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	1.4 (06-11-2007)
Time of report generation	28MAY2008 18:09:50
Data source version	SCIA-OL/3.01-R
Processing scope for products	25DEC2002 00:00:00 to 26DEC2002 00:00:00
Start time of first product within scope	24DEC2002 22:54:32
Stop time of last product within scope	26DEC2002 00:58:55
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__2PRDPA20021224_225432_000033242012_00216_04278_1797.N1	24DEC2002 22:54:32	24DEC2002 23:49:57	0	GOOD
1	SCI_OL__2PRDPA20021225_003508_000033242012_00217_04279_1944.N1	25DEC2002 00:35:08	25DEC2002 01:30:32	0	GOOD
2	SCI_OL__2PRDPA20021225_021544_000033242012_00218_04280_1929.N1	25DEC2002 02:15:44	25DEC2002 03:11:08	0	GOOD
3	SCI_OL__2PRDPA20021225_035620_000033242012_00219_04281_1780.N1	25DEC2002 03:56:20	25DEC2002 04:51:44	0	GOOD
4	SCI_OL__2PRDPA20021225_053656_000033242012_00220_04282_1881.N1	25DEC2002 05:36:56	25DEC2002 06:32:20	0	GOOD
5	SCI_OL__2PRDPA20021225_071732_000033242012_00221_04283_1955.N1	25DEC2002 07:17:32	25DEC2002 08:12:56	0	GOOD
6	SCI_OL__2PRDPA20021225_085807_000033242012_00222_04284_1739.N1	25DEC2002 08:58:07	25DEC2002 09:53:32	0	GOOD
7	SCI_OL__2PRDPA20021225_103843_000033242012_00223_04285_1860.N1	25DEC2002 10:38:43	25DEC2002 11:34:08	0	GOOD
8	SCI_OL__2PRDPA20021225_121919_000033242012_00224_04286_1733.N1	25DEC2002 12:19:19	25DEC2002 13:14:43	0	GOOD
9	SCI_OL__2PRDPA20021225_135955_000033242012_00225_04287_1800.N1	25DEC2002 13:59:55	25DEC2002 14:55:19	0	GOOD
10	SCI_OL__2PRDPA20021225_154031_000033242012_00226_04288_1811.N1	25DEC2002 15:40:31	25DEC2002 16:35:55	0	GOOD
11	SCI_OL__2PRDPA20021225_172107_000033242012_00227_04289_1756.N1	25DEC2002 17:21:07	25DEC2002 18:16:31	0	GOOD
12	SCI_OL__2PRDPA20021225_190230_000033162012_00228_04290_1883.N1	25DEC2002 19:02:30	25DEC2002 19:57:47	0	GOOD
13	SCI_OL__2PRDPA20021225_204243_000033242012_00229_04291_1909.N1	25DEC2002 20:42:43	25DEC2002 21:38:08	0	GOOD
14	SCI_OL__2PRDPA20021225_222254_000033242012_00230_04292_1872.N1	25DEC2002 22:22:54	25DEC2002 23:18:19	0	GOOD
15	SCI_OL__2PRDPA20021226_000330_000033242012_00231_04293_1812.N1	26DEC2002 00:03:30	26DEC2002 00:58:55	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: 108800

Total number of cloud data DSRs with good quality flag (=0): 108800 (100.0 %)

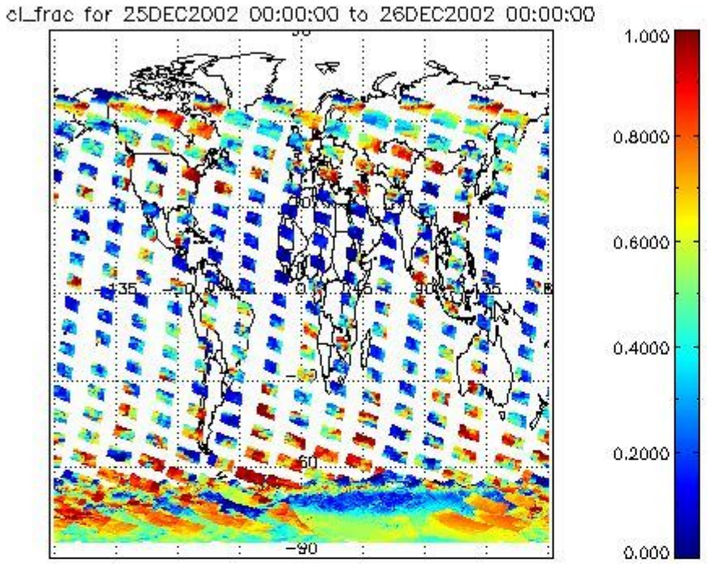
Parameter	#valid	Mean	Median	Min	Max	Stddev	Unit
QUALITY_FLAG	108800	0.0000	0.0000	0.0000	0.0000	0.0000	flag
INTEGR_TIME	108800	0.21627	0.25000	0.12500	0.50000	0.078178	s
SURFACE_PRES	108800	0.0000	0.0000	0.0000	0.0000	0.0000	hPa

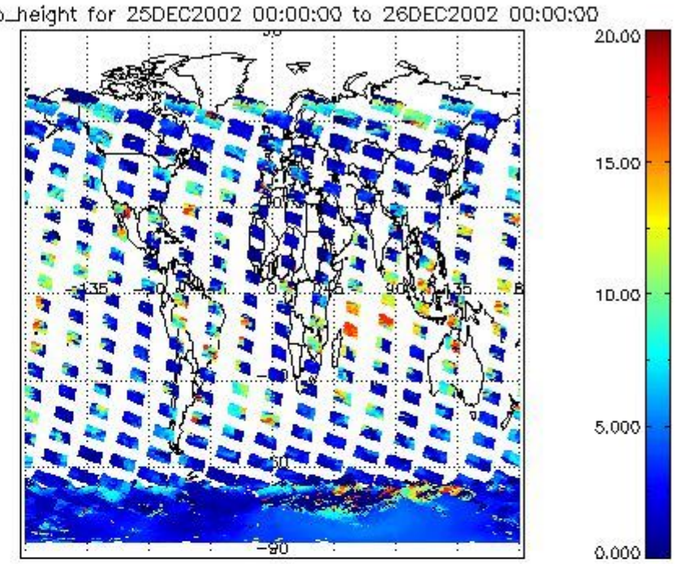
CL_FRAC	108800	0.47393	0.48824	0.0000	1.0000	0.27929	-
CL_FRAC_ERR	108800	0.0000	0.0000	0.0000	0.0000	0.0000	rel. fraction
PMD_READ	108800	6.9206	8.0000	4.0000	16.000	2.5017	
PMD_READ_CL[0]	108800	0.38223	0.0000	0.0000	16.000	1.4223	-
PMD_READ_CL[1]	108800	0.31650	0.0000	0.0000	16.000	1.3801	-
CL_TOP_HEIGHT	99814	4.4210	3.2710	0.0000	17.000	3.8589	km
CL_TOP_HEIGHT_ERR	0	---	---	---	---	---	---
CL_OPT_DEPTH	99814	51.423	35.442	0.0000	101.00	39.341	km
CL_OPT_DEPTH_ERR	0	---	---	---	---	---	---
CL_TYPE_FLAGS	108800	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	108800	11000110	11000010	11000000	11100000	2344.7	flags
AERO_ABSO_IND	108800	0.41701	0.13658	-4.2808	10.583	1.2166	
AERO_IND_DIAG	108800	0.0000	0.0000	0.0000	0.0000	0.0000	
AERO_FLAGS	108800	01101001	11000000	00000000	11000000	24448.	flags

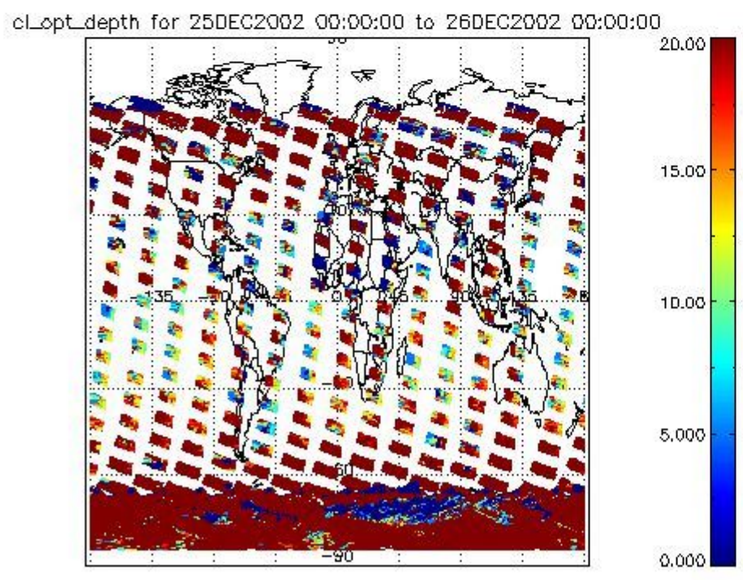
Time and geolocation plots:

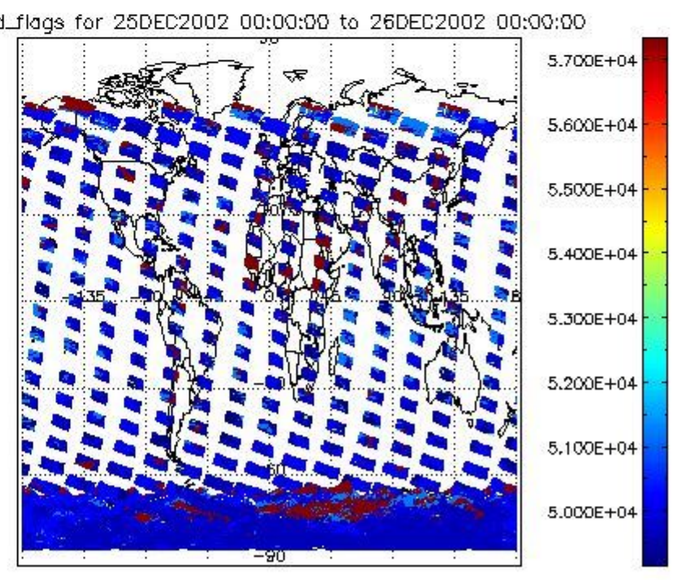
Plots are available for the following parameters:

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









2.2.2 Nadir

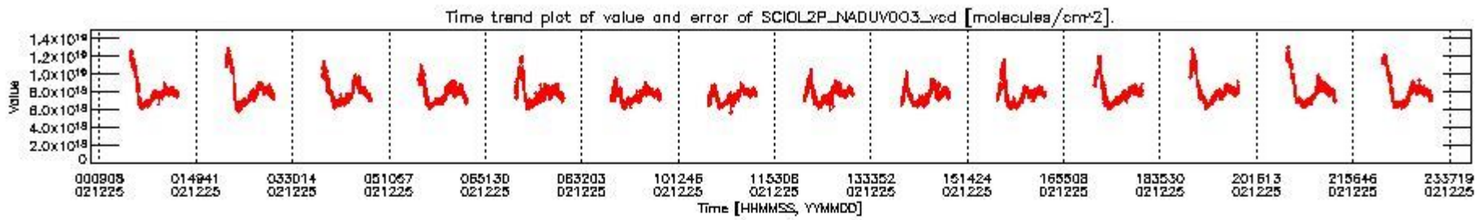
This section shows information about product quality of nadir measurements, in particular the quality of retrieved species.

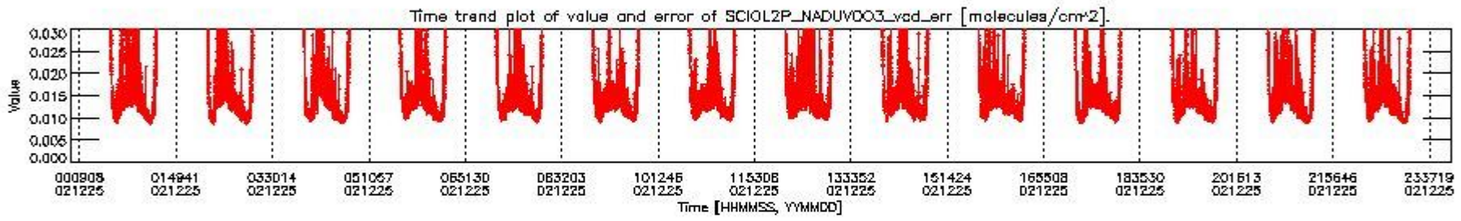
The following data items are currently included into this section:

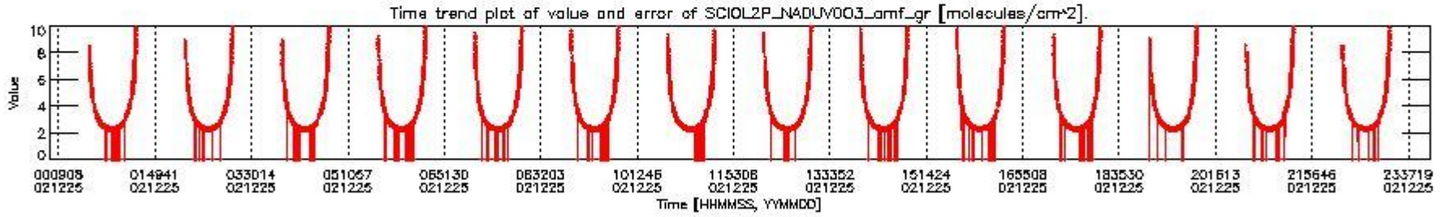
Number	Data item ID
0	SCIOL2P_NADUV0O3_vcd
1	SCIOL2P_NADUV0O3_vcd_err
2	SCIOL2P_NADUV0O3_amf_gr
3	SCIOL2P_NADUV0O3_amf_cl

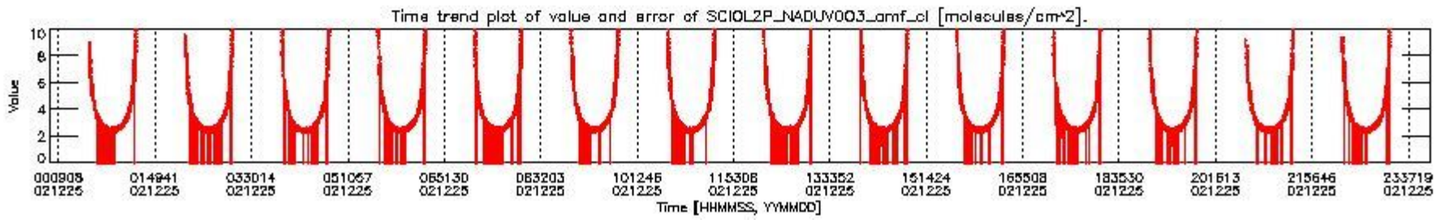
4	SCIOL2P_NADUV1NO2_vcd
5	SCIOL2P_NADUV1NO2_vcd_err
6	SCIOL2P_NADUV1NO2_amf_gr
7	SCIOL2P_NADUV1NO2_amf_cl

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.

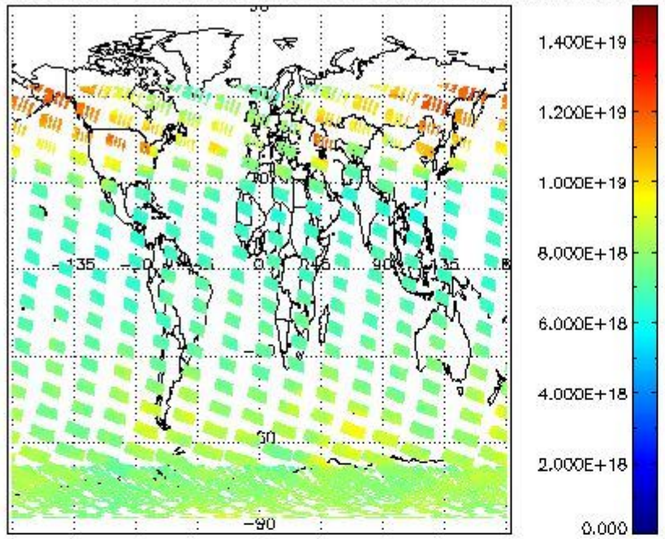




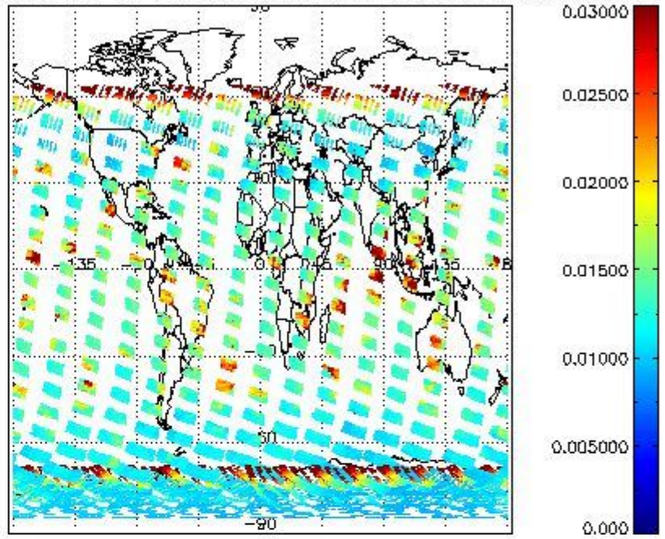




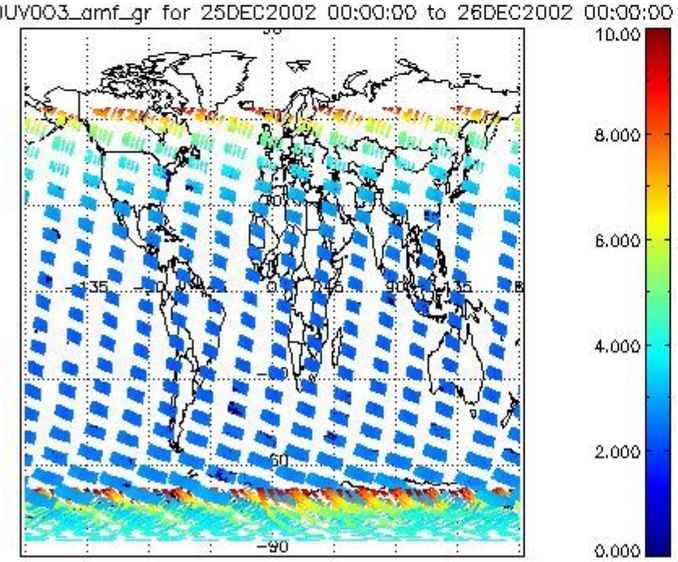
SCIOL2P_NADUV003_vcd for 25DEC2002 00:00:00 to 26DEC2002 00:00:00



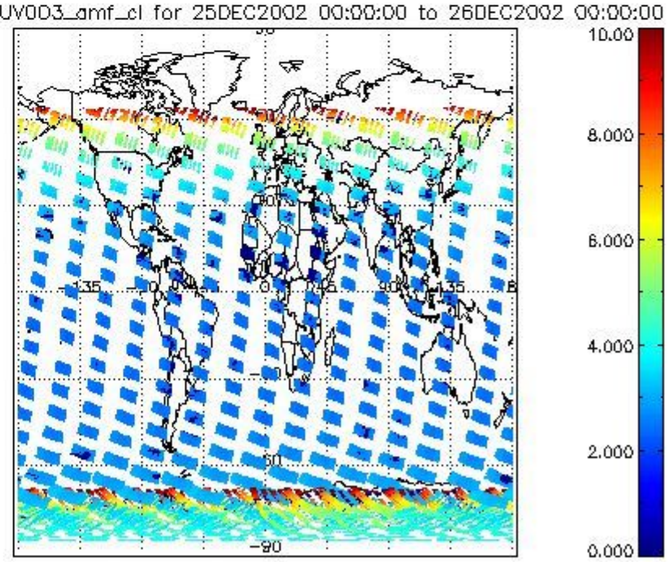
SCIOL2P_NADUV003_vcd_err for 25DEC2002 00:00:00 to 26DEC2002 00:00:00

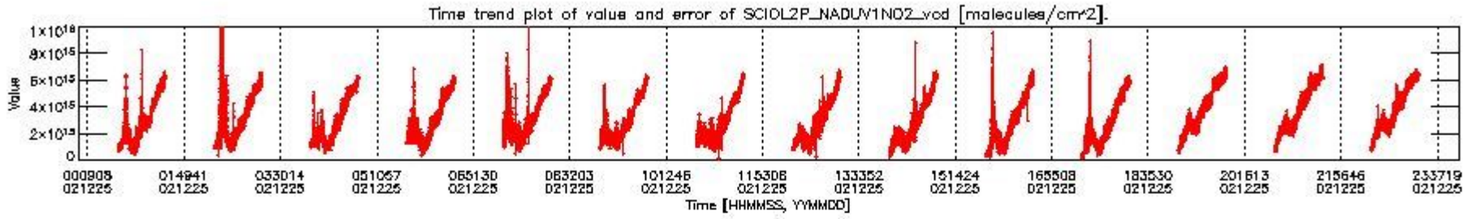


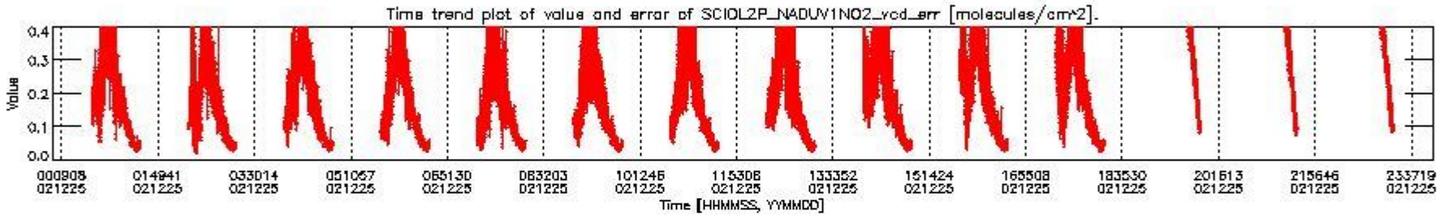
SCIOL2P_NADUV003_amf_gr for 25DEC2002 00:00:00 to 26DEC2002 00:00:00

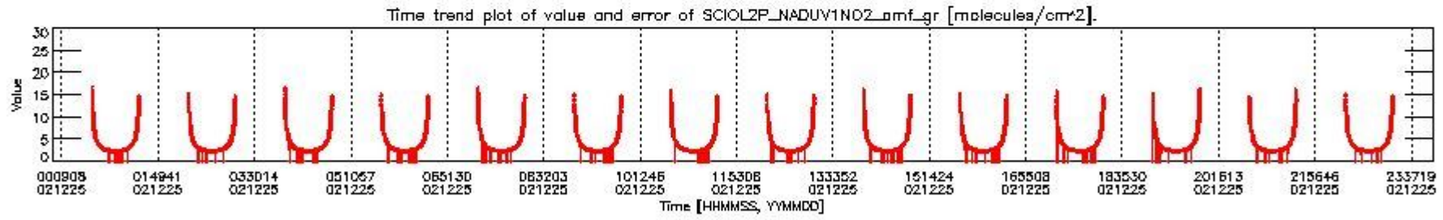


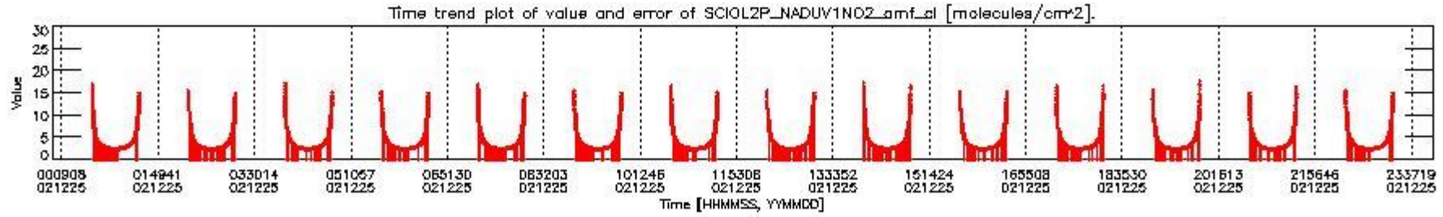
SCIOL2P_NADUV003_amf_cl for 25DEC2002 00:00:00 to 26DEC2002 00:00:00

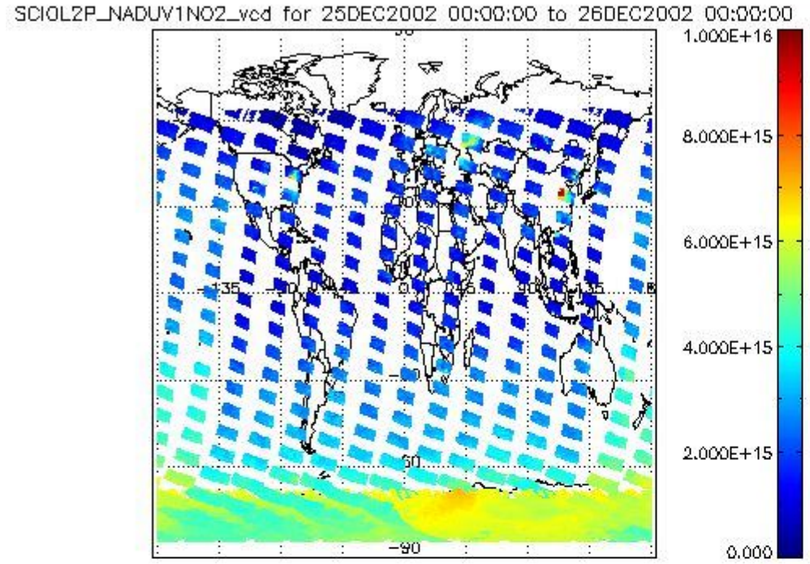


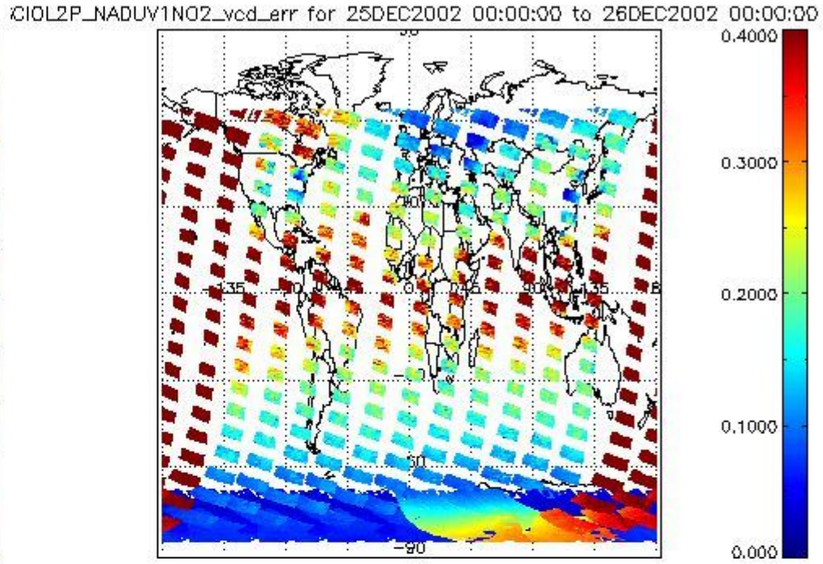

Time trend plot of value and error of SCIOL2P_NADUV1NO2_vcd [molecules/cm^2].
Value
Time [HHMMSS, YYMMDD]

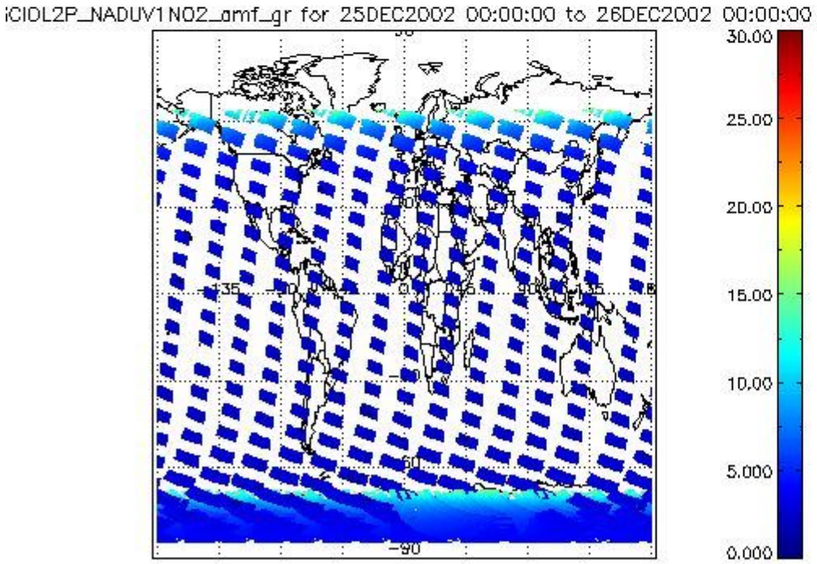

Time trend plot of value and error of SCIOL2P_NADUV1NO2_vcd_err [molecules/cm^2].
Value
Time [HHMMSS, YYMMDD]

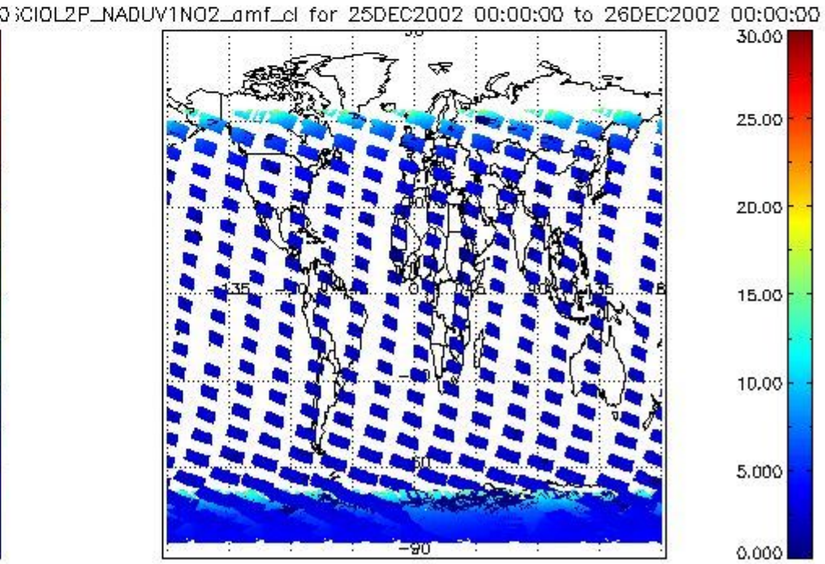

Time trend plot of value and error of SCIOL2P_NADUV1NO2_amf_gr [molecules/cm^2].
Value
Time [HHMMSS, YYMMDD]


Time trend plot of value and error of SCIOL2P_NADUV1NO2_amf_cl [molecules/cm^2].
Value
Time [HHMMSS, YYMMDD]









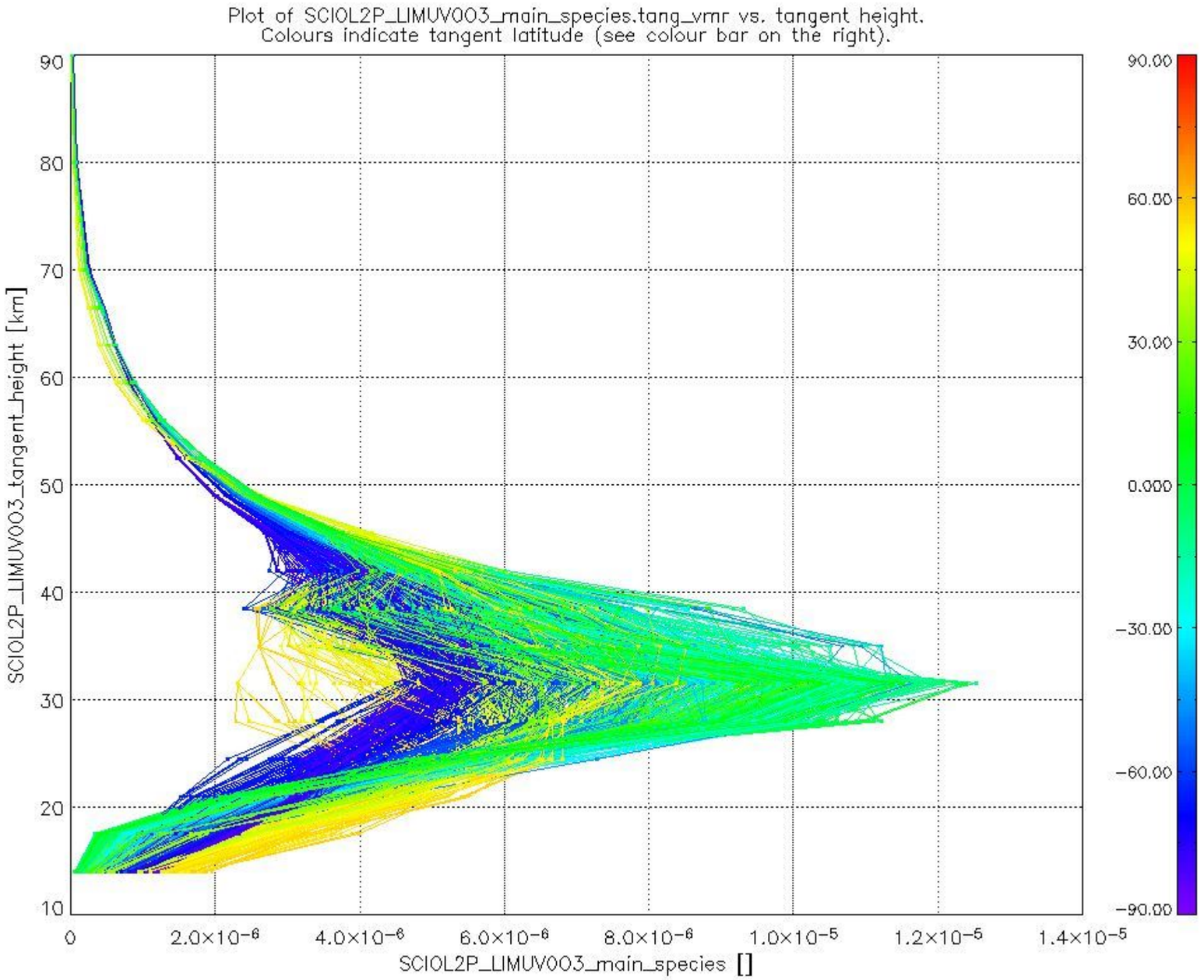
2.2.3 Limb

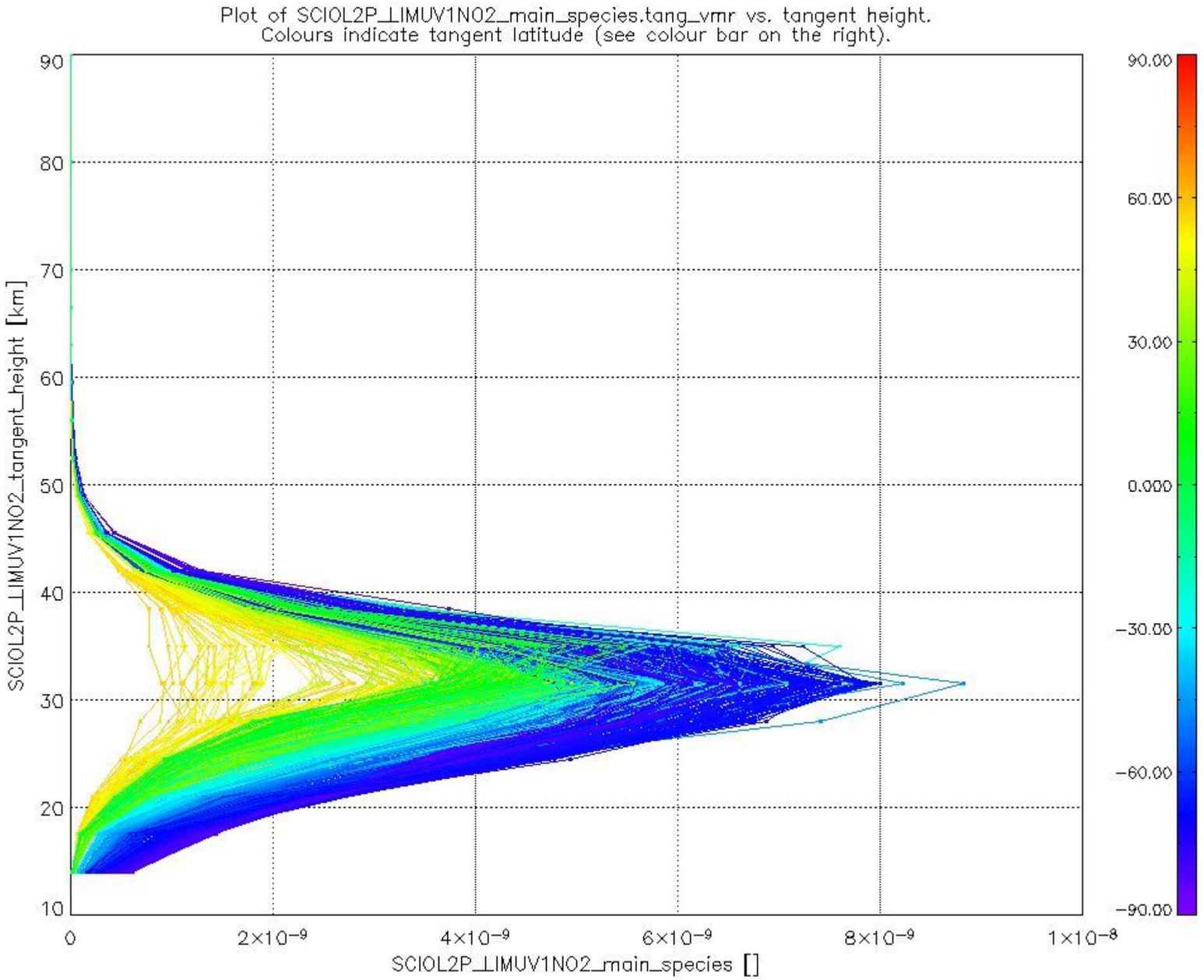
This section shows information about product quality of the limb retrievals, in particular the quality of retrieved species.

The following data items are currently included into this section:

Number	Data item ID
0	SCIOL2PLIMUV0O3_main_species
1	SCIOL2PLIMUV1NO2_main_species

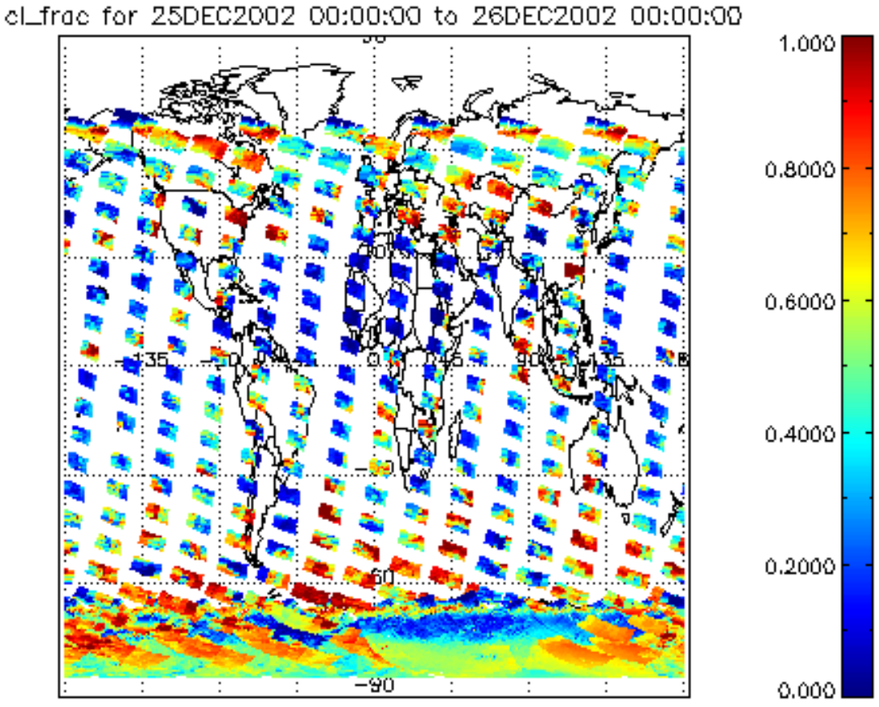
The following plots shows for each species the tangent volume mixing ratio vs. tangent height. Colours indicate tangent latitude.

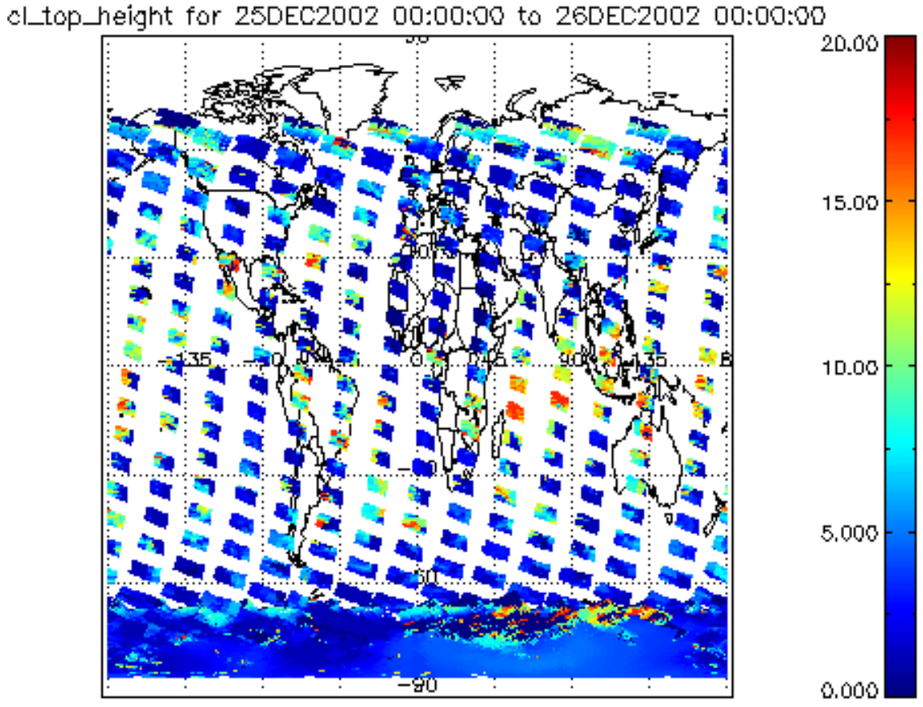

Plot of SCIOL2P_LIMUV003_main_species.tang_vmr vs. tangent height.
Colours indicate tangent latitude (see colour bar on the right).
SCIOL2P_LIMUV003_tangent_height [km]
90
80
70
60
50
40
30
20
10
0
2.0×10⁻⁶
4.0×10⁻⁶
6.0×10⁻⁶
8.0×10⁻⁶
1.0×10⁻⁵
1.2×10⁻⁵
1.4×10⁻⁵
SCIOL2P_LIMUV003_main_species []
90.00
60.00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

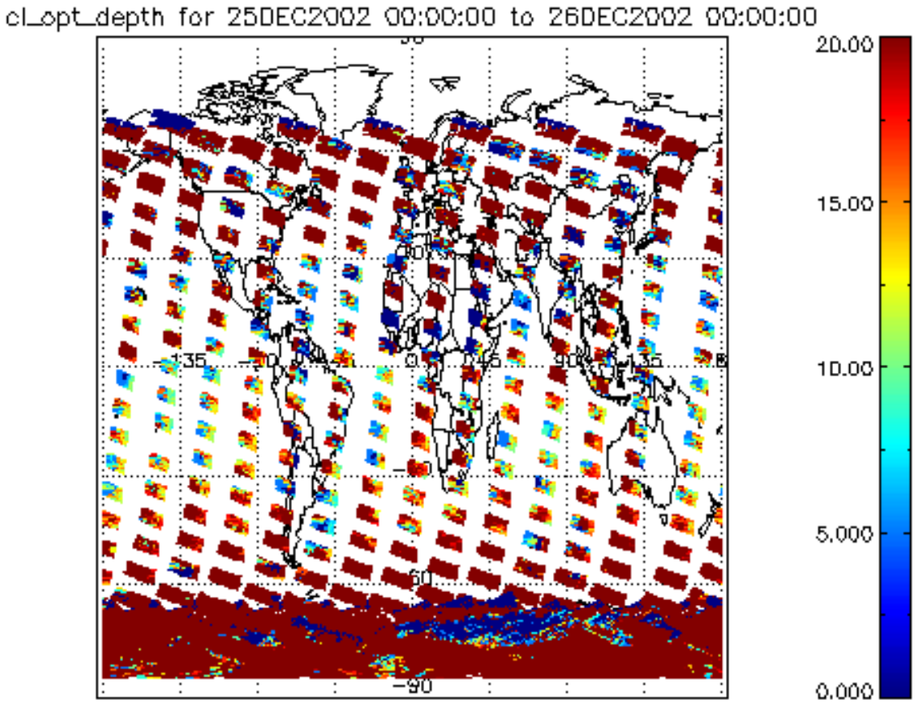


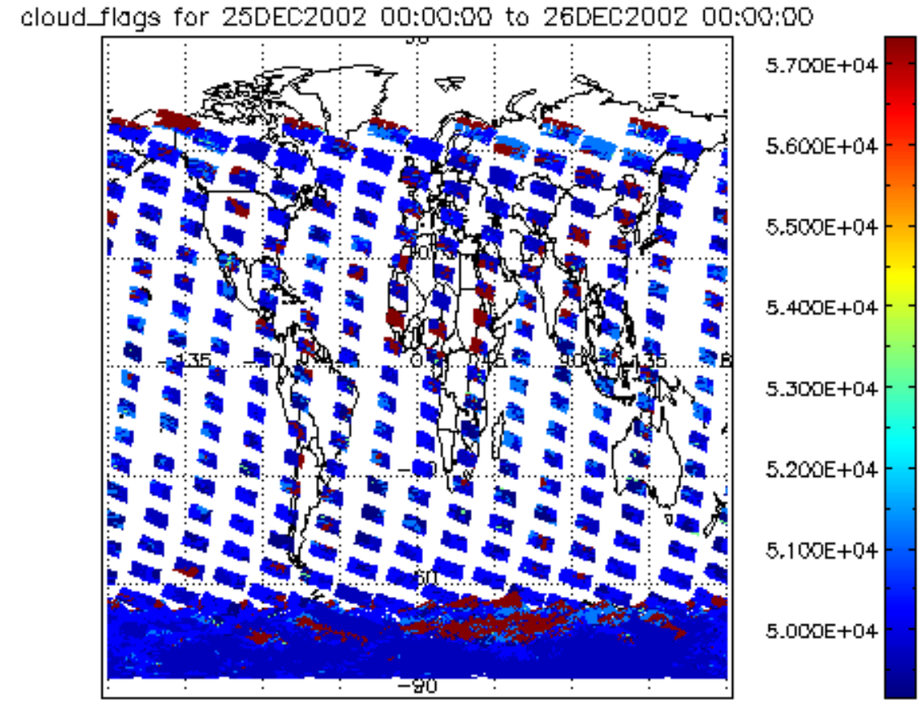
2.3 ADF monitoring

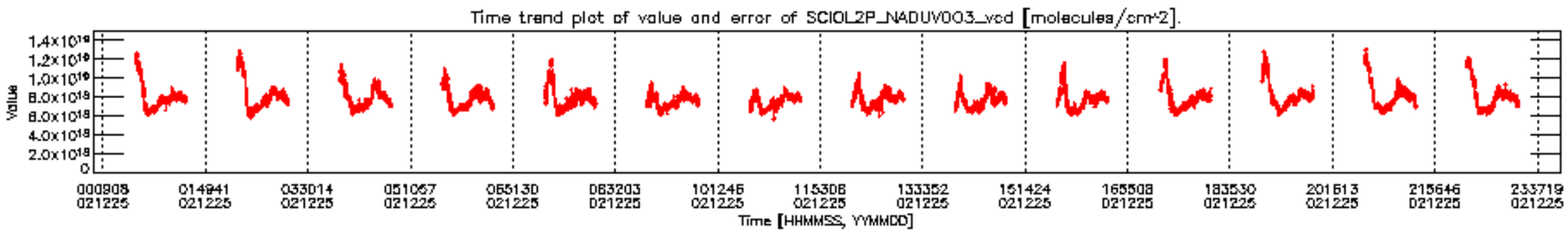
Number	ADF
	IN_ (INITIALISATION_FILE)
0	SCI_IN__AXNPDE20070629_092400_20070720_000000_20991231_235959
	ECF (ECMWF_FILE)
1	NOT USED

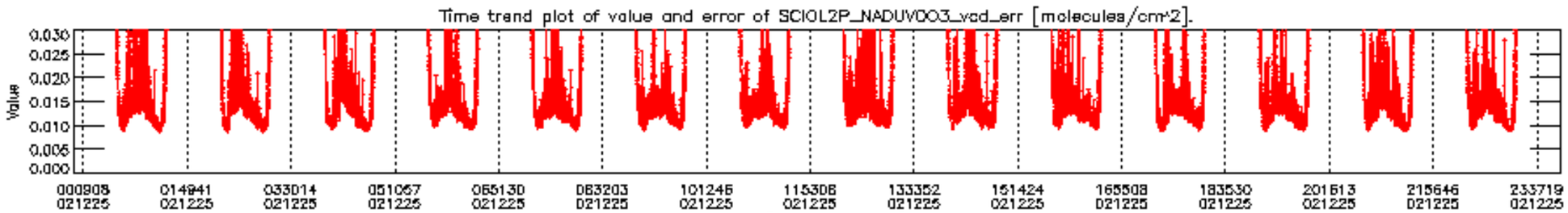

cl_frac for 25DEC2002 00:00:00 to 26DEC2002 00:00:00
1.000
0.8000
0.6000
0.4000
0.2000
0.000
-90

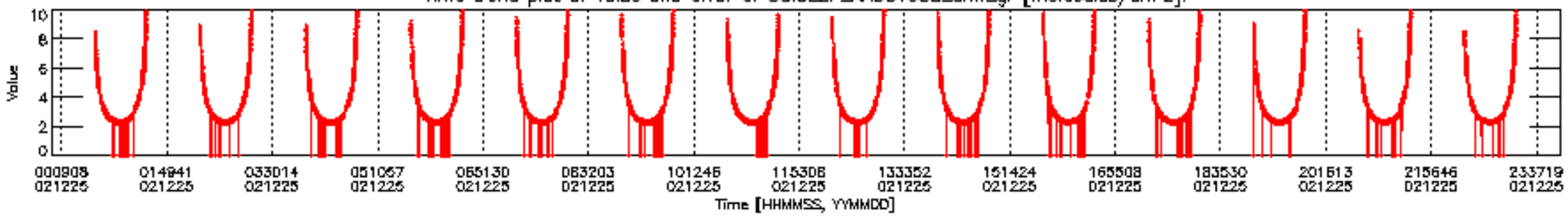

cl_top_height for 25DEC2002 00:00:00 to 26DEC2002 00:00:00
20.00
15.00
10.00
5.000
0.000
-90

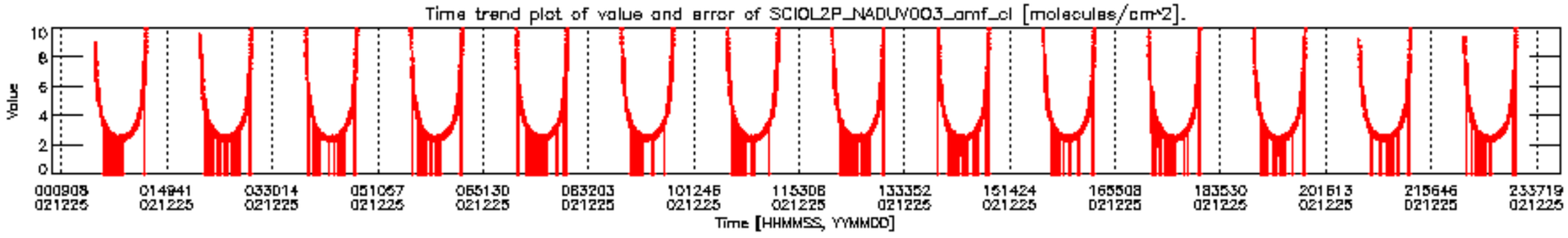

cl_opt_depth for 25DEC2002 00:00:00 to 26DEC2002 00:00:00
20.00
15.00
10.00
5.000
0.000
-90


cloud_flags for 25DEC2002 00:00:00 to 26DEC2002 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
-90

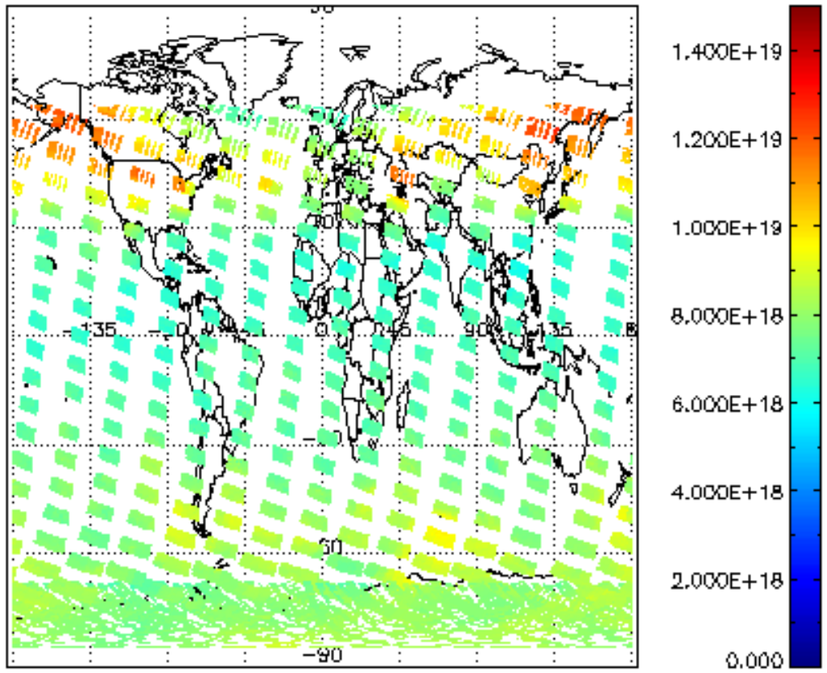

Time trend plot of value and error of SCIOL2P_NADUV003_vcd [molecules/cm^2].
Value
1.4x10^19
1.2x10^19
1.0x10^19
8.0x10^18
6.0x10^18
4.0x10^18
2.0x10^18
0
000908 021225
014941 021225
033014 021225
051057 021225
065130 021225
083203 021225
101246 021225
115308 021225
133352 021225
151424 021225
165508 021225
183530 021225
201613 021225
215646 021225
233719 021225
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
000908 021225
014941 021225
033014 021225
051057 021225
065130 021225
083203 021225
101246 021225
115308 021225
133352 021225
151424 021225
165508 021225
183530 021225
201613 021225
215646 021225
233719 021225
Time [HHMMSS, YYMMDD]

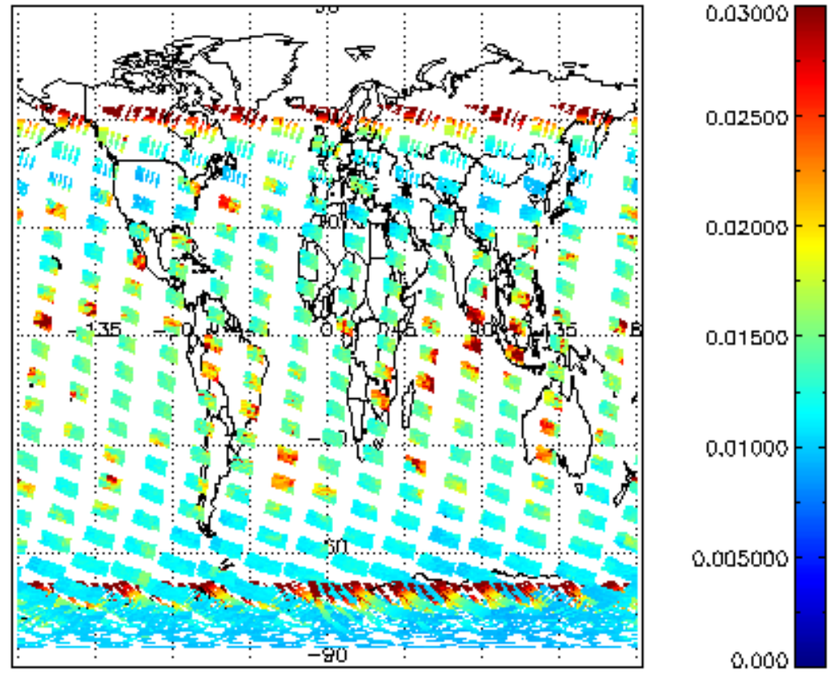

Time trend plot of value and error of SCIOL2P_NADUV003_amf_gr [molecules/cm^2].
Value
10
8
6
4
2
0
000908 021225
014941 021225
033014 021225
051057 021225
065130 021225
083203 021225
101246 021225
115308 021225
133352 021225
151424 021225
165508 021225
183530 021225
201613 021225
215646 021225
233719 021225
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
000908 021225
014941 021225
033014 021225
051057 021225
065130 021225
083203 021225
101246 021225
115308 021225
133352 021225
151424 021225
165508 021225
183530 021225
201613 021225
215646 021225
233719 021225
Time [HHMMSS, YYMMDD]

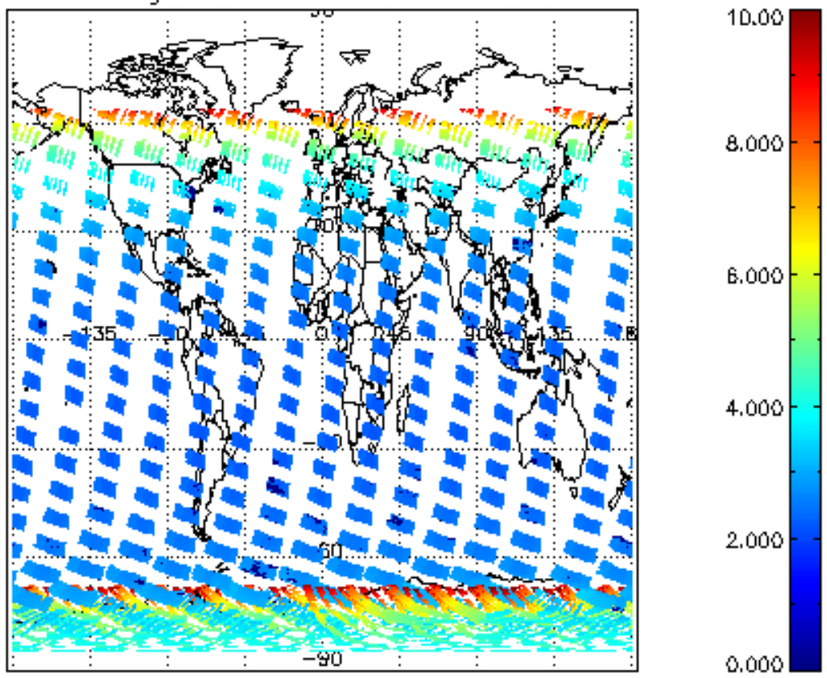
SCIOL2P_NADUV003_vcd for 25DEC2002 00:00:00 to 26DEC2002 00:00:00



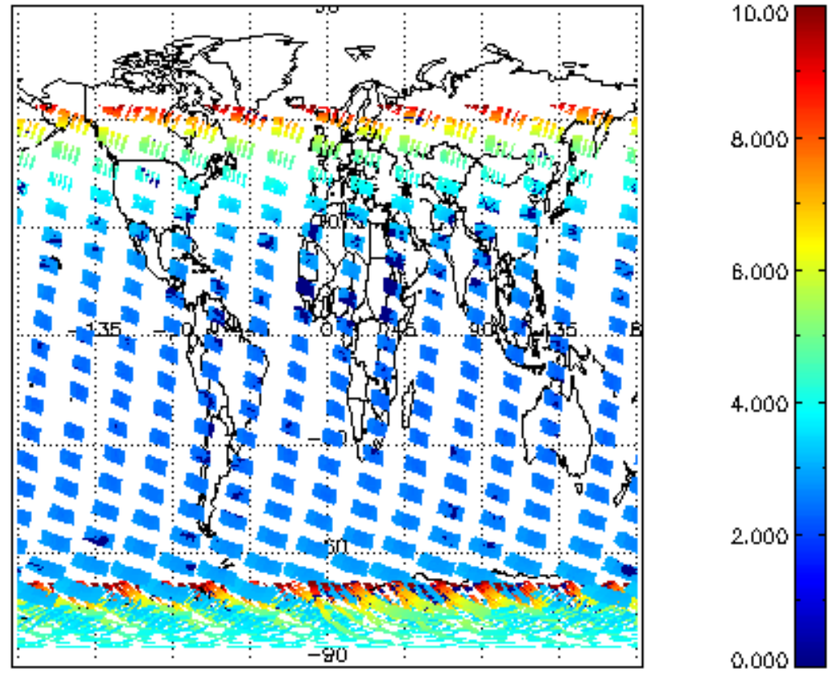
SCIOL2P_NADUV003_vcd_err for 25DEC2002 00:00:00 to 26DEC2002 00:00:00

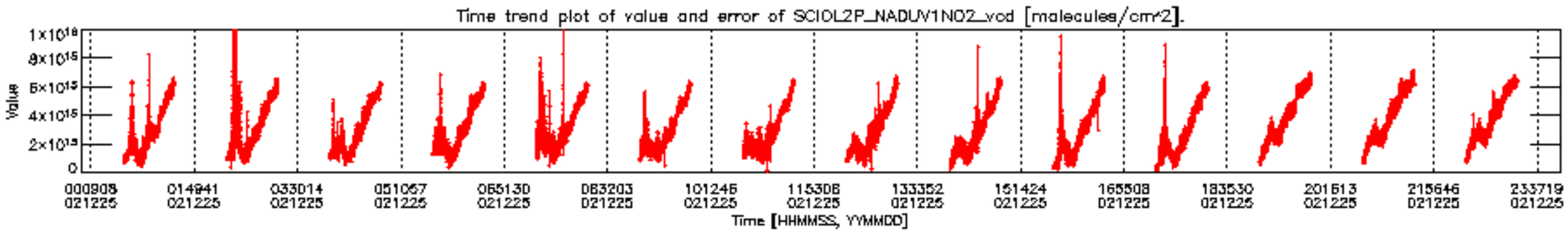


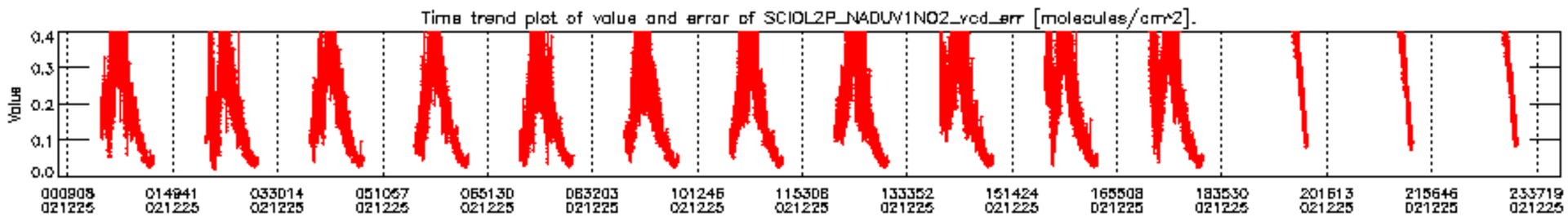
SCIOL2P_NADUV003_amf_gr for 25DEC2002 00:00:00 to 26DEC2002 00:00:00

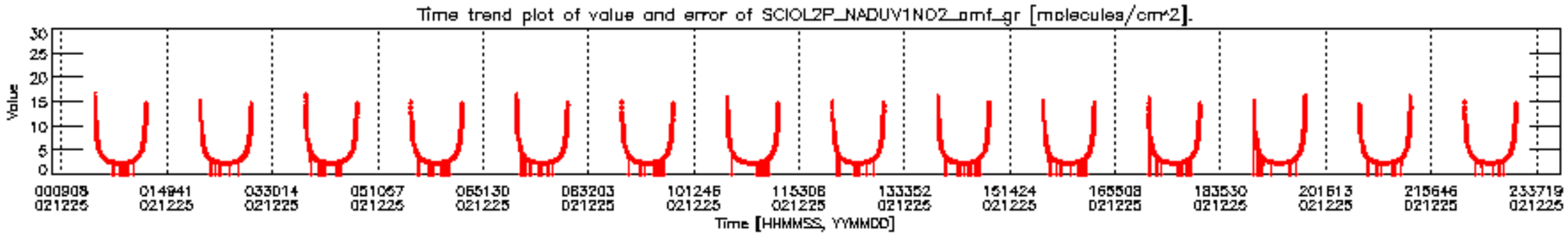


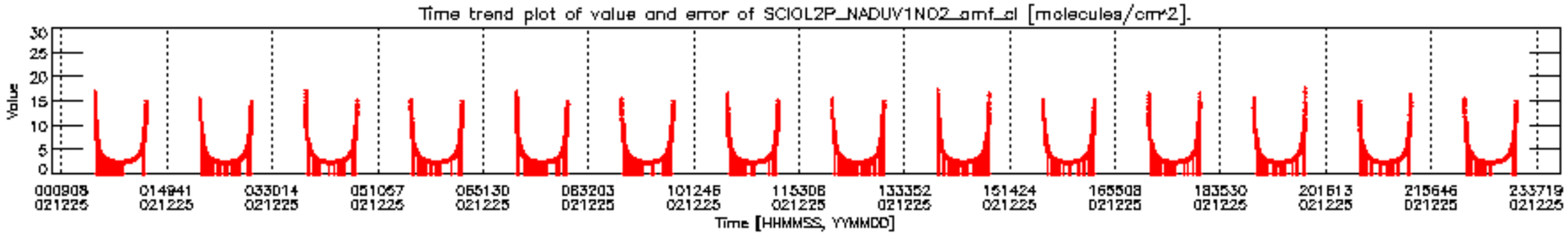
SCIOL2P_NADUV003_amf_cl for 25DEC2002 00:00:00 to 26DEC2002 00:00:00



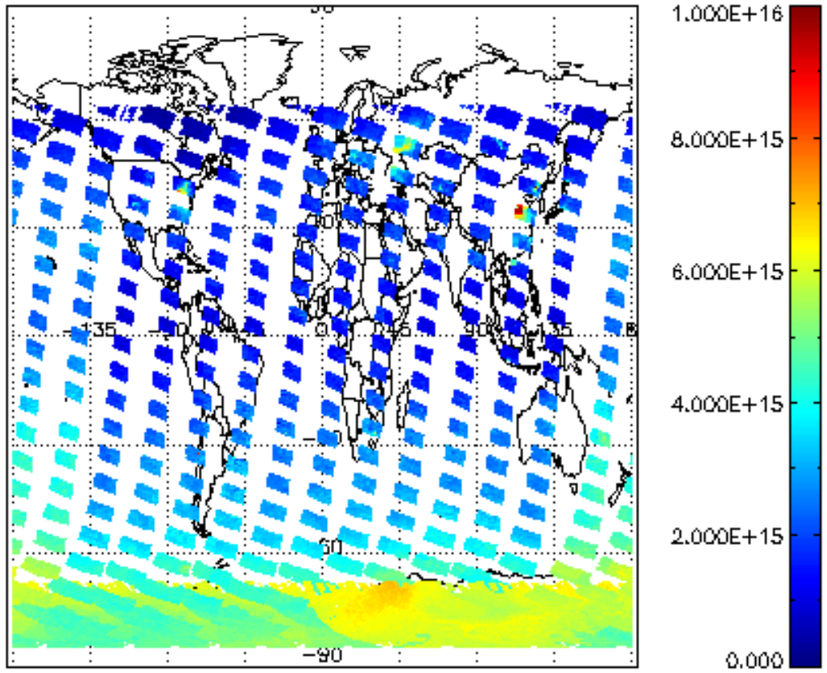

Time trend plot of value and error of SCIOL2P_NADUV1NO2_vcd [molecules/cm^2].
Value
1x10^16
8x10^15
6x10^15
4x10^15
2x10^15
0
000908 021225
014941 021225
033014 021225
051057 021225
065130 021225
083203 021225
101246 021225
115308 021225
133352 021225
151424 021225
165508 021225
183530 021225
201613 021225
215646 021225
233719 021225
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
000908 021225
014941 021225
033014 021225
051057 021225
065130 021225
083203 021225
101246 021225
115308 021225
133352 021225
151424 021225
165508 021225
183530 021225
201613 021225
215646 021225
233719 021225
Time [HHMMSS, YYMMDD]

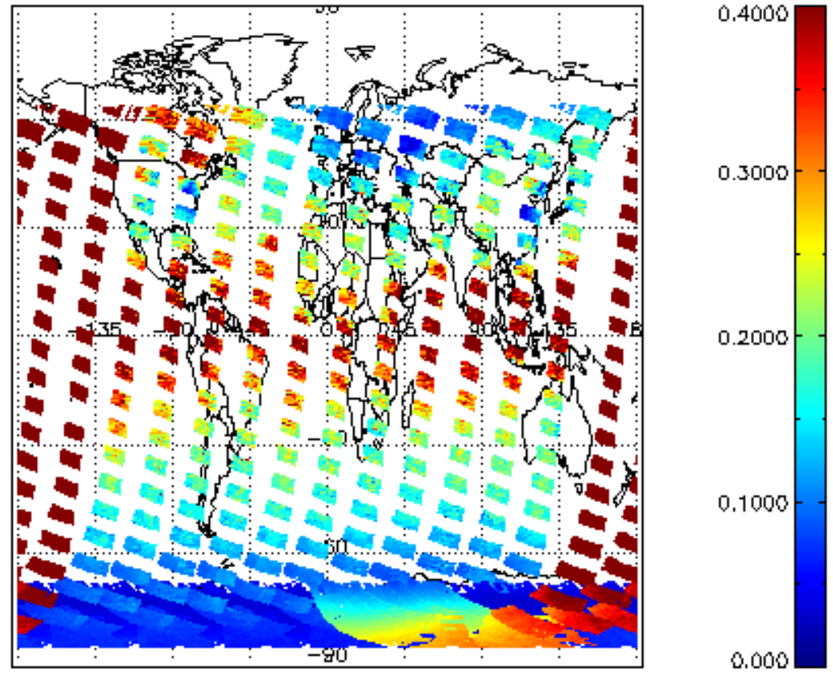

Time trend plot of value and error of SCIOL2P_NADUV1NO2_amf_gr [molecules/cm^2].
Value
30
25
20
15
10
5
0
000908 021225
014941 021225
033014 021225
051057 021225
065130 021225
083203 021225
101246 021225
115308 021225
133352 021225
151424 021225
165508 021225
183530 021225
201613 021225
215646 021225
233719 021225
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
000908 021225
014941 021225
033014 021225
051057 021225
065130 021225
083203 021225
101246 021225
115308 021225
133352 021225
151424 021225
165508 021225
183530 021225
201613 021225
215646 021225
233719 021225
Time [HHMMSS, YYMMDD]

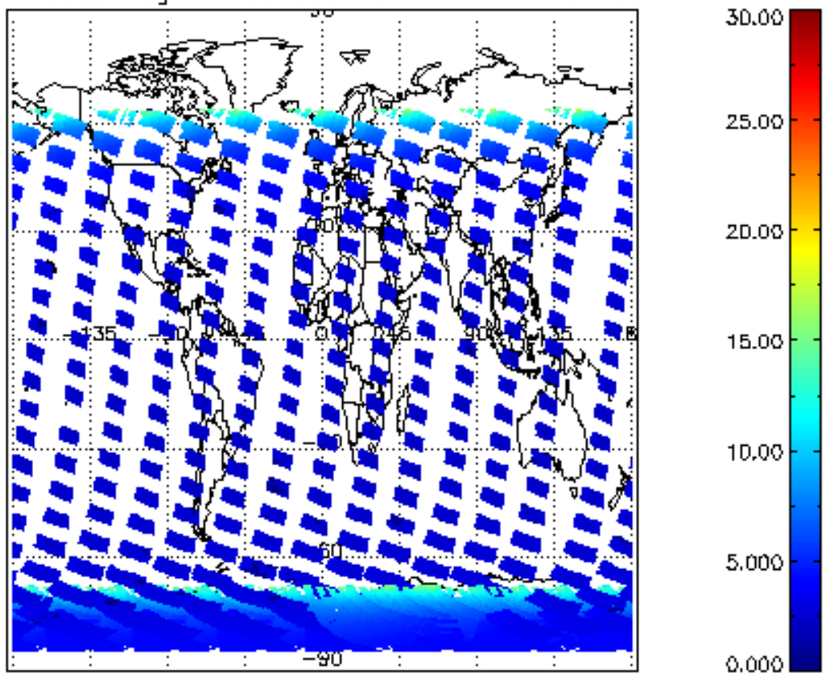
SCIOL2P_NADUV1NO2_vcd for 25DEC2002 00:00:00 to 26DEC2002 00:00:00



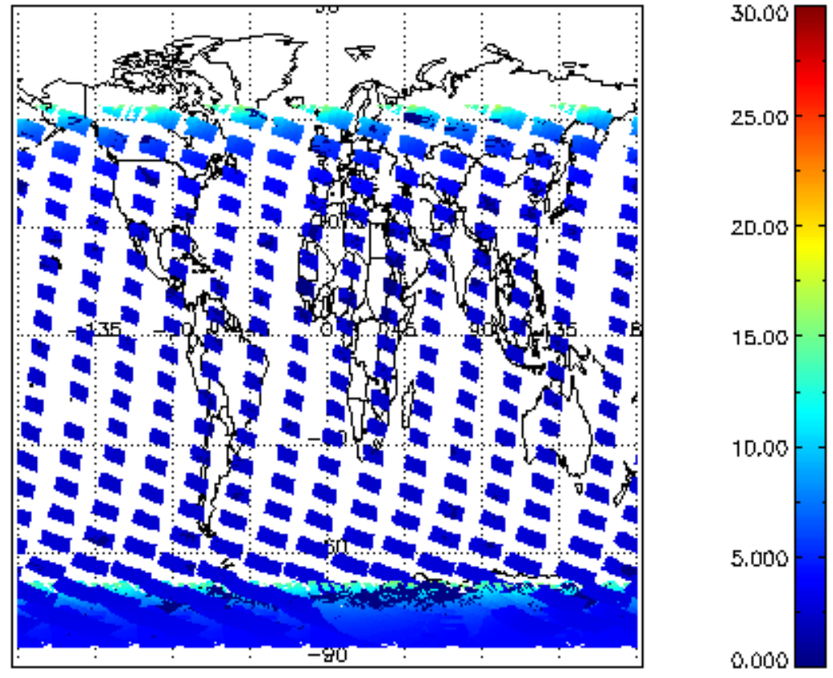
SCIOL2P_NADUV1NO2_vcd_err for 25DEC2002 00:00:00 to 26DEC2002 00:00:00

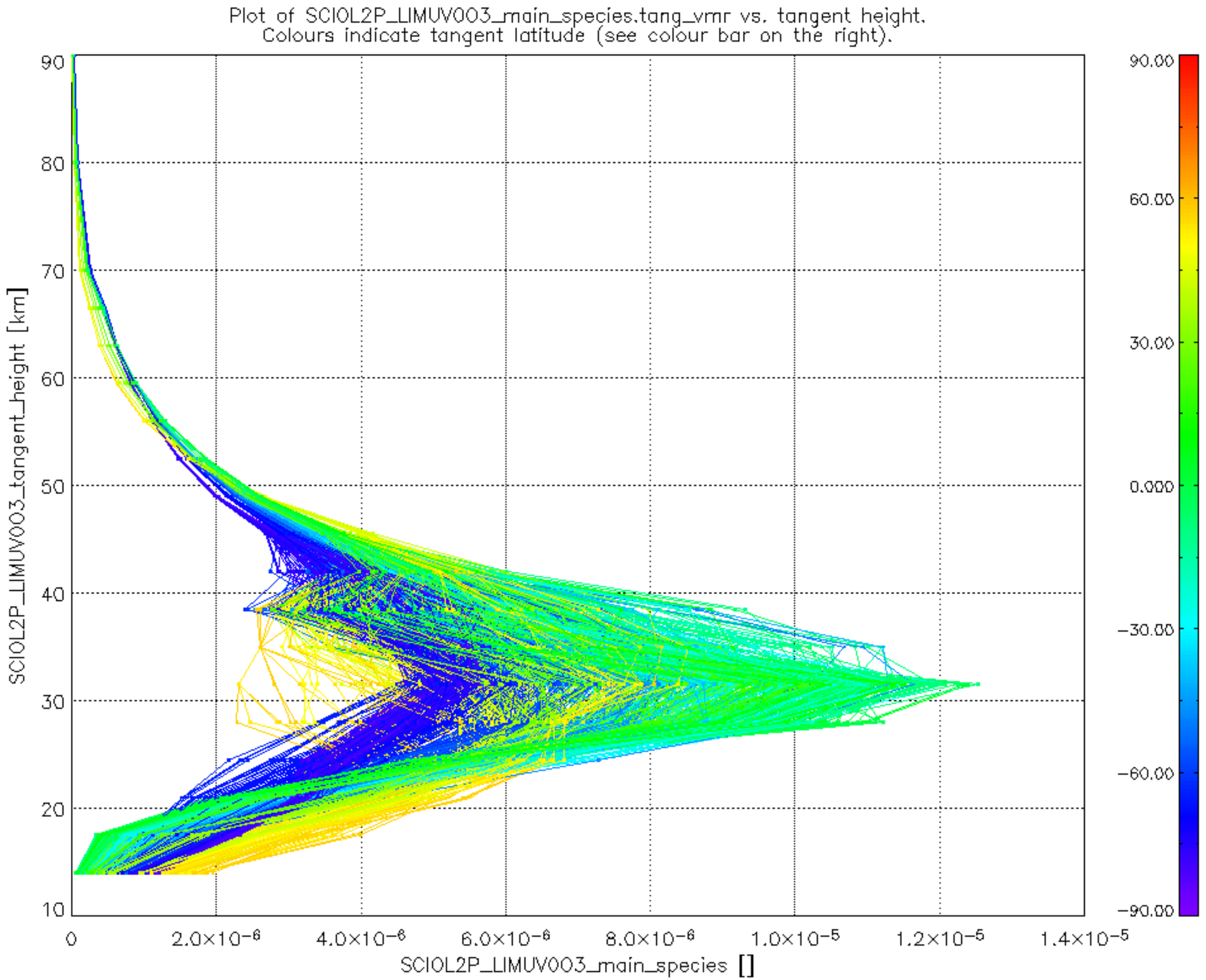


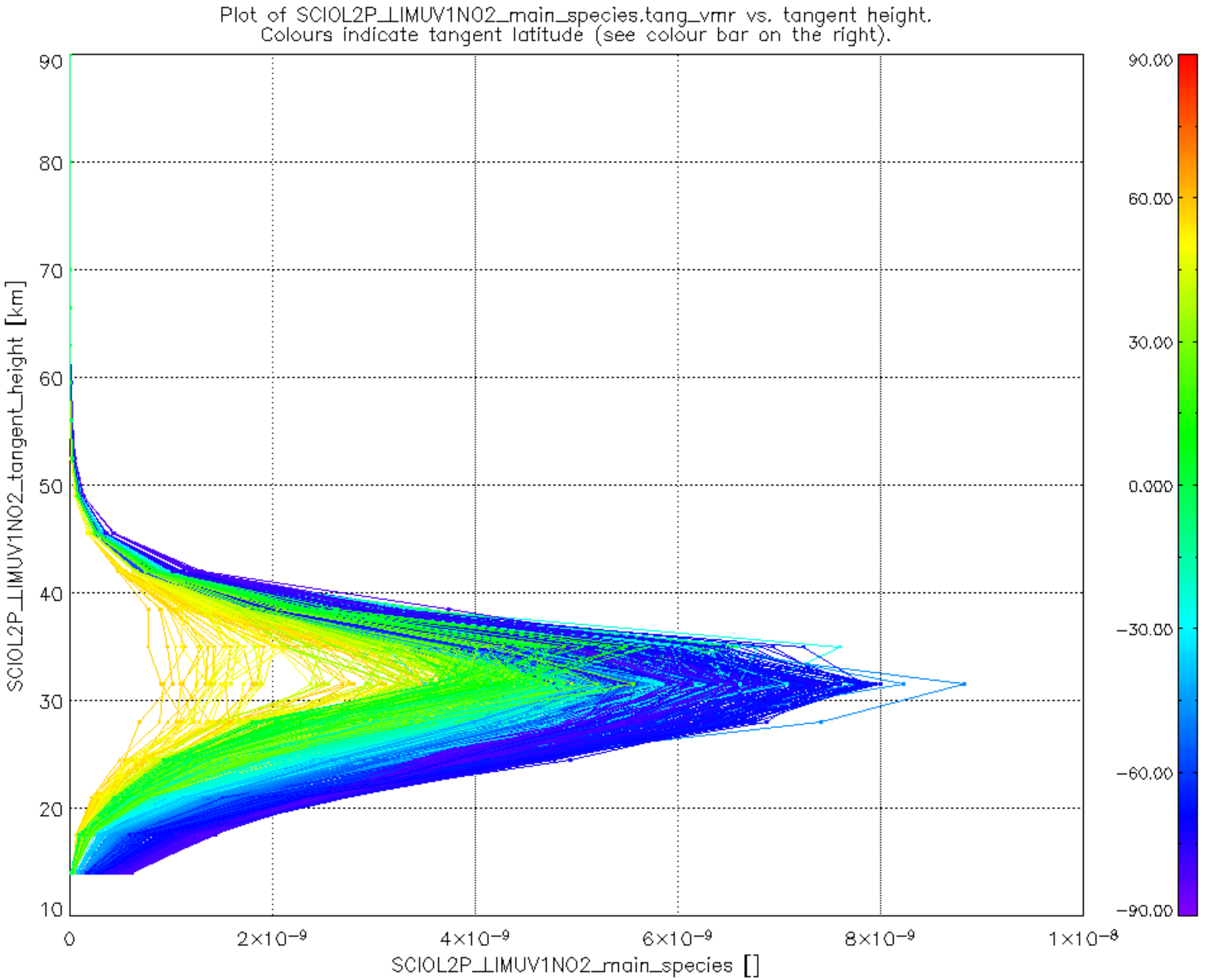
SCIOL2P_NADUV1NO2_amf_gr for 25DEC2002 00:00:00 to 26DEC2002 00:00:00



SCIOL2P_NADUV1NO2_amf_cl for 25DEC2002 00:00:00 to 26DEC2002 00:00:00




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
SCIOL2P_LIMUV003_main_species []
90.00
60.00
30.00
0.000
−30.00
−60.00
−90.00


Plot of SCIOL2P_LIMUV1NO2_main_species.tang_vmr vs. tangent height.
Colours indicate tangent latitude (see colour bar on the right).
SCIOL2P_LIMUV1NO2_tangent_height [km]
90
80
70
60
50
40
30
20
10
0
2×10−9
4×10−9
6×10−9
8×10−9
1×10−8
SCIOL2P_LIMUV1NO2_main_species []
90.00
60.00
30.00
0.000
−30.00
−60.00
−90.00