

## 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	1.4 (06-11-2007)
Time of report generation	28MAY2008 17:48:29
Data source version	SCIA-OL/3.01-R
Processing scope for products	21DEC2002 00:00:00 to 22DEC2002 00:00:00
Start time of first product within scope	21DEC2002 01:01:01
Stop time of last product within scope	21DEC2002 23:44:13
Total number of level 2 products	9
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.

#	Product name	Start time	Stop time	Prod err	Fit summary
0	SCI_OL__2PRDPA20021221_010101_000033242012_00160_04222_1942.N1	21DEC2002 01:01:01	21DEC2002 01:56:26	0	GOOD
1	SCI_OL__2PRDPA20021221_024137_000033242012_00161_04223_1931.N1	21DEC2002 02:41:37	21DEC2002 03:37:02	0	GOOD
2	SCI_OL__2PRDPA20021221_042213_000033242012_00162_04224_1791.N1	21DEC2002 04:22:13	21DEC2002 05:17:38	0	GOOD
3	SCI_OL__2PRDPA20021221_060249_000033242012_00163_04225_1830.N1	21DEC2002 06:02:49	21DEC2002 06:58:14	0	GOOD
4	SCI_OL__2PRDPA20021221_074325_000033242012_00164_04226_1840.N1	21DEC2002 07:43:25	21DEC2002 08:38:49	0	GOOD
5	SCI_OL__2PRDPA20021221_142549_000033242012_00168_04230_1936.N1	21DEC2002 14:25:49	21DEC2002 15:21:13	0	GOOD
6	SCI_OL__2PRDPA20021221_192801_000033242012_00171_04233_1831.N1	21DEC2002 19:28:01	21DEC2002 20:23:25	0	GOOD
7	SCI_OL__2PRDPA20021221_210813_000033242012_00172_04234_1828.N1	21DEC2002 21:08:13	21DEC2002 22:03:37	0	GOOD
8	SCI_OL__2PRDPA20021221_224849_000033242012_00173_04235_1874.N1	21DEC2002 22:48:49	21DEC2002 23:44:13	0	GOOD

## 2.2 Product Quality Indicators

### 2.2.1 Cloud parameters

This is a new section that 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: 70080

Total number of cloud data DSRs with good quality flag (=0): 70080 (100.0 %)

Parameter	#valid	Mean	Median	Min	Max	Stddev	Unit
QUALITY_FLAG	70080	0.0000	0.0000	0.0000	0.0000	0.0000	flag
INTEGR_TIME	70080	0.21682	0.25000	0.12500	0.50000	0.079102	s
SURFACE_PRES	70080	0.0000	0.0000	0.0000	0.0000	0.0000	hPa
CL_FRAC	70080	0.46568	0.46804	0.0000	1.0000	0.27463	-
CL_FRAC_ERR	70080	0.0000	0.0000	0.0000	0.0000	0.0000	rel. fraction
PMD_READ	70080	6.9384	8.0000	4.0000	16.000	2.5313	
PMD_READ_CL[0]	70080	0.31688	0.0000	0.0000	16.000	1.3473	-
PMD_READ_CL[1]	70080	0.27991	0.0000	0.0000	16.000	1.3352	-
CL_TOP_HEIGHT	64853	4.5160	3.6070	0.0000	17.000	3.6202	km
CL_TOP_HEIGHT_ERR	0	---	---	---	---	---	---

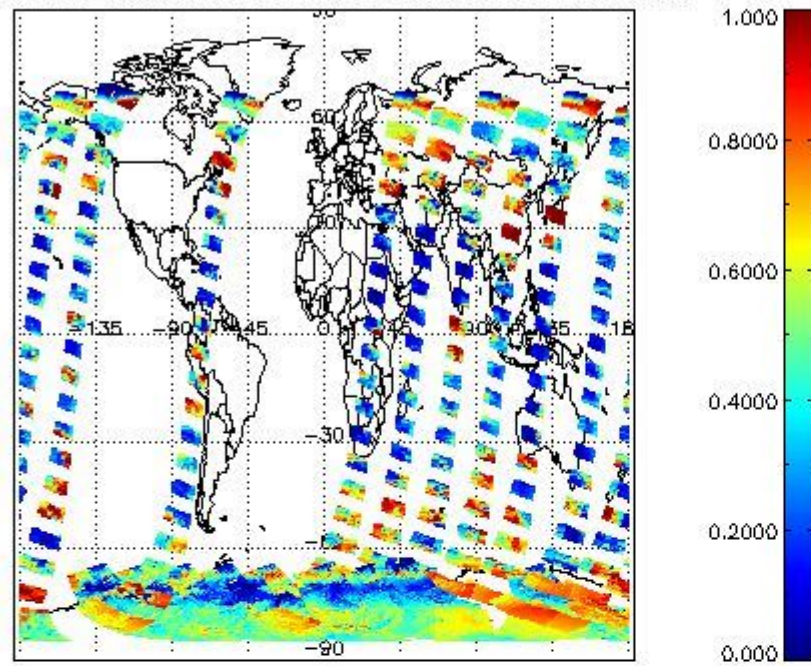
CL_OPT_DEPTH	64853	58.788	56.177	0.0000	101.00	40.732	km
CL_OPT_DEPTH_ERR	0	---	---	---	---	---	---
CL_TYPE_FLAGS	70080	11100000	11100000	11100000	11100000	0.0000	flags. Bit definition = 0: low or high cloud; 1: ice or water cloud; 2: thick or thin cloud; 3-15: not used
CLOUD_FLAGS	70080	11000101	11000010	11000000	11100000	2221.5	flags
AERO_ABSO_IND	70080	-0.22953	-0.22563	-4.8951	8.8430	1.0459	
AERO_IND_DIAG	70080	0.0000	0.0000	0.0000	0.0000	0.0000	
AERO_FLAGS	70080	01101001	11000000	00000000	11000000	24450.	flags

Time and geolocation plots:

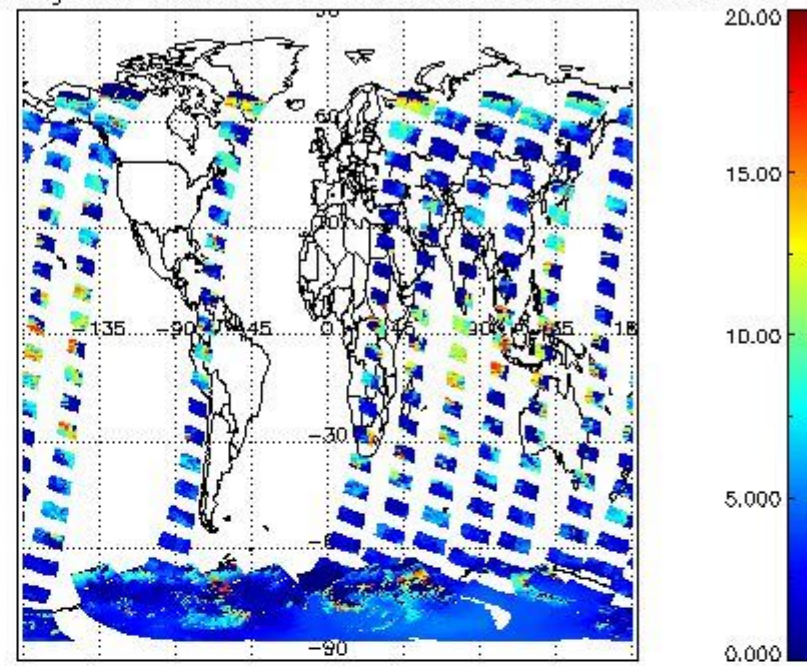
Plots are available for the following parameters:

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

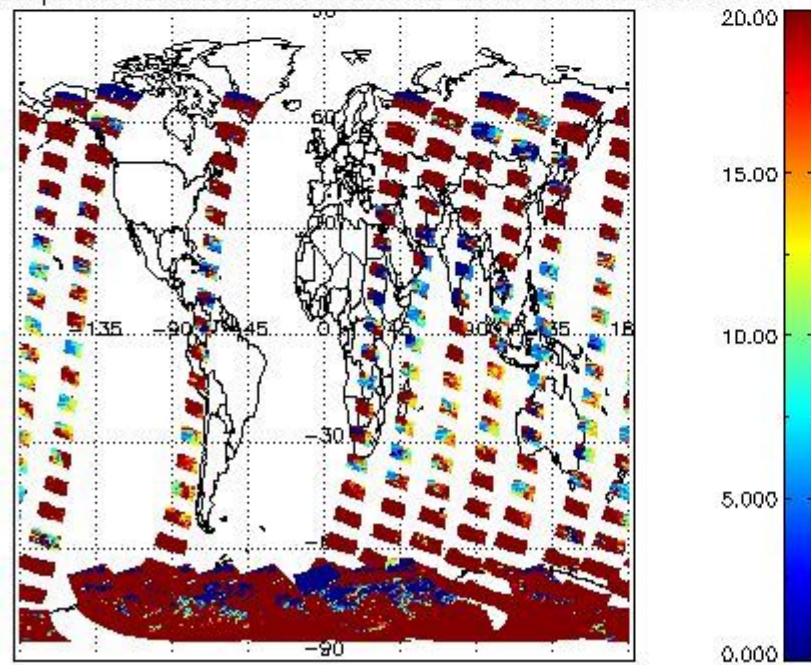
cL\_frac for 21DEC2002 00:00:00 to 22DEC2002 00:00:00



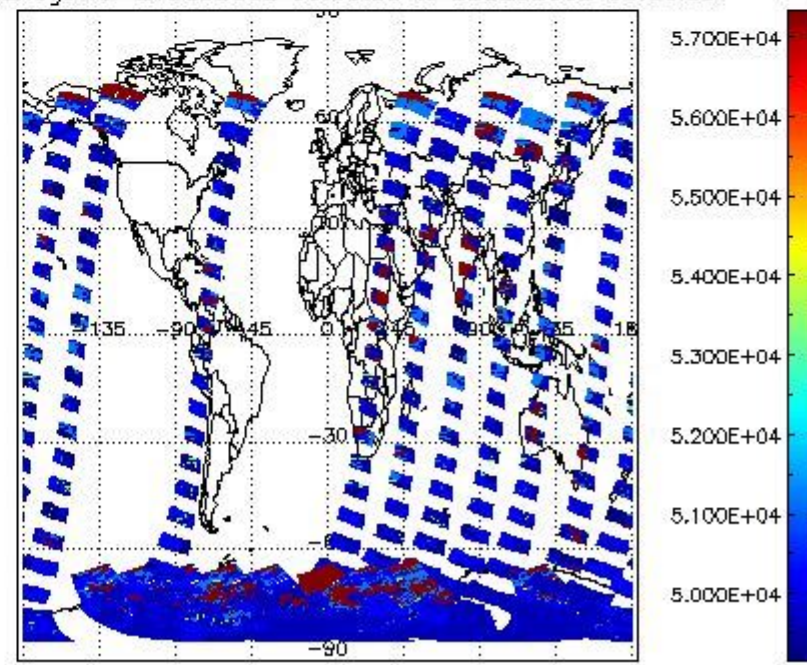
cL\_top\_height for 21DEC2002 00:00:00 to 22DEC2002 00:00:00



cL\_opt\_depth for 21DEC2002 00:00:00 to 22DEC2002 00:00:00



cloud\_flags for 21DEC2002 00:00:00 to 22DEC2002 00:00:00



### 2.2.2 Nadir

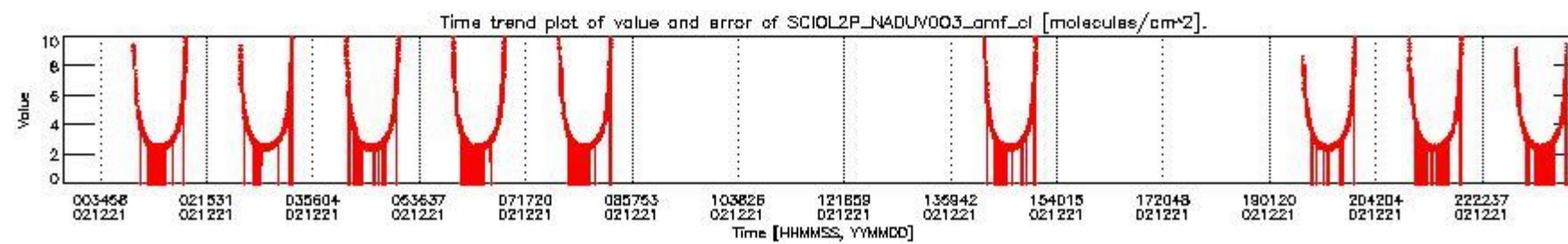
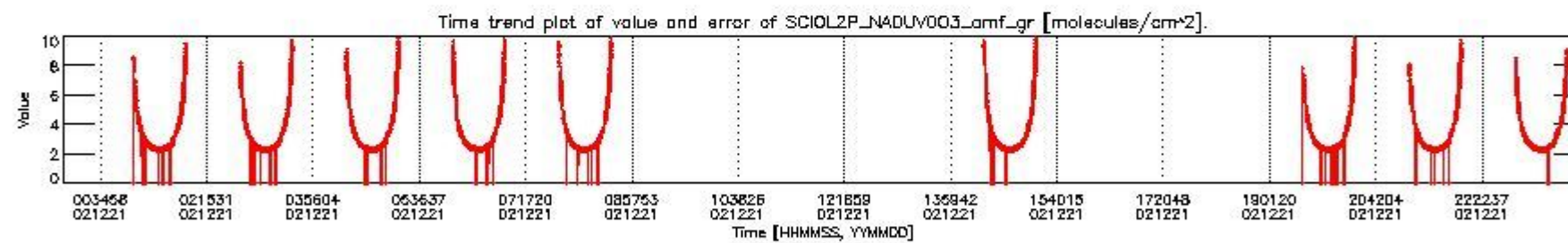
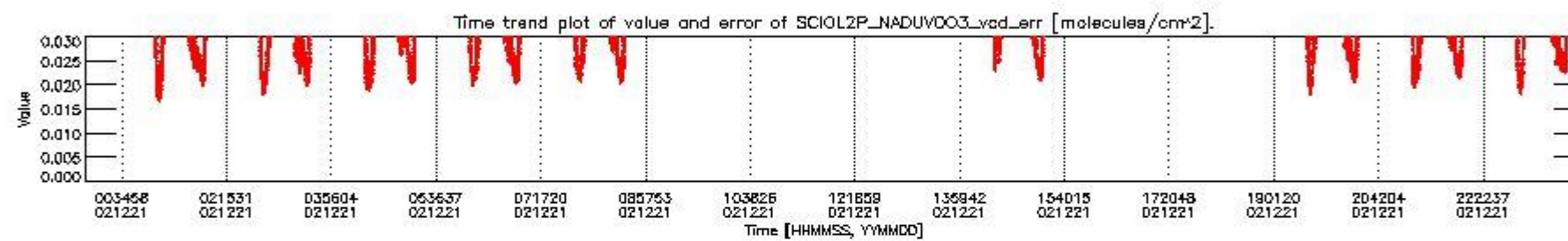
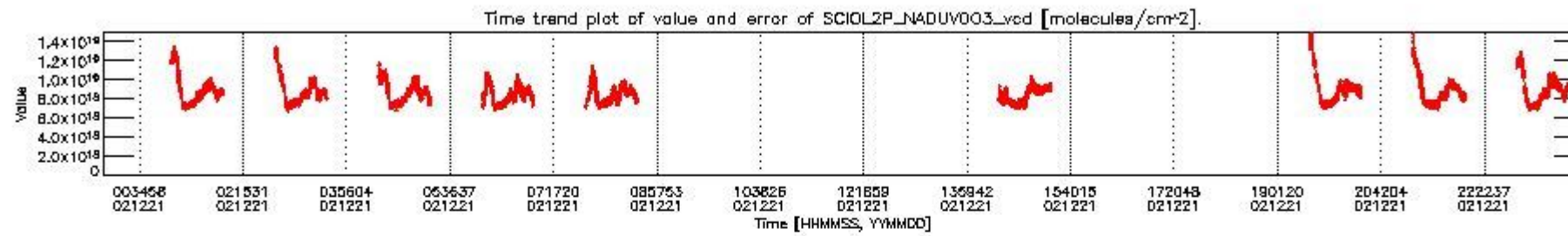
This section shows information about product quality of nadir measurements, in particular the quality of retrieved species.

The following data items are currently included into this section:

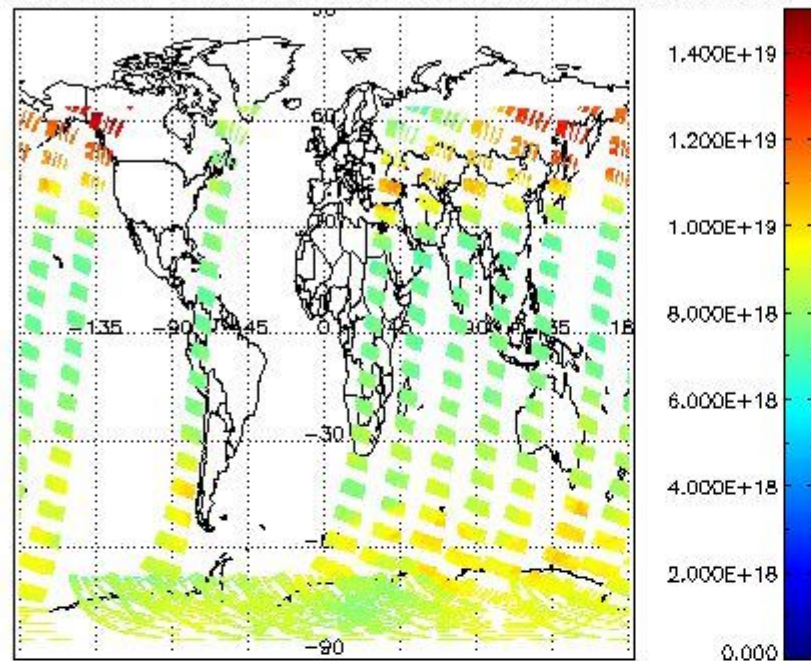
Number	Data item ID
0	SCIOL2P_NADUV003_vcd
1	SCIOL2P_NADUV003_vcd_err
2	SCIOL2P_NADUV003_amf_gr
3	SCIOL2P_NADUV003_amf_cl

4	SCIOL2P_NADUV1NO2_vcd
5	SCIOL2P_NADUV1NO2_vcd_err
6	SCIOL2P_NADUV1NO2_amf_gr
7	SCIOL2P_NADUV1NO2_amf_cl

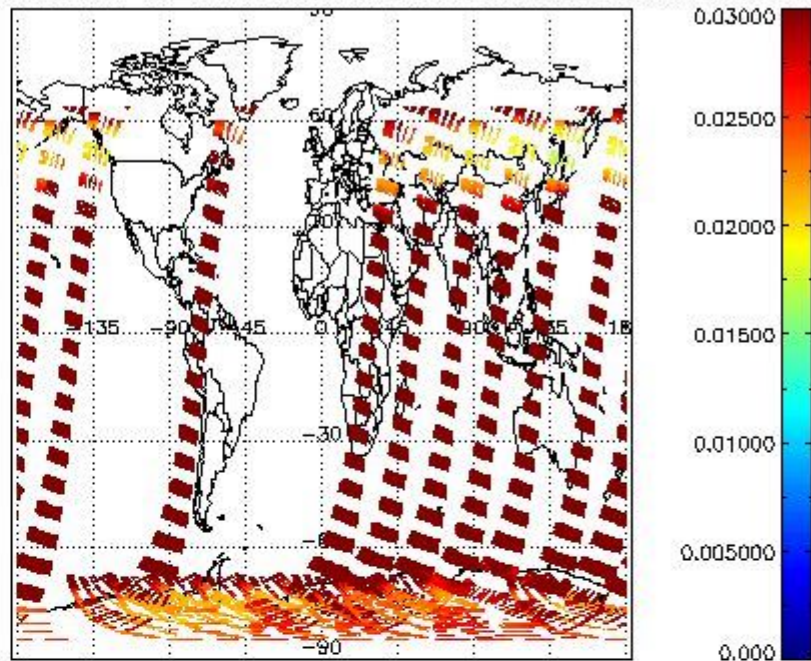
Data is presented both in time trend plots and world map plots, in order to show variations with time and geolocation. The vertical dotted lines in the time trend plots indicate orbits. The orbit times on the X-axis are estimated sensing\_start time as suggested by the product sensing\_start time in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



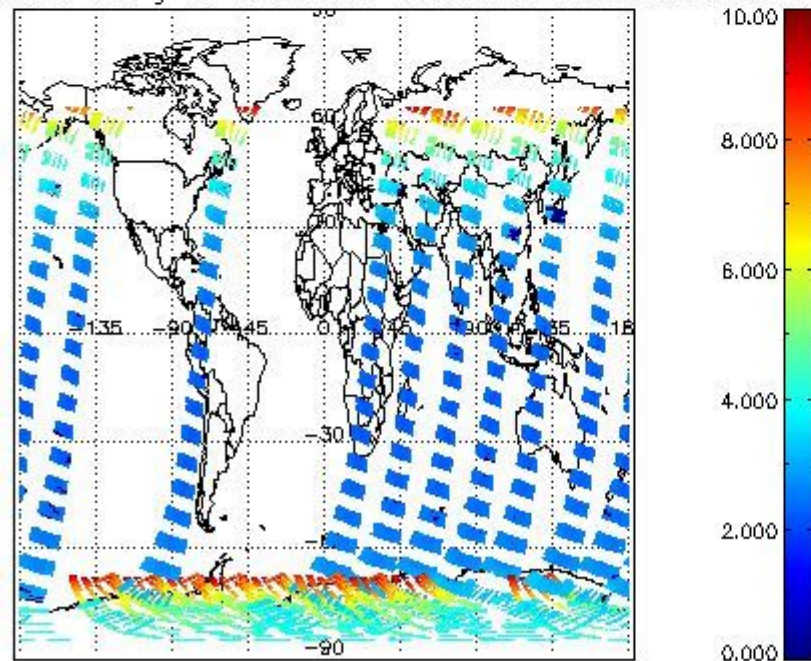
SCIOL2P\_NADUV003\_vcd for 21DEC2002 00:00:00 to 22DEC2002 00:00:00



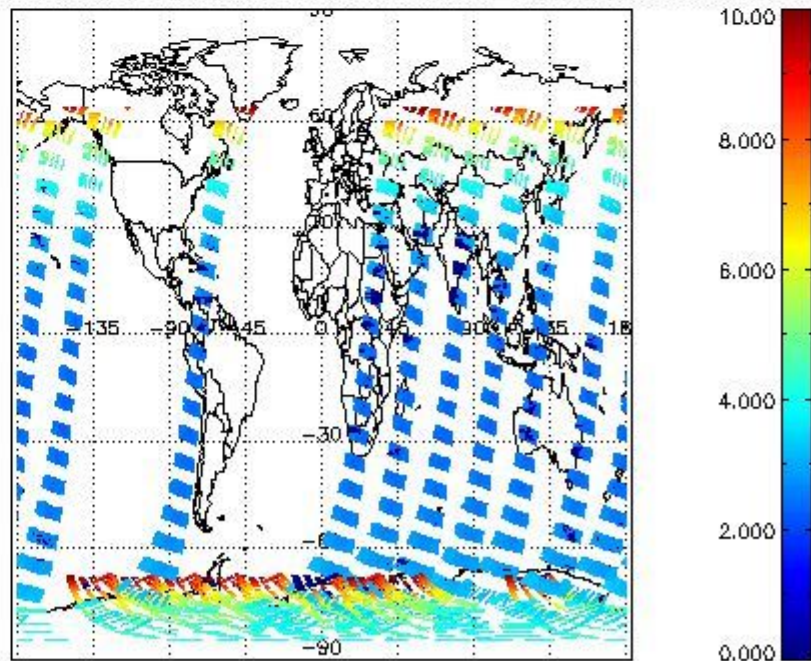
SCIOL2P\_NADUV003\_vcd\_err for 21DEC2002 00:00:00 to 22DEC2002 00:00:00

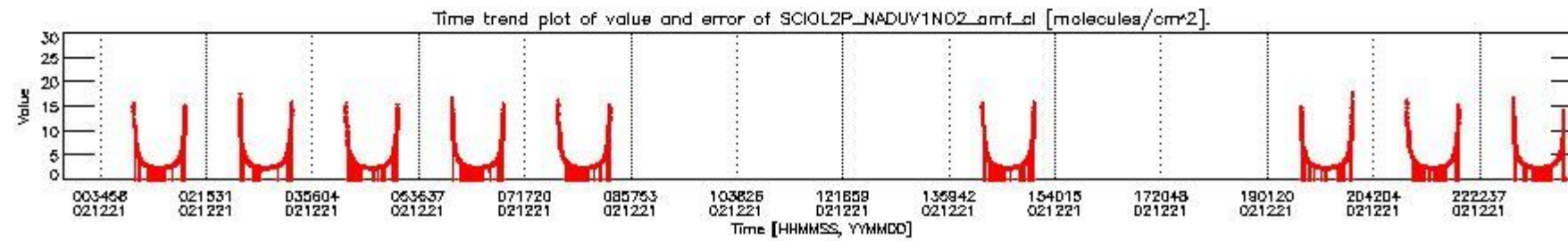
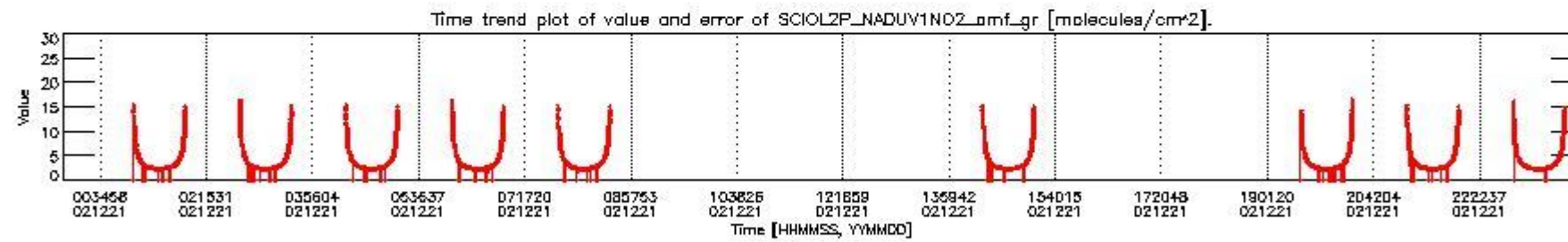
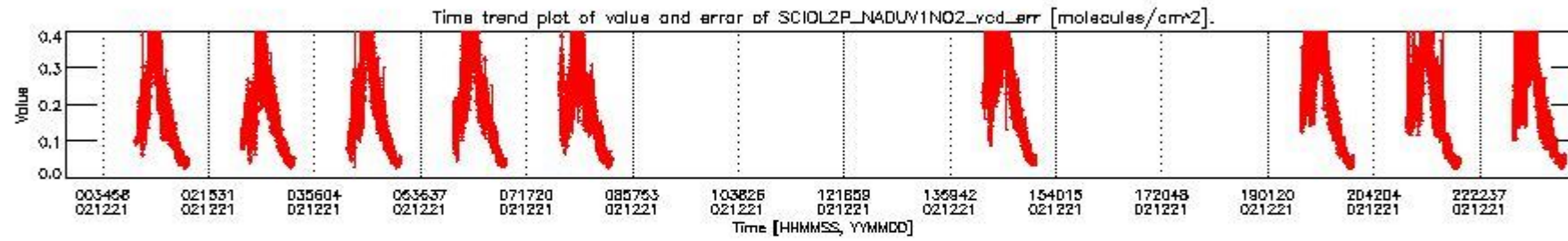
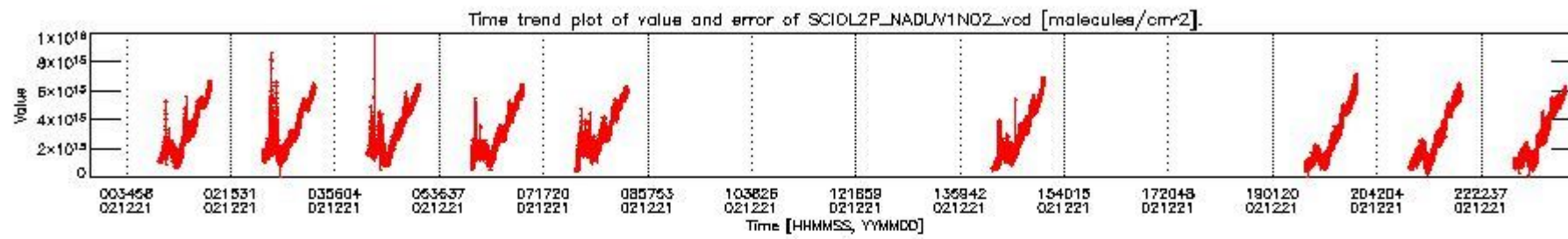


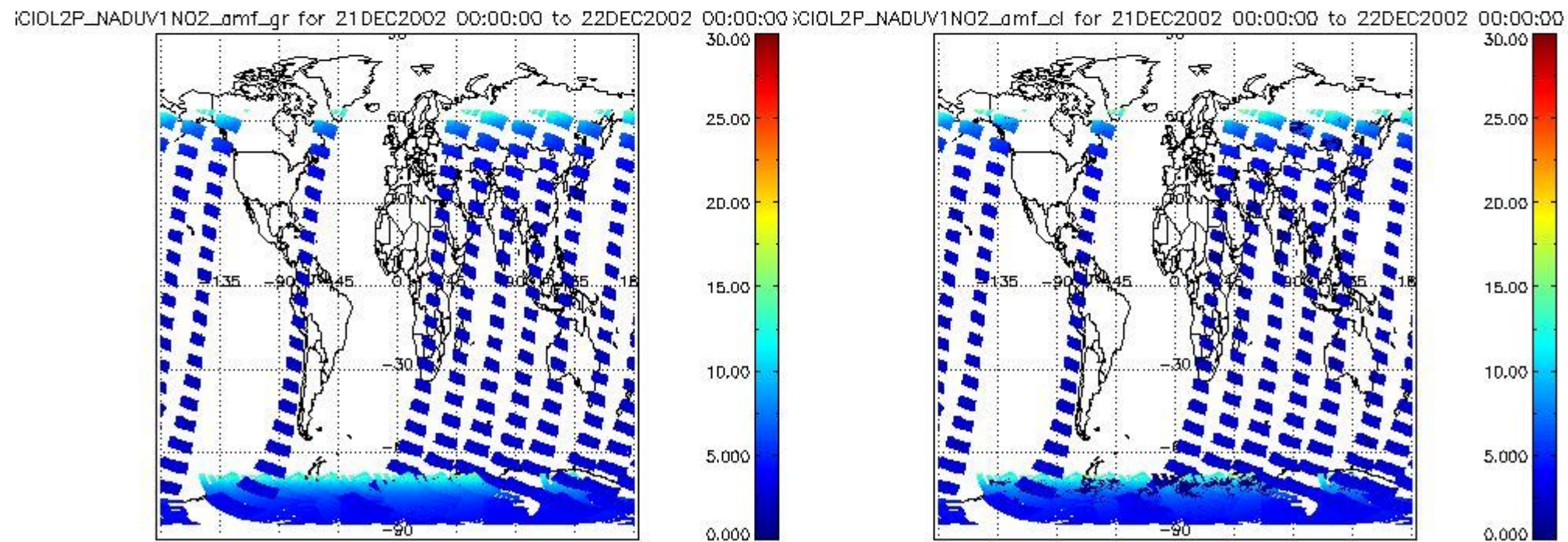
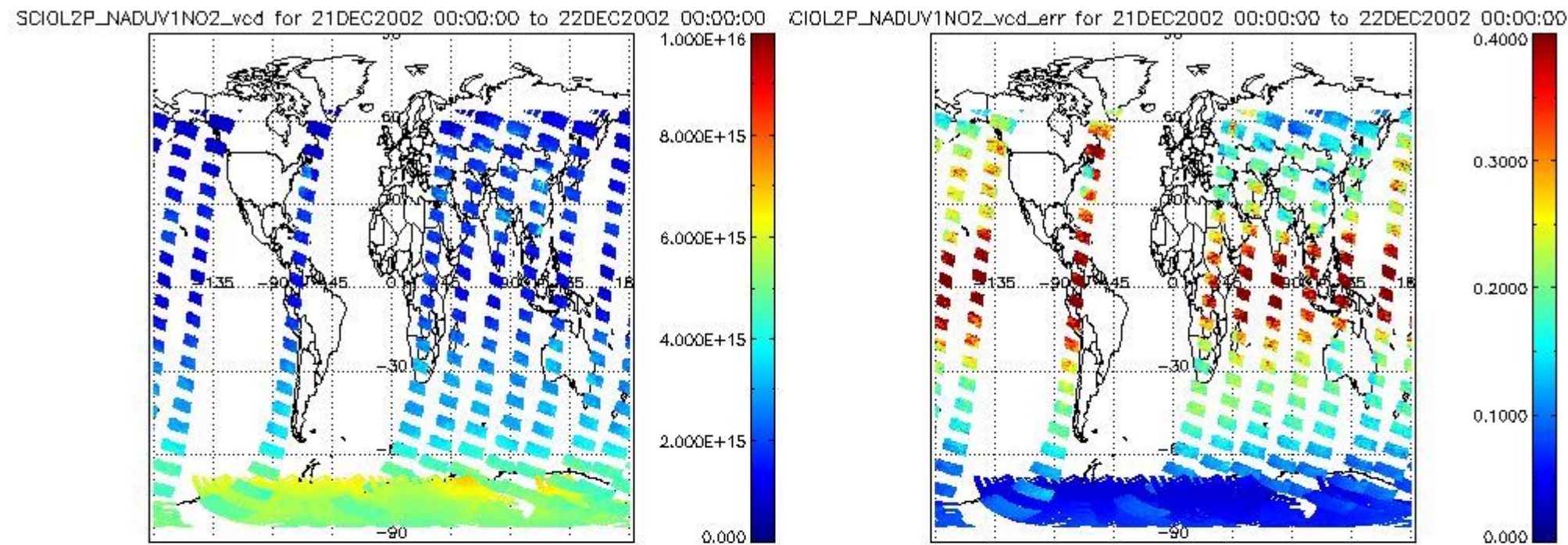
SCIOL2P\_NADUV003\_amf\_gr for 21DEC2002 00:00:00 to 22DEC2002 00:00:00



SCIOL2P\_NADUV003\_amf\_cl for 21DEC2002 00:00:00 to 22DEC2002 00:00:00







### 2.2.3 Limb

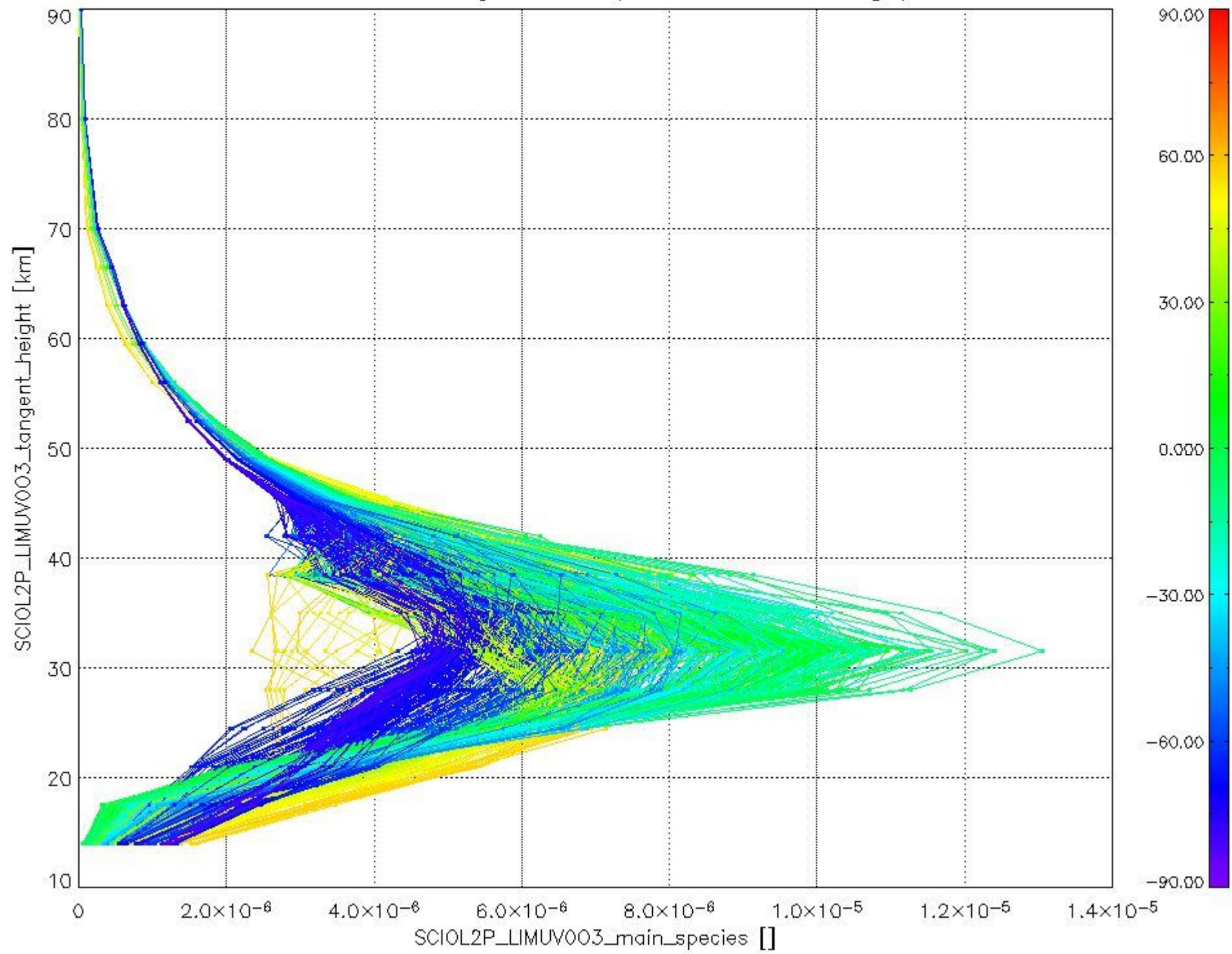
This section shows information about product quality of the limb retrievals, in particular the quality of retrieved species.

The following data items are currently included into this section:

Number	Data item ID
0	SCIOL2PLIMUV003_main_species
1	SCIOL2PLIMUV1NO2_main_species

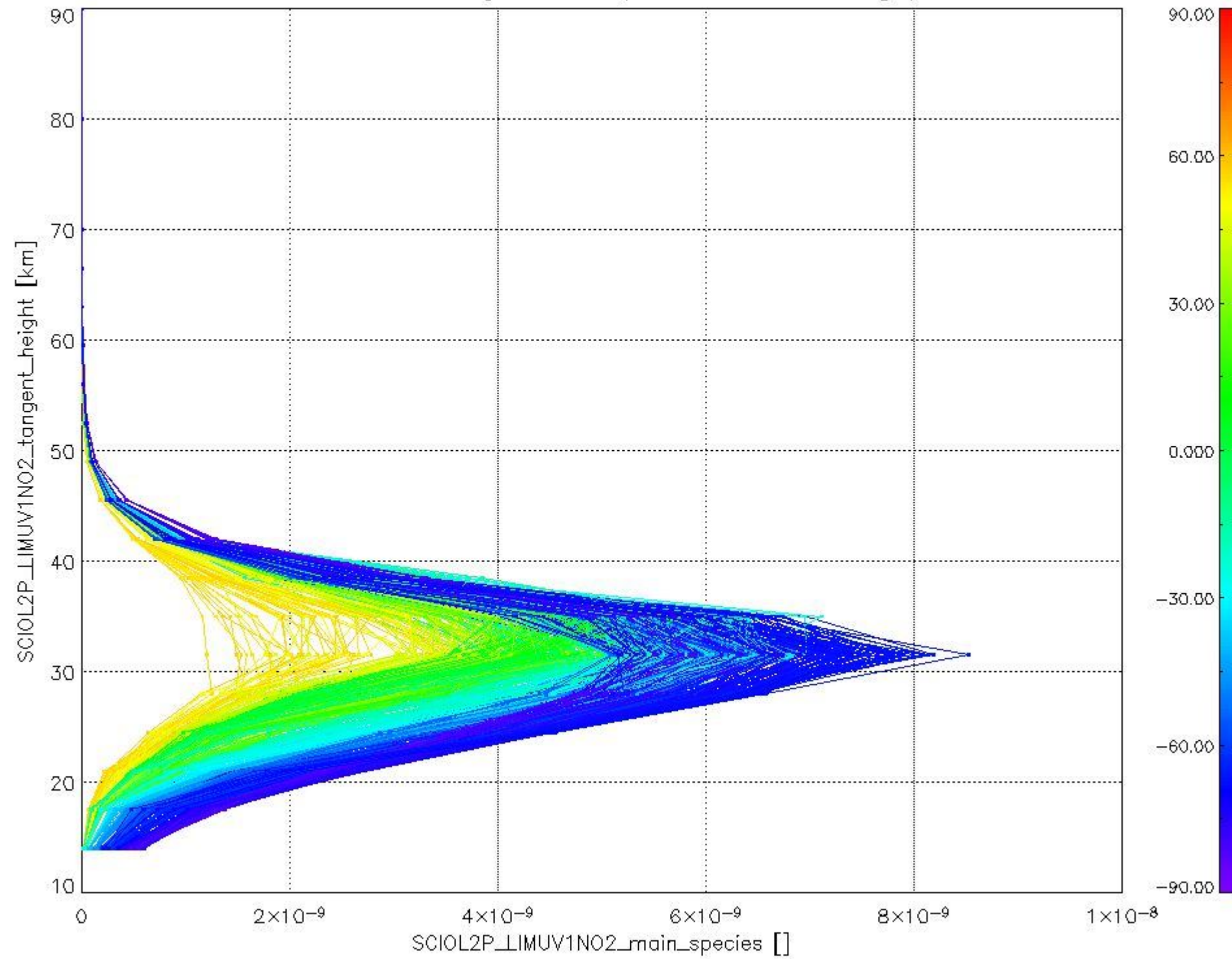
The following plots shows for each species the tangent volume mixing ratio vs. tangent height. Colours indicate tangent latitude.

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





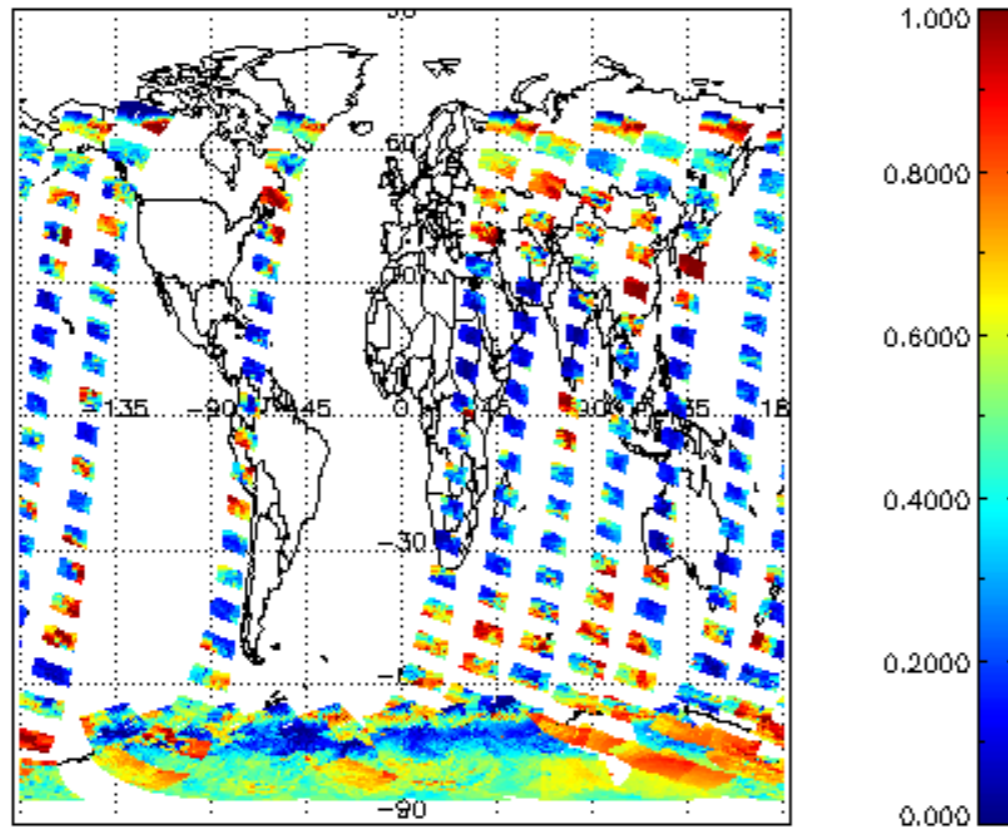
Plot of SCIOL2P\_LIMUV1NO2\_main\_species.tang\_vmr vs. tangent height.  
Colours indicate tangent latitude (see colour bar on the right).



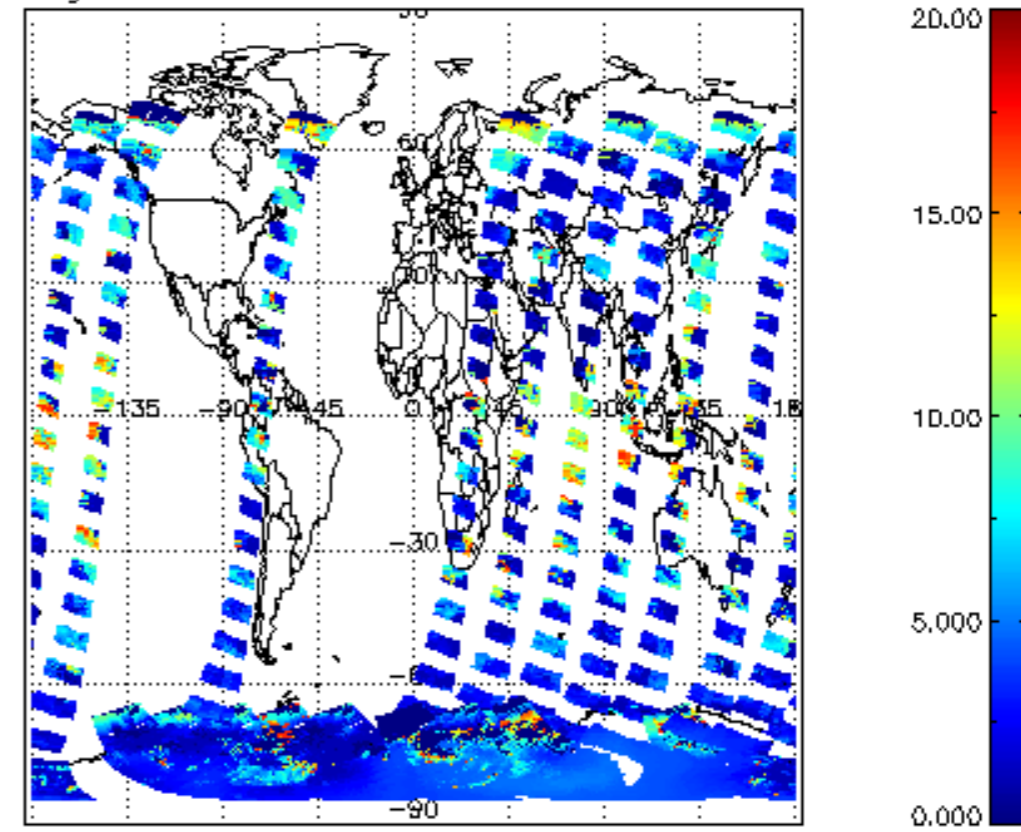
### 2.3 ADF monitoring

Number	ADF
	IN_ (INITIALISATION_FILE)
0	SCI_IN_AXNPDE20070629_092400_20070720_000000_20991231_235959
	ECF (ECMWF_FILE)
1	NOT USED

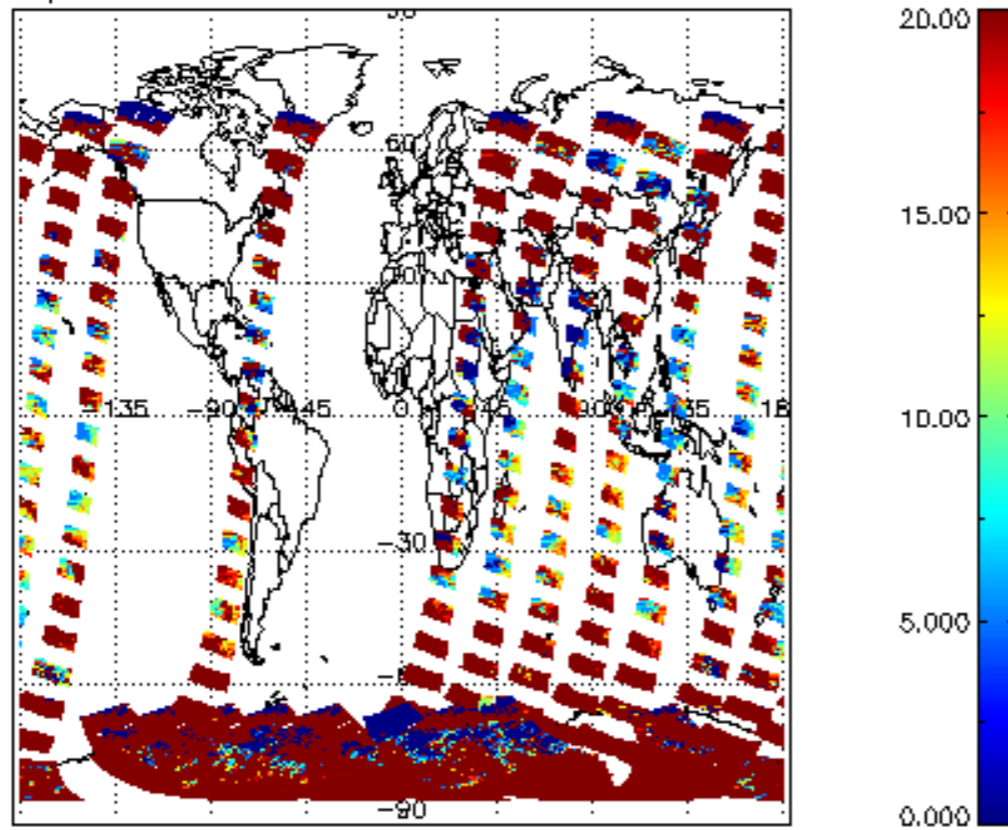
cL\_frac for 21DEC2002 00:00:00 to 22DEC2002 00:00:00



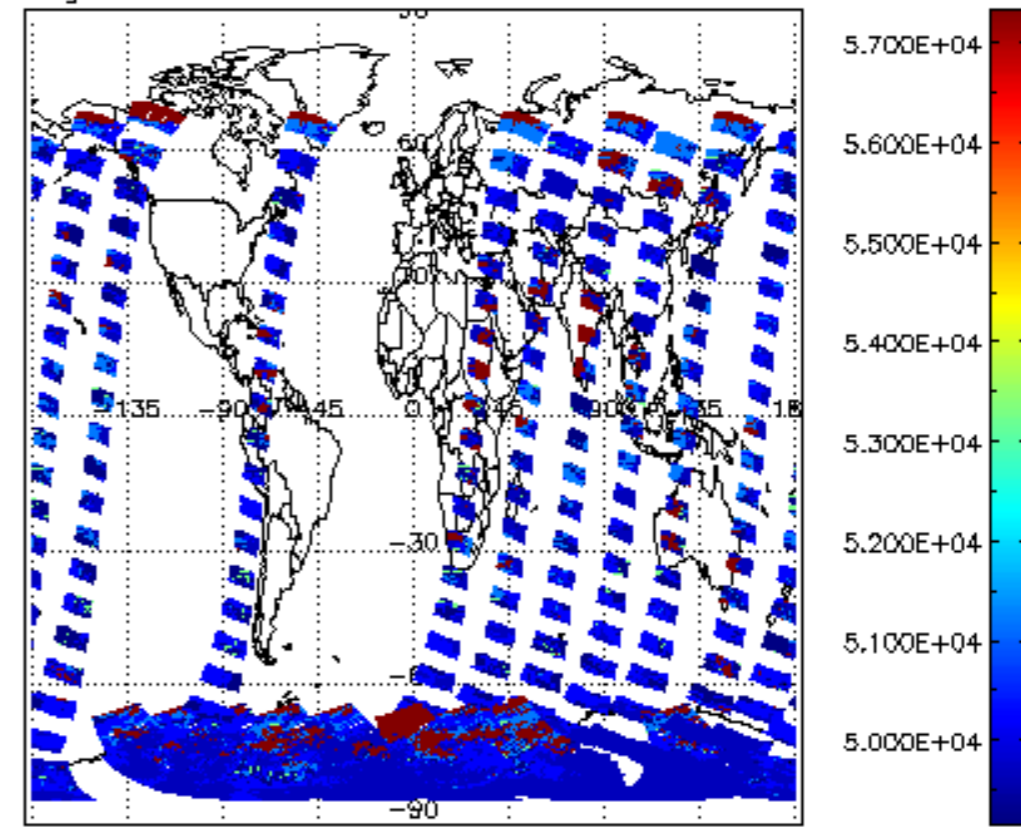
cL\_top\_height for 21DEC2002 00:00:00 to 22DEC2002 00:00:00

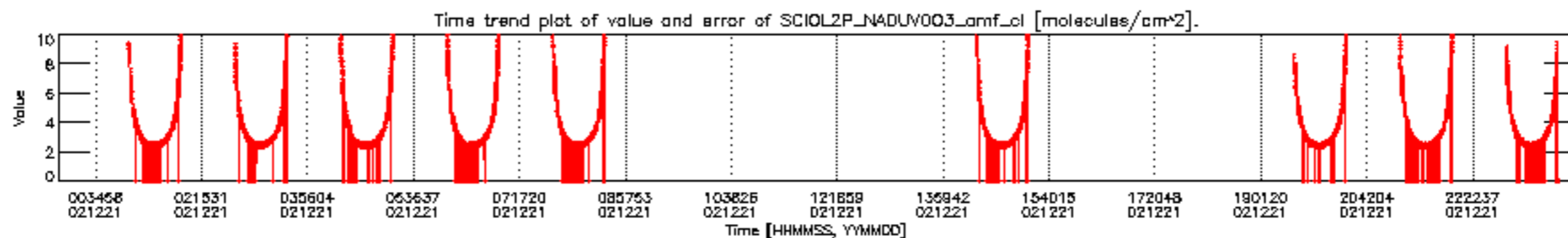
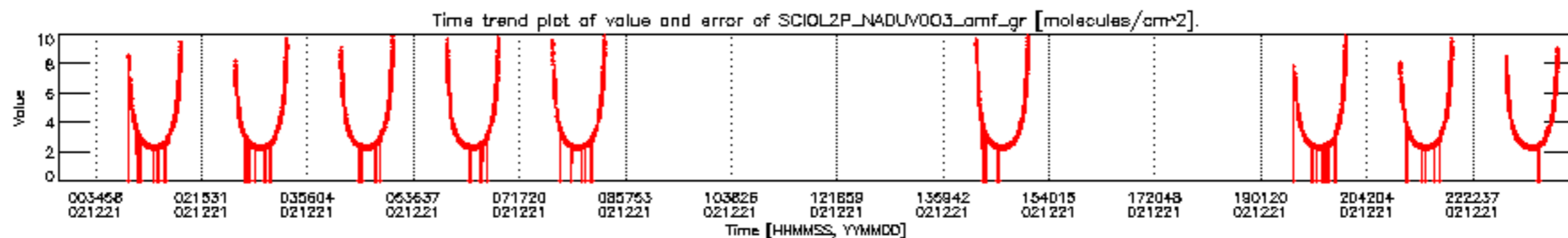
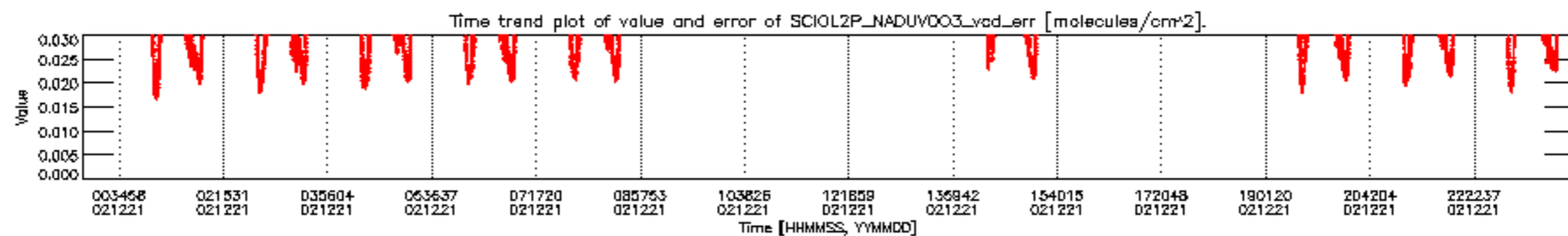
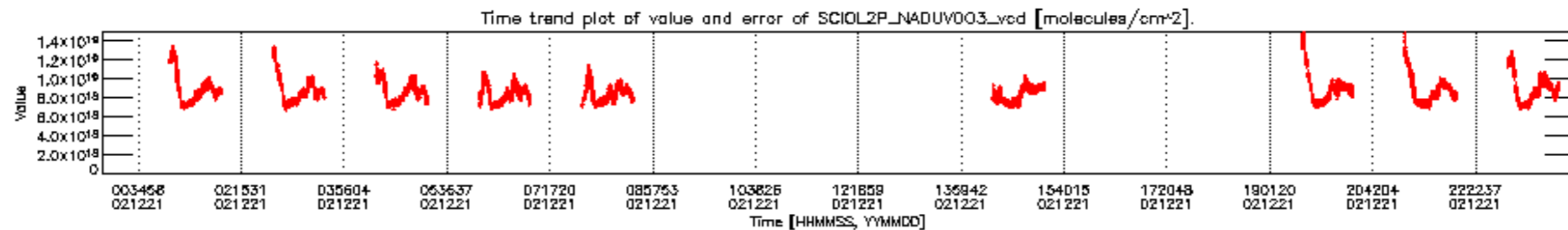


cL\_opt\_depth for 21DEC2002 00:00:00 to 22DEC2002 00:00:00

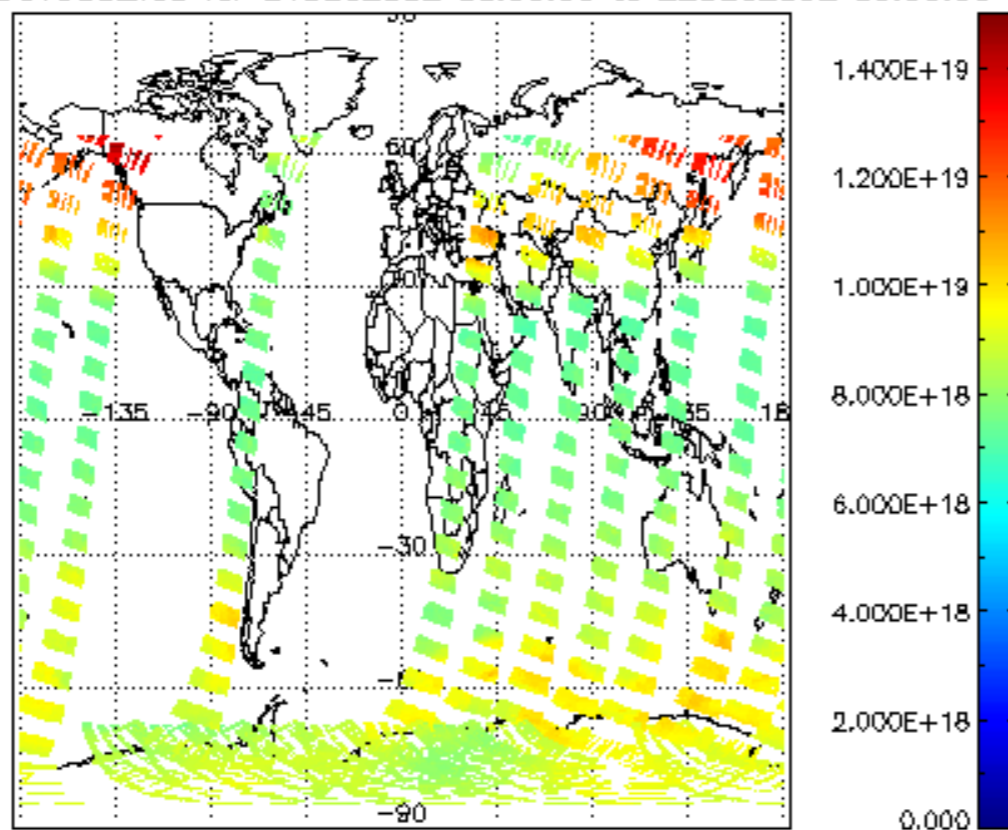


cloud\_flags for 21DEC2002 00:00:00 to 22DEC2002 00:00:00

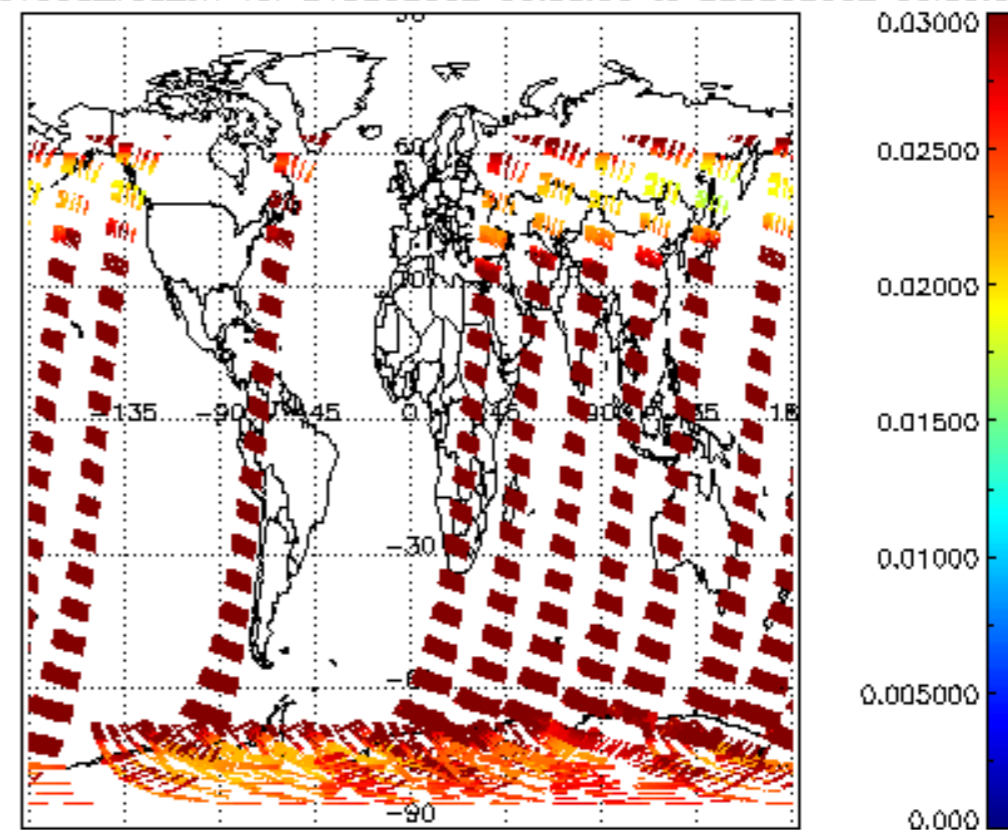




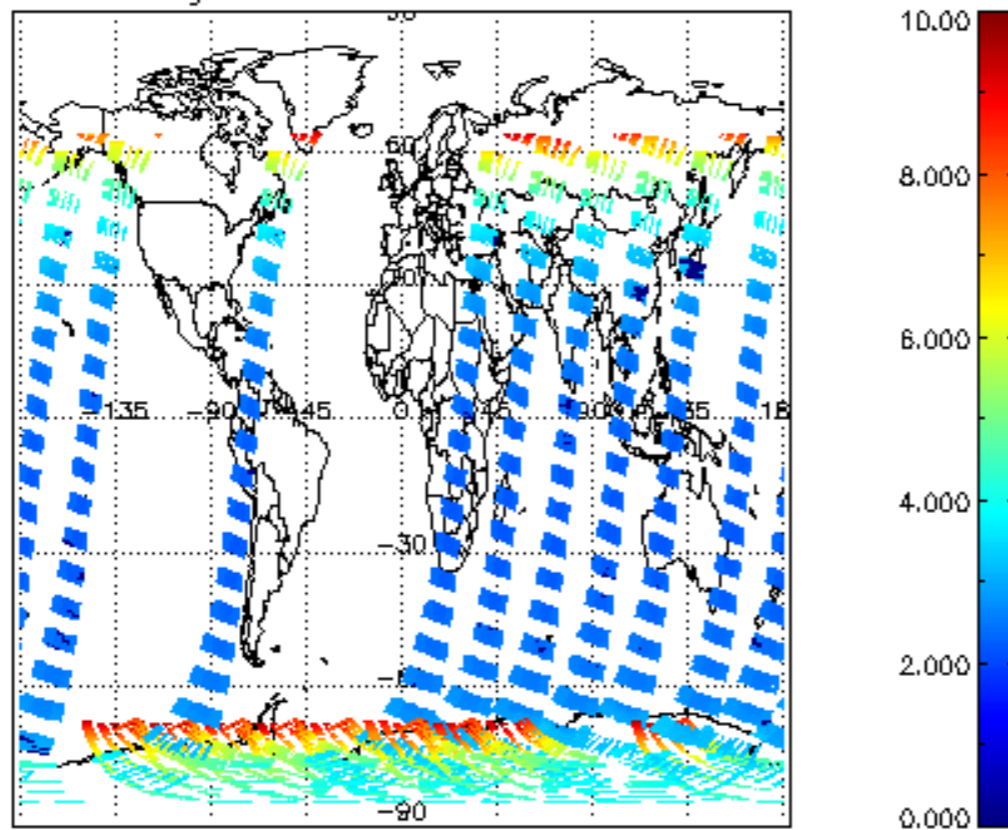
SCIOL2P\_NADUV003\_vcd for 21DEC2002 00:00:00 to 22DEC2002 00:00:00



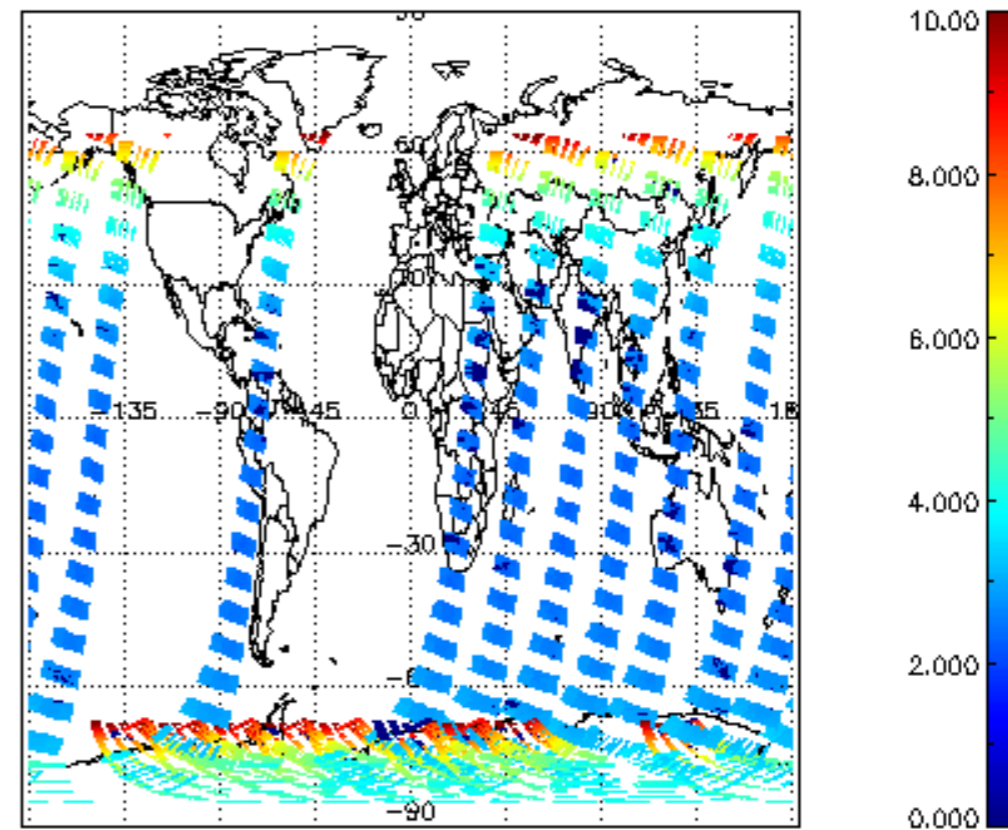
SCIOL2P\_NADUV003\_vcd\_err for 21DEC2002 00:00:00 to 22DEC2002 00:00:00

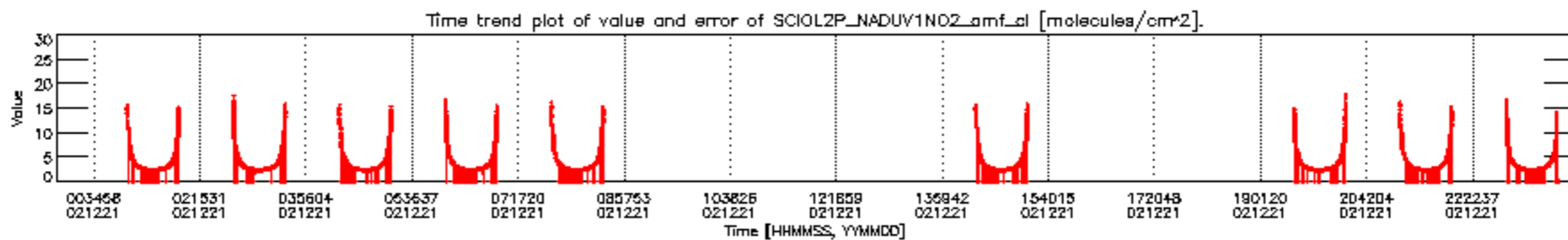
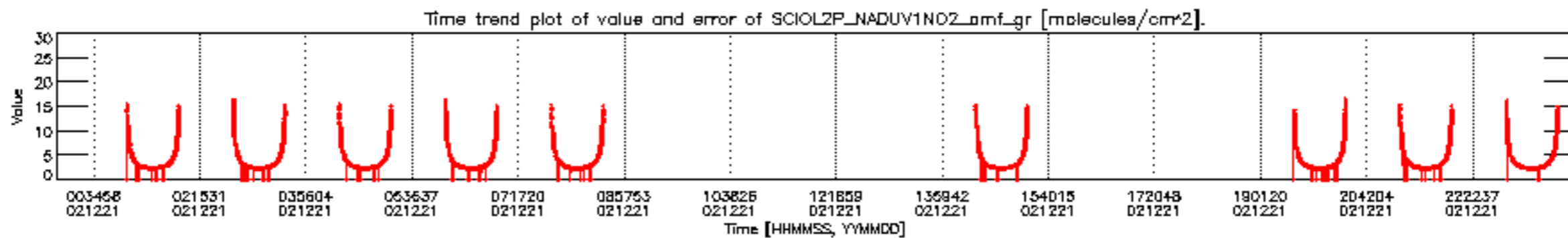
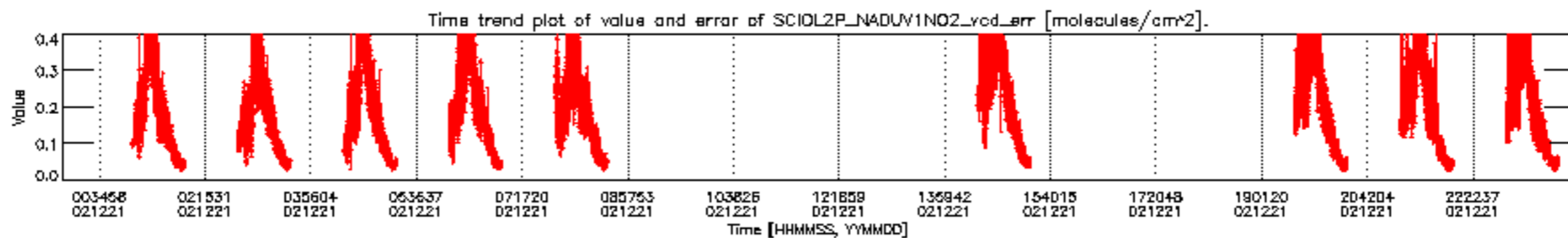
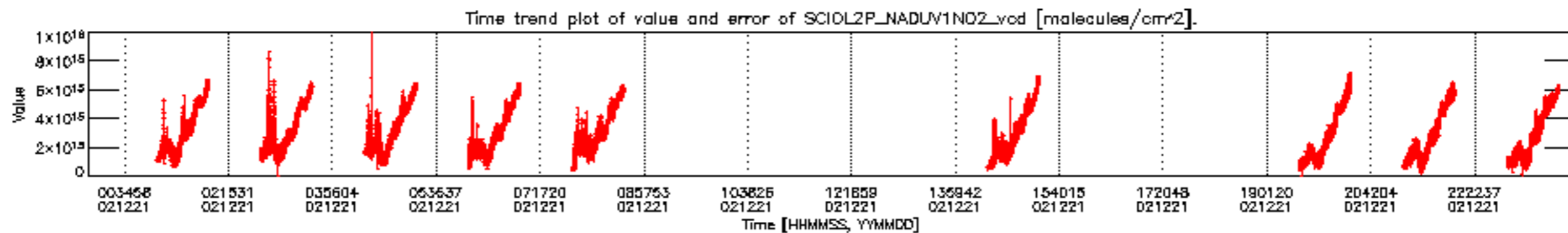


SCIOL2P\_NADUV003\_amf\_gr for 21DEC2002 00:00:00 to 22DEC2002 00:00:00

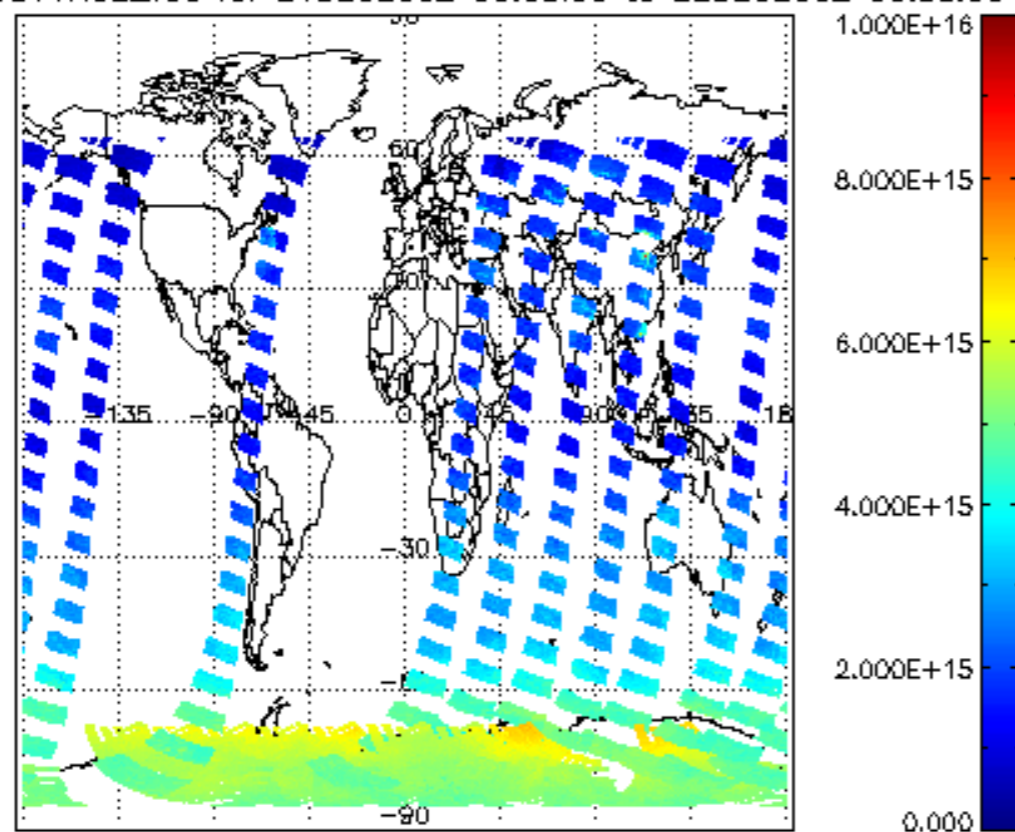


SCIOL2P\_NADUV003\_amf\_cl for 21DEC2002 00:00:00 to 22DEC2002 00:00:00

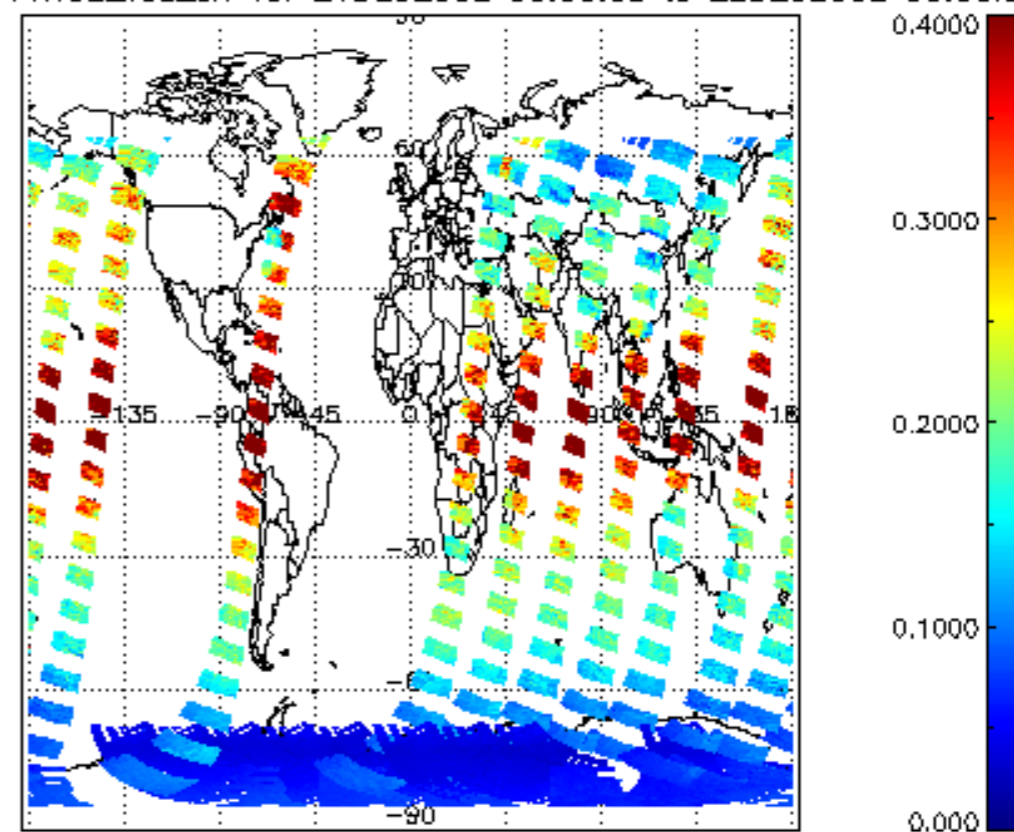




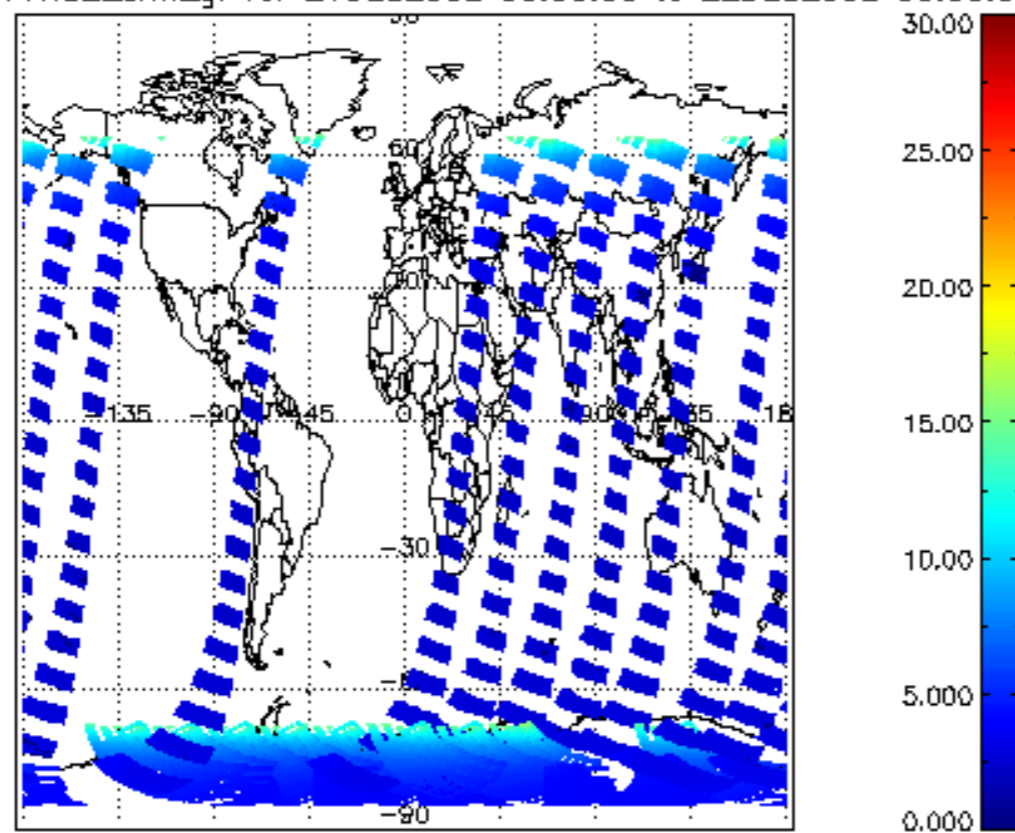
SCIOL2P\_NADUV1NO2\_vcd for 21DEC2002 00:00:00 to 22DEC2002 00:00:00



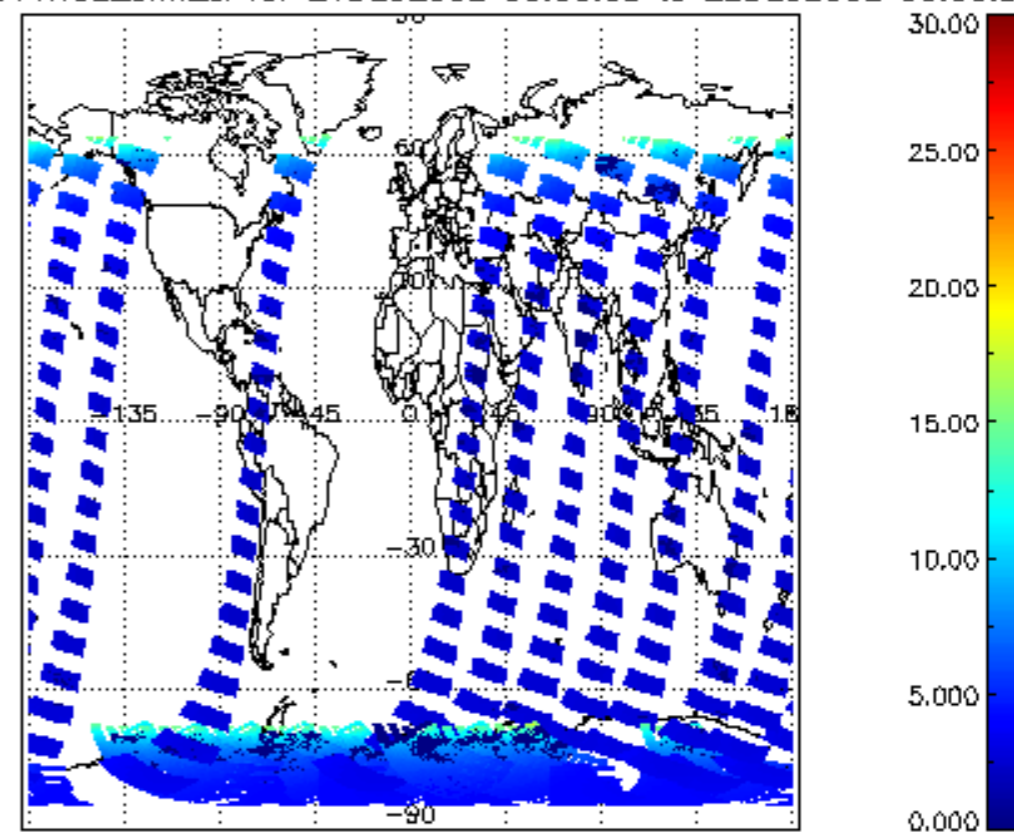
SCIOL2P\_NADUV1NO2\_vcd\_err for 21DEC2002 00:00:00 to 22DEC2002 00:00:00



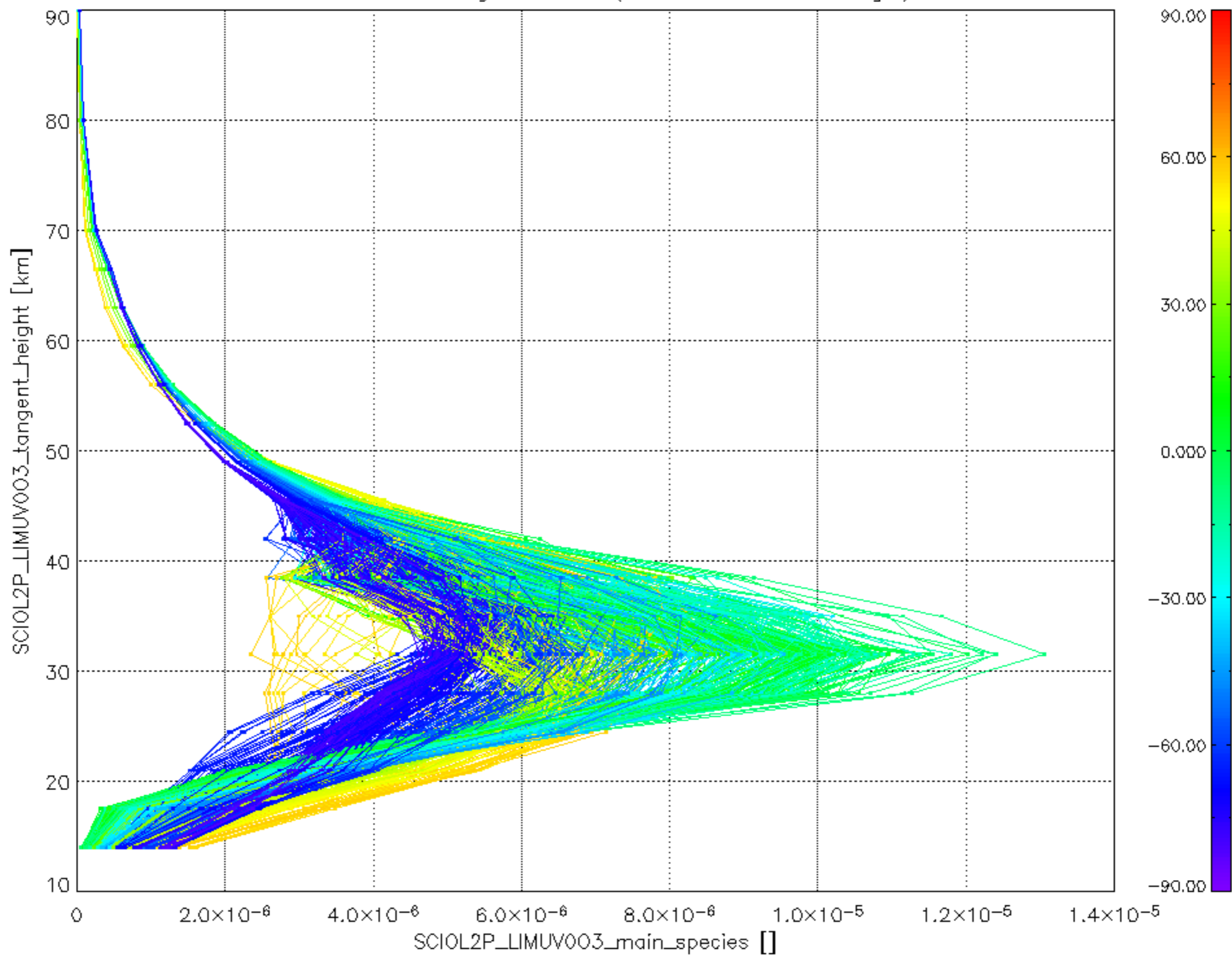
SCIOL2P\_NADUV1NO2\_amf\_gr for 21DEC2002 00:00:00 to 22DEC2002 00:00:00



SCIOL2P\_NADUV1NO2\_amf\_cl for 21DEC2002 00:00:00 to 22DEC2002 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).

