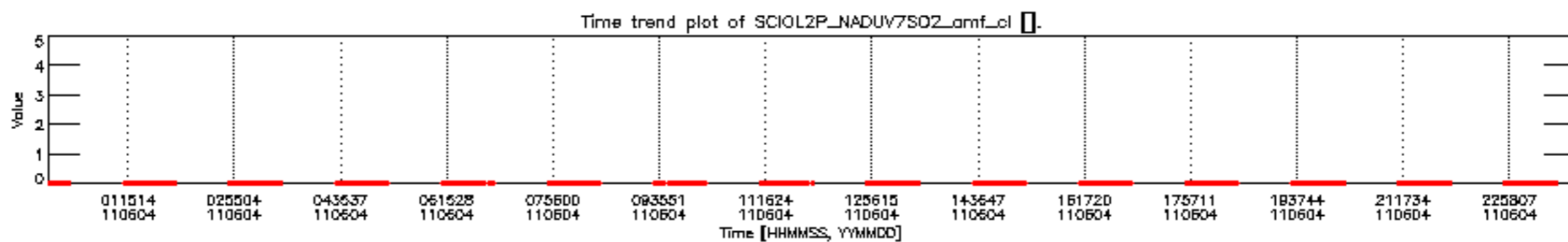
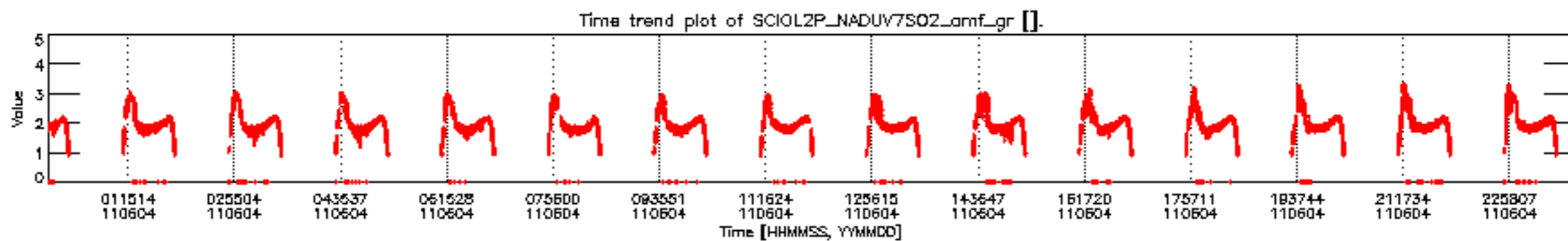
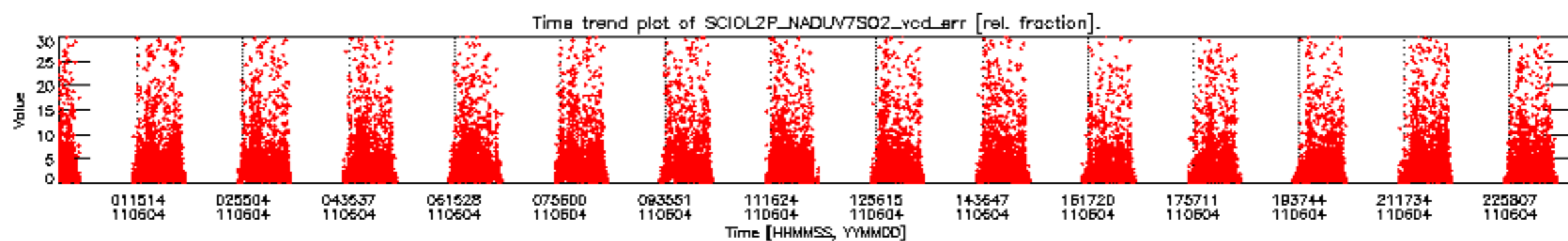
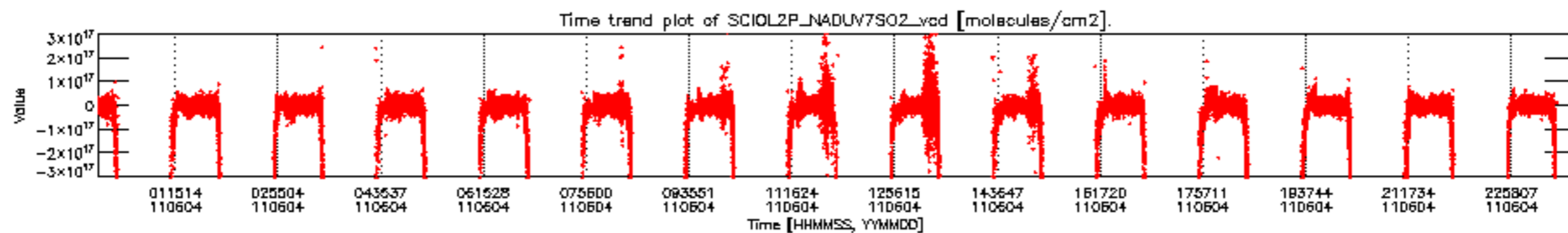


SCIOL2P\_NADUV5S02\_amf\_gr for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



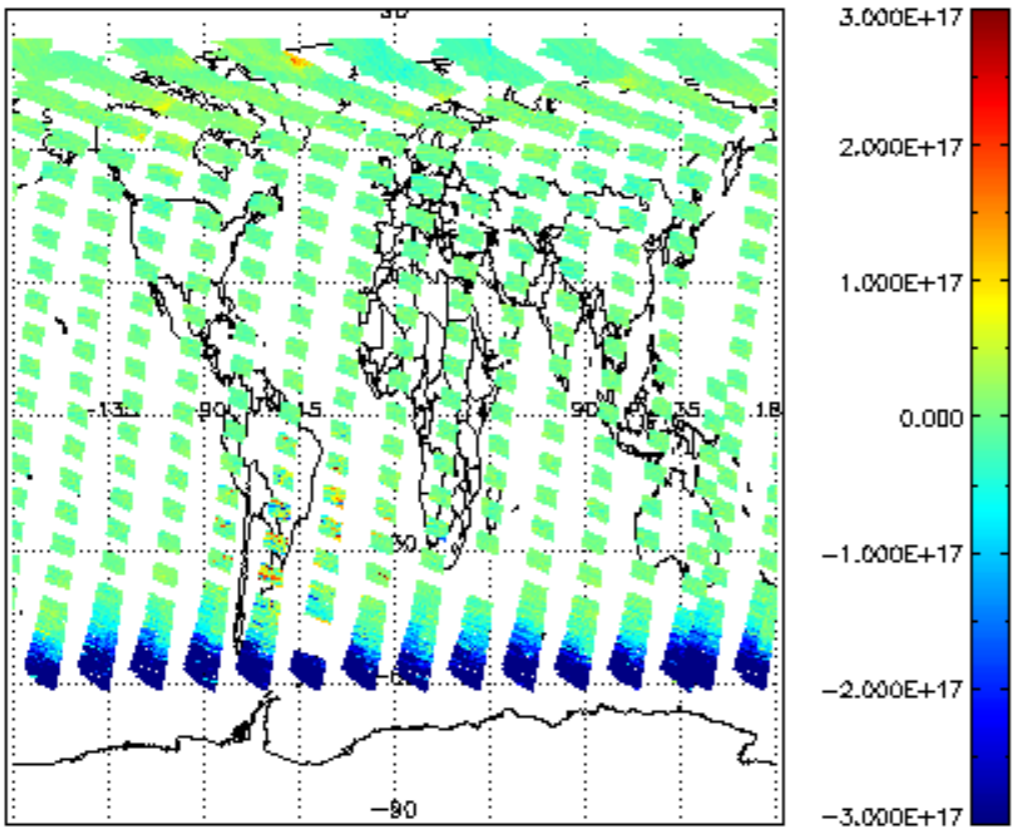
SCIOL2P\_NADUV5S02\_amf\_cl for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



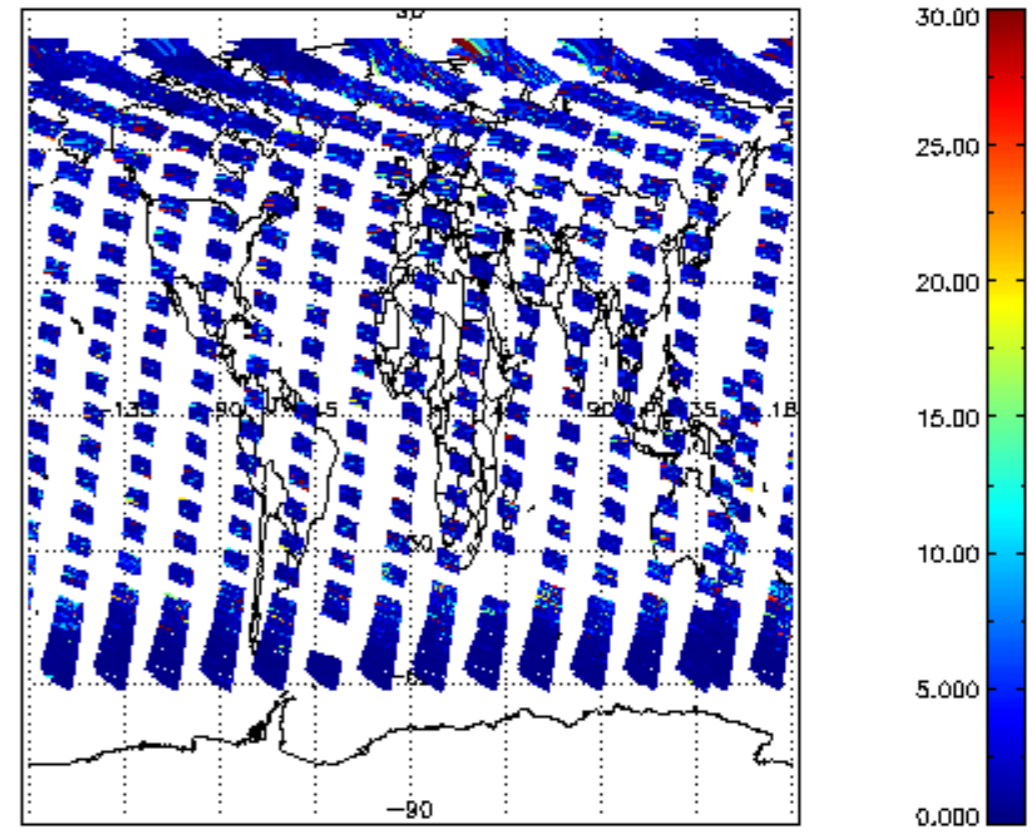




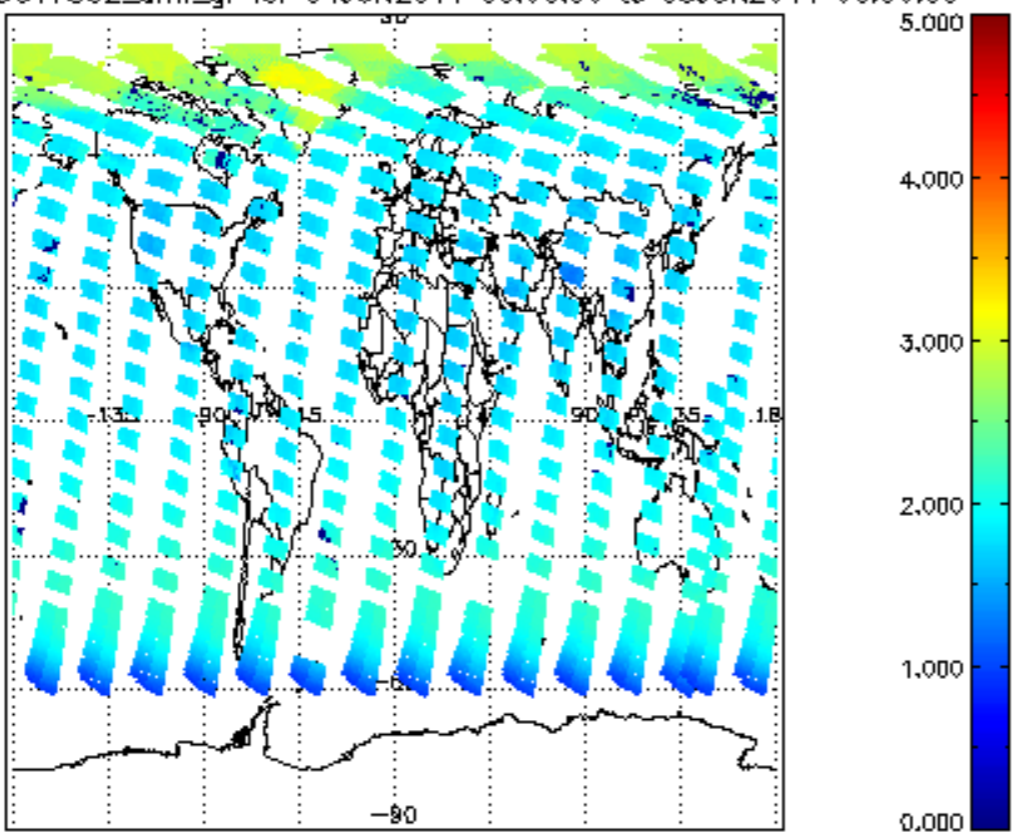
SCIOL2P\_NADUV7S02\_vcd for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



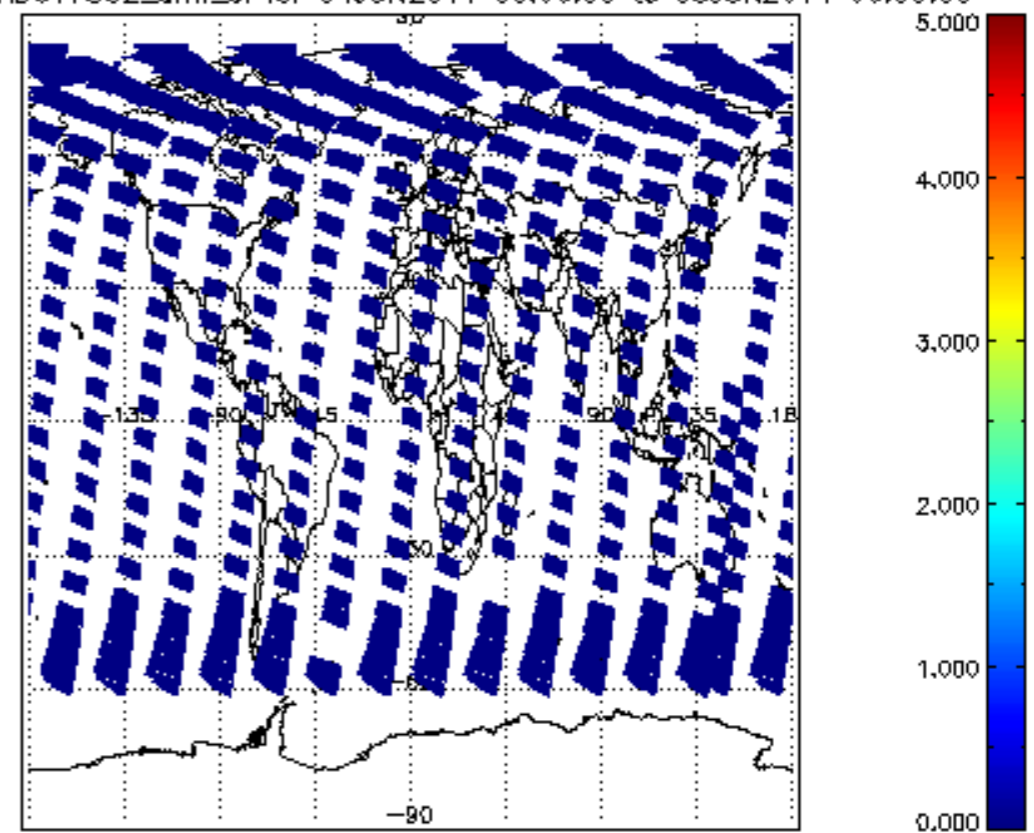
SCIOL2P\_NADUV7S02\_vcd\_err for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

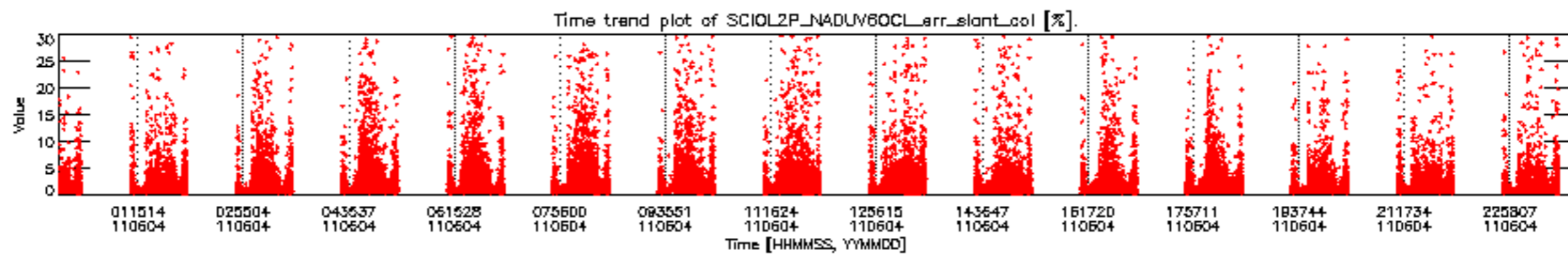
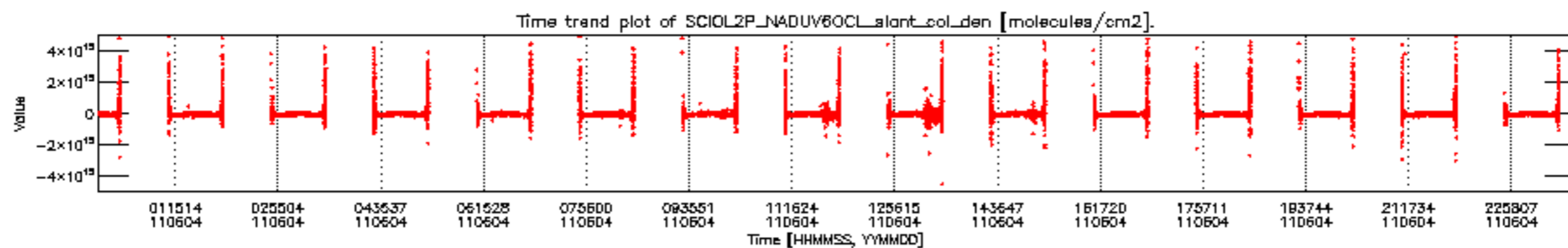


SCIOL2P\_NADUV7S02\_amf\_gr for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



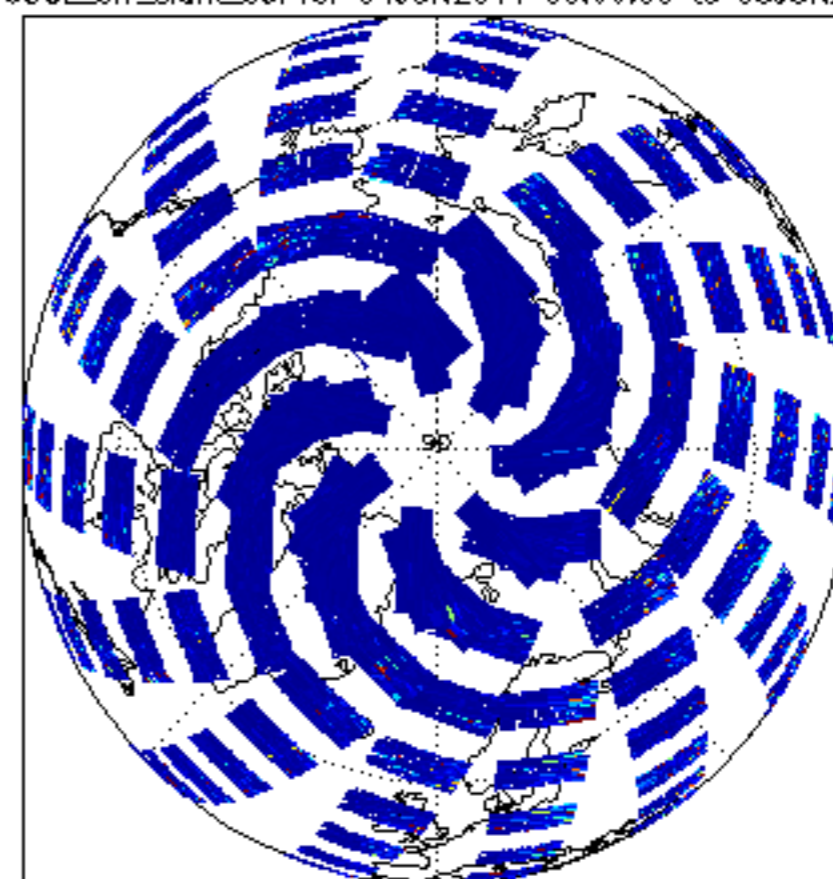
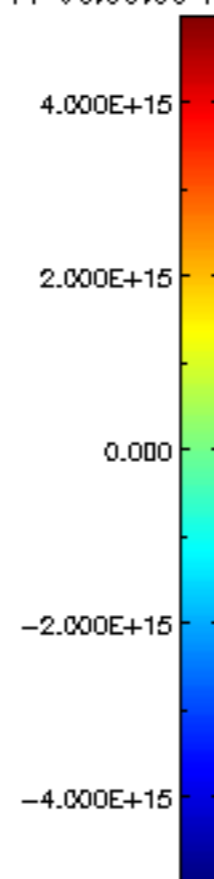
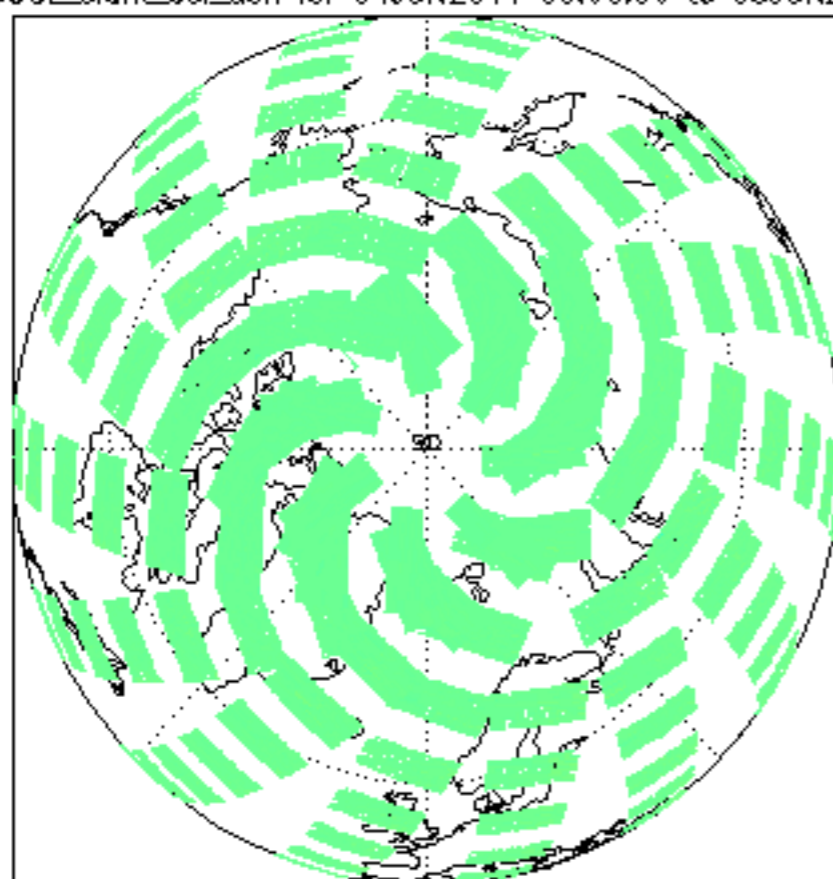
SCIOL2P\_NADUV7S02\_amf\_cl for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



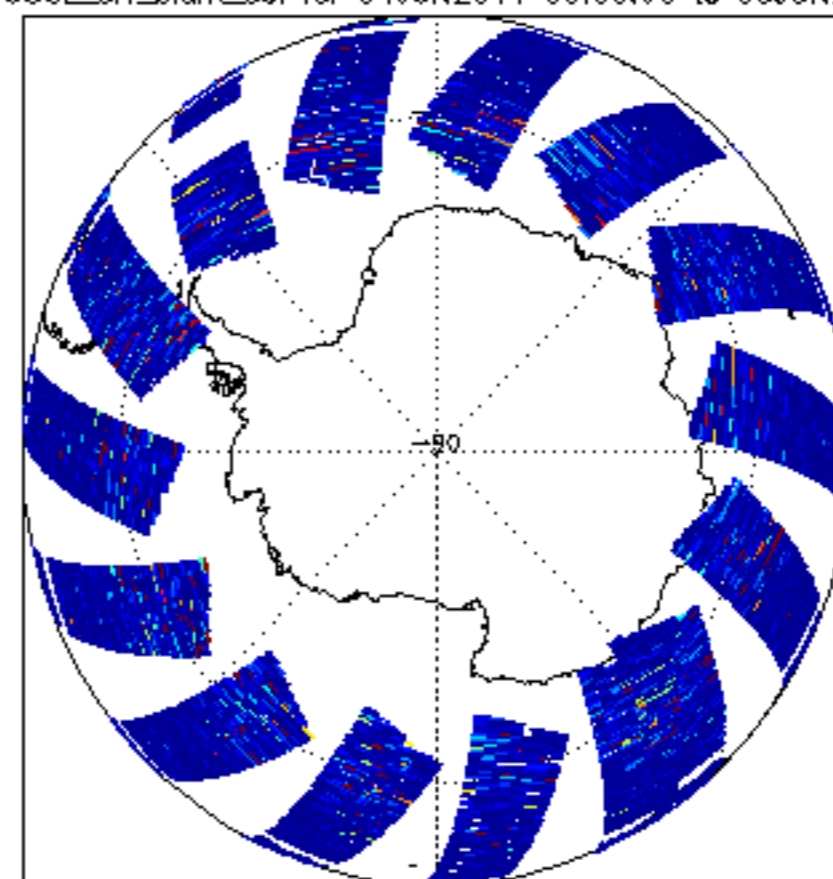
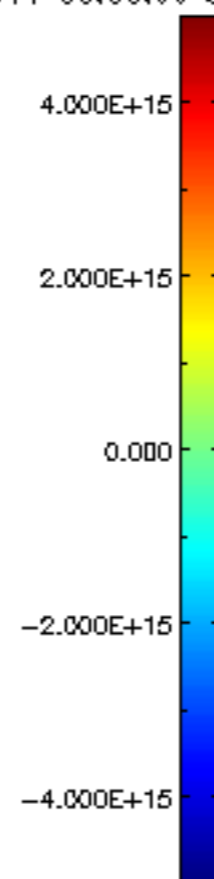
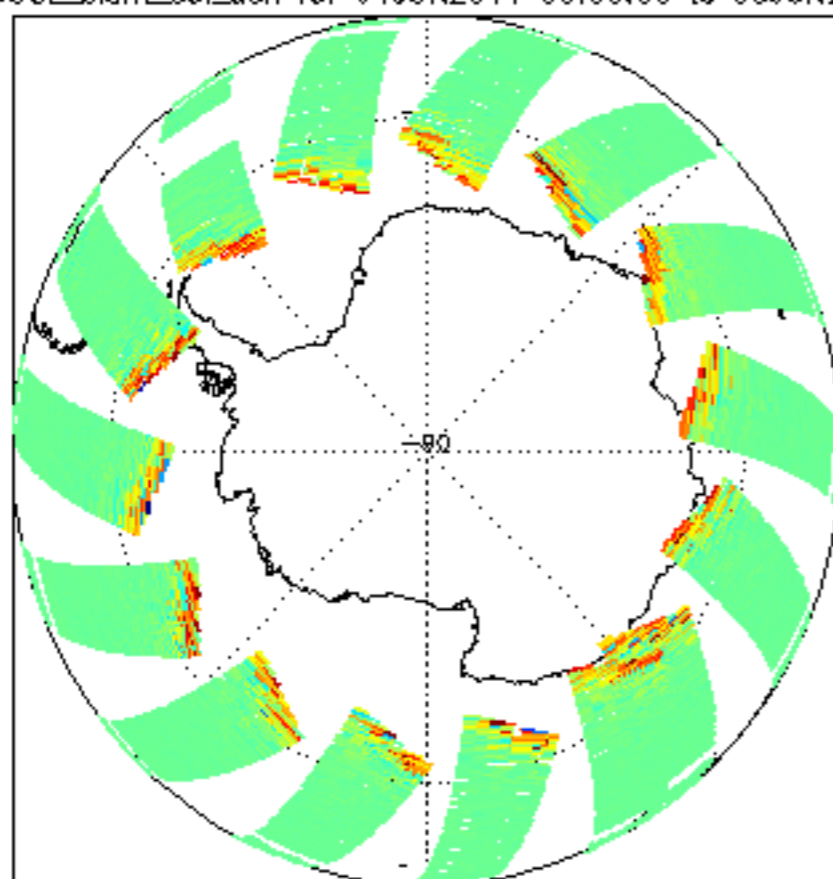




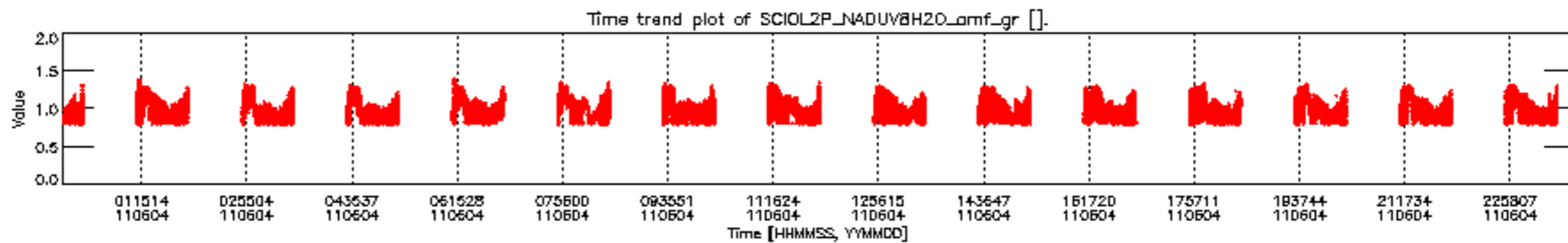
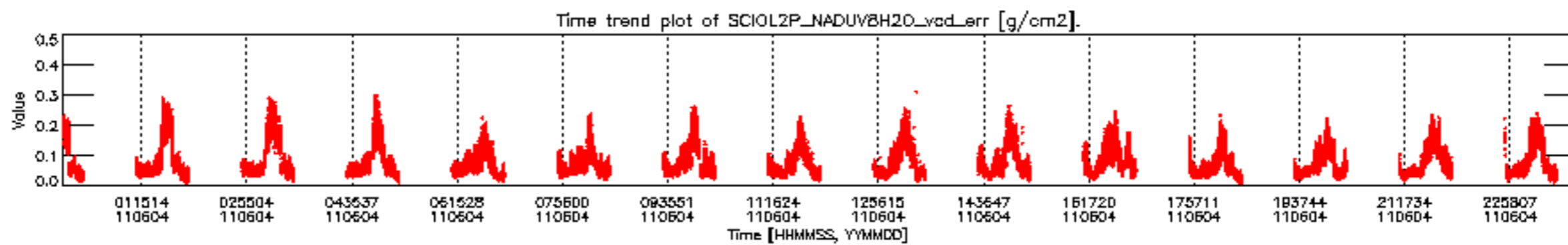
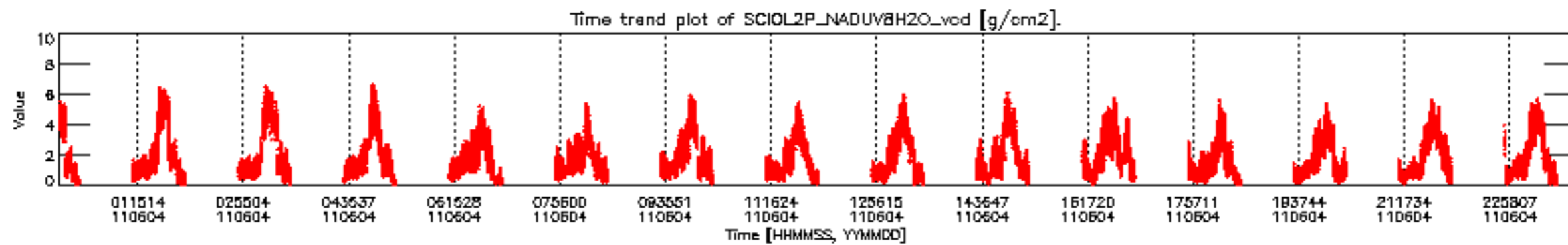
CIOL2P\_NADUV60CL\_slant\_col\_den for 04JUN2011 00:00:00 to 05JUN2011 00:00:00 np iCIOL2P\_NADUV60CL\_err\_slant\_col for 04JUN2011 00:00:00 to 05JUN2011 00:00:00 np



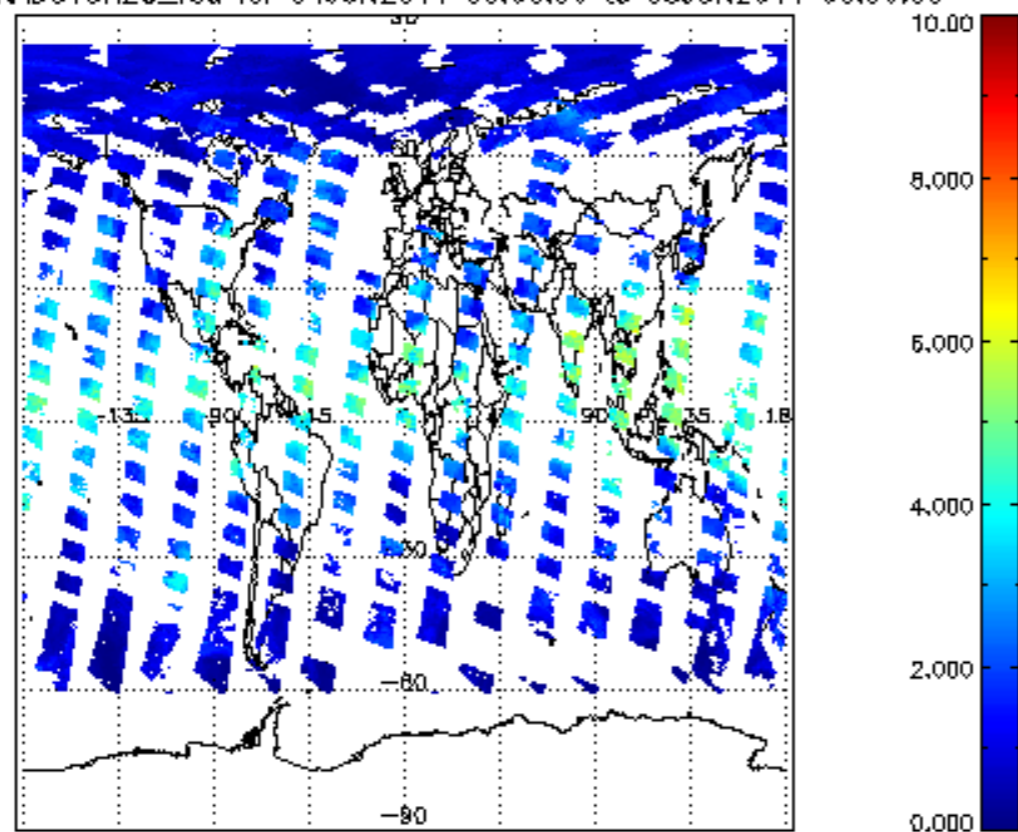
CIOL2P\_NADUV60CL\_slant\_col\_den for 04JUN2011 00:00:00 to 05JUN2011 00:00:00 sp iCIOL2P\_NADUV60CL\_err\_slant\_col for 04JUN2011 00:00:00 to 05JUN2011 00:00:00 sp



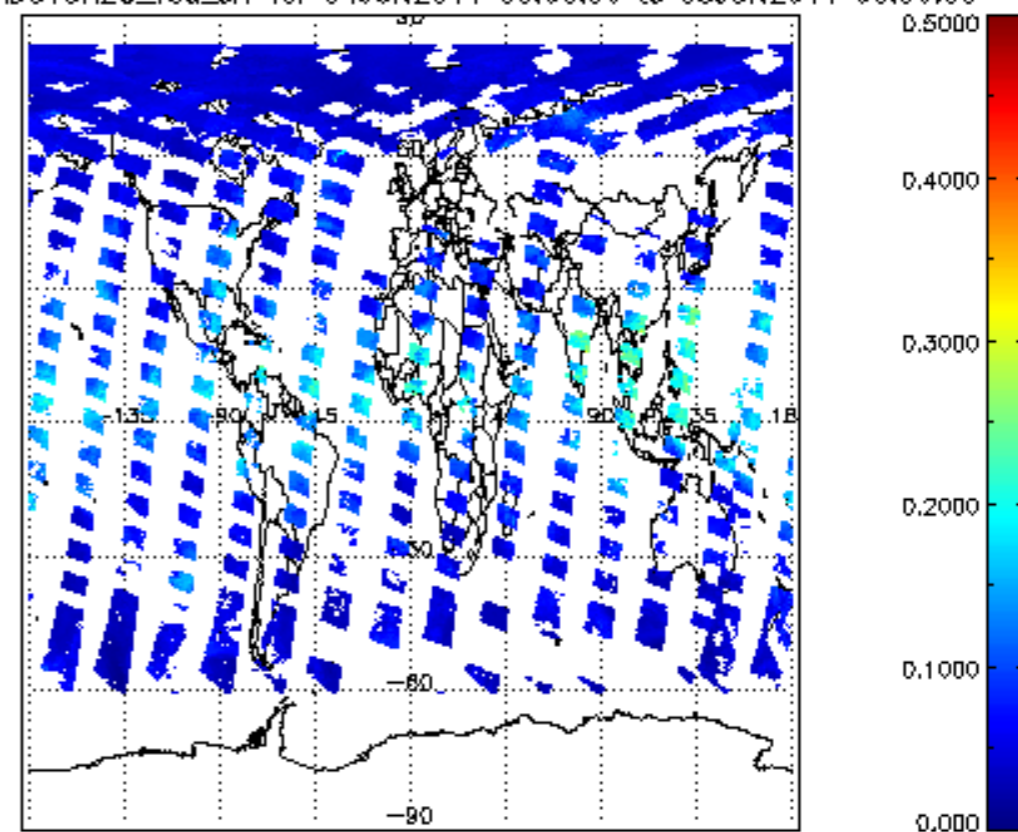




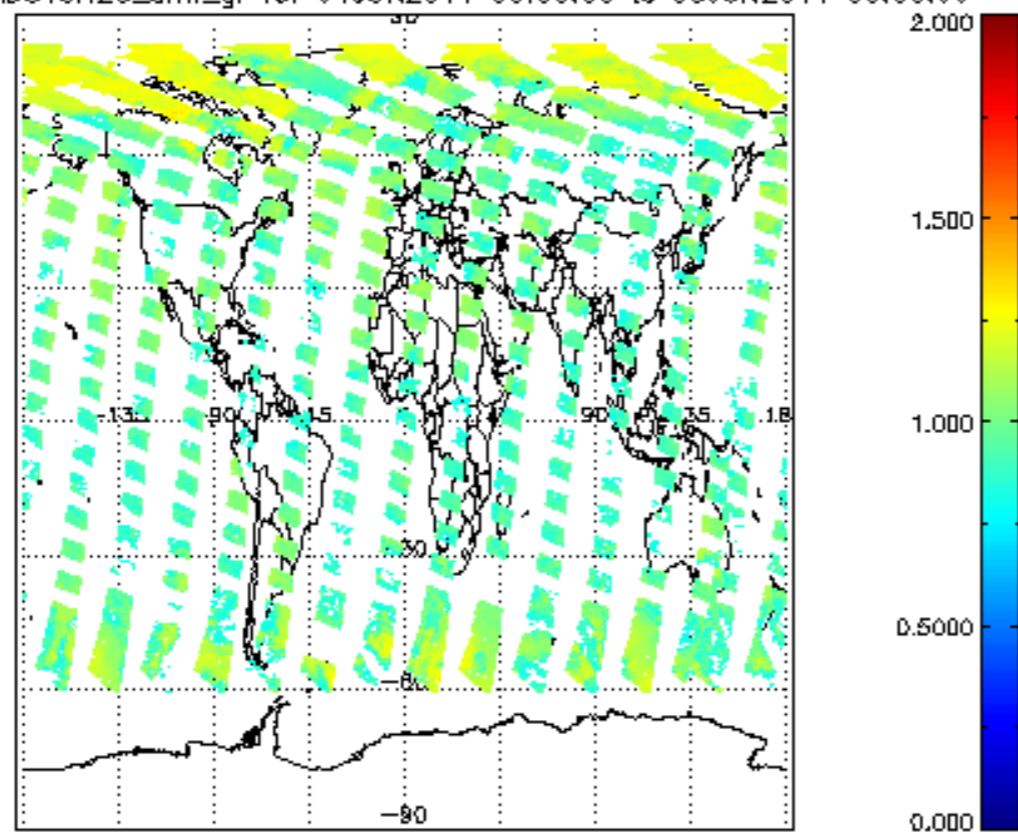
SCIOL2P\_NADUV8H20\_vcd for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



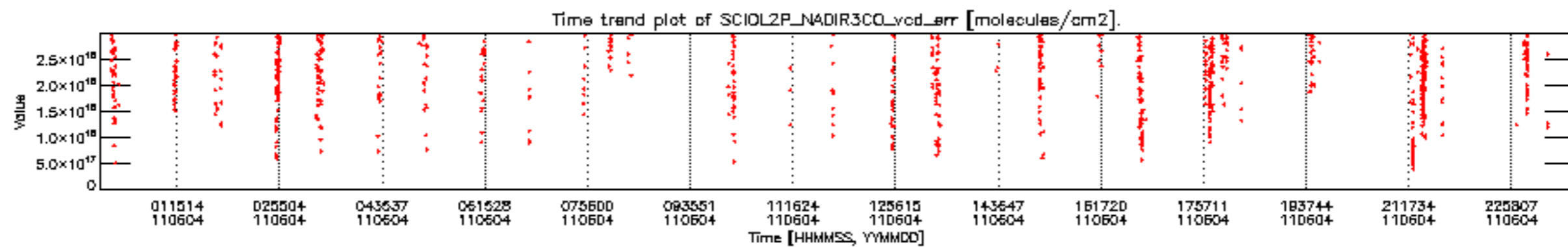
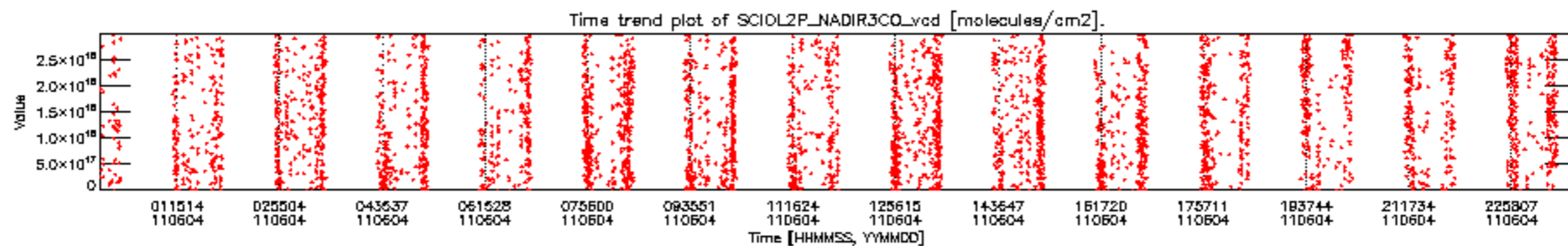
SCIOL2P\_NADUV8H20\_vcd\_err for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



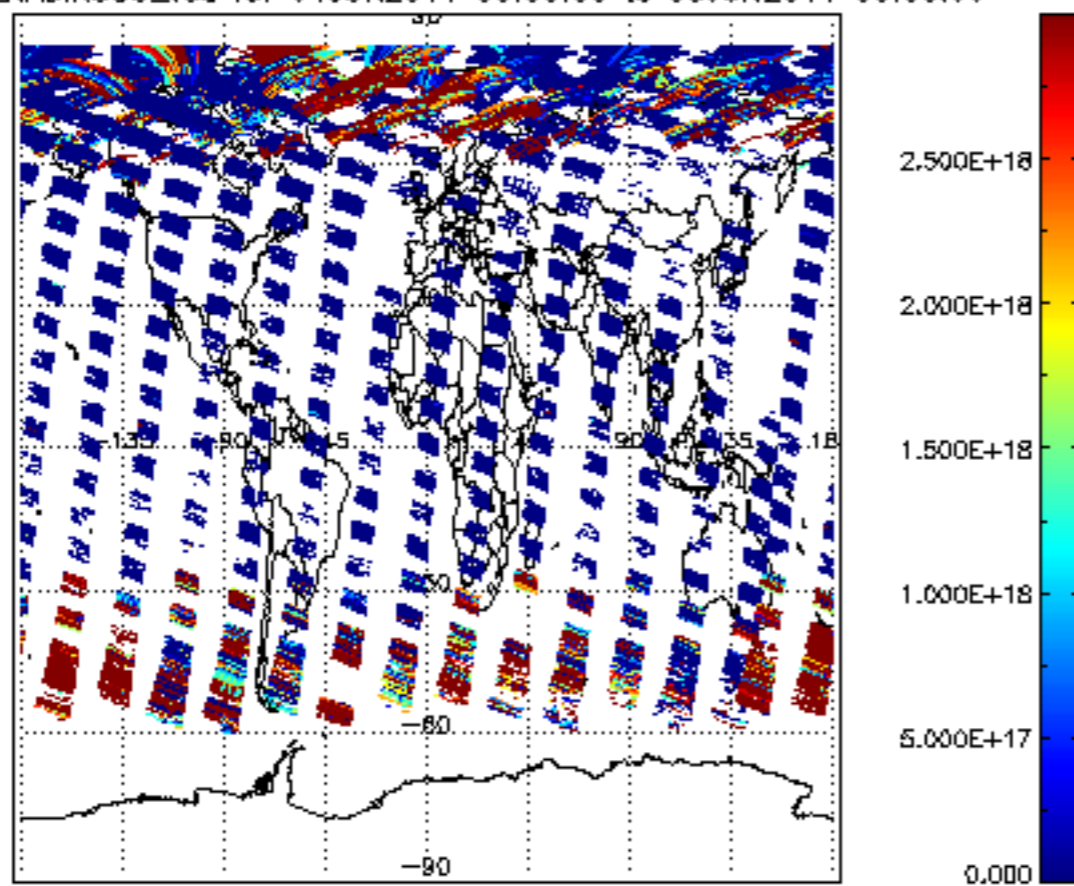
SCIOL2P\_NADUV8H20\_amf\_gr for 04JUN2011 00:00:00 to 05JUN2011 00:00:00



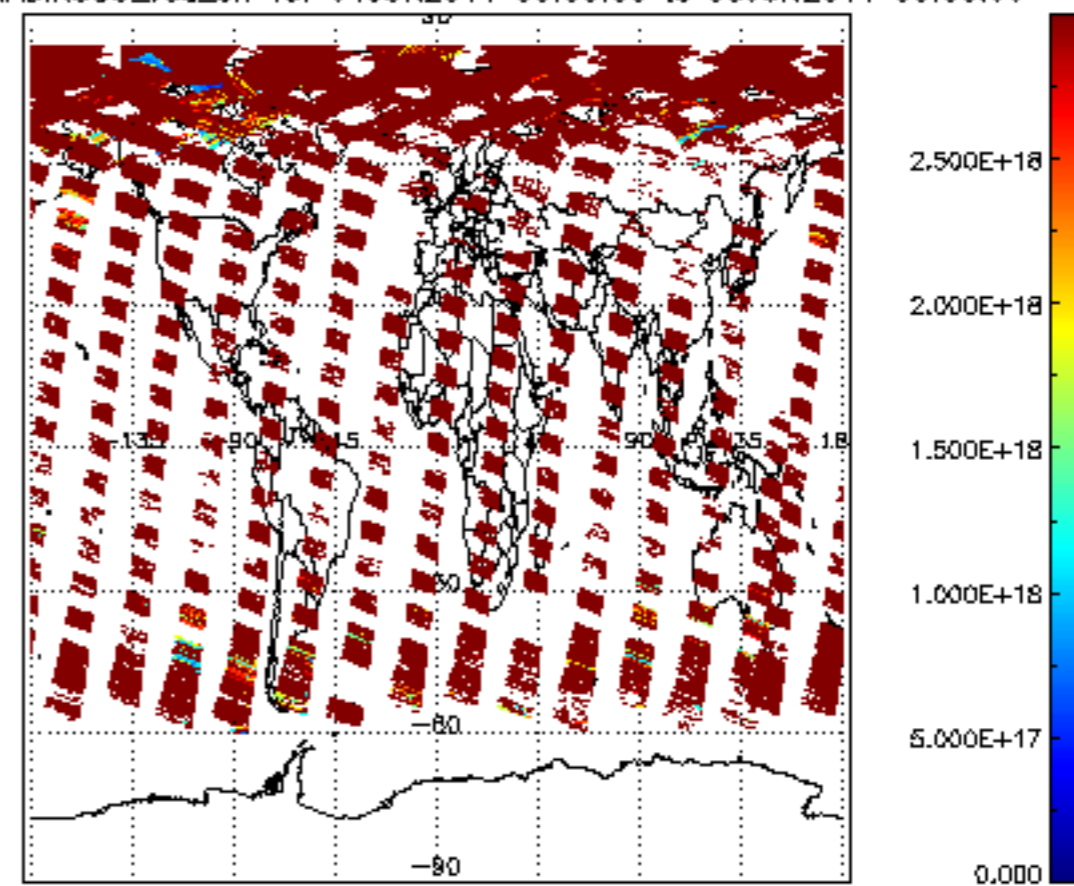




SCIOL2P\_NADIR3CO\_vcd for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

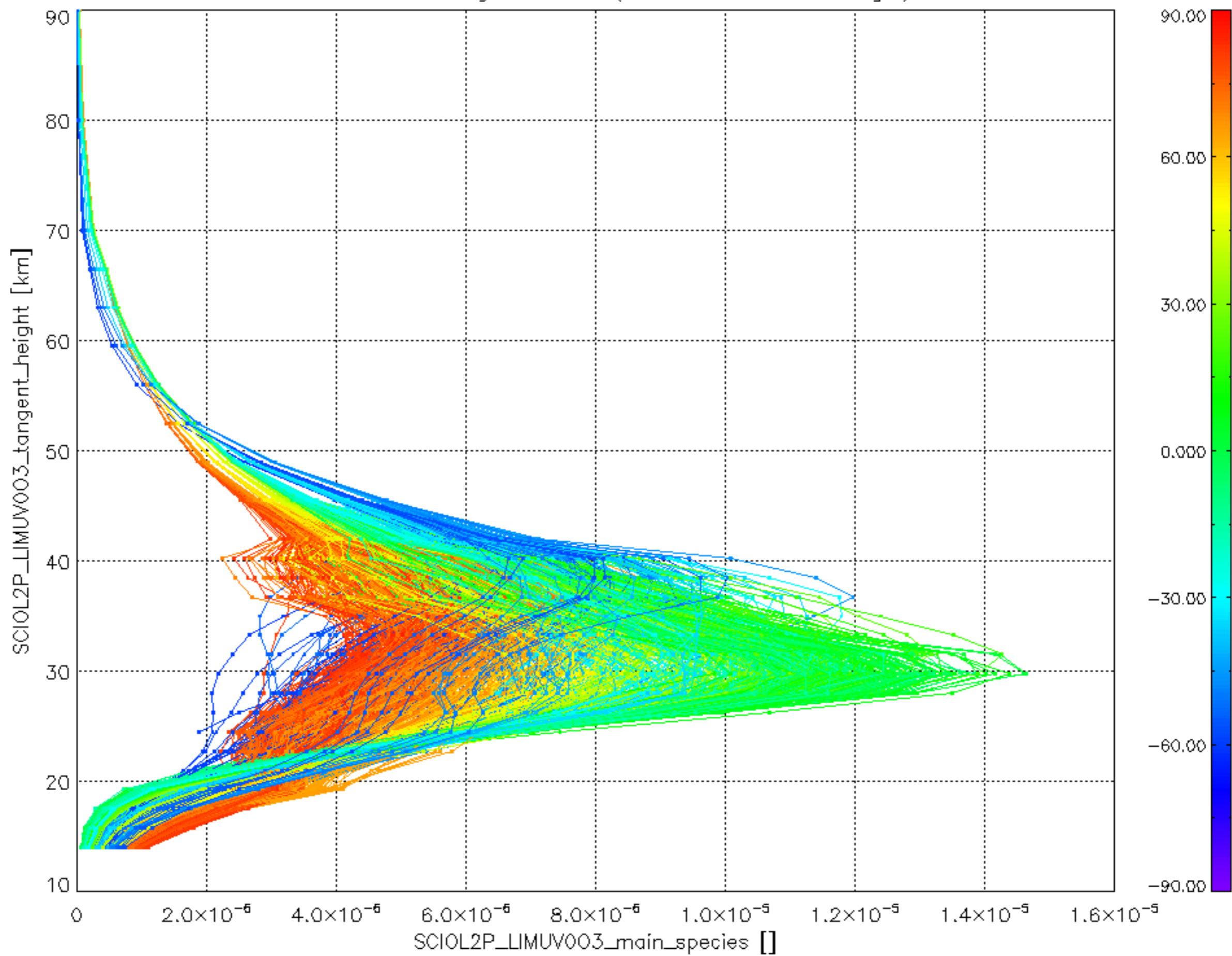


SCIOL2P\_NADIR3CO\_vcd\_err for 04JUN2011 00:00:00 to 05JUN2011 00:00:00

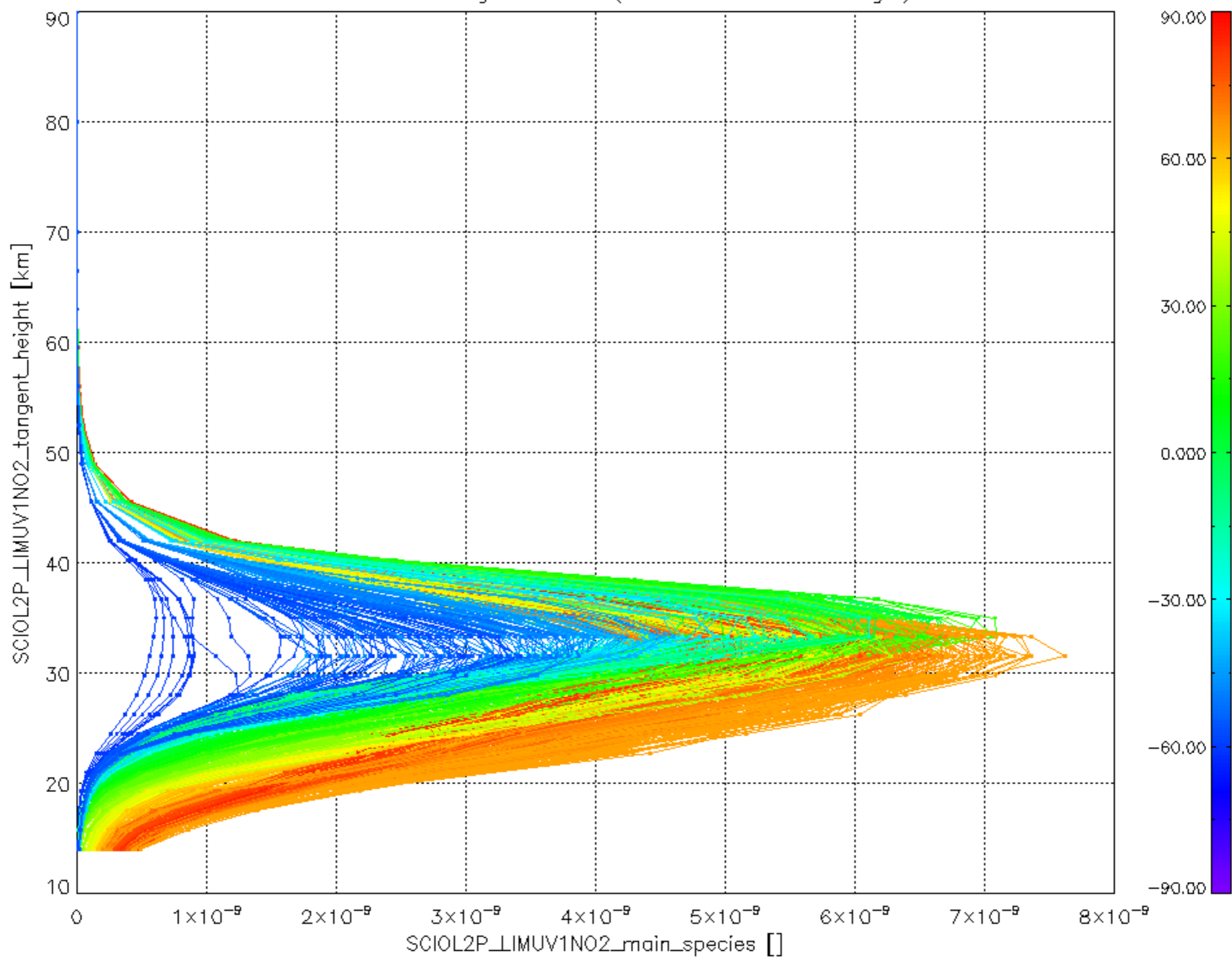




Plot of SCIOL2P\_LIMUV003\_main\_species.tang\_vmr vs. tangent height.  
 Colours indicate tangent latitude (see colour bar on the right).



Plot of SCIOL2P\_LIMUV1NO2\_main\_species.tang\_vmr vs. tangent height.  
 Colours indicate tangent latitude (see colour bar on the right).





Plot of SCIOL2P\_LIMUV3BRO\_main\_species.tang\_vmr vs. tangent height.  
 Colours indicate tangent latitude (see colour bar on the right).

