

## 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                           | 1.6 (28-07-2008)                         |
| Time of report generation                | 12AUG2008 08:26:35                       |
| Data source version                      | SCIA-OL/3.01-R                           |
| Processing scope for products            | 01APR2004 00:00:00 to 02APR2004 00:00:00 |
| Start time of first product within scope | 31MAR2004 23:34:21                       |
| Stop time of last product within scope   | 01APR2004 23:57:04                       |
| Total number of level 2 products         | 15                                       |
| 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.

Products are linked to a corresponding server directory for view/download. Note: Link access may be restricted by security settings of your internet browser or firewall.

| #  | Product name                                                                   | Start time         | Stop time          | Prod err | Fit summary |
|----|--------------------------------------------------------------------------------|--------------------|--------------------|----------|-------------|
| 0  | <a href="#">SCI_OL__2PRDPA20040331_233421_000033492025_00331_10906_4149.N1</a> | 31MAR2004 23:34:21 | 01APR2004 00:30:11 | 0        | GOOD        |
| 1  | <a href="#">SCI_OL__2PRDPA20040401_011457_000033492025_00332_10907_7462.N1</a> | 01APR2004 01:14:57 | 01APR2004 02:10:46 | 0        | GOOD        |
| 2  | <a href="#">SCI_OL__2PRDPA20040401_025532_000033492025_00333_10908_7200.N1</a> | 01APR2004 02:55:32 | 01APR2004 03:51:22 | 0        | GOOD        |
| 3  | <a href="#">SCI_OL__2PRDPA20040401_043608_000033492025_00334_10909_7236.N1</a> | 01APR2004 04:36:08 | 01APR2004 05:31:57 | 0        | GOOD        |
| 4  | <a href="#">SCI_OL__2PRDPA20040401_061643_000032652025_00335_10910_7448.N1</a> | 01APR2004 06:16:43 | 01APR2004 07:11:09 | 0        | GOOD        |
| 5  | <a href="#">SCI_OL__2PRDPA20040401_075719_000032652025_00336_10911_7259.N1</a> | 01APR2004 07:57:19 | 01APR2004 08:51:45 | 0        | GOOD        |
| 6  | <a href="#">SCI_OL__2PRDPA20040401_093754_000032652025_00337_10912_7288.N1</a> | 01APR2004 09:37:54 | 01APR2004 10:32:20 | 0        | GOOD        |
| 7  | <a href="#">SCI_OL__2PRDPA20040401_111830_000032652025_00338_10913_7287.N1</a> | 01APR2004 11:18:30 | 01APR2004 12:12:56 | 0        | GOOD        |
| 8  | <a href="#">SCI_OL__2PRDPA20040401_125905_000032652025_00339_10914_7414.N1</a> | 01APR2004 12:59:05 | 01APR2004 13:53:31 | 0        | GOOD        |
| 9  | <a href="#">SCI_OL__2PRDPA20040401_143941_000032652025_00340_10915_7549.N1</a> | 01APR2004 14:39:41 | 01APR2004 15:34:06 | 0        | GOOD        |
| 10 | <a href="#">SCI_OL__2PRDPA20040401_162016_000032652025_00341_10916_7577.N1</a> | 01APR2004 16:20:16 | 01APR2004 17:14:42 | 0        | GOOD        |
| 11 | <a href="#">SCI_OL__2PRDPA20040401_180102_000032742025_00342_10917_7418.N1</a> | 01APR2004 18:01:02 | 01APR2004 18:55:36 | 0        | GOOD        |
| 12 | <a href="#">SCI_OL__2PRDPA20040401_194149_000032652025_00343_10918_7501.N1</a> | 01APR2004 19:41:49 | 01APR2004 20:36:15 | 0        | GOOD        |
| 13 | <a href="#">SCI_OL__2PRDPA20040401_212203_000032652025_00344_10919_7437.N1</a> | 01APR2004 21:22:03 | 01APR2004 22:16:29 | 0        | GOOD        |
| 14 | <a href="#">SCI_OL__2PRDPA20040401_230238_000032652025_00345_10920_7400.N1</a> | 01APR2004 23:02:38 | 01APR2004 23:57:04 | 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: 112390

Total number of cloud data DSRs with good quality flag (=0): 112390 (100.0 %)

| Parameter         | #valid | Mean     | Median   | Min      | Max      | Stddev   | Unit                                                                                                        |
|-------------------|--------|----------|----------|----------|----------|----------|-------------------------------------------------------------------------------------------------------------|
| QUALITY_FLAG      | 112390 | 0.0000   | 0.0000   | 0.0000   | 0.0000   | 0.0000   | flag                                                                                                        |
| INTEGR_TIME       | 112390 | 0.22126  | 0.25000  | 0.12500  | 0.50000  | 0.084681 | s                                                                                                           |
| CL_FRAC           | 112390 | 0.42327  | 0.37881  | 0.0000   | 1.0000   | 0.31226  | -                                                                                                           |
| CL_FRAC_ERR       | 112390 | 0.0000   | 0.0000   | 0.0000   | 0.0000   | 0.0000   | rel. fraction                                                                                               |
| PMD_READ          | 112390 | 7.0803   | 8.0000   | 4.0000   | 16.000   | 2.7098   |                                                                                                             |
| PMD_READ_CL[0]    | 112390 | 0.48516  | 0.0000   | 0.0000   | 16.000   | 1.5241   | -                                                                                                           |
| PMD_READ_CL[1]    | 112390 | 0.74512  | 0.0000   | 0.0000   | 16.000   | 2.0479   | -                                                                                                           |
| CL_TOP_HEIGHT     | 101516 | 3.4454   | 1.6060   | 0.0000   | 17.000   | 3.7689   | km                                                                                                          |
| CL_TOP_HEIGHT_ERR | 0      | ---      | ---      | ---      | ---      | ---      | ---                                                                                                         |
| CL_OPT_DEPTH      | 101516 | 54.283   | 42.821   | 0.0000   | 101.00   | 40.286   | km                                                                                                          |
| CL_OPT_DEPTH_ERR  | 0      | ---      | ---      | ---      | ---      | ---      | ---                                                                                                         |
| CL_TYPE_FLAGS     | 112390 | 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       | 112390 | 11000111 | 11000010 | 11000000 | 11100000 | 2762.2   | flags                                                                                                       |
| AERO_ABSO_IND     | 112390 | 0.79554  | 0.75095  | -4.2687  | 10.967   | 1.1097   |                                                                                                             |
| AERO_IND_DIAG     | 112390 | 0.0000   | 0.0000   | 0.0000   | 0.0000   | 0.0000   |                                                                                                             |
| AERO_FLAGS        | 112390 | 01101110 | 11000000 | 00000000 | 11000000 | 24289.   | flags                                                                                                       |

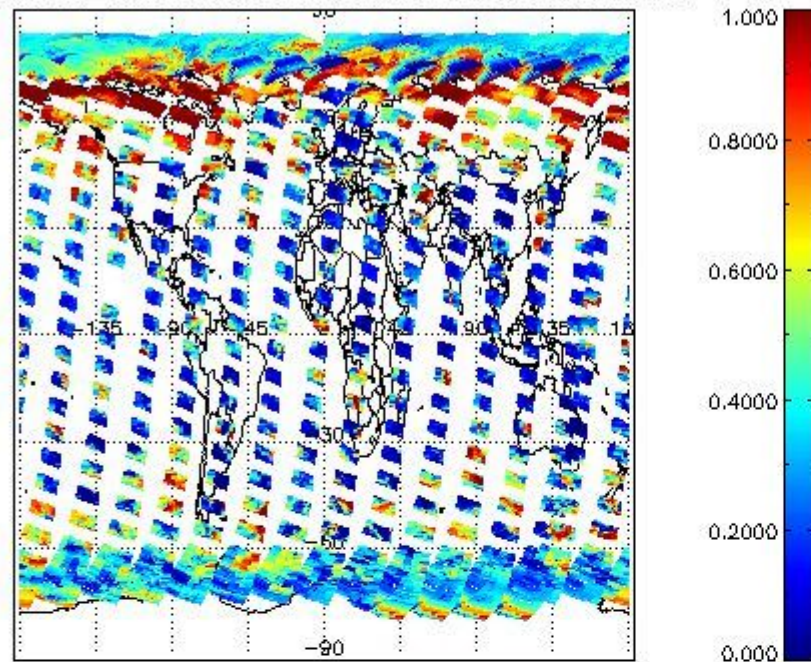
### Time and geolocation plots:

Plots are available for the following parameters:

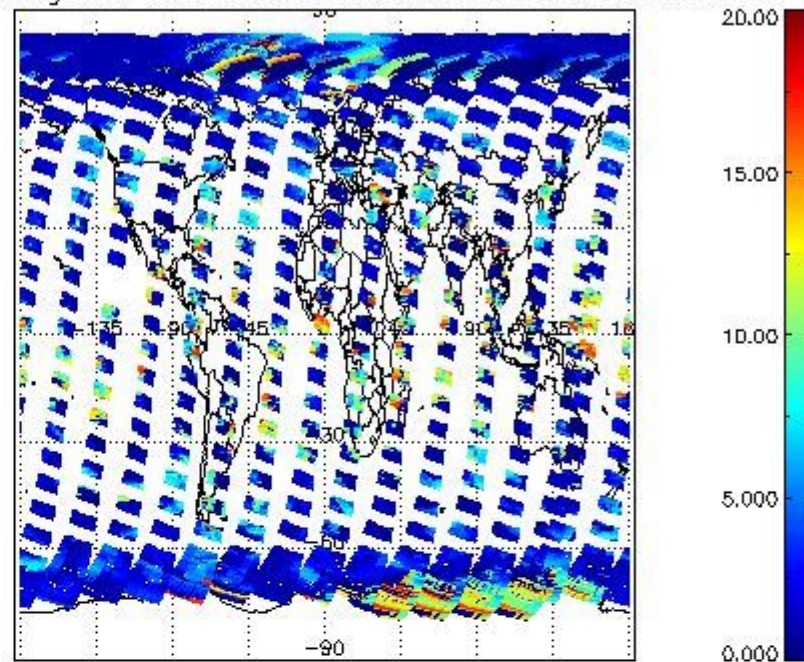
| Number | Data item ID  |
|--------|---------------|
| 0      | cl_frac       |
| 1      | cl_top_height |
| 2      | cl_opt_depth  |
| 3      | cloud_flags   |



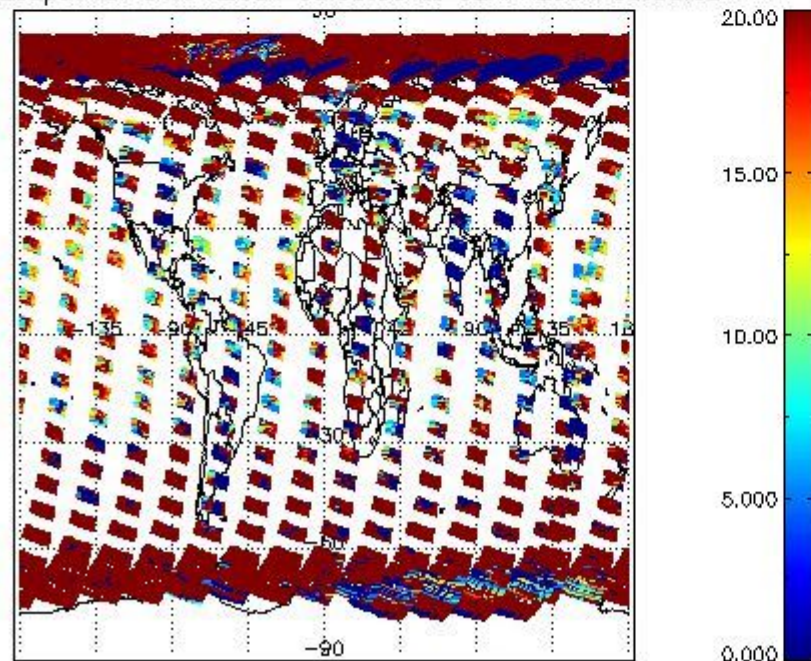
cL\_frac for 01APR2004 00:00:00 to 02APR2004 00:00:00



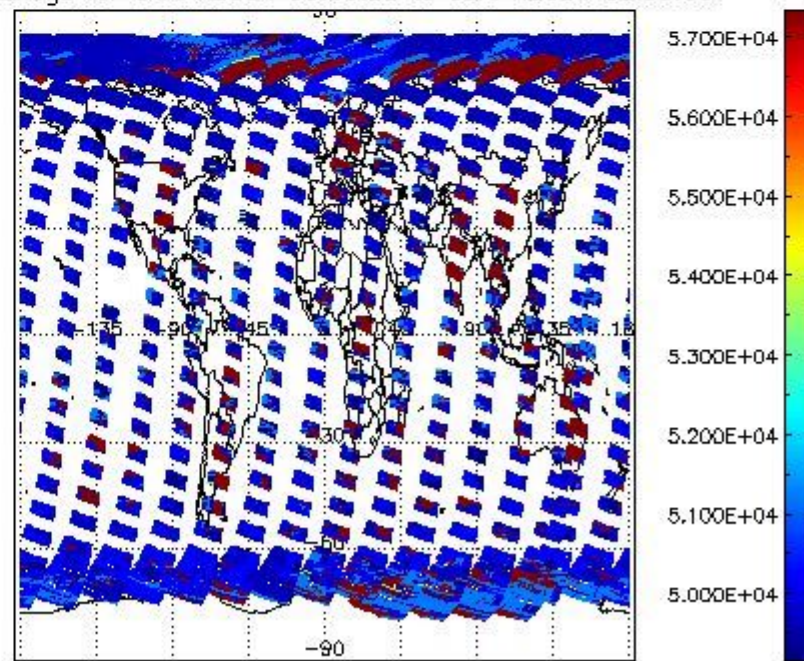
cL\_top\_height for 01APR2004 00:00:00 to 02APR2004 00:00:00



cL\_opt\_depth for 01APR2004 00:00:00 to 02APR2004 00:00:00



cloud\_flags for 01APR2004 00:00:00 to 02APR2004 00:00:00



## 2.2.2 Nadir

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

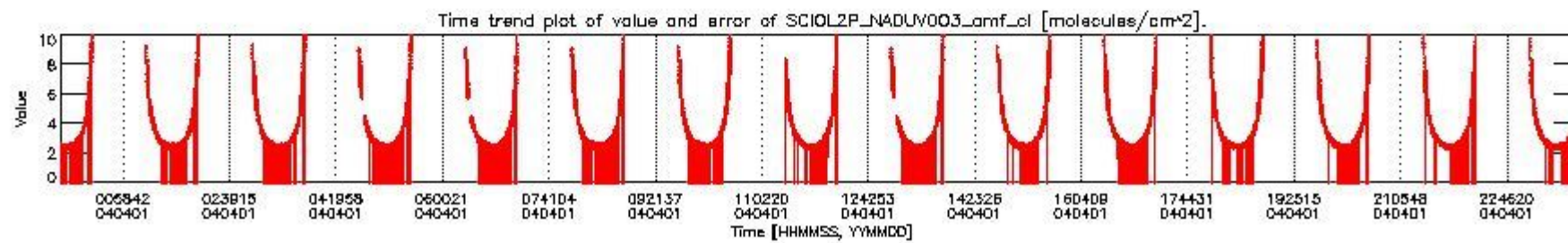
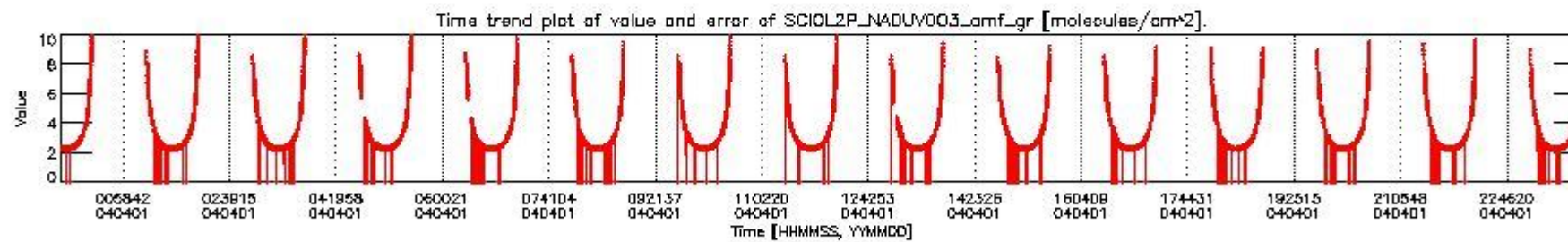
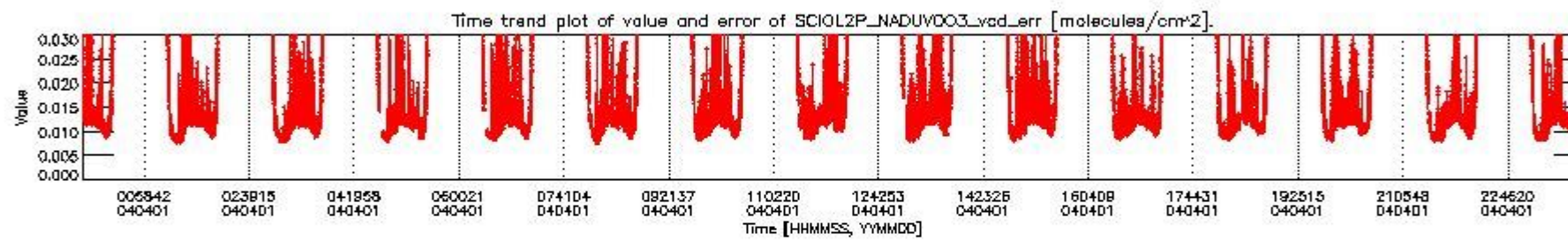
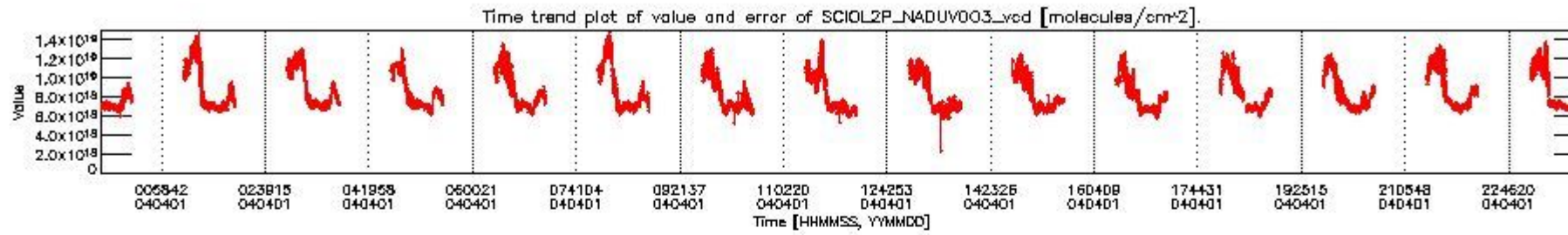
The following data items are currently included into this section:

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



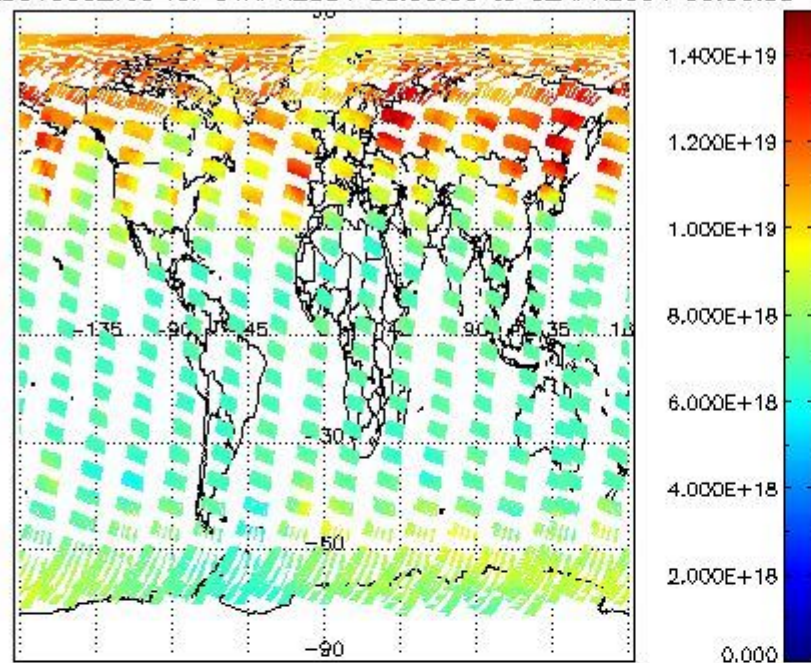
|   |                           |
|---|---------------------------|
| 3 | SCIOL2P_NADUV003_amf_cl   |
| 4 | SCIOL2P_NADUV1NO2_vcd     |
| 5 | SCIOL2P_NADUV1NO2_vcd_err |
| 6 | SCIOL2P_NADUV1NO2_amf_gr  |
| 7 | SCIOL2P_NADUV1NO2_amf_cl  |

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.

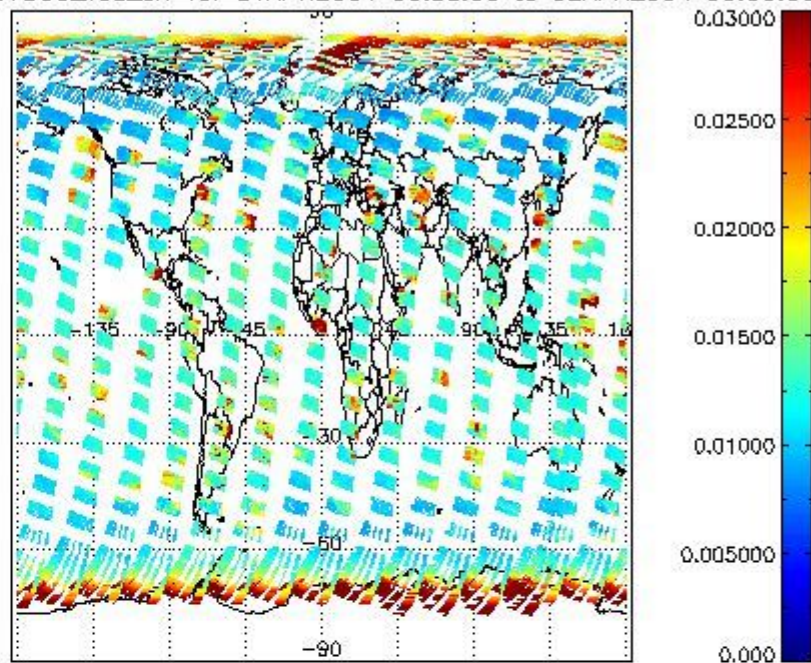




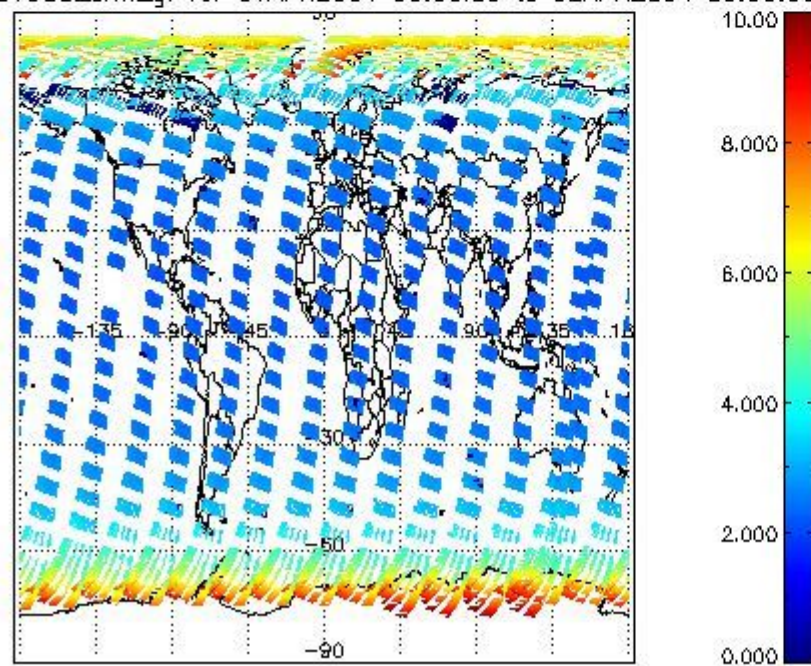
SCIOL2P\_NADUV003\_vcd for 01APR2004 00:00:00 to 02APR2004 00:00:00



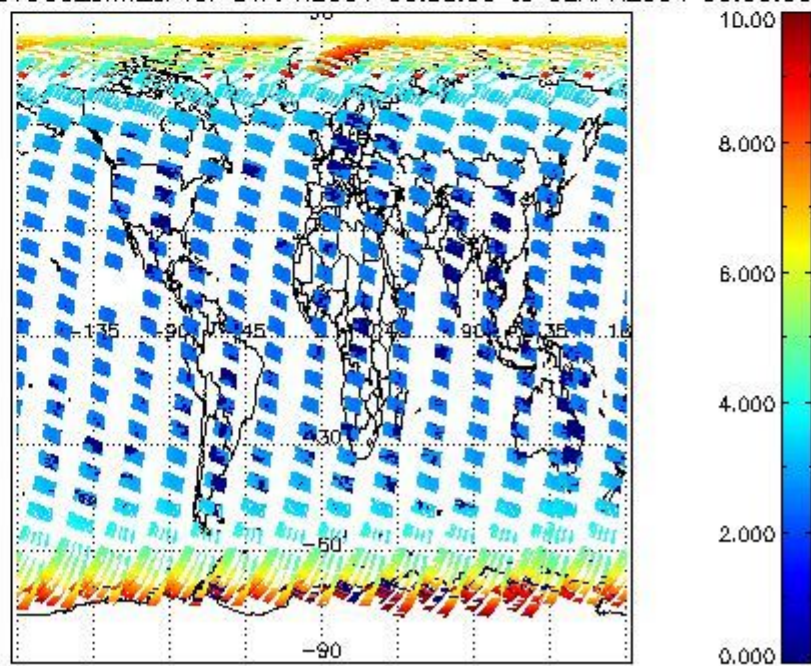
SCIOL2P\_NADUV003\_vcd\_err for 01APR2004 00:00:00 to 02APR2004 00:00:00



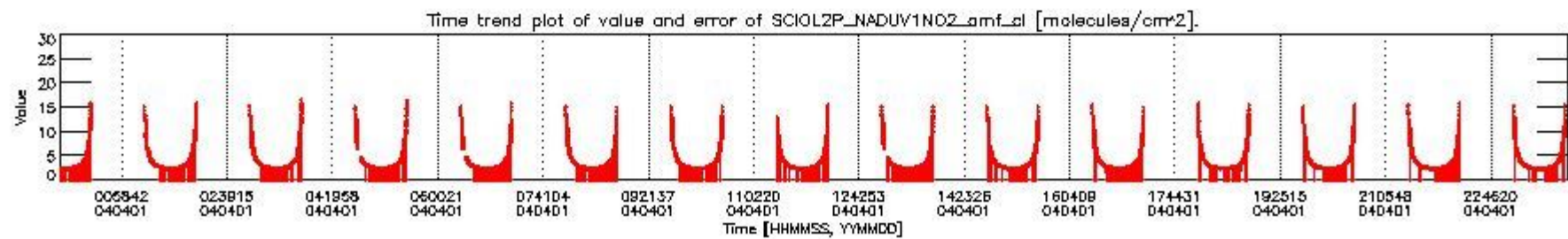
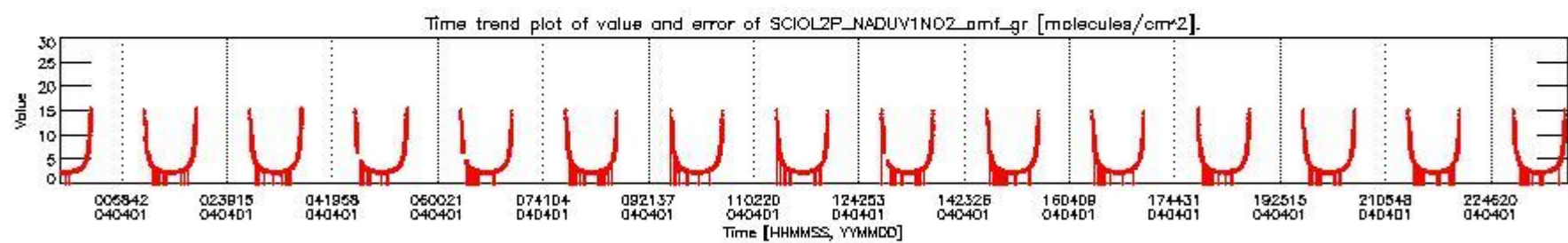
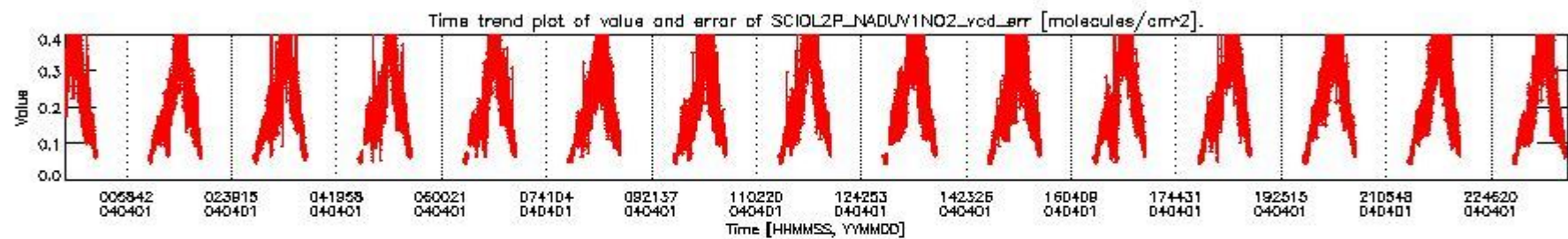
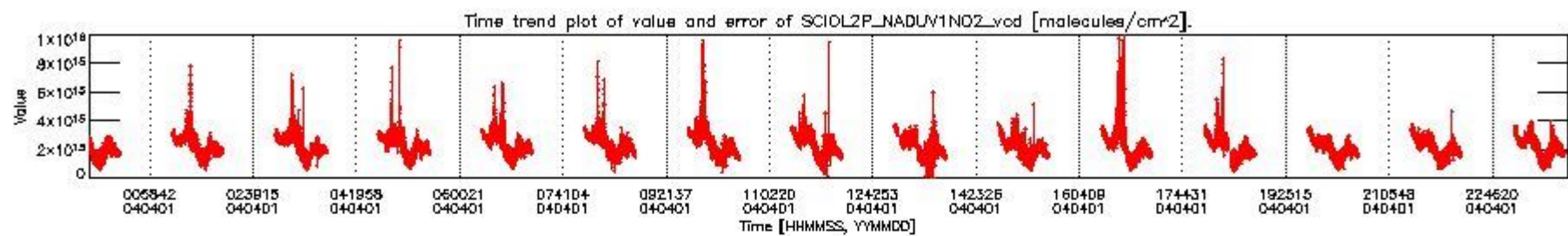
SCIOL2P\_NADUV003\_amf\_gr for 01APR2004 00:00:00 to 02APR2004 00:00:00



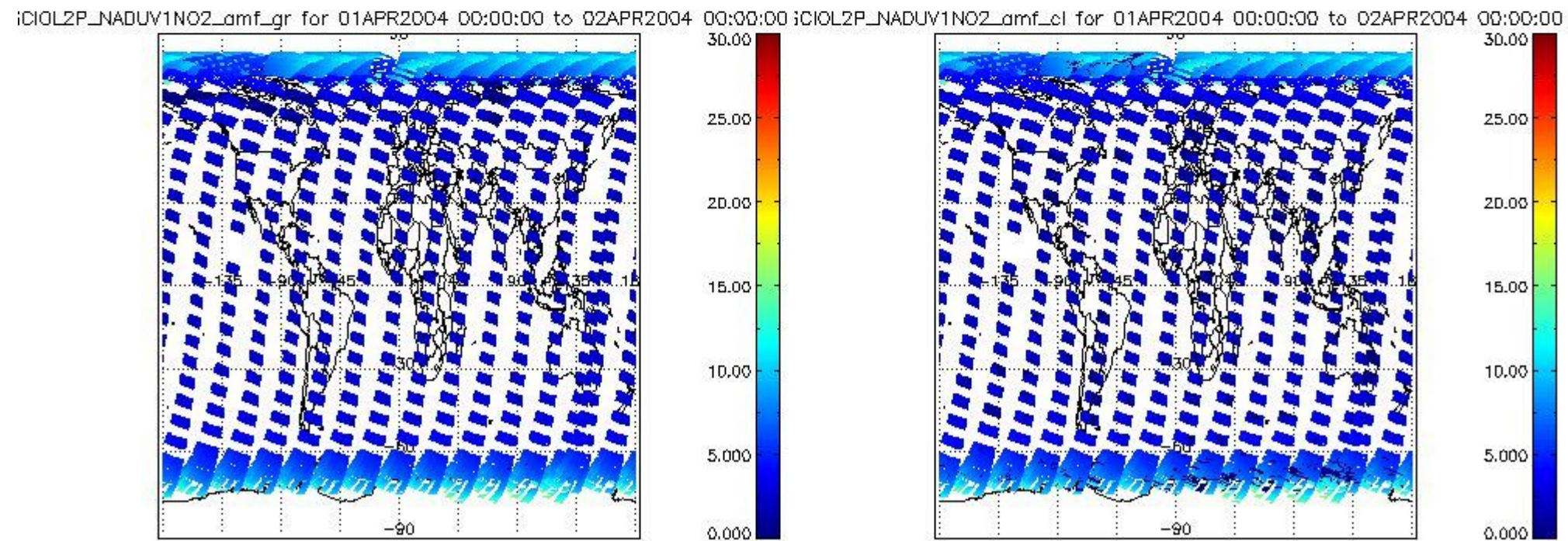
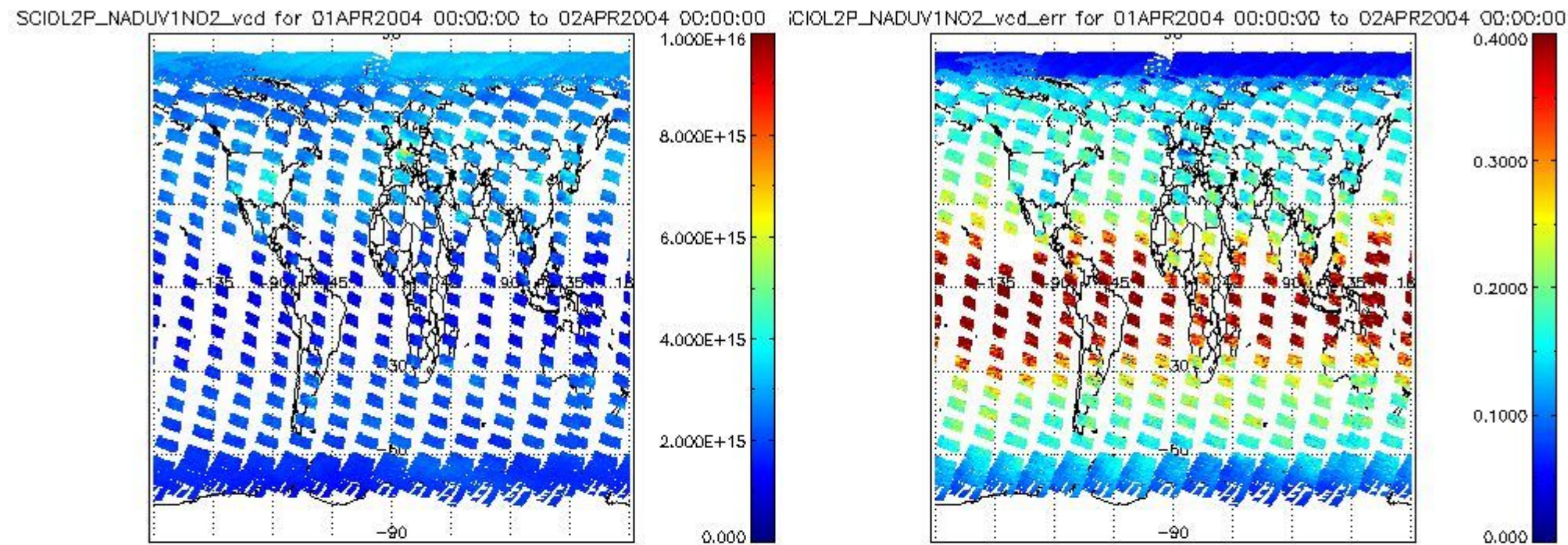
SCIOL2P\_NADUV003\_amf\_cl for 01APR2004 00:00:00 to 02APR2004 00:00:00











### 2.2.3 Limb

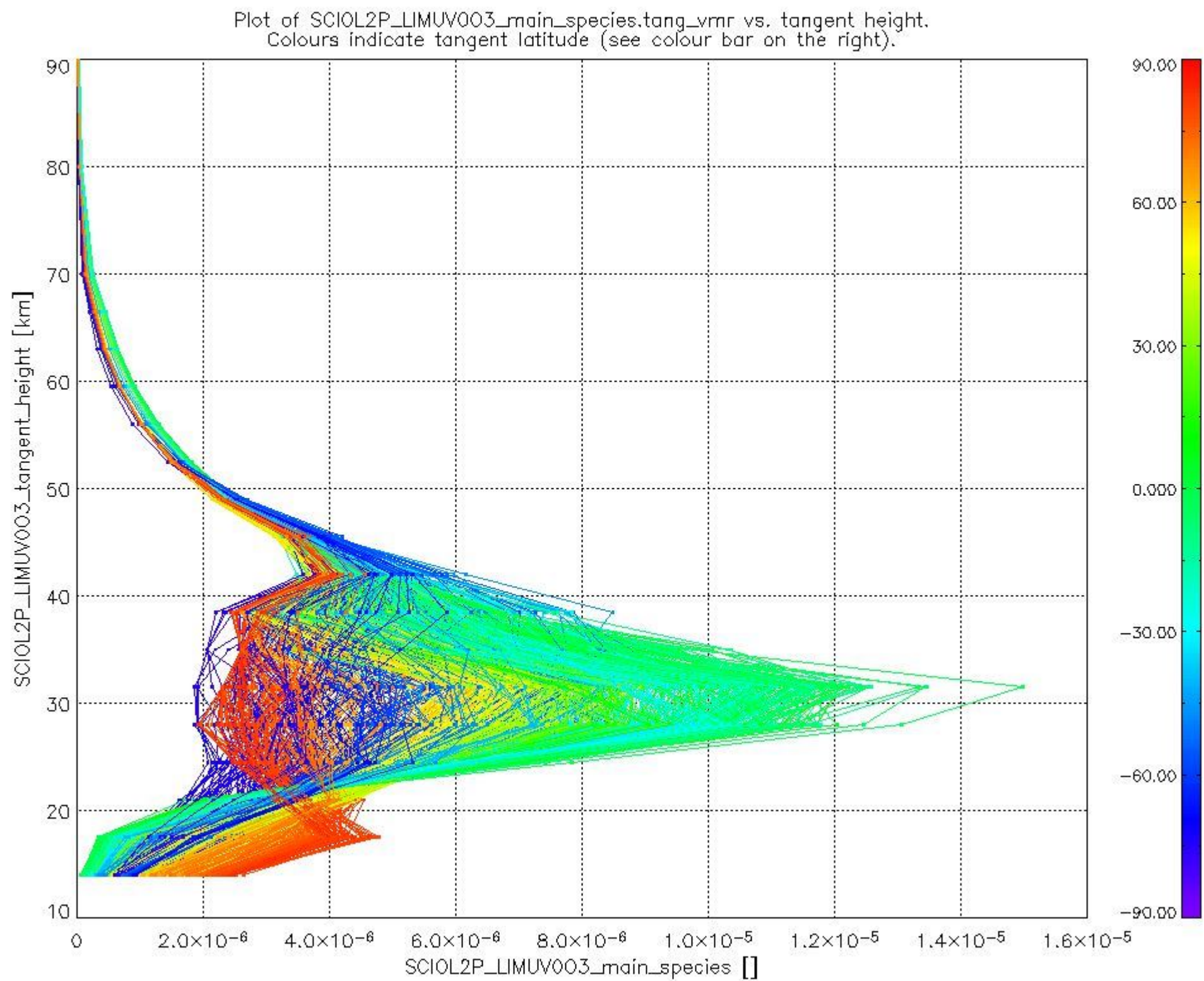
This section shows information about product quality of the limb retrievals, in particular the quality of retrieved species.

The following data items are currently included into this section:

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

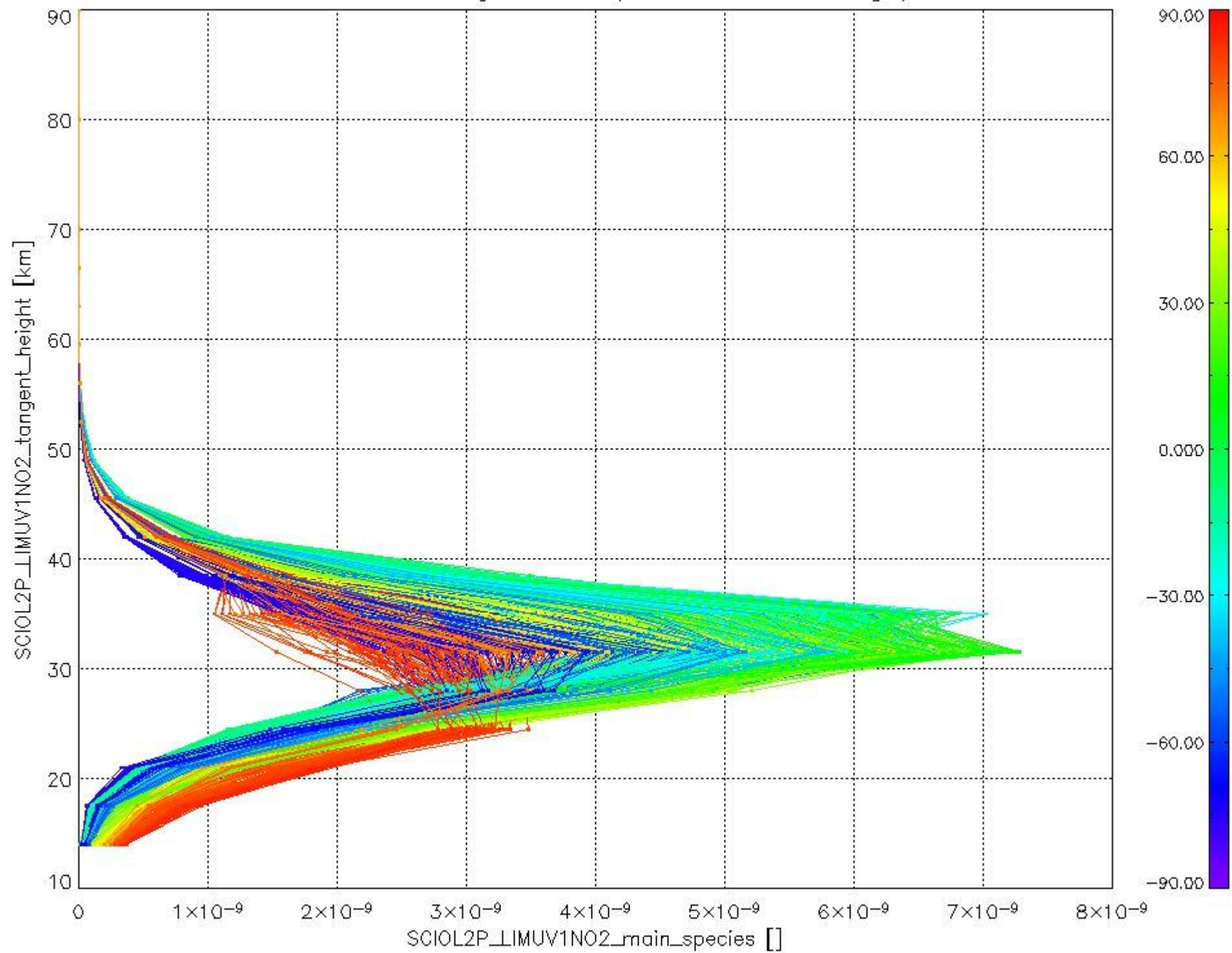


The following plots shows for each species the tangent volume mixing ratio vs. tangent height. Colours indicate tangent latitude.





Plot of SCIO2P\_LIMUV1NO2\_main\_species.tang\_vmr vs. tangent height.  
Colours indicate tangent latitude (see colour bar on the right).

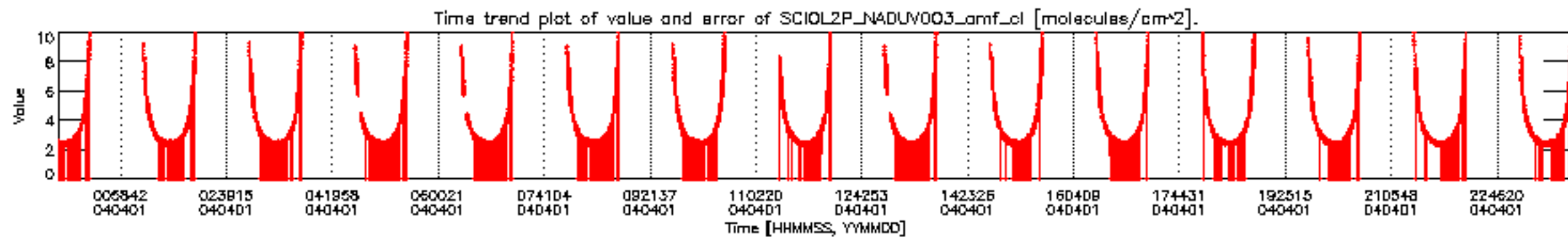
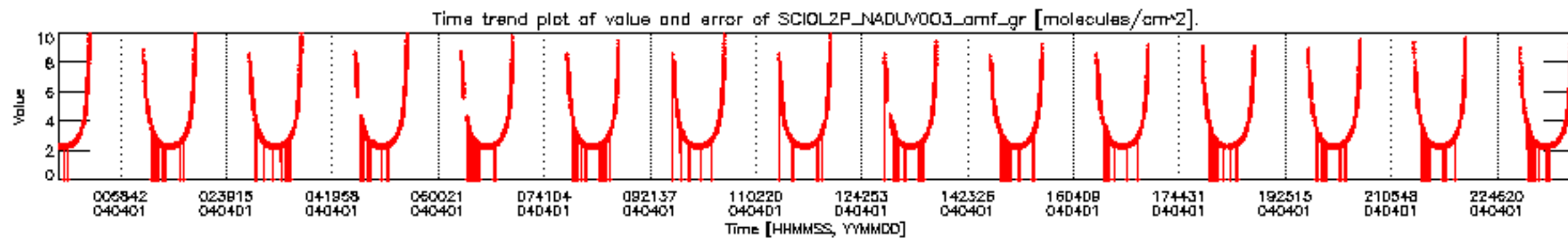
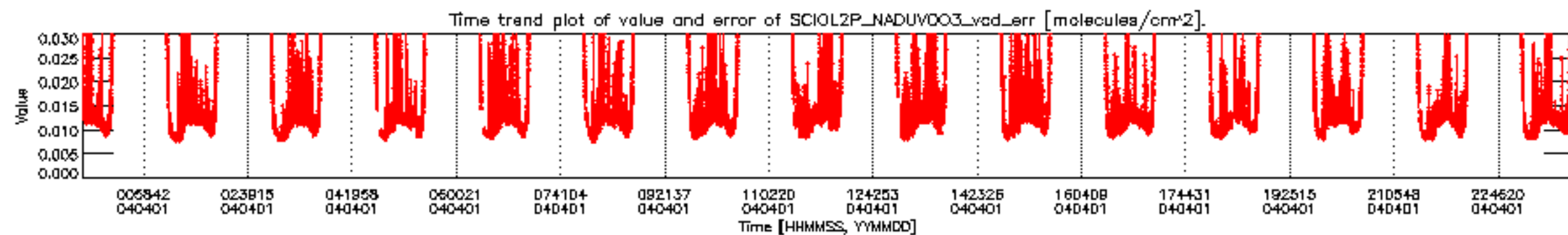
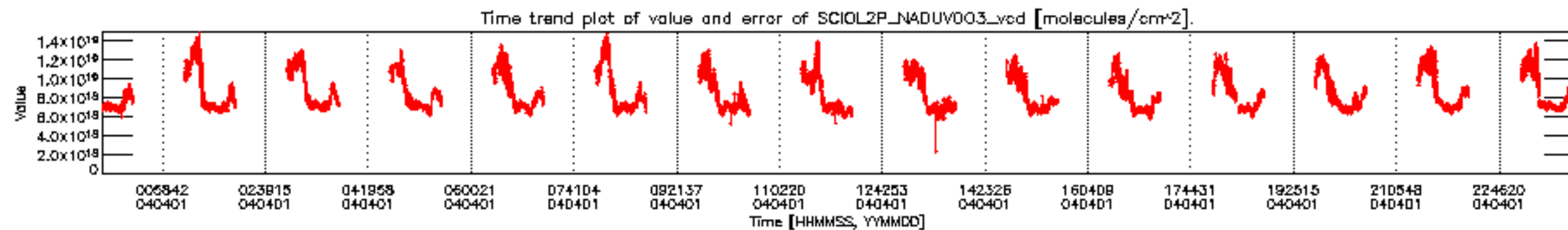


### 2.3 ADF monitoring

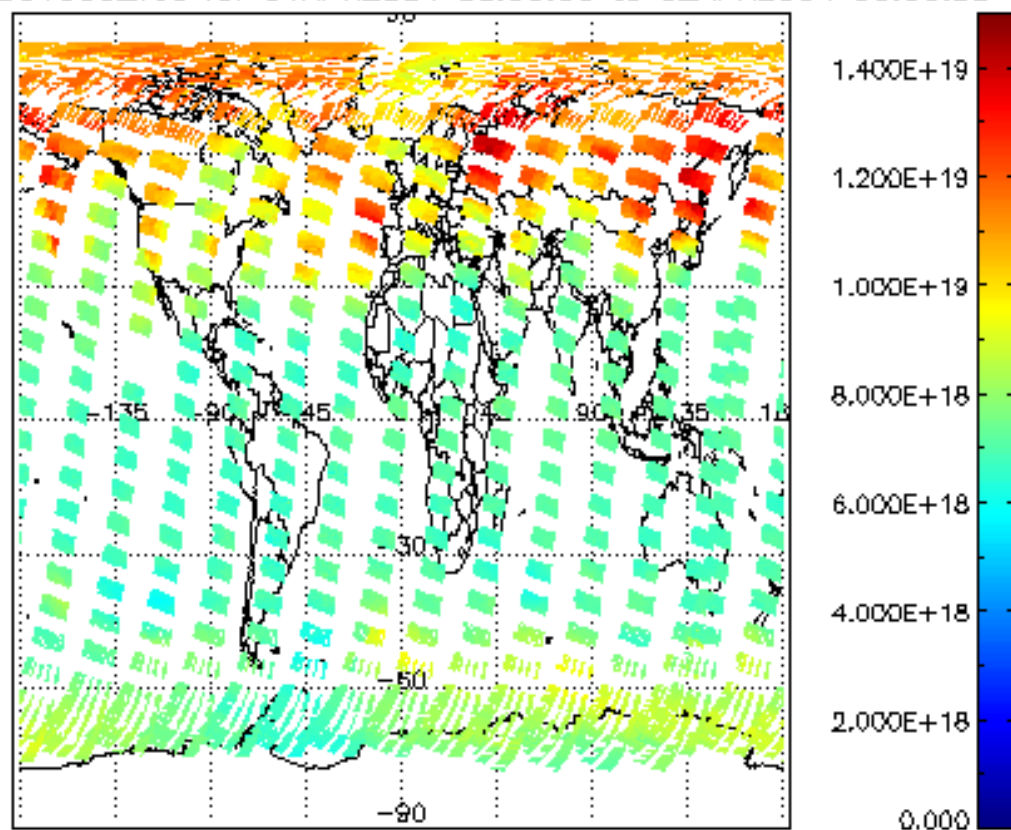
| Number | ADF                                                           |
|--------|---------------------------------------------------------------|
|        | <b>IN_ (INITIALISATION_FILE)</b>                              |
| 0      | SCI_IN__AXNPDE20070629_092400_20070720_000000_20991231_235959 |
|        | <b>ECF (ECMWF_FILE)</b>                                       |
| 1      | NOT USED                                                      |



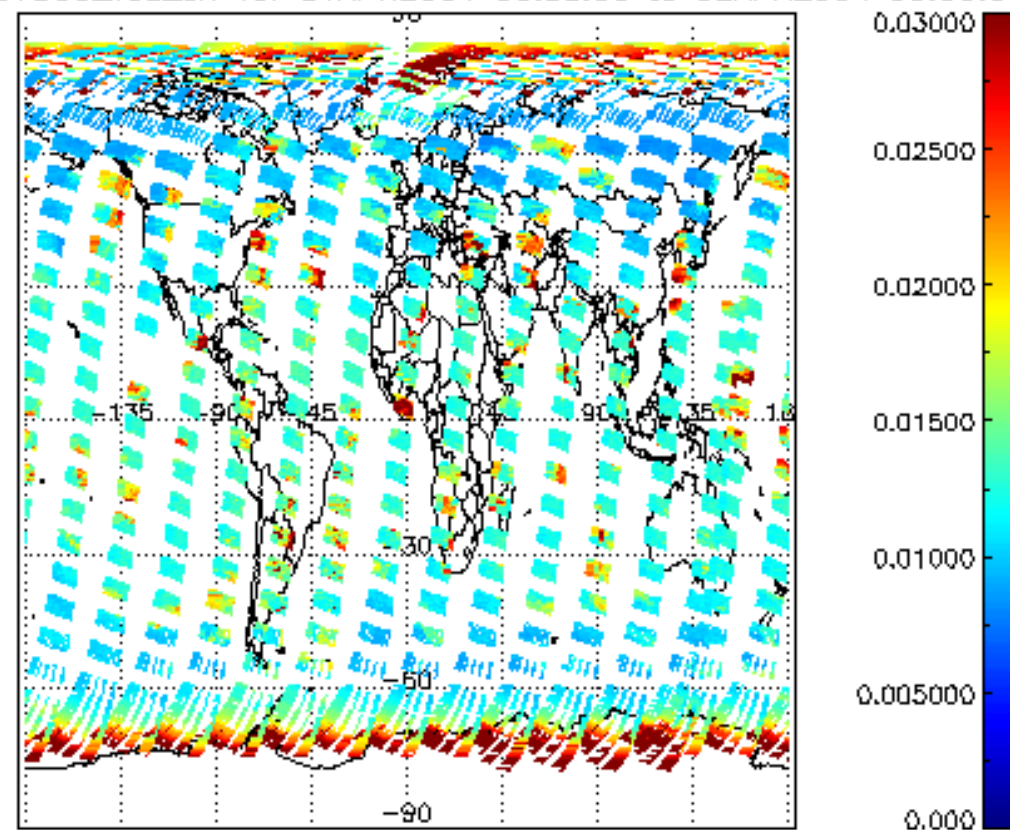




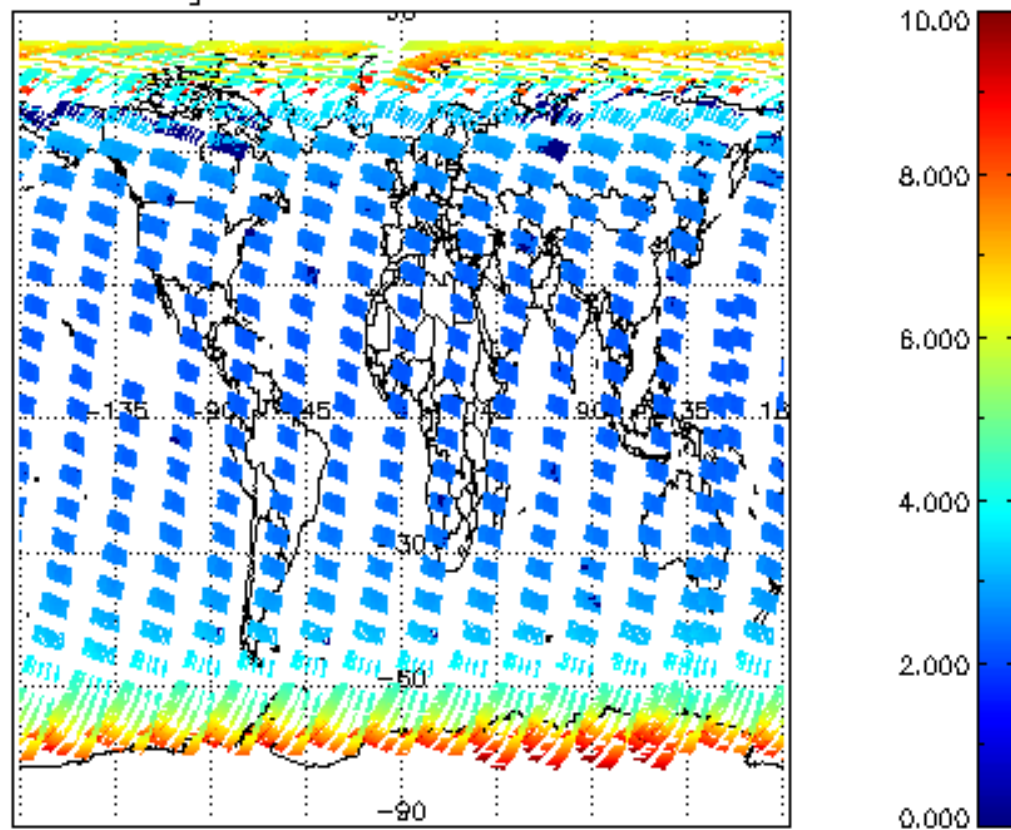
SCIOL2P\_NADUV003\_vcd for 01APR2004 00:00:00 to 02APR2004 00:00:00



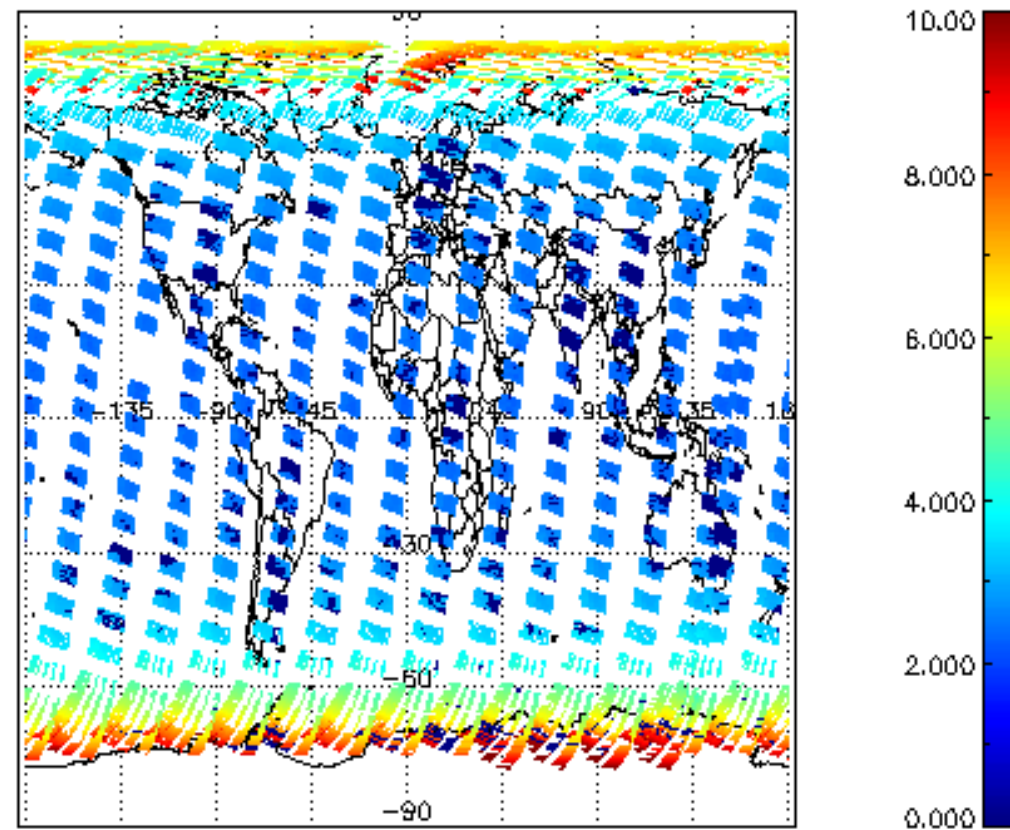
SCIOL2P\_NADUV003\_vcd\_err for 01APR2004 00:00:00 to 02APR2004 00:00:00



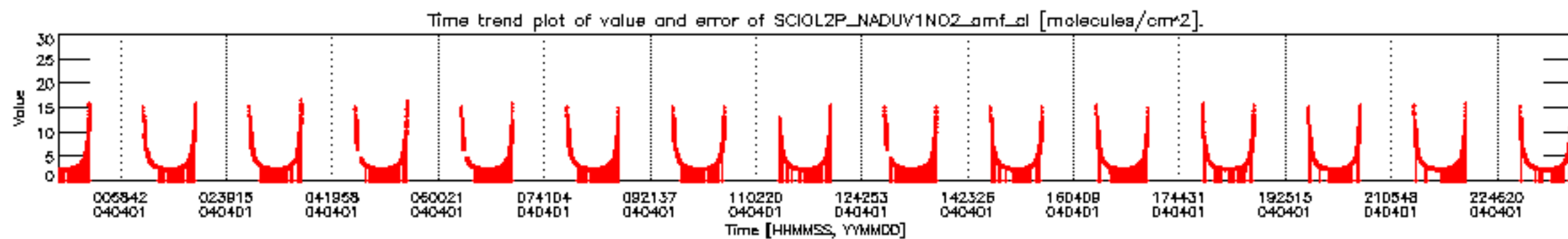
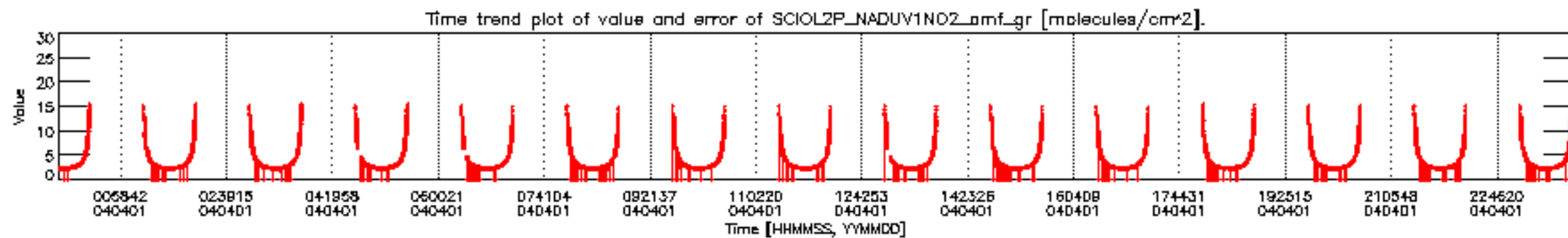
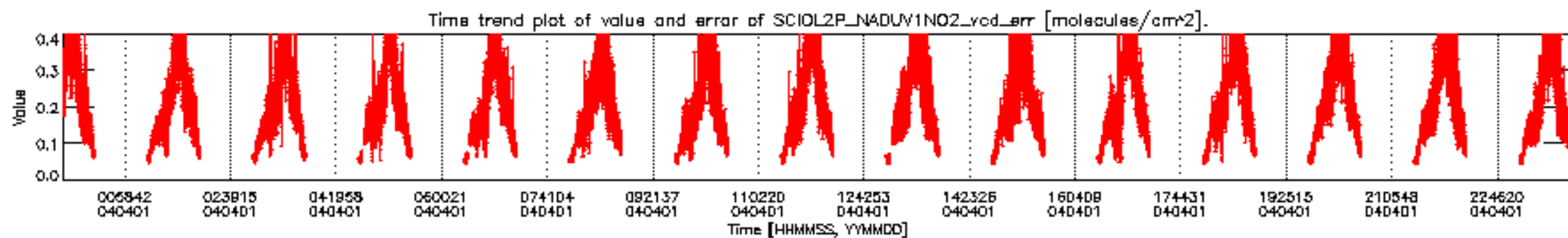
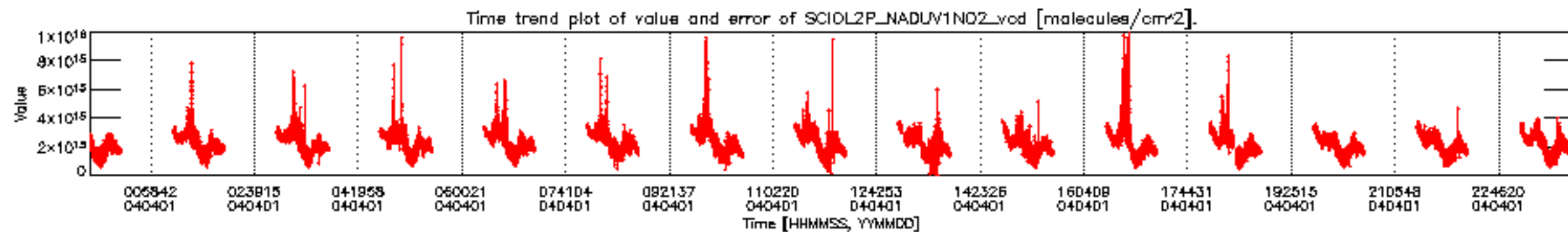
SCIOL2P\_NADUV003\_amf\_gr for 01APR2004 00:00:00 to 02APR2004 00:00:00



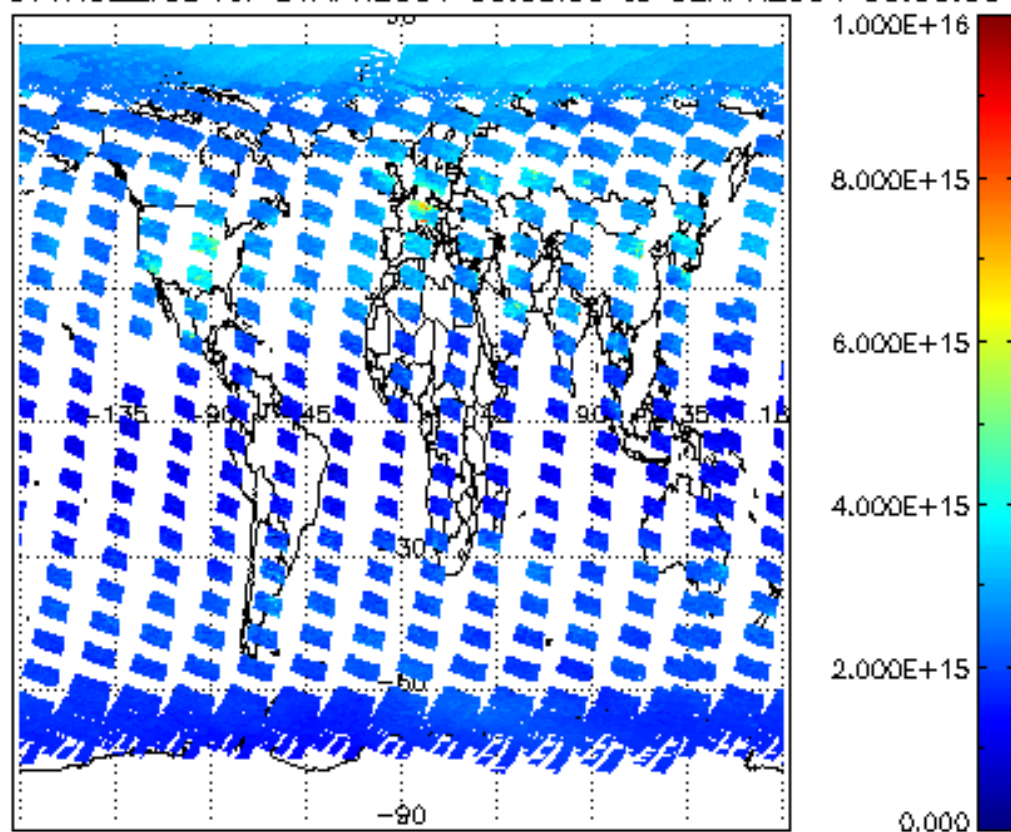
SCIOL2P\_NADUV003\_amf\_cl for 01APR2004 00:00:00 to 02APR2004 00:00:00



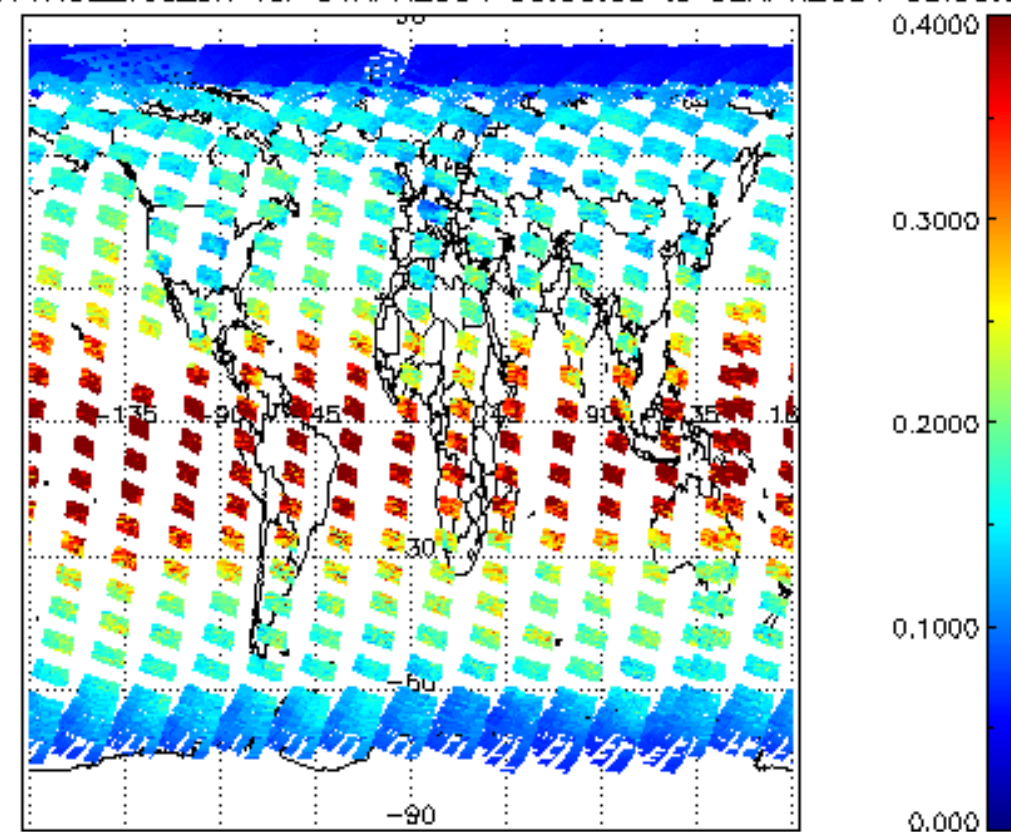




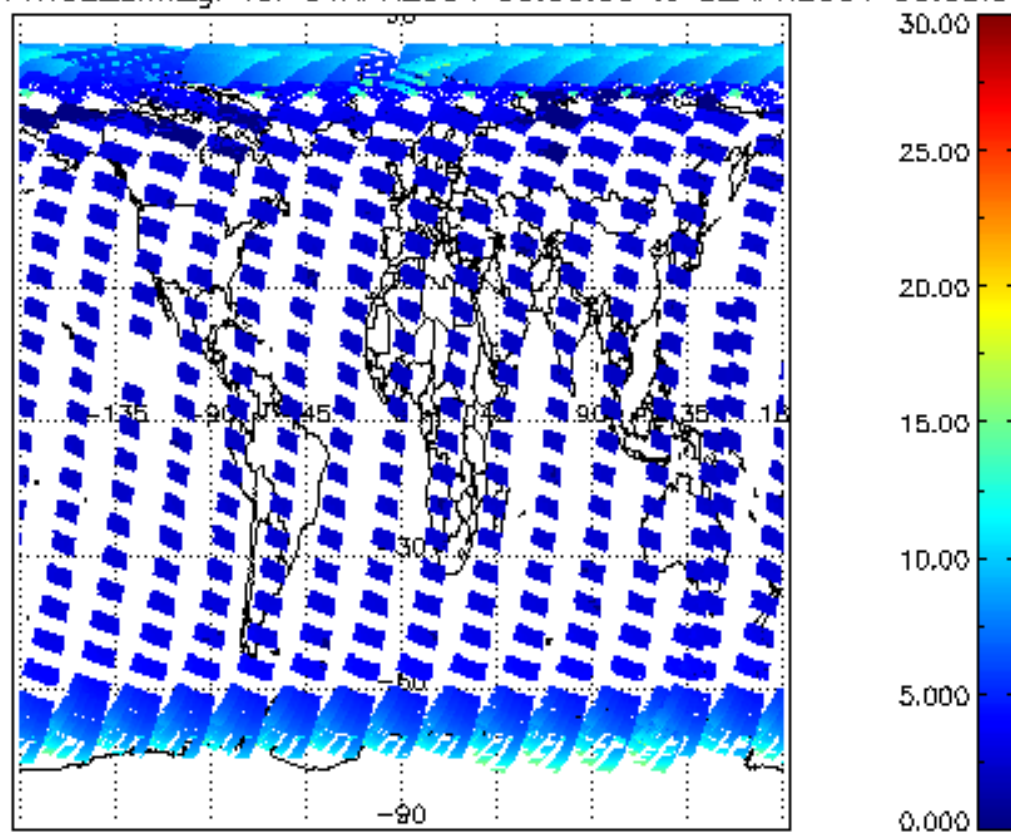
SCIOL2P\_NADUV1NO2\_vcd for 01APR2004 00:00:00 to 02APR2004 00:00:00



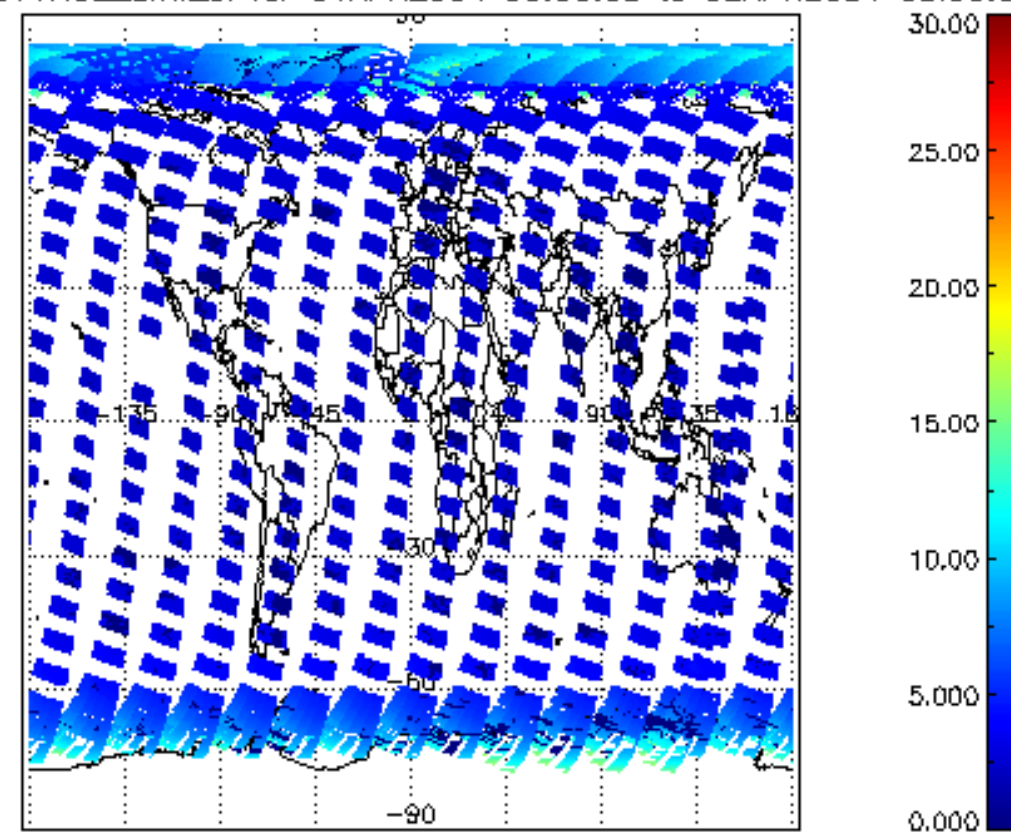
iCIOL2P\_NADUV1NO2\_vcd\_err for 01APR2004 00:00:00 to 02APR2004 00:00:00



iCIOL2P\_NADUV1NO2\_amf\_gr for 01APR2004 00:00:00 to 02APR2004 00:00:00

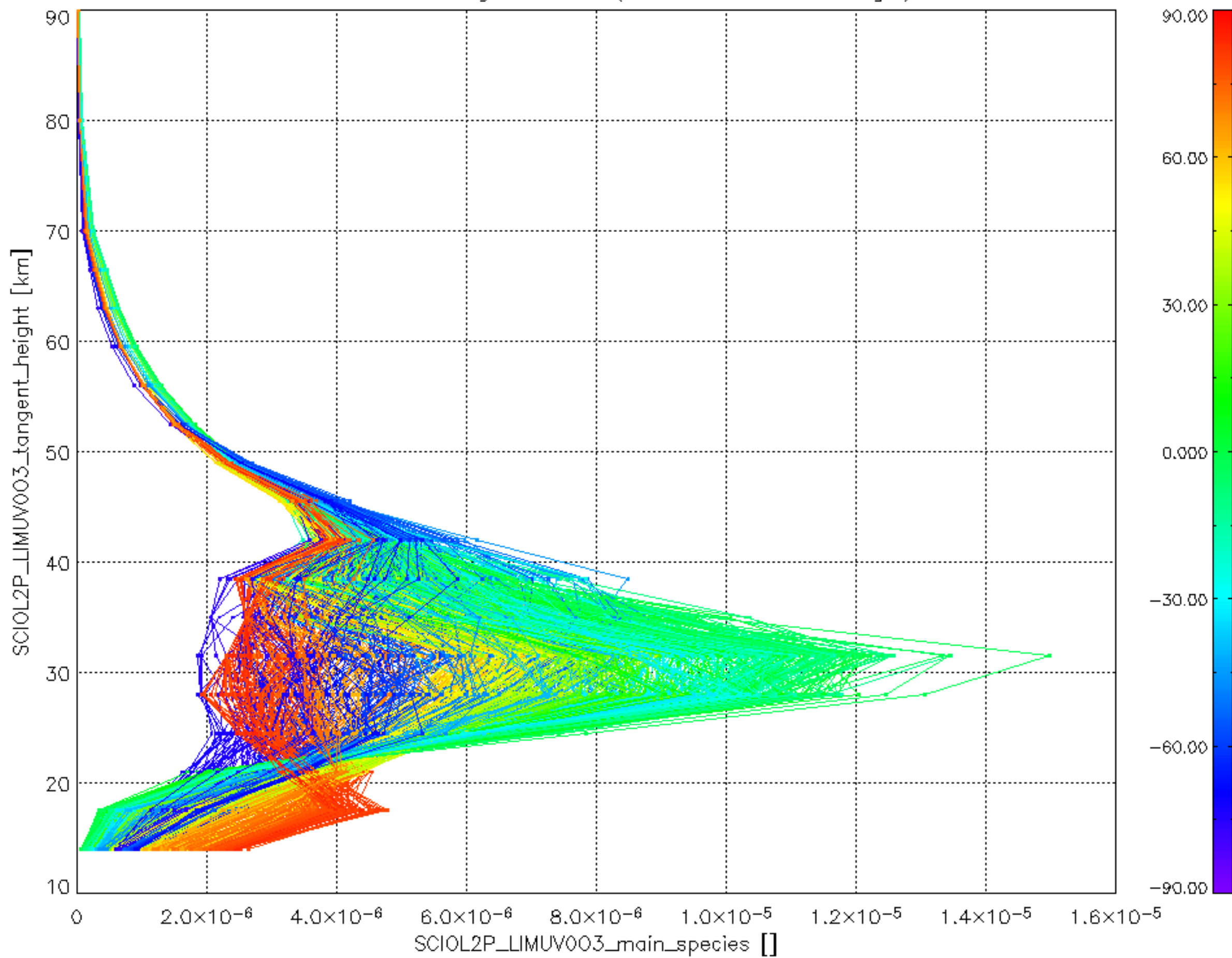


iCIOL2P\_NADUV1NO2\_amf\_cl for 01APR2004 00:00:00 to 02APR2004 00:00:00





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



Plot of SCIOL2P\_LIMUV1N02\_main\_species.tang\_vmr vs. tangent height.  
 Colours indicate tangent latitude (see colour bar on the right).

