

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 | 1.5 (01-07-2008) |
| Time of report generation | 31JUL2008 12:20:03 |
| Data source version | SCIA-OL/3.01-R |
| Processing scope for products | 04FEB2004 00:00:00 to 05FEB2004 00:00:00 |
| Start time of first product within scope | 03FEB2004 23:32:56 |
| Stop time of last product within scope | 04FEB2004 23:57:13 |
| Total number of level 2 products | 7 |
| 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__2PRDPA20040203_233256_000033492024_00016_10090_6589.N1 | 03FEB2004 23:32:56 | 04FEB2004 00:28:46 | 0 | GOOD |
| 1 | SCI_OL__2PRDPA20040204_011332_000033462024_00017_10091_6499.N1 | 04FEB2004 01:13:32 | 04FEB2004 02:09:19 | 0 | GOOD |
| 2 | SCI_OL__2PRDPA20040204_135017_000001632024_00024_10098_6542.N1 | 04FEB2004 13:50:17 | 04FEB2004 13:53:01 | 0 | GOOD |
| 3 | SCI_OL__2PRDPA20040204_143816_000033162024_00025_10099_6623.N1 | 04FEB2004 14:38:16 | 04FEB2004 15:33:32 | 0 | GOOD |
| 4 | SCI_OL__2PRDPA20040204_161851_000033122024_00026_10100_6599.N1 | 04FEB2004 16:18:51 | 04FEB2004 17:14:03 | 0 | GOOD |
| 5 | SCI_OL__2PRDPA20040204_175853_000033692024_00027_10101_6520.N1 | 04FEB2004 17:58:53 | 04FEB2004 18:55:03 | 0 | GOOD |
| 6 | SCI_OL__2PRDPA20040204_230442_000031502024_00030_10104_6534.N1 | 04FEB2004 23:04:42 | 04FEB2004 23:57:13 | 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: 43764

Total number of cloud data DSRs with good quality flag (=0): 43764 (100.0 %)

| Parameter | #valid | Mean | Median | Min | Max | Stddev | Unit |
|-------------------|--------|----------|----------|----------|----------|----------|---|
| QUALITY_FLAG | 43764 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | flag |
| INTEGR_TIME | 43764 | 0.22864 | 0.25000 | 0.12500 | 1.0000 | 0.073962 | s |
| CL_FRAC | 43764 | 0.51433 | 0.50635 | 0.0000 | 1.0000 | 0.29717 | - |
| CL_FRAC_ERR | 43764 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | rel. fraction |
| PMD_READ | 43764 | 7.3163 | 8.0000 | 4.0000 | 32.000 | 2.3668 | |
| PMD_READ_CL[0] | 43764 | 0.69043 | 0.0000 | 0.0000 | 32.000 | 2.0840 | - |
| PMD_READ_CL[1] | 43764 | 0.30333 | 0.0000 | 0.0000 | 31.000 | 1.4333 | - |
| CL_TOP_HEIGHT | 40396 | 4.2459 | 2.9120 | 0.0000 | 17.000 | 3.8402 | km |
| CL_TOP_HEIGHT_ERR | 0 | --- | --- | --- | --- | --- | --- |
| CL_OPT_DEPTH | 40396 | 45.860 | 29.584 | 0.0000 | 101.00 | 38.015 | km |
| CL_OPT_DEPTH_ERR | 0 | --- | --- | --- | --- | --- | --- |
| CL_TYPE_FLAGS | 43764 | 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 |

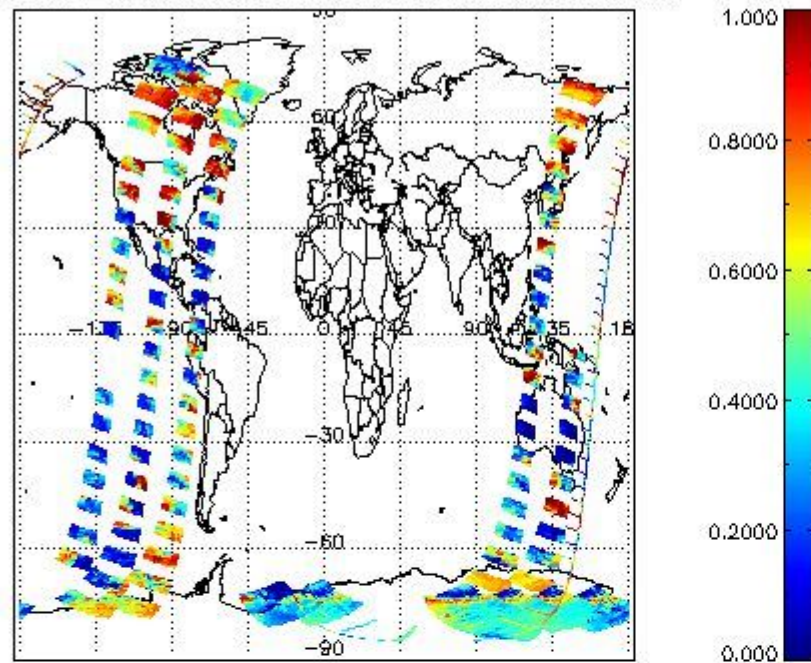
| | | | | | | | |
|---------------|-------|----------|----------|----------|----------|---------|-------|
| CLOUD_FLAGS | 43764 | 11000101 | 11000010 | 11000000 | 11100000 | 2261.7 | flags |
| AERO_ABSO_IND | 43764 | 0.41310 | 0.0000 | -3.1019 | 7.8288 | 0.96211 | |
| AERO_IND_DIAG | 43764 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| AERO_FLAGS | 43764 | 01010101 | 00000000 | 00000000 | 11000000 | 24420. | flags |

Time and geolocation plots:

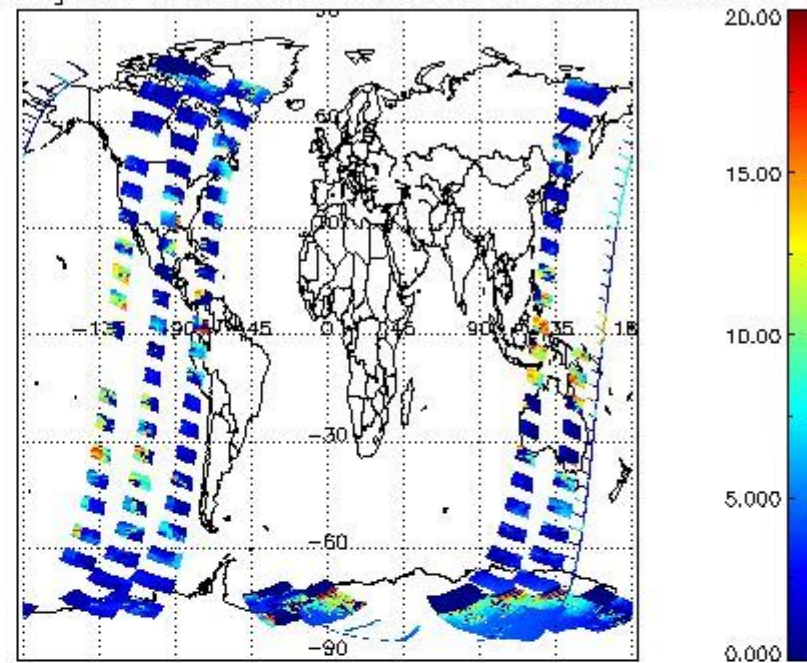
Plots are available for the following parameters:

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

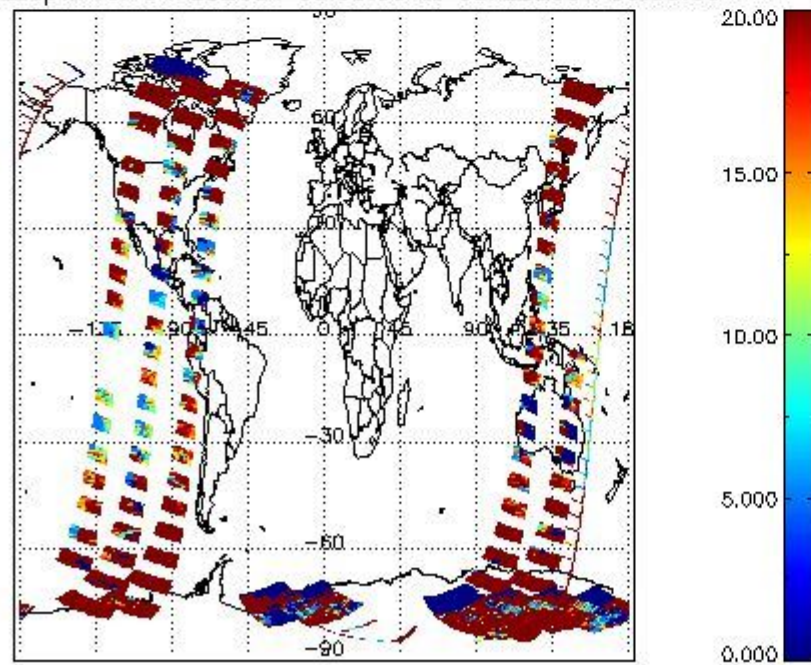
cLfrac for 04FEB2004 00:00:00 to 05FEB2004 00:00:00



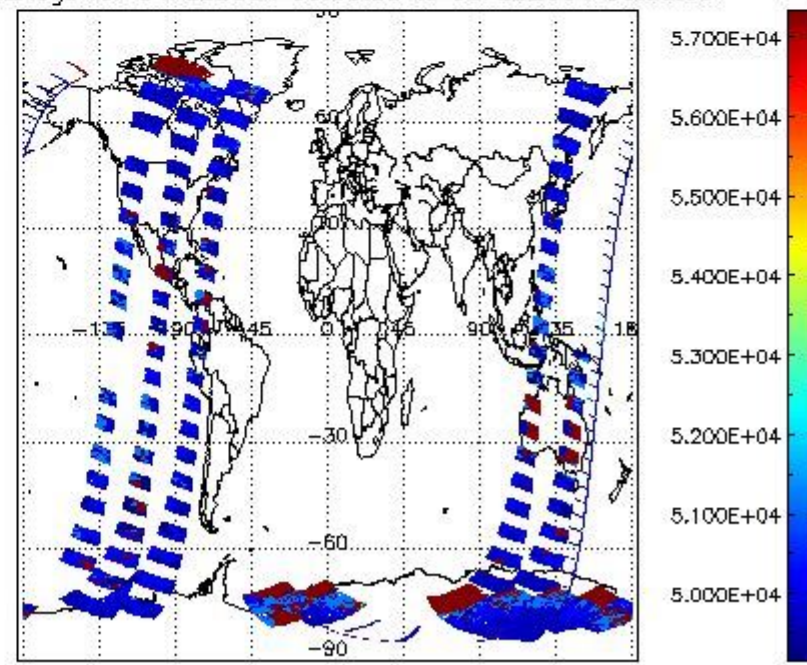
cL_top_height for 04FEB2004 00:00:00 to 05FEB2004 00:00:00



cLopt_depth for 04FEB2004 00:00:00 to 05FEB2004 00:00:00



cloud_flags for 04FEB2004 00:00:00 to 05FEB2004 00:00:00



2.2.2 Nadir

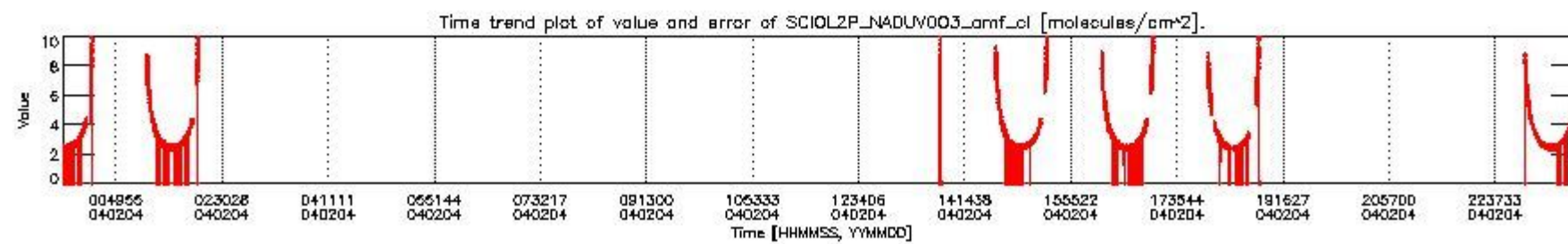
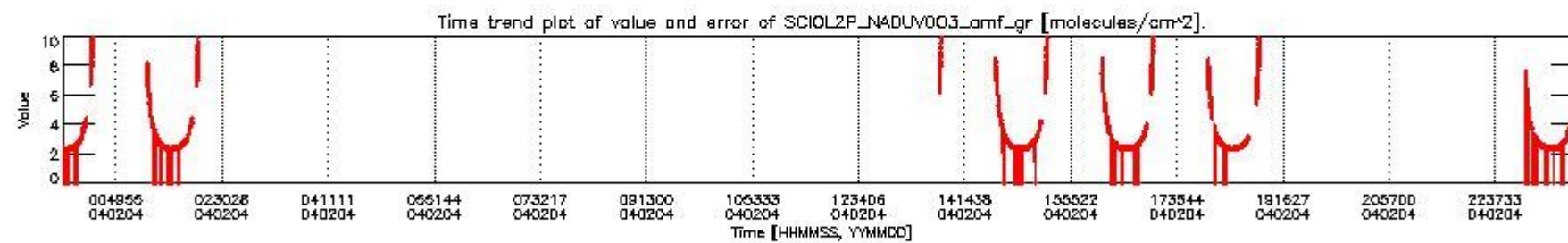
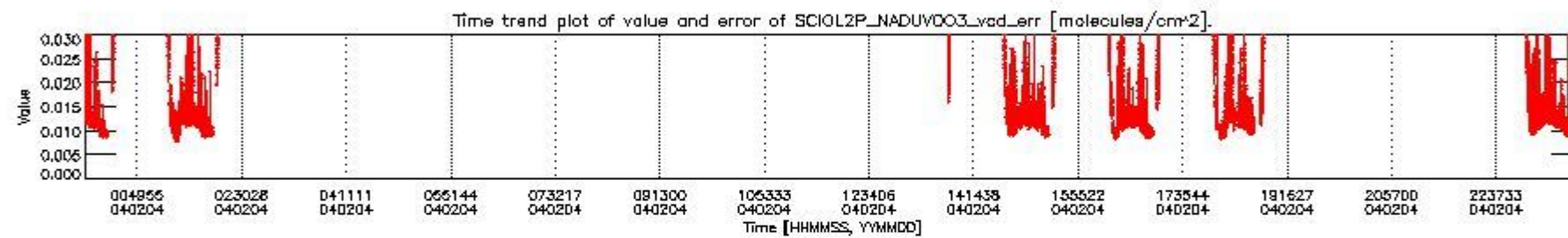
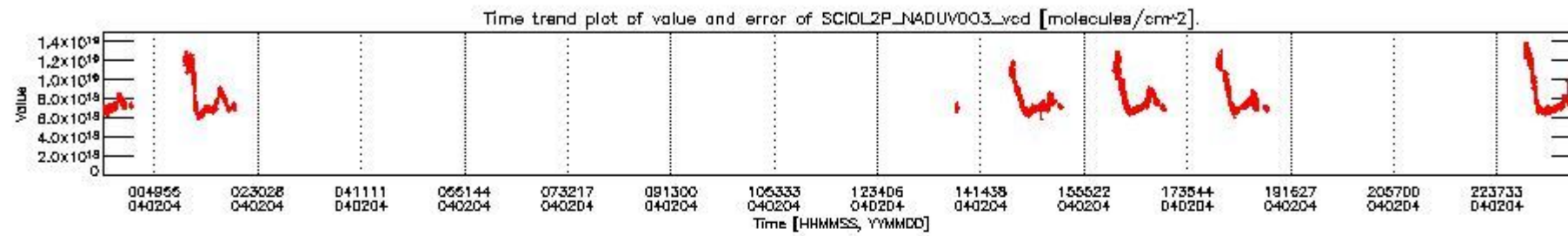
This section shows information about product quality of nadir measurements, in particular the quality of retrieved species.

The following data items are currently included into this section:

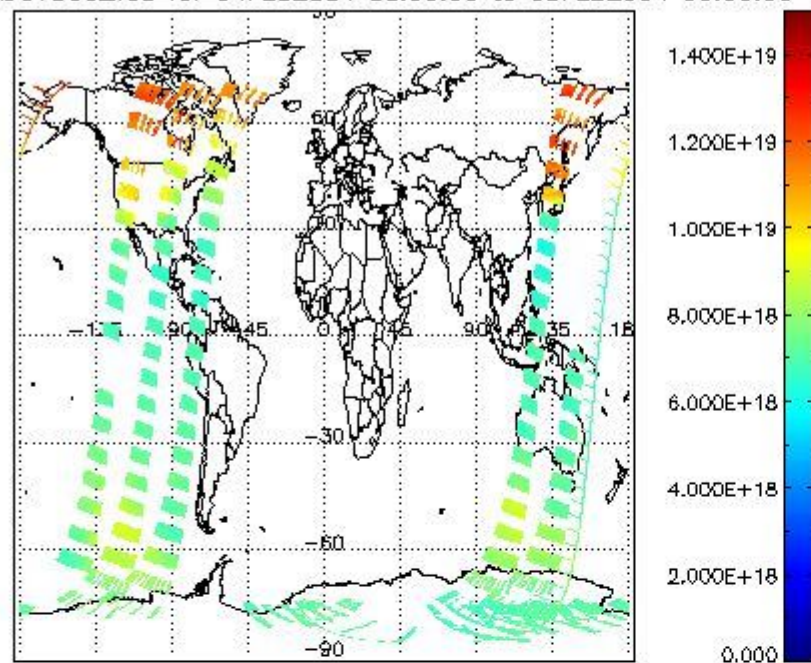
| Number | Data item ID |
|--------|--------------------------|
| 0 | SCIOL2P_NADUV003_vcd |
| 1 | SCIOL2P_NADUV003_vcd_err |
| 2 | SCIOL2P_NADUV003_amf_gr |
| 3 | SCIOL2P_NADUV003_amf_cl |

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

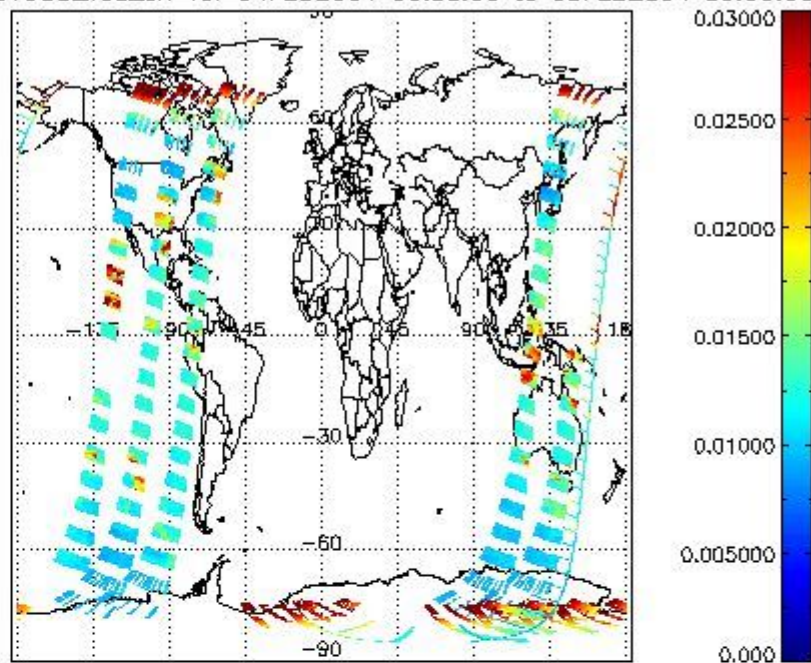
Data is presented both in time trend plots and world map plots, in order to show variations with time and geolocation. The vertical dotted lines in the time trend plots indicate orbits. The orbit times on the X-axis are estimated sensing_start time as suggested by the product sensing_start time in the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



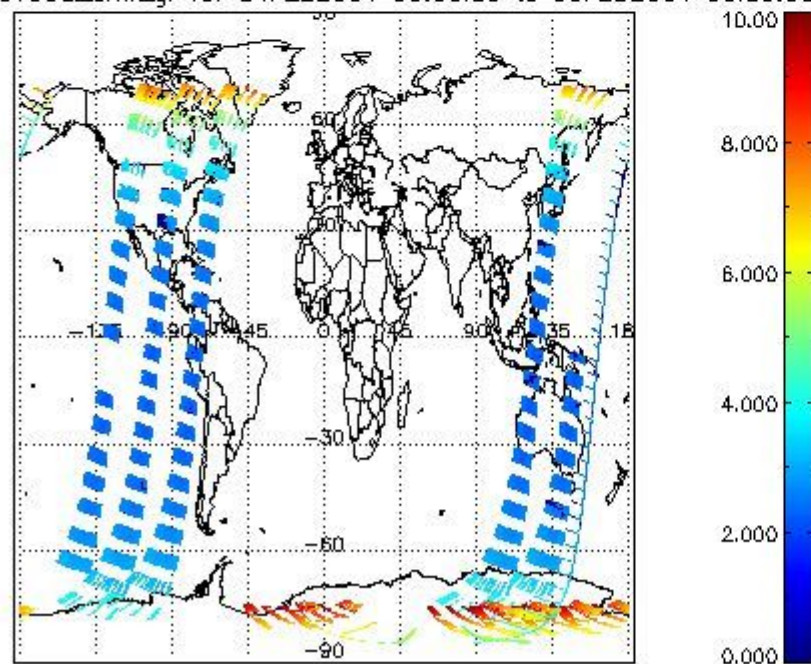
SCIOL2P_NADUV003_vcd for 04FEB2004 00:00:00 to 05FEB2004 00:00:00



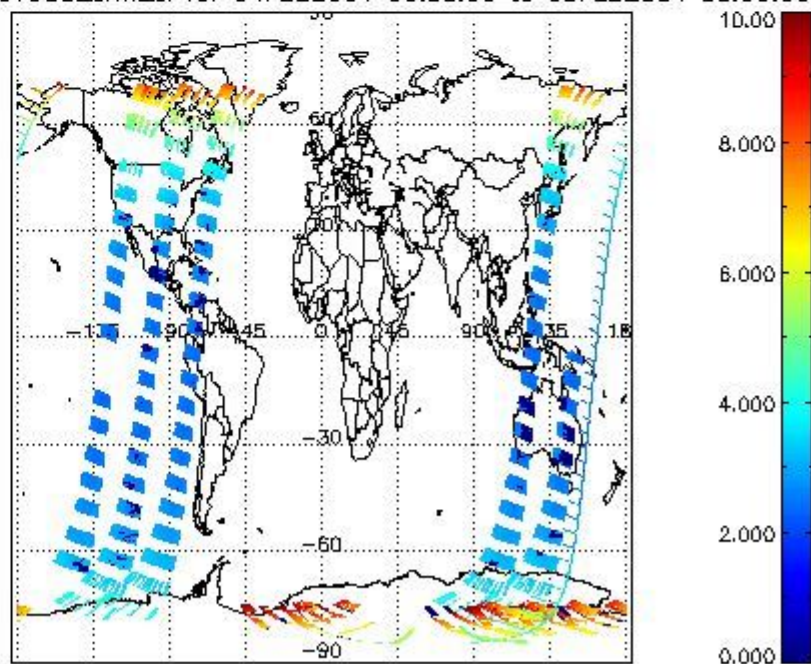
SCIOL2P_NADUV003_vcd_err for 04FEB2004 00:00:00 to 05FEB2004 00:00:00

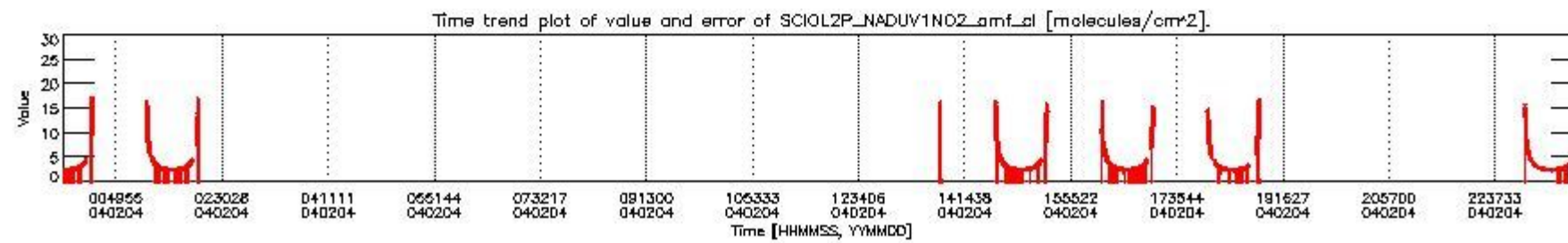
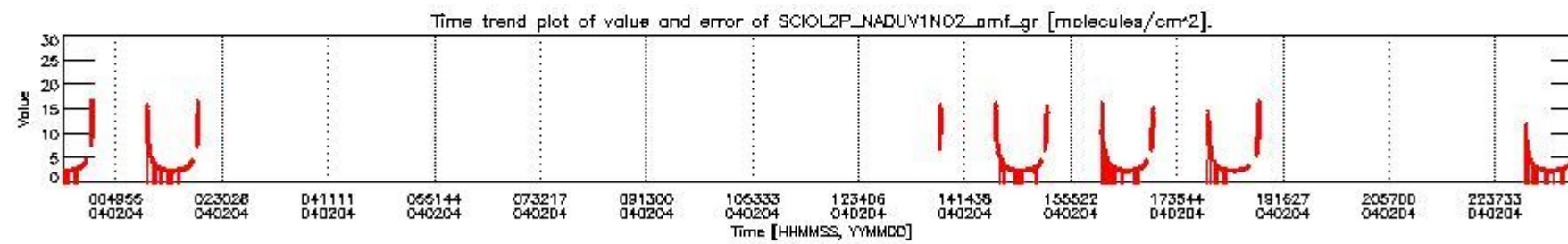
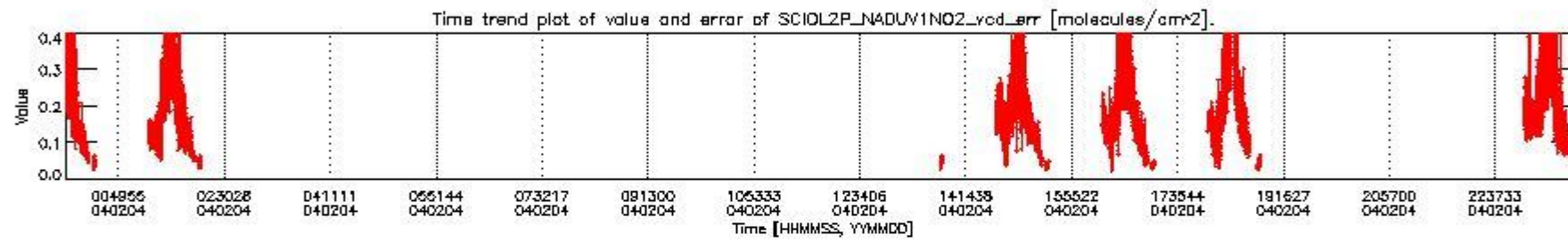
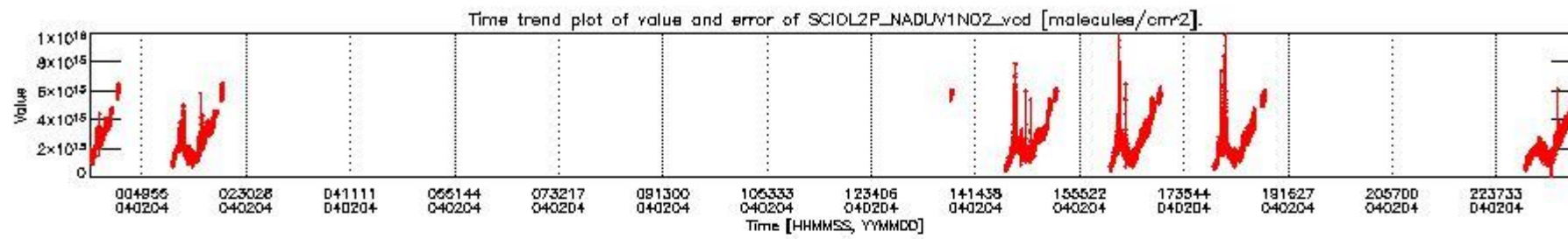


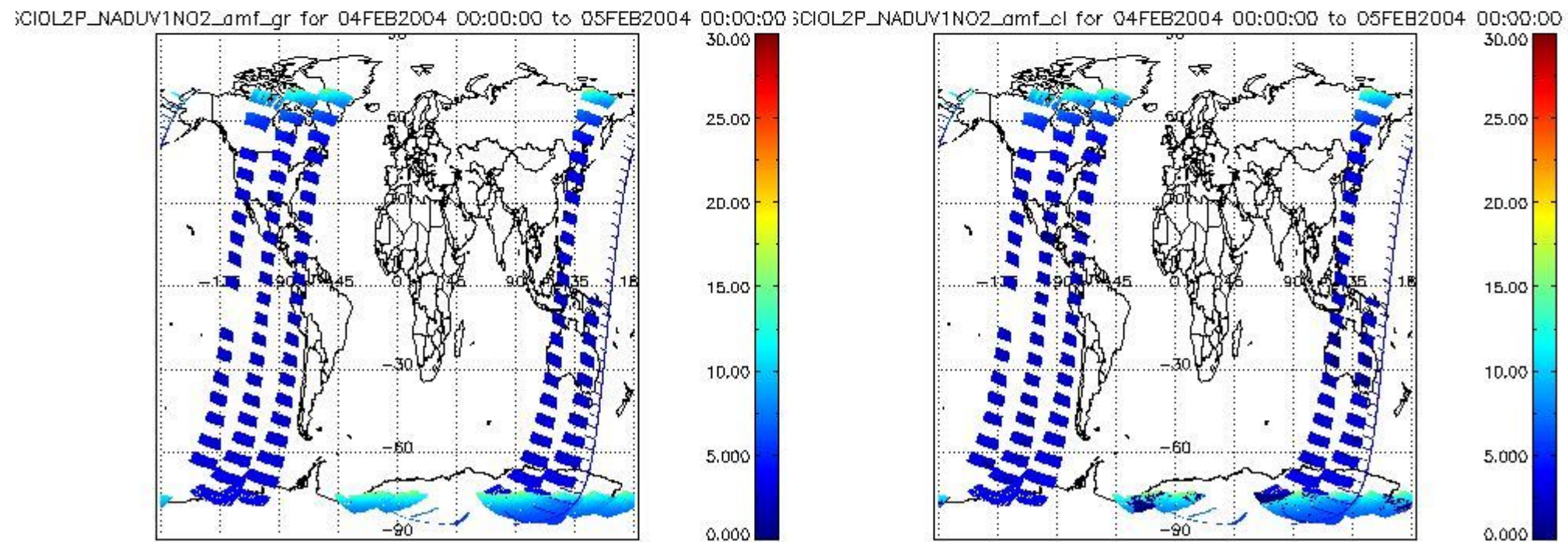
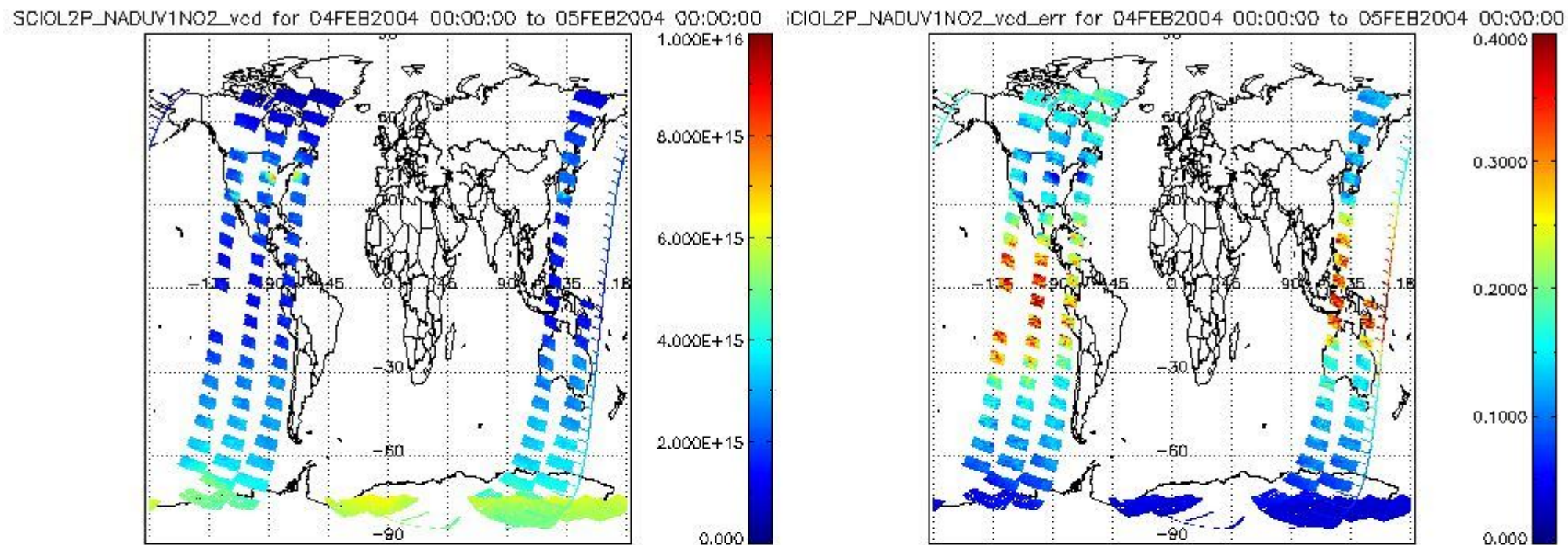
SCIOL2P_NADUV003_amf_gr for 04FEB2004 00:00:00 to 05FEB2004 00:00:00



SCIOL2P_NADUV003_amf_cl for 04FEB2004 00:00:00 to 05FEB2004 00:00:00







2.2.3 Limb

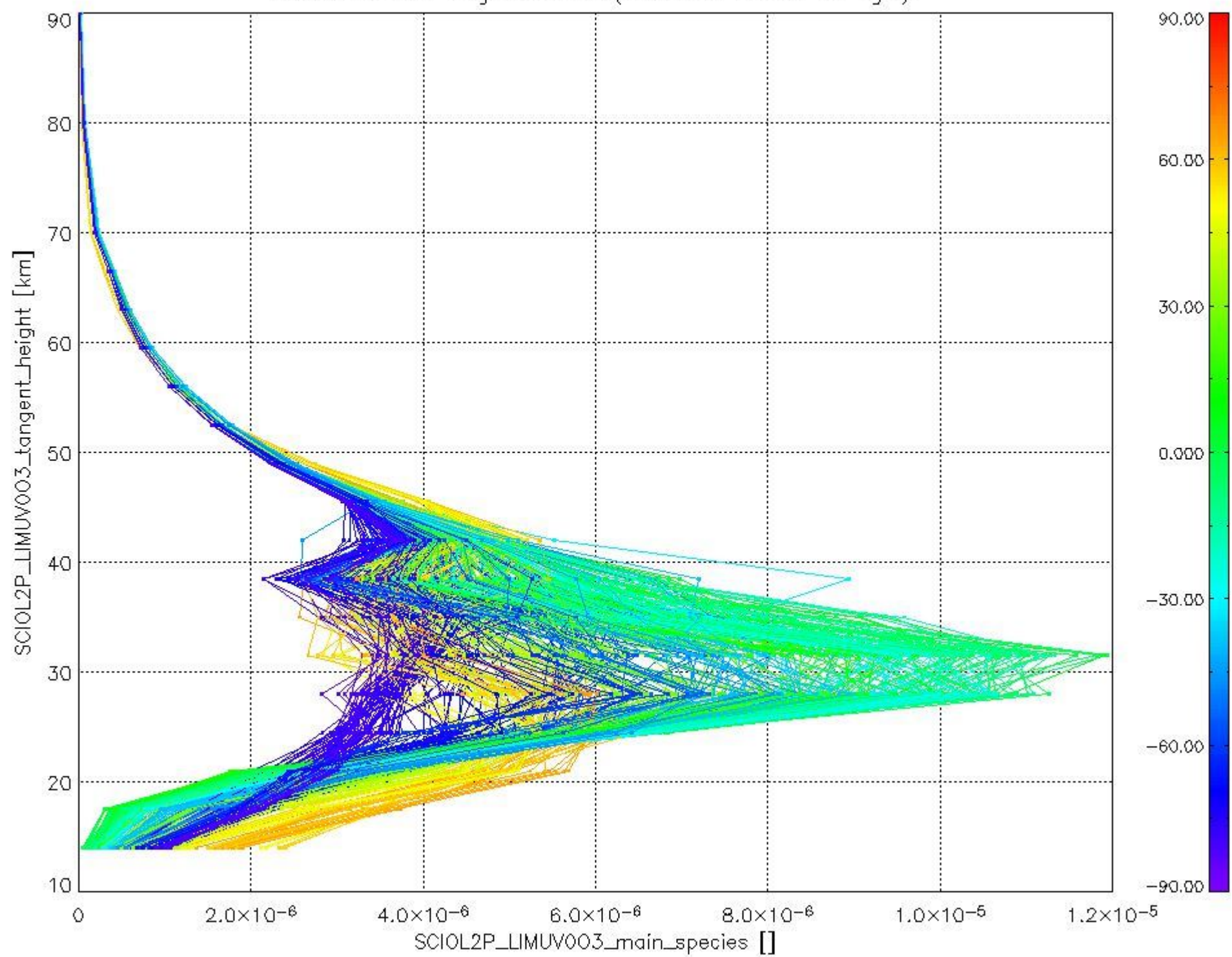
This section shows information about product quality of the limb retrievals, in particular the quality of retrieved species.

The following data items are currently included into this section:

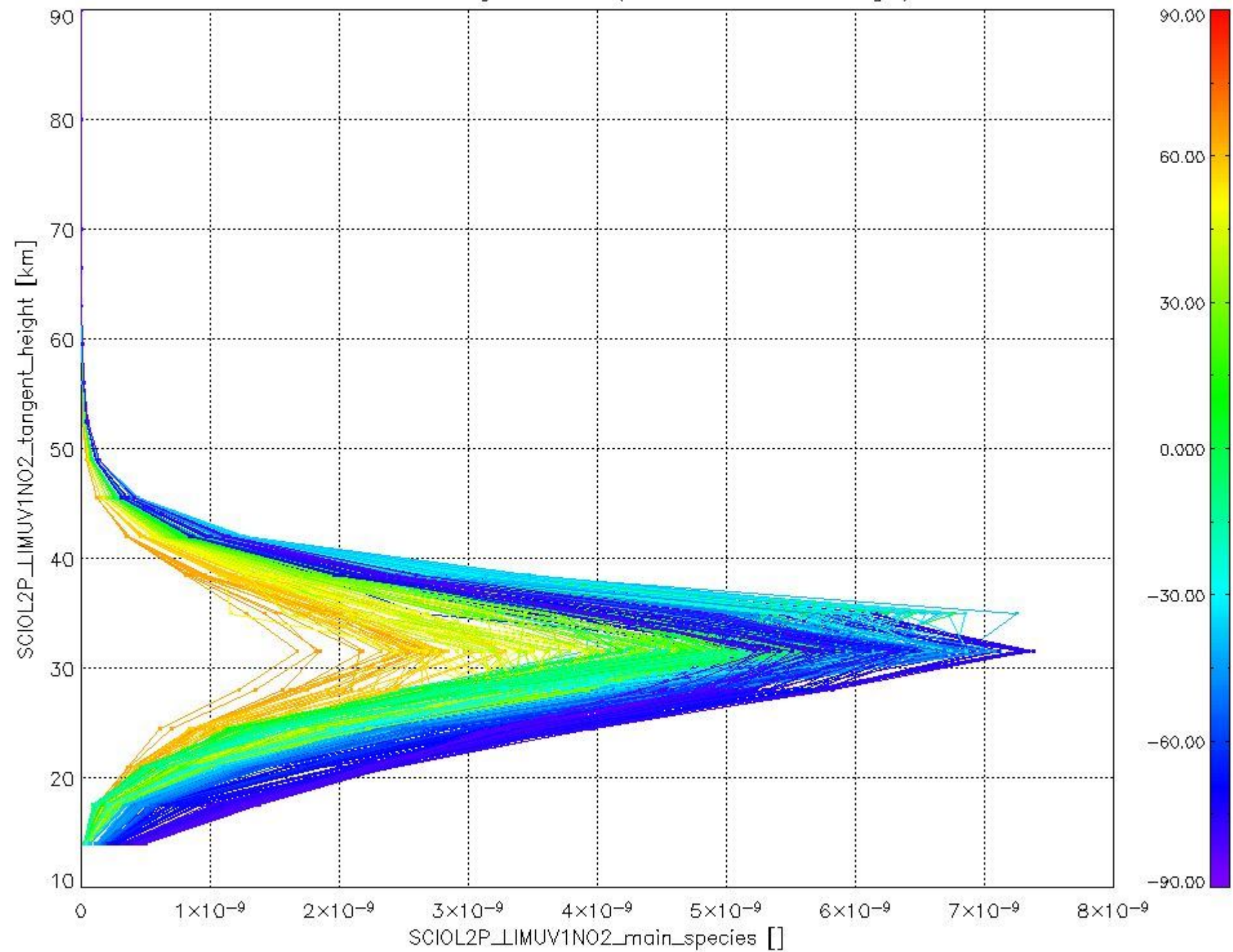
| Number | Data item ID |
|--------|-------------------------------|
| 0 | SCIOL2PLIMUV003_main_species |
| 1 | SCIOL2PLIMUV1NO2_main_species |

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).



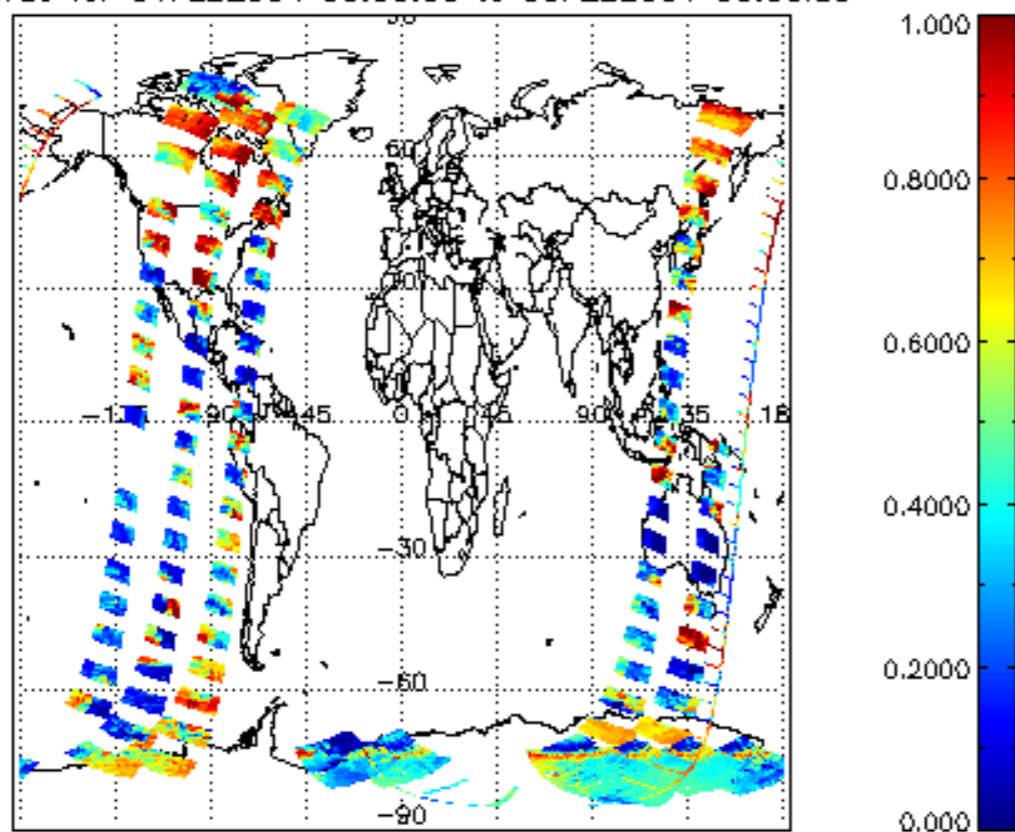
Plot of SCIOL2P_LIMUV1NO2_main_species.tang_vmr vs. tangent height.
Colours indicate tangent latitude (see colour bar on the right).



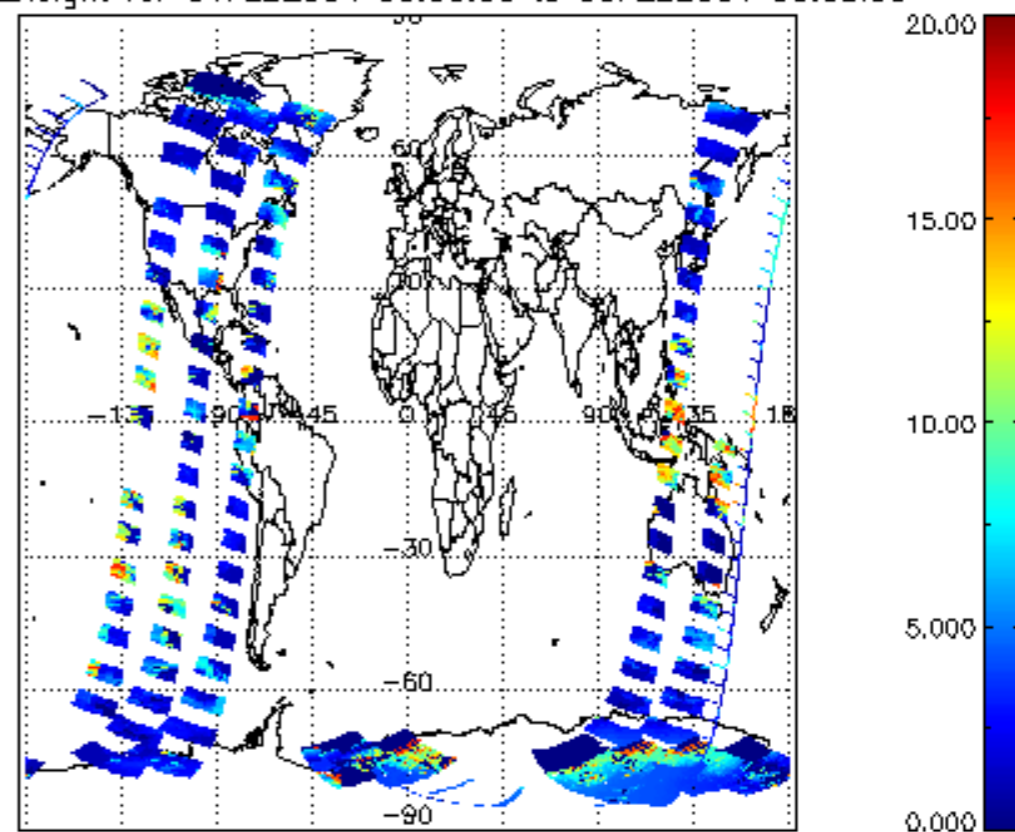
2.3 ADF monitoring

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

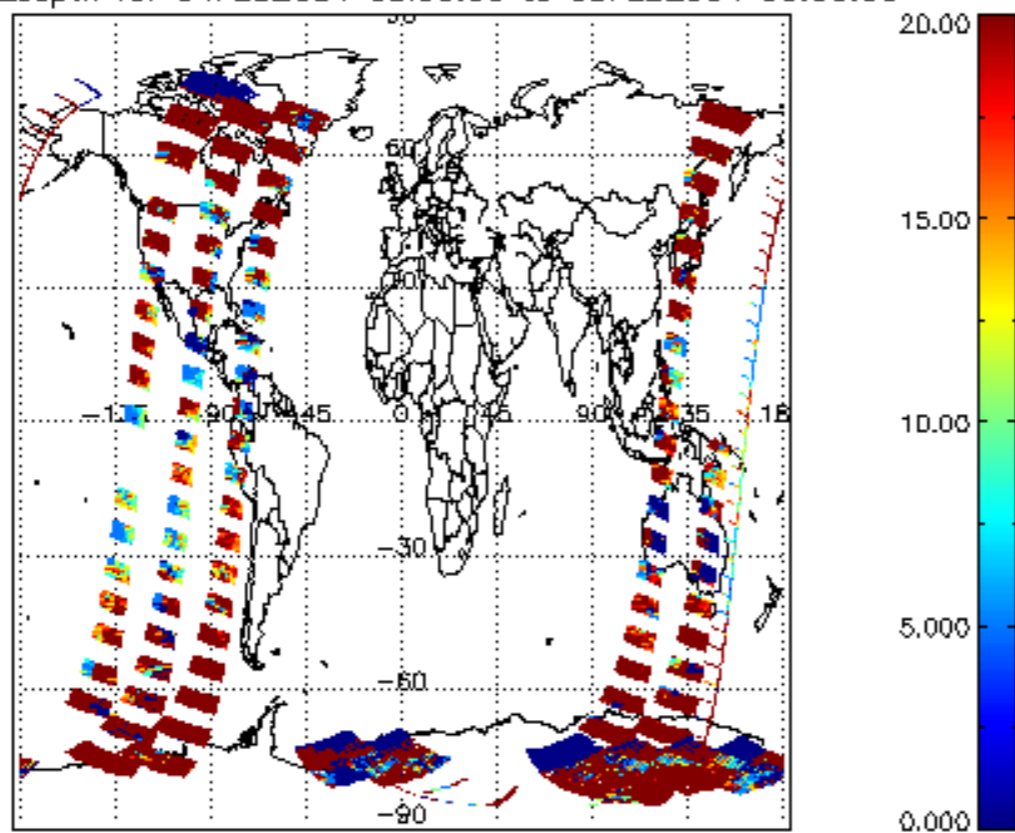
cl_frac for 04FEB2004 00:00:00 to 05FEB2004 00:00:00



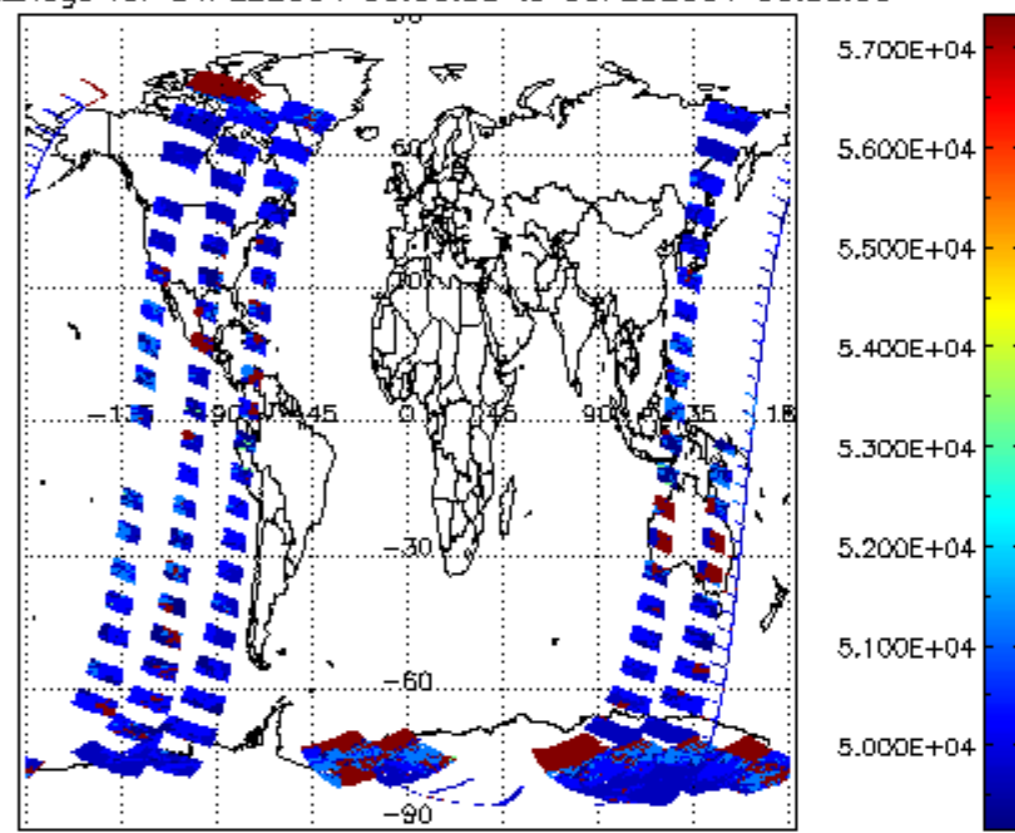
cl_top_height for 04FEB2004 00:00:00 to 05FEB2004 00:00:00

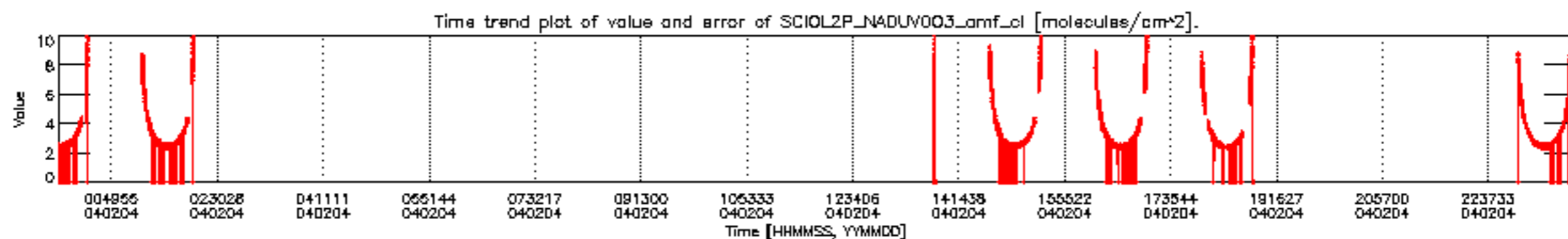
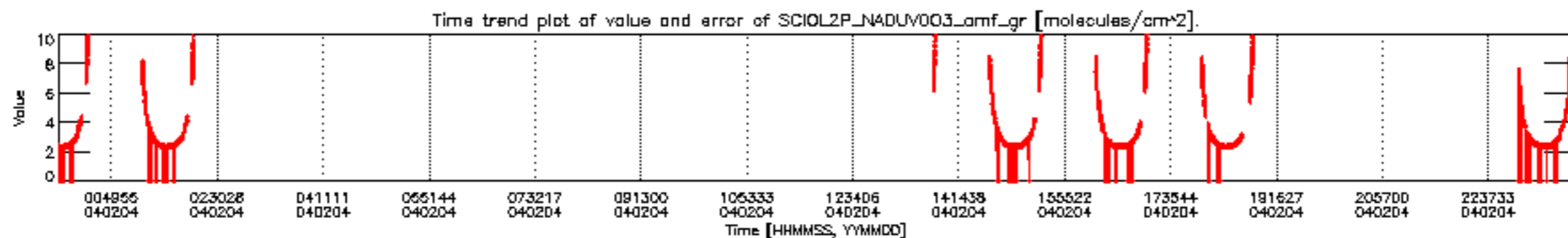
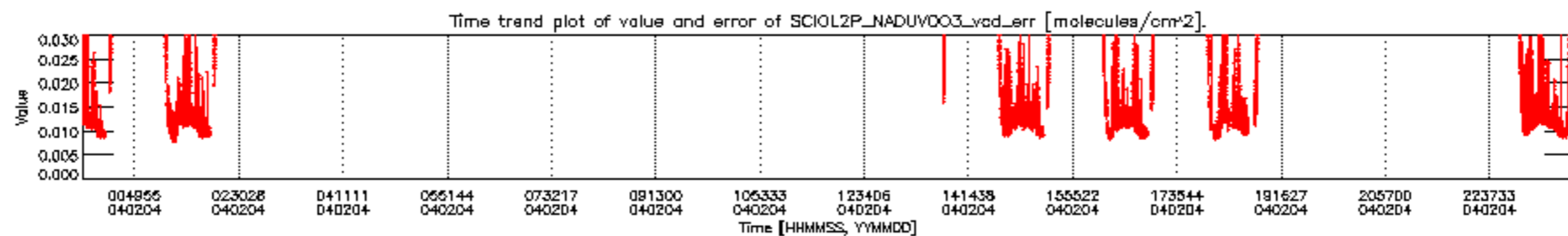
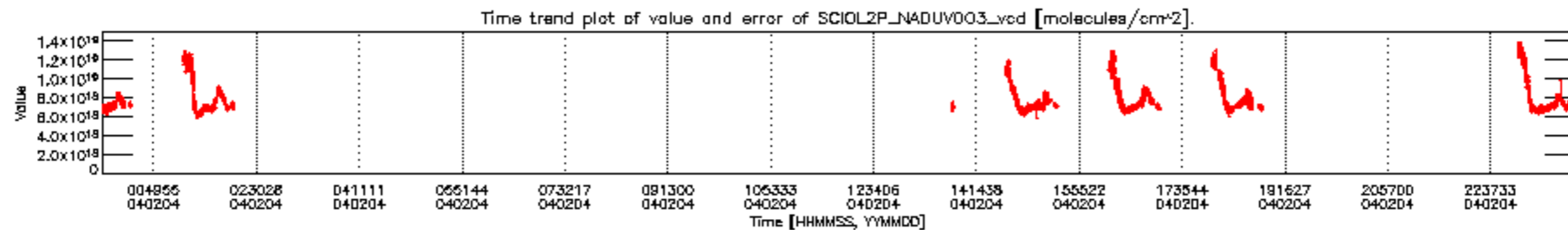


cl_opt_depth for 04FEB2004 00:00:00 to 05FEB2004 00:00:00

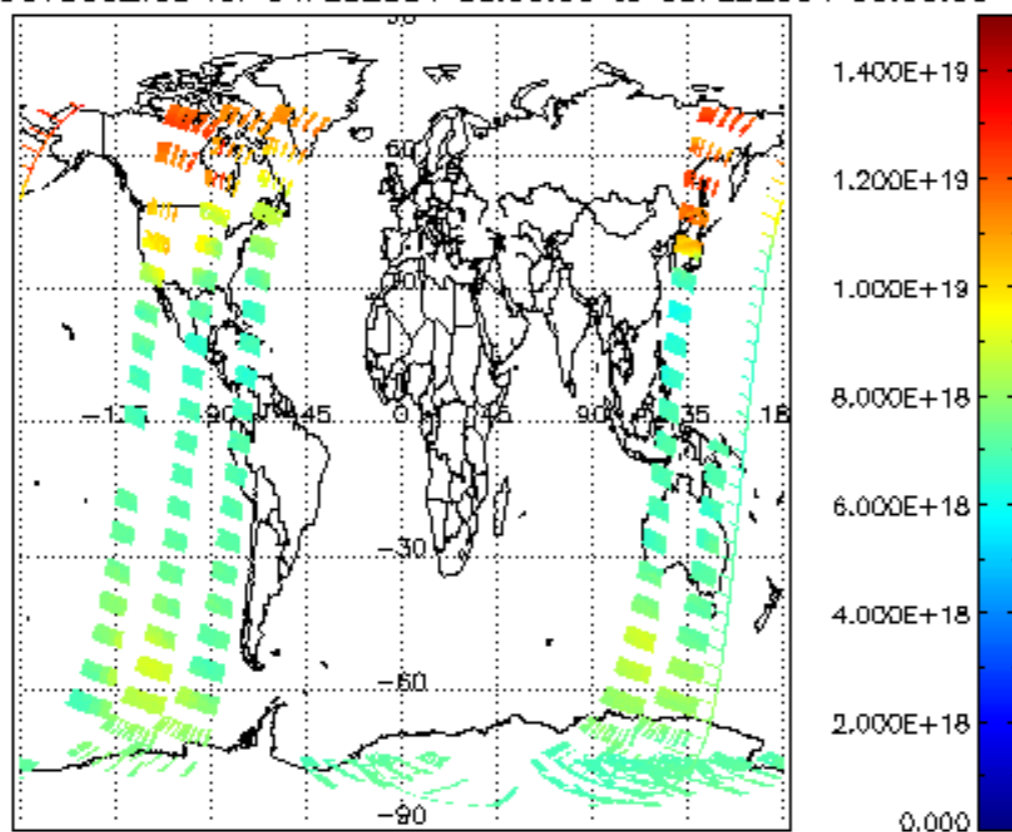


cloud_flags for 04FEB2004 00:00:00 to 05FEB2004 00:00:00

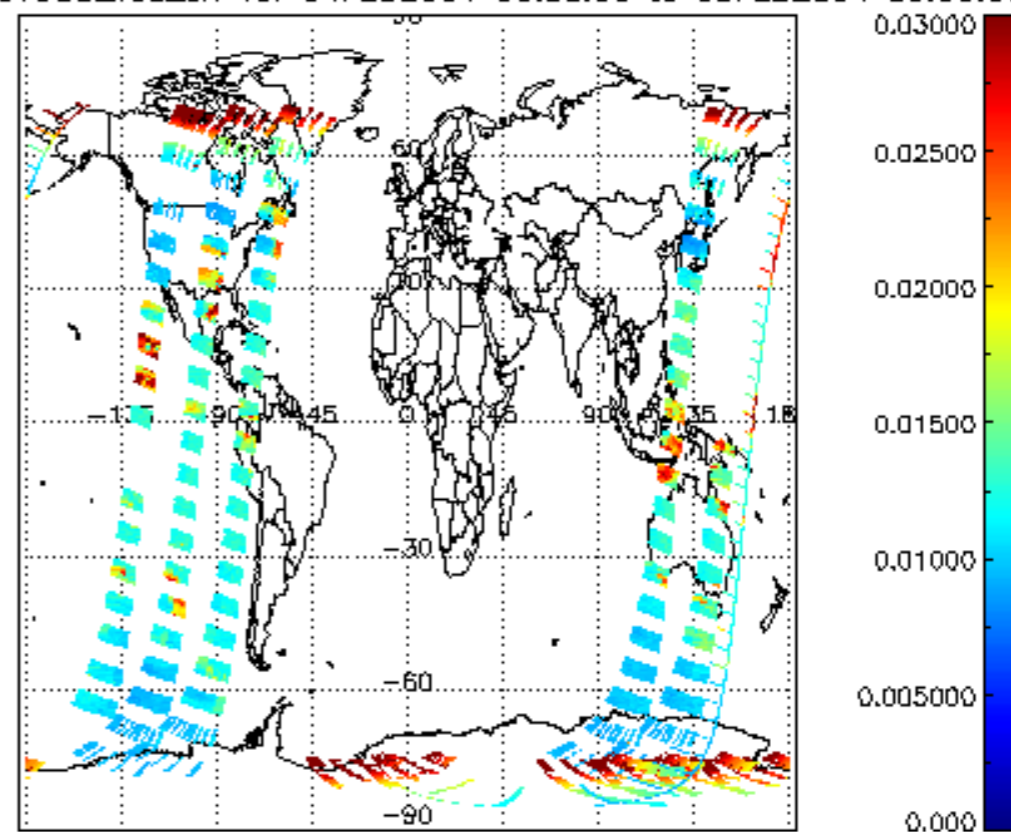




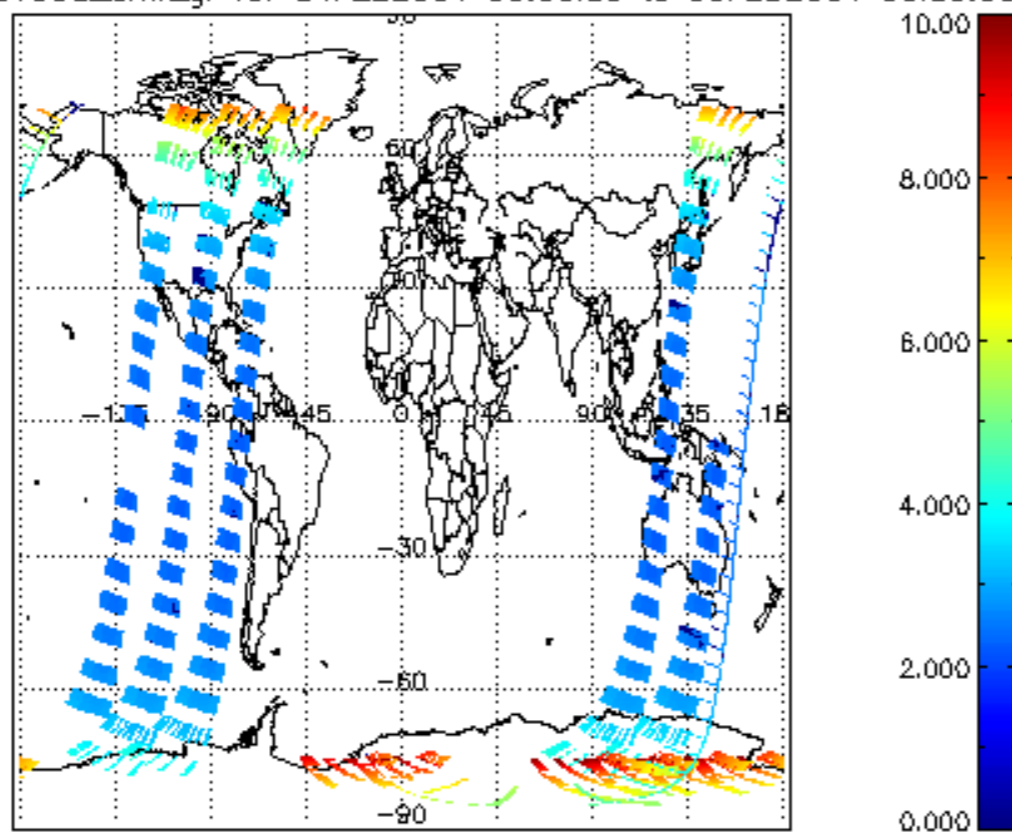
SCIOL2P_NADUV003_vcd for 04FEB2004 00:00:00 to 05FEB2004 00:00:00



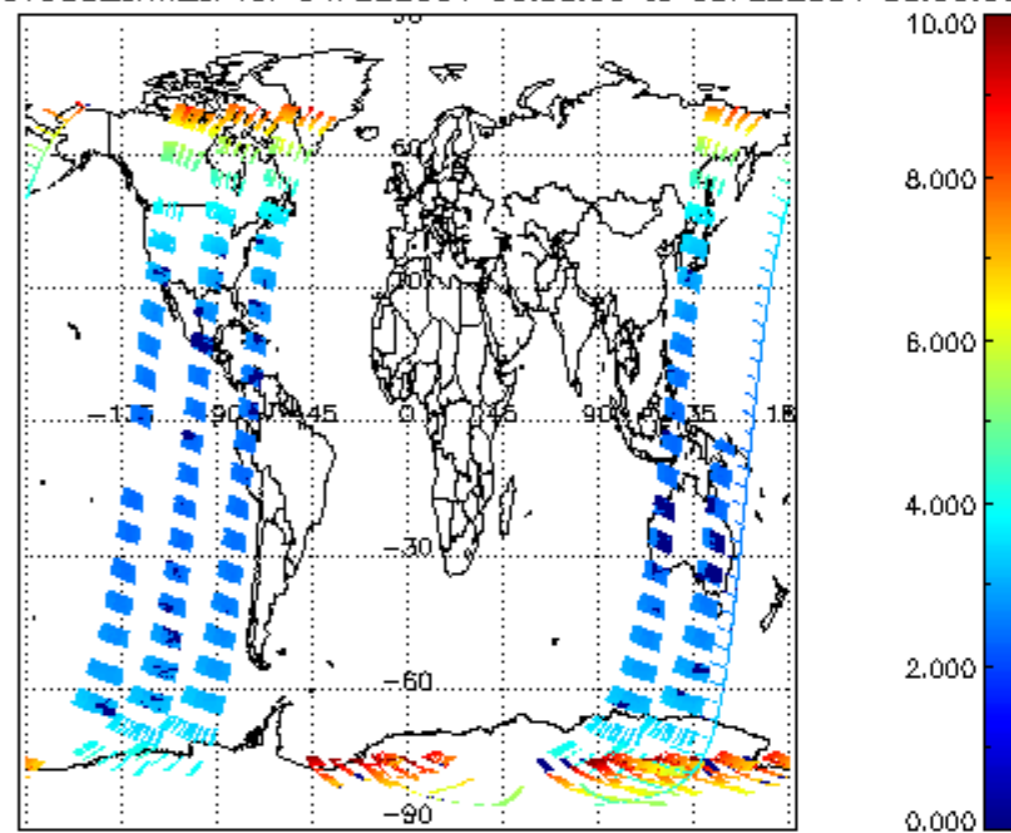
SCIOL2P_NADUV003_vcd_err for 04FEB2004 00:00:00 to 05FEB2004 00:00:00

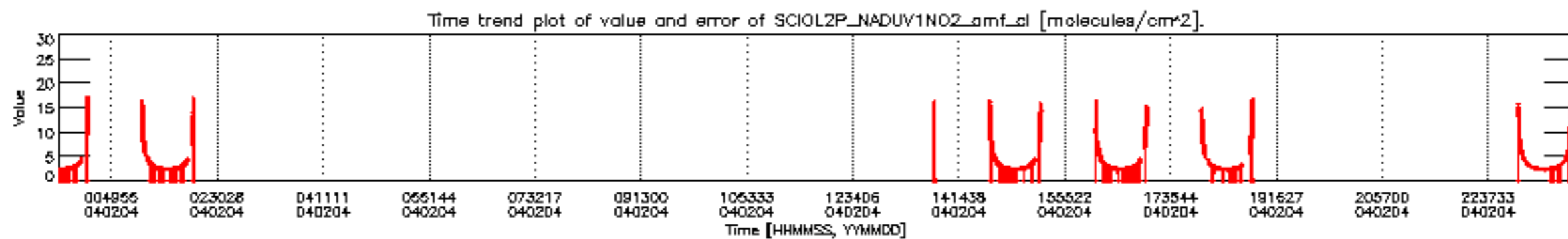
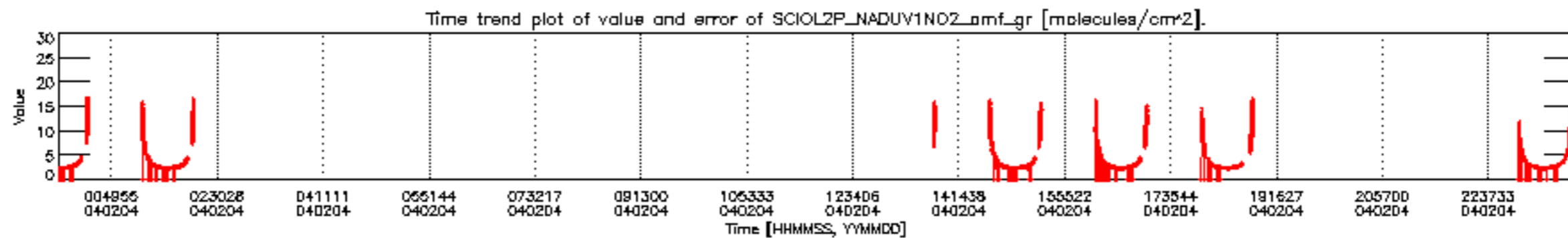
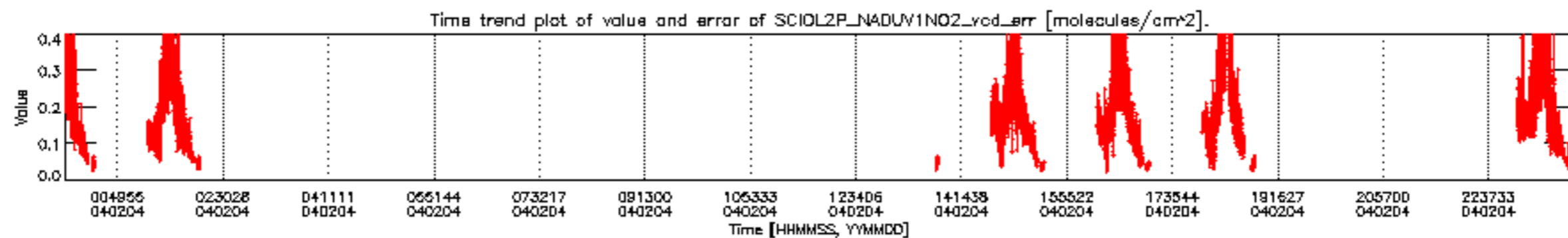
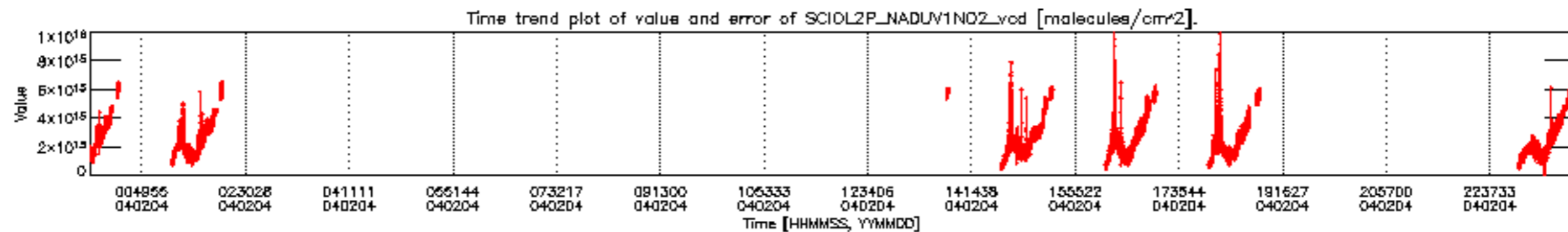


SCIOL2P_NADUV003_amf_gr for 04FEB2004 00:00:00 to 05FEB2004 00:00:00

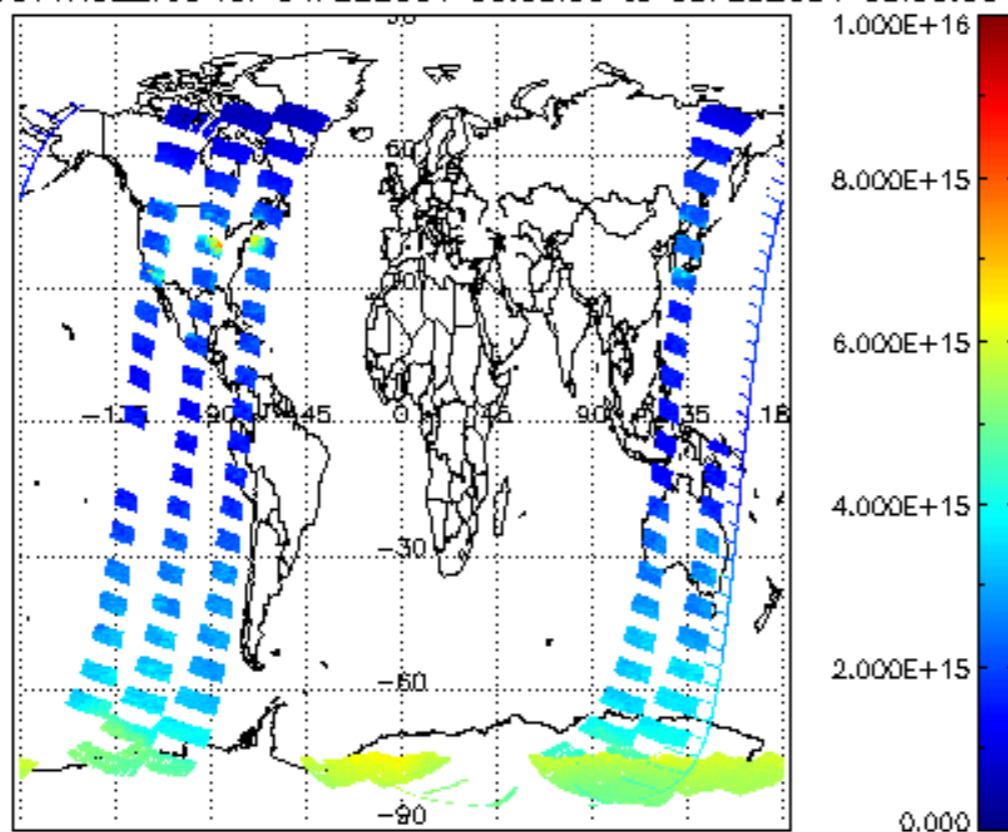


SCIOL2P_NADUV003_amf_cl for 04FEB2004 00:00:00 to 05FEB2004 00:00:00

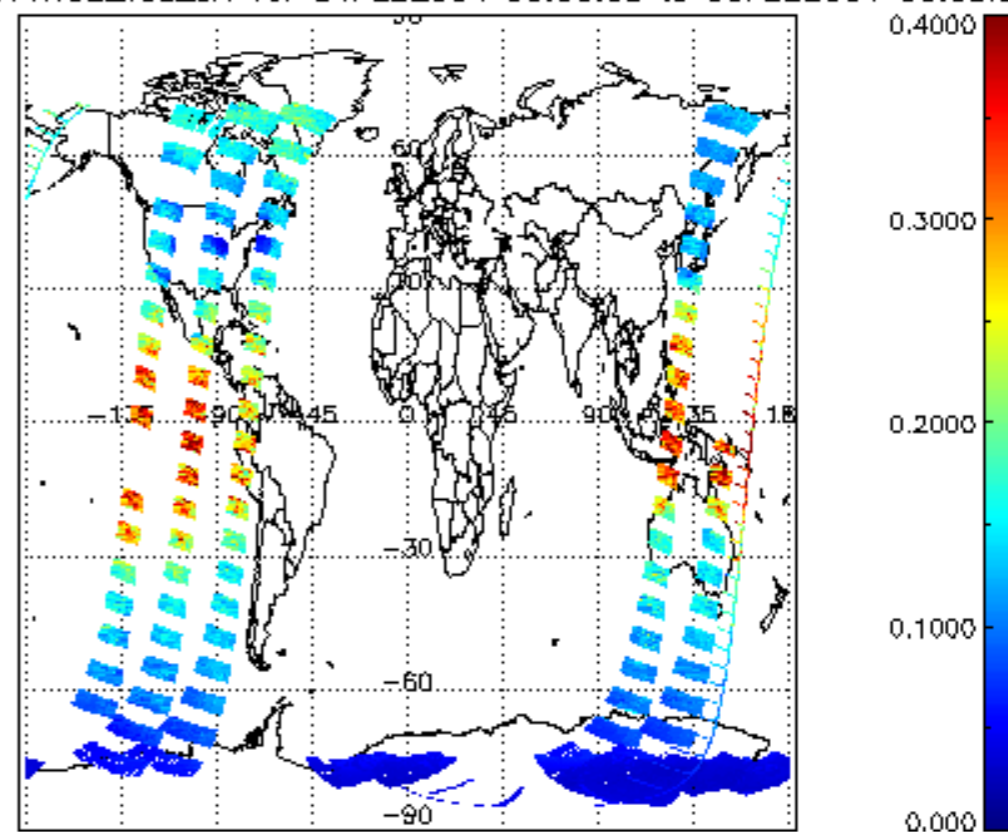




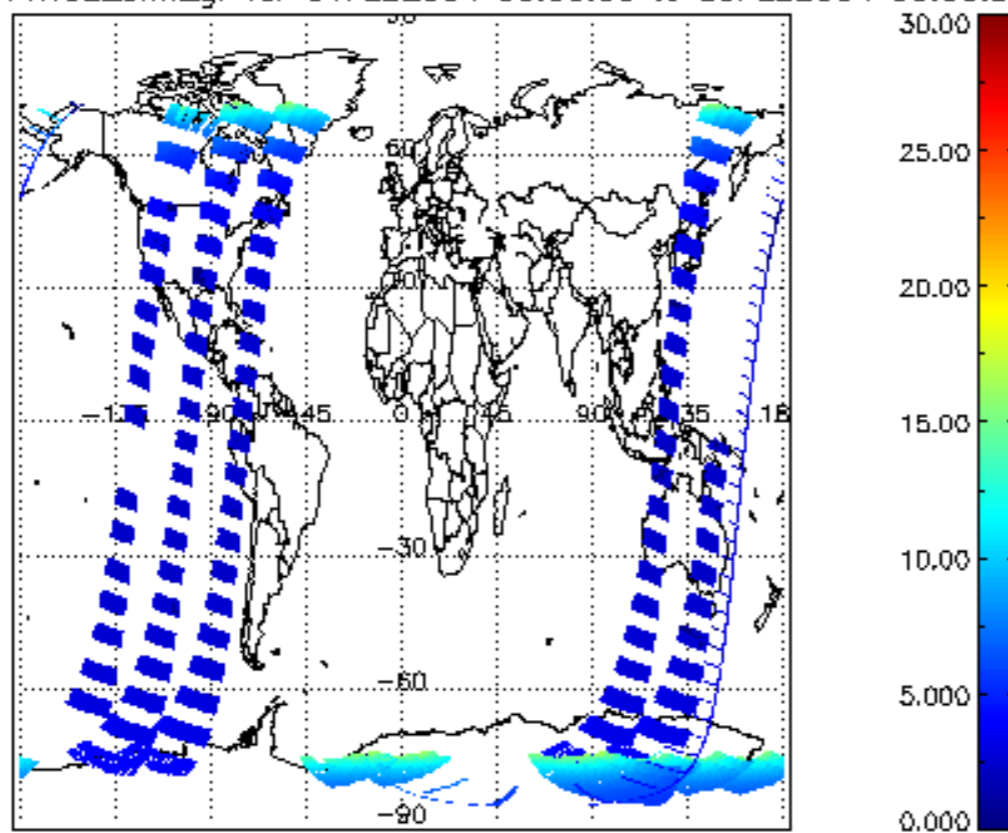
SCIOL2P_NADUV1NO2_vcd for 04FEB2004 00:00:00 to 05FEB2004 00:00:00



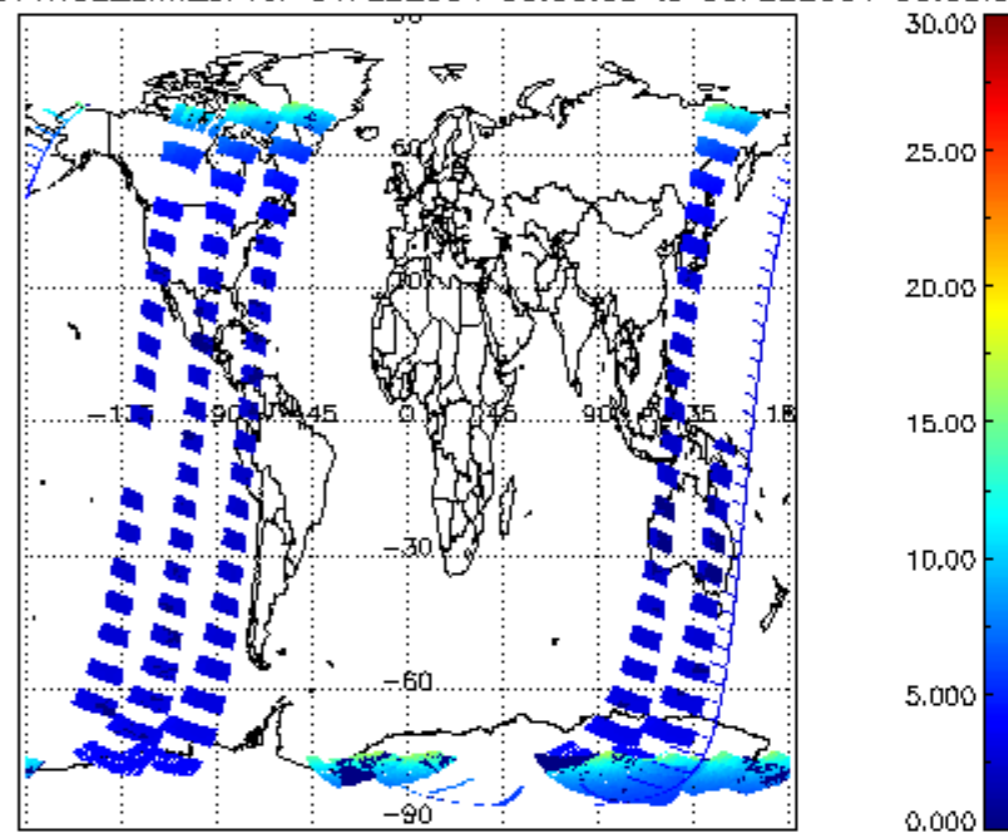
SCIOL2P_NADUV1NO2_vcd_err for 04FEB2004 00:00:00 to 05FEB2004 00:00:00



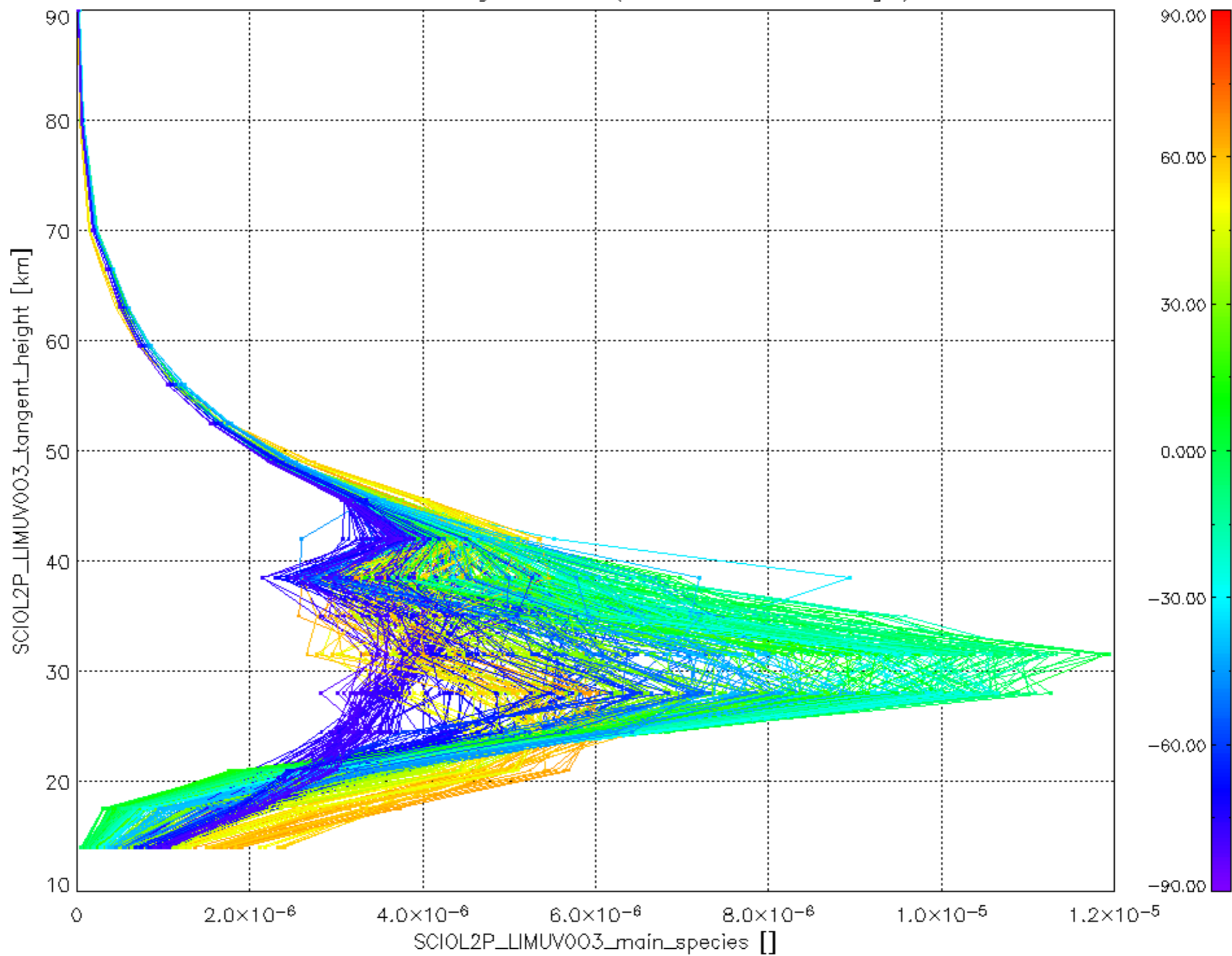
SCIOL2P_NADUV1NO2_amf_gr for 04FEB2004 00:00:00 to 05FEB2004 00:00:00



SCIOL2P_NADUV1NO2_amf_cl for 04FEB2004 00:00:00 to 05FEB2004 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).

