

## 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	17JAN2012 03:21:40
Data source version	SCIA-OL/5.02-W
Processing scope for products	04JAN2012 00:00:00 to 05JAN2012 00:00:00
Start time of first product within scope	03JAN2012 22:51:54
Stop time of last product within scope	05JAN2012 00:54:11
Total number of level 2 products	15
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__2PWDPA20120103_225154_000035163110_00188_51495_2994.N1</a>	03JAN2012 22:51:54	03JAN2012 23:50:30	0	GOOD
1	<a href="#">SCI_OL__2PWDPA20120104_003207_000035303110_00189_51496_2995.N1</a>	04JAN2012 00:32:07	04JAN2012 01:30:58	0	GOOD
2	<a href="#">SCI_OL__2PWDPA20120104_021221_000035163110_00190_51497_2996.N1</a>	04JAN2012 02:12:21	04JAN2012 03:10:57	0	GOOD
3	<a href="#">SCI_OL__2PWDPA20120104_035235_000035303110_00191_51498_2997.N1</a>	04JAN2012 03:52:35	04JAN2012 04:51:25	0	GOOD
4	<a href="#">SCI_OL__2PWDPA20120104_053249_000035163110_00192_51499_2998.N1</a>	04JAN2012 05:32:49	04JAN2012 06:31:25	0	GOOD

5	SCI_OL__2PWDP	A20120104_071302_000035303110_00193_51500_2999.N1	04JAN2012 07:13:02	04JAN2012 08:11:53	0	GOOD
6	SCI_OL__2PWDP	A20120104_085316_000035163110_00194_51501_3000.N1	04JAN2012 08:53:16	04JAN2012 09:51:52	0	GOOD
7	SCI_OL__2PWDP	A20120104_103330_000035303110_00195_51502_3001.N1	04JAN2012 10:33:30	04JAN2012 11:32:20	0	GOOD
8	SCI_OL__2PWDP	A20120104_121344_000035163110_00196_51503_3002.N1	04JAN2012 12:13:44	04JAN2012 13:12:20	0	GOOD
9	SCI_OL__2PWDP	A20120104_135357_000035303110_00197_51504_3003.N1	04JAN2012 13:53:57	04JAN2012 14:52:48	0	GOOD
10	SCI_OL__2PWDP	A20120104_153411_000035163110_00198_51505_3004.N1	04JAN2012 15:34:11	04JAN2012 16:32:47	0	GOOD
11	SCI_OL__2PWDP	A20120104_171425_000035303110_00199_51506_3005.N1	04JAN2012 17:14:25	04JAN2012 18:13:16	0	GOOD
12	SCI_OL__2PWDP	A20120104_185540_000034593110_00200_51507_3006.N1	04JAN2012 18:55:40	04JAN2012 19:53:19	0	GOOD
13	SCI_OL__2PWDP	A20120104_221506_000035163110_00202_51509_3007.N1	04JAN2012 22:15:06	04JAN2012 23:13:42	0	GOOD
14	SCI_OL__2PWDP	A20120104_235520_000035303110_00203_51510_3022.N1	04JAN2012 23:55:20	05JAN2012 00:54:11	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: 145600

Total number of cloud data DSRs with good quality flag (=0): 145600 (100.0 %)

Parameter	#valid	Mean	Median	Min	Max	Stddev	Unit
QUALITY_FLAG	145600	0.0000	0.0000	0.0000	0.0000	0.0000	
INTEGR_TIME	145600	0.16696	0.12500	0.12500	0.25000	0.059030	s
CL_FRAC	145600	0.41801	0.40764	0.0000	1.0000	0.29844	
CL_FRAC_ERR	145600	0.0000	0.0000	0.0000	0.0000	0.0000	%
PMD_READ	145600	5.3429	4.0000	4.0000	8.0000	1.8890	
PMD_READ_CL[0]	145600	0.46060	0.0000	0.0000	8.0000	1.3637	-
PMD_READ_CL[1]	145600	1.1343	0.0000	0.0000	8.0000	2.3883	-
CL_TOP_HEIGHT	120009	3.9016	3.1350	0.0000	17.000	3.5678	km
CL_TOP_HEIGHT_ERR	0	---	---	---	---	---	---
CL_OPT_DEPTH	120009	55.238	47.906	0.0000	101.00	41.317	km
CL_OPT_DEPTH_ERR	0	---	---	---	---	---	---
CL_TYPE_FLAGS	145600	11100000	11100000	11100000	11100000	0.0000	
CLOUD_FLAGS	145600	11001011	11000100	11000000	11100000	3438.0	
AERO_ABSO_IND	145600	0.070957	0.0000	0.0000	13.465	0.26116	
AERO_IND_DIAG	145600	0.0000	0.0000	0.0000	0.0000	0.0000	
AERO_FLAGS	145600	01010110	00000000	00000000	11000000	24467.	

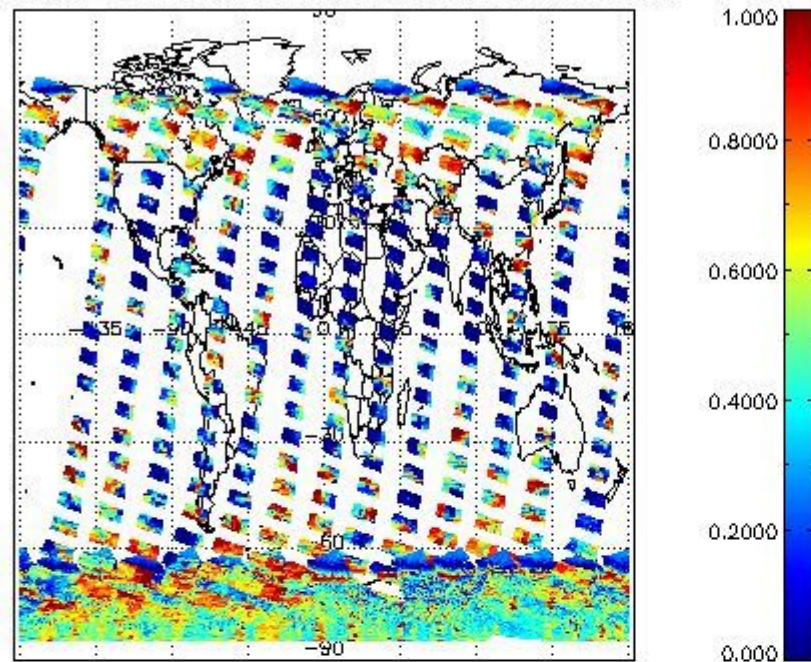
#### Time and geolocation plots:

Plots are available for the following parameters:

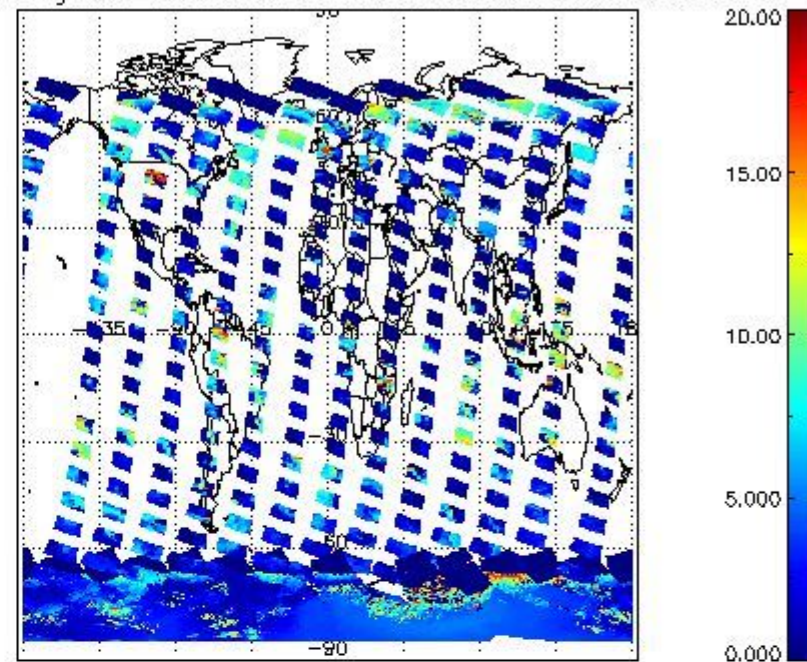
Number	Data item ID
0	cl_frac
1	cl_top_height
2	cl_opt_depth
3	cloud_flags



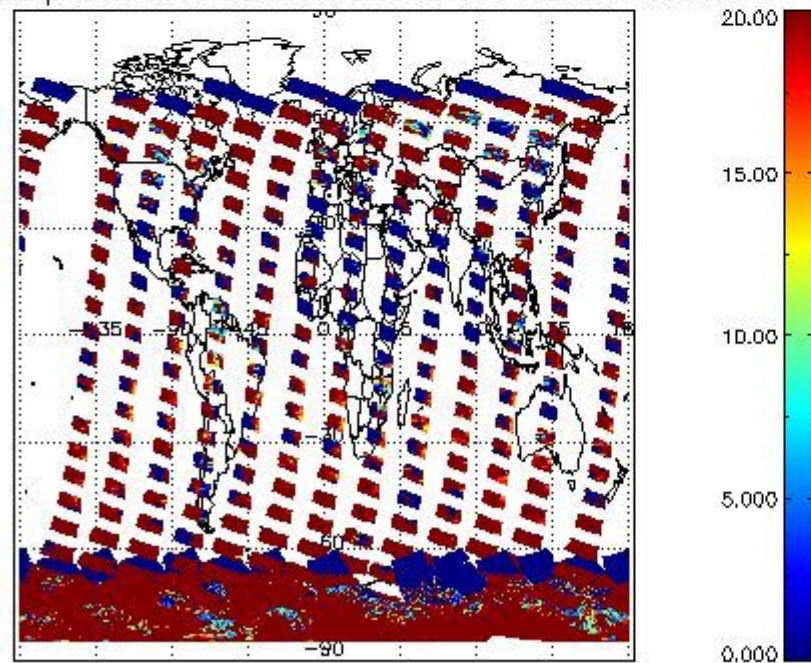
cL\_frac for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



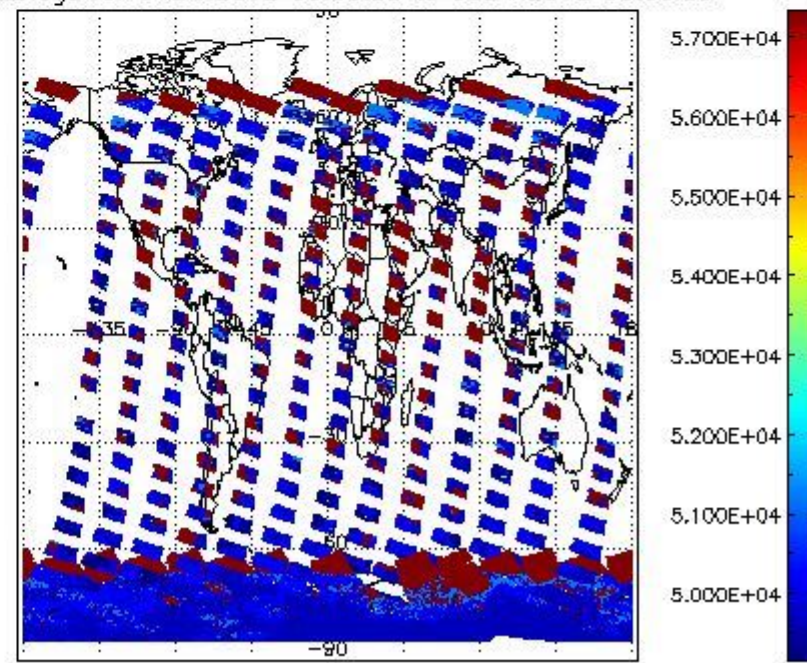
cL\_top\_height for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



cLopt\_depth for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



cloud\_flags for 04JAN2012 00:00:00 to 05JAN2012 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:

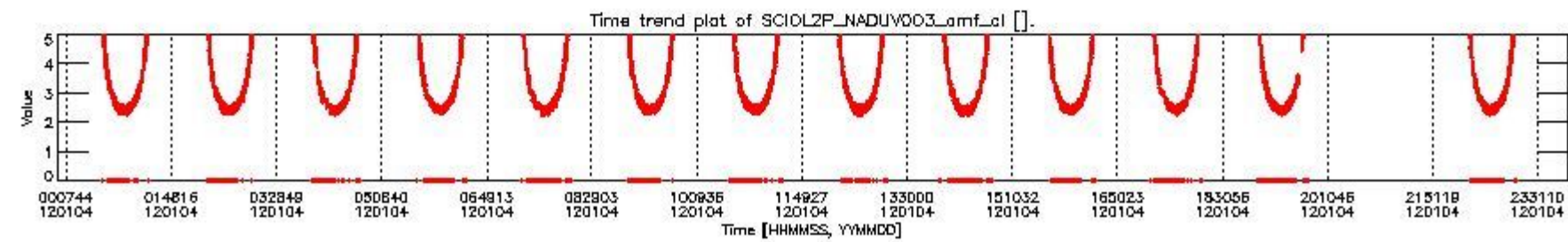
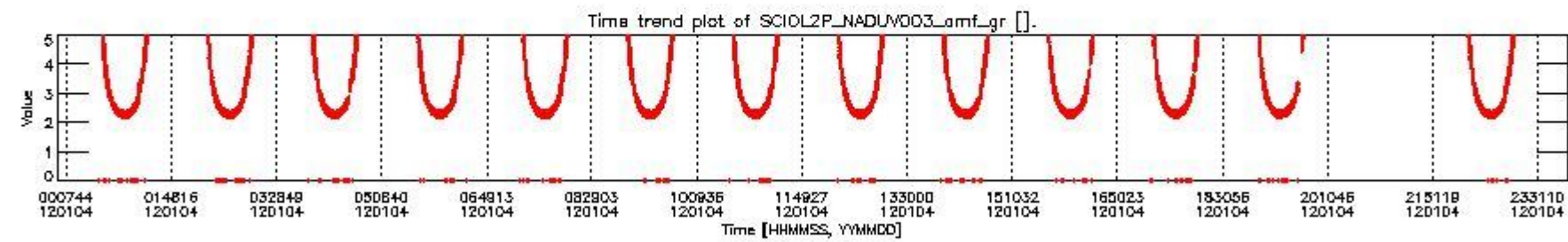
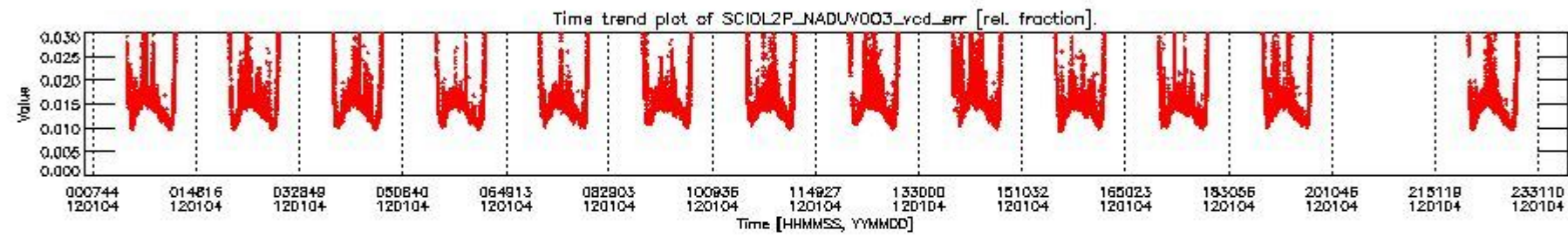
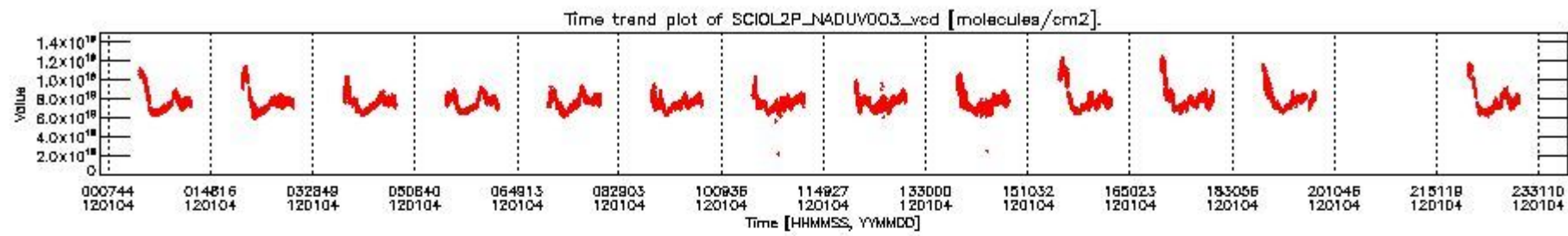
Number	Data item ID
0	SCIOL2P_NADUV003_vcd
1	SCIOL2P_NADUV003_vcd_err
2	SCIOL2P_NADUV003_amf_gr

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.

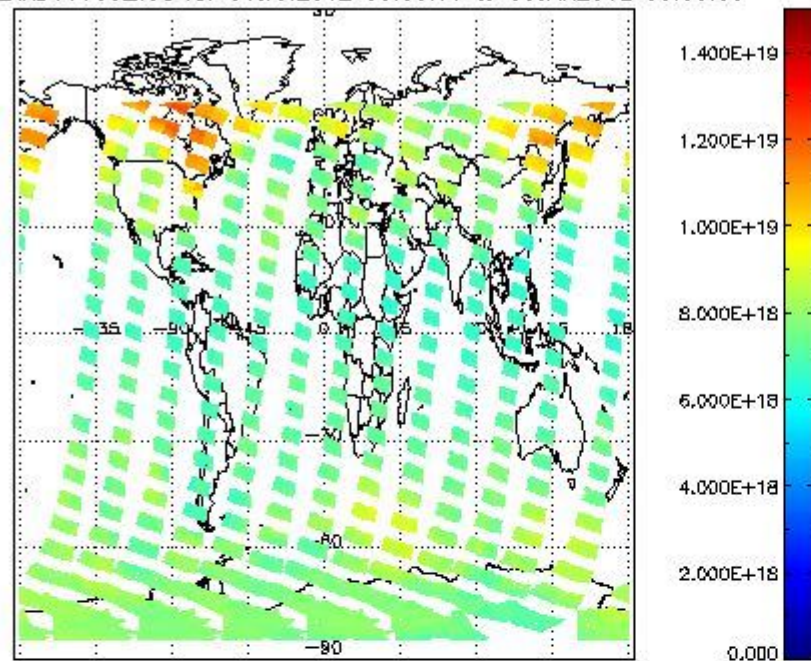
#### 2.2.2.1 O3 (UV0)



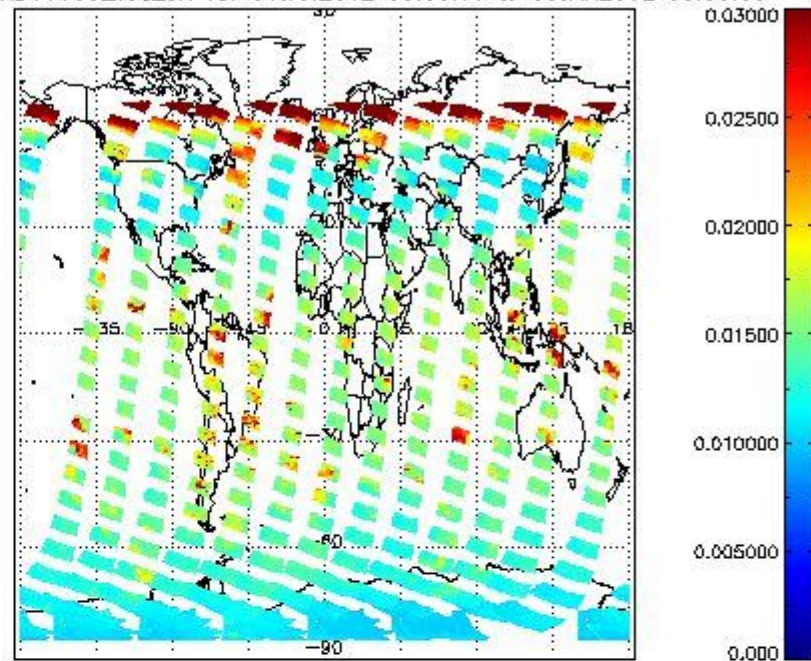




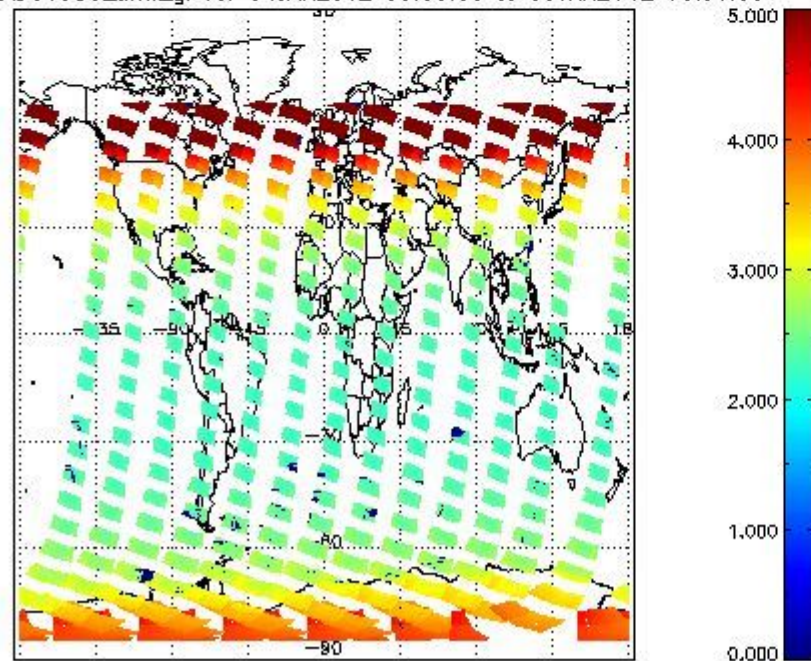
SCIOL2P\_NADUV003\_vcd for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



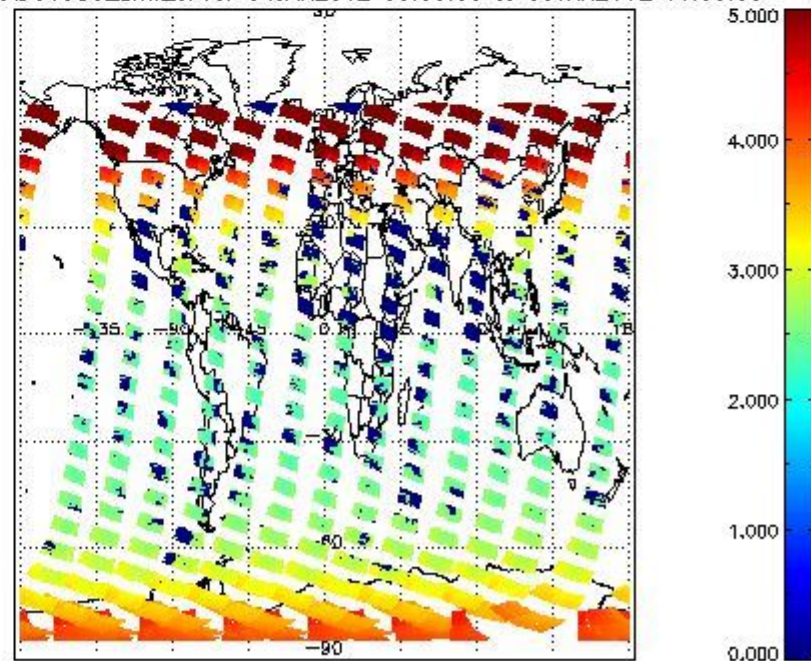
SCIOL2P\_NADUV003\_vcd\_err for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



SCIOL2P\_NADUV003\_amf\_gr for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

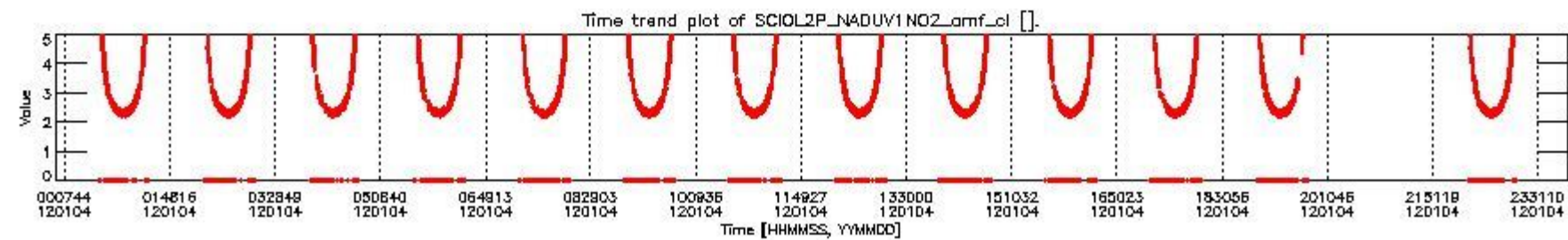
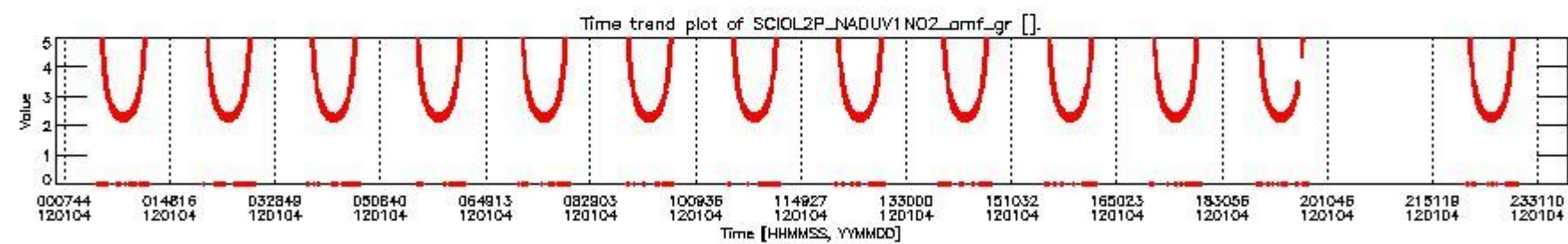
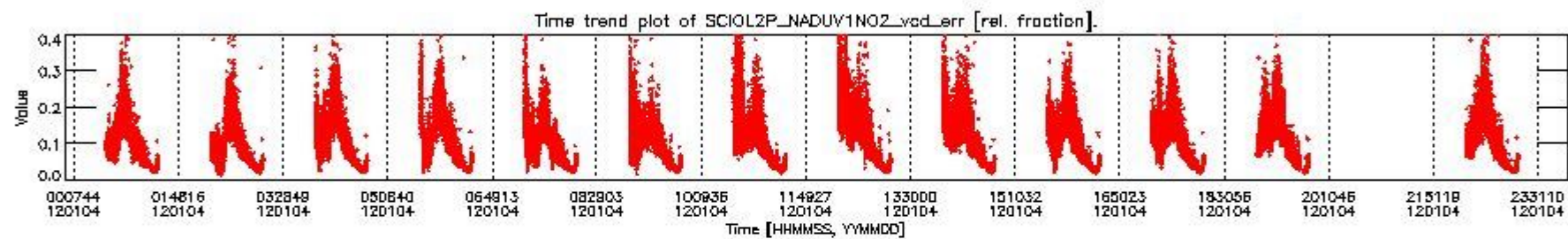
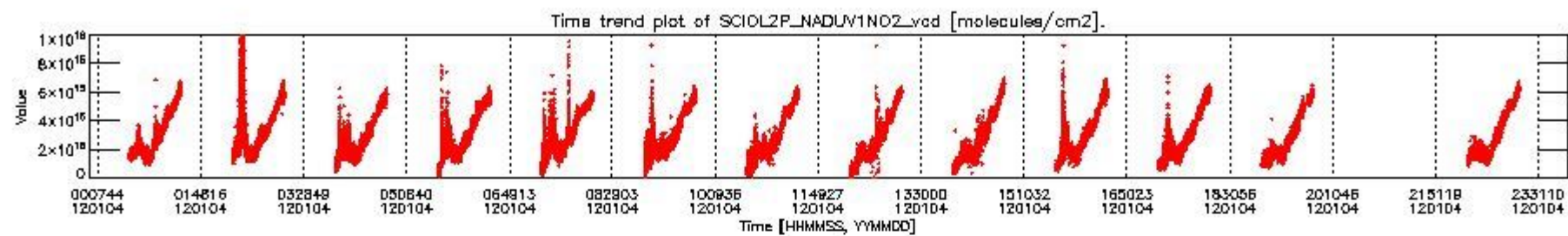


SCIOL2P\_NADUV003\_amf\_cl for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



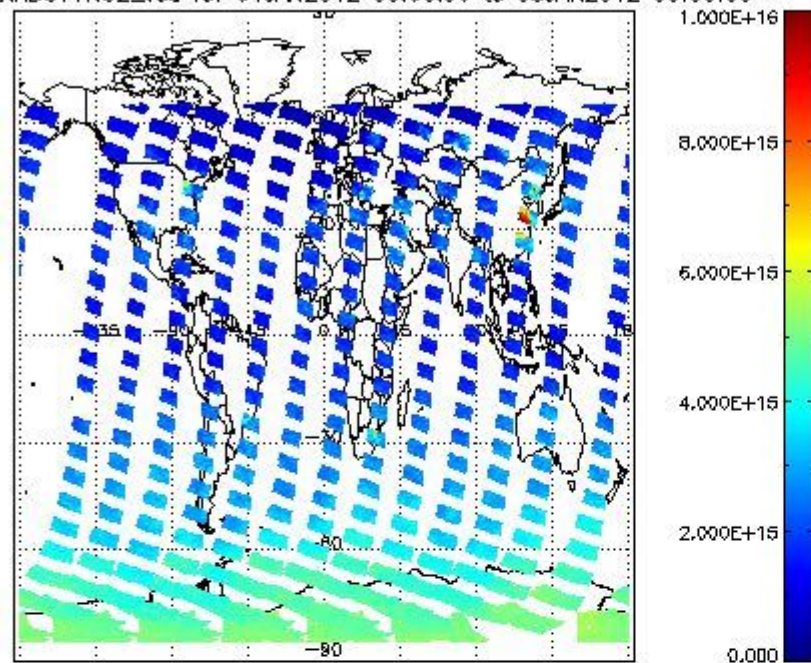
2.2.2.2 NO2 (UV1)



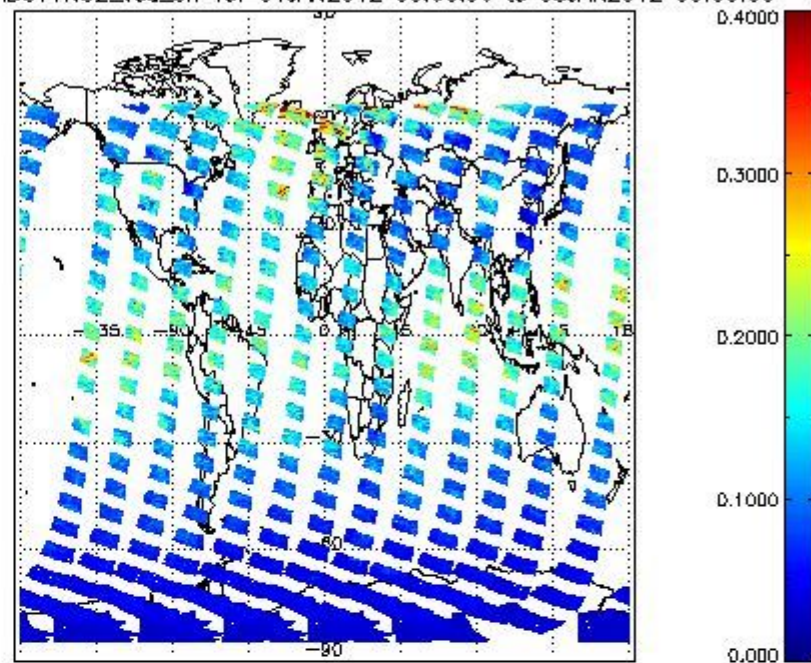




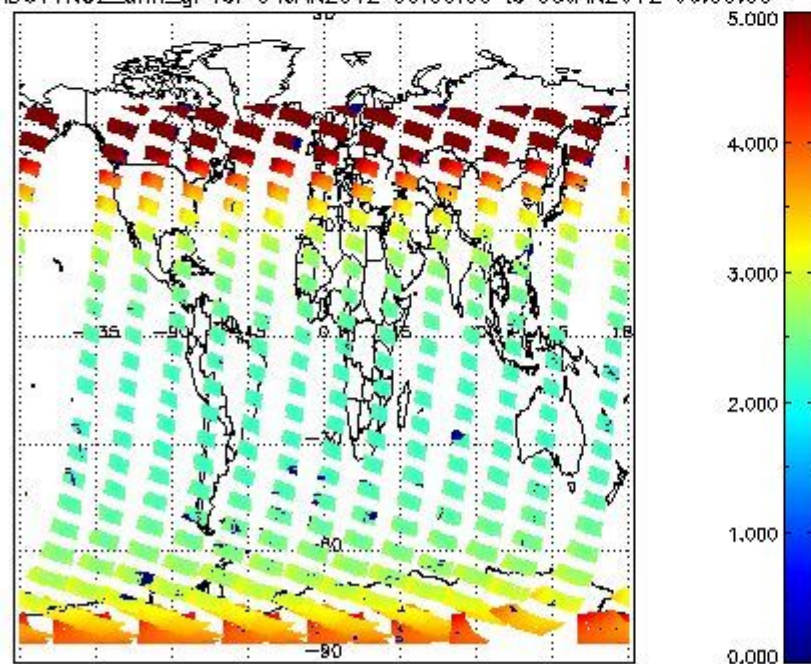
SCIOL2P\_NADUV1N02\_vcd for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



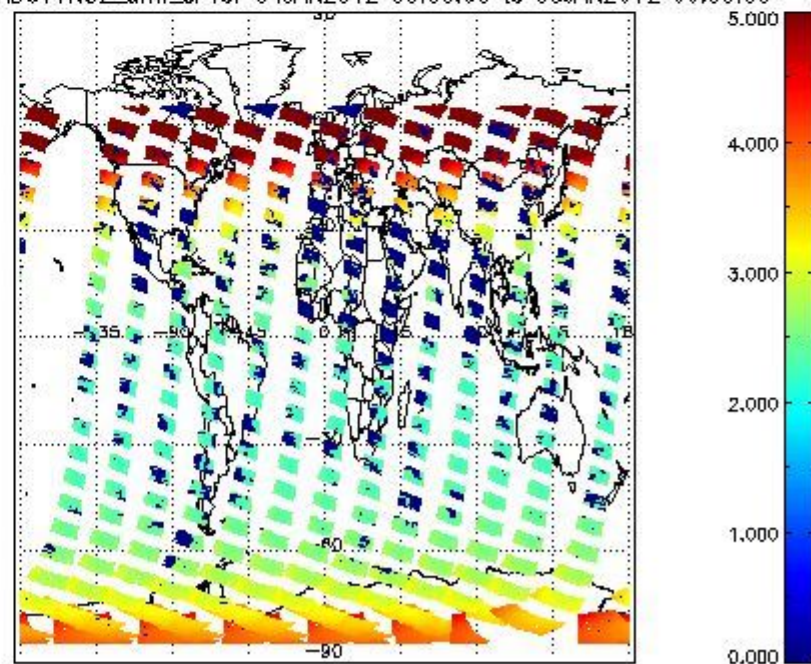
SCIOL2P\_NADUV1N02\_vcd\_err for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



SCIOL2P\_NADUV1N02\_amf\_gr for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

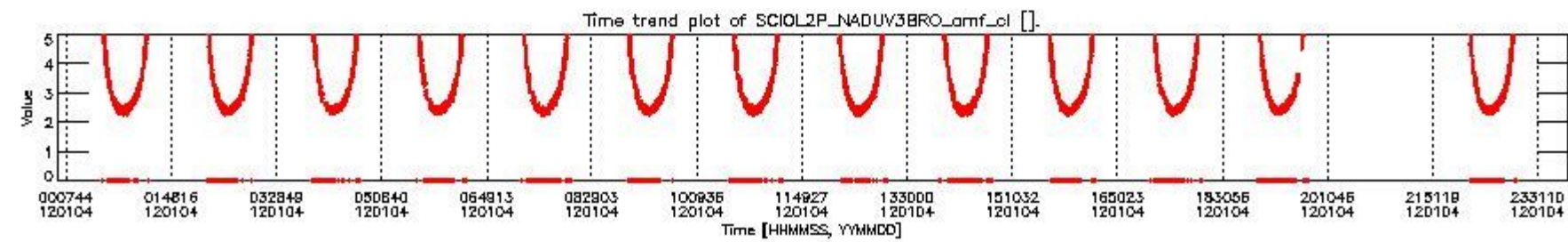
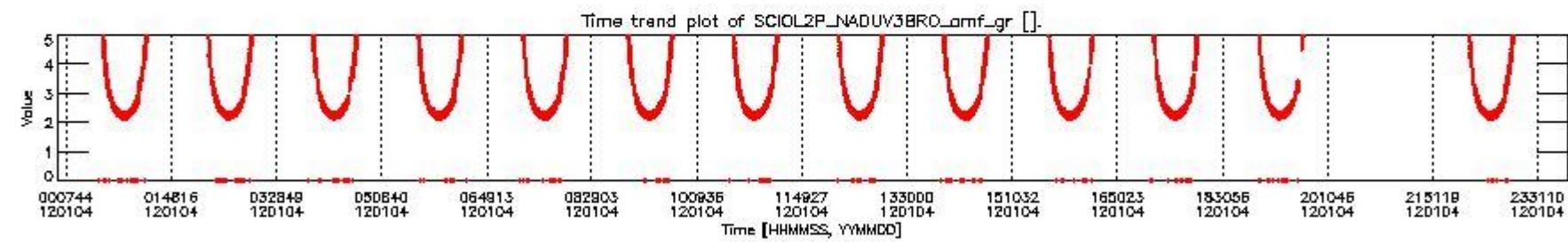
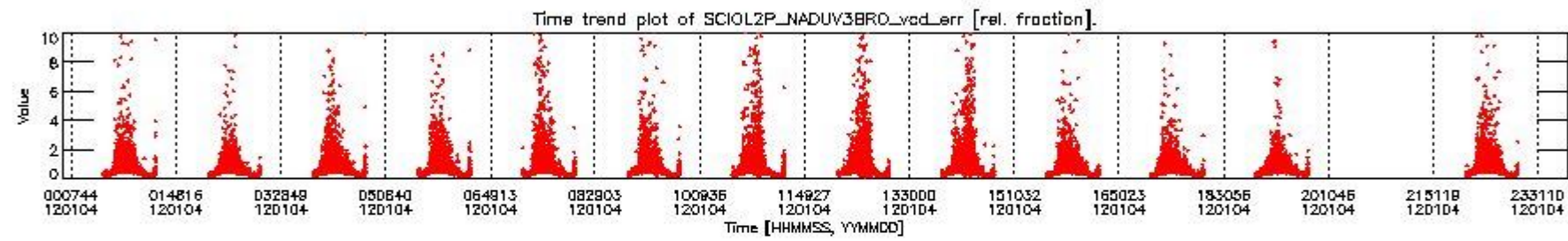
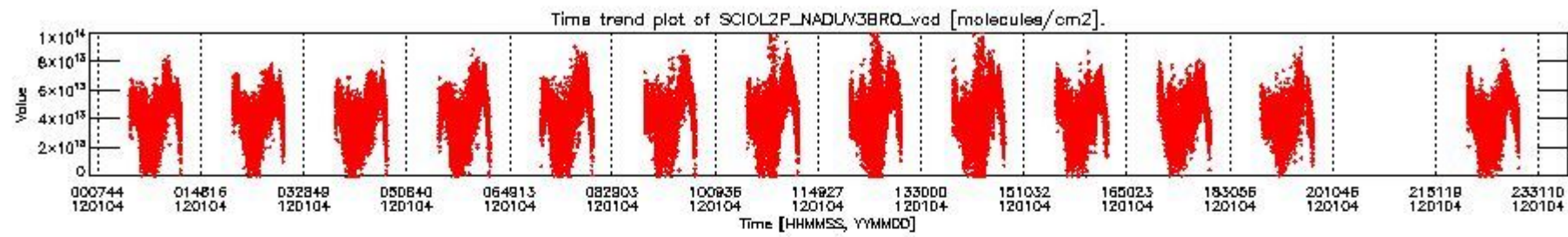


SCIOL2P\_NADUV1N02\_amf\_cl for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



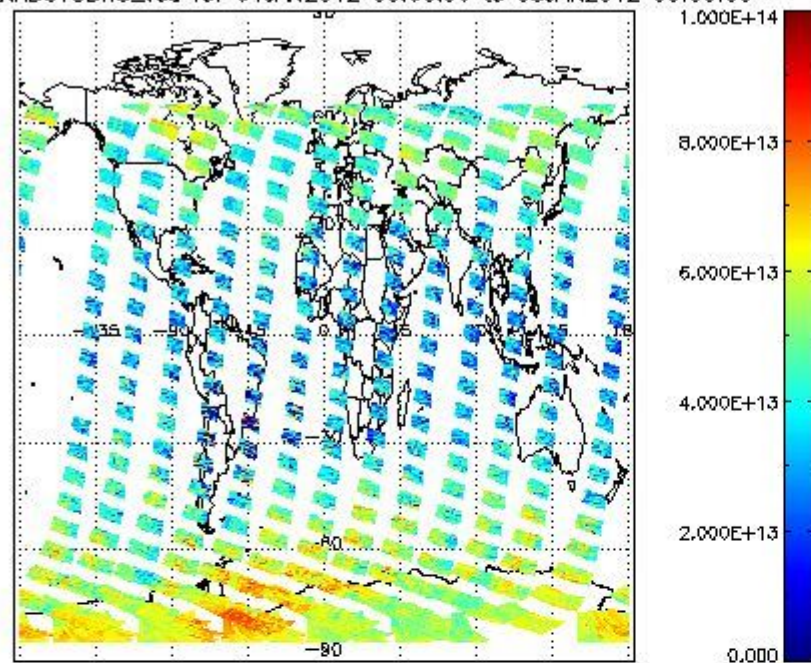
2.2.2.3 BrO (UV3)



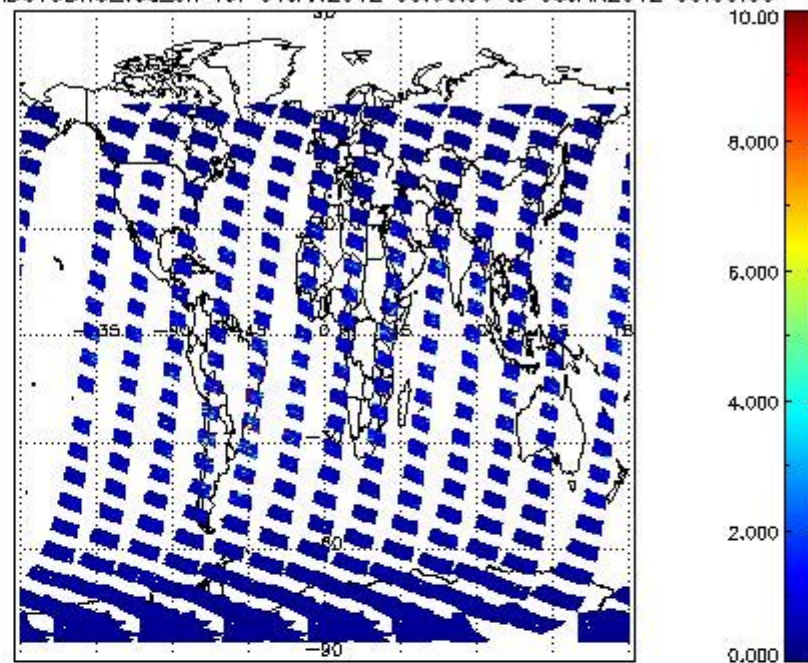




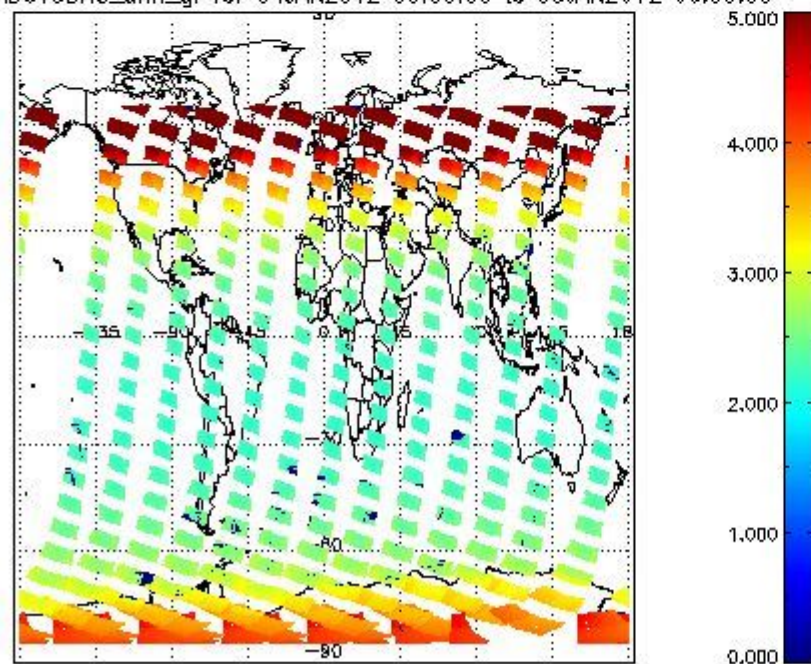
SCIOL2P\_NADUV3BRO\_vcd for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



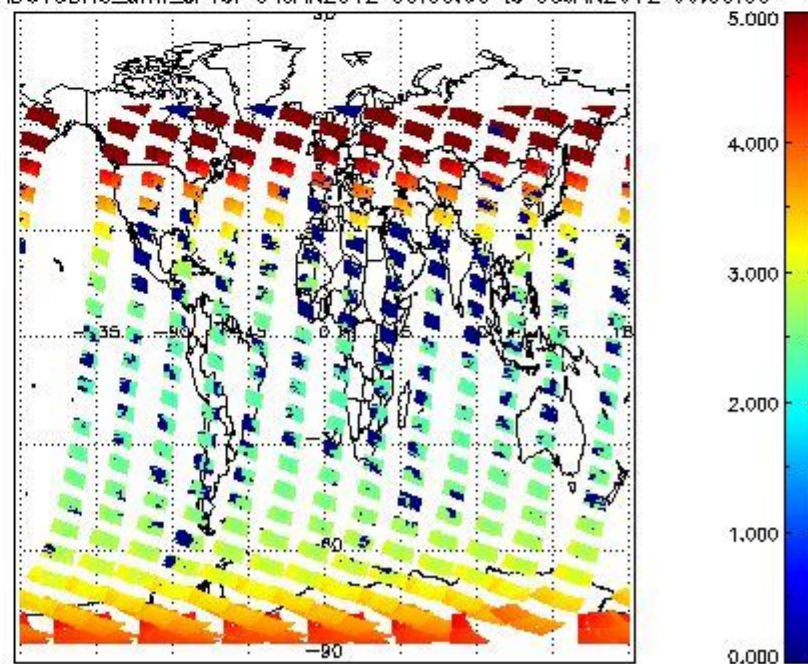
SCIOL2P\_NADUV3BRO\_vcd\_err for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



SCIOL2P\_NADUV3BRO\_amf\_gr for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

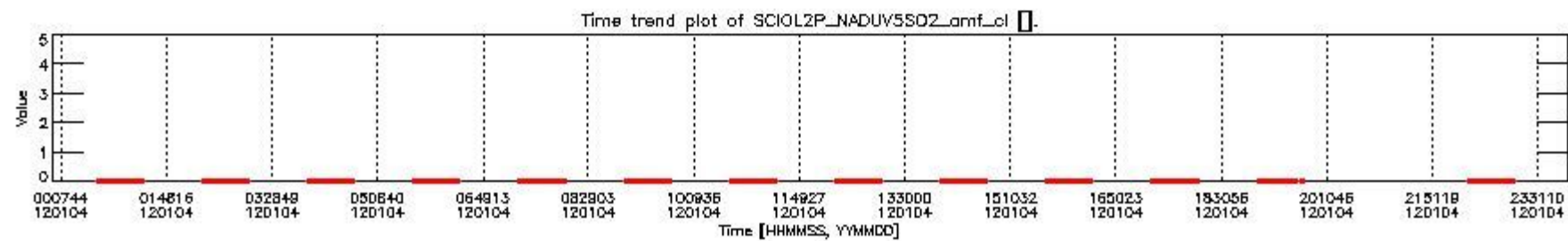
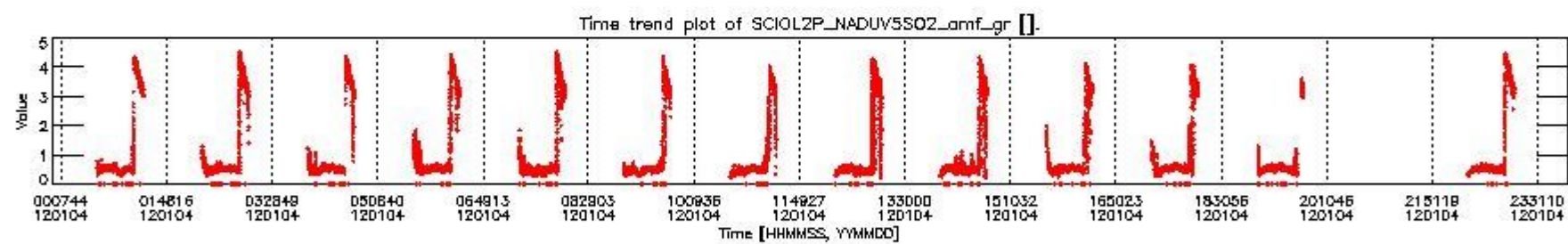
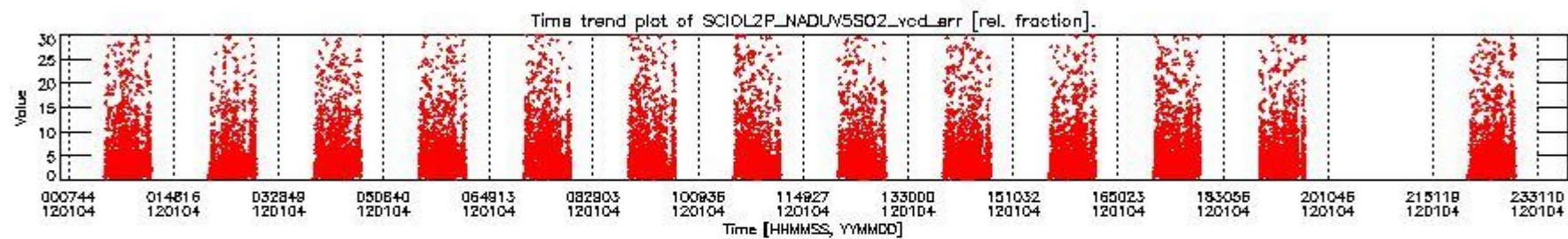
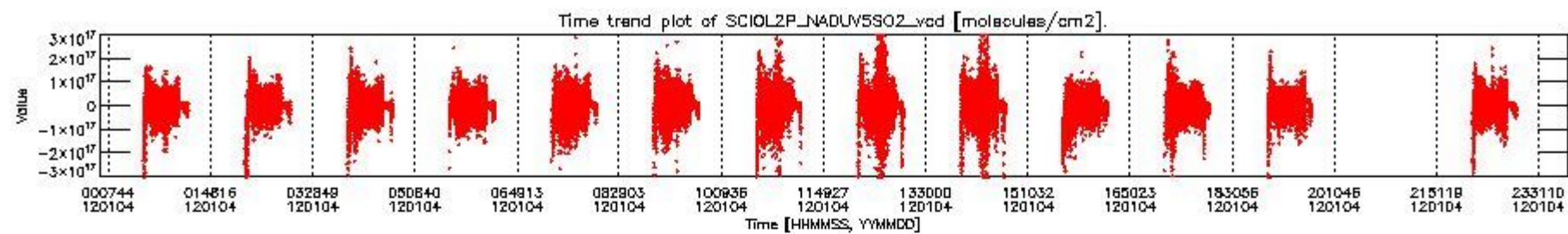


SCIOL2P\_NADUV3BRO\_amf\_cl for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



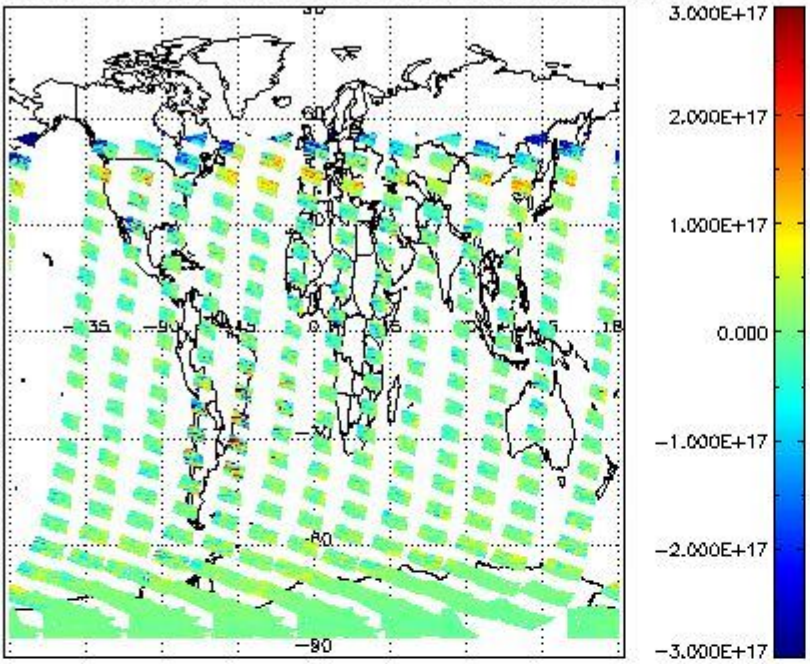
#### 2.2.2.4 SO2 (UV5)



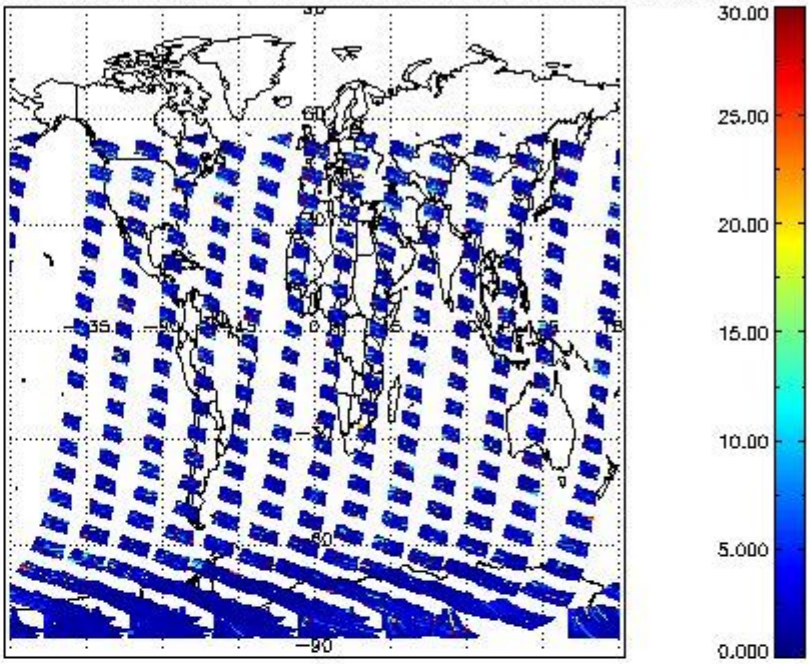




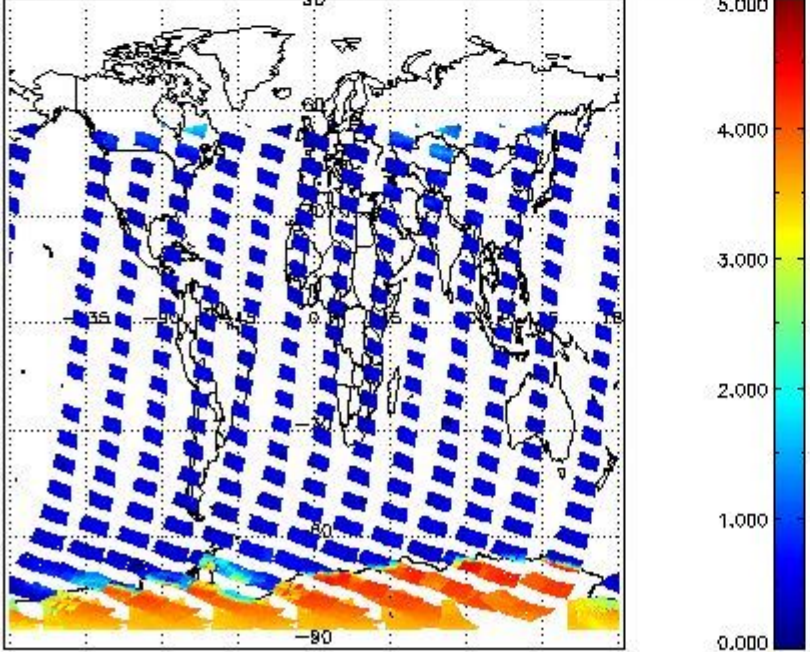
SCIOL2P\_NADUV5SO2\_vcd for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



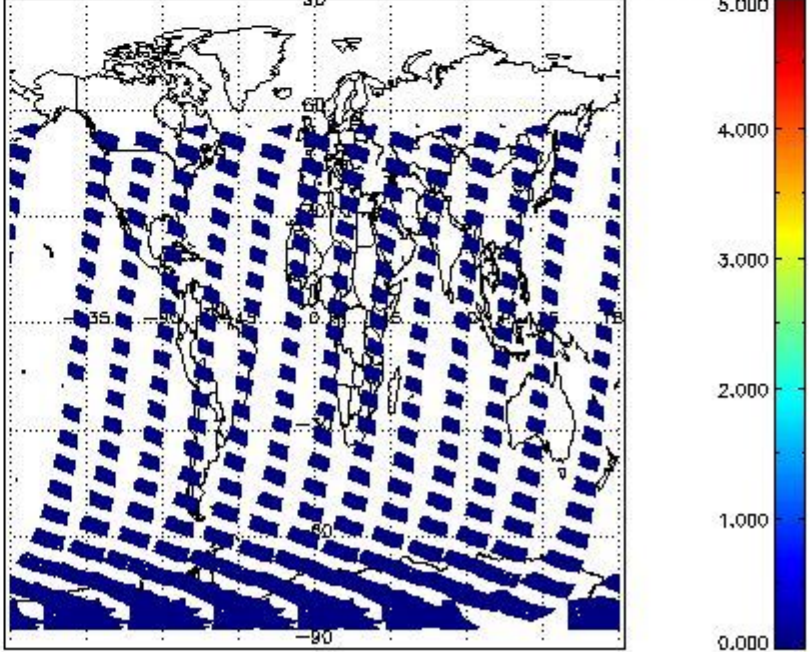
SCIOL2P\_NADUV5SO2\_vcd\_err for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



SCIOL2P\_NADUV5SO2\_amf\_gr for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

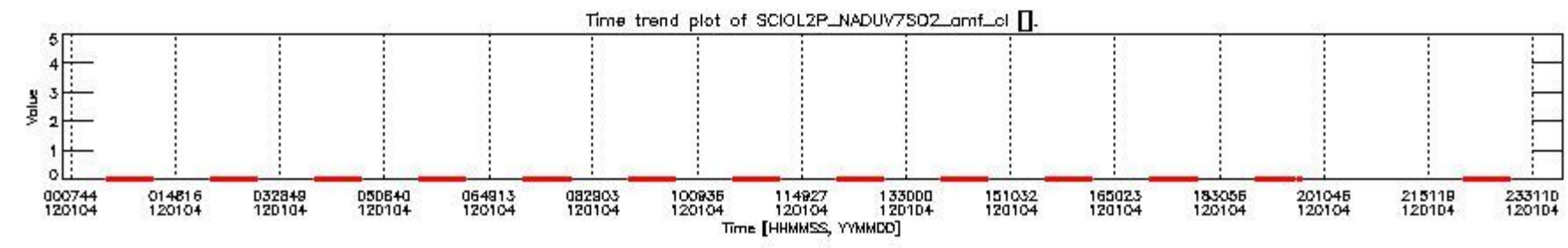
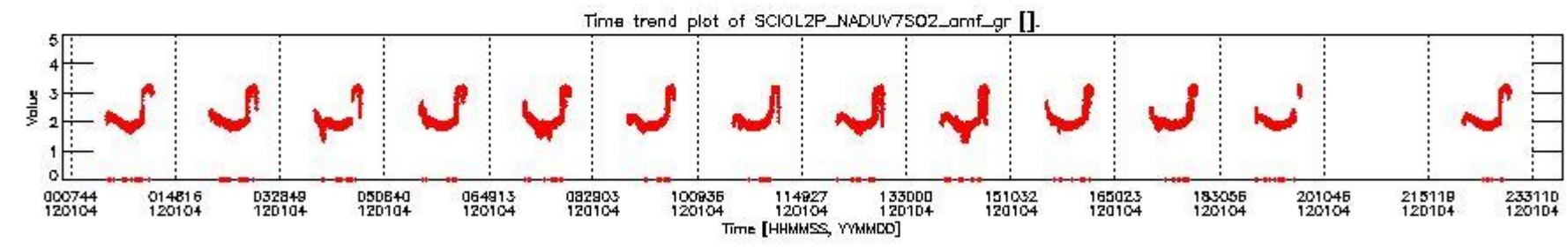
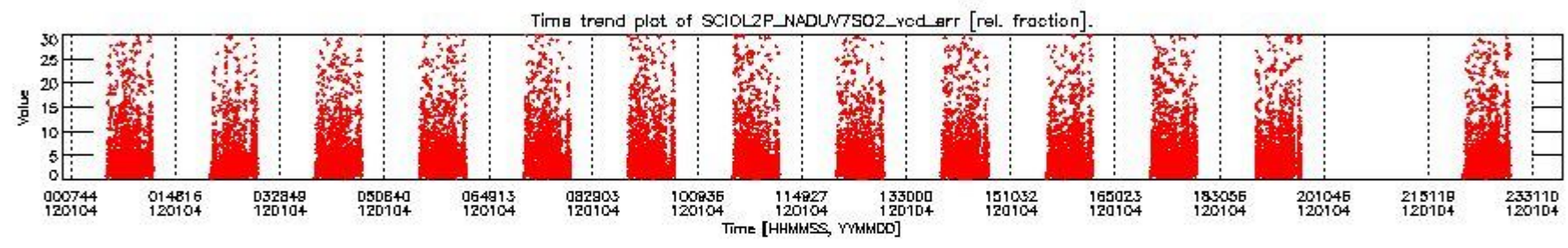
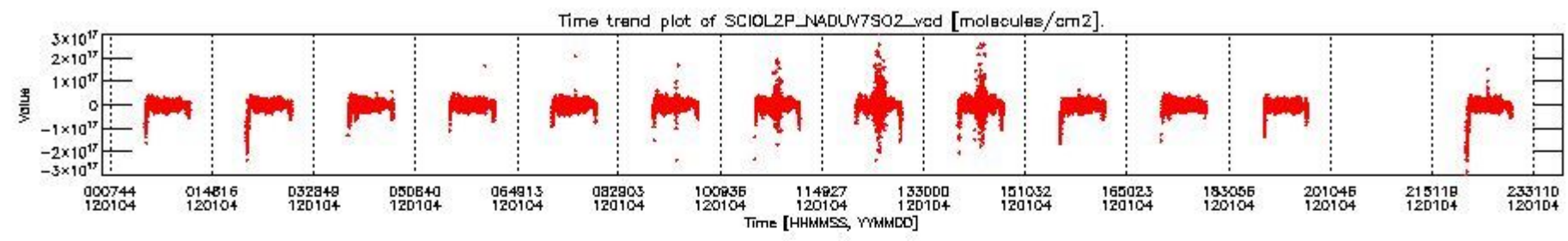


SCIOL2P\_NADUV5SO2\_amf\_cl for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



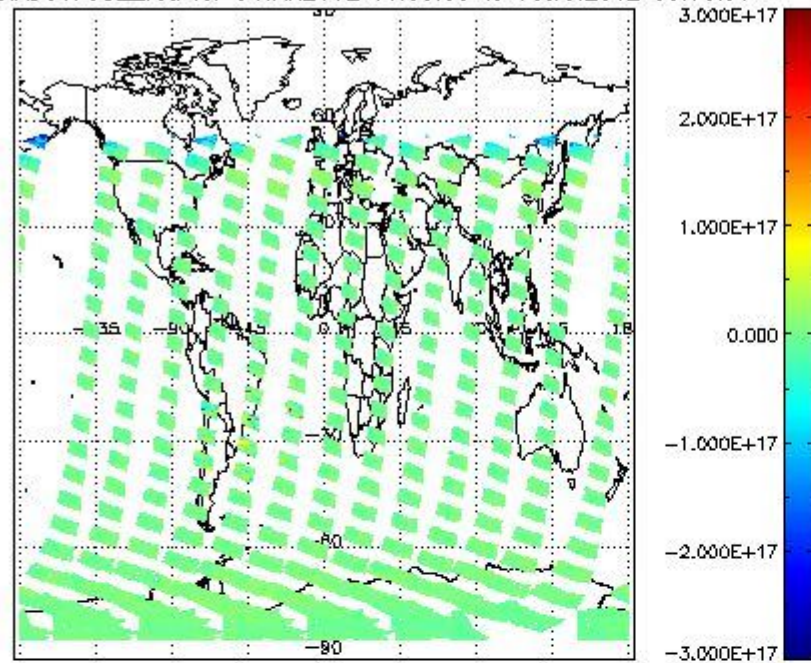
2.2.2.5 SO2 (UV7)



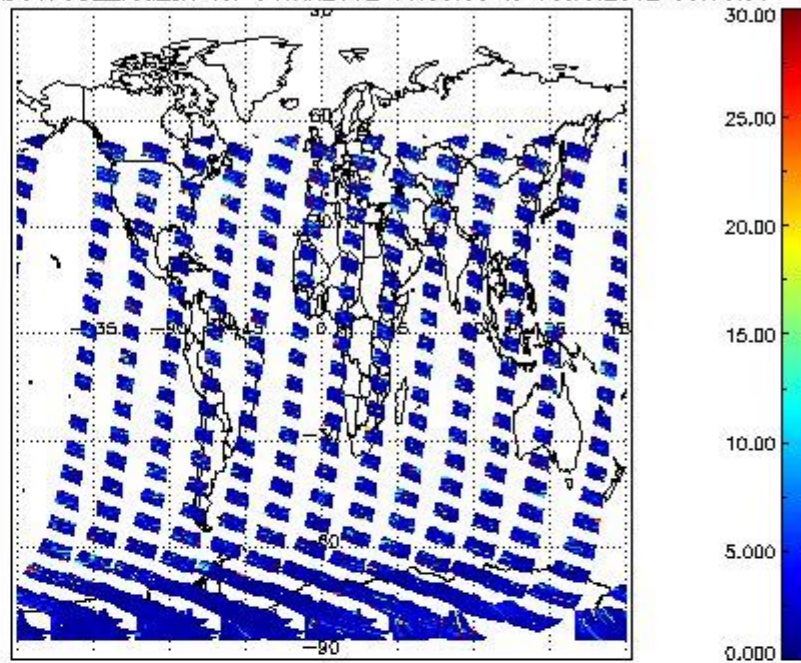




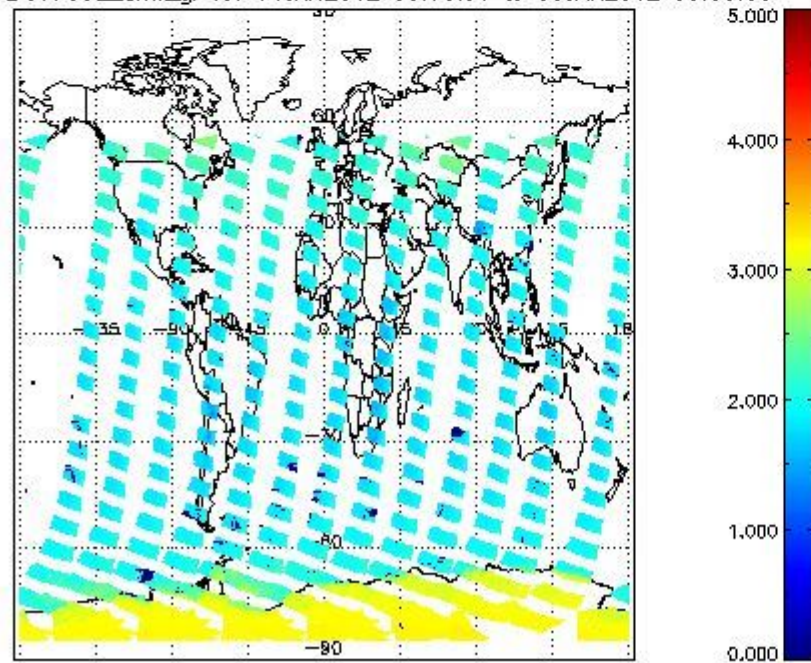
SCIOL2P\_NADUV7S02\_vcd for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



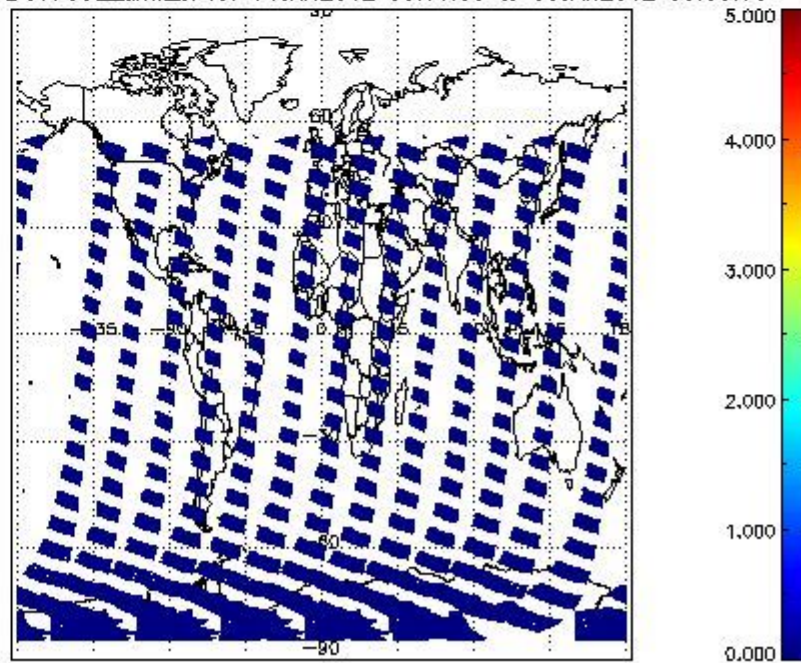
SCIOL2P\_NADUV7S02\_vcd\_err for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



SCIOL2P\_NADUV7S02\_amf\_gr for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

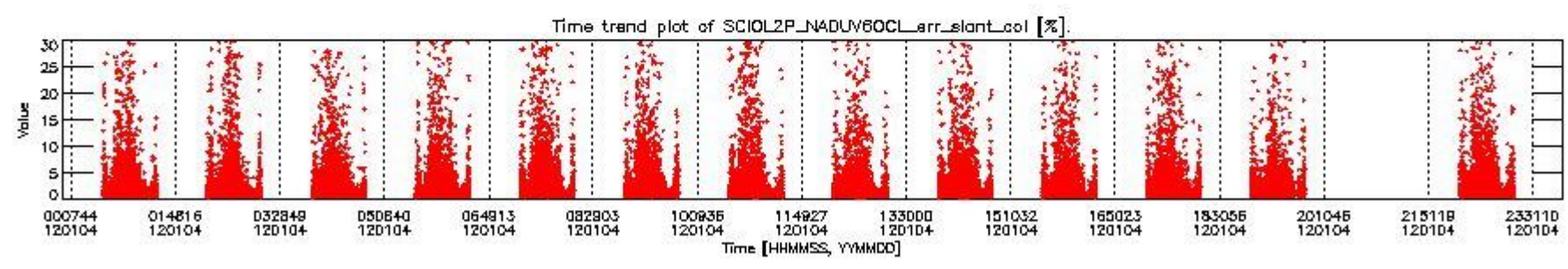
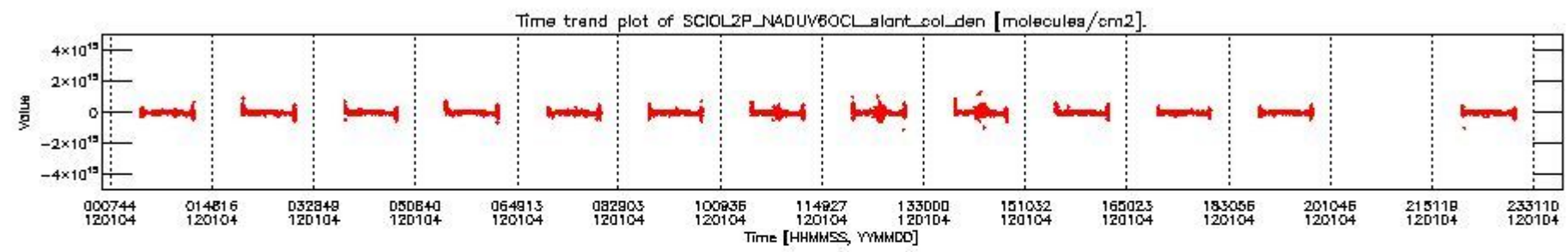


SCIOL2P\_NADUV7S02\_amf\_cl for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

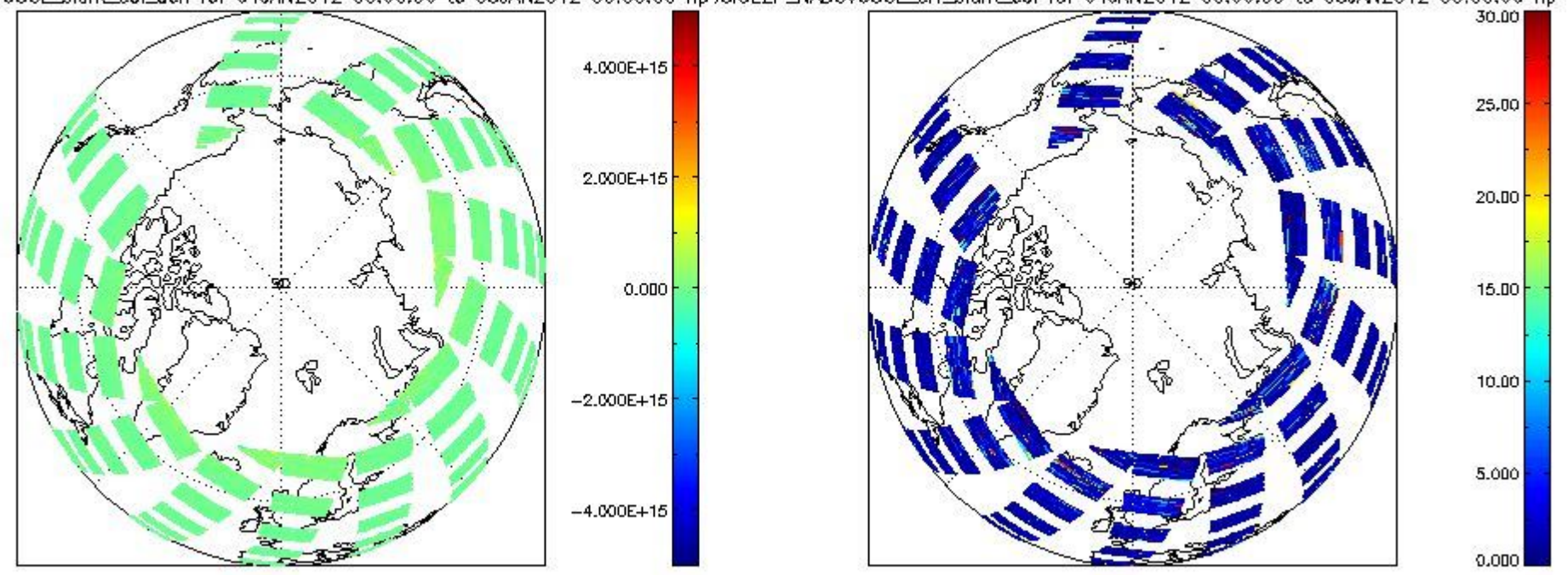


## 2.2.2.6 OCIO (UV6)



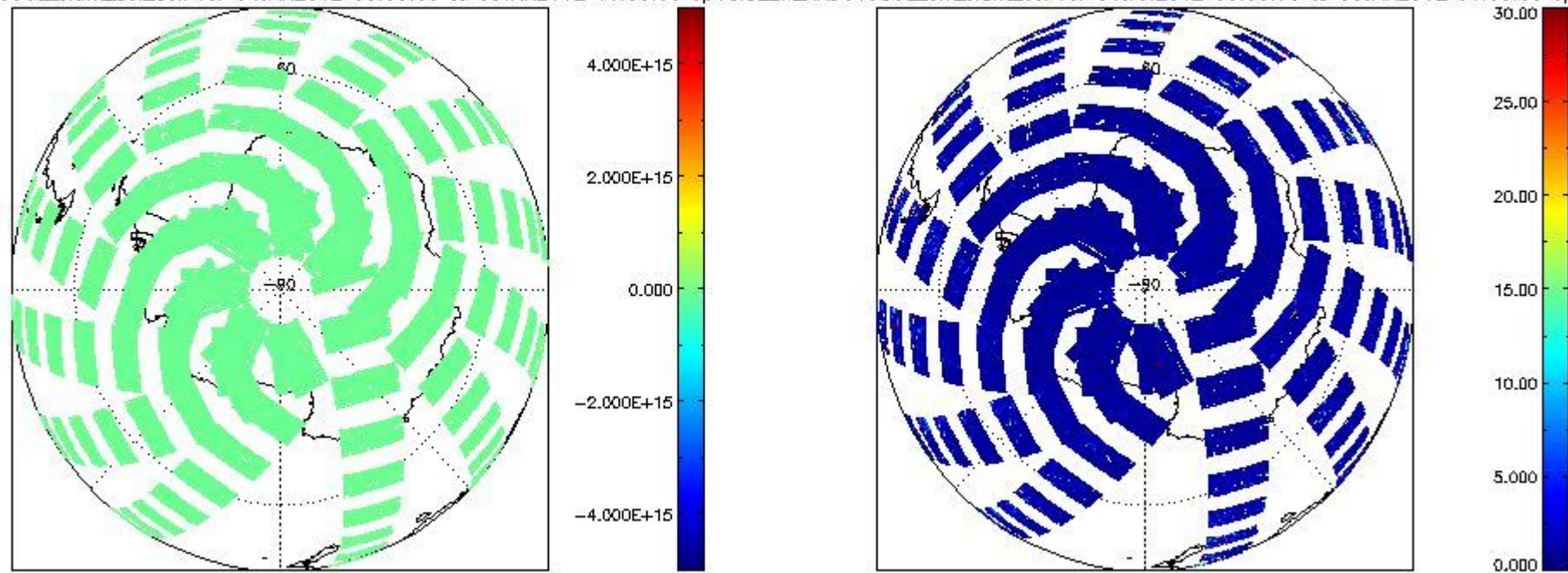


SCIDL2P\_NADUV60CL\_slant\_col\_den for 04JAN2012 00:00:00 to 05JAN2012 00:00:00 np;SCIDL2P\_NADUV60CL\_err\_slant\_col for 04JAN2012 00:00:00 to 05JAN2012 00:00:00 np

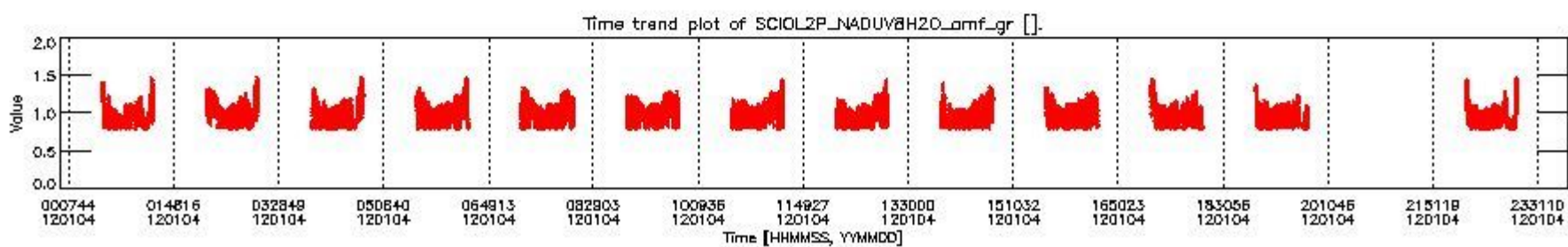
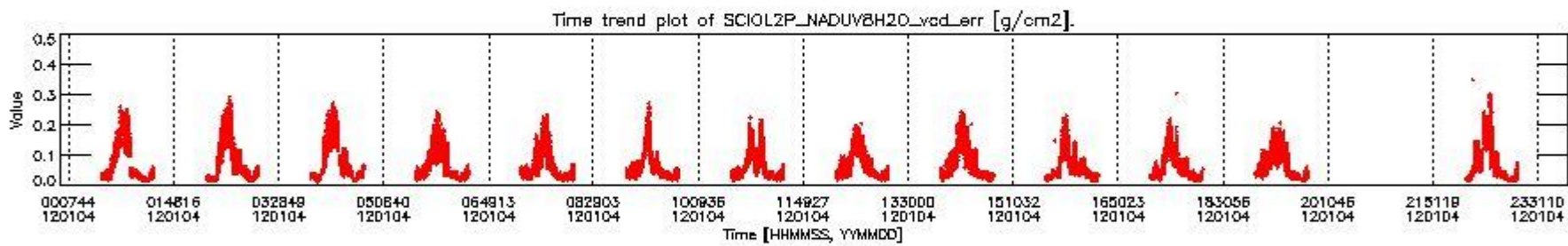
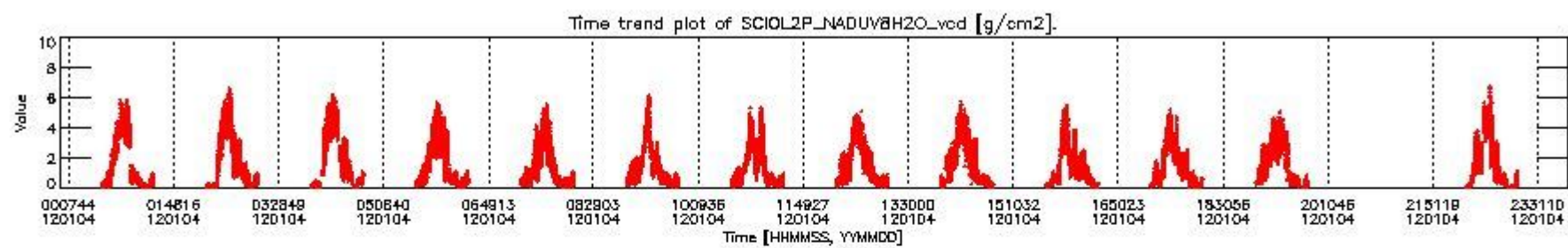




SCIOL2P\_NADUV60CLslant\_col\_den for 04JAN2012 00:00:00 to 05JAN2012 00:00:00 sp SCIOL2P\_NADUV60CLerr\_slant\_col for 04JAN2012 00:00:00 to 05JAN2012 00:00:00 sp

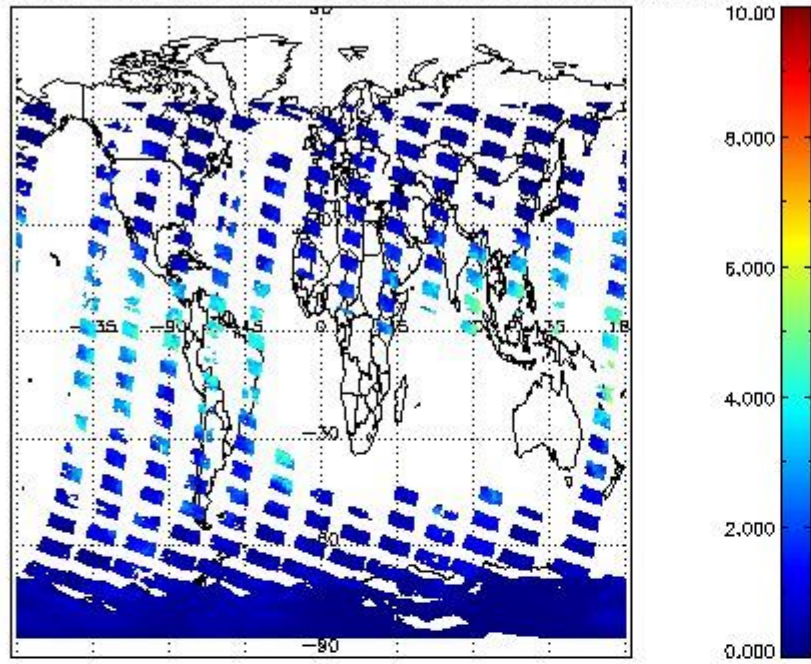


### 2.2.2.7 H<sub>2</sub>O (UV8)

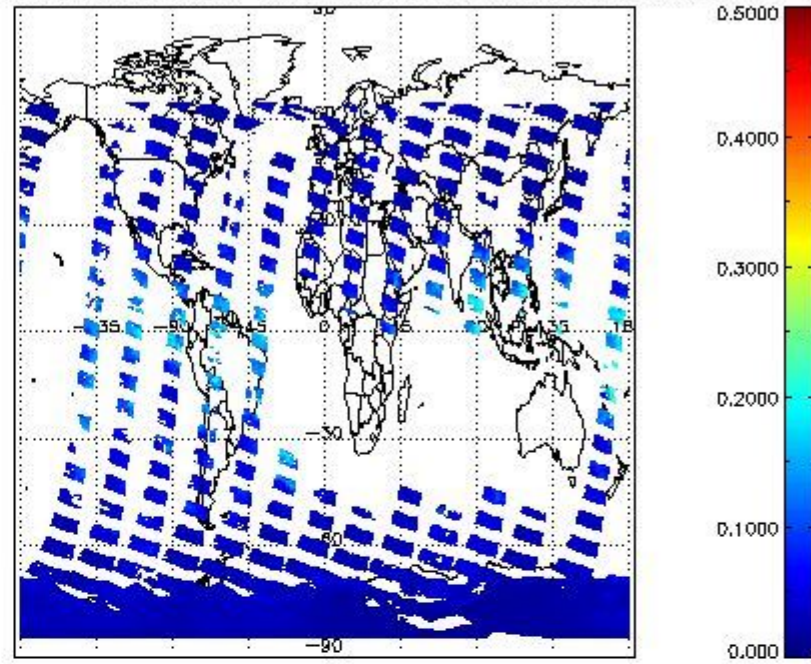




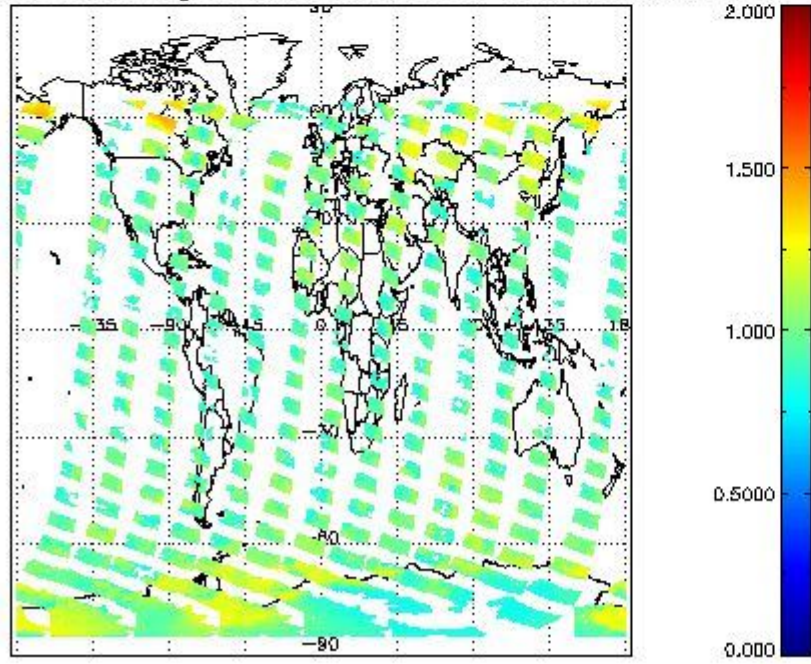
SCIOL2P\_NADUV8H20\_vcd for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



SCIOL2P\_NADUV8H20\_vcd\_err for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

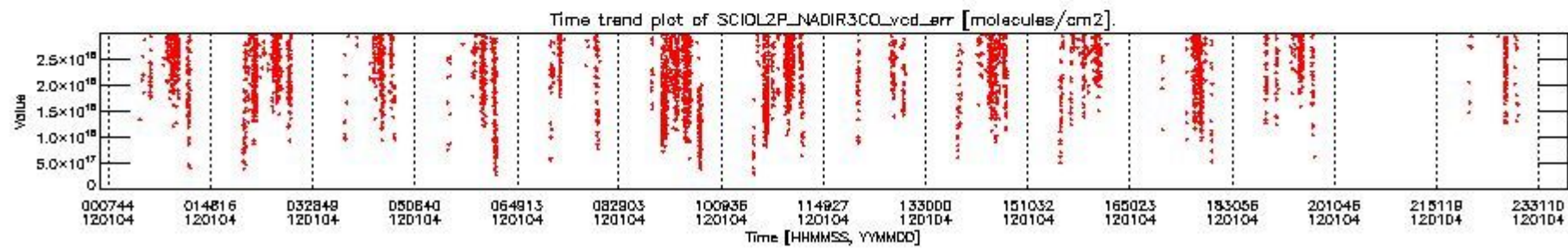
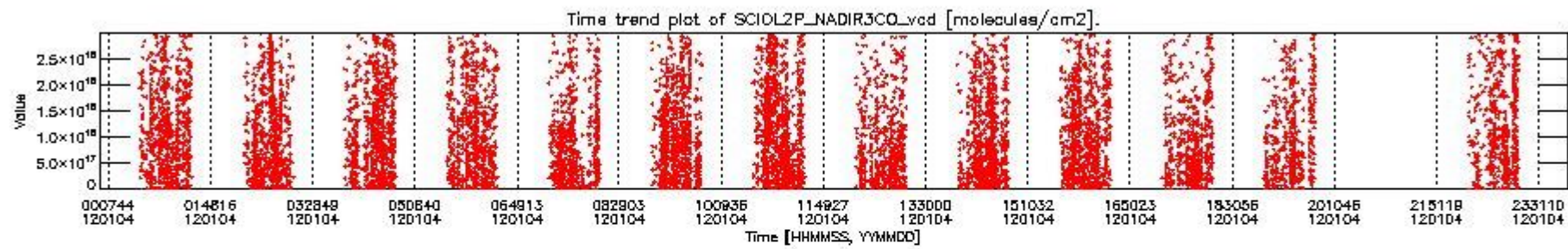


SCIOL2P\_NADUV8H20\_amf\_gr for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

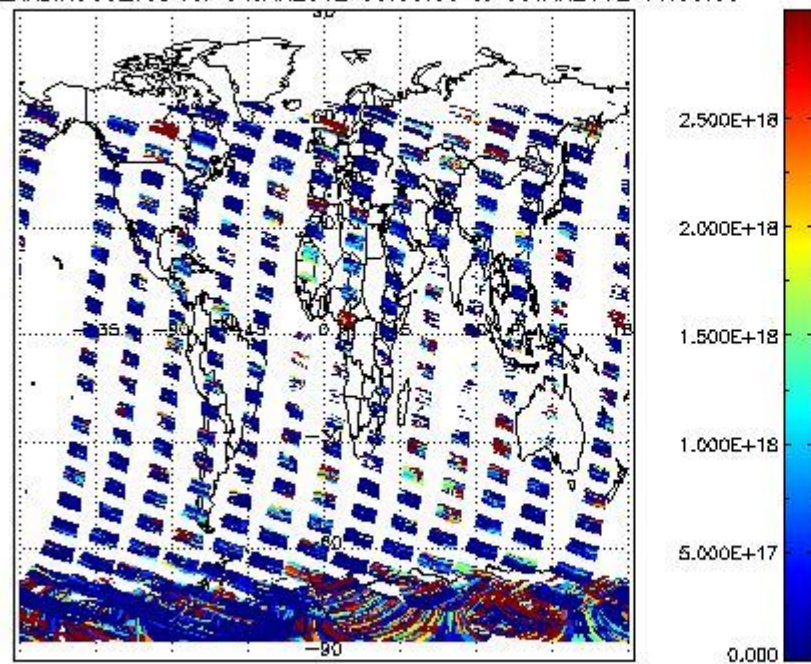


### 2.2.2.8 CO (IR3)

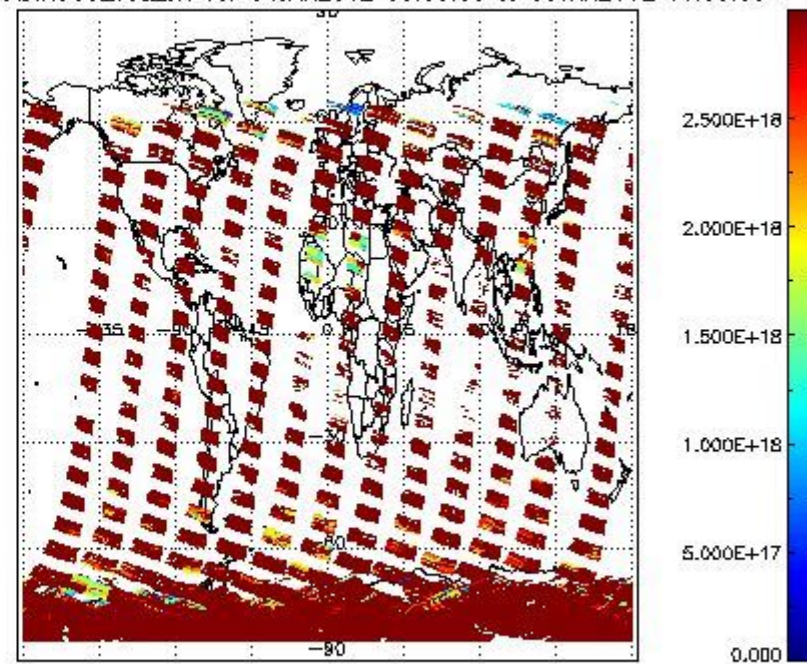




SCIDL2P\_NADIR3CO\_vcd for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



SCIDL2P\_NADIR3CO\_vcd\_err for 04JAN2012 00:00:00 to 05JAN2012 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.

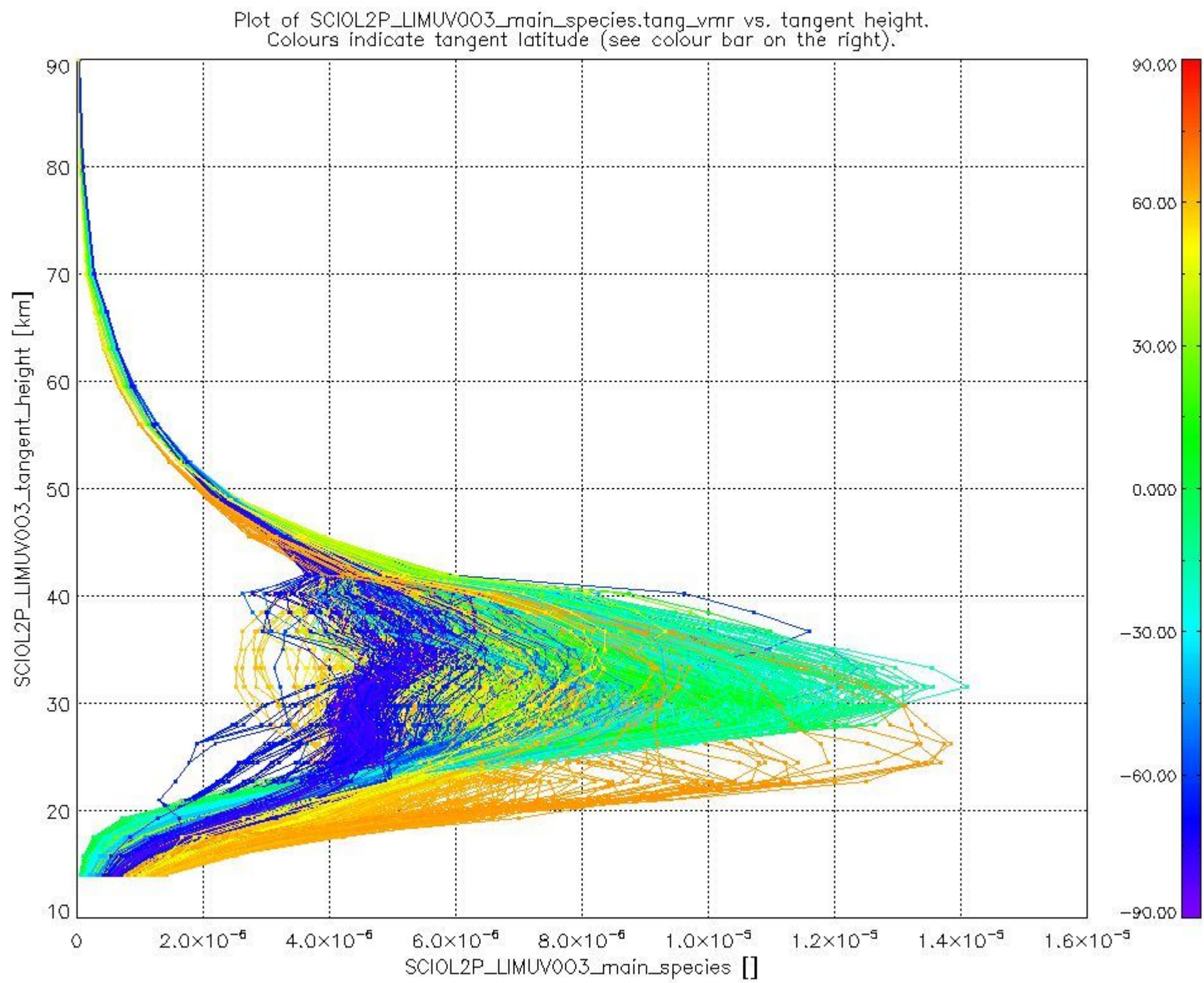
The following data items are currently included into this section:

Number	Data item ID
0	SCIDL2P_LIMUV003_main_species
1	SCIDL2P_LIMUV1NO2_main_species
2	SCIDL2P_LIMUV3BRO_main_species



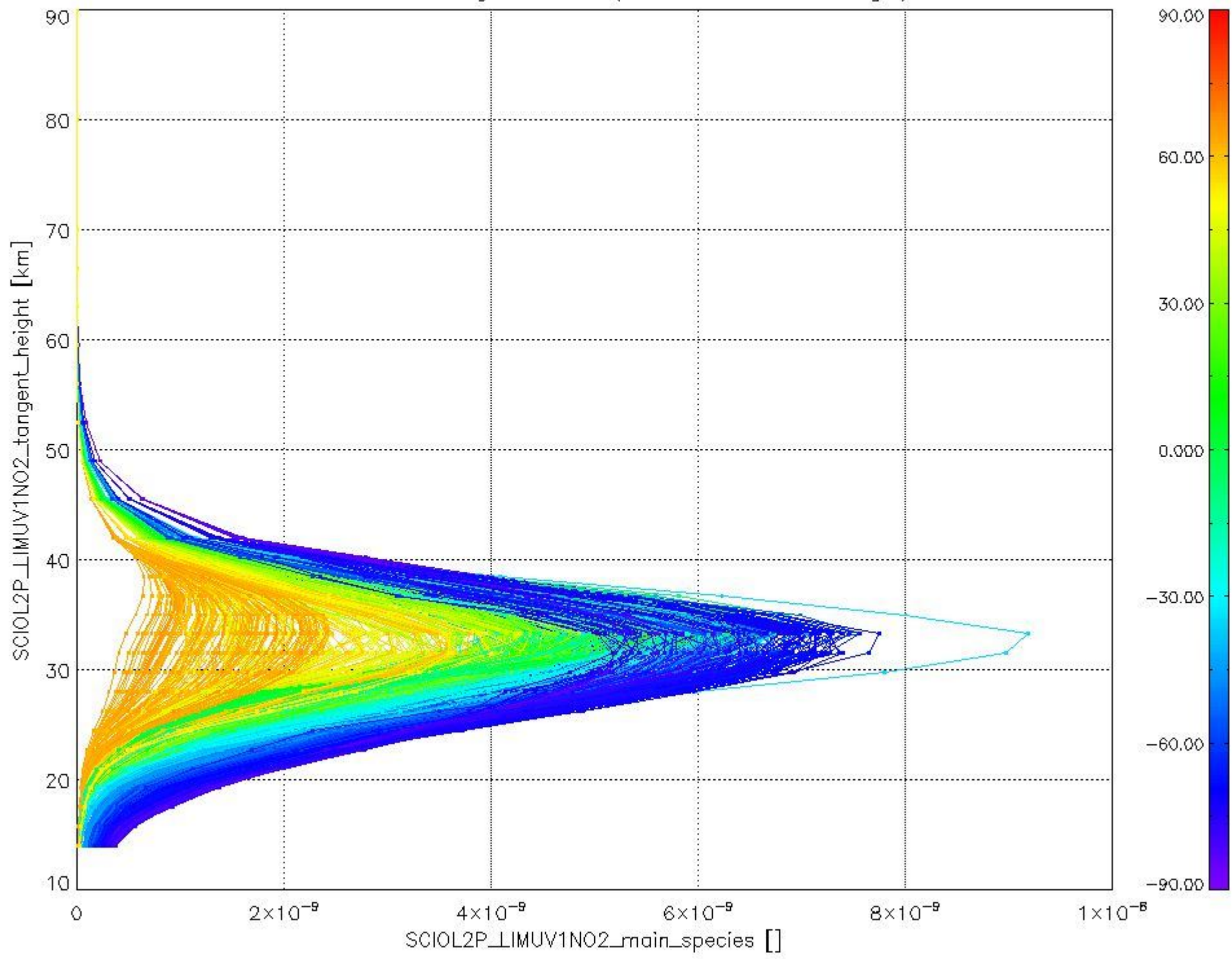
The following plots show for each species the tangent volume mixing ratio vs. tangent height. Colours indicate tangent latitude.

2.2.3.1 O3 (UV0)



2.2.3.2 NO2 (UV1)

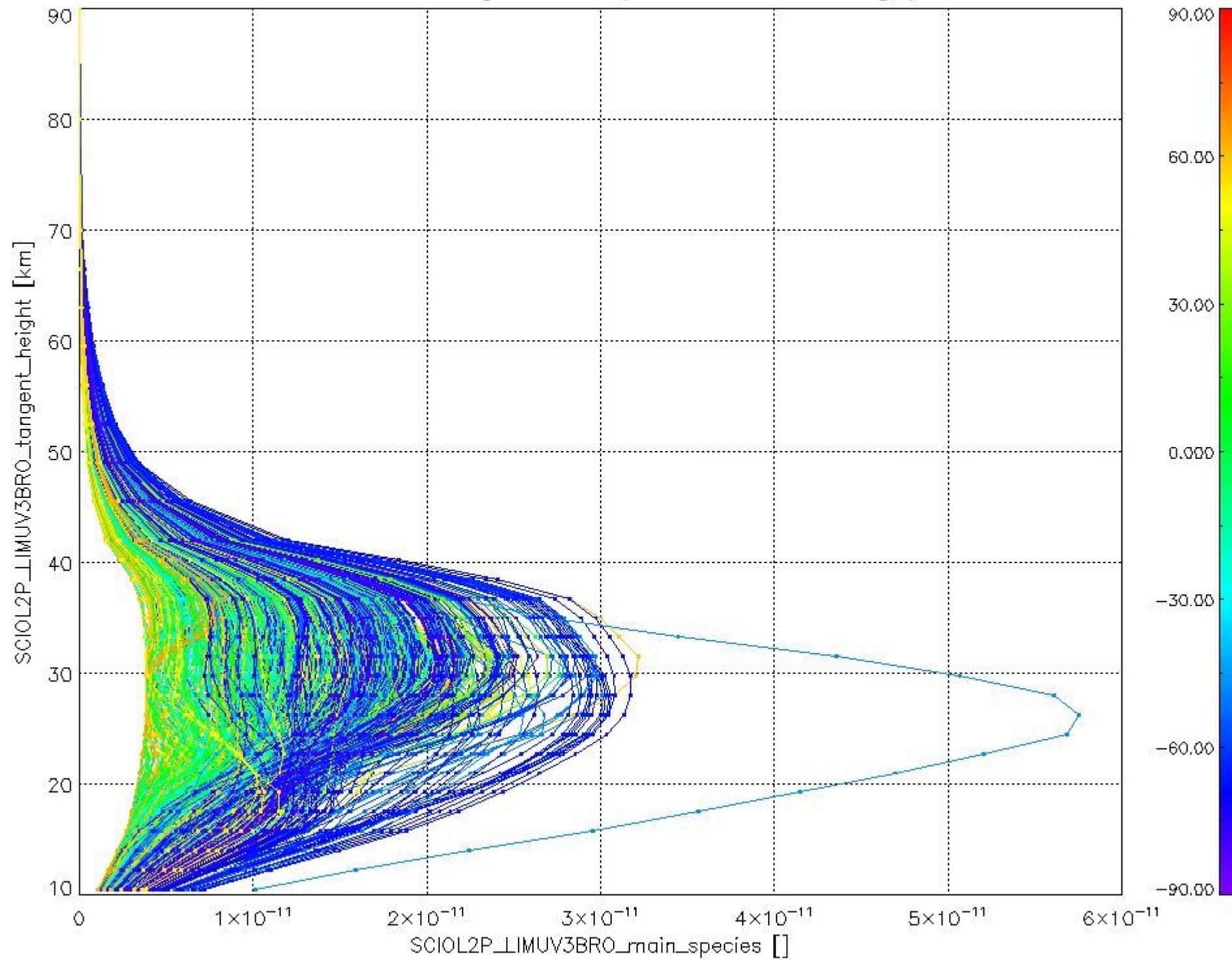
Plot of SCIOL2P\_LIMUV1NO2\_main\_species.tang\_vmr vs. tangent height.  
Colours indicate tangent latitude (see colour bar on the right).



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).



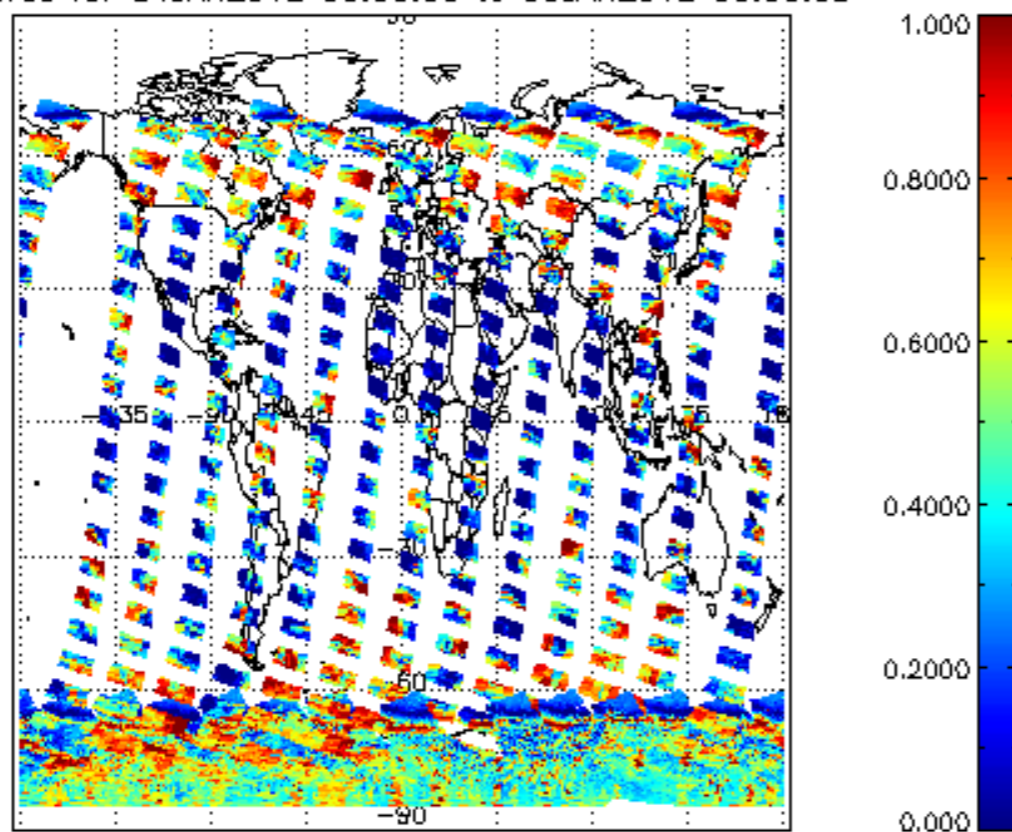
### 2.3 ADF monitoring

Number	ADF
	<b>IN_ (INITIALISATION_FILE)</b>
0	SCI_IN_AXNPDE20110201_120000_20020301_000000_20991231_235959
	<b>ECF (ECMWF_FILE)</b>
1	NOT USED
	<b>MF1 (M_FACTOR_FILE)</b>
2	SCI_MF1_AXVIEC20120103_110909_20120104_181316_20120106_181316
3	SCI_MF1_AXVIEC20120110_124453_20120103_185001_20120105_185001

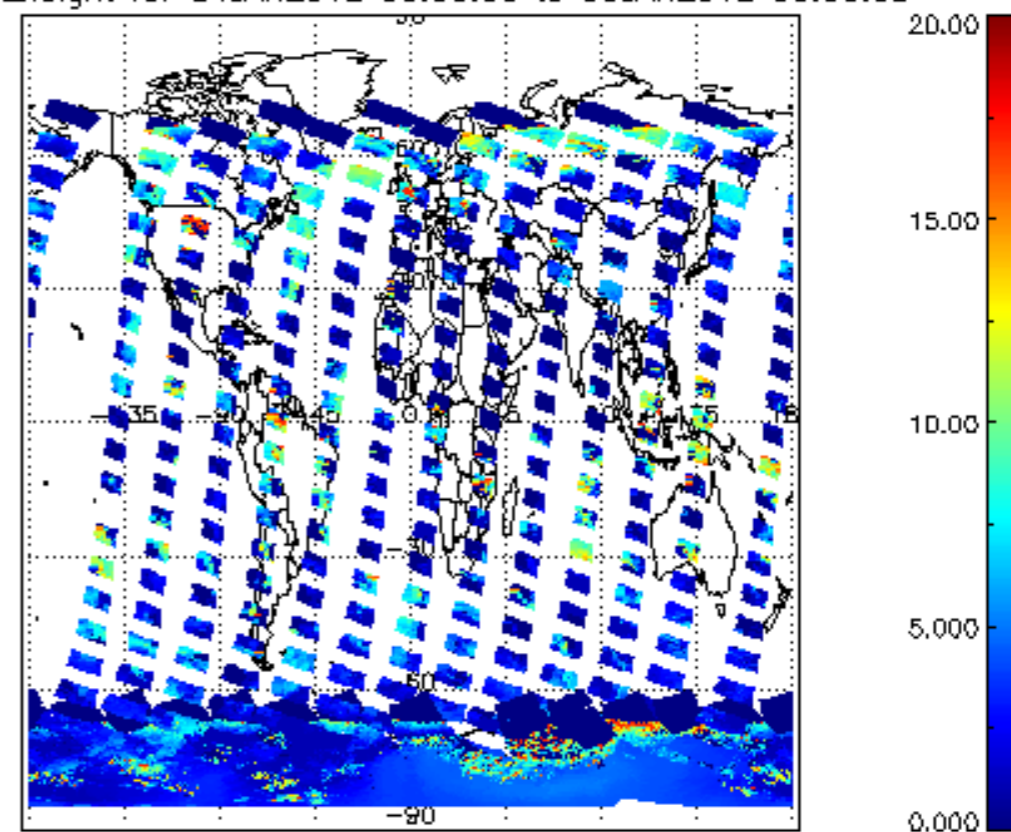




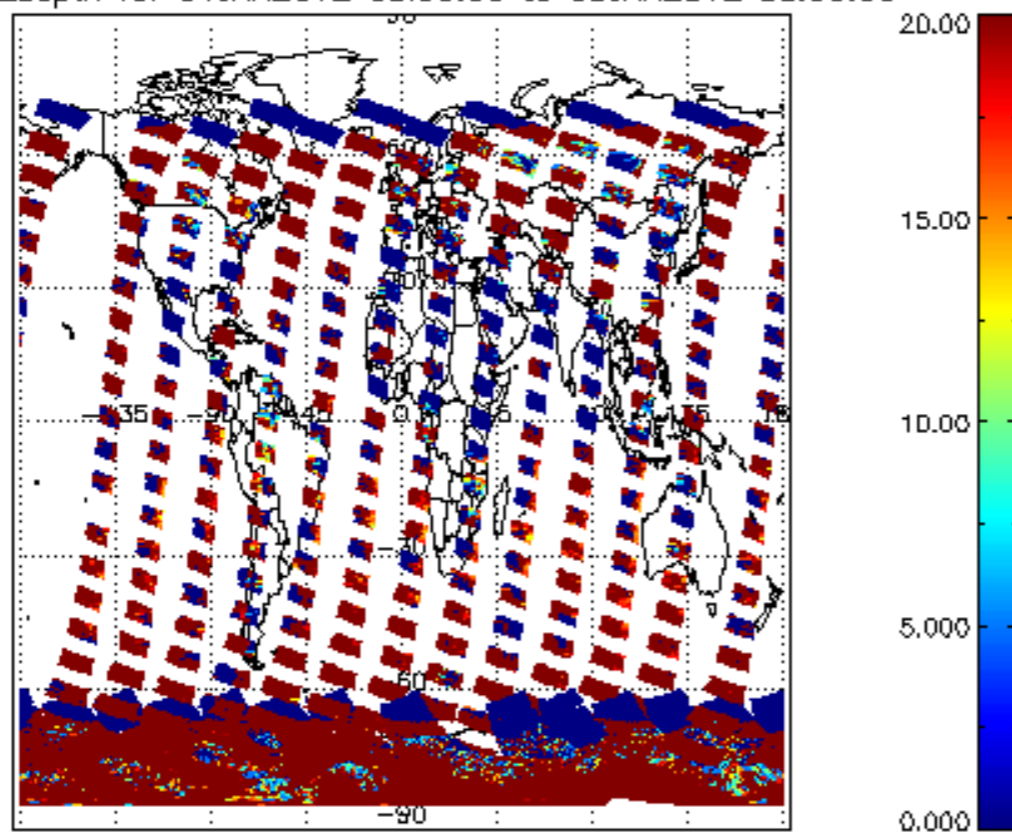
cL\_frac for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



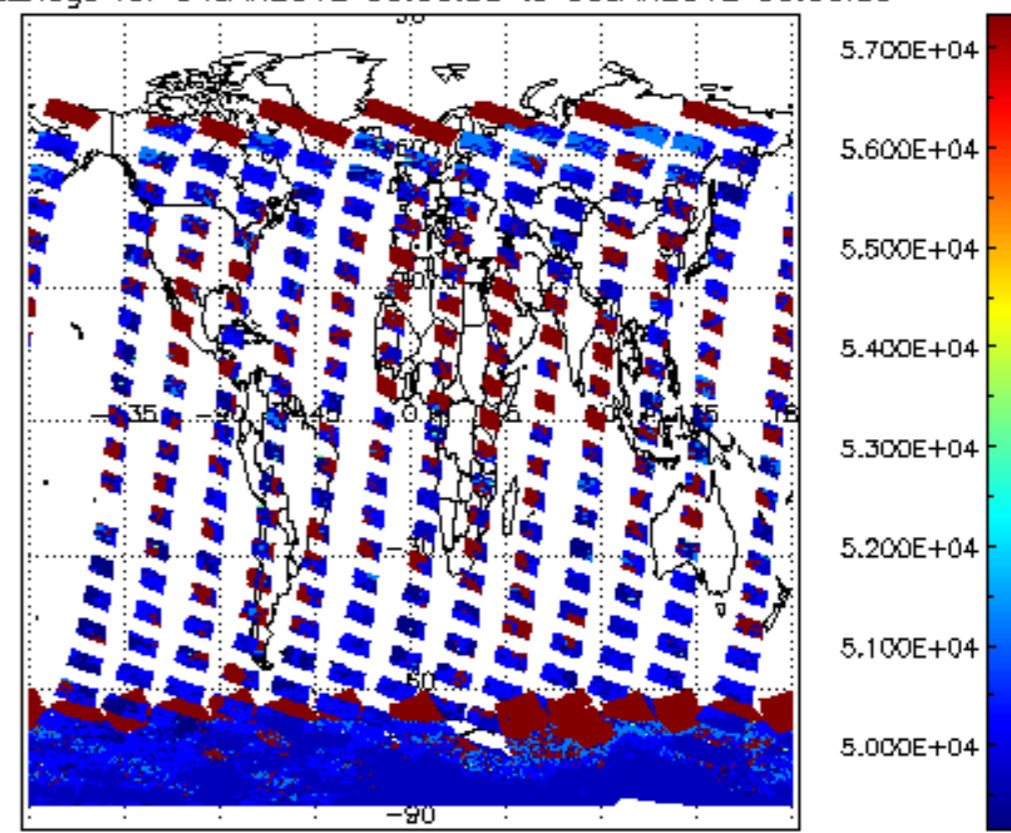
cL\_top\_height for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

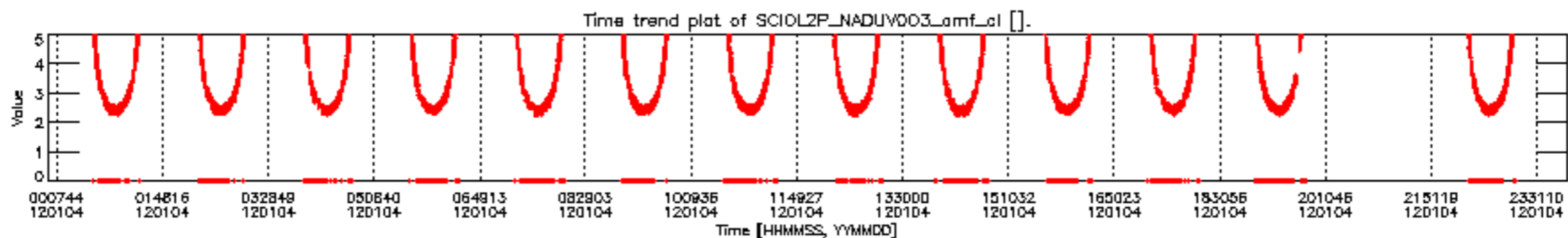
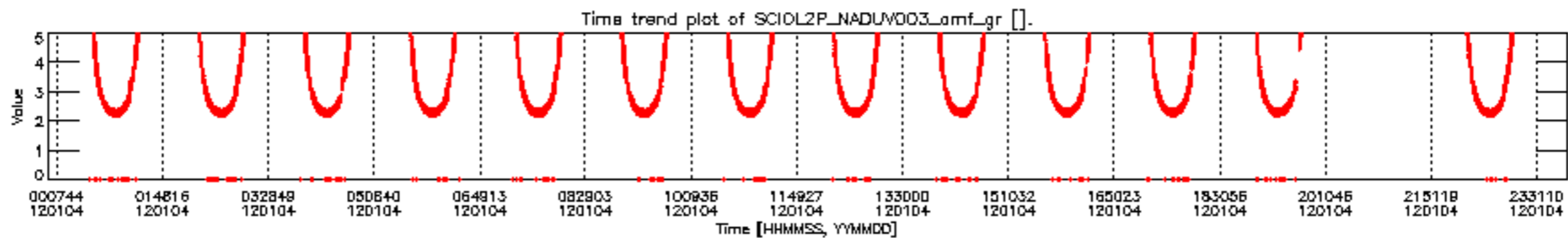
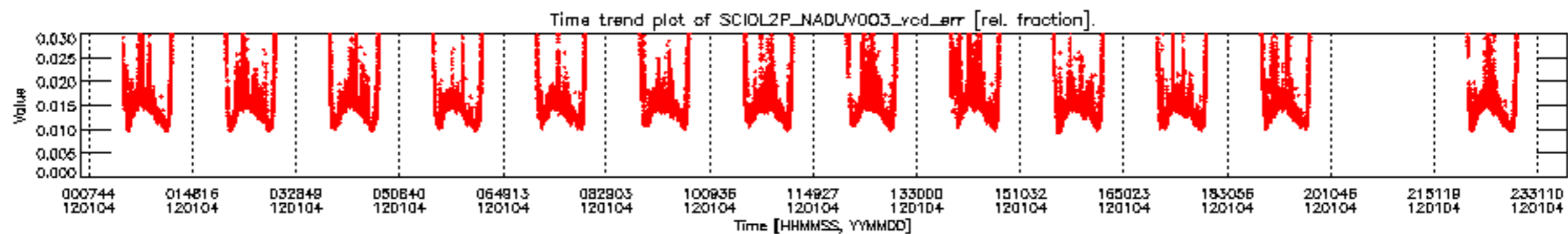
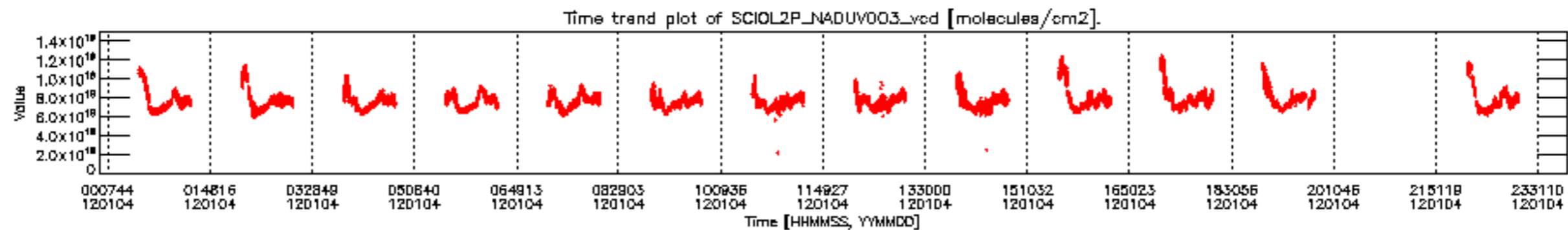


cLopt\_depth for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



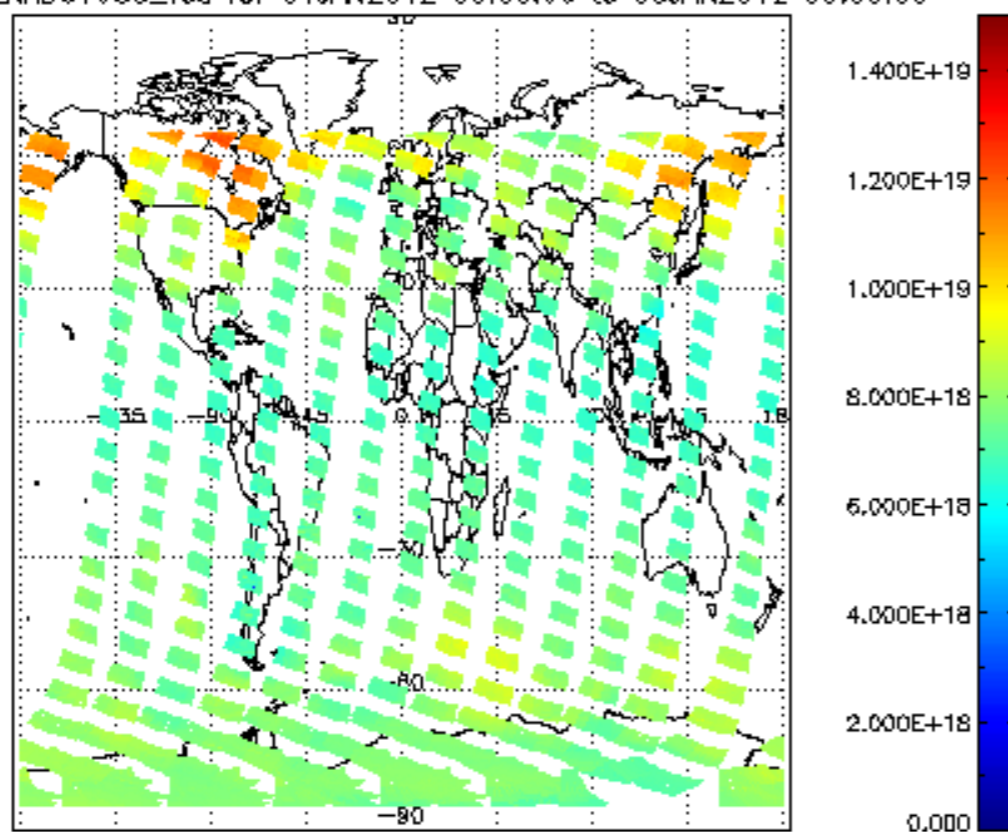
cloud\_flags for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



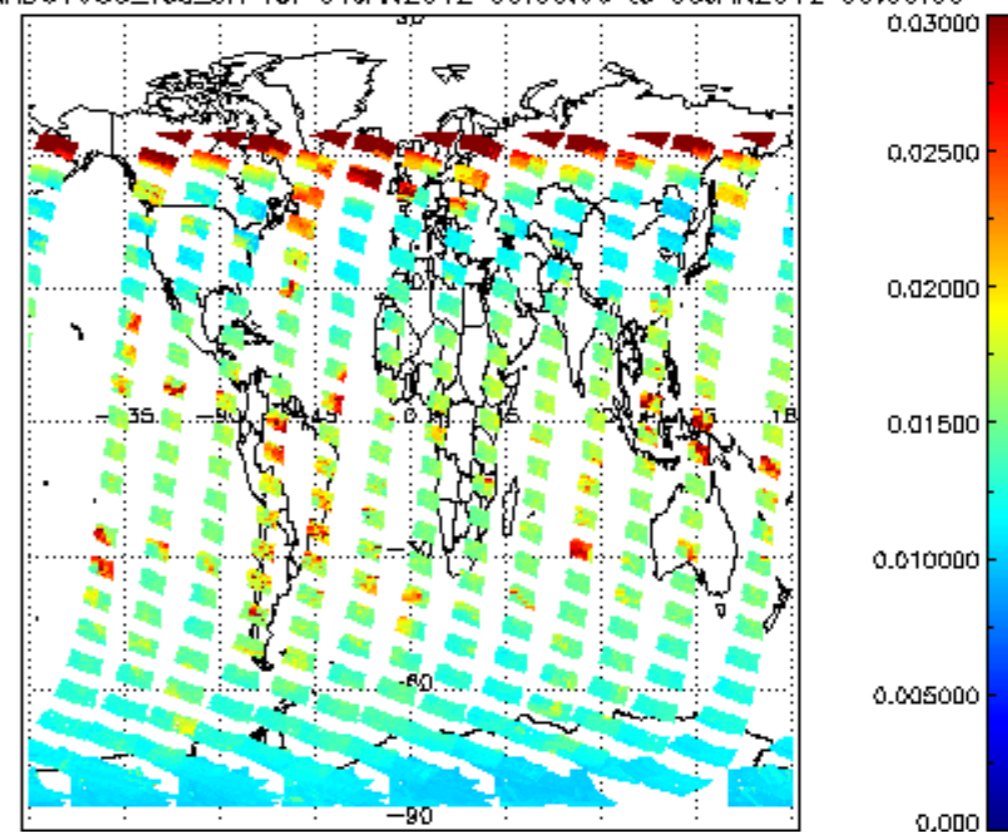




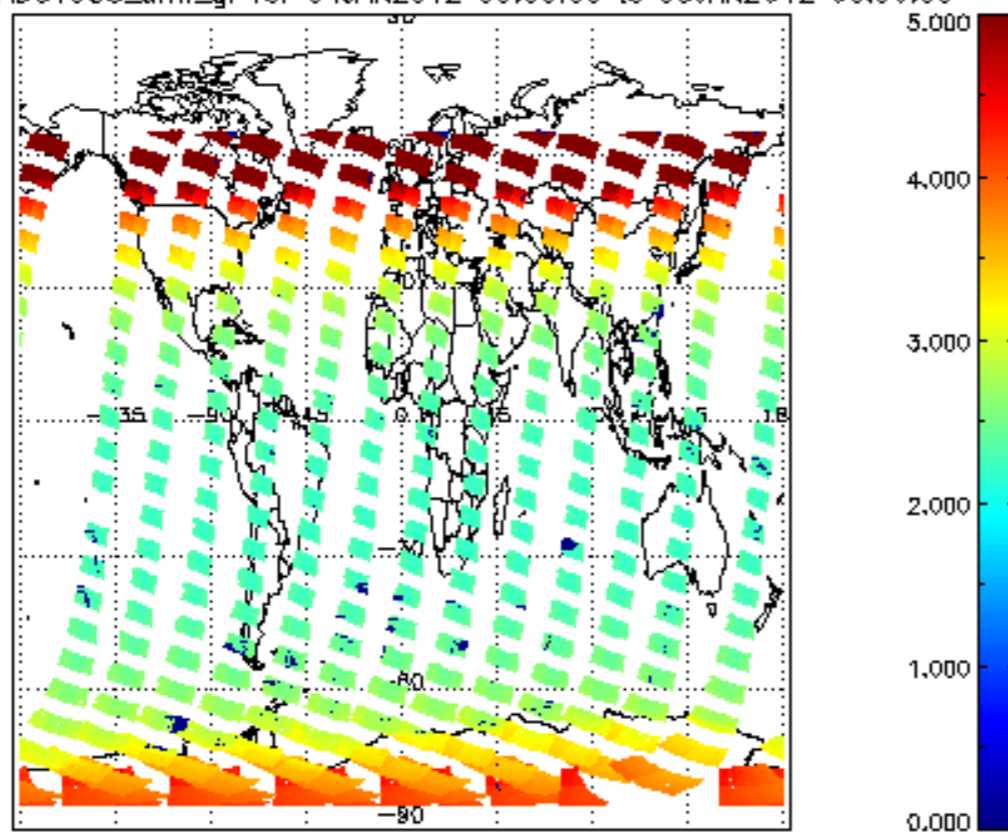
SCIOL2P\_NADUV003\_vcd for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



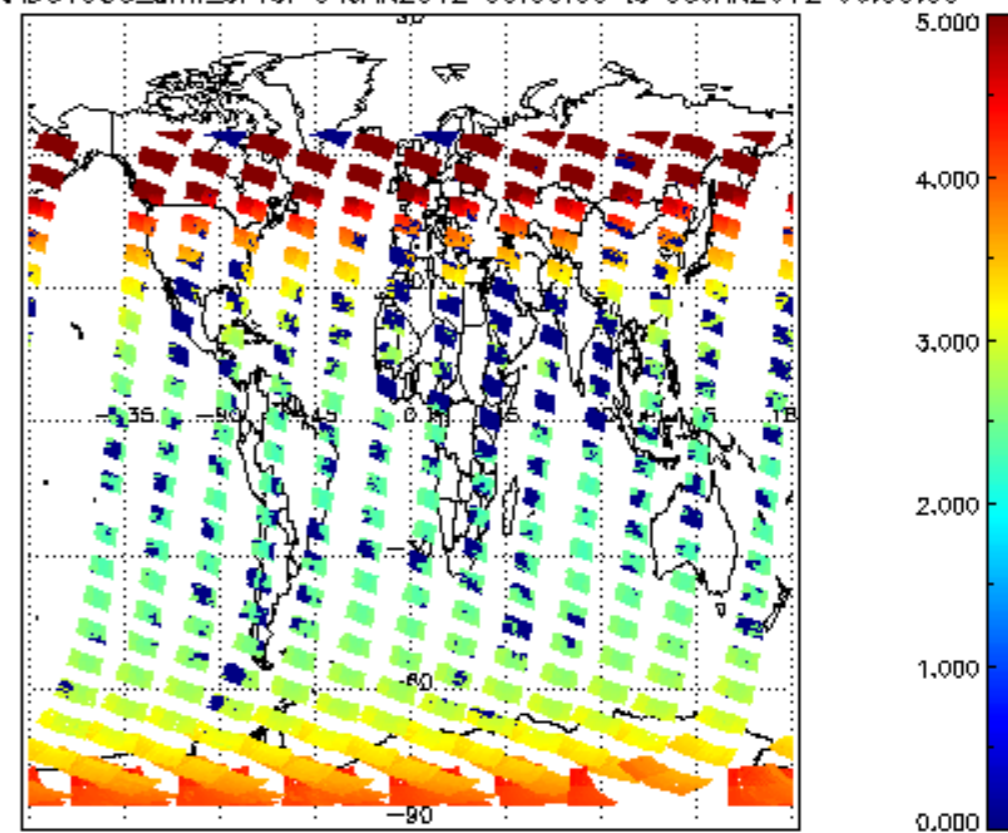
SCIOL2P\_NADUV003\_vcd\_err for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

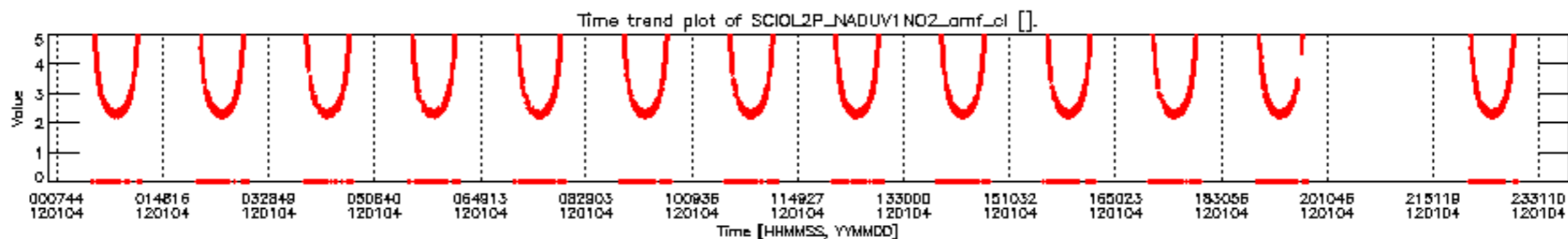
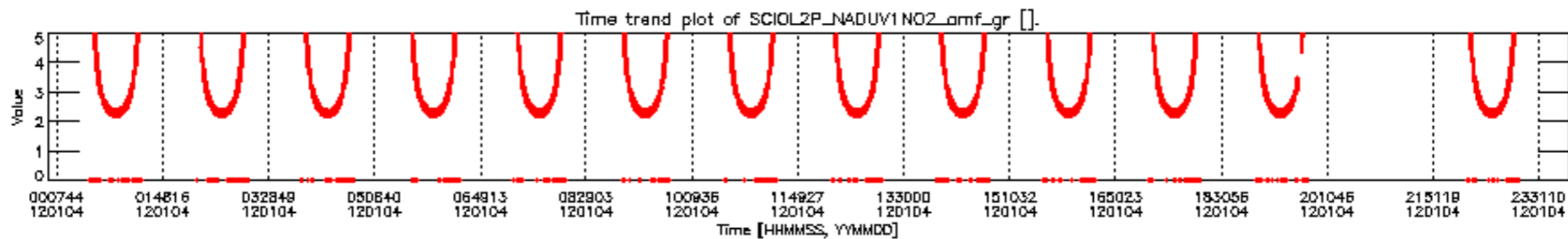
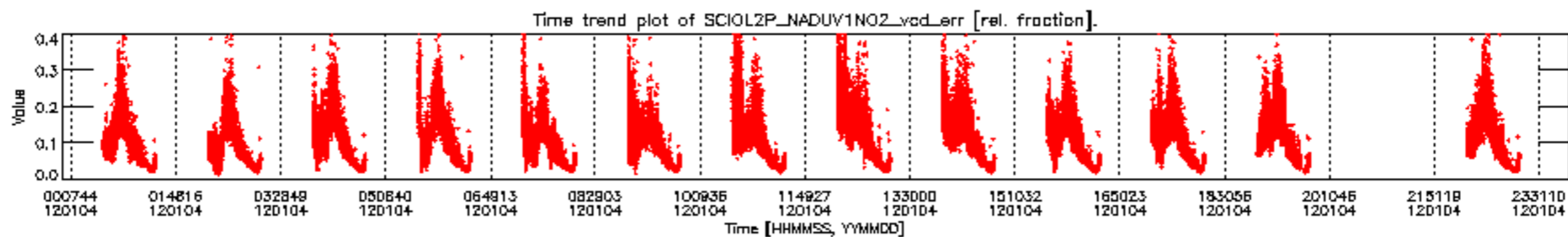
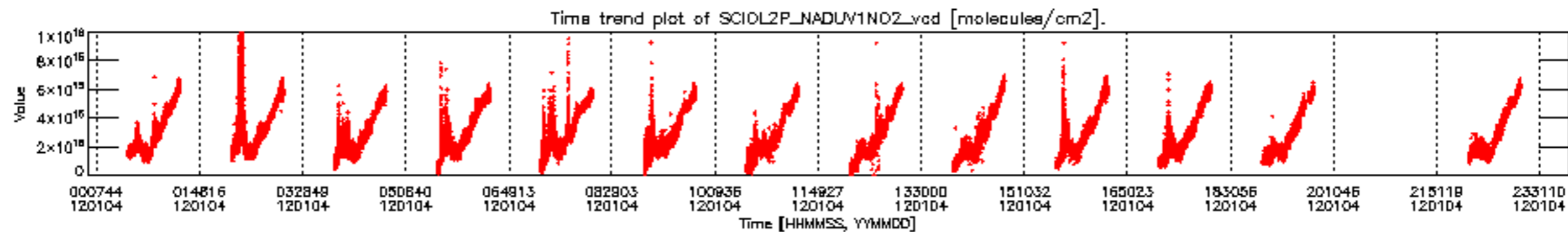


SCIOL2P\_NADUV003\_amf\_gr for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



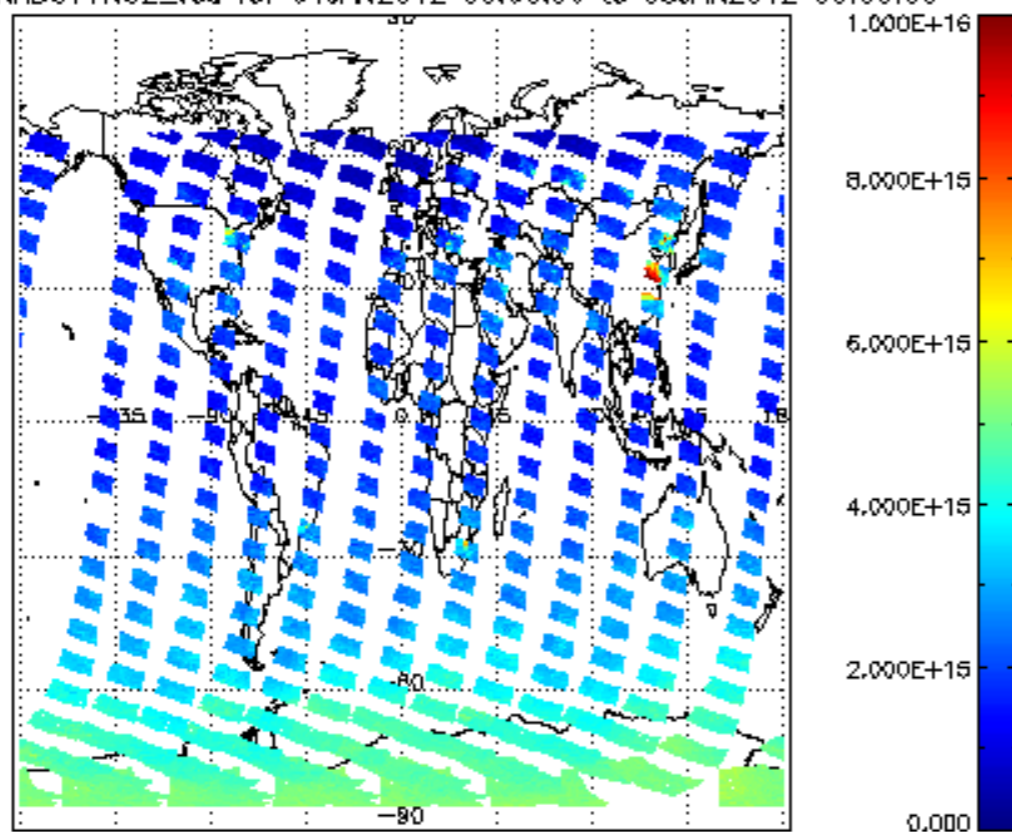
SCIOL2P\_NADUV003\_amf\_cl for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



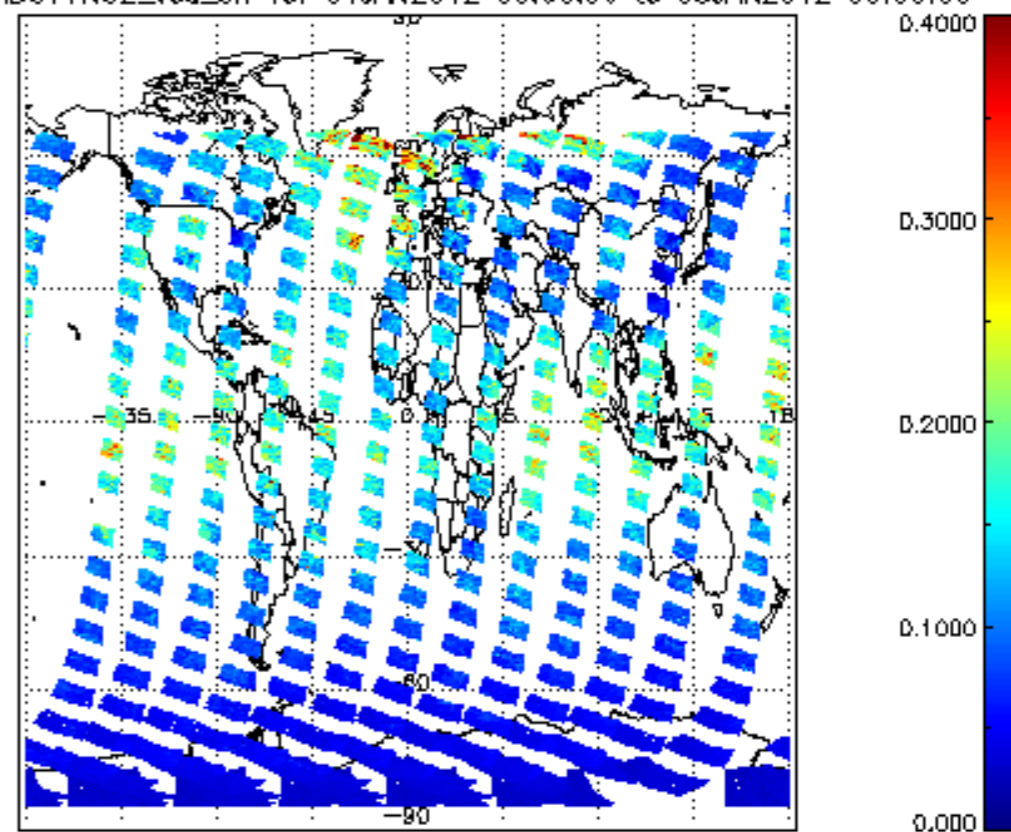




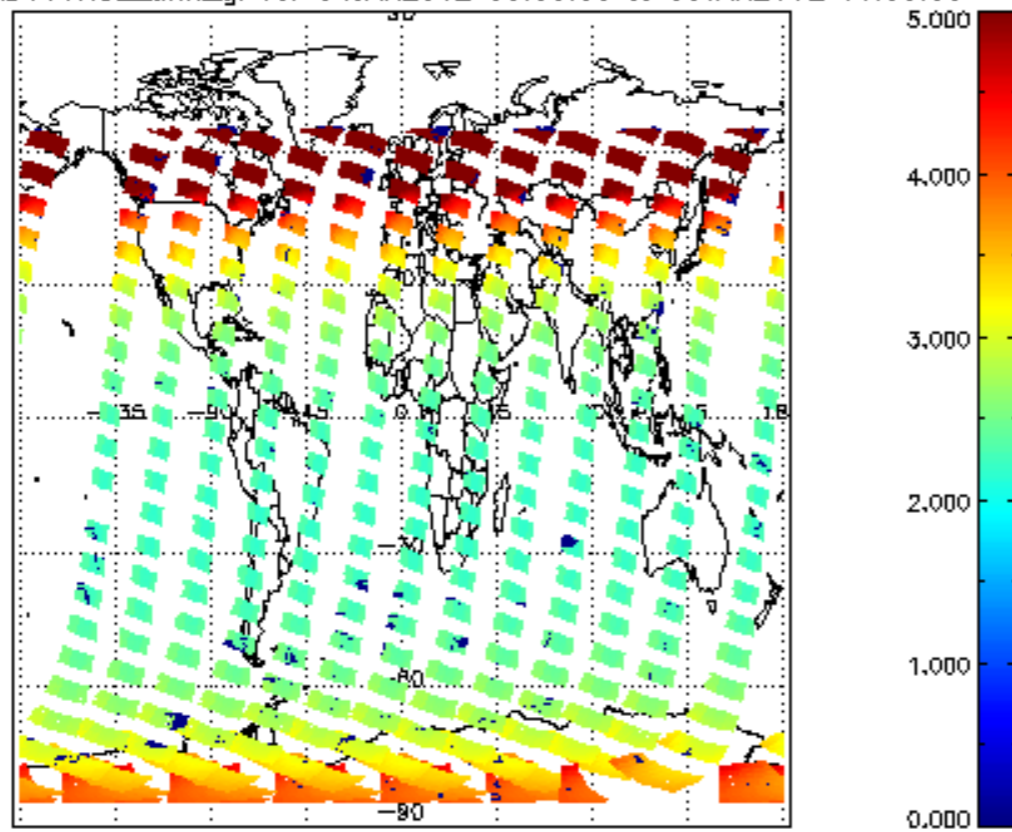
SCIOL2P\_NADUV1NO2\_vcd for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



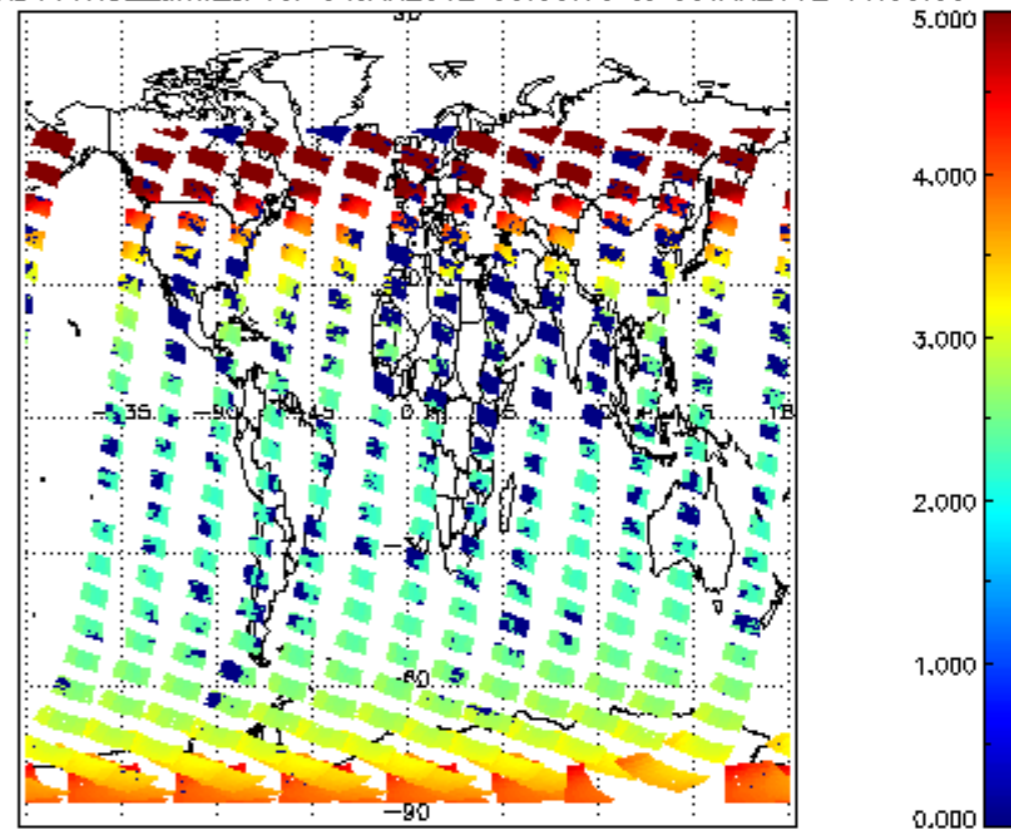
SCIOL2P\_NADUV1NO2\_vcd\_err for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

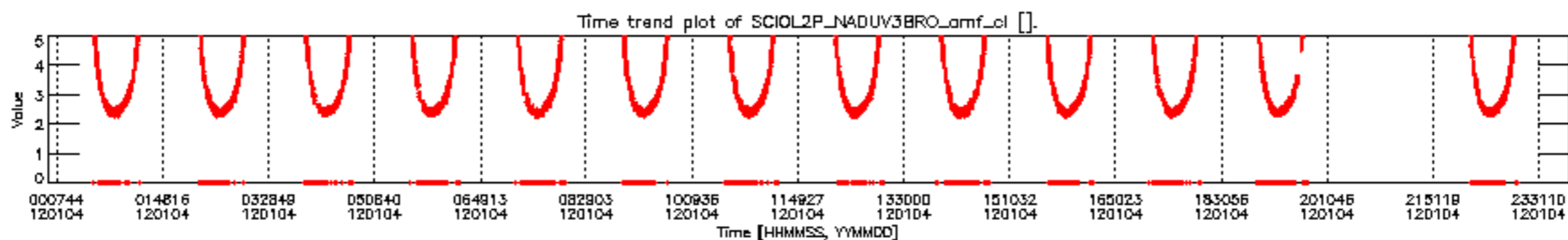
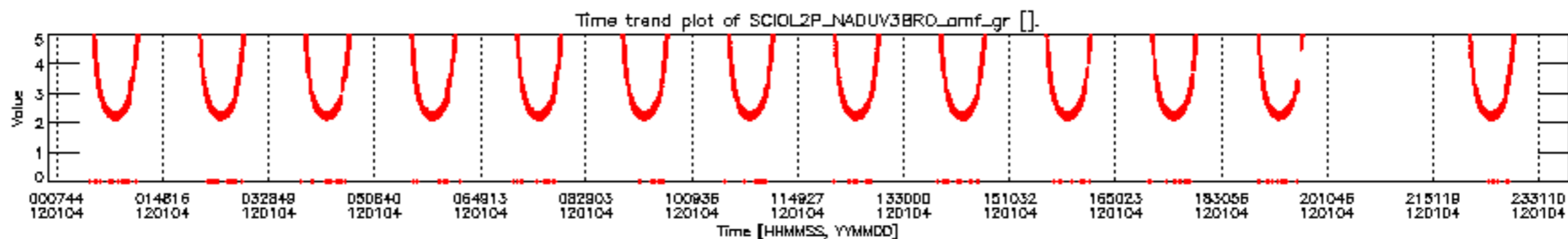
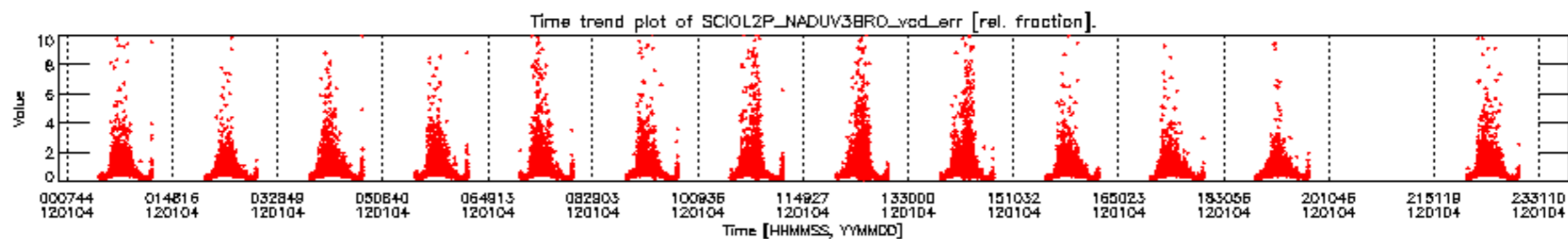
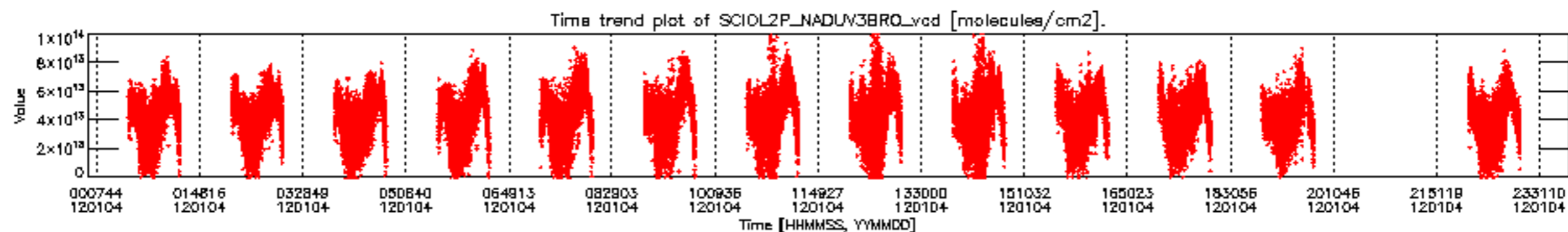


SCIOL2P\_NADUV1NO2\_amf\_gr for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



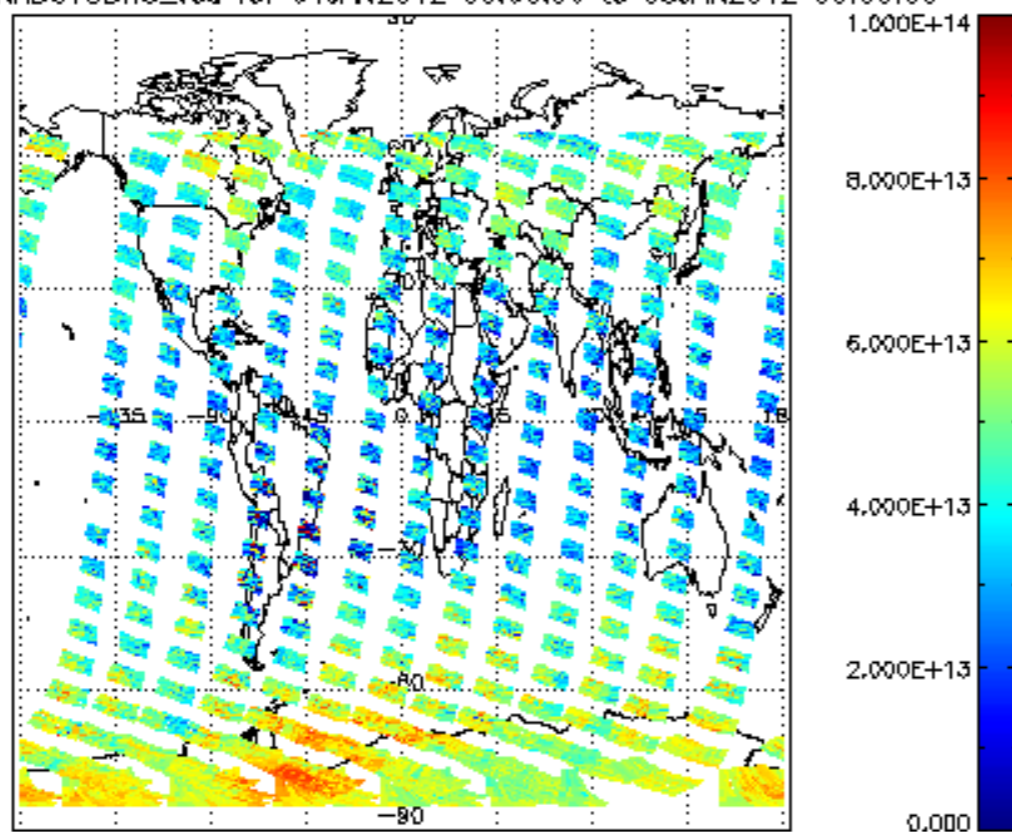
SCIOL2P\_NADUV1NO2\_amf\_cl for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



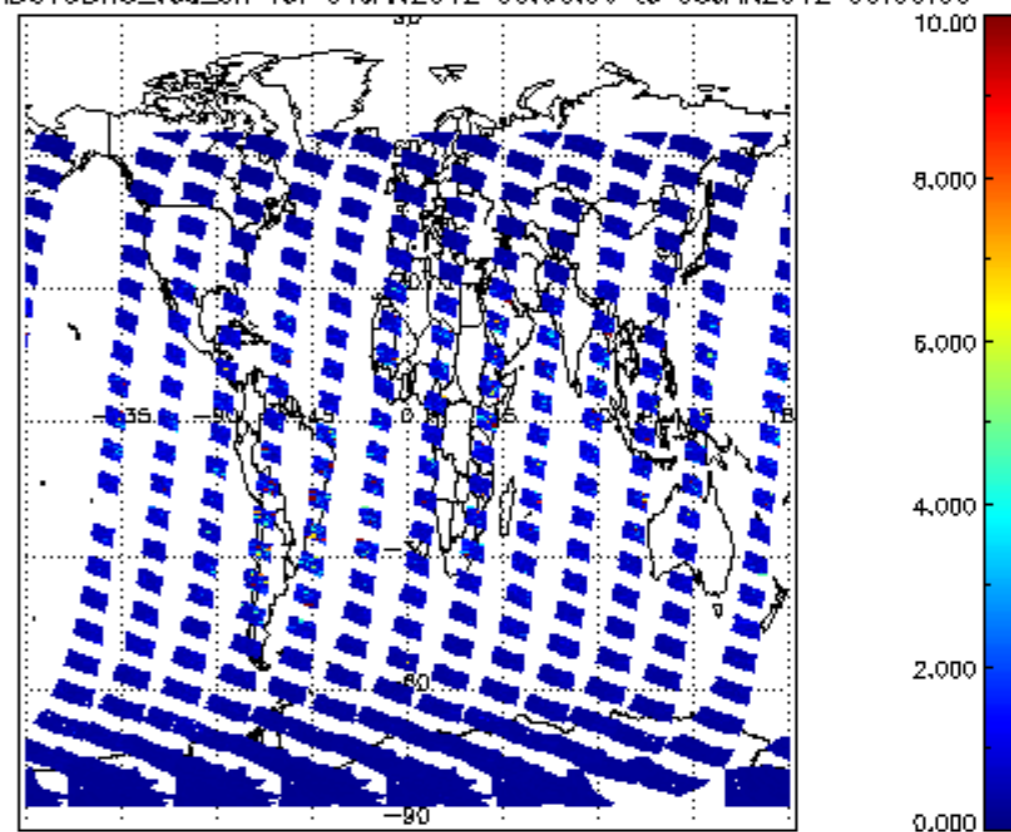




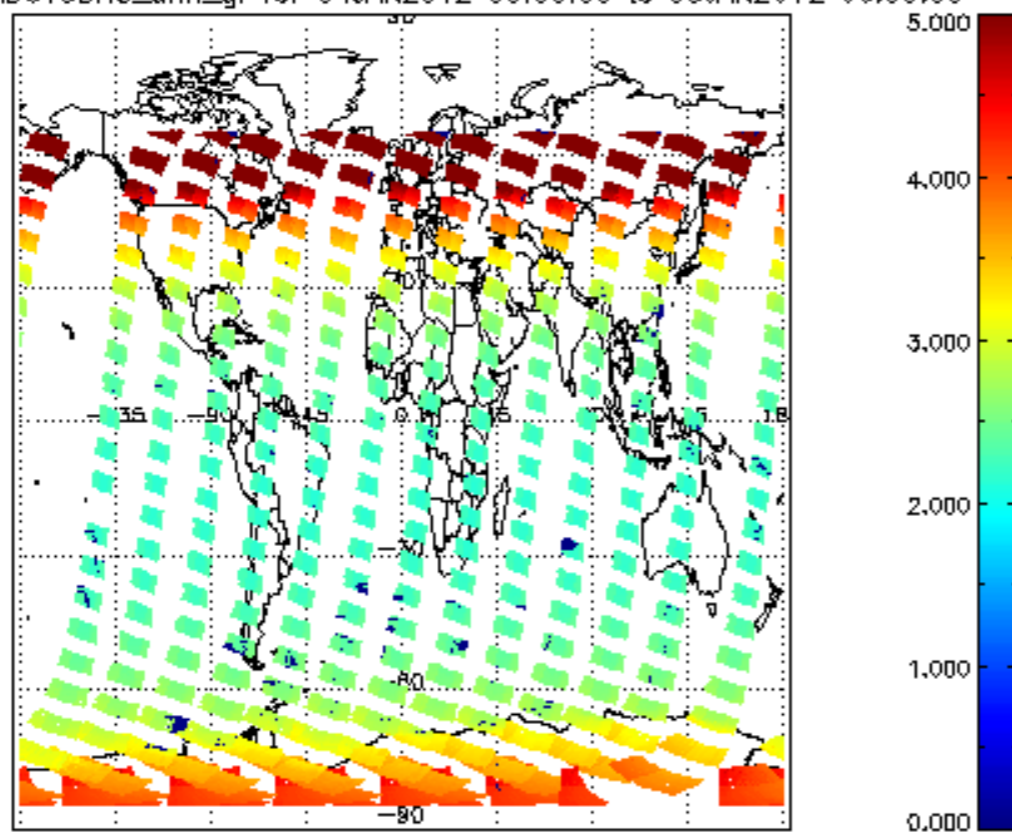
SCIOL2P\_NADUV3BRO\_vcd for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



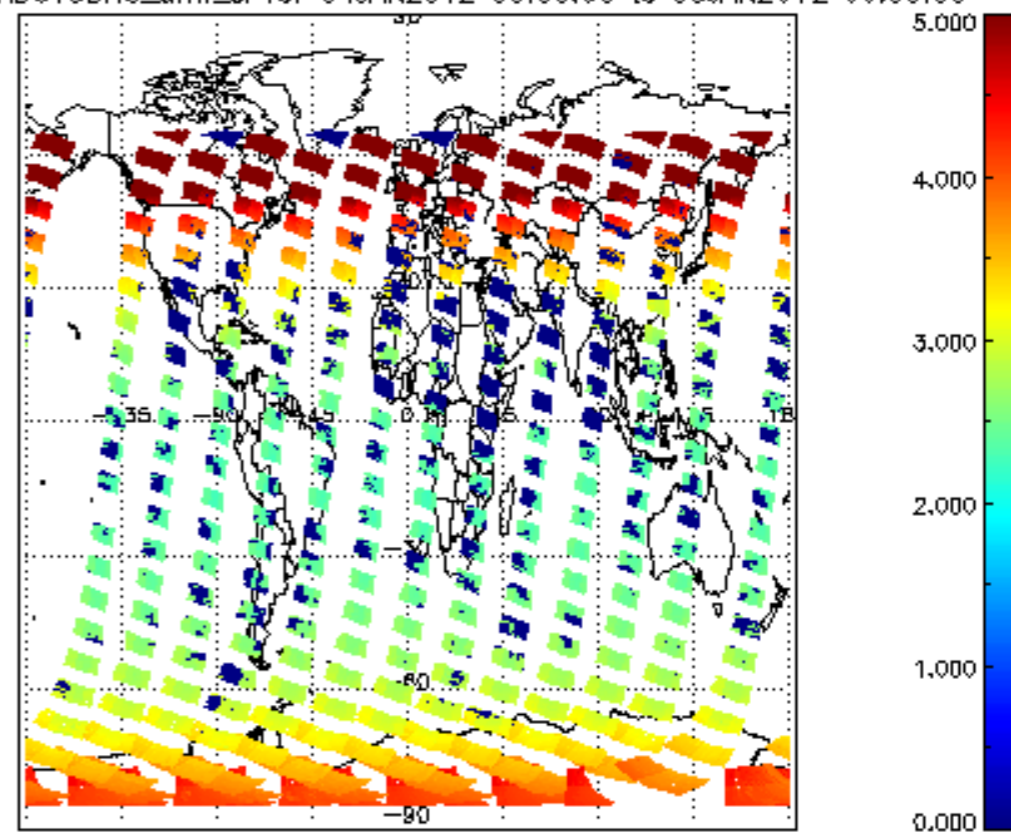
SCIOL2P\_NADUV3BRO\_vcd\_err for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

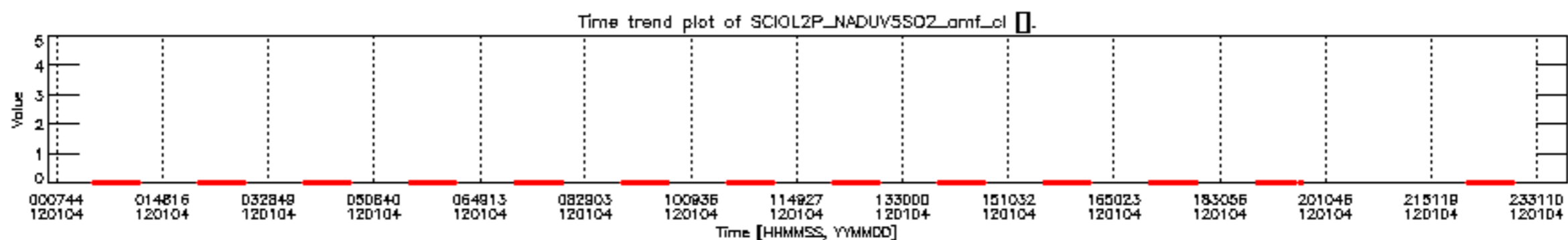
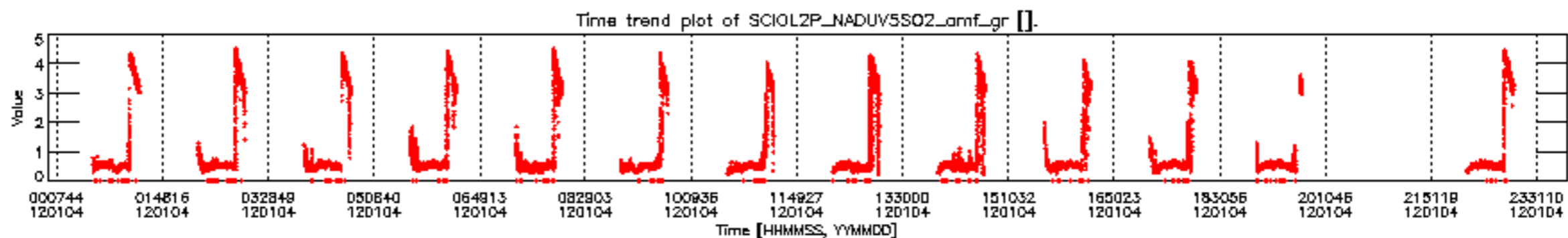
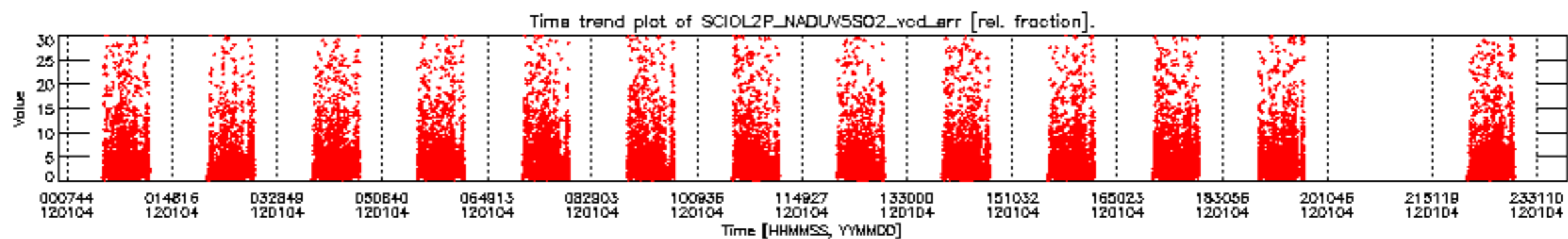
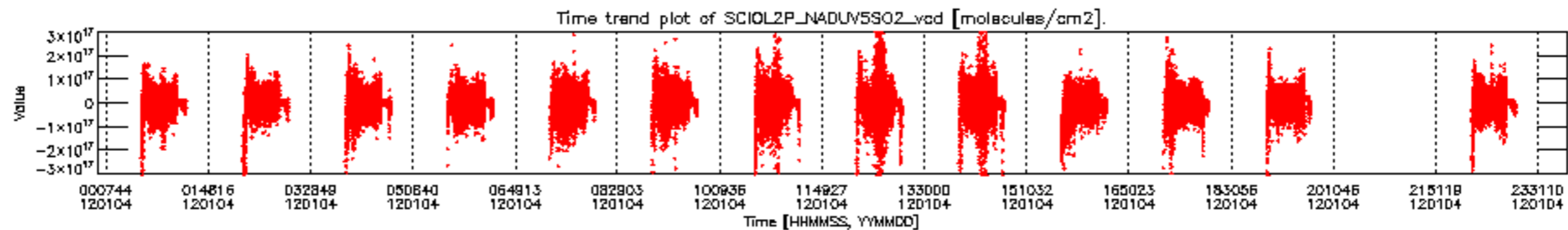


SCIOL2P\_NADUV3BRO\_amf\_gr for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



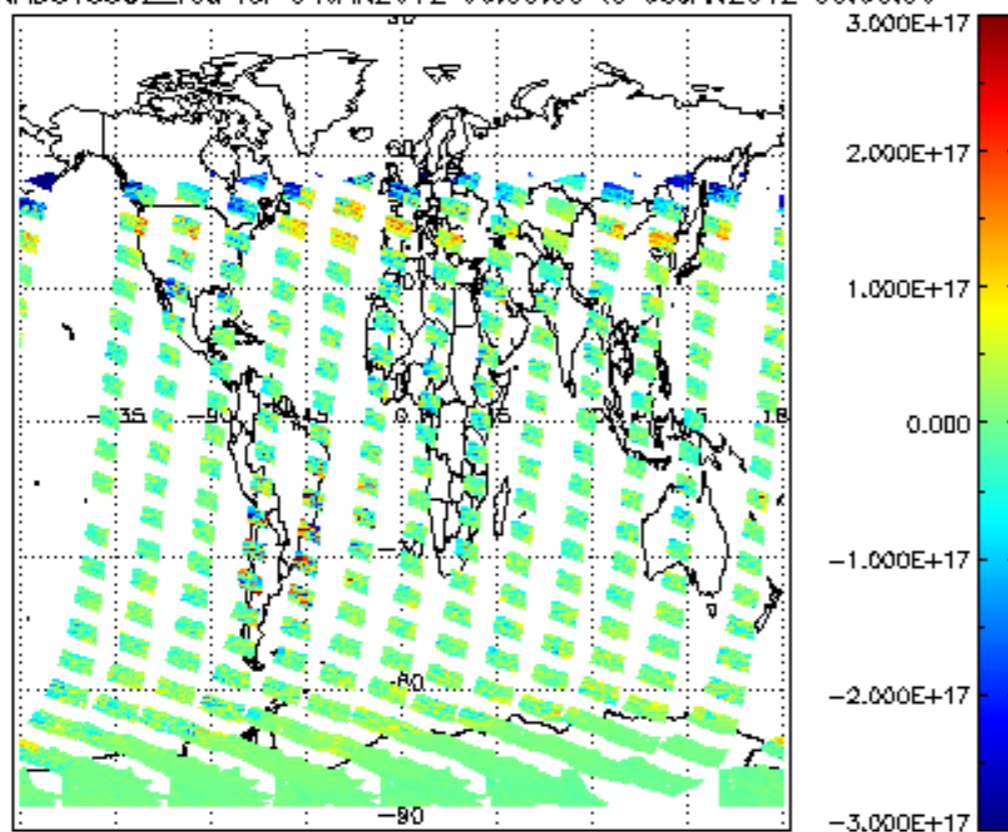
SCIOL2P\_NADUV3BRO\_amf\_cl for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



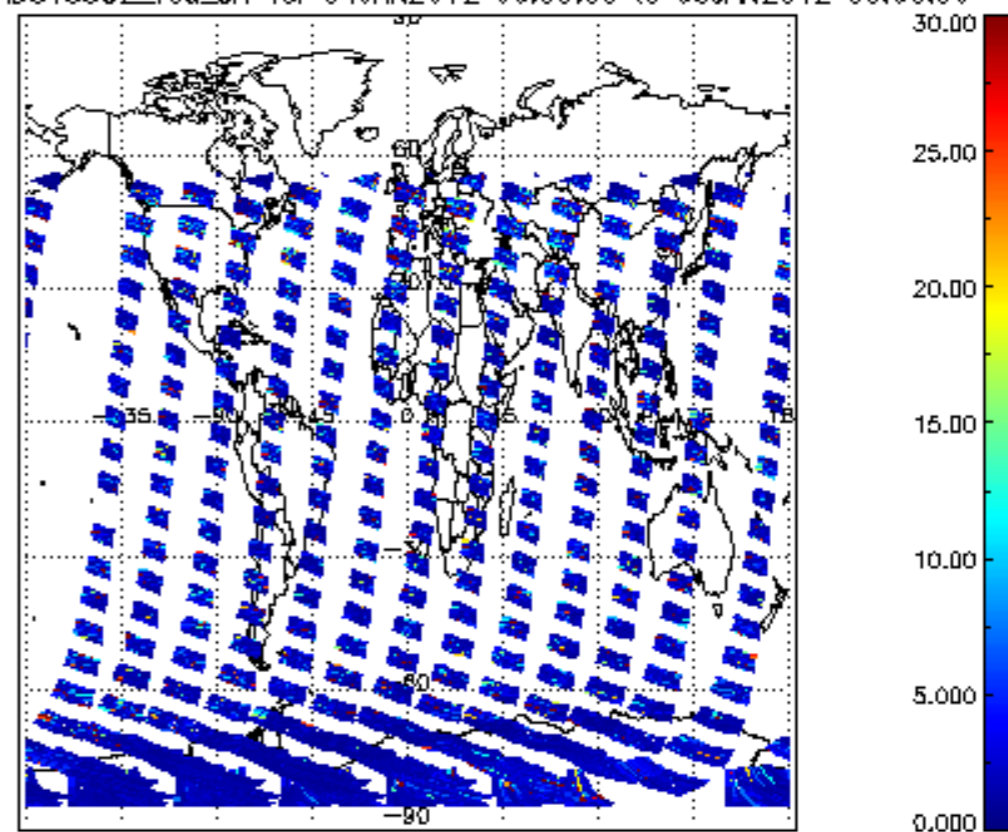




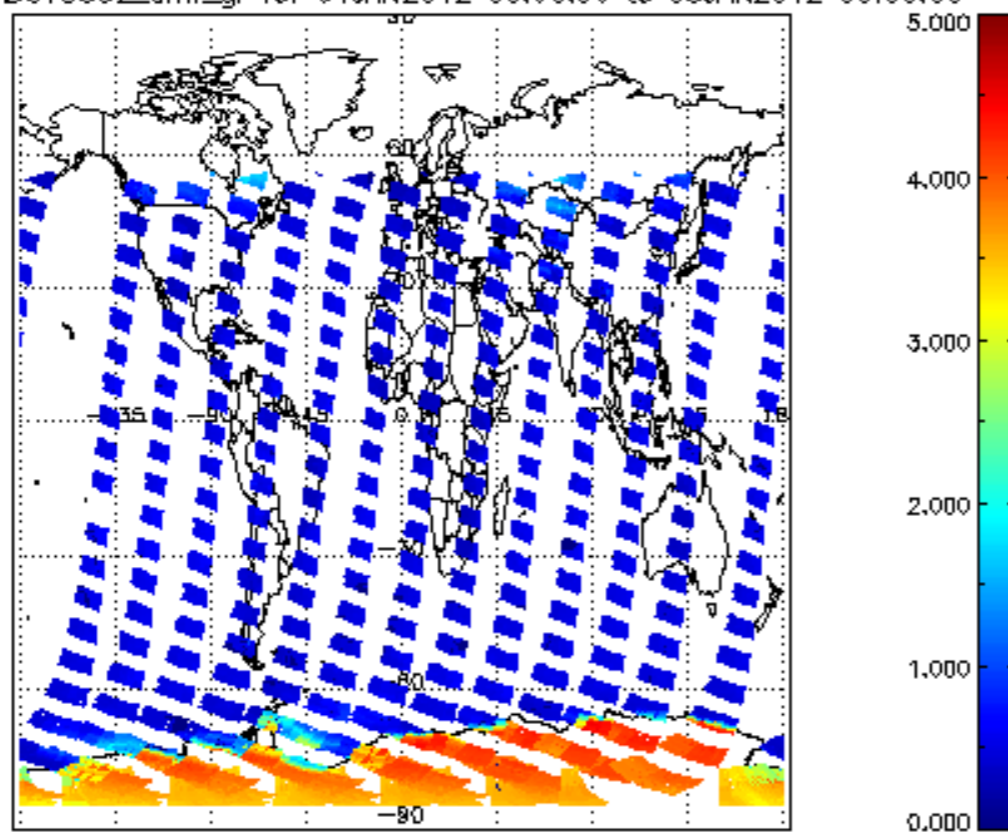
SCIOL2P\_NADUV5S02\_vcd for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



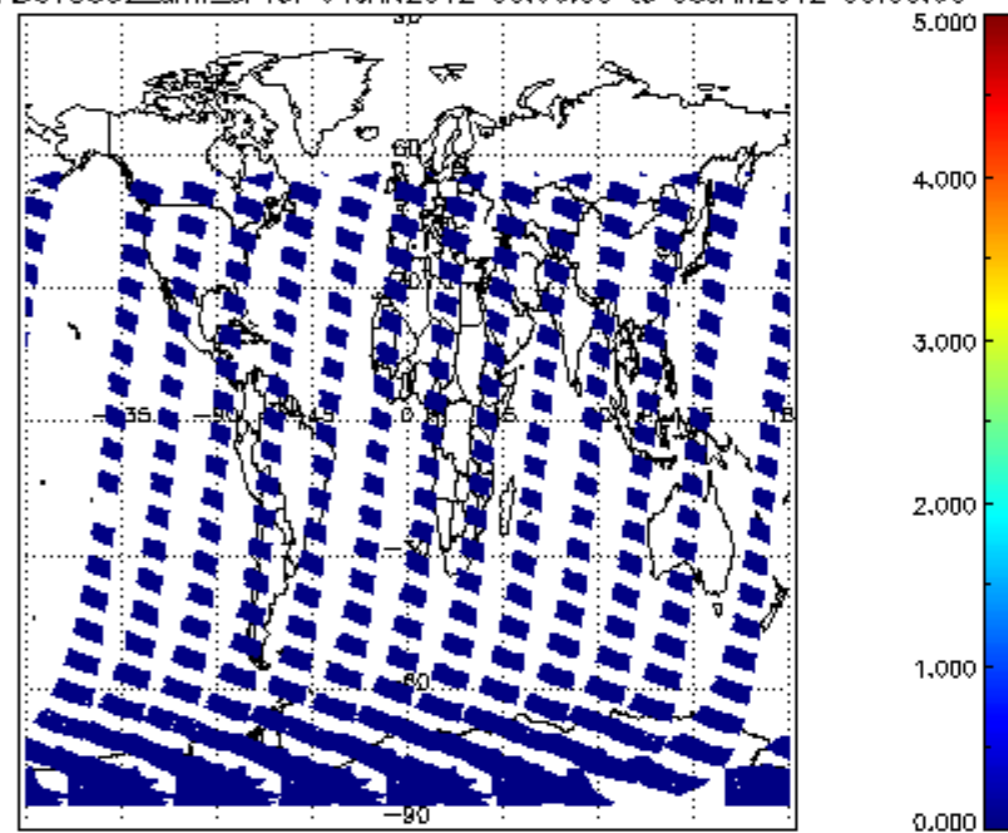
SCIOL2P\_NADUV5S02\_vcd\_err for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

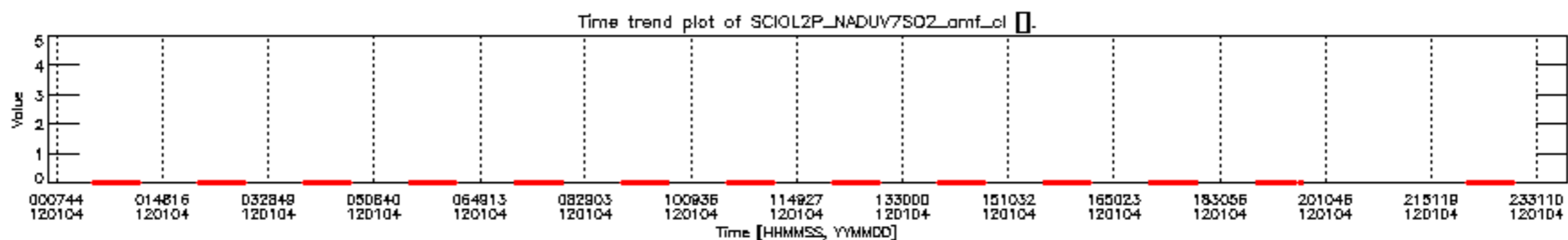
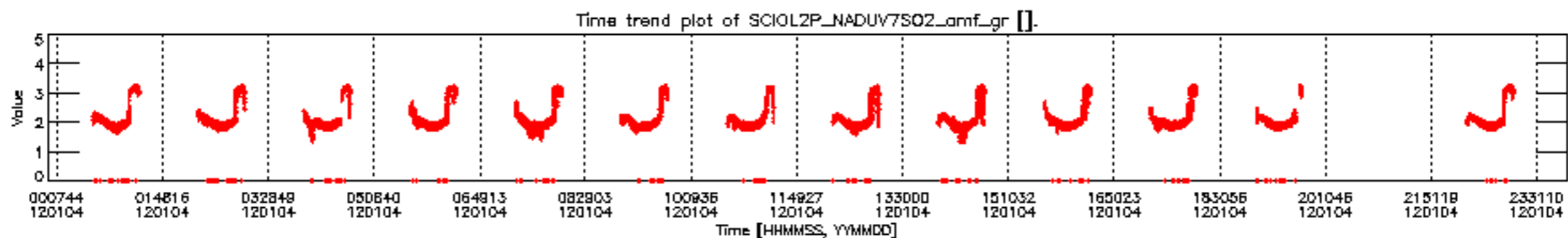
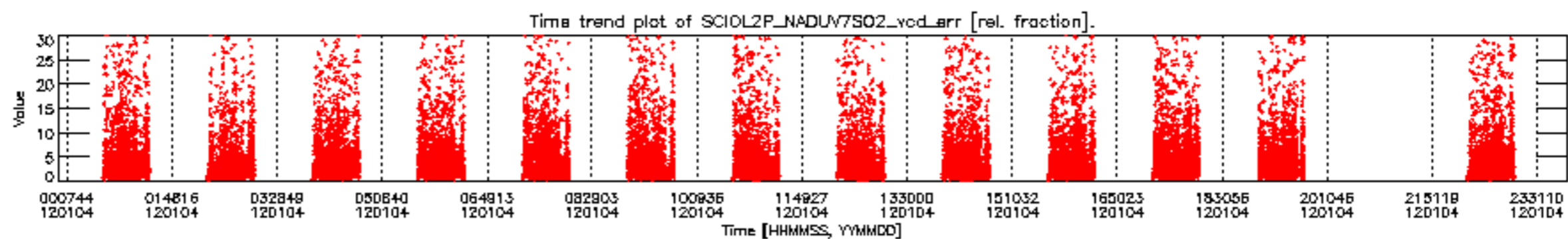
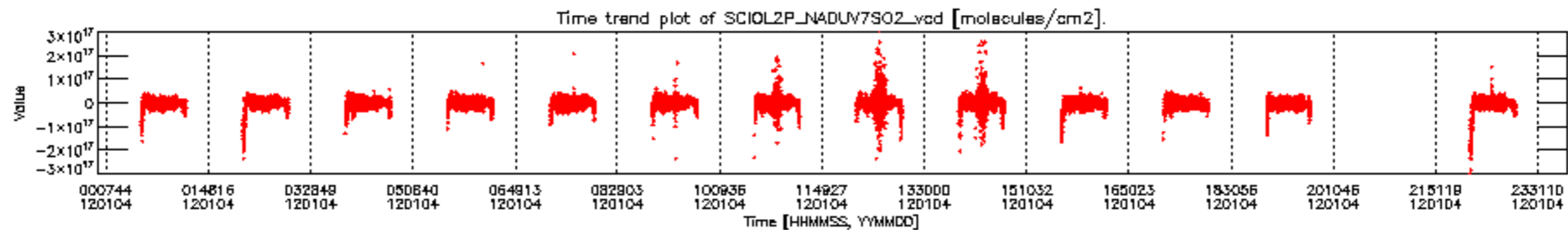


SCIOL2P\_NADUV5S02\_amf\_gr for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



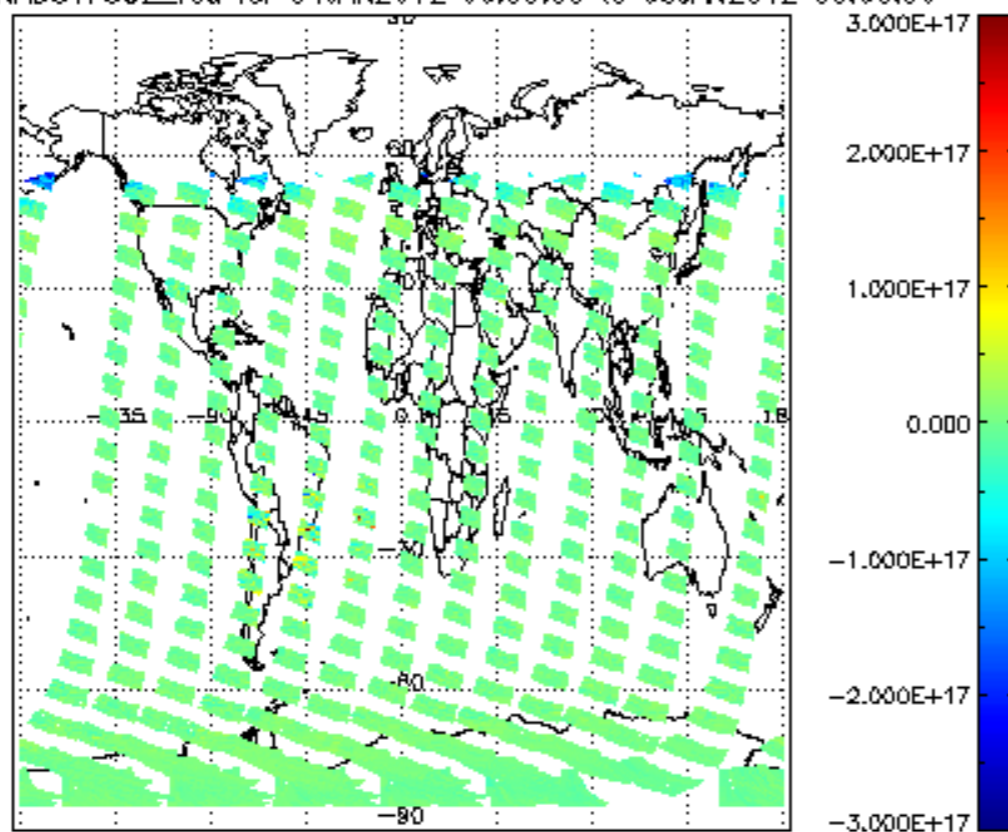
SCIOL2P\_NADUV5S02\_amf\_sl for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



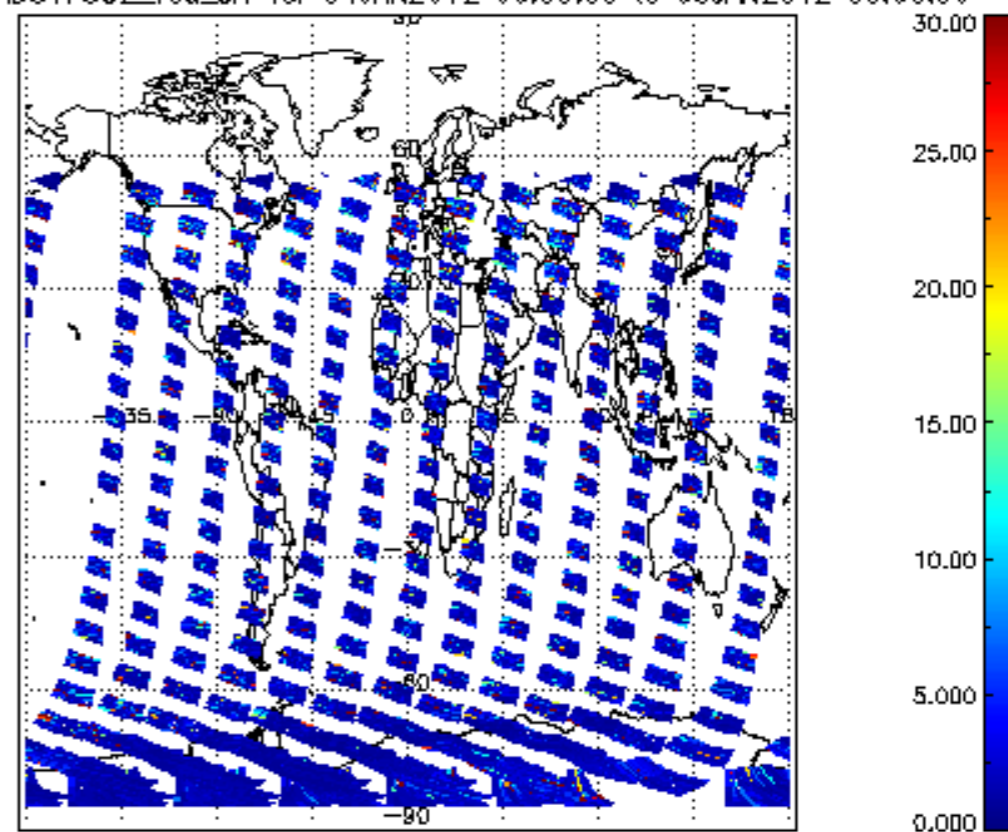




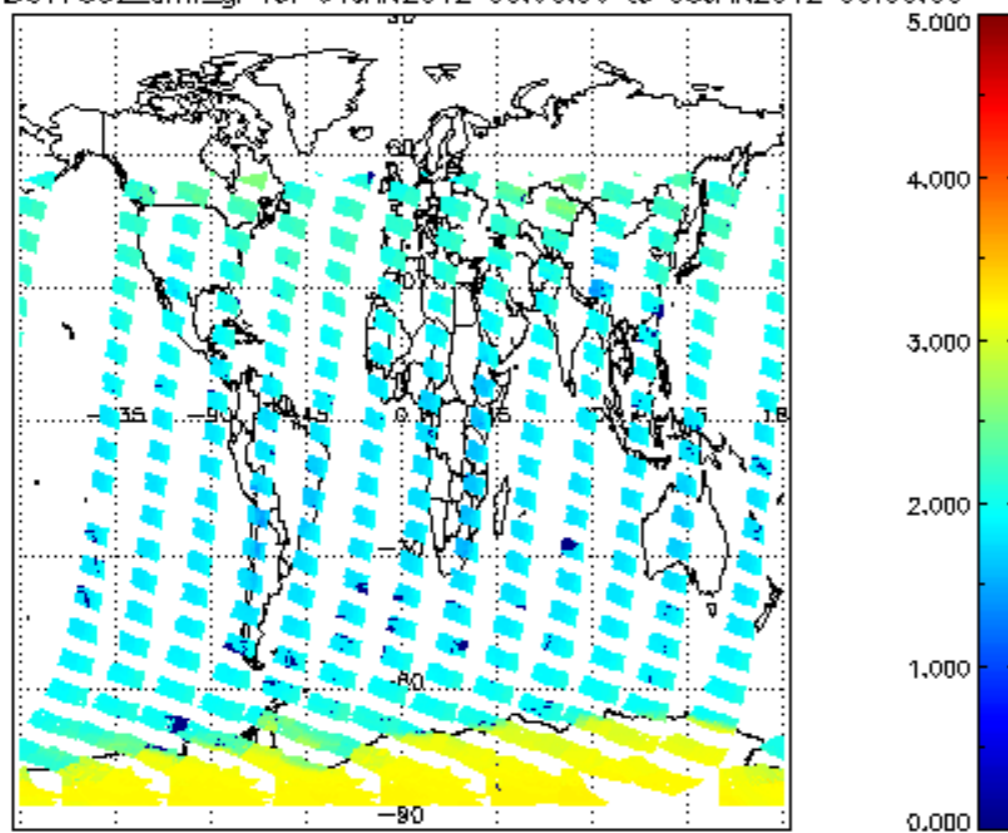
SCIOL2P\_NADUV7S02\_vcd for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



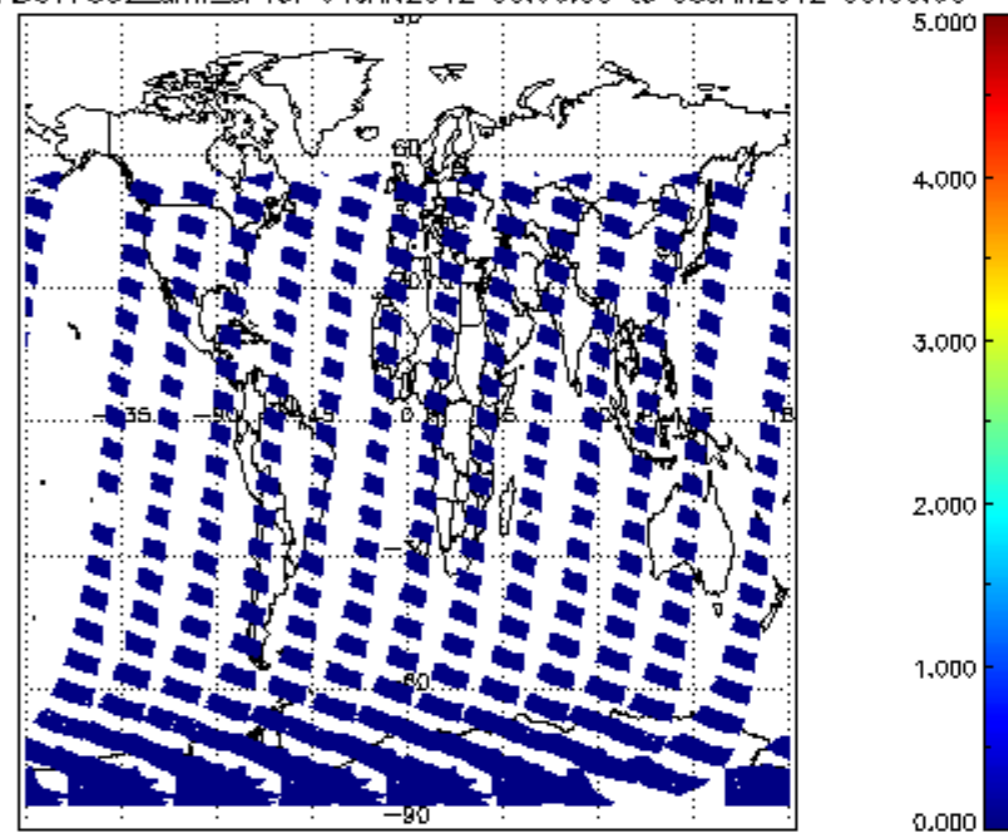
SCIOL2P\_NADUV7S02\_vcd\_err for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

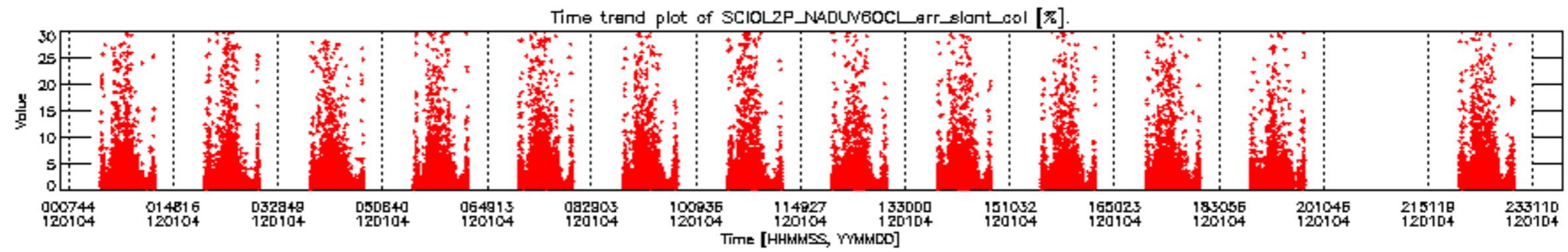
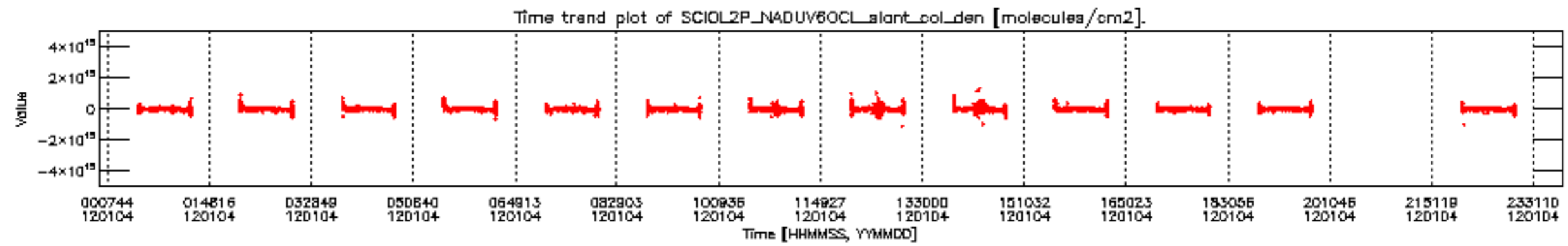


SCIOL2P\_NADUV7S02\_amf\_gr for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



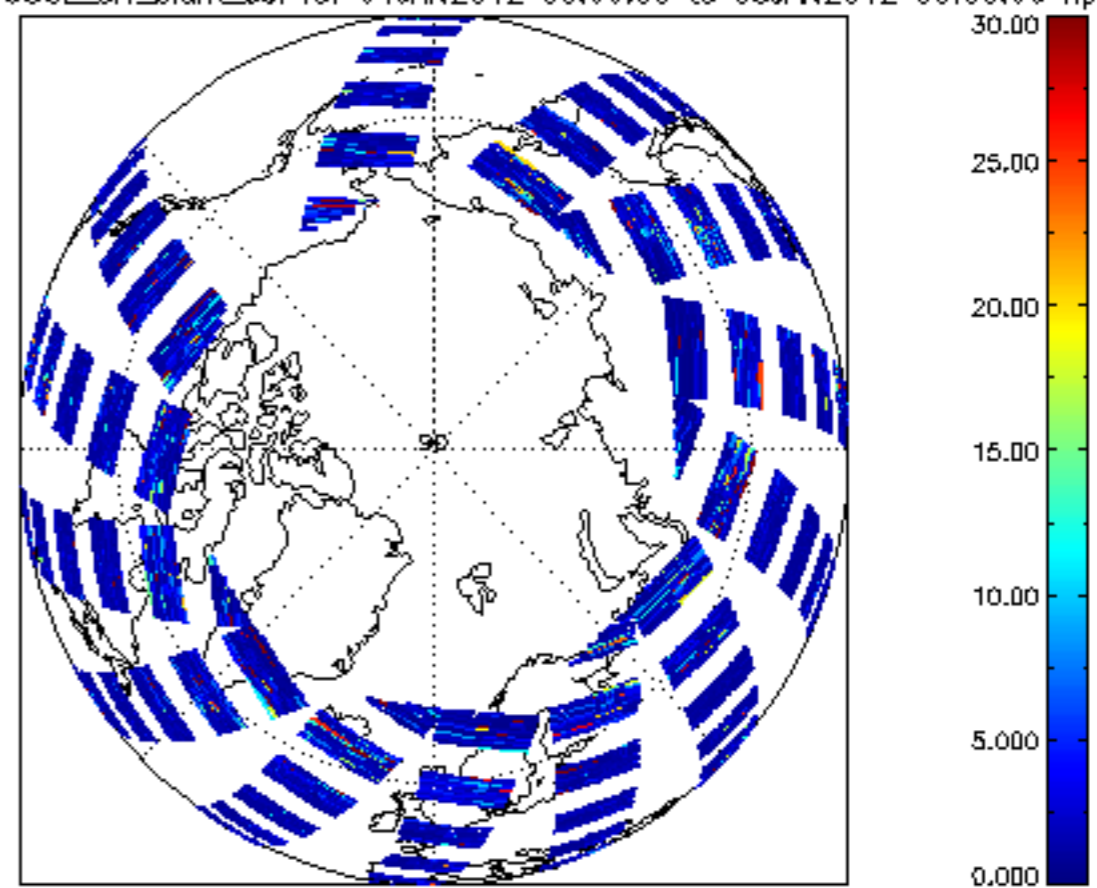
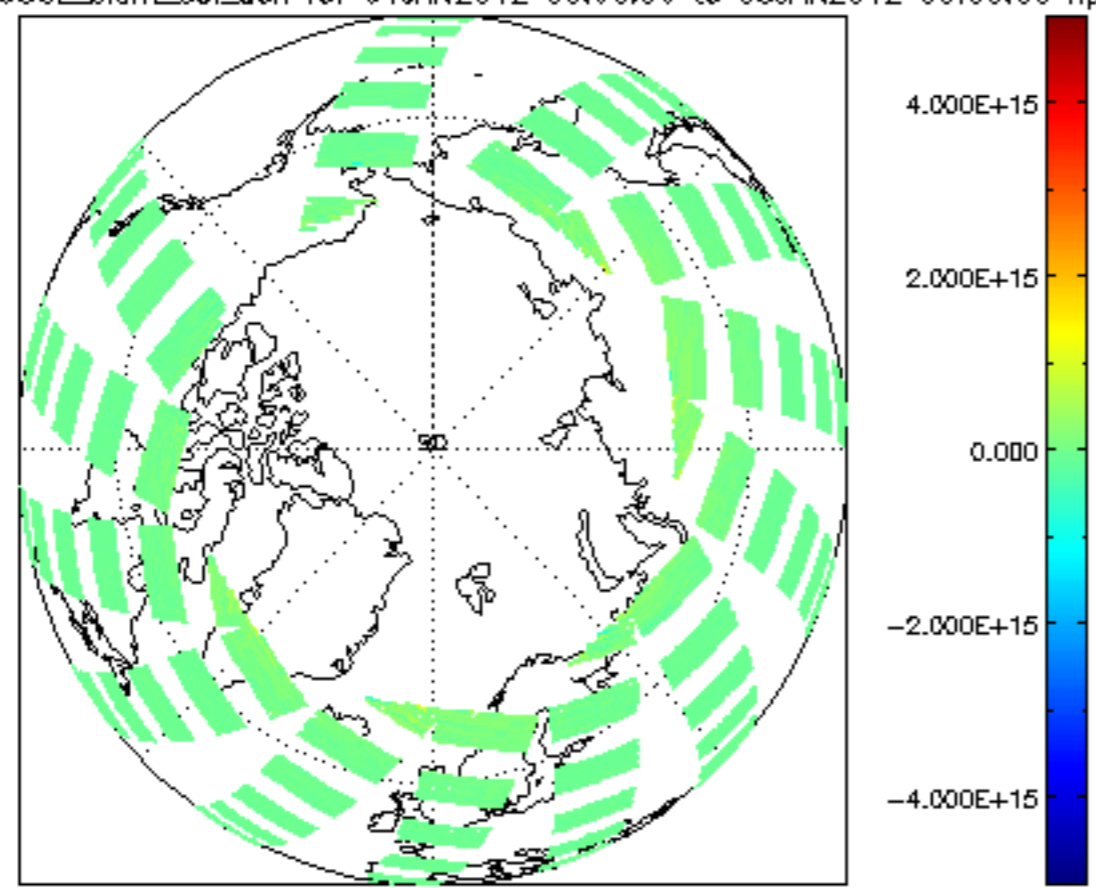
SCIOL2P\_NADUV7S02\_amf\_sl for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



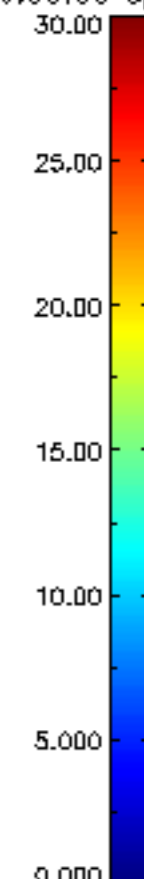
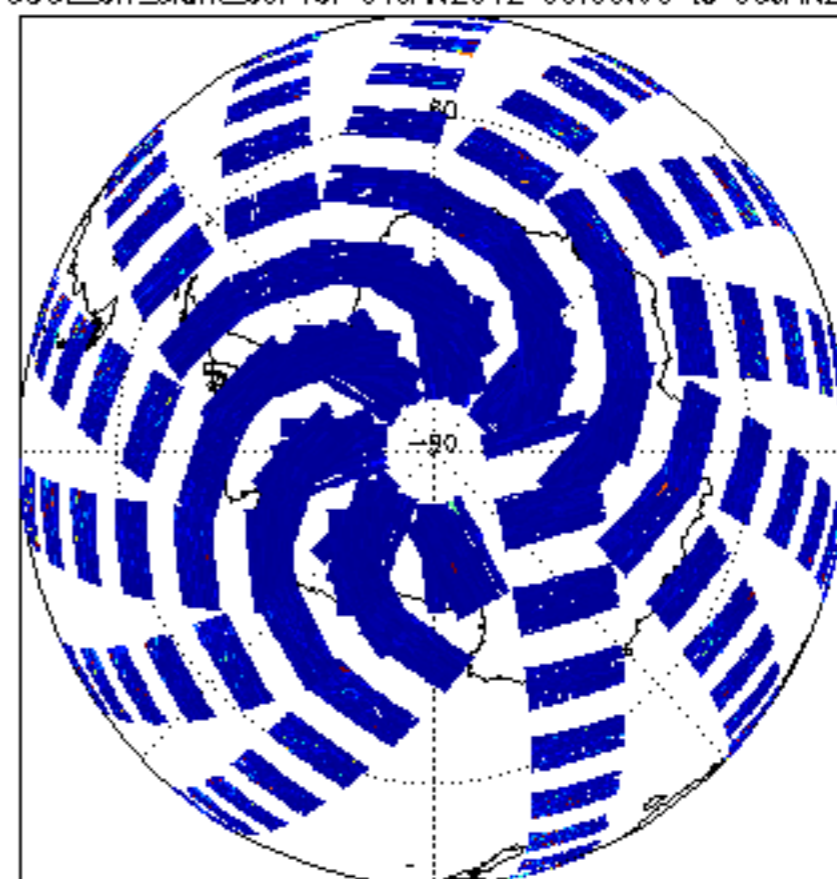
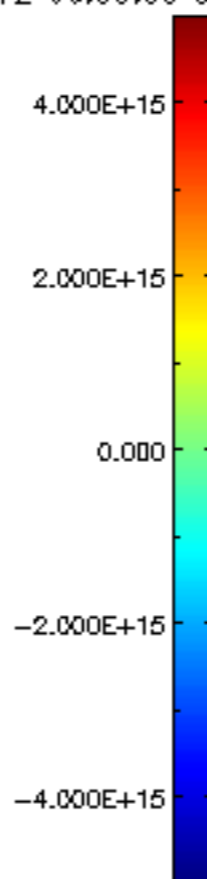
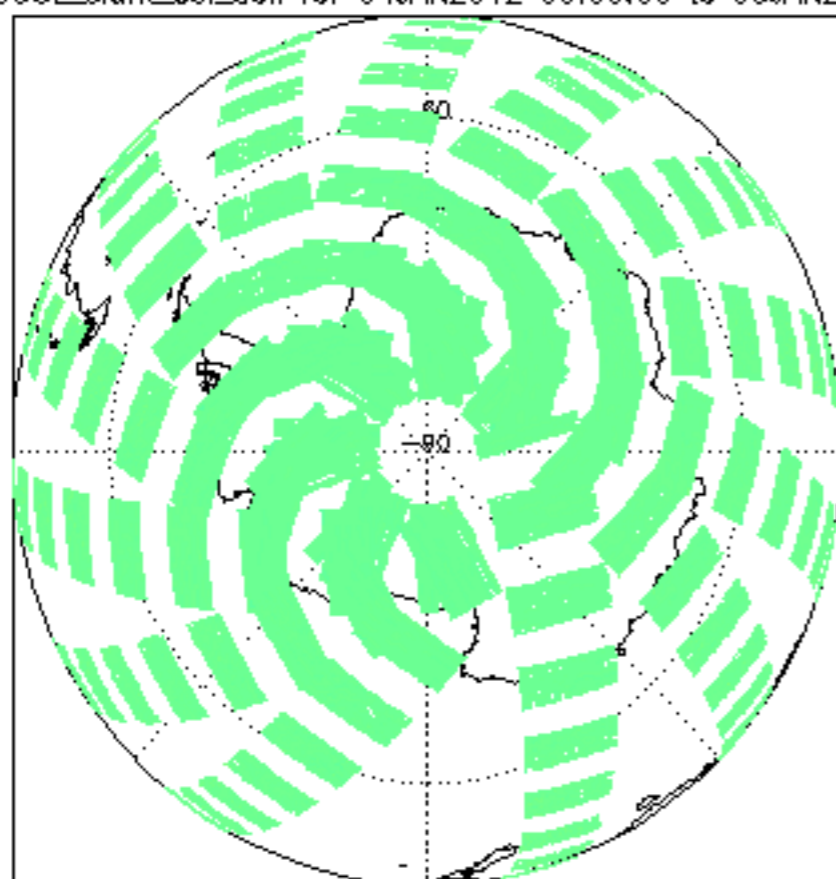




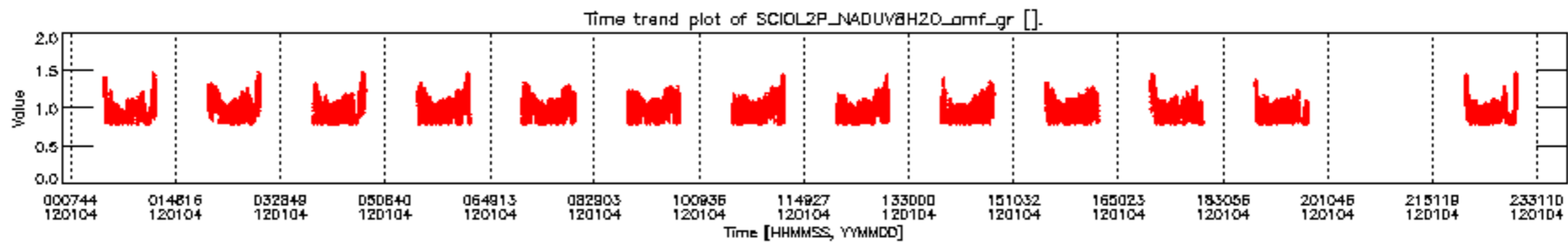
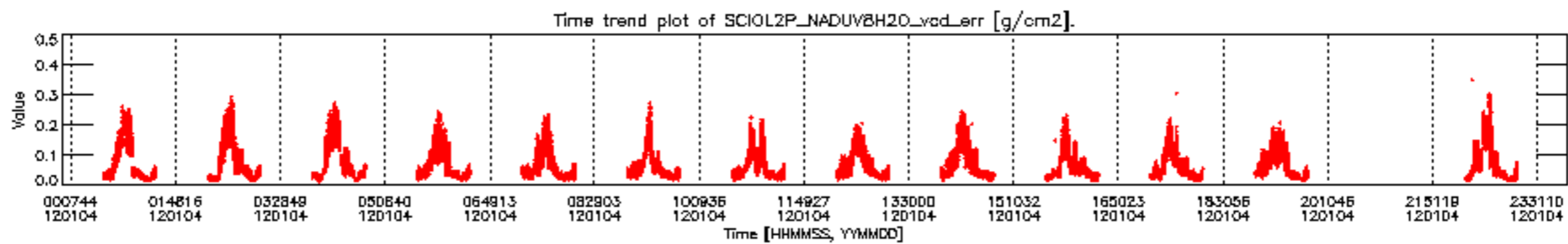
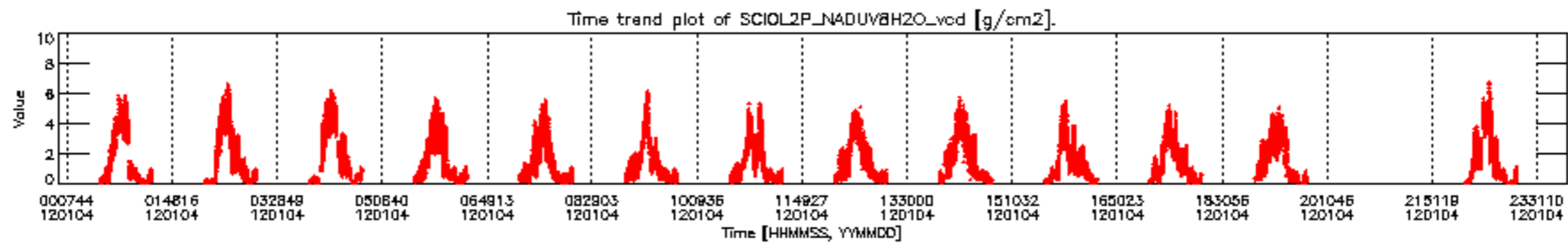
ICIOL2P\_NADUV6OCL\_slant\_col\_den for 04JAN2012 00:00:00 to 05JAN2012 00:00:00 np;ICIOL2P\_NADUV6OCL\_err\_slant\_col for 04JAN2012 00:00:00 to 05JAN2012 00:00:00 np



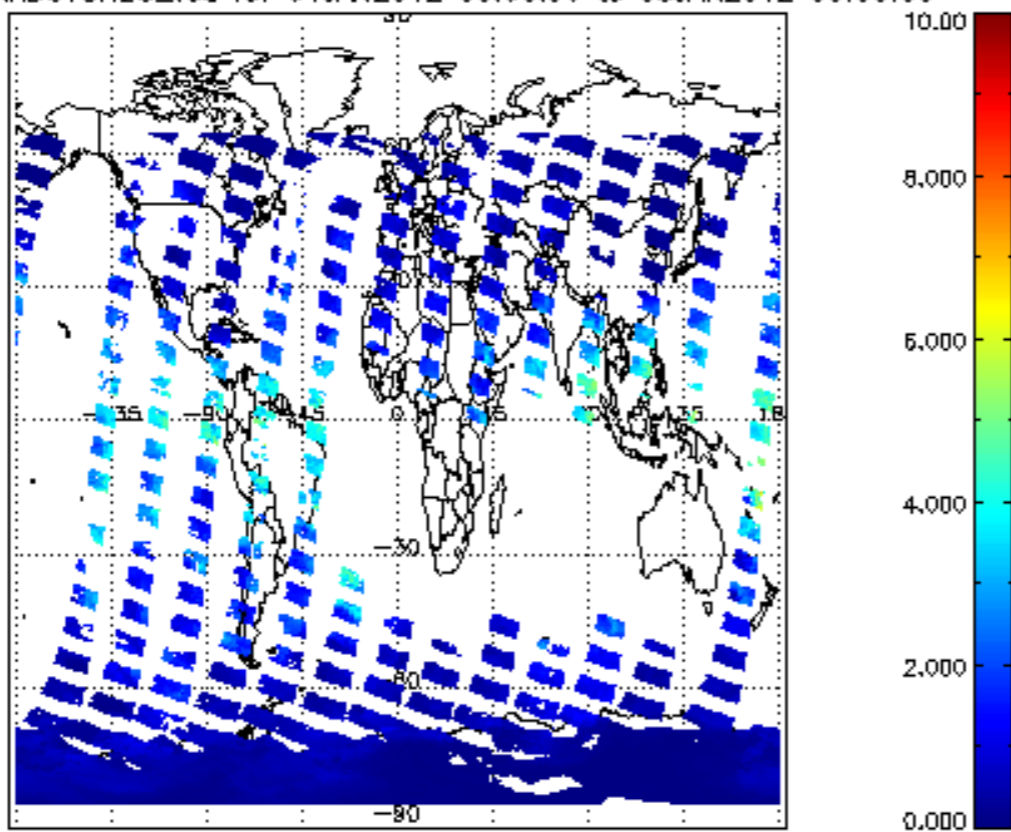
iCIOL2P\_NADUV6OCL\_slant\_col\_den for 04JAN2012 00:00:00 to 05JAN2012 00:00:00 sp iCIOL2P\_NADUV6OCL\_err\_slant\_col for 04JAN2012 00:00:00 to 05JAN2012 00:00:00 sp



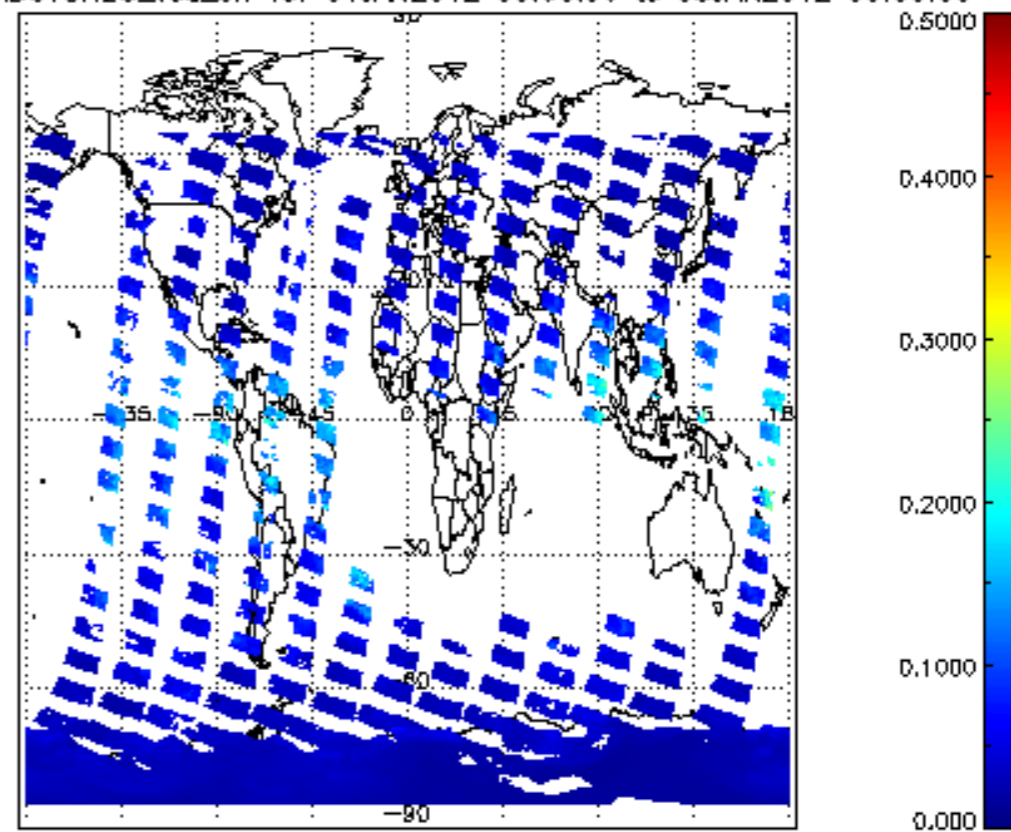




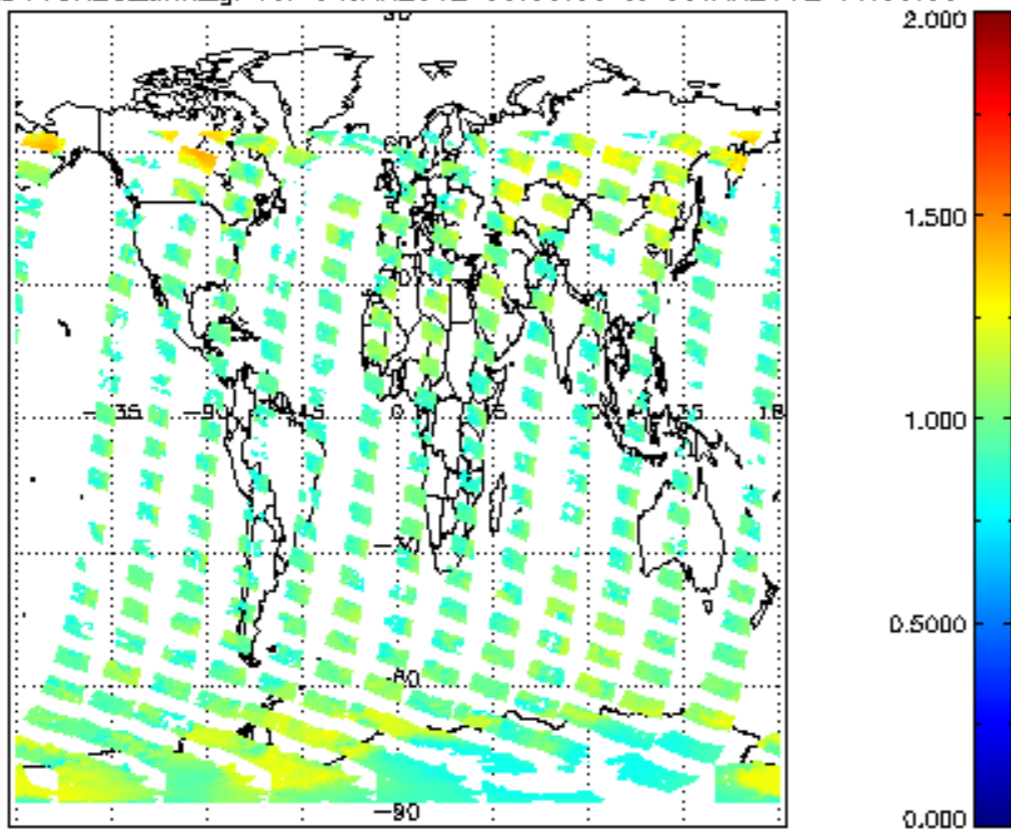
SCIOL2P\_NADUV8H20\_vcd for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



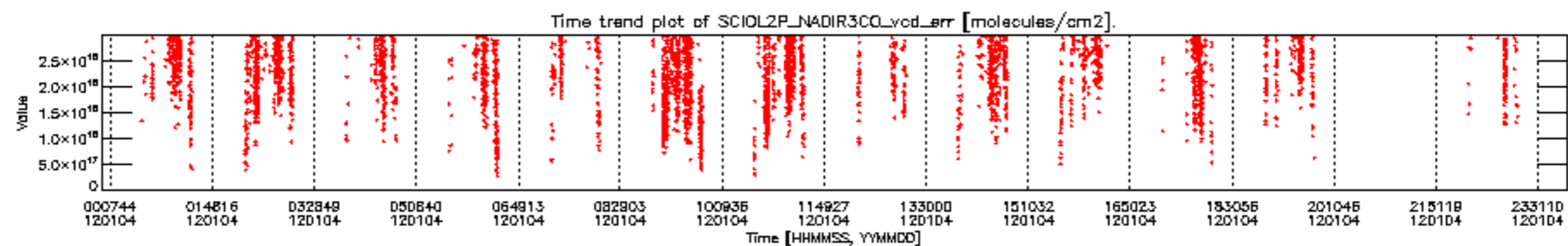
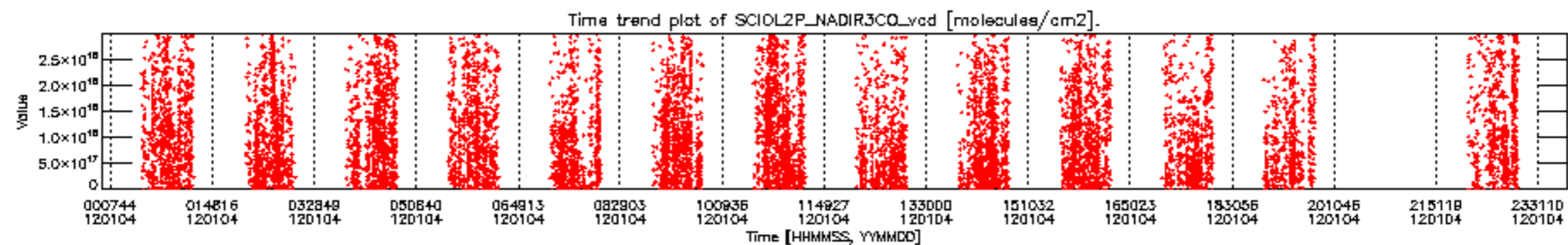
SCIOL2P\_NADUV8H20\_vcd\_err for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



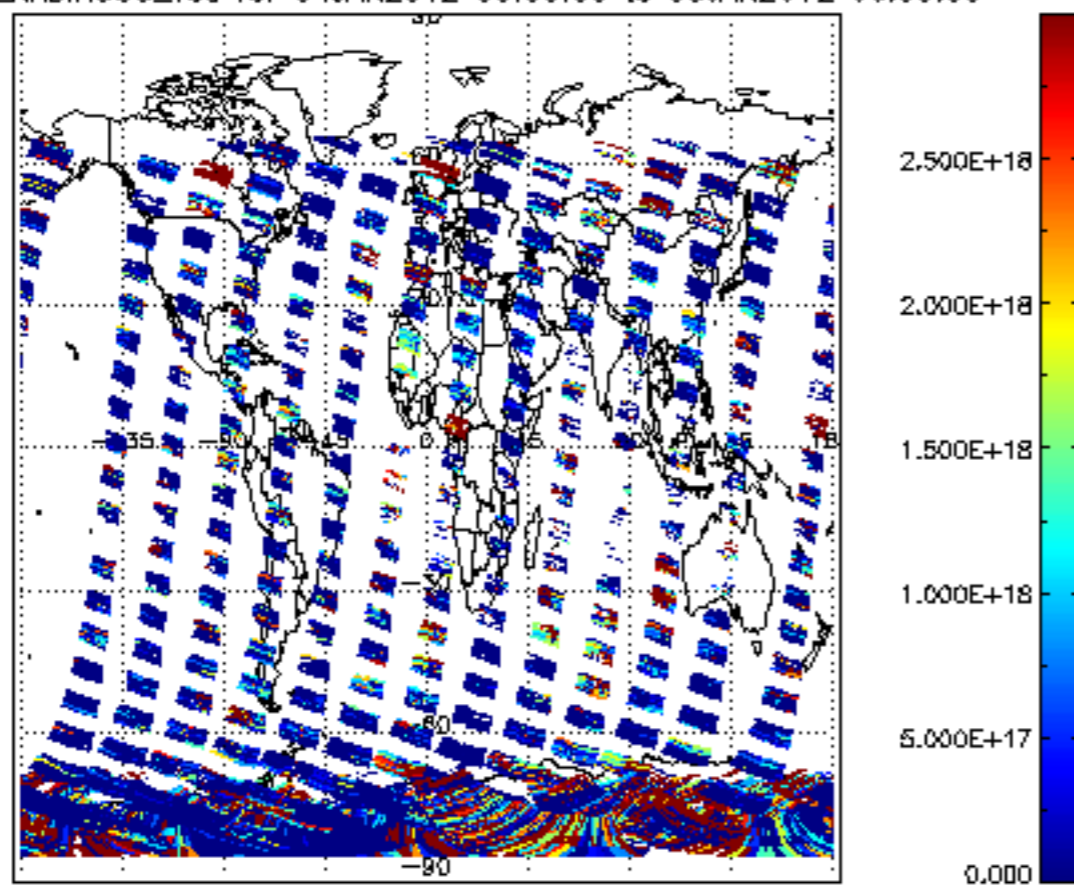
SCIOL2P\_NADUV8H20\_amf\_gr for 04JAN2012 00:00:00 to 05JAN2012 00:00:00



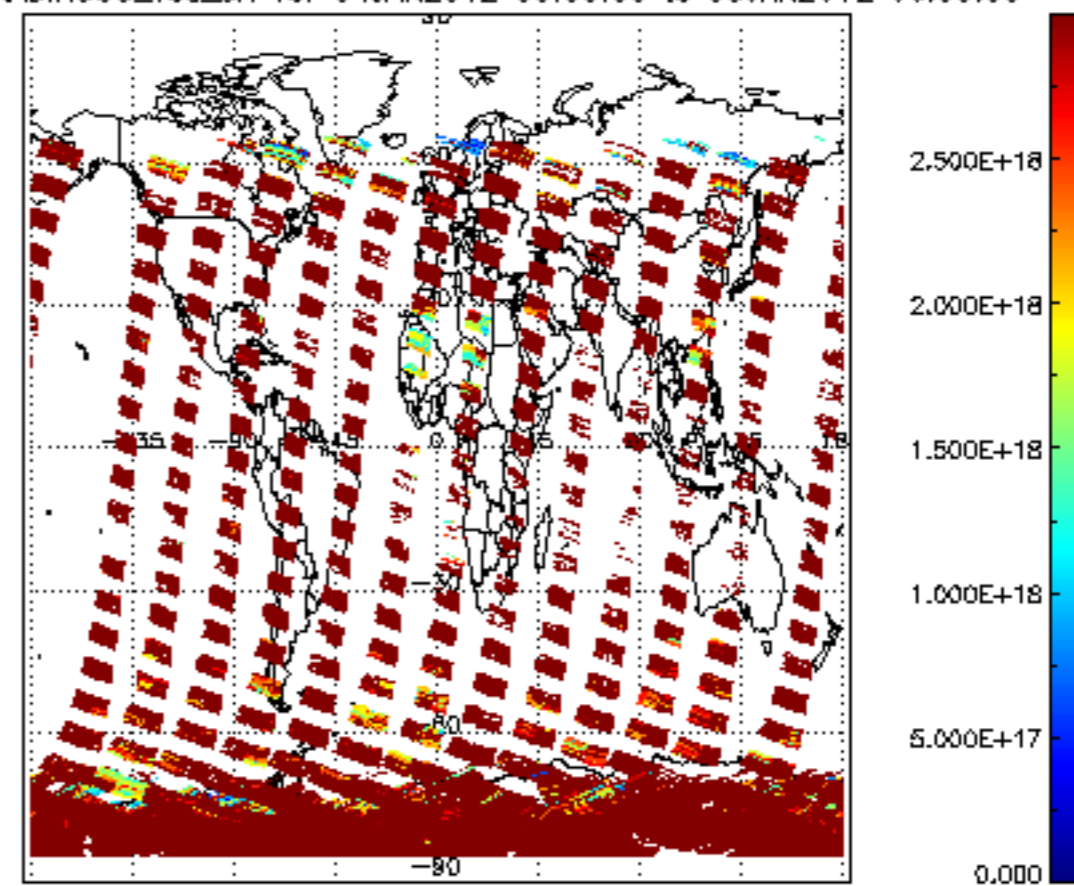




SCIOL2P\_NADIR3CO\_vcd for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

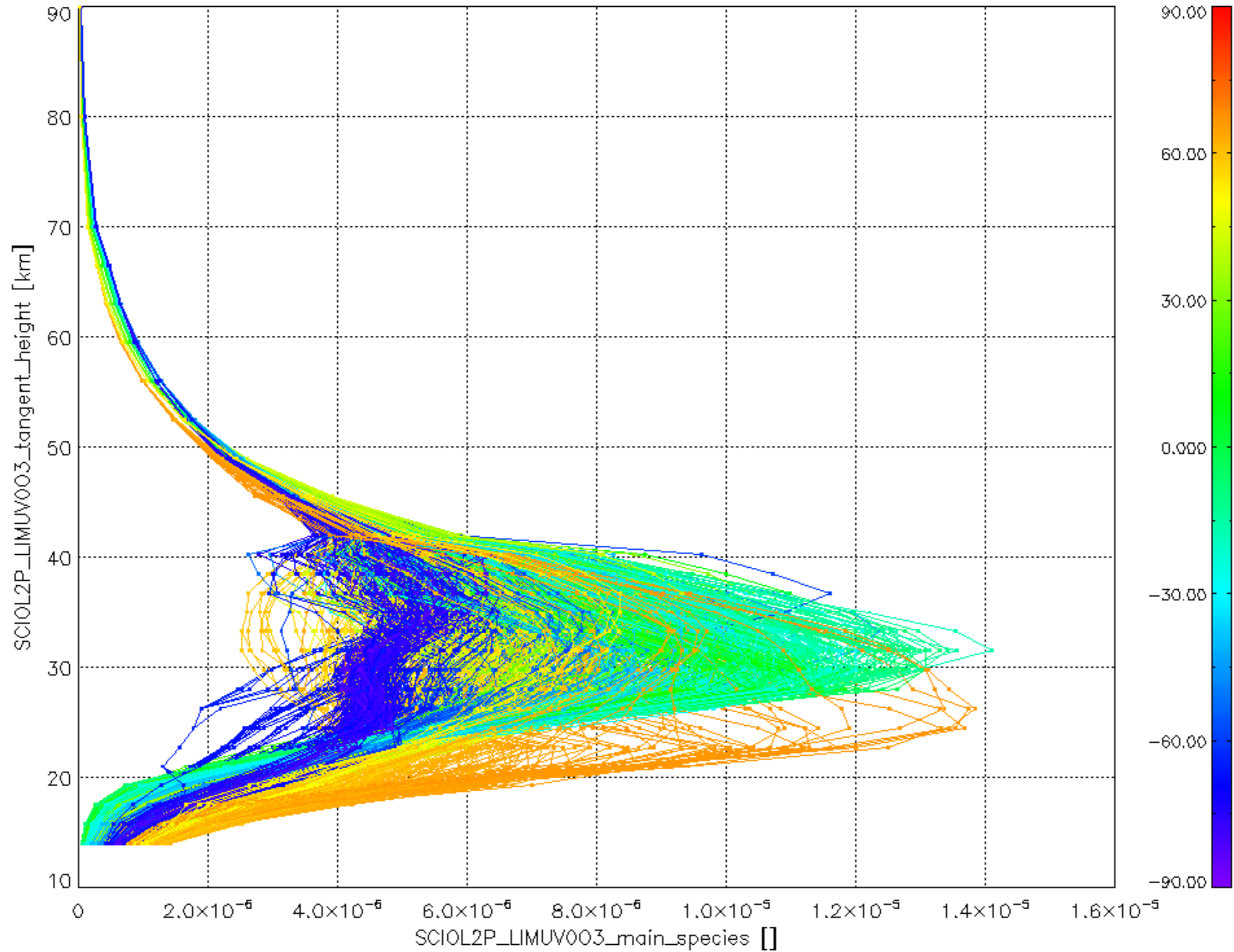


SCIOL2P\_NADIR3CO\_vcd\_err for 04JAN2012 00:00:00 to 05JAN2012 00:00:00

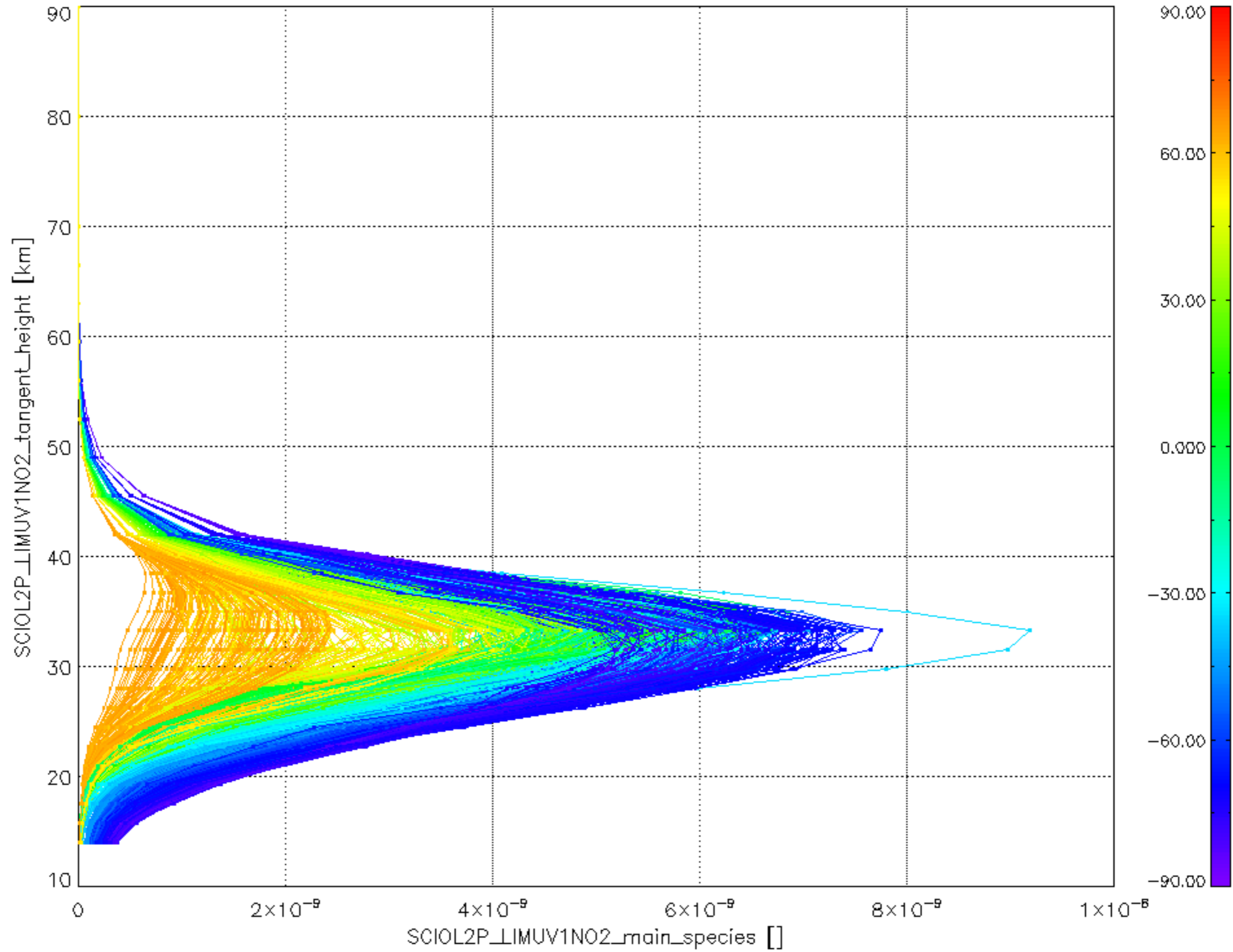




Plot of SCIOL2P\_LIMUV003\_main\_species.tang\_vmr vs. tangent height.  
 Colours indicate tangent latitude (see colour bar on the right).



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).

