2. SCIAMACHY Daily Report for level 2 products

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 chacteristics of the data that are included into this report.

Item	Value
Report version	1.5 (01-07-2008)
Time of report generation	31JUL2008 07:47:22
Data source version	SCIA-OL/3.01-R
Processing scope for products	30JAN2004 00:00:00 to 31JAN2004 00:00:00
Start time of first product within scope	29JAN2004 22:50:20
Stop time of last product within scope	31JAN2004 00:54:34
Total number of level 2 products	16
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__2PRDPA20040129_225020_000033772023_00445_10018_6013.N1	29JAN2004 22:50:20	29JAN2004 23:46:37	0	GOOD
1	SCI_OL__2PRDPA20040130_003219_000032372023_00446_10019_6288.N1	30JAN2004 00:32:19	30JAN2004 01:26:17	0	GOOD
2	SCI_OL__2PRDPA20040130_021131_000033772023_00447_10020_6079.N1	30JAN2004 02:11:31	30JAN2004 03:07:48	0	GOOD
3	SCI_OL__2PRDPA20040130_035330_000032372023_00448_10021_6372.N1	30JAN2004 03:53:30	30JAN2004 04:47:28	0	GOOD
4	SCI_OL__2PRDPA20040130_053242_000033772023_00449_10022_6127.N1	30JAN2004 05:32:42	30JAN2004 06:28:59	0	GOOD
5	SCI_OL__2PRDPA20040130_071441_000032372023_00450_10023_6223.N1	30JAN2004 07:14:41	30JAN2004 08:08:39	0	GOOD
6	SCI_OL__2PRDPA20040130_085353_000033772023_00451_10024_6385.N1	30JAN2004 08:53:53	30JAN2004 09:50:10	0	GOOD
7	SCI_OL__2PRDPA20040130_103552_000032372023_00452_10025_6285.N1	30JAN2004 10:35:52	30JAN2004 11:29:50	0	GOOD
8	SCI_OL__2PRDPA20040130_121504_000033772023_00453_10026_6365.N1	30JAN2004 12:15:04	30JAN2004 13:11:21	0	GOOD
9	SCI_OL__2PRDPA20040130_135703_000032372023_00454_10027_6259.N1	30JAN2004 13:57:03	30JAN2004 14:51:01	0	GOOD
10	SCI_OL__2PRDPA20040130_153615_000033772023_00455_10028_6149.N1	30JAN2004 15:36:15	30JAN2004 16:32:32	0	GOOD
11	SCI_OL__2PRDPA20040130_171701_000033352023_00456_10029_6235.N1	30JAN2004 17:17:01	30JAN2004 18:12:36	0	GOOD
12	SCI_OL__2PRDPA20040130_185659_000033492023_00457_10030_6307.N1	30JAN2004 18:56:59	30JAN2004 19:52:49	0	GOOD
13	SCI_OL__2PRDPA20040130_203925_000032372023_00458_10031_6325.N1	30JAN2004 20:39:25	30JAN2004 21:33:23	0	GOOD
14	SCI_OL__2PRDPA20040130_221837_000033772023_00459_10032_6015.N1	30JAN2004 22:18:37	30JAN2004 23:14:54	0	GOOD
15	SCI_OL__2PRDPA20040131_000036_000032372023_00460_10033_6240.N1	31JAN2004 00:00:36	31JAN2004 00:54:34	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: 113460

Total number of cloud data DSRs with good quality flag (=0): 113460 (100.0 %)

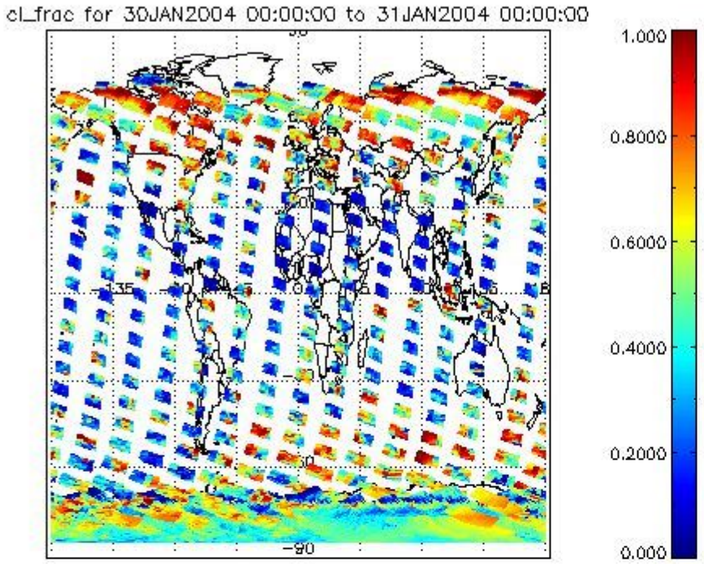
Parameter	#valid	Mean	Median	Min	Max	Stddev	Unit
QUALITY_FLAG	113460	0.0000	0.0000	0.0000	0.0000	0.0000	flag
INTEGR_TIME	113460	0.21964	0.25000	0.12500	1.0000	0.098061	s
CL_FRAC	113460	0.46920	0.46053	0.0000	1.0000	0.26975	-

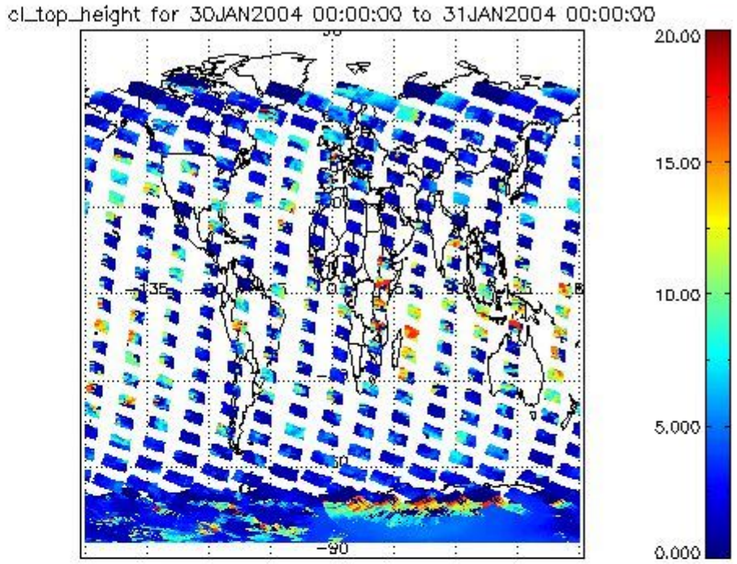
CL_FRAC_ERR	113460	0.0000	0.0000	0.0000	0.0000	0.0000	rel. fraction
PMD_READ	113460	7.0284	8.0000	4.0000	32.000	3.1380	
PMD_READ_CL[0]	113460	0.33696	0.0000	0.0000	24.000	1.3307	-
PMD_READ_CL[1]	113460	0.23079	0.0000	0.0000	32.000	1.4339	-
CL_TOP_HEIGHT	103472	4.3060	2.9890	0.0000	17.000	3.8404	km
CL_TOP_HEIGHT_ERR	0	---	---	---	---	---	---
CL_OPT_DEPTH	103472	46.411	29.545	0.0000	101.00	38.321	km
CL_OPT_DEPTH_ERR	0	---	---	---	---	---	---
CL_TYPE_FLAGS	113460	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	113460	11000101	11000010	11000000	11100000	2303.8	flags
AERO_ABSO_IND	113460	0.65073	0.37843	-4.4003	18.493	1.1720	
AERO_IND_DIAG	113460	0.0000	0.0000	0.0000	0.0000	0.0000	
AERO_FLAGS	113460	01101000	11000000	00000000	11000000	24480.	flags

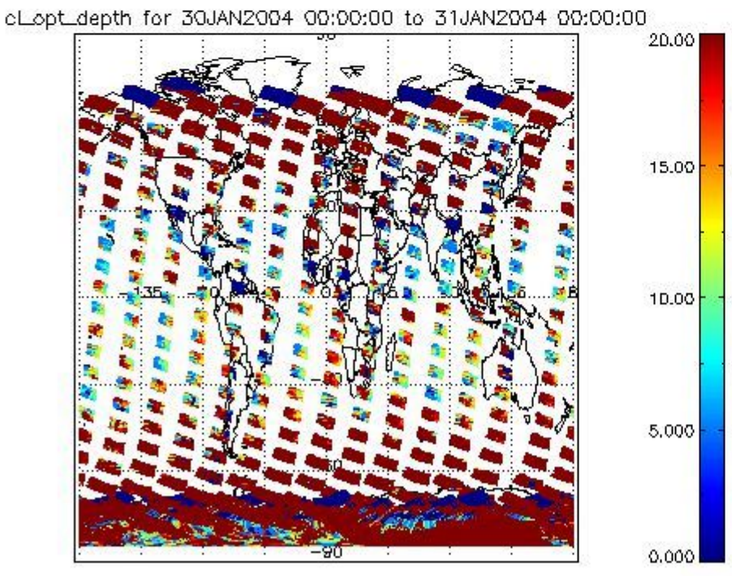
Time and geolocation plots:

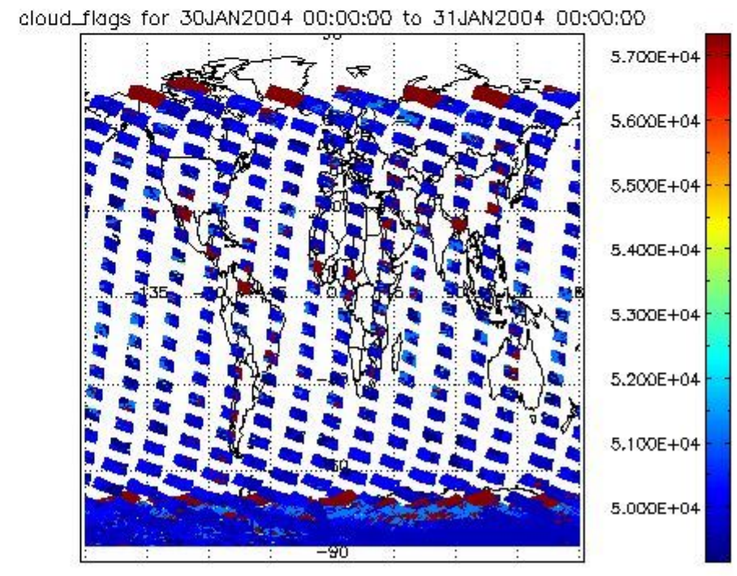
Plots are available for the following parameters:

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









2.2.2 Nadir

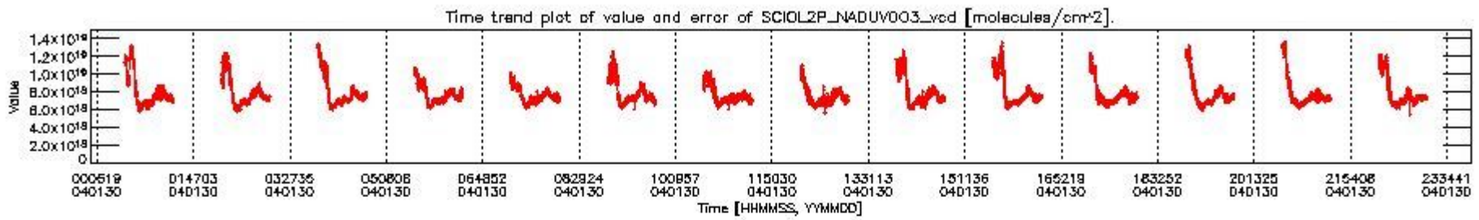
This section shows information about product quality of nadir measurements, in particular the quality of retrieved species.

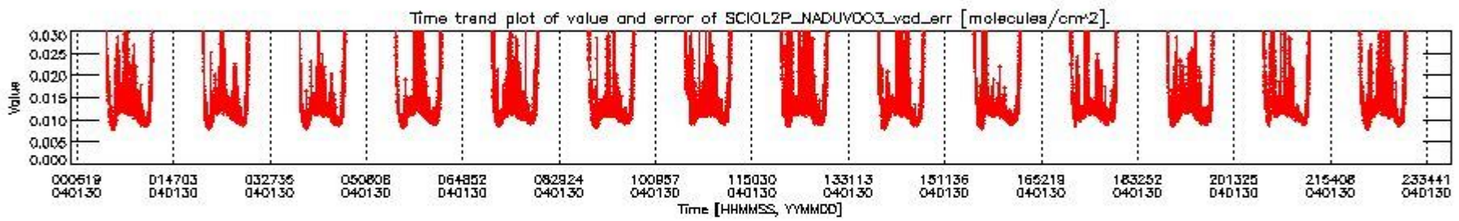
The following data items are currently included into this section:

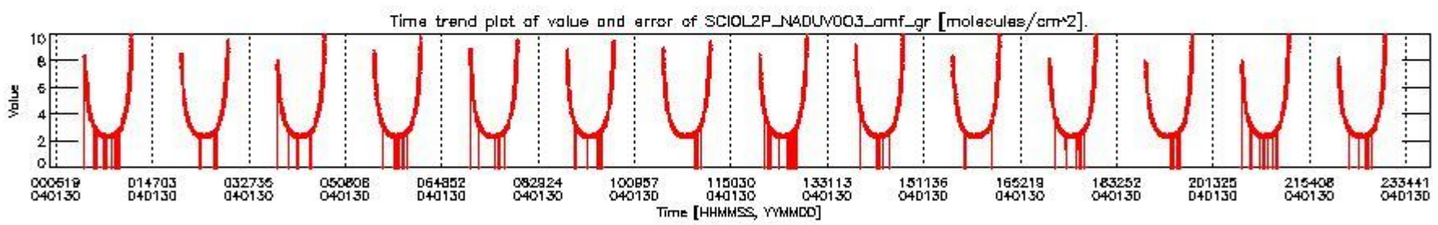
Number	Data item ID
0	SCIOL2P_NADUV0O3_vcd
1	SCIOL2P_NADUV0O3_vcd_err
2	SCIOL2P_NADUV0O3_amf_gr
3	SCIOL2P_NADUV0O3_amf_cl

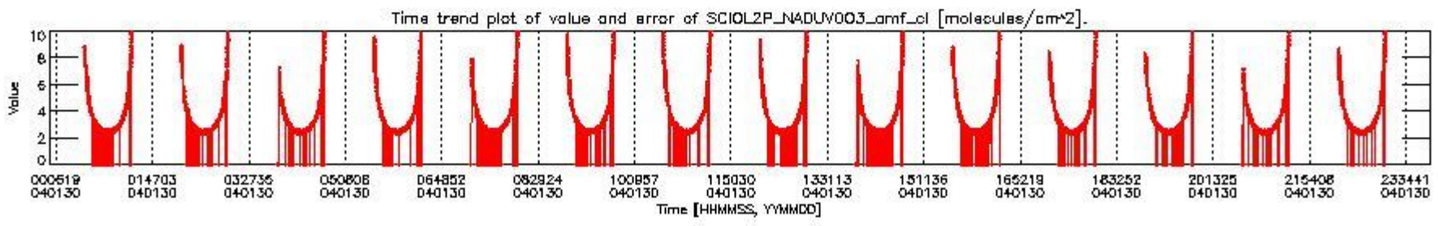
4	SCIOL2P_NADUV1NO2_vcd
5	SCIOL2P_NADUV1NO2_vcd_err
6	SCIOL2P_NADUV1NO2_amf_gr
7	SCIOL2P_NADUV1NO2_amf_cl

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.

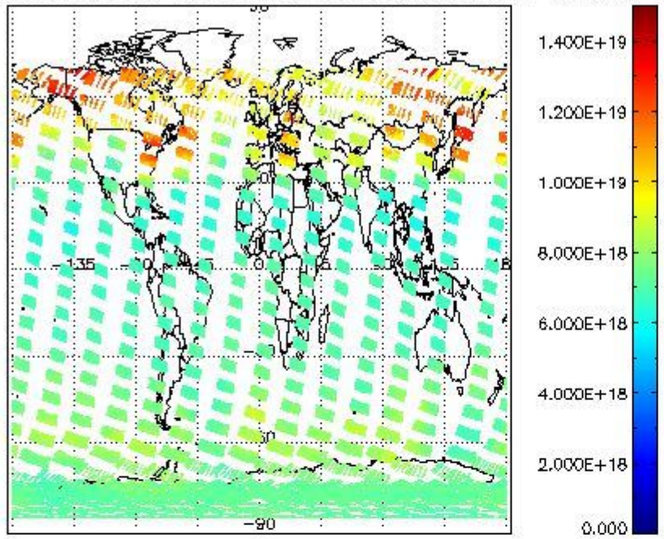




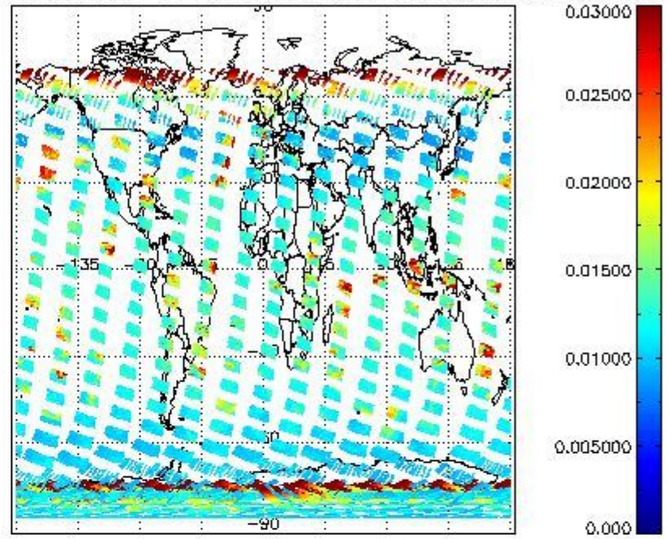




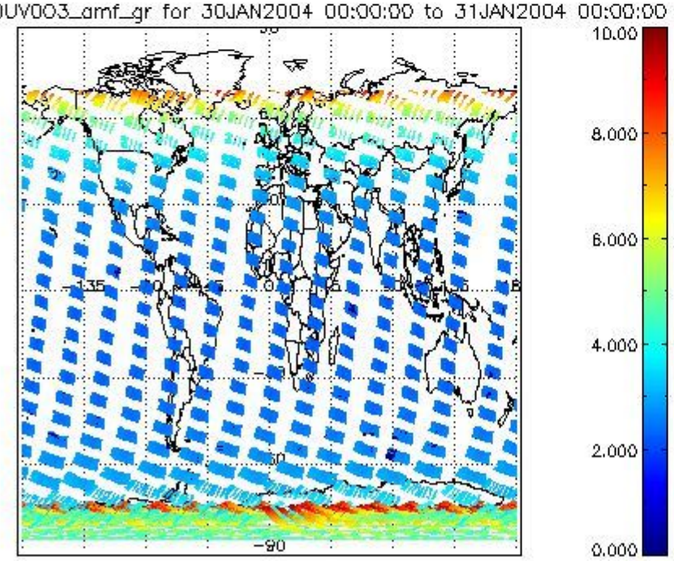
SCIOL2P_NADUV003_vcd for 30JAN2004 00:00:00 to 31JAN2004 00:00:00



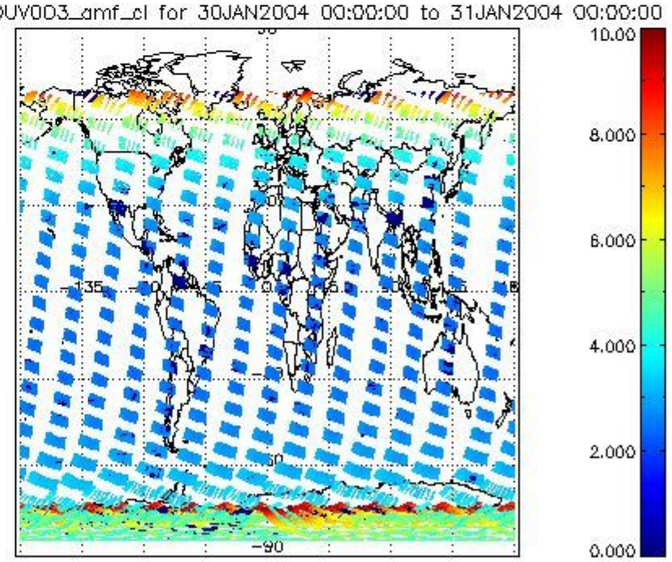
SCIOL2P_NADUV003_vcd_err for 30JAN2004 00:00:00 to 31JAN2004 00:00:00

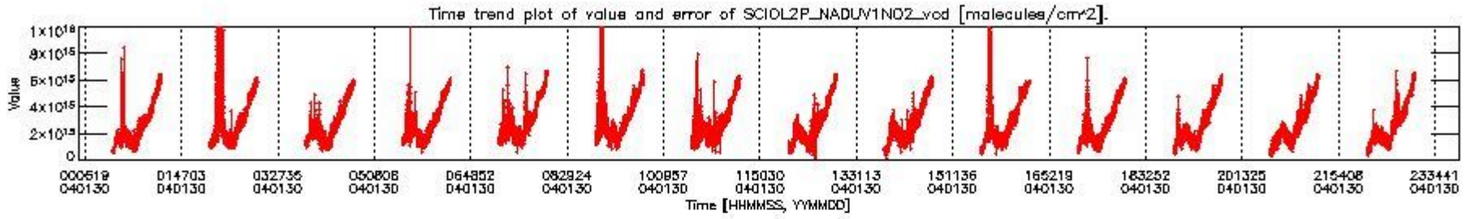


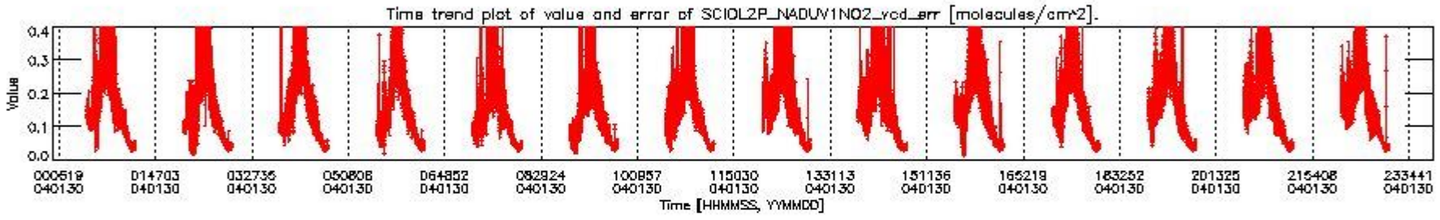
SCIOL2P_NADUV003_amf_gr for 30JAN2004 00:00:00 to 31JAN2004 00:00:00

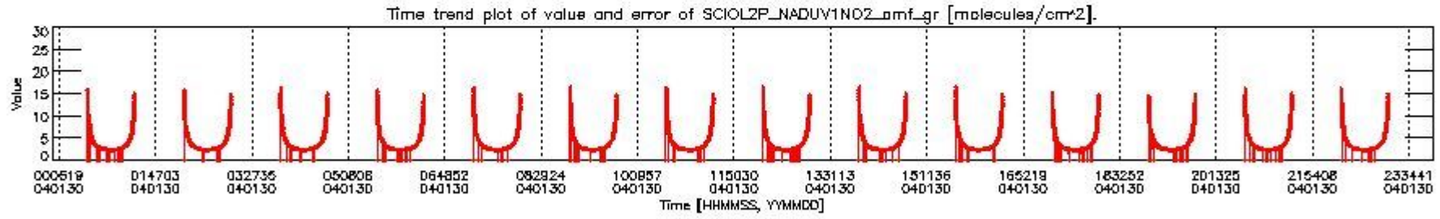


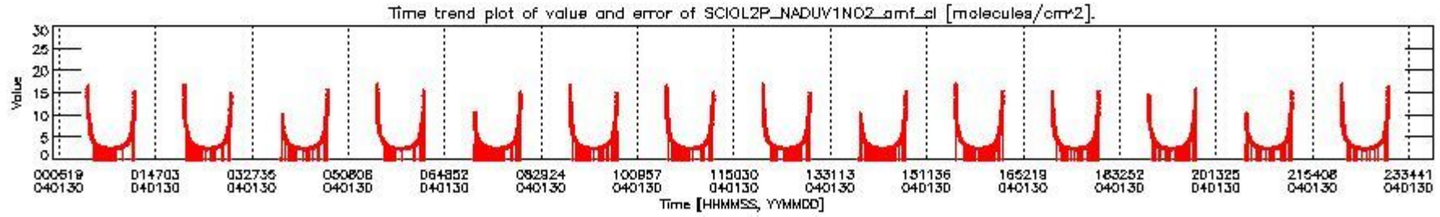
SCIOL2P_NADUV003_amf_cl for 30JAN2004 00:00:00 to 31JAN2004 00:00:00

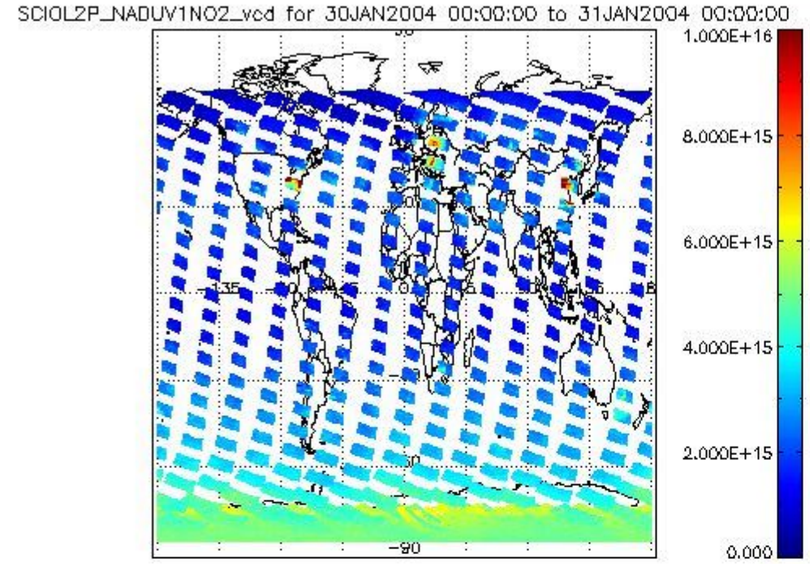


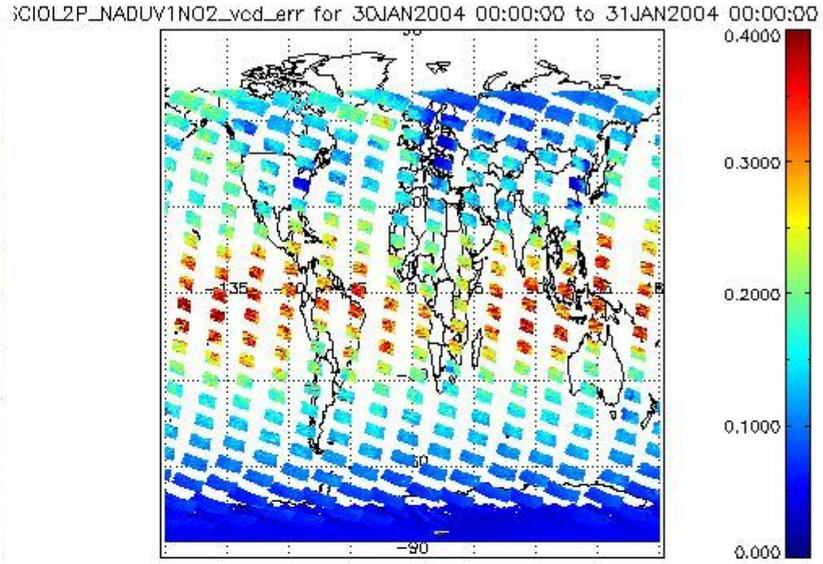

Time trend plot of value and error of SCIOL2P_NADUV1NO2_vcd [molecules/cm^2].
Value
1x10^16
8x10^15
6x10^15
4x10^15
2x10^15
0
000519 040130
014703 040130
032735 040130
050808 040130
064852 040130
082924 040130
100857 040130
115030 040130
133113 040130
151136 040130
165219 040130
183252 040130
201325 040130
215408 040130
233441 040130
Time [HHMMSS, YYMMDD]

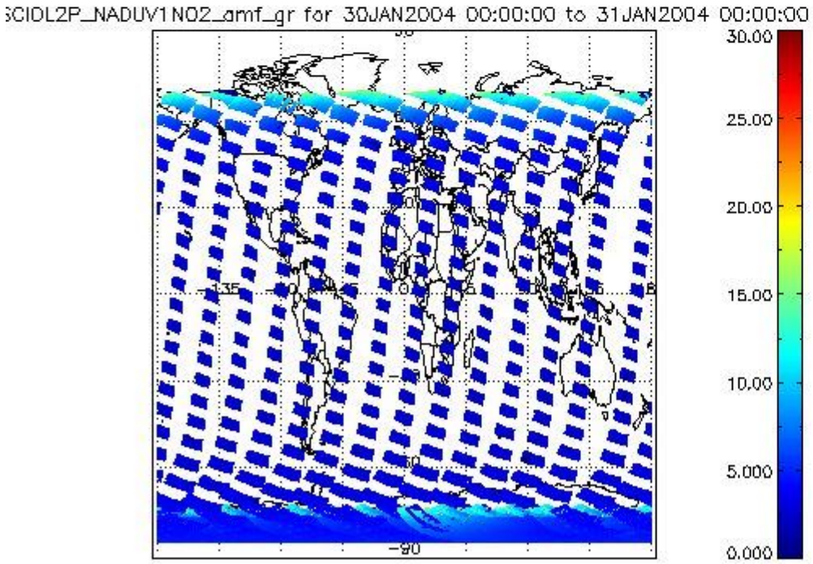

Time trend plot of value and error of SCIOL2P_NADUV1NO2_vcd_err [molecules/cm^2].
Value
0.4
0.3
0.2
0.1
0.0
000519 040130
014703 040130
032735 040130
050808 040130
064852 040130
082924 040130
100857 040130
115030 040130
133113 040130
151136 040130
165219 040130
183252 040130
201325 040130
215408 040130
233441 040130
Time [HHMMSS, YYMMDD]

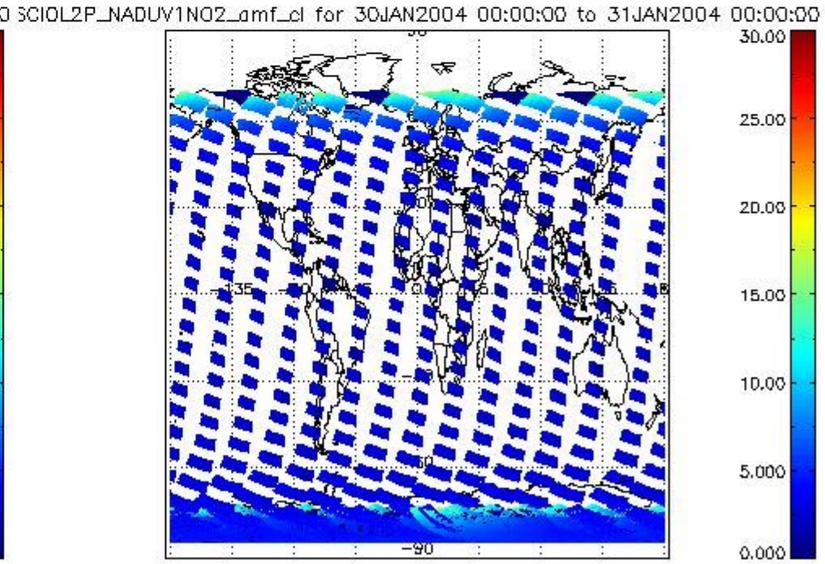

Time trend plot of value and error of SCIOL2P_NADUV1NO2_amf_gr [molecules/cm^2].
Value
30
25
20
15
10
5
0
000519 040130
014703 040130
032735 040130
050808 040130
064852 040130
082924 040130
100857 040130
115030 040130
133113 040130
151136 040130
165219 040130
183252 040130
201325 040130
215408 040130
233441 040130
Time [HHMMSS, YYMMDD]


Time trend plot of value and error of SCIOL2P_NADUV1NO2_amf_cl [molecules/cm^2].
Value
30
25
20
15
10
5
0
000519 040130
014703 040130
032735 040130
050808 040130
064852 040130
082924 040130
100857 040130
115030 040130
133113 040130
151136 040130
165219 040130
183252 040130
201325 040130
215408 040130
233441 040130
Time [HHMMSS, YYMMDD]









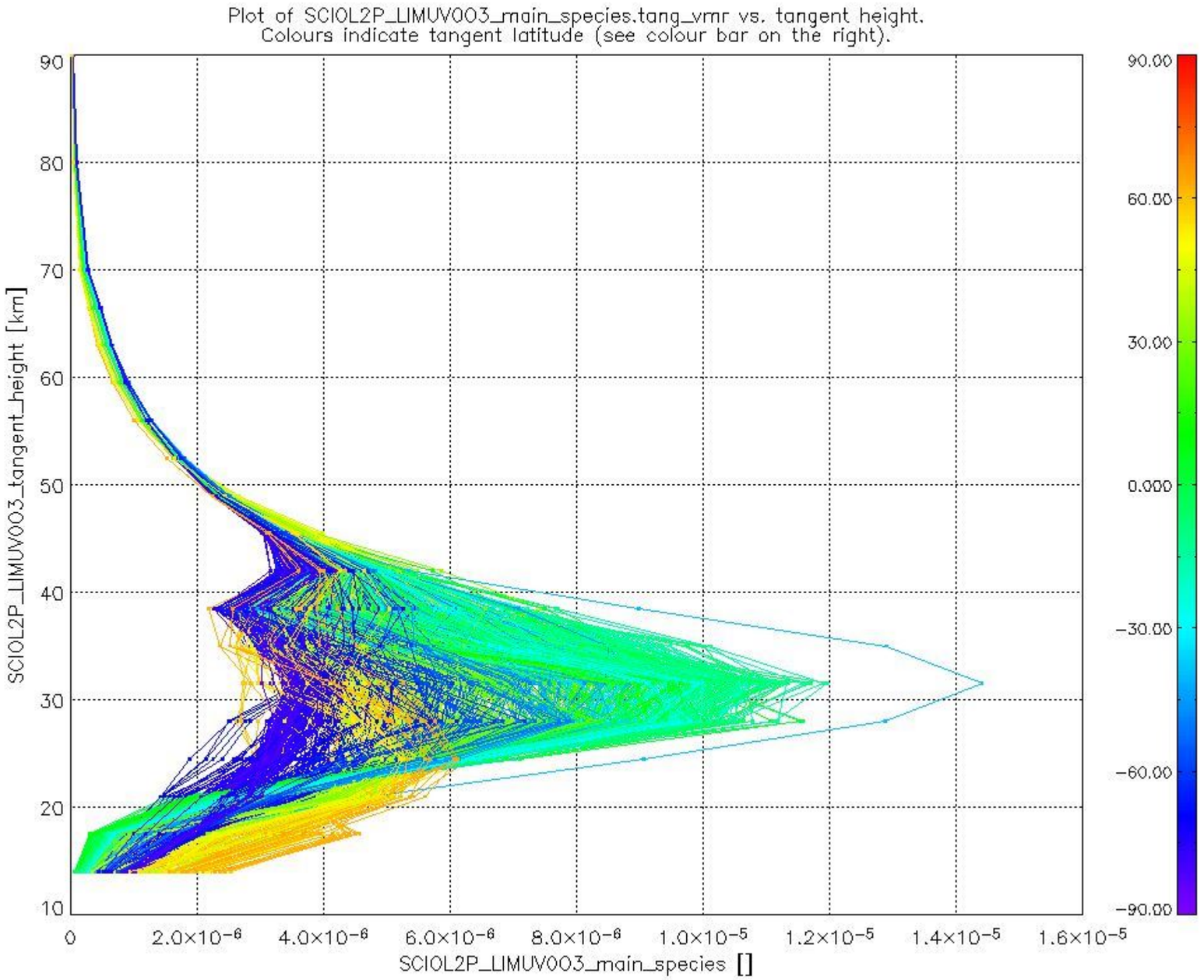
2.2.3 Limb

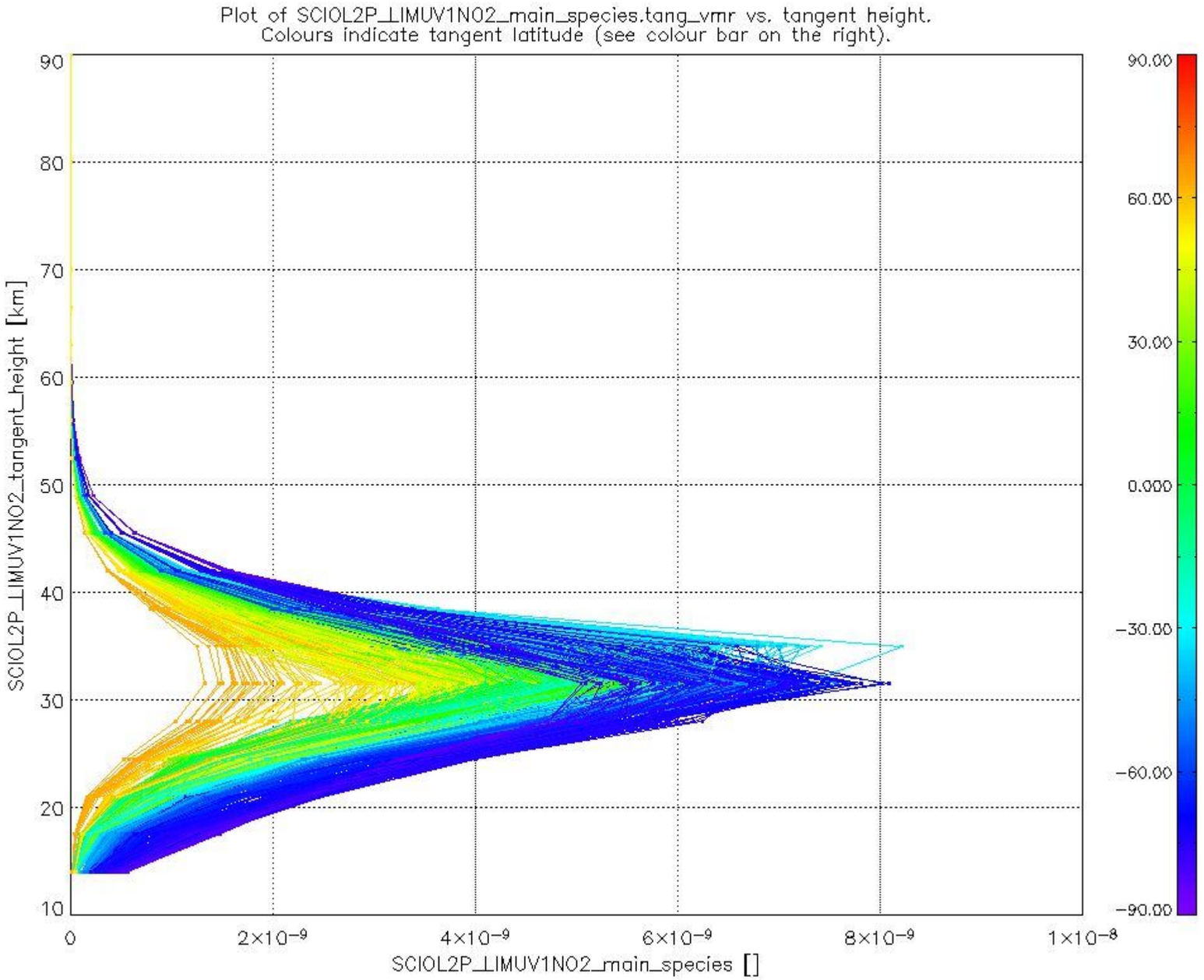
This section shows information about product quality of the limb retrievals, in particular the quality of retrieved species.

The following data items are currently included into this section:

Number	Data item ID
0	SCIOL2PLIMUV0O3_main_species
1	SCIOL2PLIMUV1NO2_main_species

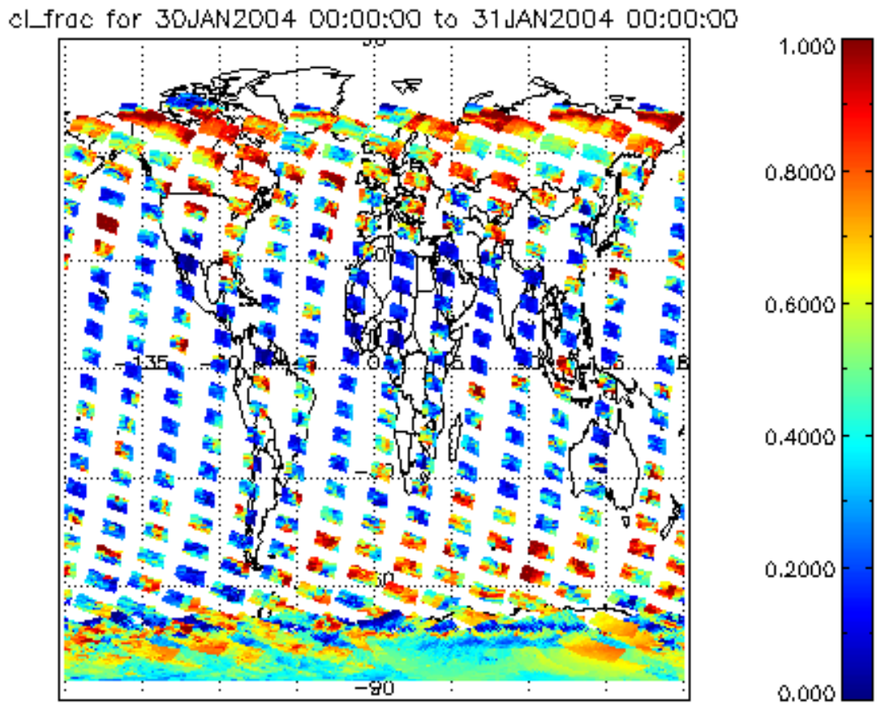
The following plots shows for each species the tangent volume mixing ratio vs. tangent height. Colours indicate tangent latitude.

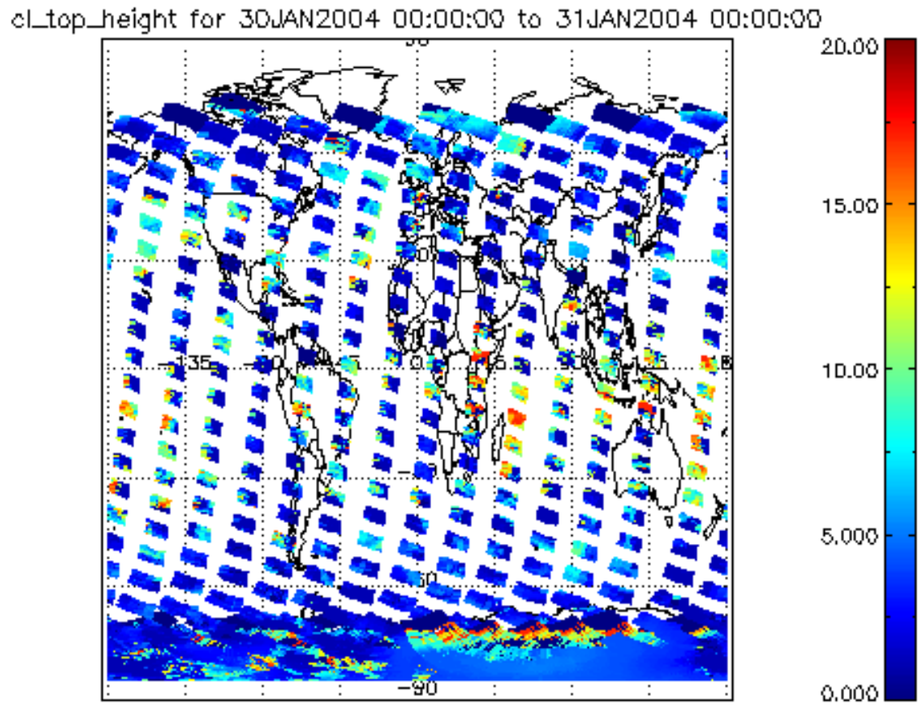

Plot of SCIOL2P_LIMUV003_main_species.tang_vmr vs. tangent height.
Colours indicate tangent latitude (see colour bar on the right).
SCIOL2P_LIMUV003_tangent_height [km]
90
80
70
60
50
40
30
20
10
0
2.0×10⁻⁶
4.0×10⁻⁶
6.0×10⁻⁶
8.0×10⁻⁶
1.0×10⁻⁵
1.2×10⁻⁵
1.4×10⁻⁵
1.6×10⁻⁵
SCIOL2P_LIMUV003_main_species []
90.00
60.00
30.00
0.000
−30.00
−60.00
−90.00

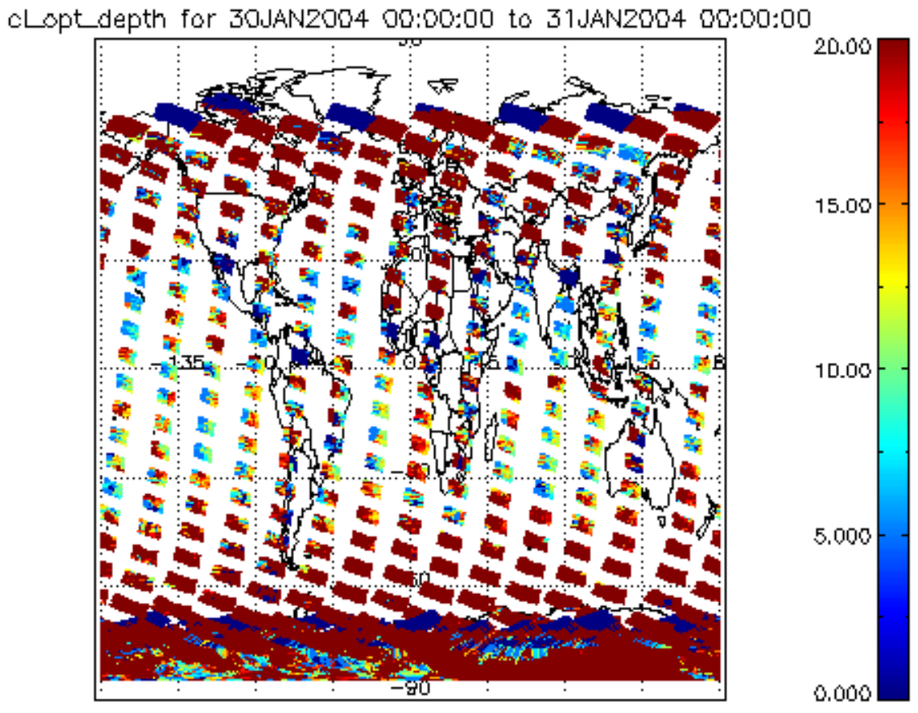


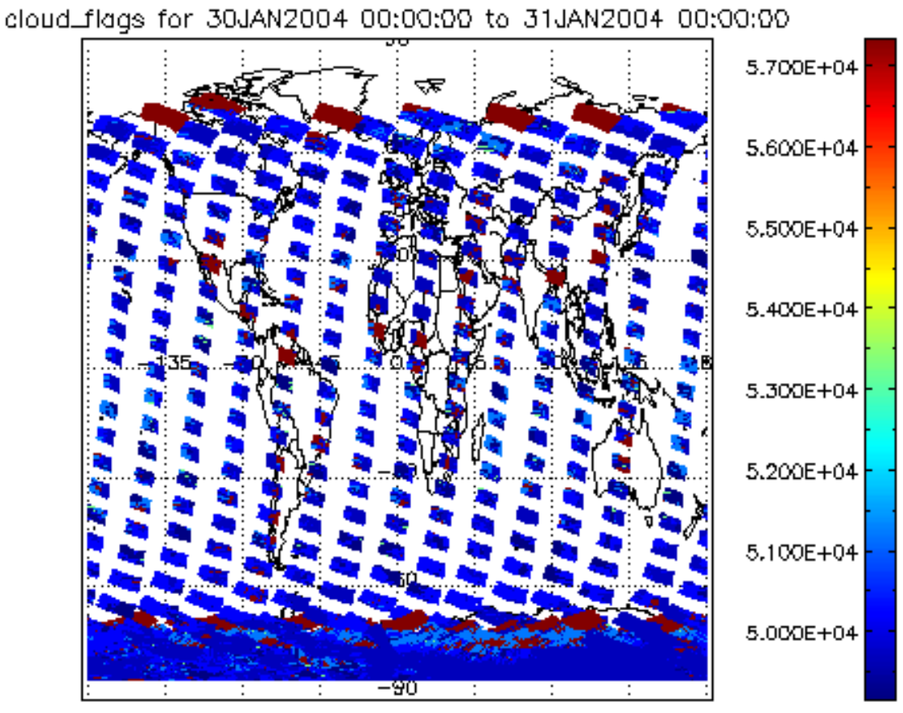
2.3 ADF monitoring

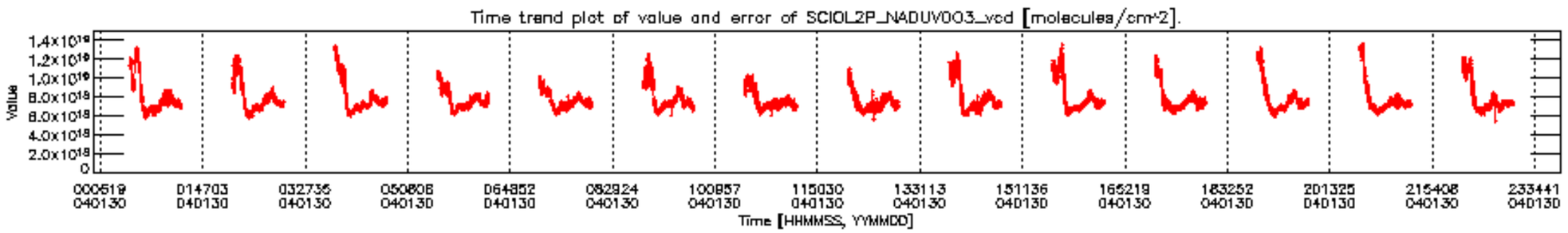
Number	ADF
	IN_ (INITIALISATION_FILE)
0	SCI_IN__AXNPDE20070629_092400_20070720_000000_20991231_235959
	ECF (ECMWF_FILE)
1	NOT USED

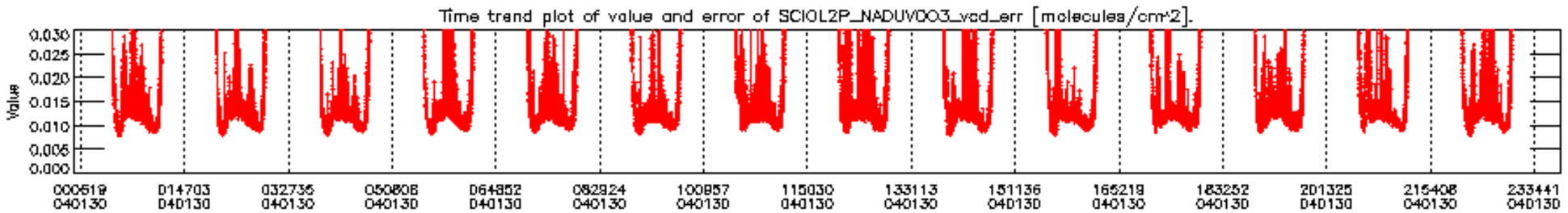

cl_frac for 30JAN2004 00:00:00 to 31JAN2004 00:00:00
1.000
0.8000
0.6000
0.4000
0.2000
0.000
-135
-90

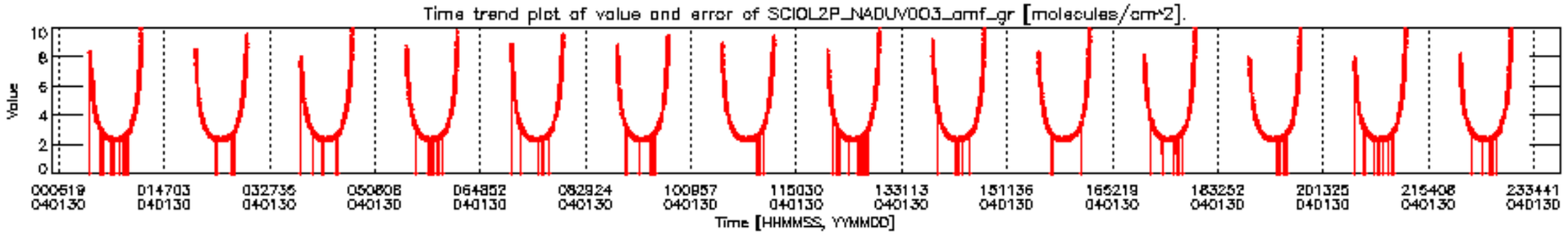

cl_top_height for 30JAN2004 00:00:00 to 31JAN2004 00:00:00
20.00
15.00
10.00
5.000
0.000
-135
-90

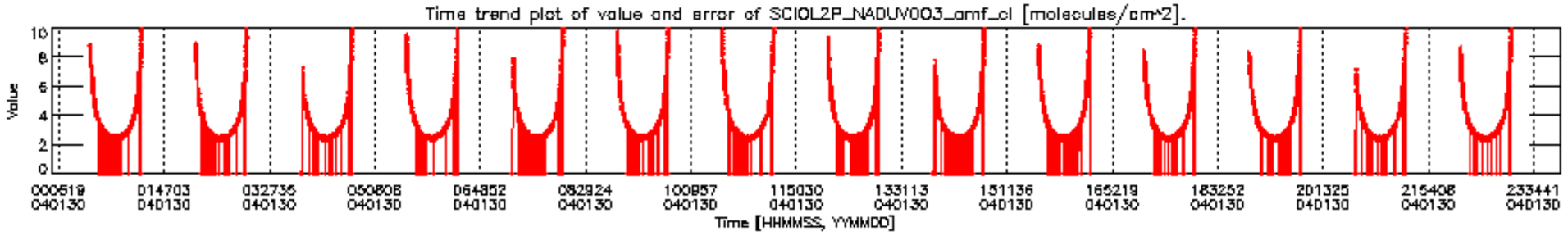

cl_opt_depth for 30JAN2004 00:00:00 to 31JAN2004 00:00:00
20.00
15.00
10.00
5.000
0.000
-135
-90


cloud_flags for 30JAN2004 00:00:00 to 31JAN2004 00:00:00
5.700E+04
5.600E+04
5.500E+04
5.400E+04
5.300E+04
5.200E+04
5.100E+04
5.000E+04
-135
-90

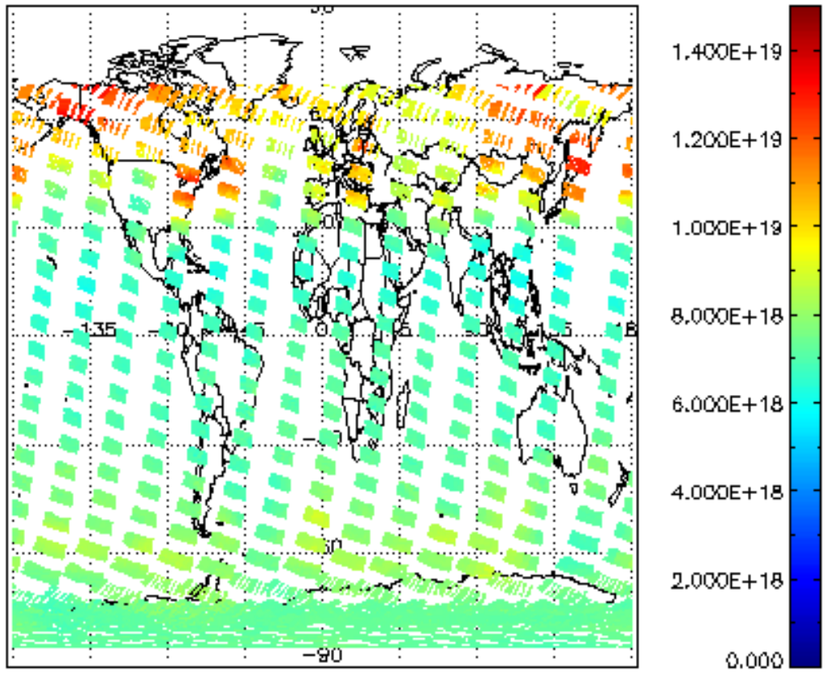

Time trend plot of value and error of SCIOL2P_NADUV003_vcd [molecules/cm^2].
Value
1.4x10^19
1.2x10^19
1.0x10^19
8.0x10^18
6.0x10^18
4.0x10^18
2.0x10^18
0
000619 040130
014703 040130
032735 040130
050808 040130
064852 040130
082924 040130
100857 040130
115030 040130
133113 040130
151136 040130
165219 040130
183252 040130
201325 040130
215408 040130
233441 040130
Time [HHMMSS, YYMMDD]


Time trend plot of value and error of SCIOL2P_NADUV003_vcd_err [molecules/cm^2].
Value
0.030
0.025
0.020
0.015
0.010
0.005
0.000
000619 040130
014703 040130
032735 040130
050808 040130
064852 040130
082924 040130
100857 040130
115030 040130
133113 040130
151136 040130
165219 040130
183252 040130
201325 040130
215408 040130
233441 040130
Time [HHMMSS, YYMMDD]

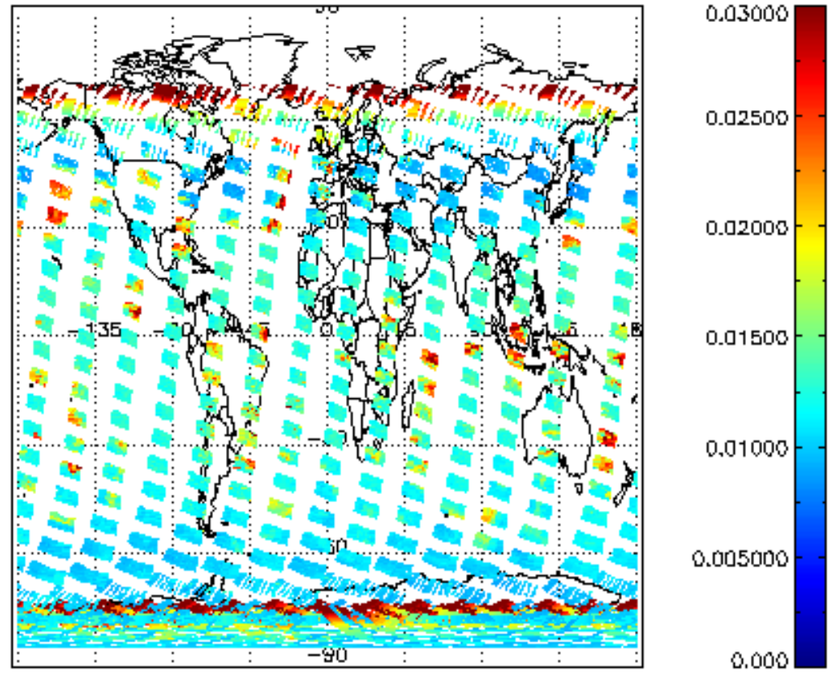

Time trend plot of value and error of SCIOL2P_NADUV003_amf_gr [molecules/cm^2].
Value
10
8
6
4
2
0
000619 040130
014703 040130
032735 040130
050808 040130
064852 040130
082924 040130
100857 040130
115030 040130
133113 040130
151136 040130
165219 040130
183252 040130
201325 040130
215408 040130
233441 040130
Time [HHMMSS, YYMMDD]


Time trend plot of value and error of SCIOL2P_NADUV003_amf_cl [molecules/cm^2].
Value
10
8
6
4
2
0
000619 040130
014703 040130
032735 040130
050808 040130
064852 040130
082924 040130
100857 040130
115030 040130
133113 040130
151136 040130
165219 040130
183252 040130
201325 040130
215408 040130
233441 040130
Time [HHMMSS, YYMMDD]

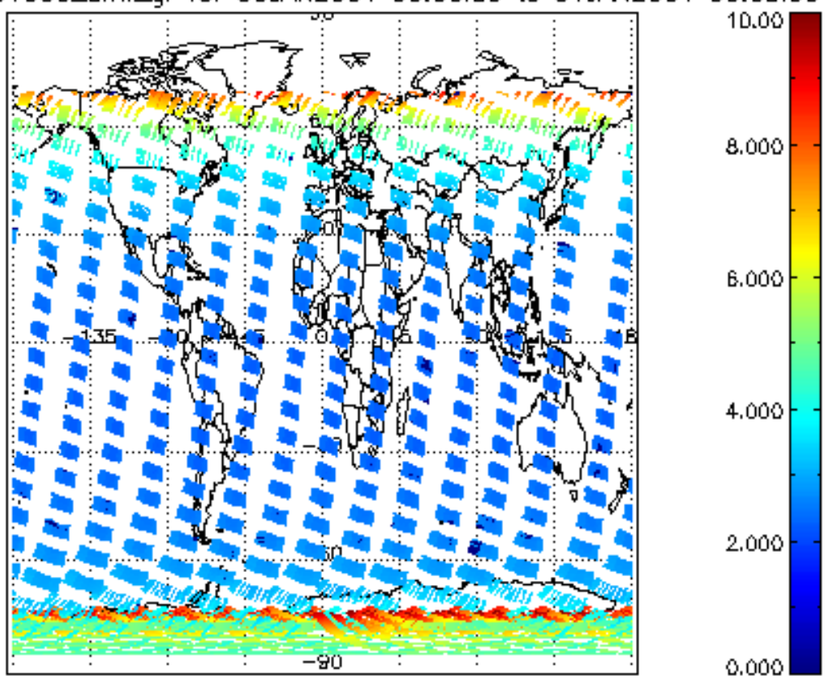
SCIOL2P_NADUV003_vcd for 30JAN2004 00:00:00 to 31JAN2004 00:00:00



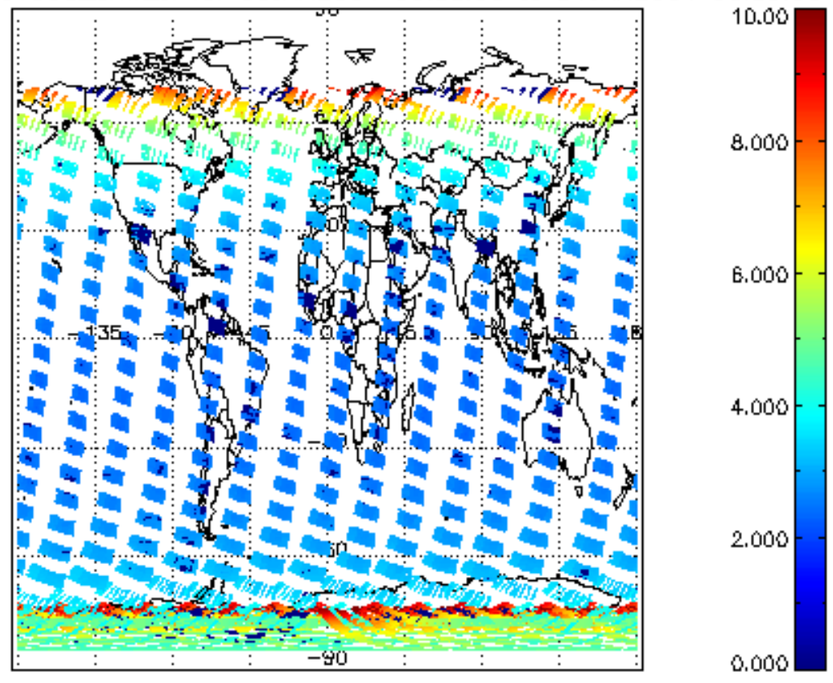
SCIOL2P_NADUV003_vcd_err for 30JAN2004 00:00:00 to 31JAN2004 00:00:00

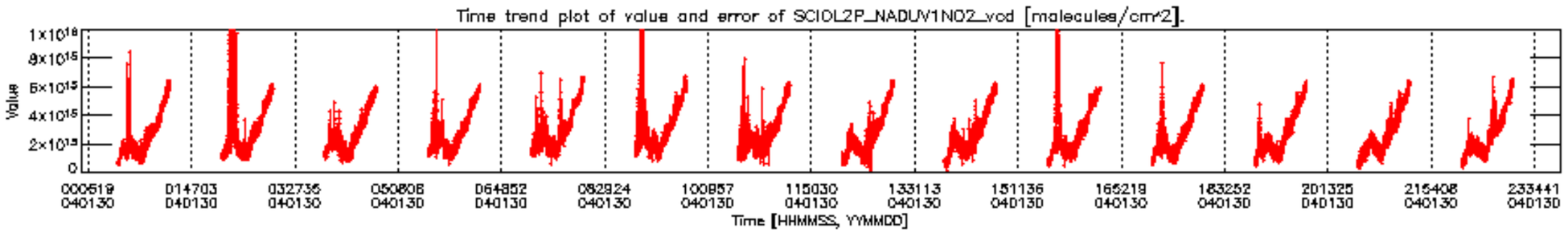


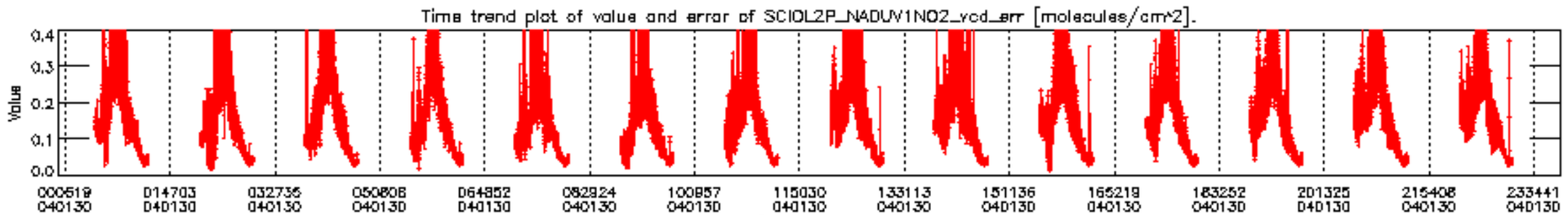
SCIOL2P_NADUV003_amf_gr for 30JAN2004 00:00:00 to 31JAN2004 00:00:00

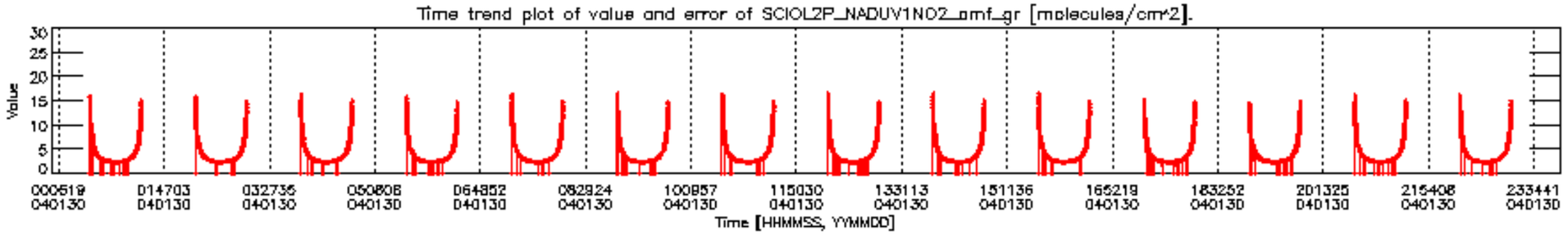


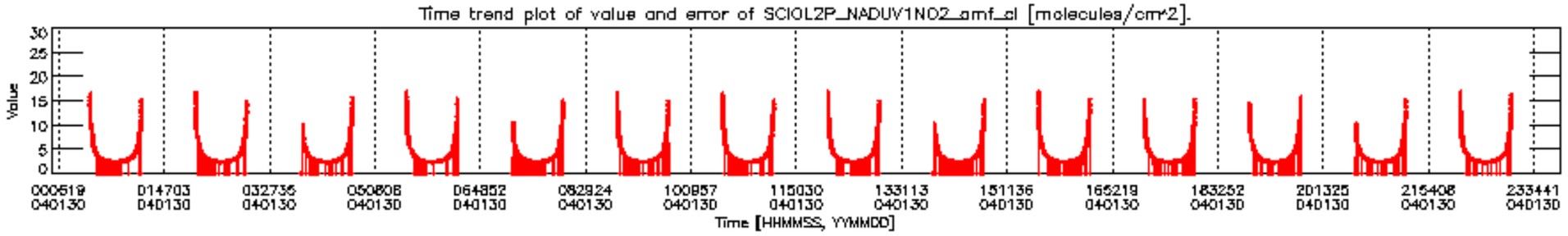
SCIOL2P_NADUV003_amf_cl for 30JAN2004 00:00:00 to 31JAN2004 00:00:00



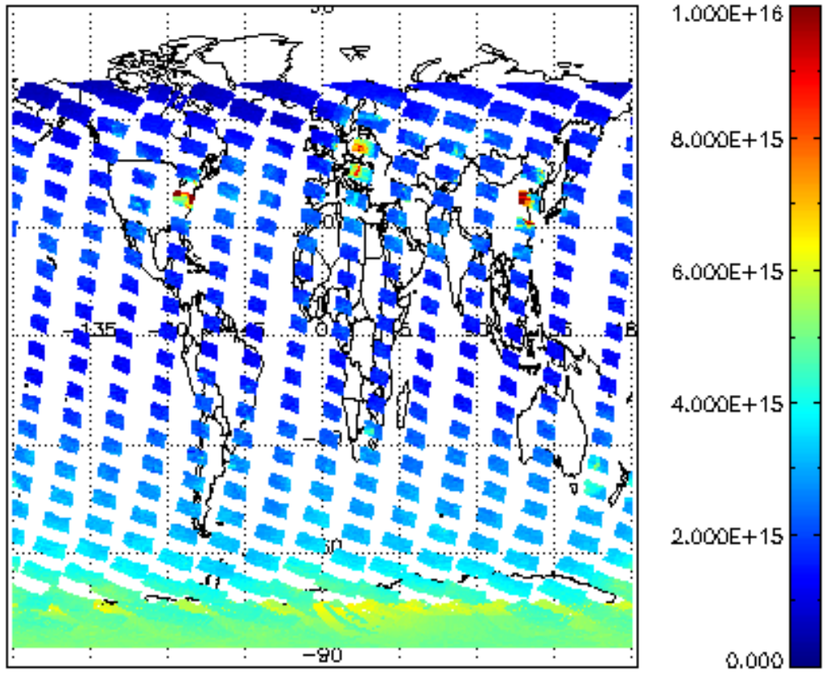

Time trend plot of value and error of SCIOL2P_NADUV1NO2_vcd [molecules/cm^2].
Value
1x10^16
8x10^15
6x10^15
4x10^15
2x10^15
0
000619 040130
014703 040130
032736 040130
050806 040130
064852 040130
082924 040130
100857 040130
115030 040130
133113 040130
151136 040130
165219 040130
183252 040130
201325 040130
215408 040130
233441 040130
Time [HHMMSS, YYMMDD]


Time trend plot of value and error of SCIOL2P_NADUV1NO2_vcd_err [molecules/cm^2].
Value
0.4
0.3
0.2
0.1
0.0
000619 040130
014703 040130
032736 040130
050806 040130
064852 040130
082924 040130
100857 040130
115030 040130
133113 040130
151136 040130
165219 040130
183252 040130
201325 040130
215408 040130
233441 040130
Time [HHMMSS, YYMMDD]

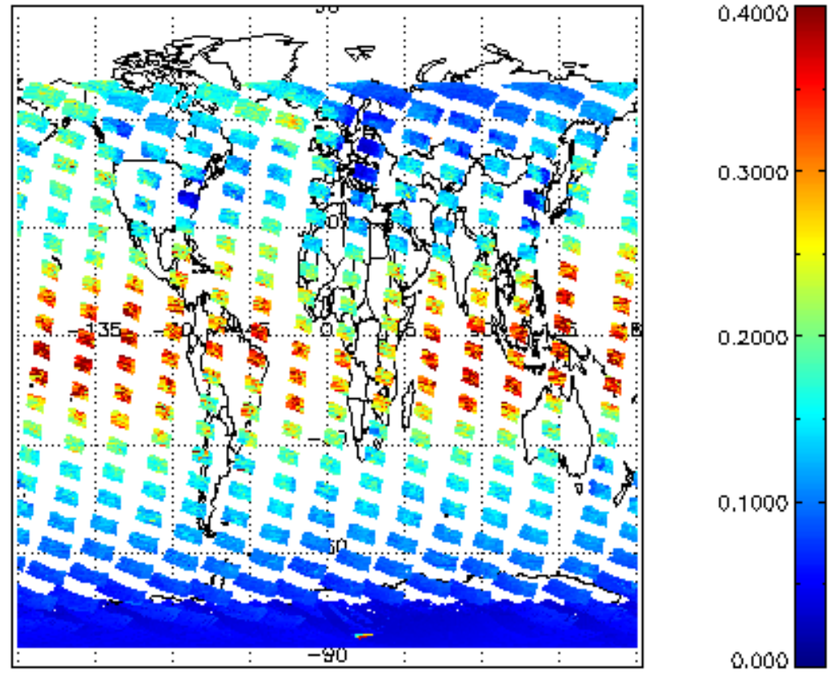

Time trend plot of value and error of SCIOL2P_NADUV1NO2_amf_gr [molecules/cm^2].
Value
30
25
20
15
10
5
0
000619 040130
014703 040130
032736 040130
050806 040130
064852 040130
082924 040130
100857 040130
115030 040130
133113 040130
151136 040130
165219 040130
183252 040130
201325 040130
215408 040130
233441 040130
Time [HHMMSS, YYMMDD]


Time trend plot of value and error of SCIOL2P_NADUV1NO2_amf_cl [molecules/cm^2].
Value
30
25
20
15
10
5
0
000619 040130
014703 040130
032736 040130
050806 040130
064852 040130
082924 040130
100857 040130
115030 040130
133113 040130
151136 040130
165219 040130
183252 040130
201325 040130
215408 040130
233441 040130
Time [HHMMSS, YYMMDD]

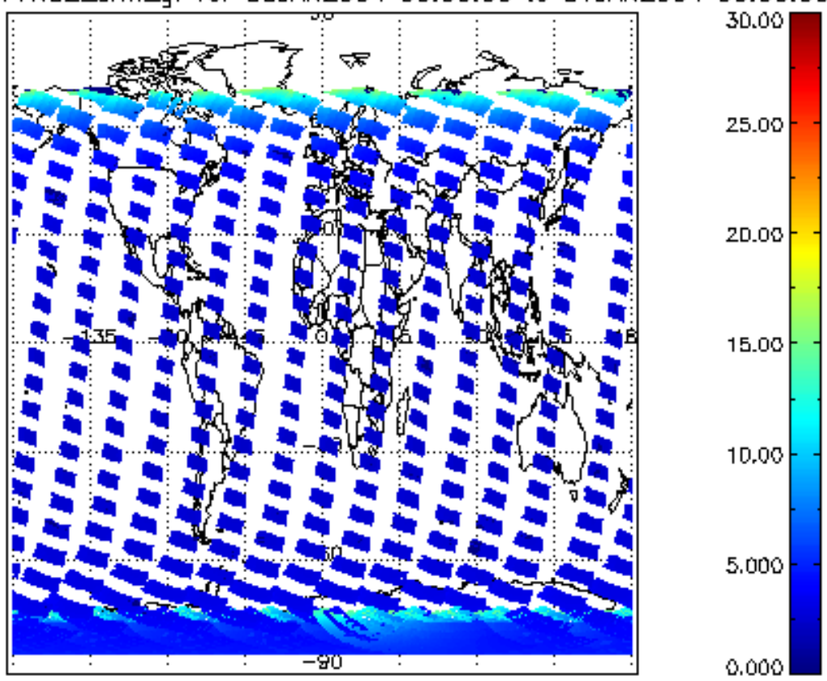
SCIOL2P_NADUV1NO2_vcd for 30JAN2004 00:00:00 to 31JAN2004 00:00:00



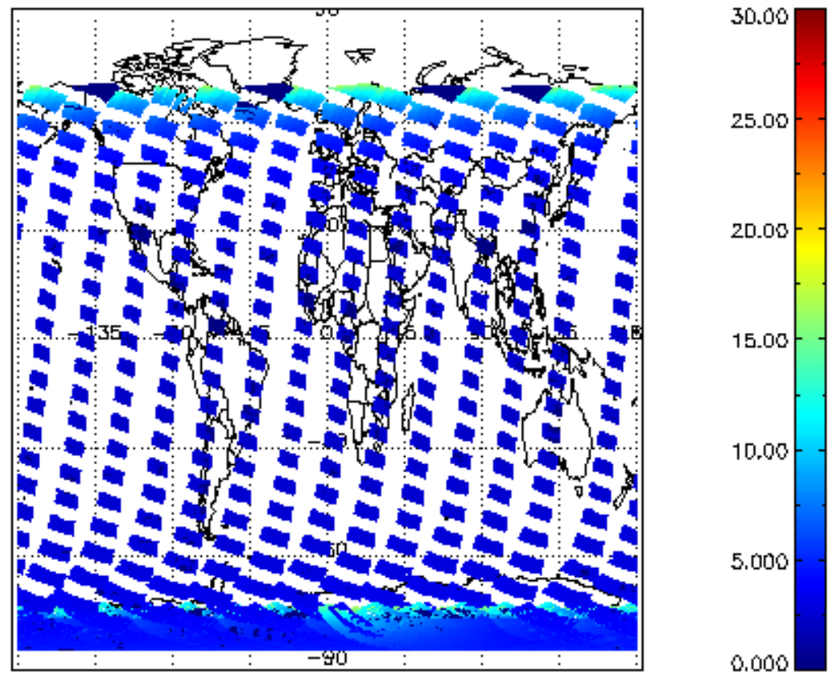
SCIOL2P_NADUV1NO2_vcd_err for 30JAN2004 00:00:00 to 31JAN2004 00:00:00



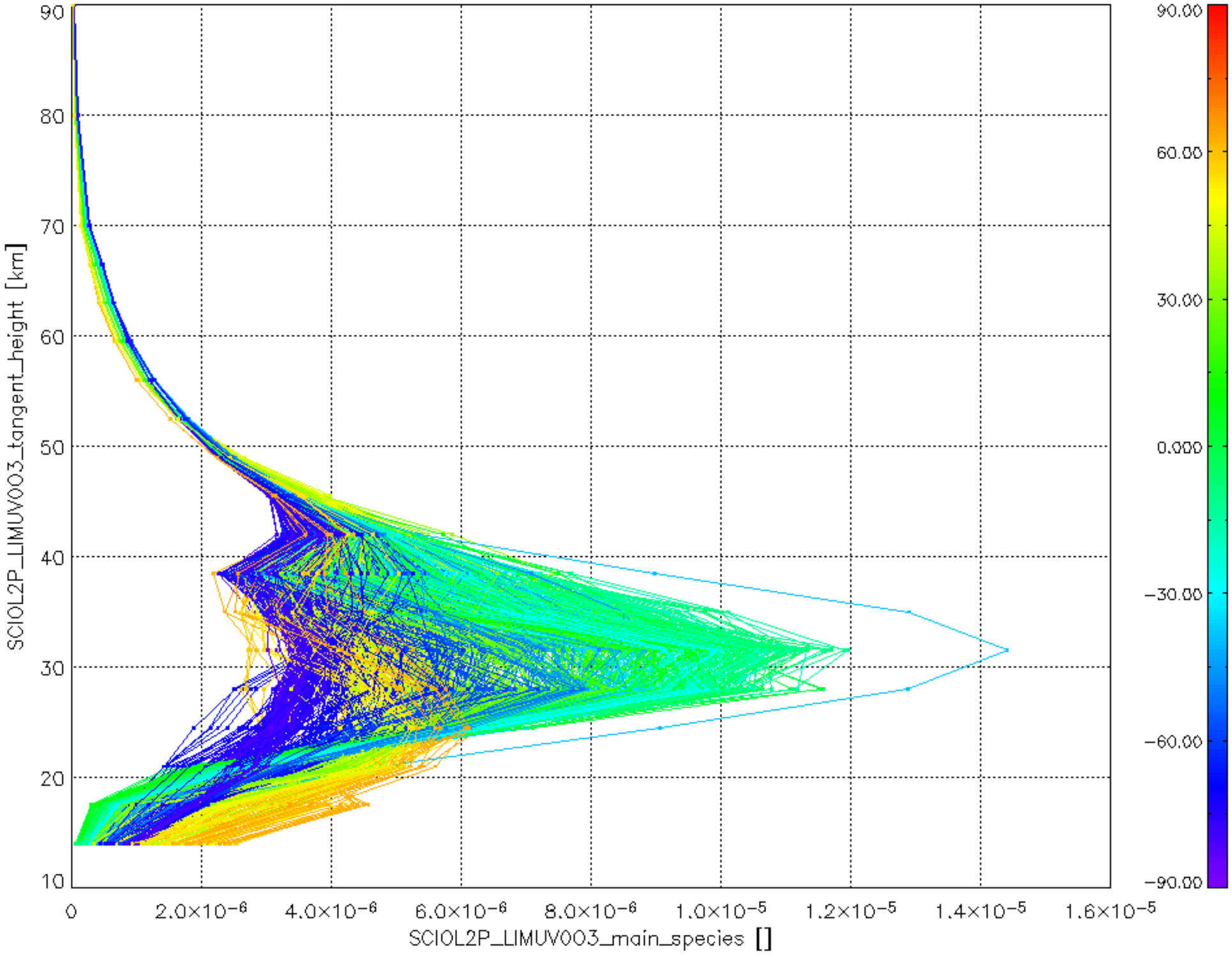
SCIOL2P_NADUV1NO2_amf_gr for 30JAN2004 00:00:00 to 31JAN2004 00:00:00



SCIOL2P_NADUV1NO2_amf_cl for 30JAN2004 00:00:00 to 31JAN2004 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).