

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 18:04:30 |
| Data source version | SCIA-OL/3.01-R |
| Processing scope for products | 24DEC2002 00:00:00 to 25DEC2002 00:00:00 |
| Start time of first product within scope | 23DEC2002 23:26:10 |
| Stop time of last product within scope | 24DEC2002 23:49:57 |
| Total number of level 2 products | 13 |
| 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__2PRDPA20021223_232610_000033242012_00202_04264_1765.N1 | 23DEC2002 23:26:10 | 24DEC2002 00:21:34 | 0 | GOOD |
| 1 | SCI_OL__2PRDPA20021224_010646_000033242012_00203_04265_1731.N1 | 24DEC2002 01:06:46 | 24DEC2002 02:02:10 | 0 | GOOD |
| 2 | SCI_OL__2PRDPA20021224_024721_000033242012_00204_04266_1738.N1 | 24DEC2002 02:47:21 | 24DEC2002 03:42:46 | 0 | GOOD |
| 3 | SCI_OL__2PRDPA20021224_042757_000033242012_00205_04267_1805.N1 | 24DEC2002 04:27:57 | 24DEC2002 05:23:22 | 0 | GOOD |
| 4 | SCI_OL__2PRDPA20021224_060936_000032612012_00206_04268_1949.N1 | 24DEC2002 06:09:36 | 24DEC2002 07:03:58 | 0 | GOOD |
| 5 | SCI_OL__2PRDPA20021224_074909_000033242012_00207_04269_1757.N1 | 24DEC2002 07:49:09 | 24DEC2002 08:44:34 | 0 | GOOD |
| 6 | SCI_OL__2PRDPA20021224_092945_000033242012_00208_04270_1887.N1 | 24DEC2002 09:29:45 | 24DEC2002 10:25:09 | 0 | GOOD |
| 7 | SCI_OL__2PRDPA20021224_111021_000033242012_00209_04271_1776.N1 | 24DEC2002 11:10:21 | 24DEC2002 12:05:45 | 0 | GOOD |
| 8 | SCI_OL__2PRDPA20021224_125057_000033242012_00210_04272_1877.N1 | 24DEC2002 12:50:57 | 24DEC2002 13:46:21 | 0 | GOOD |
| 9 | SCI_OL__2PRDPA20021224_143133_000033242012_00211_04273_1813.N1 | 24DEC2002 14:31:33 | 24DEC2002 15:26:57 | 0 | GOOD |
| 10 | SCI_OL__2PRDPA20021224_161209_000033242012_00212_04274_1734.N1 | 24DEC2002 16:12:09 | 24DEC2002 17:07:33 | 0 | GOOD |
| 11 | SCI_OL__2PRDPA20021224_175245_000033242012_00213_04275_1760.N1 | 24DEC2002 17:52:45 | 24DEC2002 18:48:09 | 0 | GOOD |
| 12 | SCI_OL__2PRDPA20021224_225432_000033242012_00216_04278_1797.N1 | 24DEC2002 22:54:32 | 24DEC2002 23:49:57 | 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: 95069

Total number of cloud data DSRs with good quality flag (=0): 95069 (100.0 %)

| Parameter | #valid | Mean | Median | Min | Max | Stddev | Unit |
|--------------|--------|---------|---------|---------|---------|----------|---------------|
| QUALITY_FLAG | 95069 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | flag |
| INTEGR_TIME | 95069 | 0.21629 | 0.25000 | 0.12500 | 0.50000 | 0.077945 | s |
| SURFACE_PRES | 95069 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | hPa |
| CL_FRAC | 95069 | 0.47485 | 0.49014 | 0.0000 | 1.0000 | 0.27555 | - |
| CL_FRAC_ERR | 95069 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | rel. fraction |
| PMD_READ | 95069 | 6.9212 | 8.0000 | 4.0000 | 16.000 | 2.4942 | |

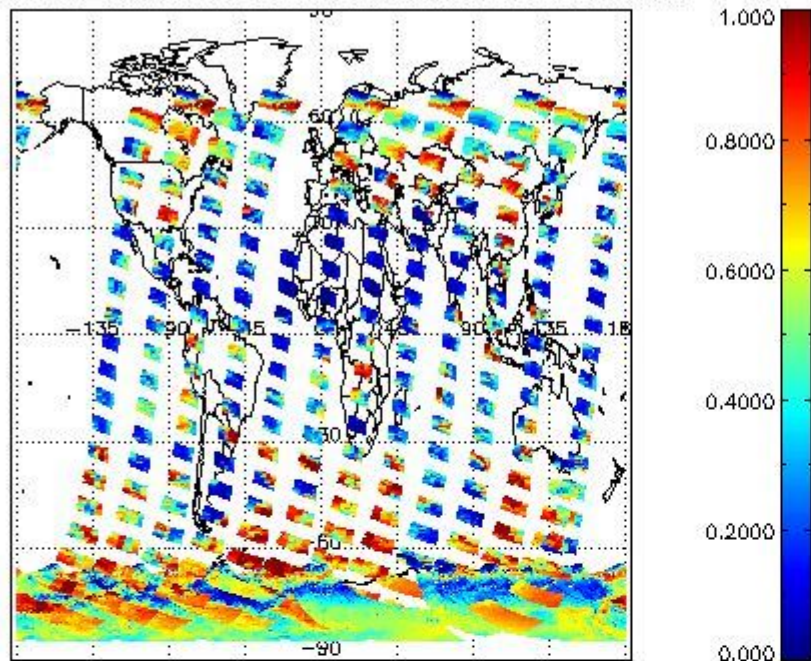
| | | | | | | | |
|-------------------|-------|----------|----------|----------|----------|--------|-------------------------------------------------------------------------------------------------------------|
| PMD_READ_CL[0] | 95069 | 0.35245 | 0.0000 | 0.0000 | 16.000 | 1.4069 | - |
| PMD_READ_CL[1] | 95069 | 0.29257 | 0.0000 | 0.0000 | 16.000 | 1.2843 | - |
| CL_TOP_HEIGHT | 86773 | 4.2990 | 3.2270 | 0.0000 | 17.000 | 3.7353 | km |
| CL_TOP_HEIGHT_ERR | 0 | --- | --- | --- | --- | --- | --- |
| CL_OPT_DEPTH | 86773 | 51.143 | 34.702 | 0.0000 | 101.00 | 39.214 | km |
| CL_OPT_DEPTH_ERR | 0 | --- | --- | --- | --- | --- | --- |
| CL_TYPE_FLAGS | 95069 | 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 | 95069 | 11000110 | 11000010 | 11000000 | 11100000 | 2335.5 | flags |
| AERO_ABSO_IND | 95069 | 0.36423 | 0.078446 | -4.1316 | 17.240 | 1.1581 | |
| AERO_IND_DIAG | 95069 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| AERO_FLAGS | 95069 | 01101010 | 11000000 | 00000000 | 11000000 | 24436. | flags |

Time and geolocation plots:

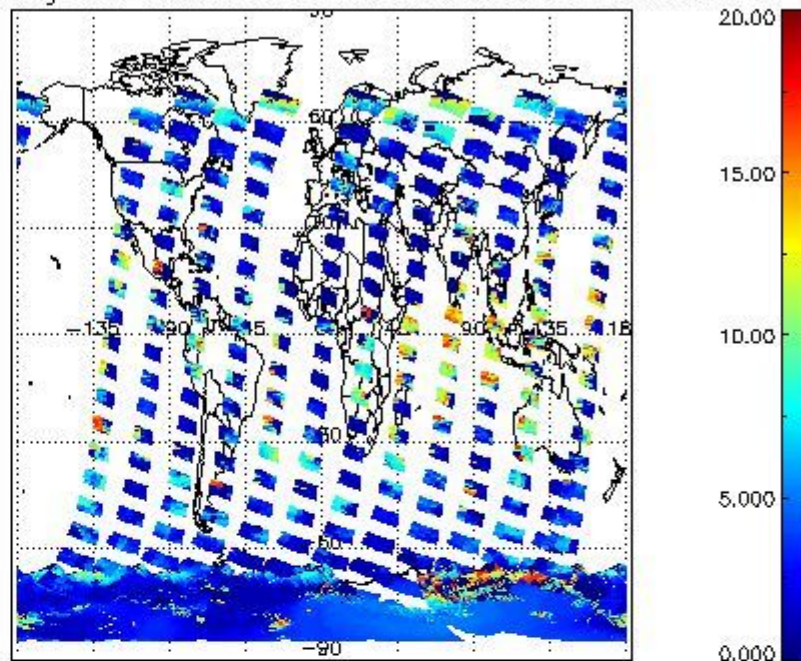
Plots are available for the following parameters:

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

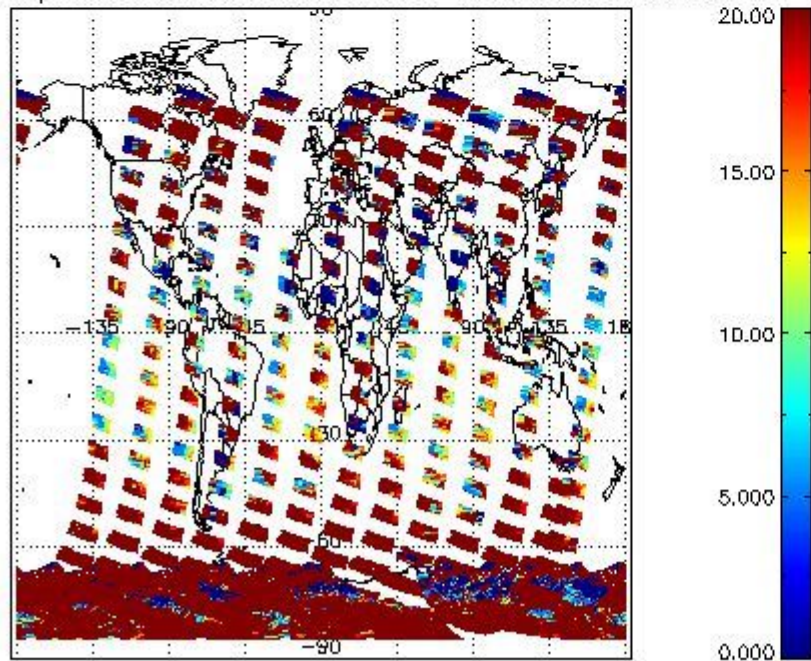
cL_frac for 24DEC2002 00:00:00 to 25DEC2002 00:00:00



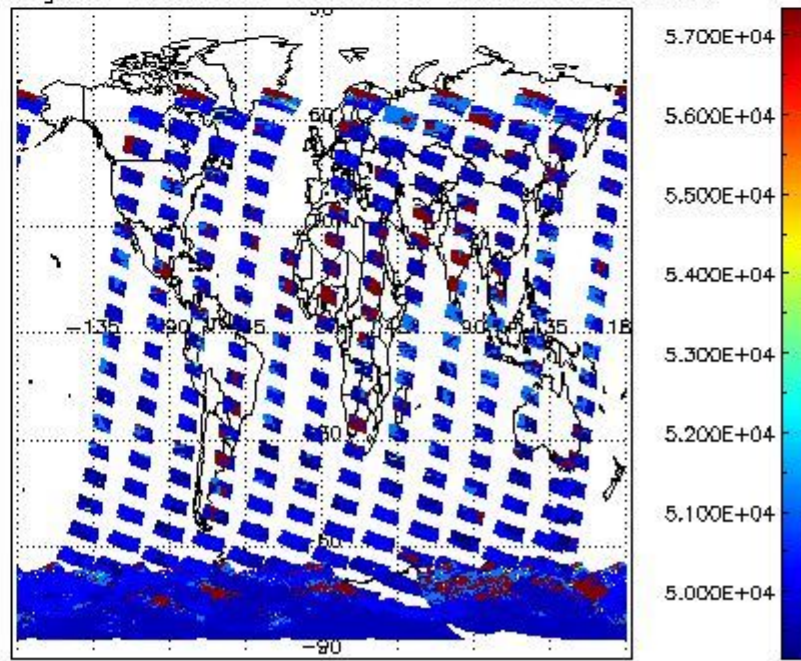
cL_top_height for 24DEC2002 00:00:00 to 25DEC2002 00:00:00



cL_opt_depth for 24DEC2002 00:00:00 to 25DEC2002 00:00:00



cloud_flags for 24DEC2002 00:00:00 to 25DEC2002 00:00:00



2.2.2 Nadir

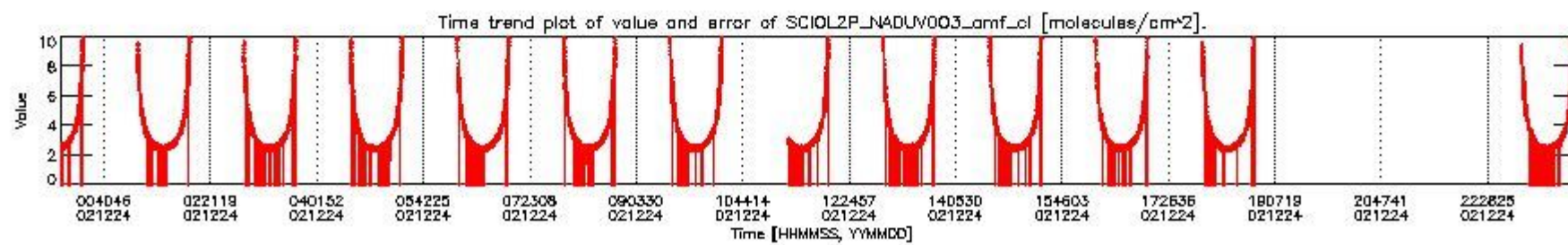
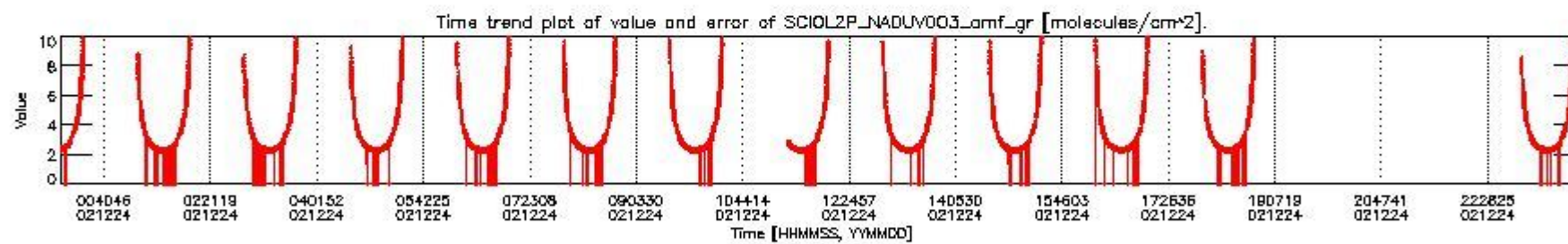
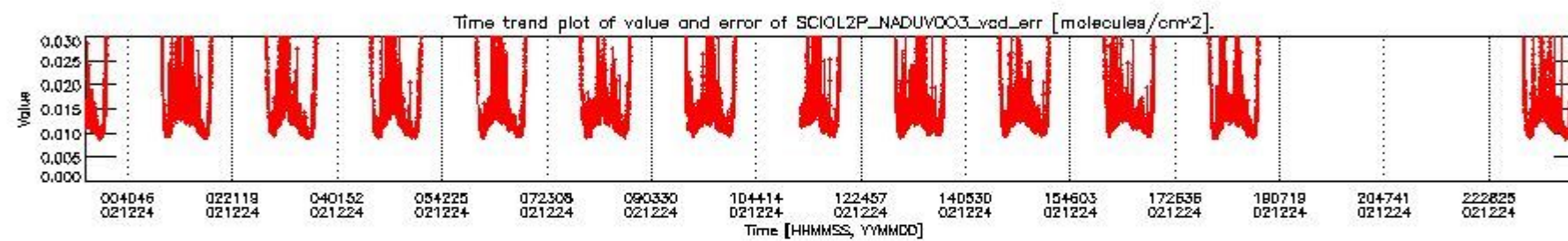
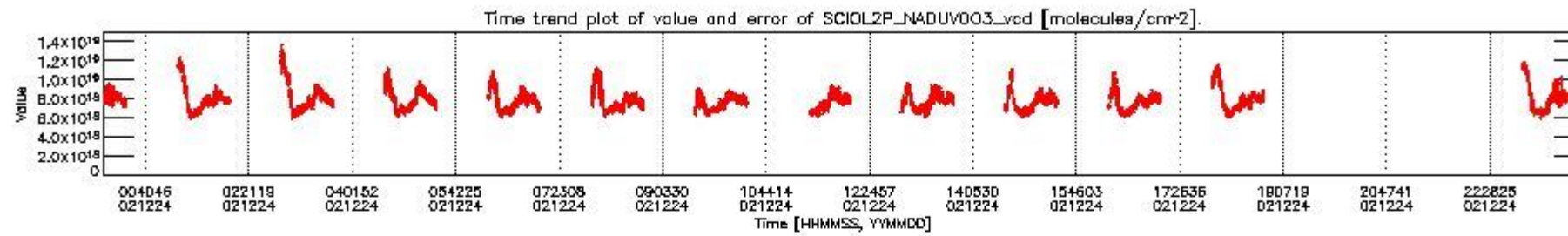
This section shows information about product quality of nadir measurements, in particular the quality of retrieved species.

The following data items are currently included into this section:

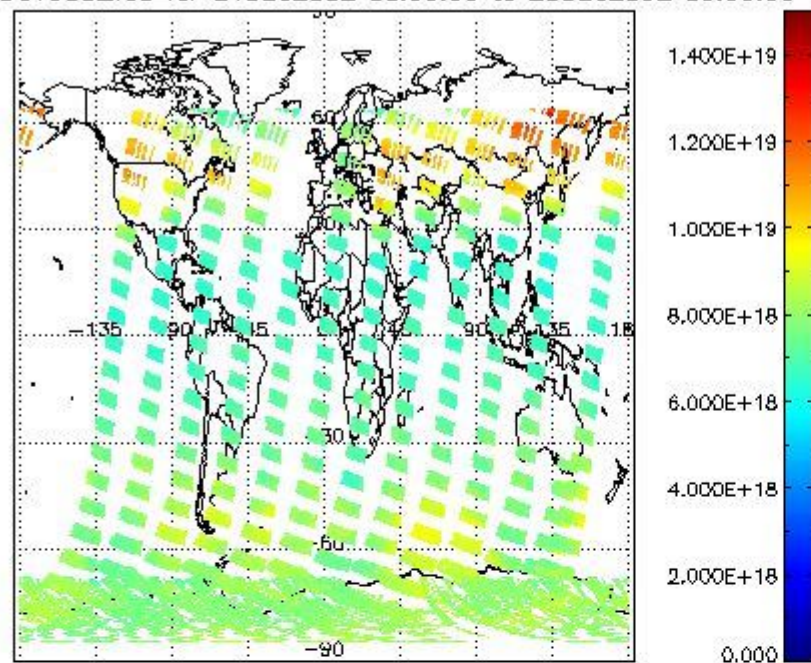
| Number | Data item ID |
|--------|--------------------------|
| 0 | SCIOL2P_NADUV003_vcd |
| 1 | SCIOL2P_NADUV003_vcd_err |
| 2 | SCIOL2P_NADUV003_amf_gr |
| 3 | SCIOL2P_NADUV003_amf_cl |

| | |
|---|---------------------------|
| 4 | SCIOL2P_NADUV1NO2_vcd |
| 5 | SCIOL2P_NADUV1NO2_vcd_err |
| 6 | SCIOL2P_NADUV1NO2_amf_gr |
| 7 | SCIOL2P_NADUV1NO2_amf_cl |

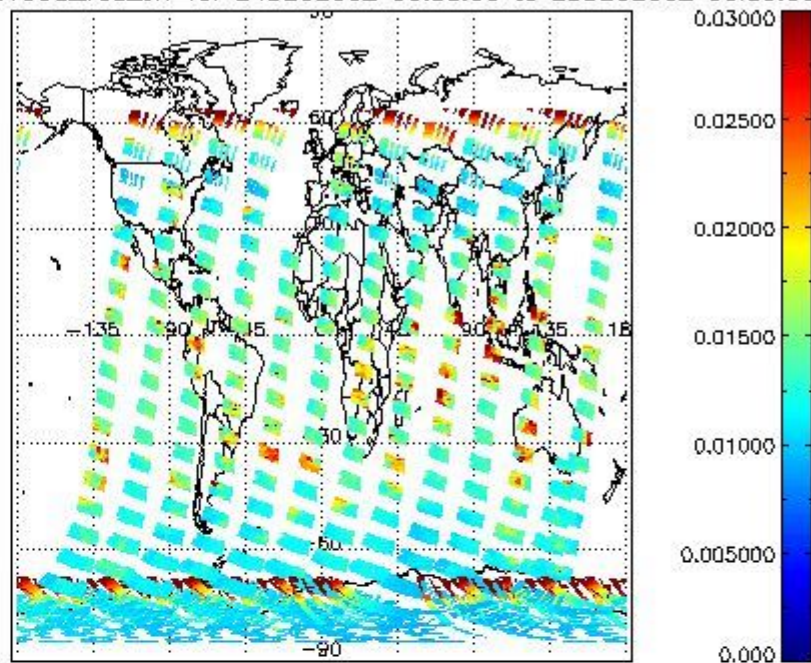
Data is presented both in time trend plots and world map plots, in order to show variations with time and geolocation. The vertical dotted lines in the time trend plots indicate orbits. The orbit times on the X-axis are estimated sensing_start time as suggested by the product sensing_start time in the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



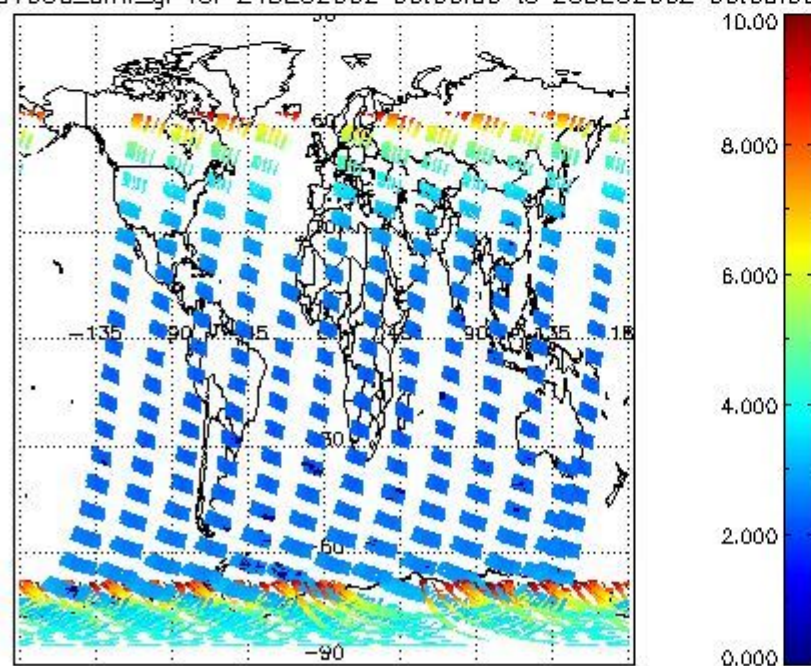
SCIOL2P_NADUV003_vcd for 24DEC2002 00:00:00 to 25DEC2002 00:00:00



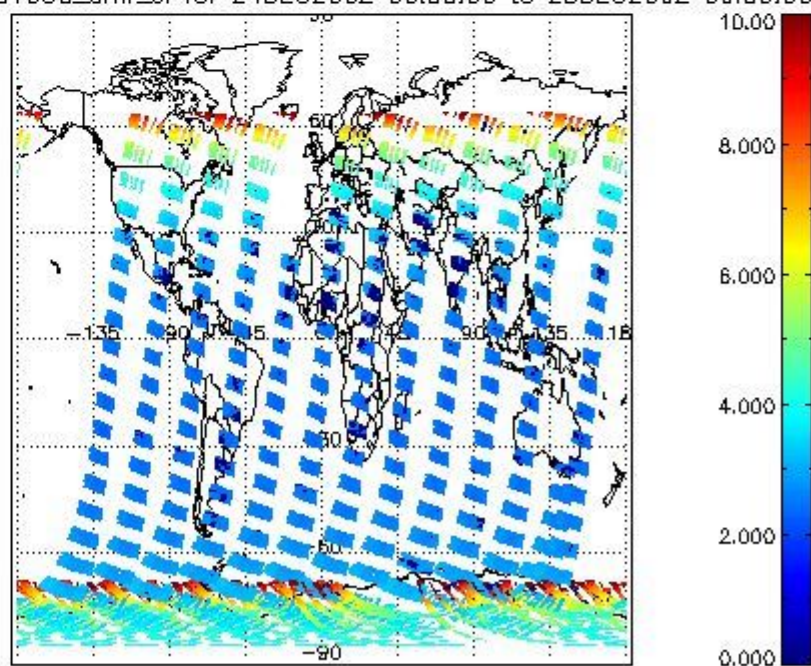
SCIOL2P_NADUV003_vcd_err for 24DEC2002 00:00:00 to 25DEC2002 00:00:00

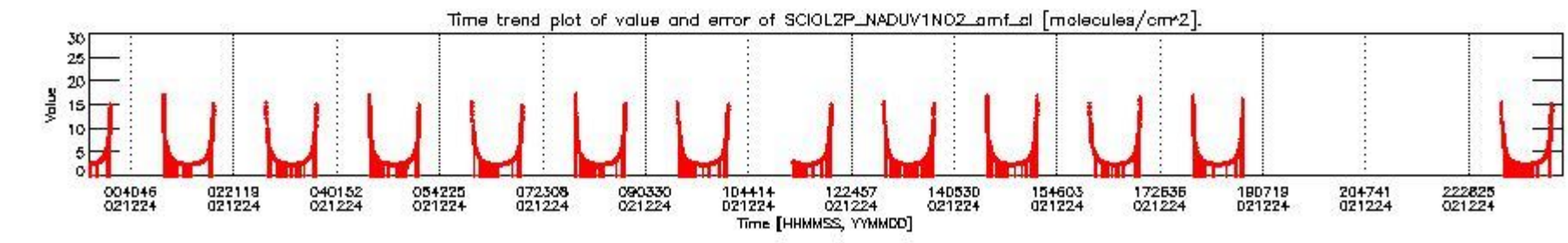
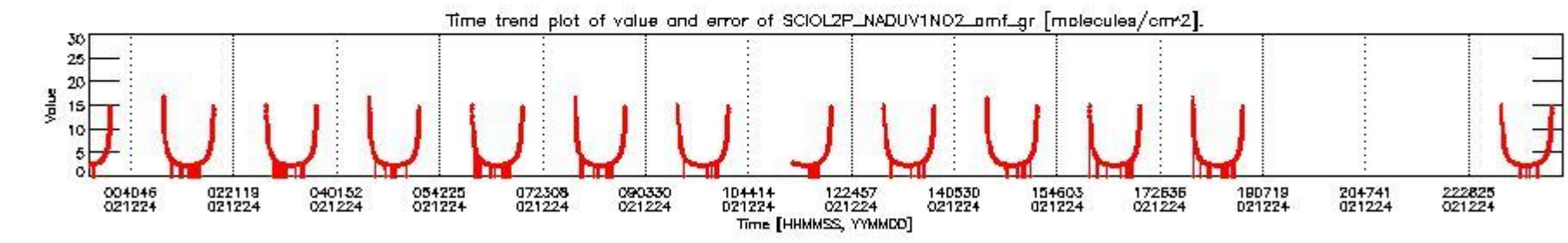
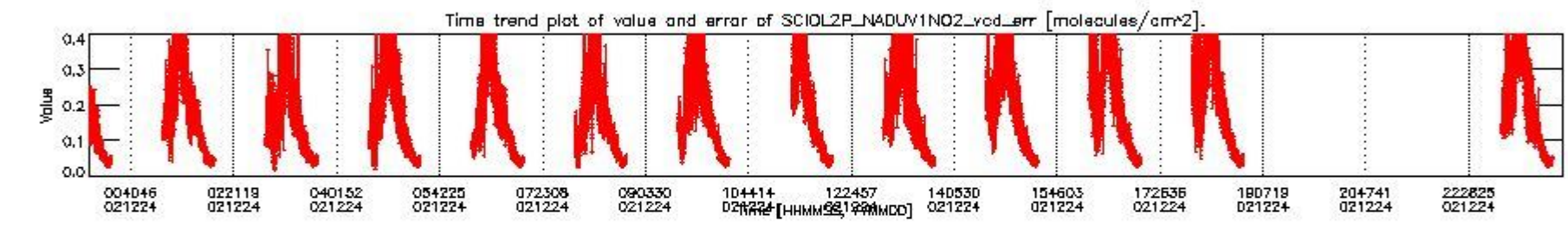
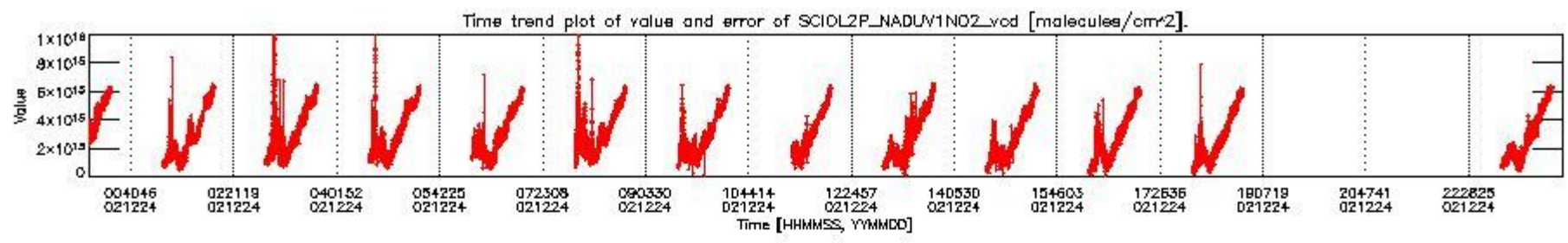


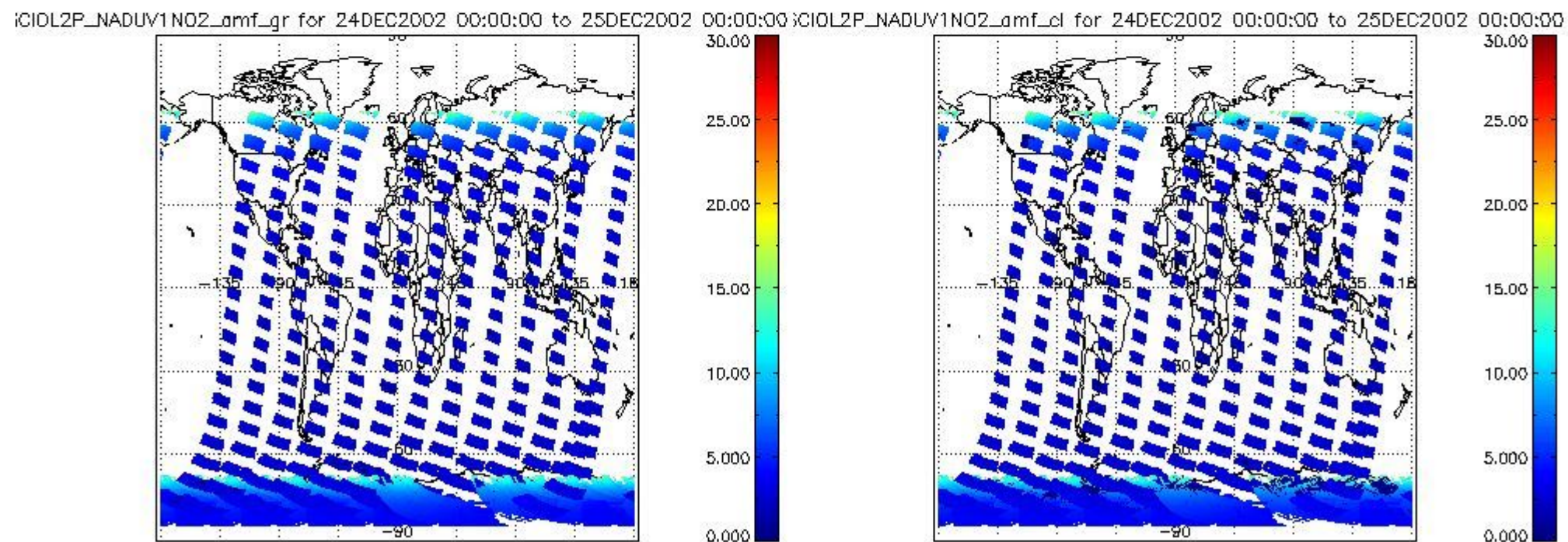
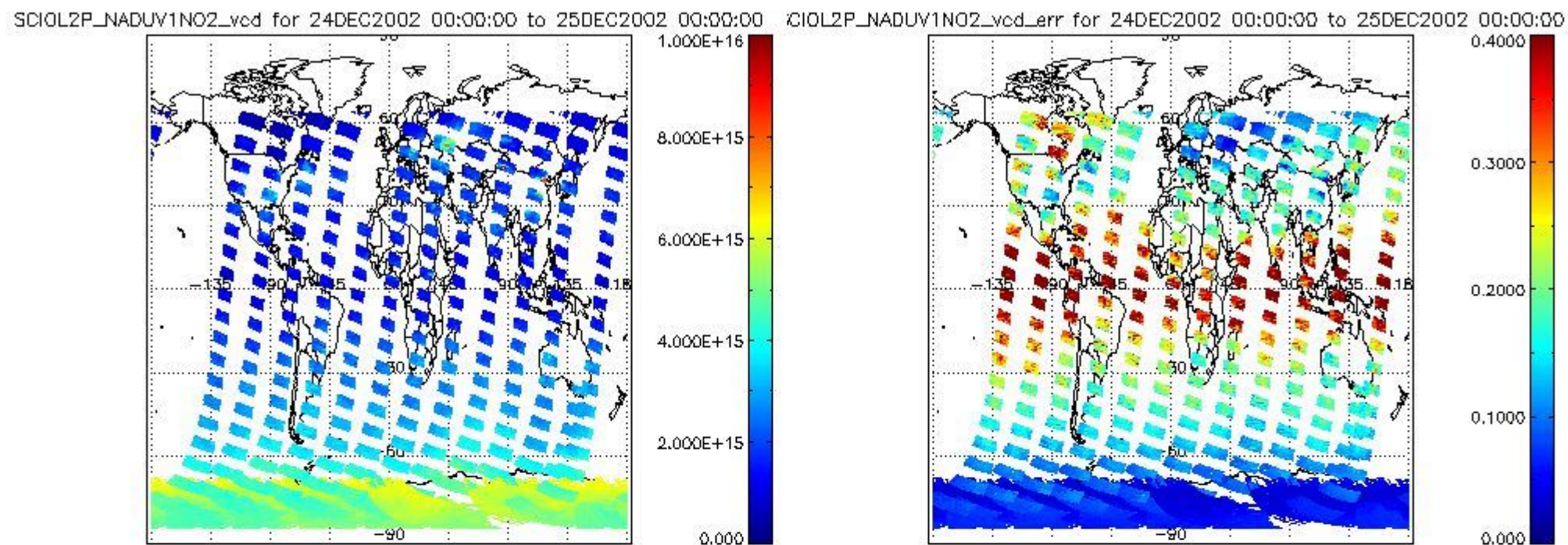
SCIOL2P_NADUV003_amf_gr for 24DEC2002 00:00:00 to 25DEC2002 00:00:00



SCIOL2P_NADUV003_amf_sl for 24DEC2002 00:00:00 to 25DEC2002 00:00:00







2.2.3 Limb

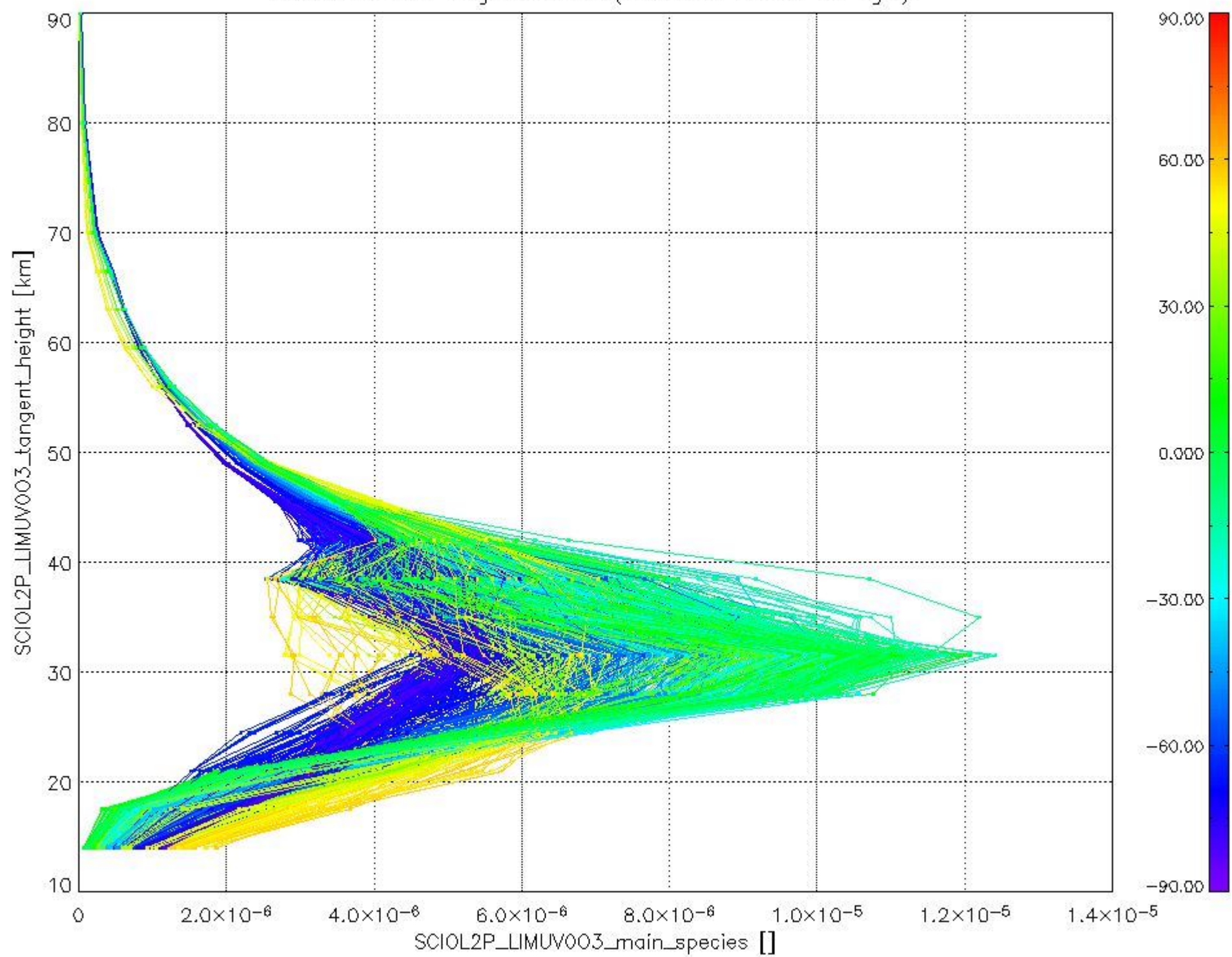
This section shows information about product quality of the limb retrievals, in particular the quality of retrieved species.

The following data items are currently included into this section:

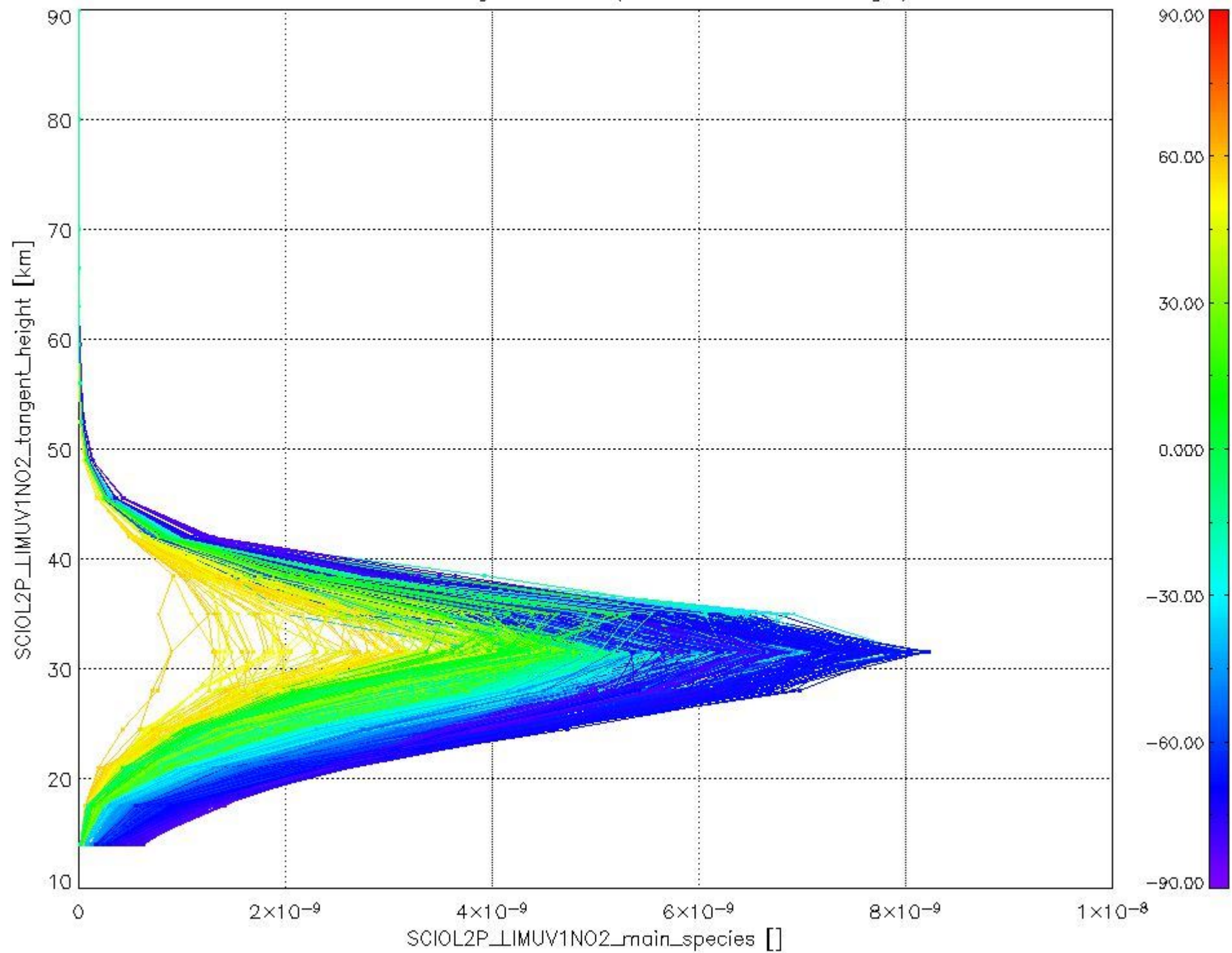
| Number | Data item ID |
|--------|-------------------------------|
| 0 | SCIOL2PLIMUV003_main_species |
| 1 | SCIOL2PLIMUV1NO2_main_species |

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).



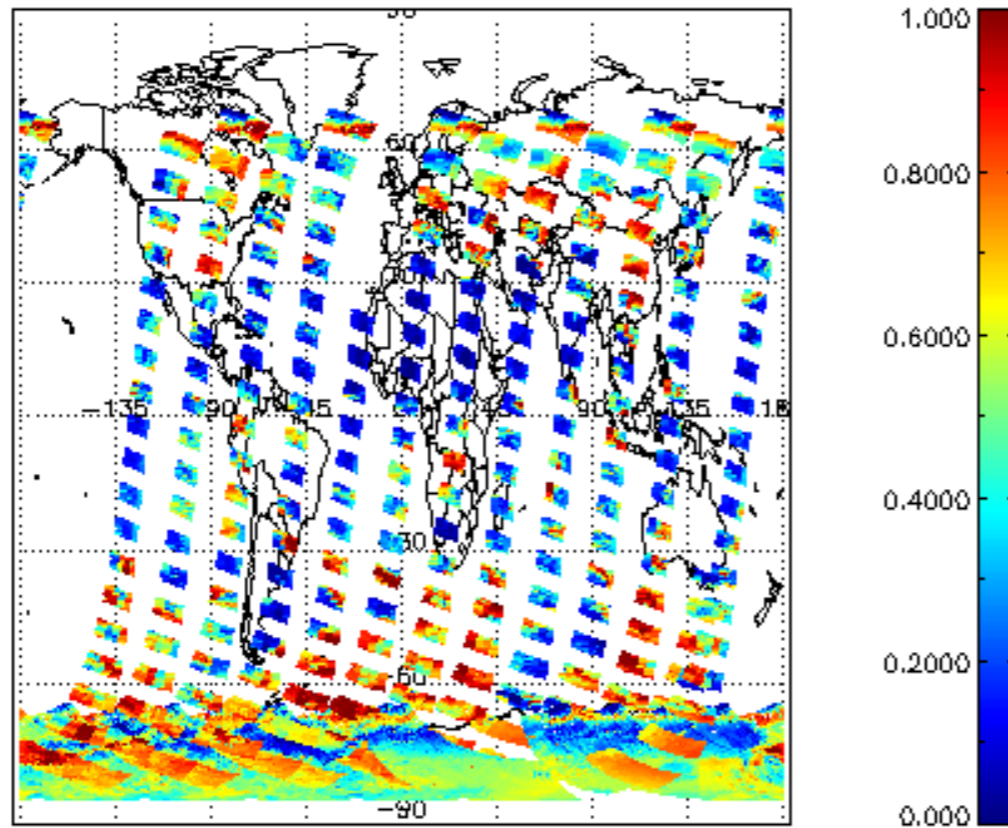
Plot of SCIOL2P_LIMUV1NO2_main_species.tang_vmr vs. tangent height.
Colours indicate tangent latitude (see colour bar on the right).



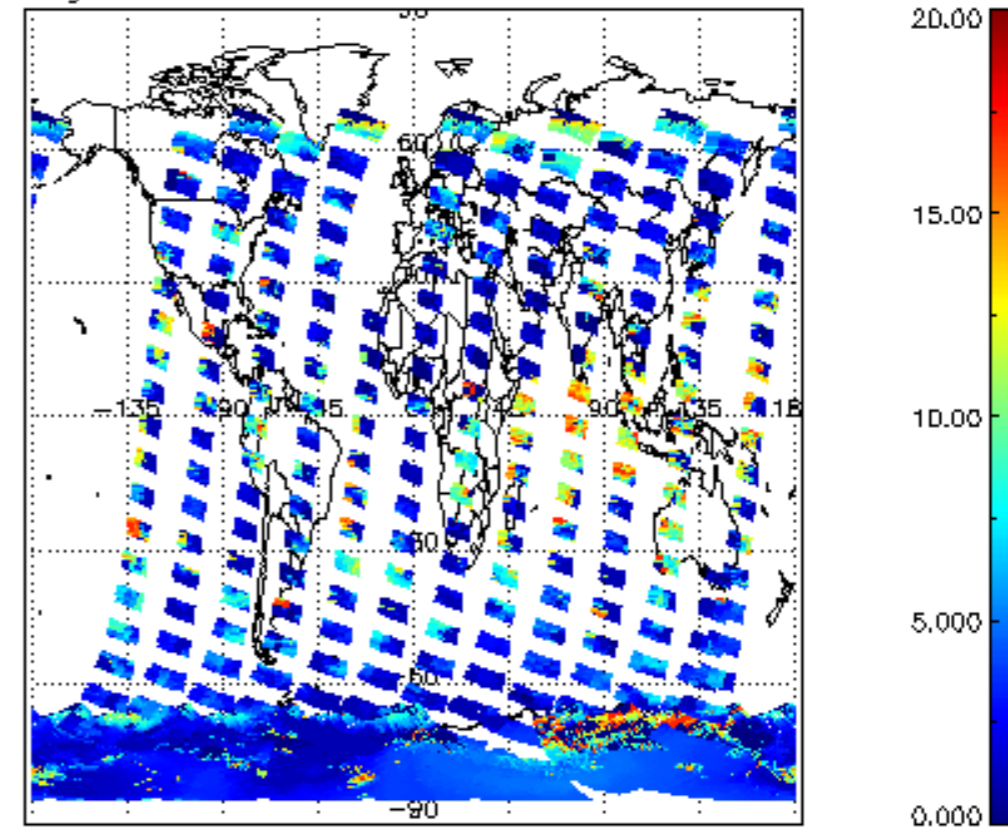
2.3 ADF monitoring

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

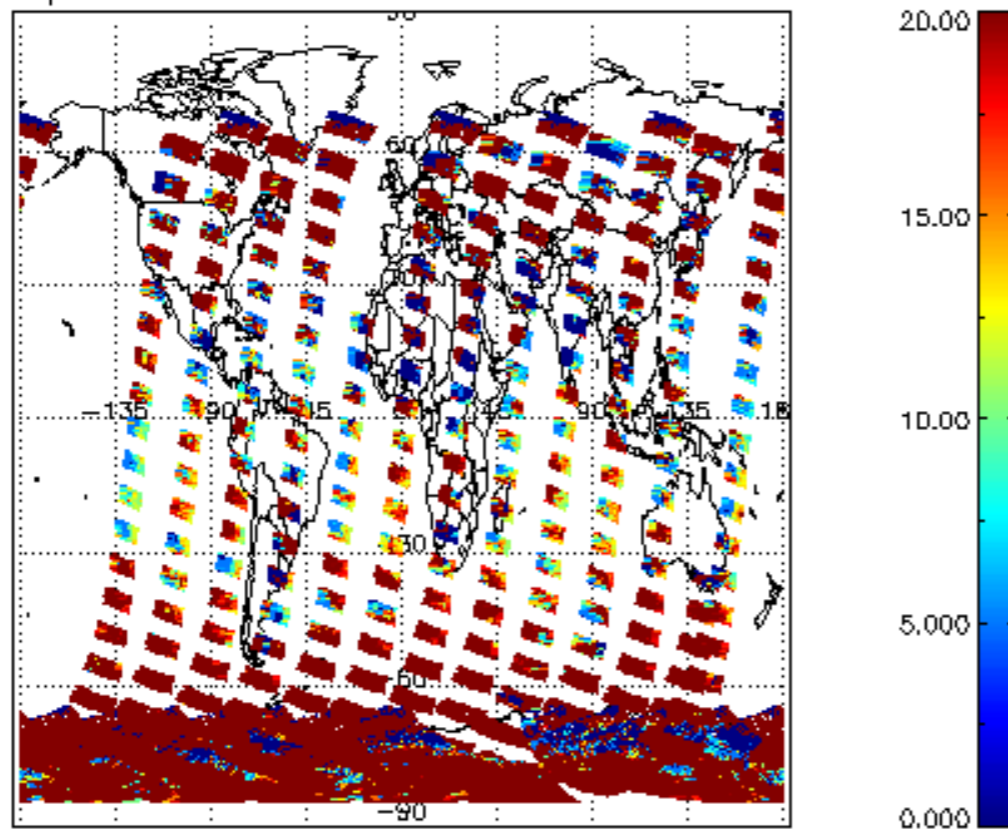
cl_frac for 24DEC2002 00:00:00 to 25DEC2002 00:00:00



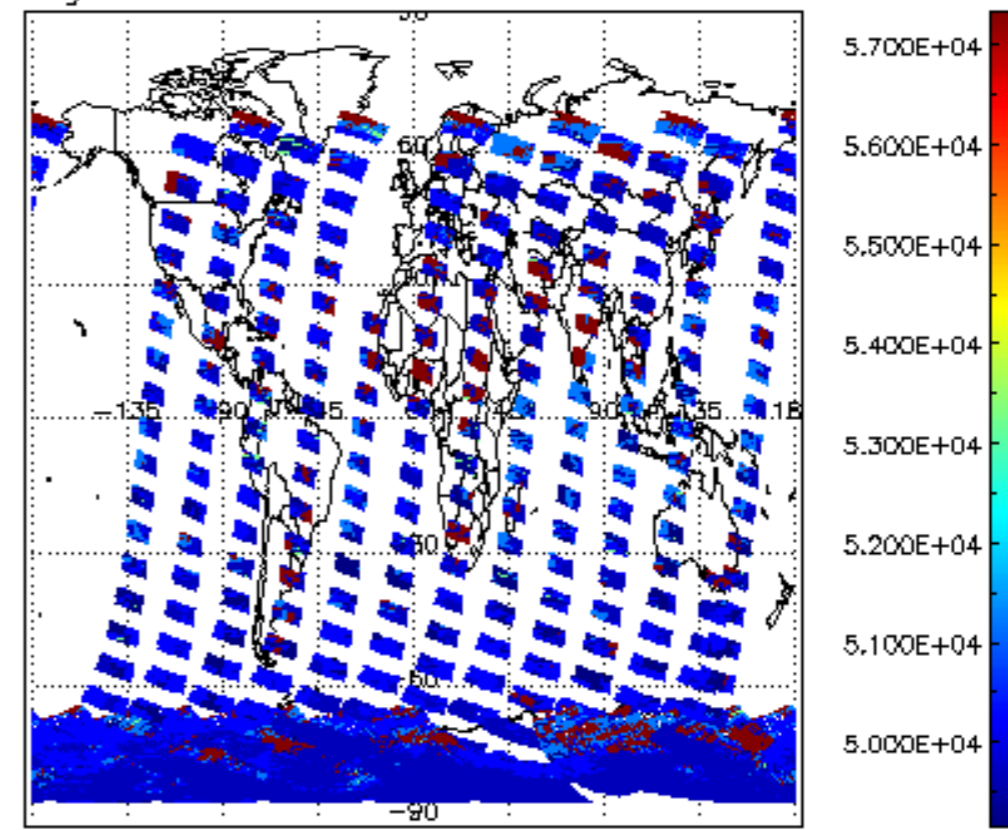
cl_top_height for 24DEC2002 00:00:00 to 25DEC2002 00:00:00

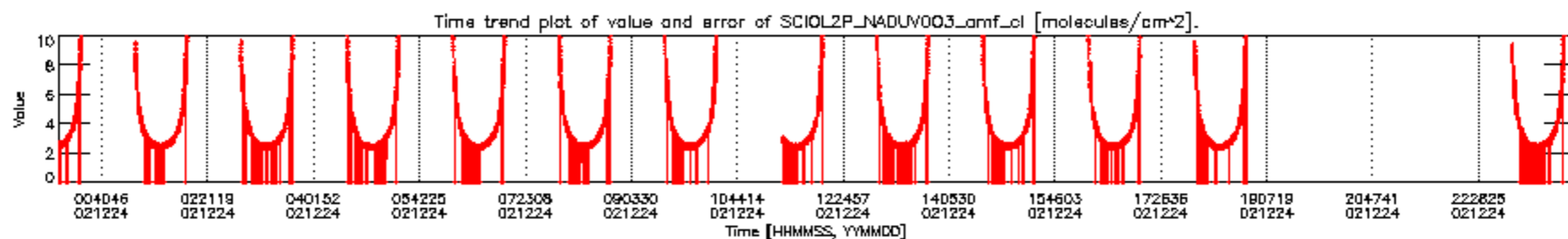
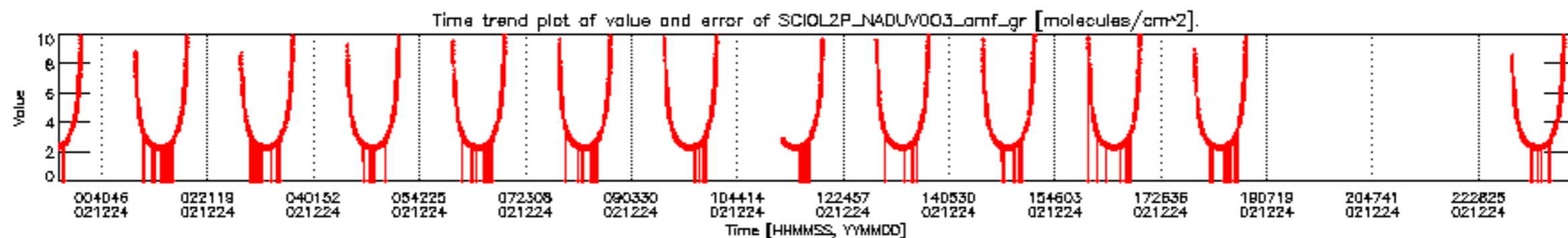
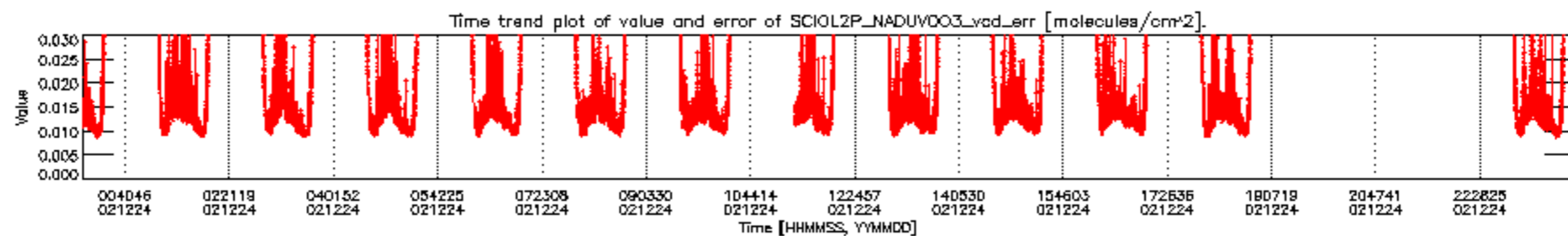
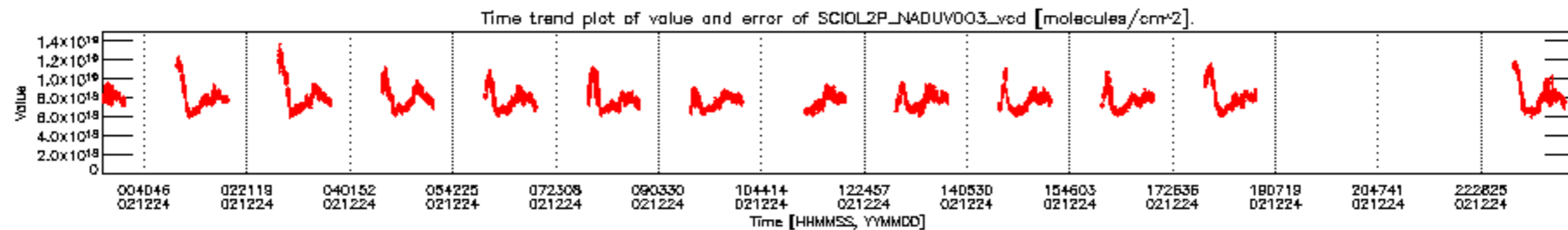


cl_opt_depth for 24DEC2002 00:00:00 to 25DEC2002 00:00:00

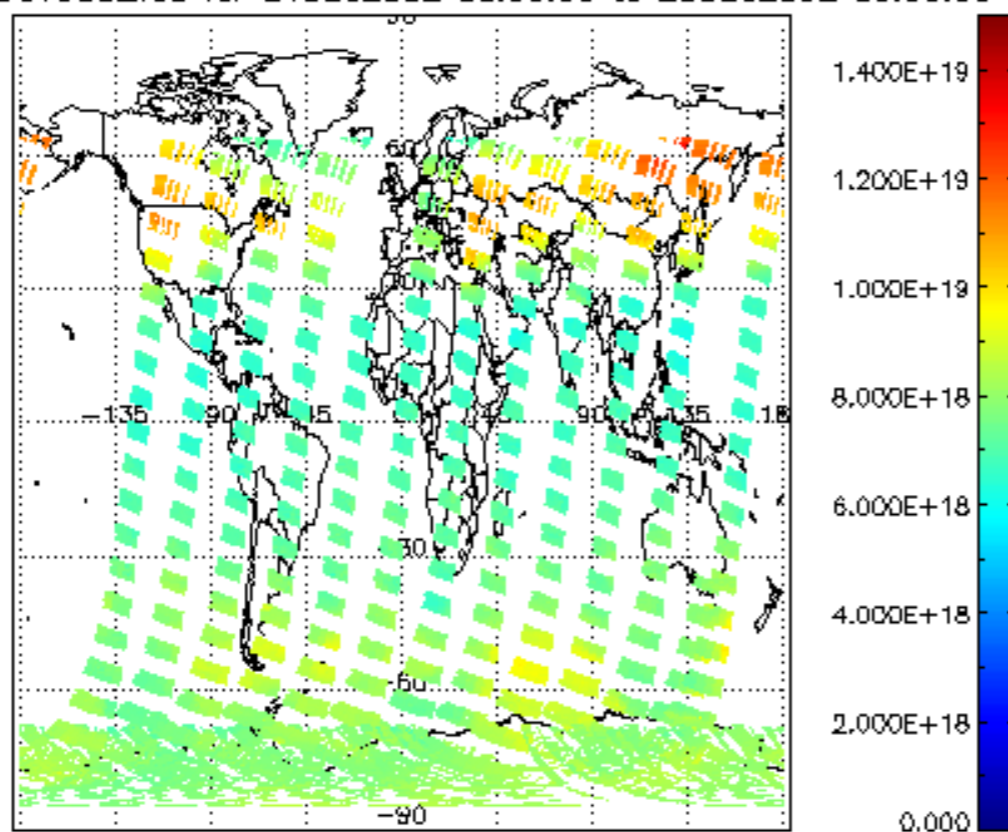


cloud_flags for 24DEC2002 00:00:00 to 25DEC2002 00:00:00

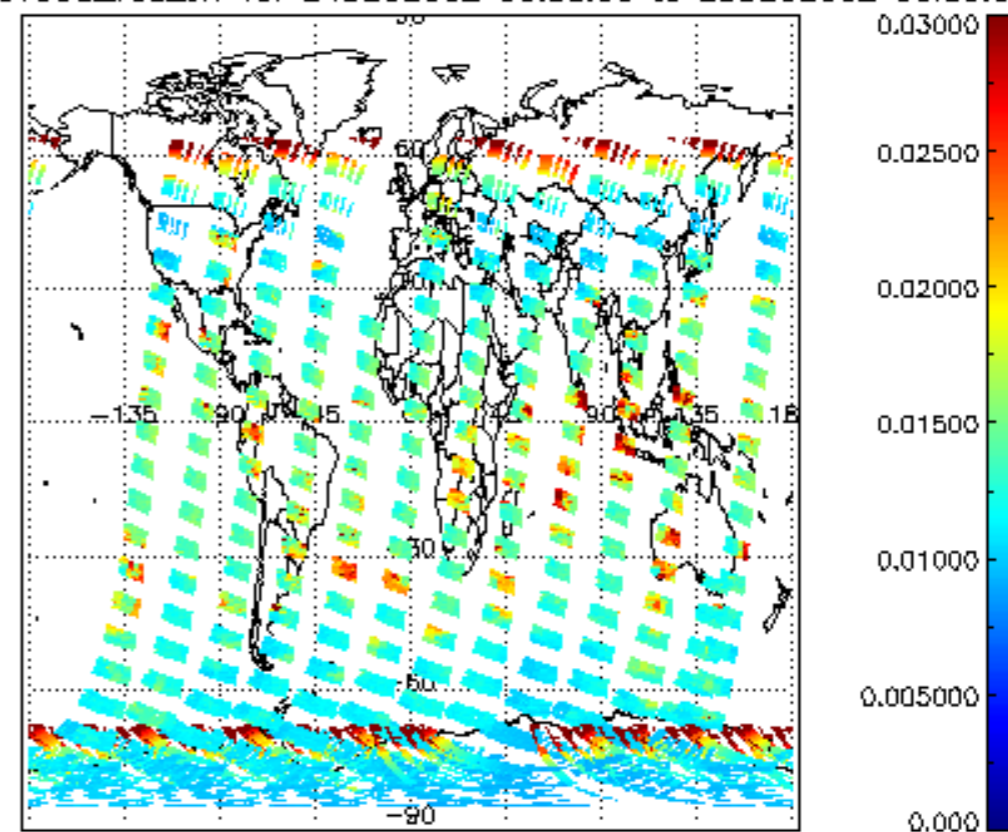




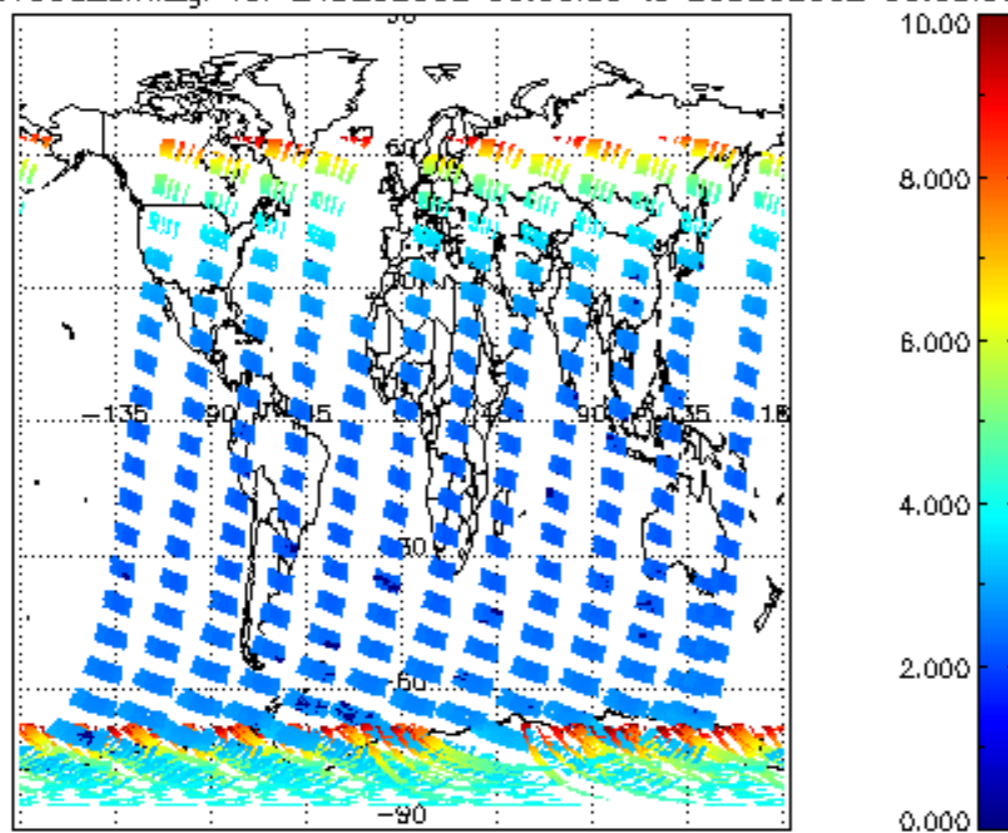
SCIOL2P_NADUV003_vcd for 24DEC2002 00:00:00 to 25DEC2002 00:00:00



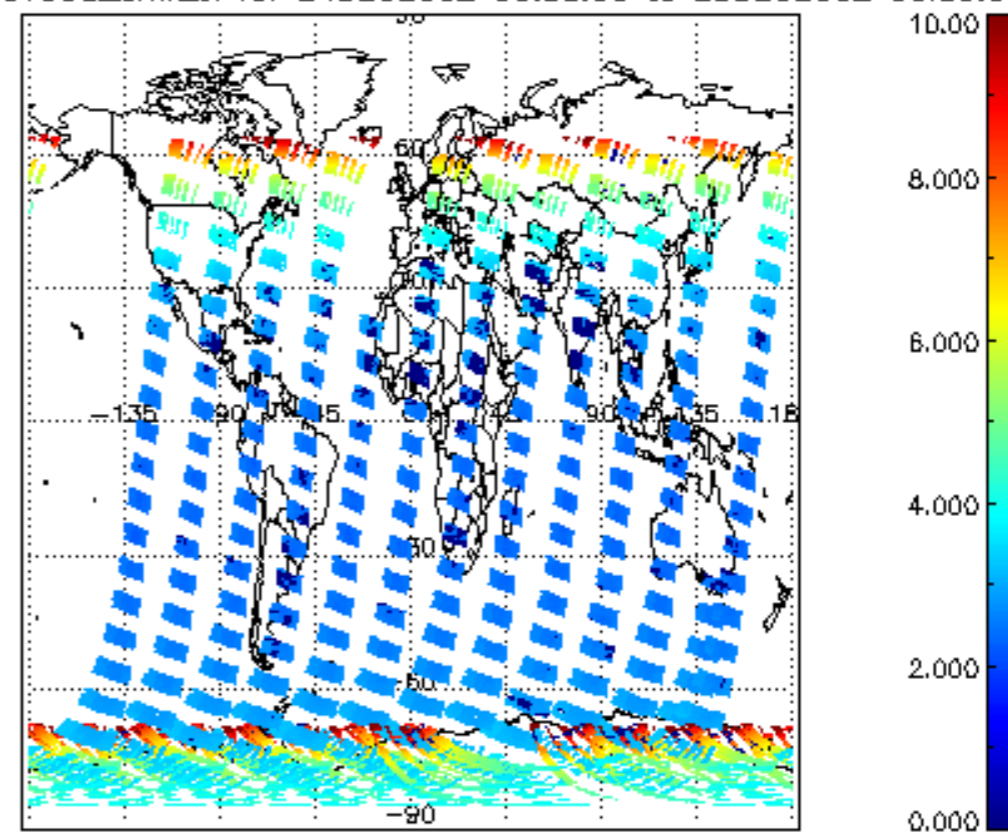
SCIOL2P_NADUV003_vcd_err for 24DEC2002 00:00:00 to 25DEC2002 00:00:00

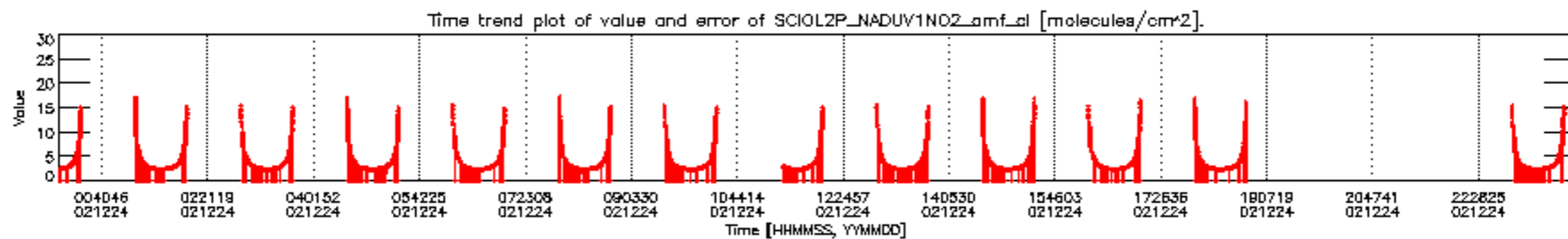
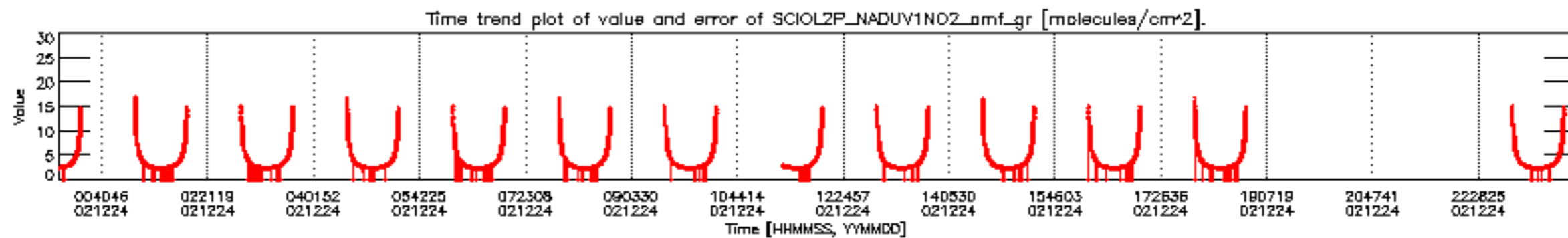
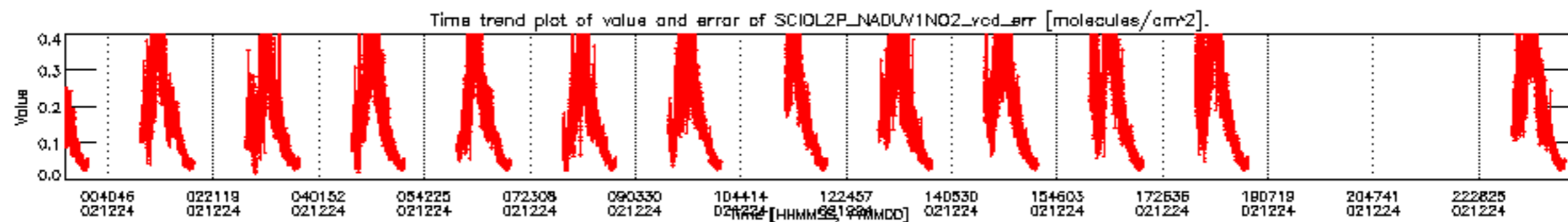
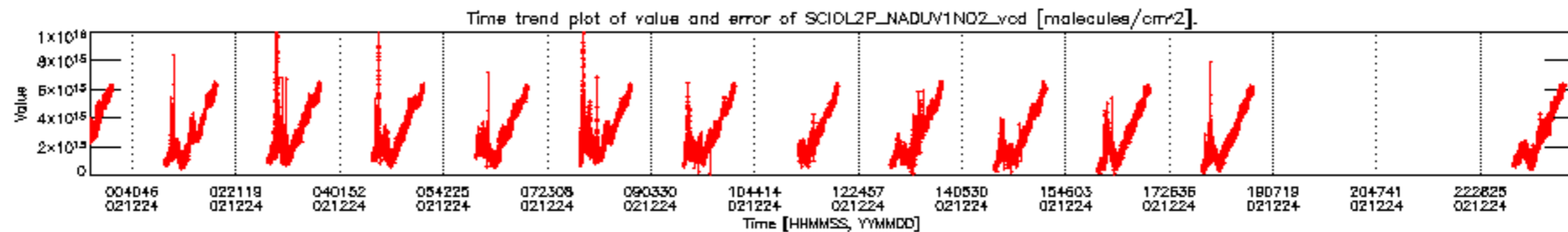


SCIOL2P_NADUV003_amf_gr for 24DEC2002 00:00:00 to 25DEC2002 00:00:00

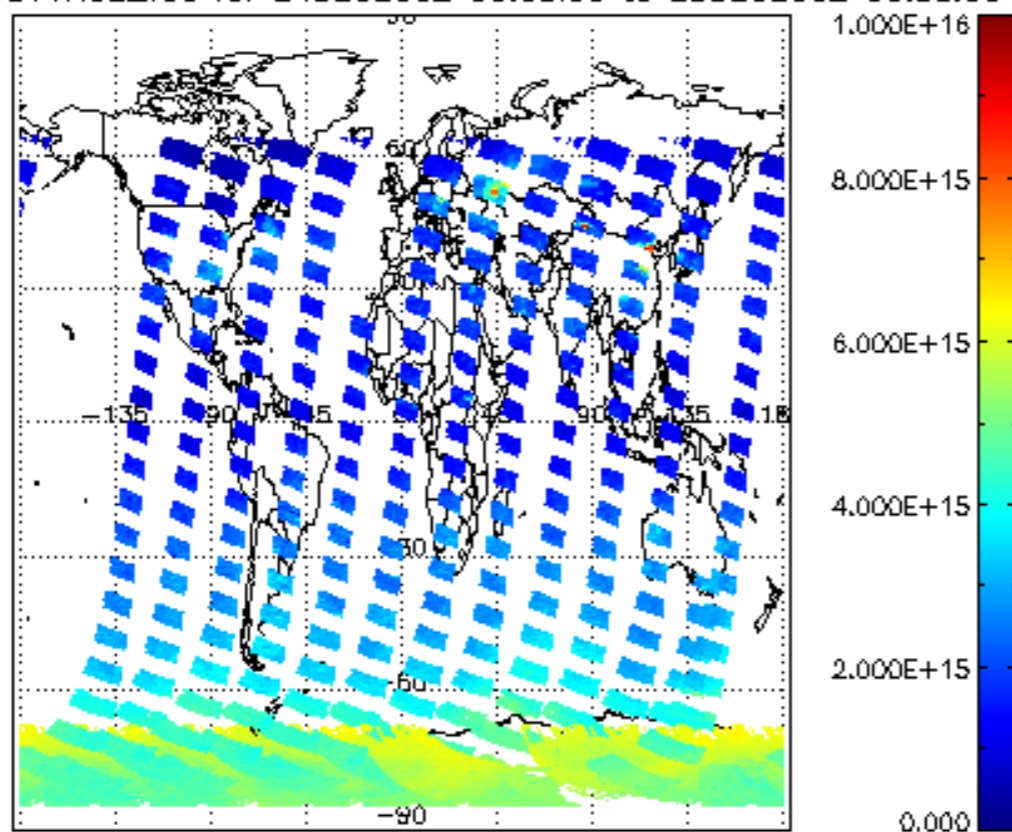


SCIOL2P_NADUV003_amf_cl for 24DEC2002 00:00:00 to 25DEC2002 00:00:00

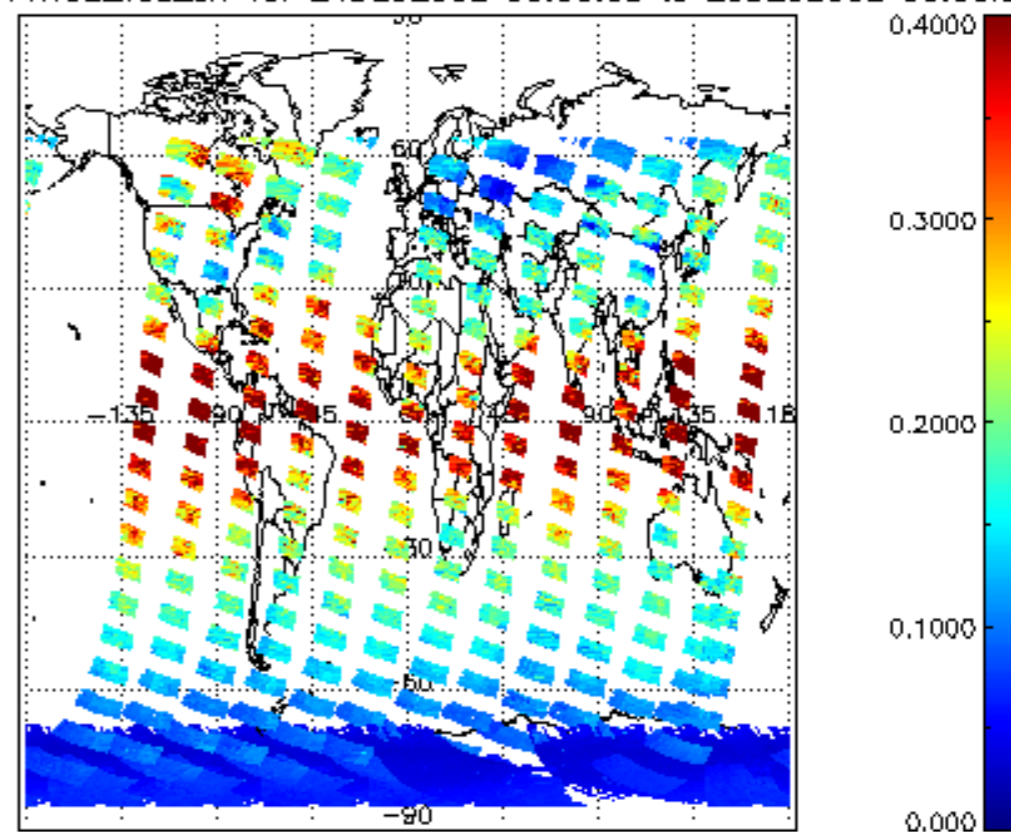




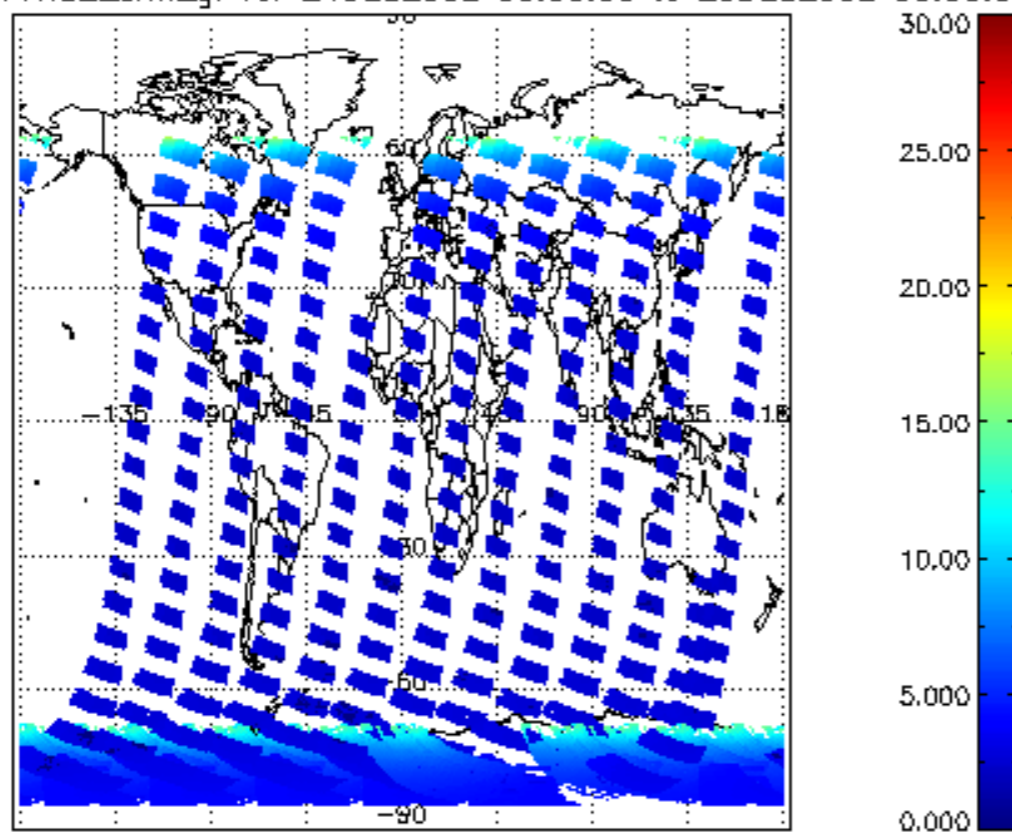
SCIOL2P_NADUV1NO2_vcd for 24DEC2002 00:00:00 to 25DEC2002 00:00:00



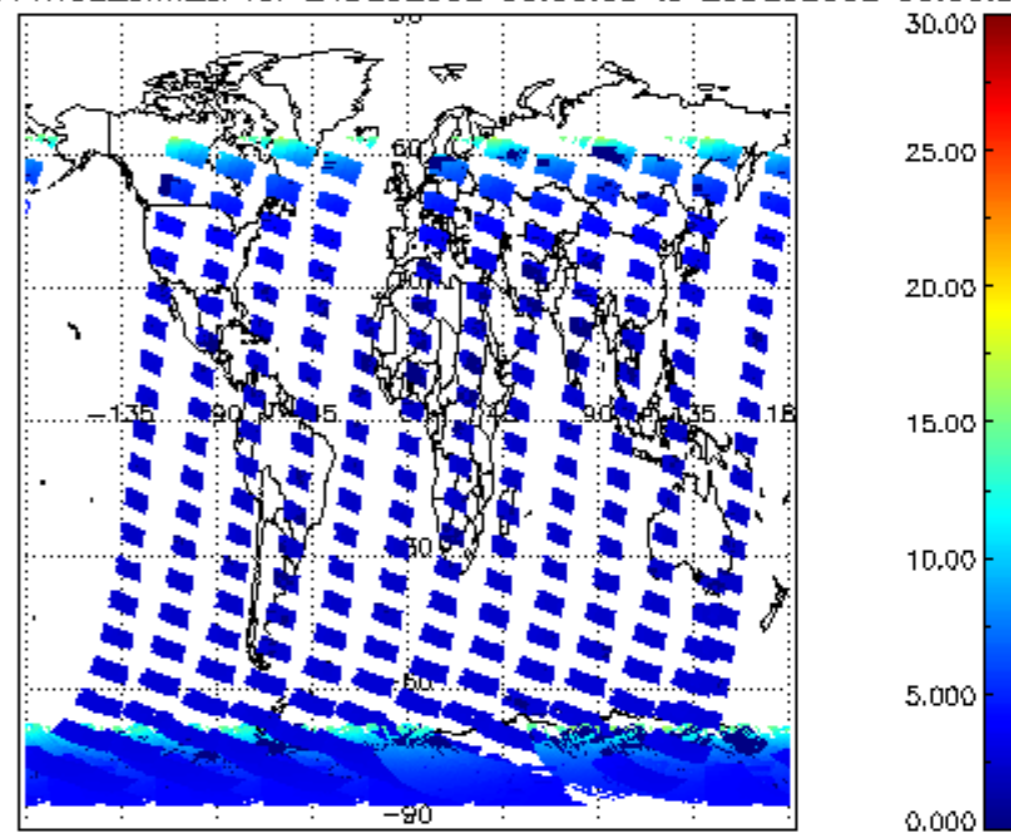
SCIOL2P_NADUV1NO2_vcd_err for 24DEC2002 00:00:00 to 25DEC2002 00:00:00



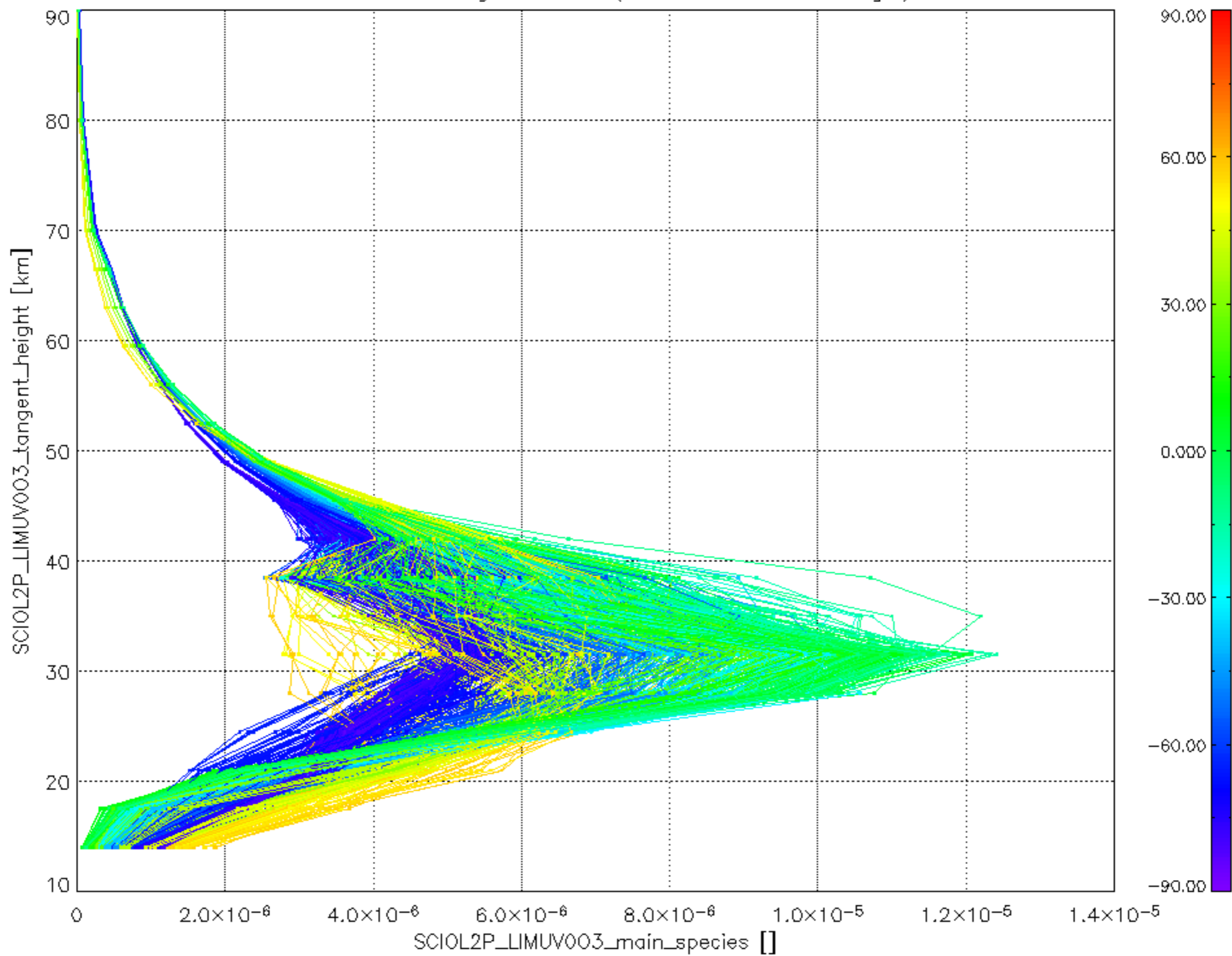
SCIOL2P_NADUV1NO2_amf_gr for 24DEC2002 00:00:00 to 25DEC2002 00:00:00



SCIOL2P_NADUV1NO2_amf_cl for 24DEC2002 00:00:00 to 25DEC2002 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).

