

# GOMOS Level 2 Daily Report

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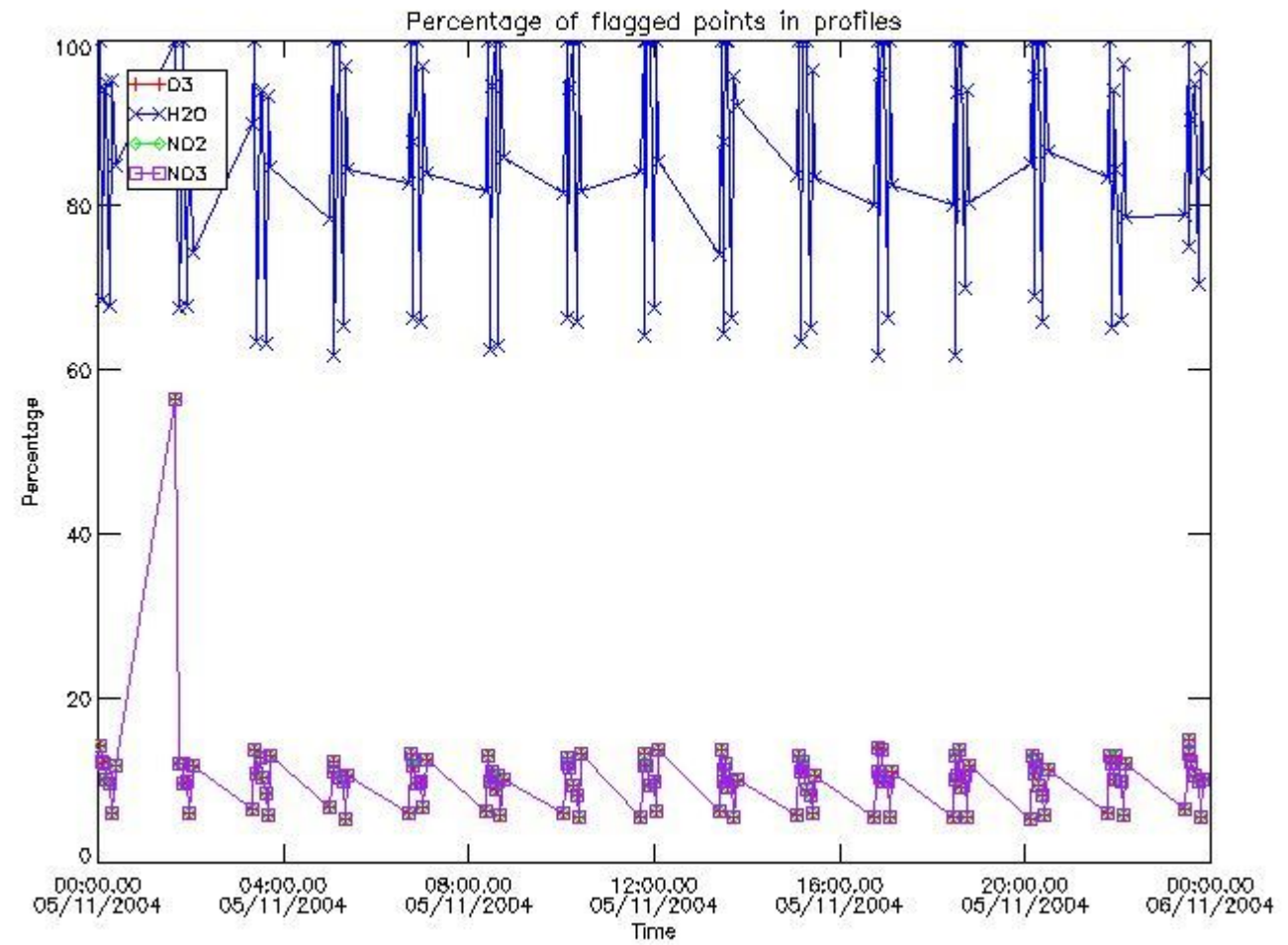
|     |  |                      |                |        |     |           |          |        |     |       |    |
|-----|--|----------------------|----------------|--------|-----|-----------|----------|--------|-----|-------|----|
| 338 | GOM_NL__2PRFIN20041105_220335_000000522031_00459_14040_5888.N1 | 05-NOV-2004 22:03:35 | Dark           | 52.000 | 2   | Alp Car   | -0.73600 | 7000.0 | 104 | 14040 | No |
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| 353 | GOM_NL__2PRFIN20041105_225858_000000432031_00459_14040_5903.N1 | 05-NOV-2004 22:58:58 | Bright         | 43.000 | 36  | 50Alp UMa | 1.8000   | 6300.0 | 86  | 14040 | No |
| 354 | GOM_NL__2PRFIN20041105_230036_000000572031_00459_14040_5904.N1 | 05-NOV-2004 23:00:36 | Bright         | 57.000 | 82  | 48Bet UMa | 2.3650   | 10600. | 114 | 14040 | No |
| 355 | GOM_NL__2PRFIN20041105_230214_000000352031_00459_14040_5905.N1 | 05-NOV-2004 23:02:14 | Bright         | 34.500 | 39  | 85Eta UMa | 1.8540   | 24000. | 69  | 14040 | No |
| 356 | GOM_NL__2PRFIN20041105_230424_000000432031_00459_14040_5906.N1 | 05-NOV-2004 23:04:24 | Bright         | 43.000 | 174 | 52Psi UMa | 3.0040   | 4400.0 | 86  | 14040 | No |
| 357 | GOM_NL__2PRFIN20041105_231300_000000662031_00459_14040_5907.N1 | 05-NOV-2004 23:13:00 | Bright         | 66.000 | 166 | 17Eps Leo | 2.9800   | 6000.0 | 132 | 14040 | No |
| 358 | GOM_NL__2PRFIN20041105_231706_000000662031_00459_14040_5908.N1 | 05-NOV-2004 23:17:06 | Twilight_stray | 65.500 | 22  | 32Alp Leo | 1.3600   | 15200. | 131 | 14040 | No |
| 359 | GOM_NL__2PRFIN20041105_232732_000000932031_00459_14040_5909.N1 | 05-NOV-2004 23:27:32 | Dark           | 92.500 | 48  | 30Alp Hya | 1.9770   | 4100.0 | 185 | 14040 | No |
| 360 | GOM_NL__2PRFIN20041105_233050_000000412031_00459_14040_5910.N1 | 05-NOV-2004 23:30:50 | Dark           | 41.000 | 99  | Del Cen   | 2.5750   | 26000. | 82  | 14040 | No |
| 361 | GOM_NL__2PRFIN20041105_233222_000000392031_00459_14040_5911.N1 | 05-NOV-2004 23:32:22 | Dark           | 38.500 | 26  | Gam Cru   | 1.6240   | 2900.0 | 77  | 14040 | No |
| 362 | GOM_NL__2PRFIN20041105_233402_000000422031_00459_14040_5912.N1 | 05-NOV-2004 23:34:02 | Dark           | 41.500 | 12  | Alp1Cru   | 0.77500  | 30000. | 83  | 14040 | No |
| 363 | GOM_NL__2PRFIN20041105_233826_000000482031_00460_14041_5900.N1 | 05-NOV-2004 23:38:26 | Dark           | 48.000 | 29  | Bet Car   | 1.6720   | 10200. | 96  | 14041 | No |
| 364 | GOM_NL__2PRFIN20041105_234412_000000512031_00460_14041_5901.N1 | 05-NOV-2004 23:44:12 | Dark           | 51.000 | 2   | Alp Car   | -0.73600 | 7000.0 | 102 | 14041 | No |
| 365 | GOM_NL__2PRFIN20041105_234654_000000912031_00460_14041_5902.N1 | 05-NOV-2004 23:46:54 | Dark           | 90.500 | 23  | 21Eps CMa | 1.5020   | 26000. | 181 | 14041 | No |
| 366 | GOM_NL__2PRFIN20041105_235027_000000502031_00460_14041_5903.N1 | 05-NOV-2004 23:50:27 | Dark           | 50.000 | 9   | Alp Eri   | 0.45300  | 24000. | 100 | 14041 | No |
| 367 | GOM_NL__2PRFIN20041105_235353_000000452031_00460_14041_5904.N1 | 05-NOV-2004 23:53:53 | Straylight     | 45.000 | 157 | The1Eri   | 2.9060   | 9300.0 | 90  | 14041 | No |
| 368 | GOM_NL__2PRFIN20041105_235721_000000912031_00460_14041_5905.N1 | 05-NOV-2004 23:57:21 | Straylight     | 90.500 | 139 | 9Bet Lep  | 2.8330   | 5600.0 | 181 | 14041 | No |

### 3. Quality information per product

In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

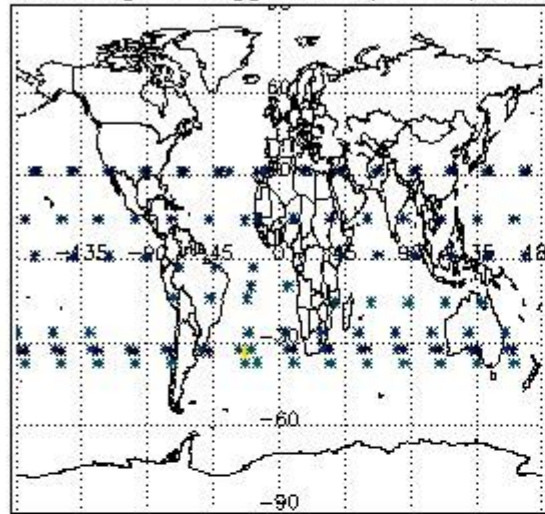
#### 3.1 Plot quality information per product (time dependant)



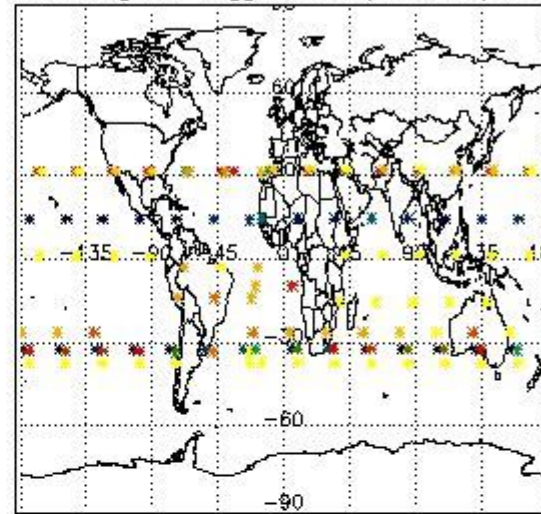


3.2 Plot quality information per product (world map)

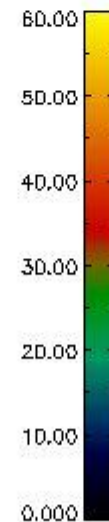
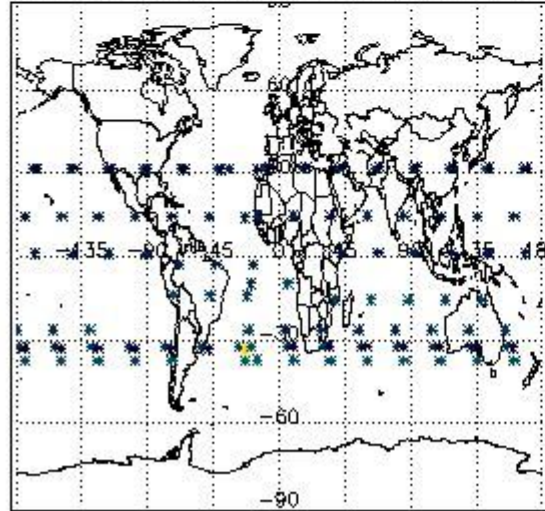
Percentage of flagged data per O3 profile



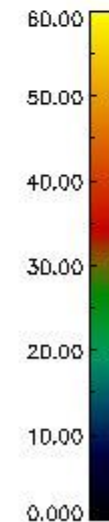
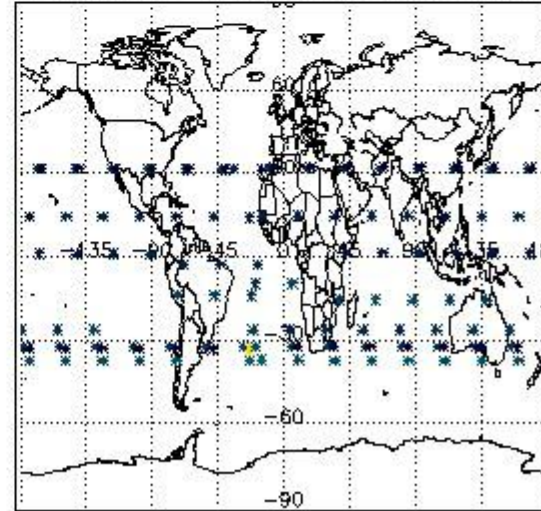
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

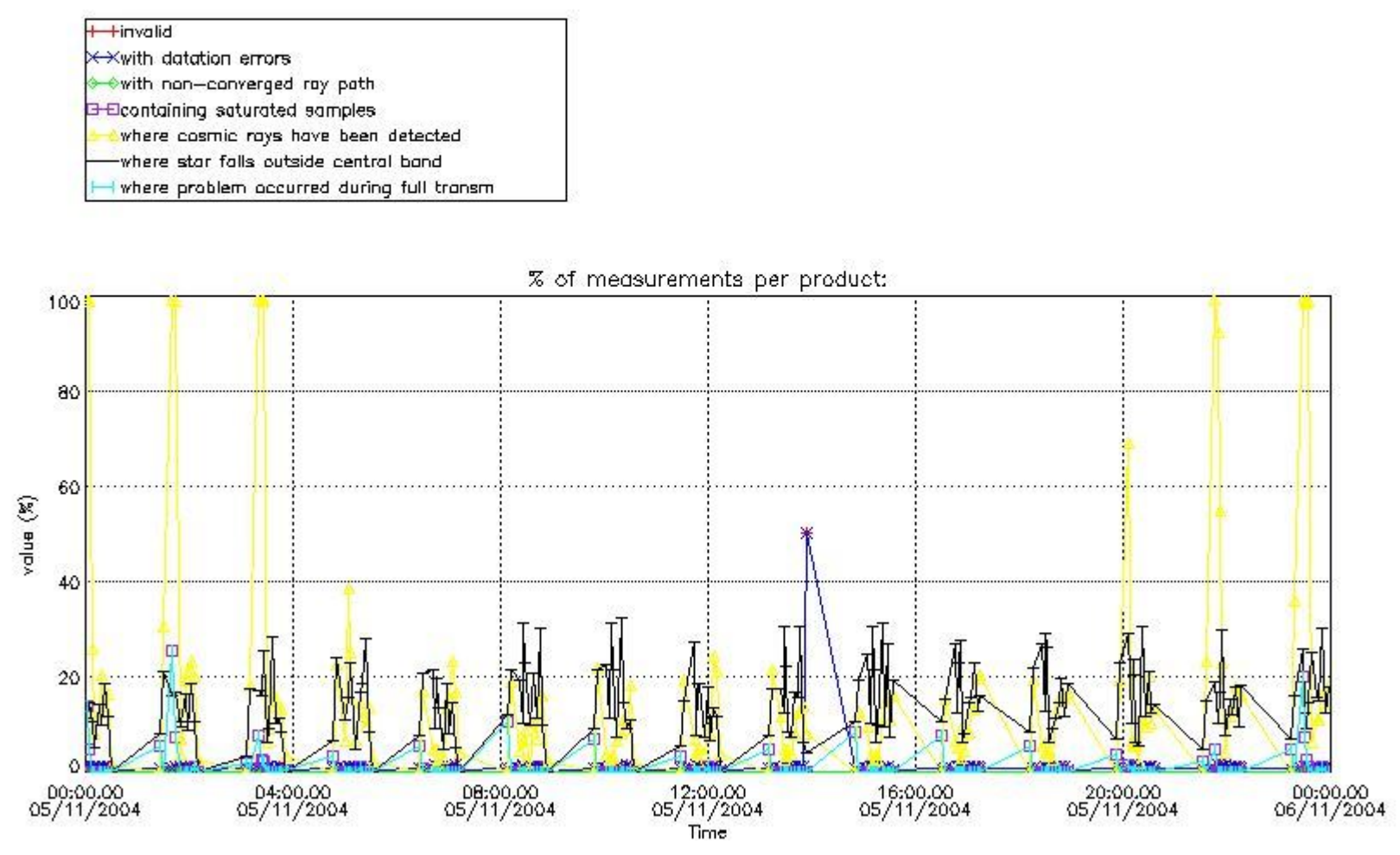


#### 4. Level 1 quality information per product

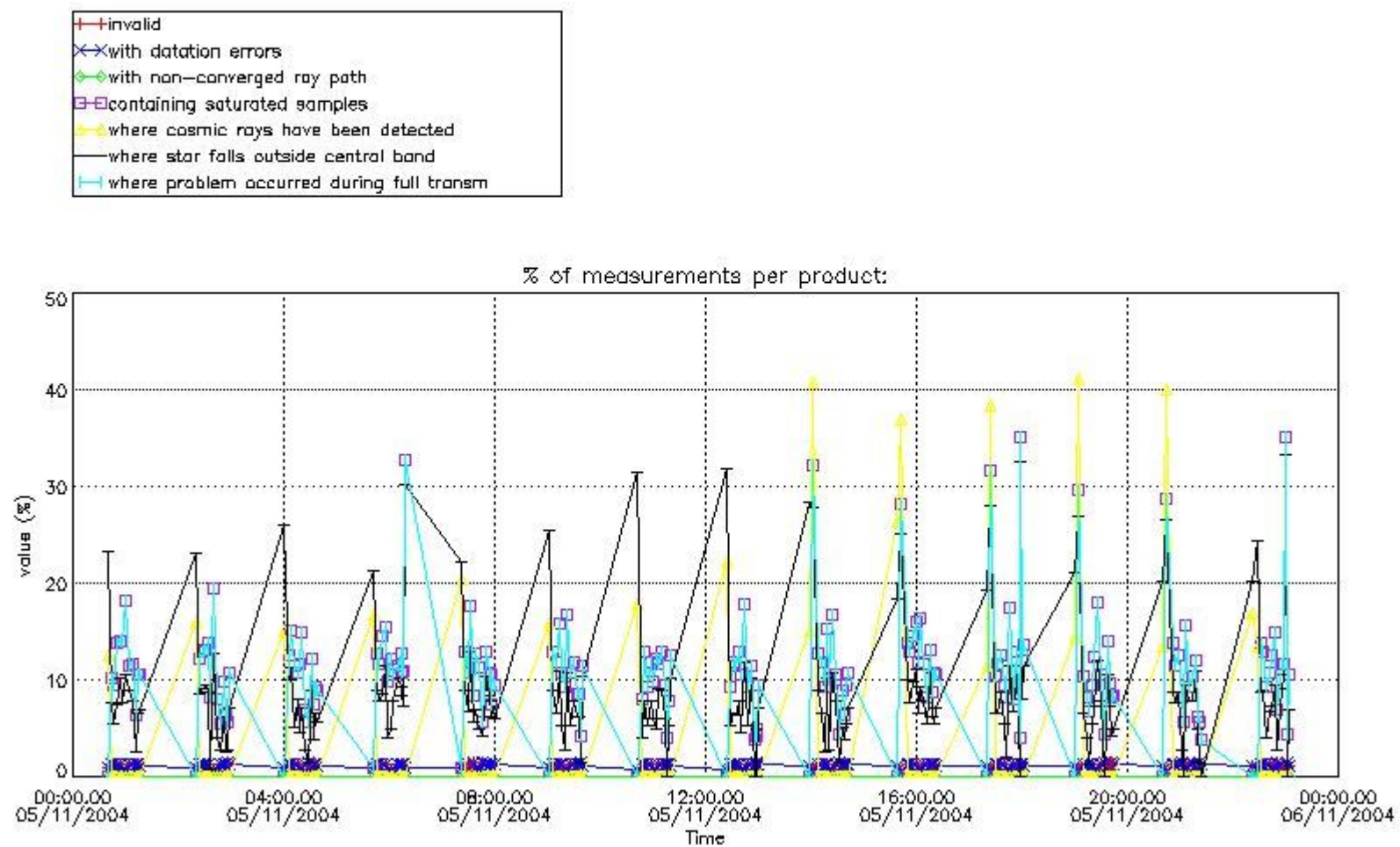
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

##### 4.1 Plot quality information per product (time dependant) coming from level 1b processing

###### 4.1.1 Plot level 1 quality information per product (time dependant): ENVISAT ASCENDING passes

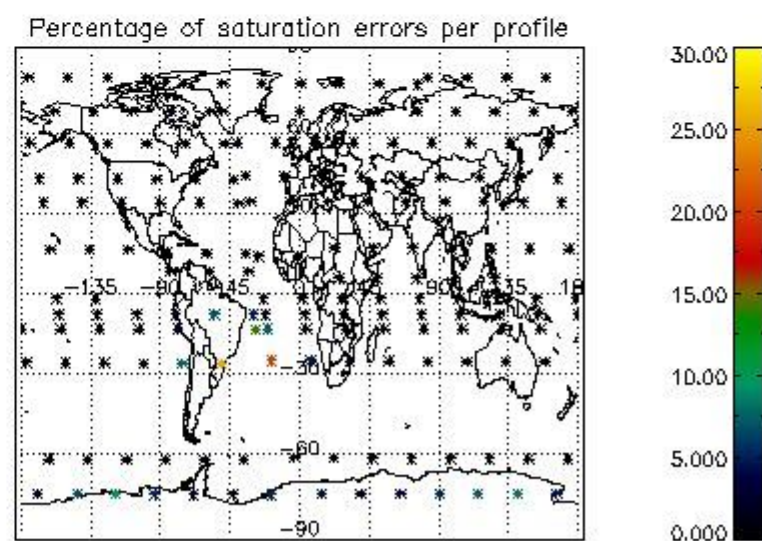
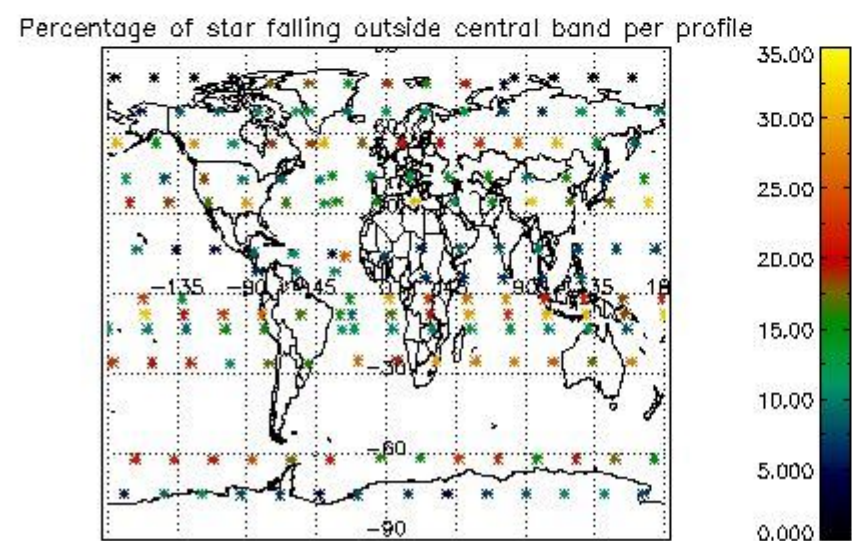
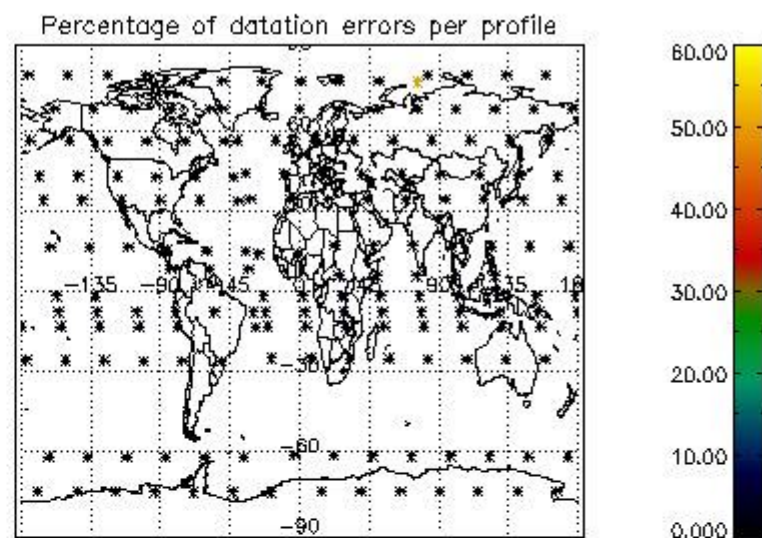
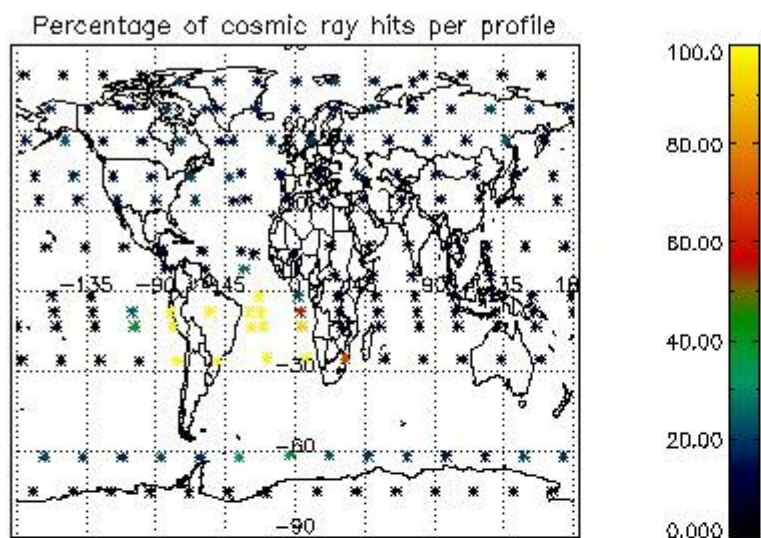


4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes

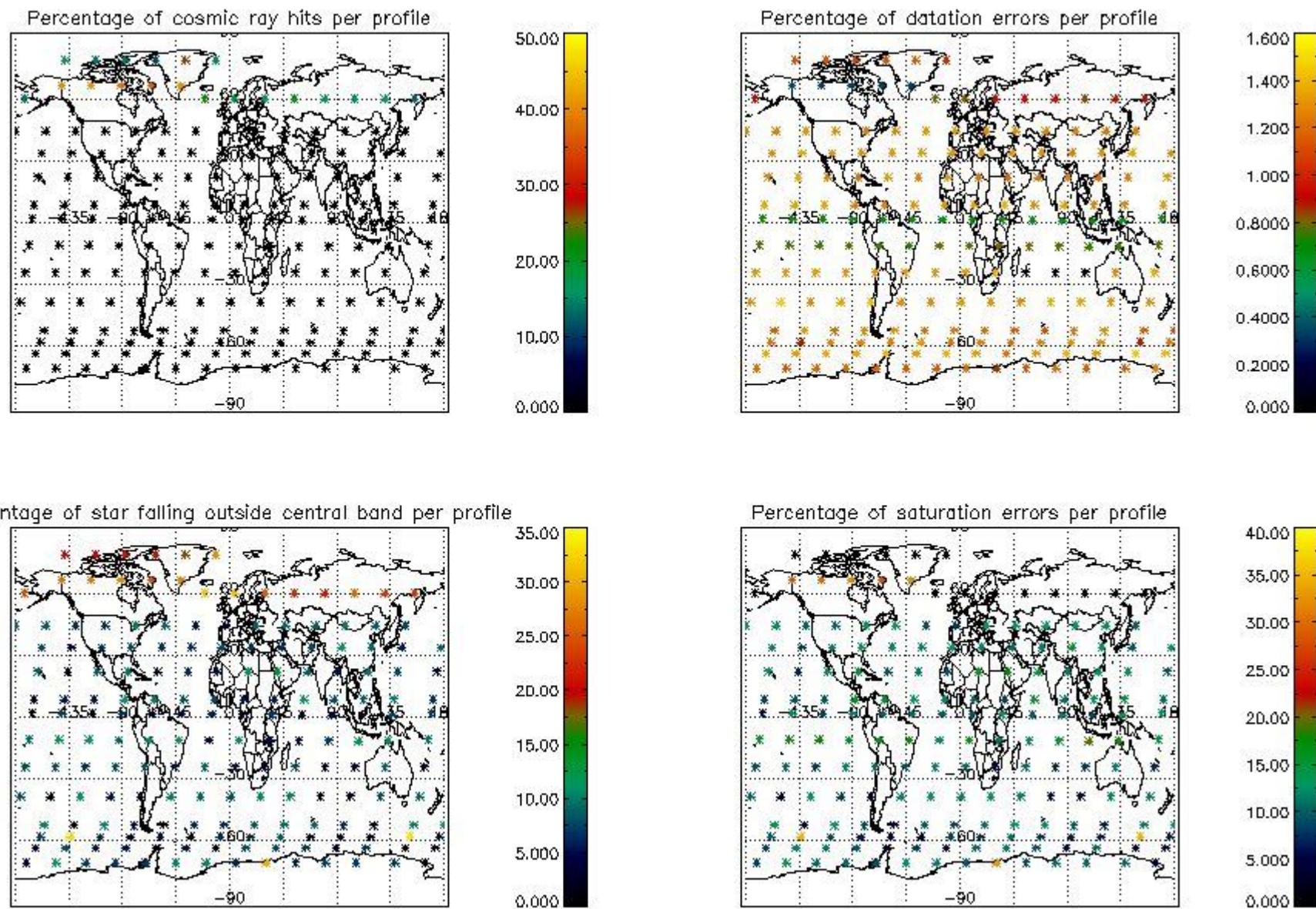


4.2 Plot quality information per product coming from level 1b processing (world map)

4.2.1 Plot level 1 quality information per product (world map): ENVISAT ASCENDING passes



4.2.2 Plot level 1 quality information per product (world map): ENVISAT DESCENDING passes



## 5. Trace gas profiles

### 5.1 Ozone statistics based on quality of products

The final quality of the products can be "measured" using the STD (Standard Deviation) attached to every point profile. This information is written to the parameter GOM\_NL\_\_2P/NL\_LOCAL\_SPECIES\_DENSITY/o3\_std of the level 2 products. The table below shows the statistics for given STD ranges.

The statistics are given with respect to the overall valid production:

- Products without fatal errors: GOM\_NL\_\_2P/MPH/PRODUCT\_ERR=0
- Valid point profile: GOM\_NL\_\_2P/NL\_LOCAL\_SPECIES\_DENSITY/pcd(0)=0

The 'Criteria' is applied to valid points of dark limb products:

- Products in dark limb illumination condition: GOM\_NL\_\_2P/NL\_SUMMARY\_QUALITY/obs\_ill\_cond=0
- Products without fatal errors: GOM\_NL\_\_2P/MPH/PRODUCT\_ERR=0
- Valid point profile: GOM\_NL\_\_2P/NL\_LOCAL\_SPECIES\_DENSITY/pcd(0)=0

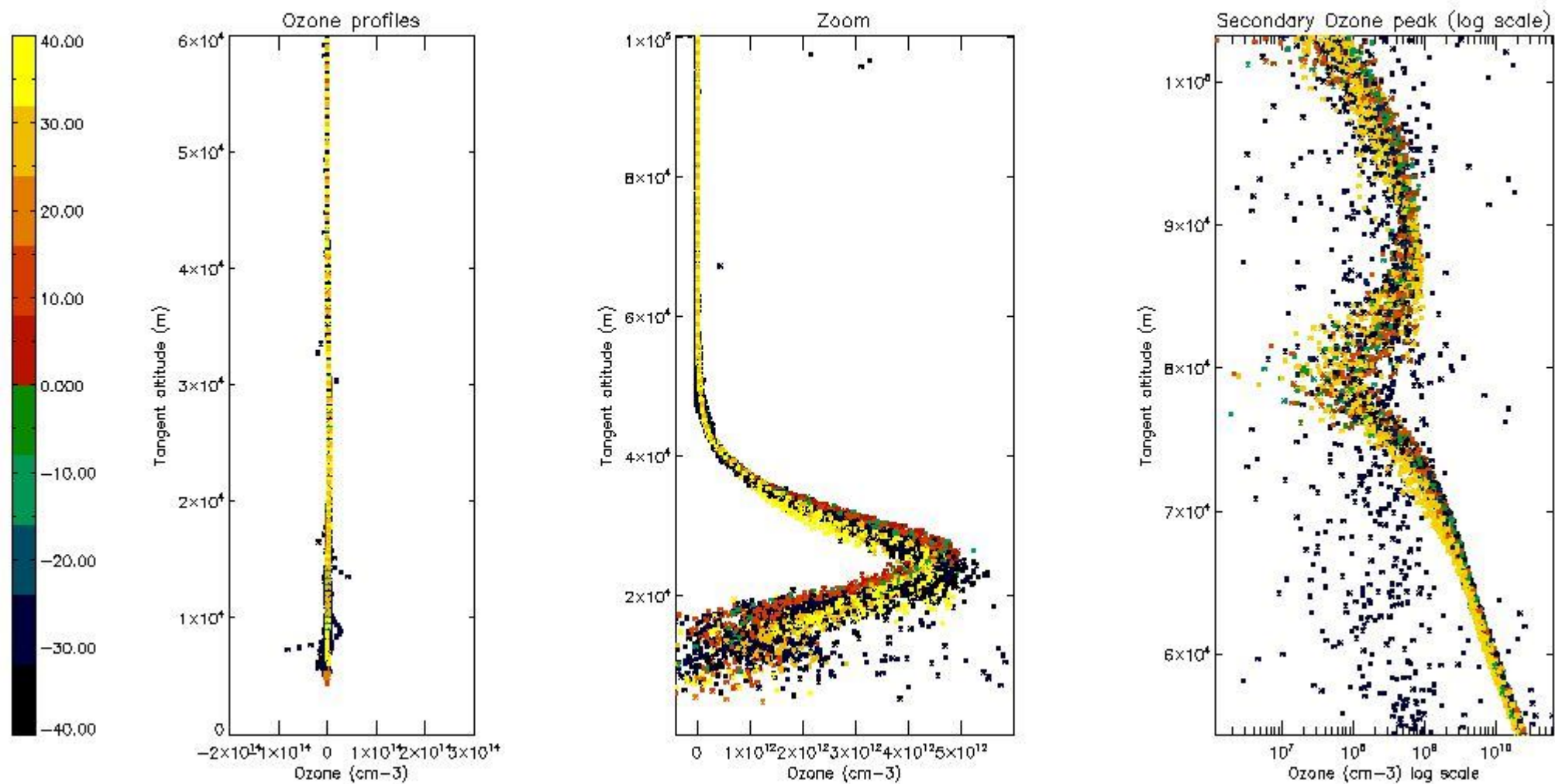
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

| Criteria | % of total production |
|----------|-----------------------|
| All STD  | 34                    |
| STD < 20 | 20                    |

|          |    |
|----------|----|
| STD < 10 | 18 |
| STD < 5  | 14 |

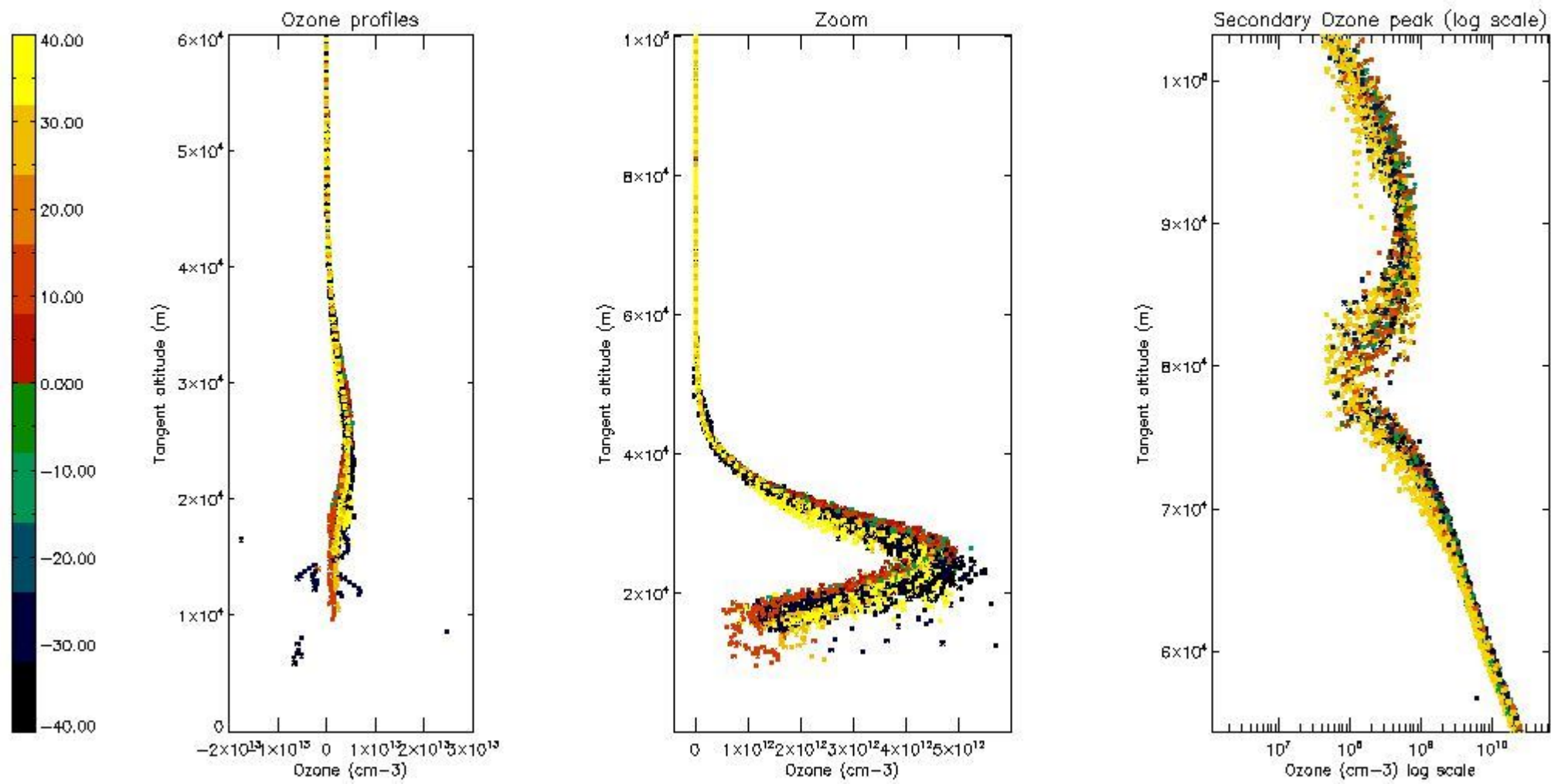
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



5.3 Plot ozone profiles where STD < 20% (dark without errors)

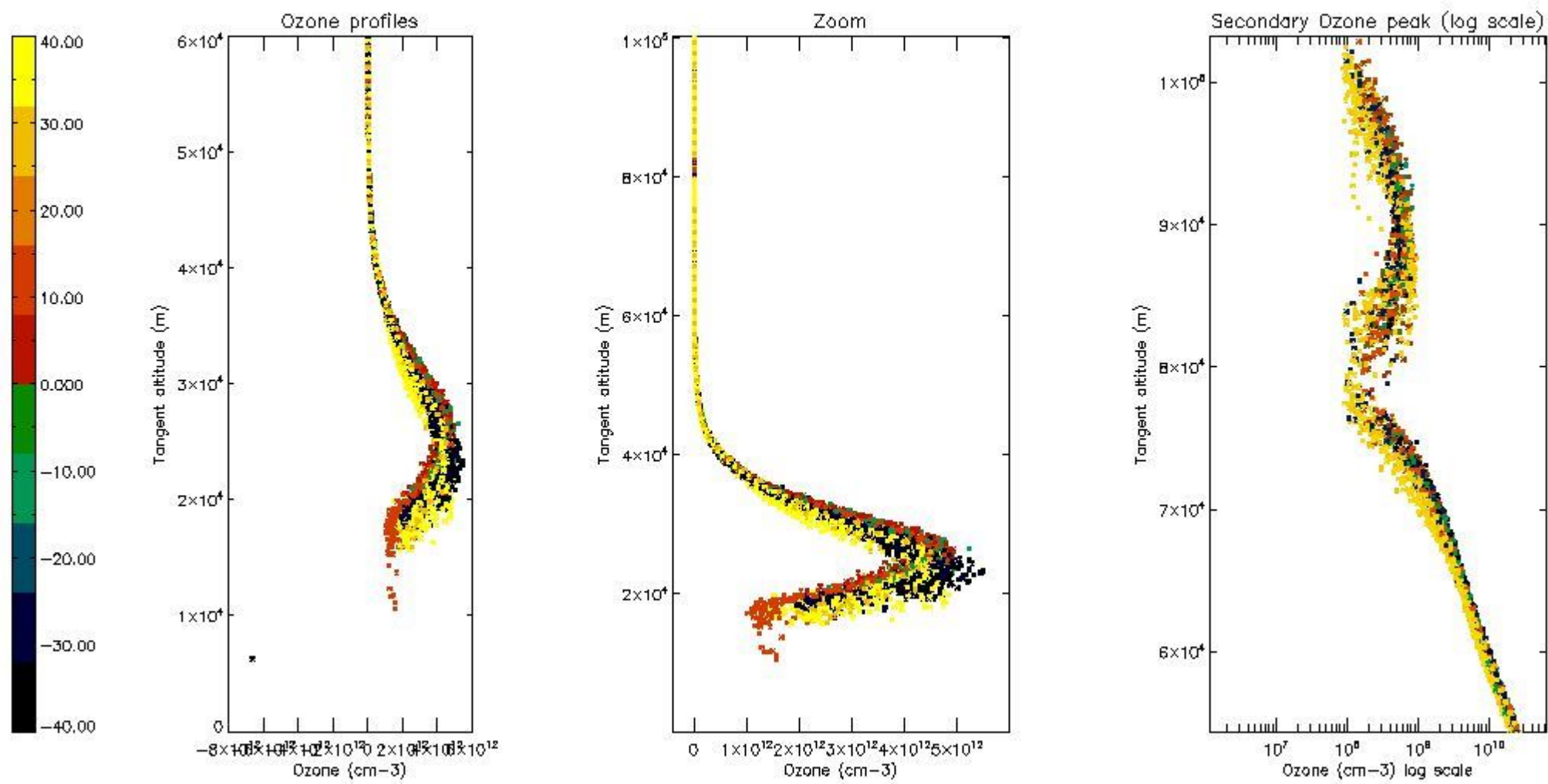
The colorbar represents the latitude.



*5.4 Plot ozone profiles where STD < 10% (dark without errors)*

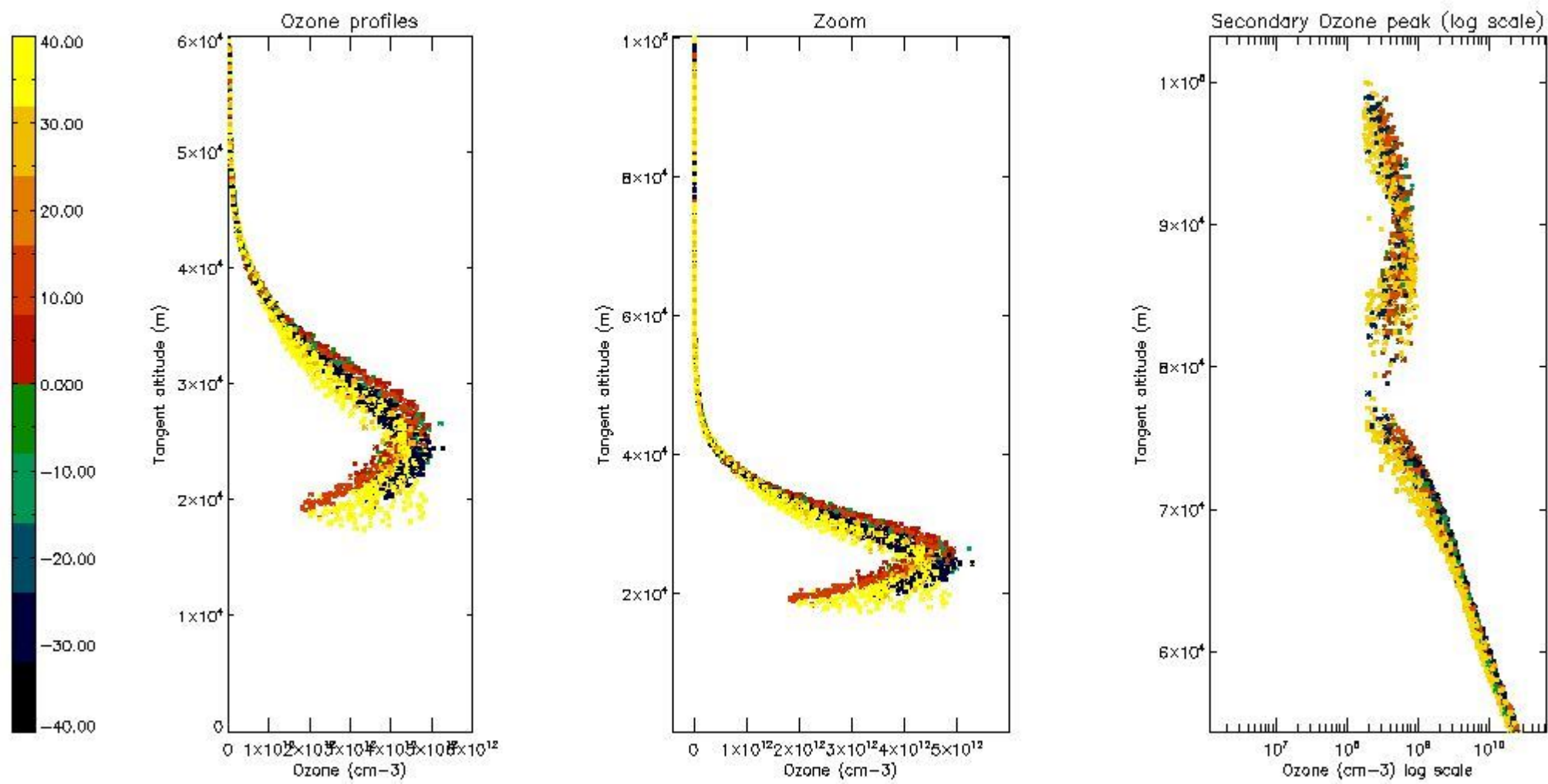
The colorbar represents the latitude.





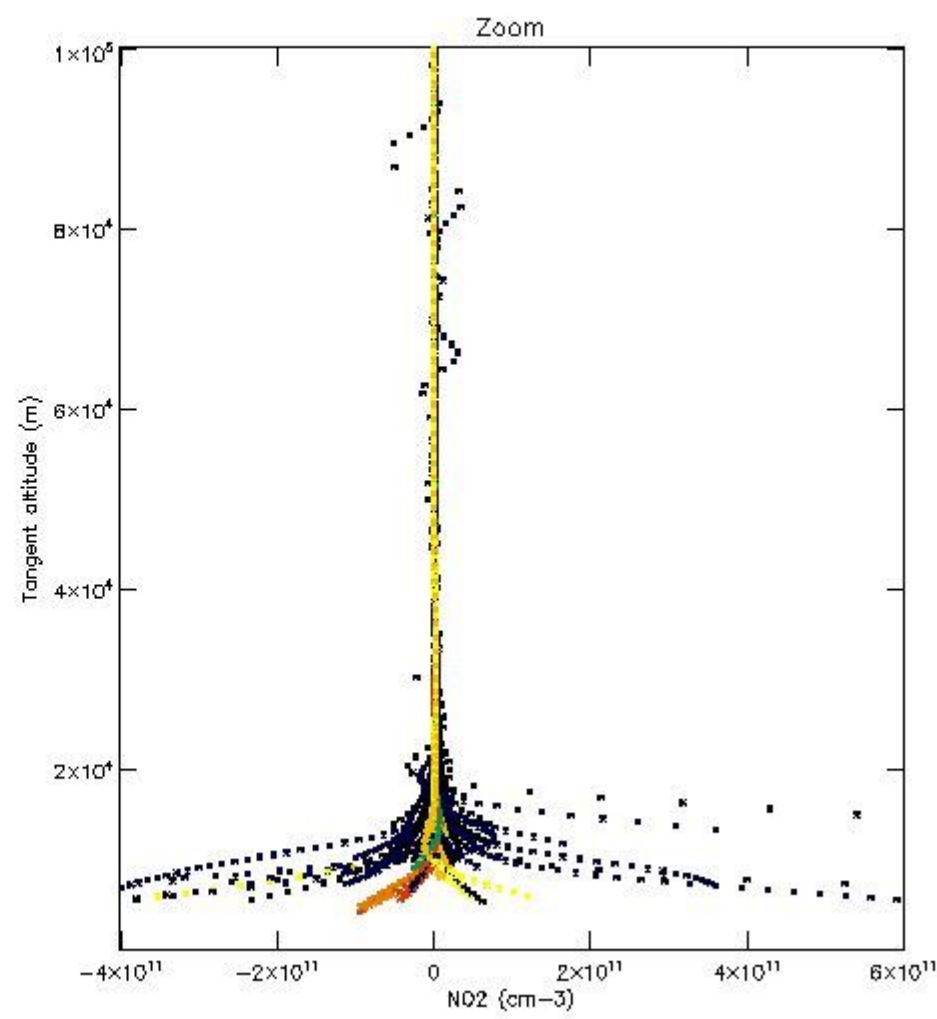
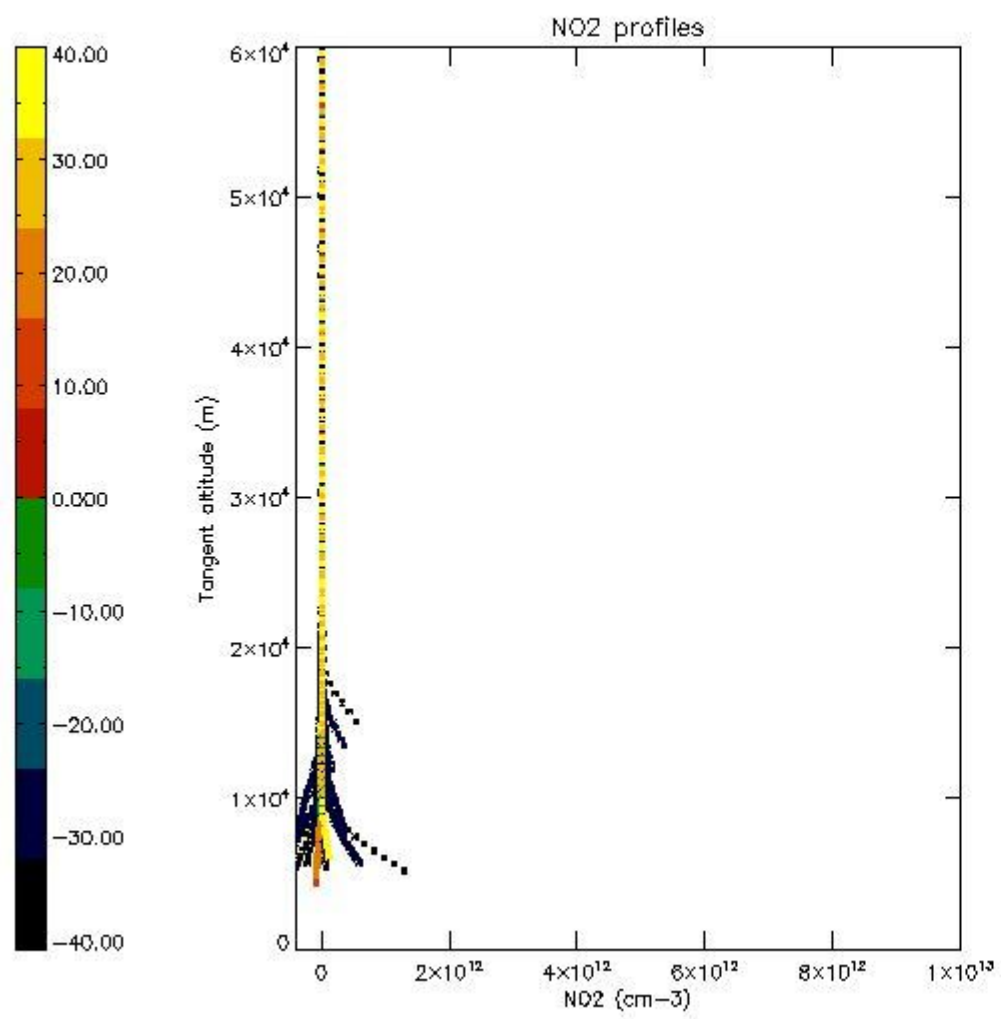
*5.5 Plot ozone profiles where  $STD < 5\%$  (dark without errors)*

The colorbar represents the latitude.



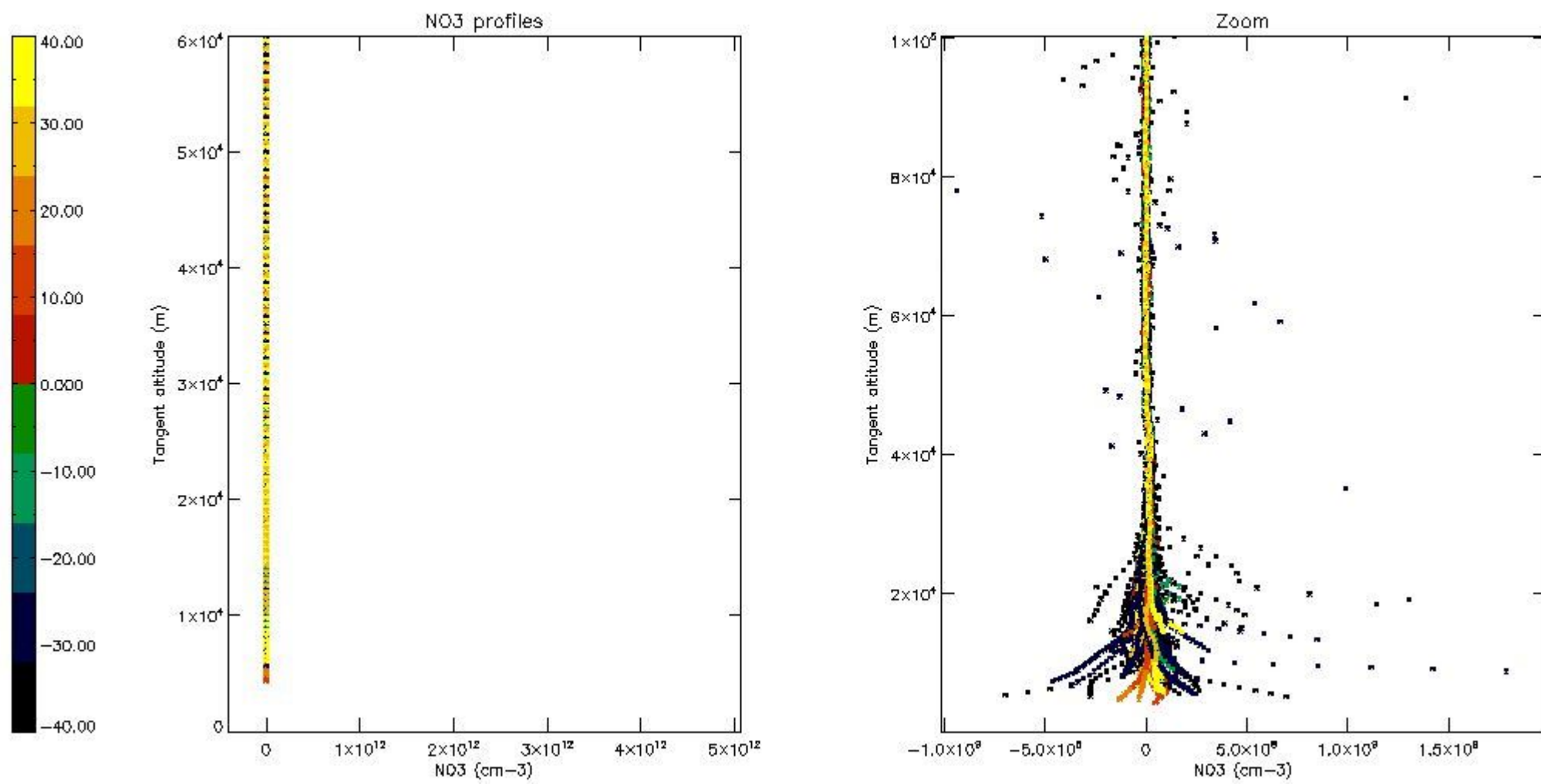
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

The colorbar represents the latitude.



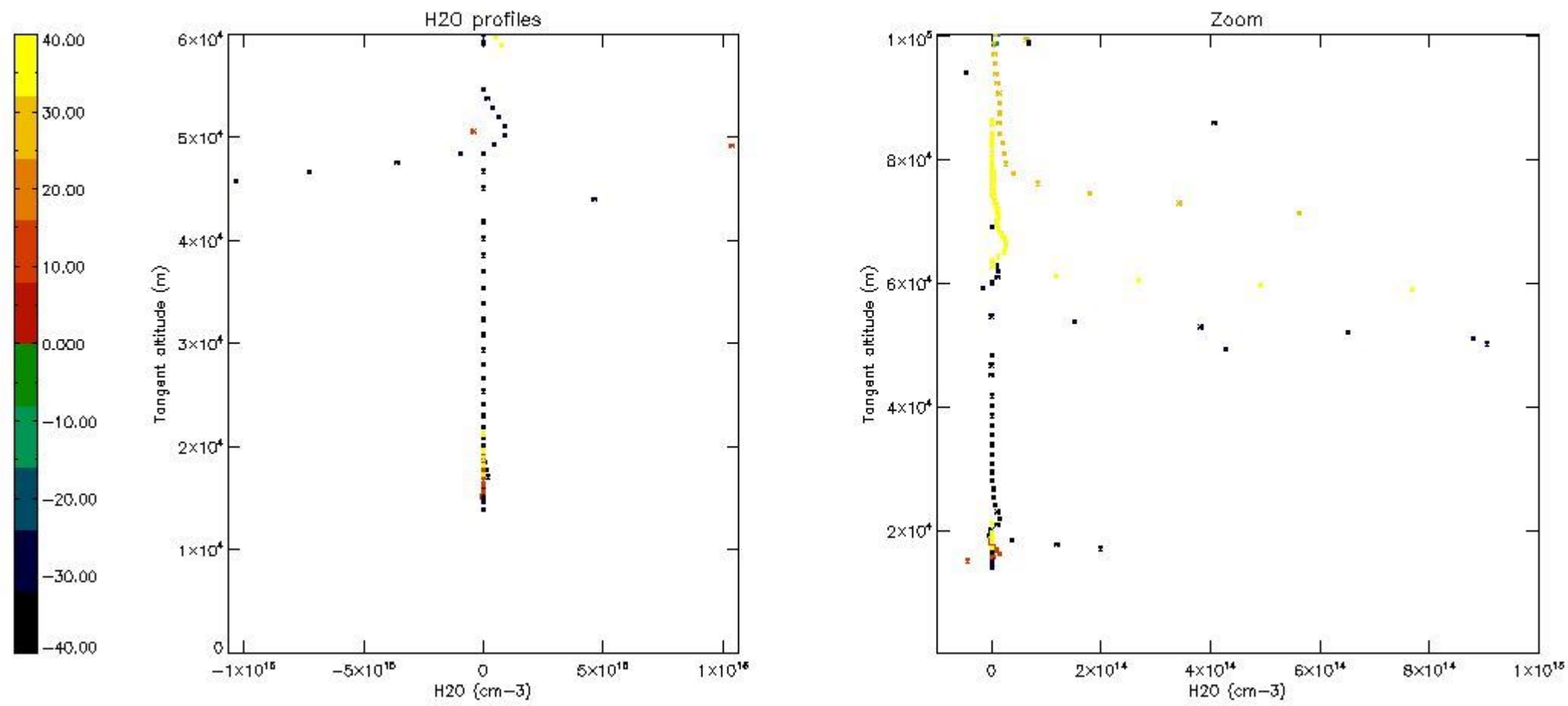
*5.7 Plot NO3 profiles for all STD (dark without errors)*

The colorbar represents the latitude.



5.8 Plot H<sub>2</sub>O profiles for all STD (only for occultations of stars 1,2,3,4,13,14,16,26,63 dark without errors)

The colorbar represents the latitude.



## 6. Auxiliary Data Files used for the production reported in section 2

The number reported in the third column indicates since which file (see list in section 2) the corresponding auxiliary file has been used. The fourth column is the date of those product files.

| Type                      | Auxiliary Filename  | Used since product | Used since product date |
|---------------------------|---|--------------------|-------------------------|
| INST_PHYS_CHARACTERISTICS | GOM_INS_AXVIEC20091111_143220_20030716_120000_20500101_000000 | 1                  | 05-NOV-2004 00:02:26    |
| LEVEL-2_PROC_CONFIG       | GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000 | 1                  | 05-NOV-2004 00:02:26    |
| CROSS_SECTIONS_FILE       | GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000 | 1                  | 05-NOV-2004 00:02:26    |

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##### [4.1.1 Plot of level 1 quality information per product \(time dependant\): ASCENDING](#)

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##### [4.2.1 Plot of level 1 quality information per product \(world map\): ASCENDING](#)

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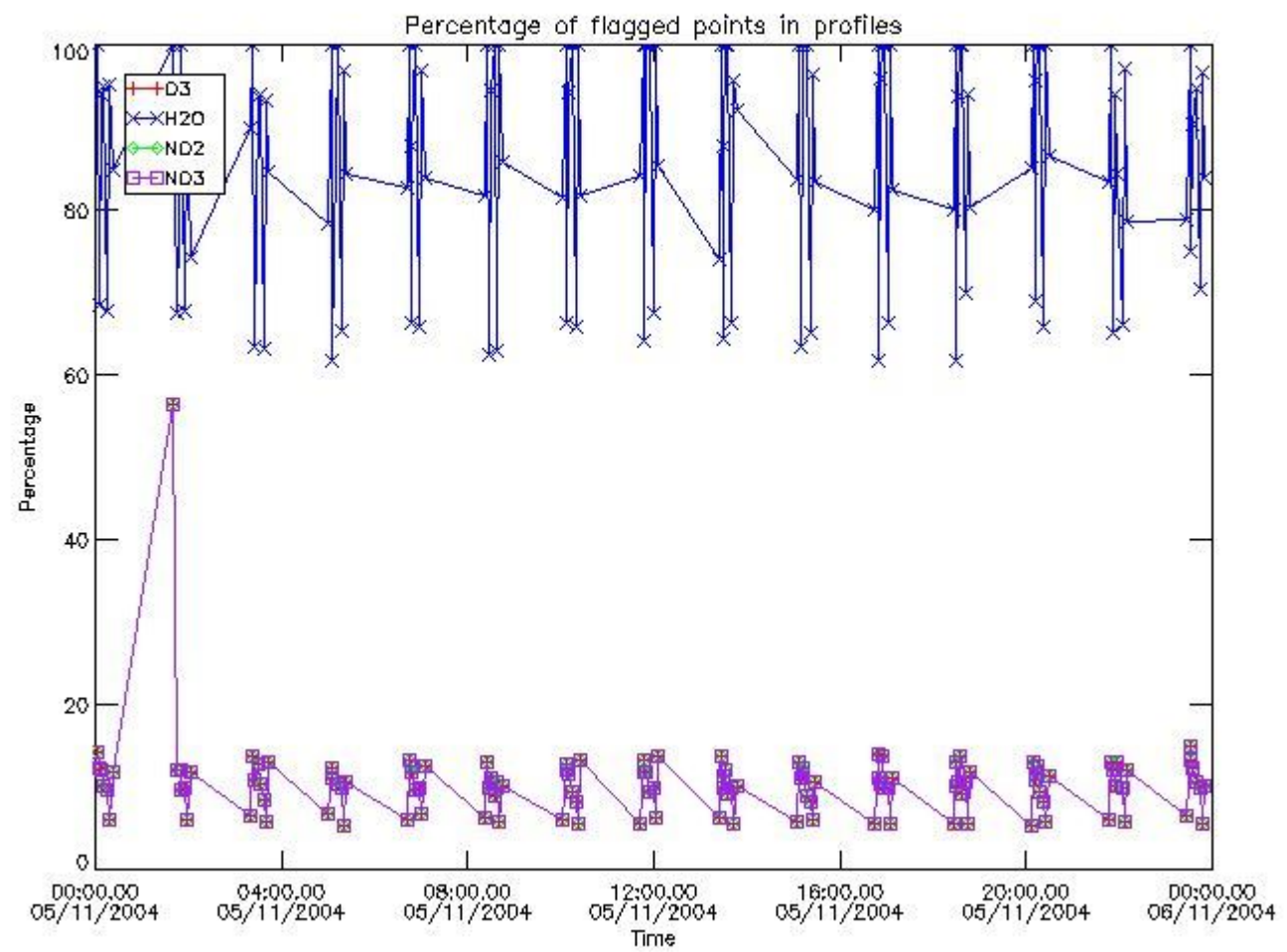


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| 342 | GOM_NL__2PRFIN20041105_221645_000000912031_00459_14040_5892.N1 | 05-NOV-2004 22:16:45 | Straylight     | 91.000 | 139 | 9Bet Lep  | 2.8330   | 5600.0 | 182 | 14040 | No |
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| 351 | GOM_NL__2PRFIN20041105_225058_000000372031_00459_14040_5901.N1 | 05-NOV-2004 22:50:58 | Bright         | 36.500 | 49  | 1Alp UMi  | 1.9900   | 6300.0 | 73  | 14040 | No |
| 352 | GOM_NL__2PRFIN20041105_225501_000000392031_00459_14040_5902.N1 | 05-NOV-2004 22:55:01 | Bright         | 38.500 | 60  | 7Bet UMi  | 2.0810   | 3950.0 | 77  | 14040 | No |
| 353 | GOM_NL__2PRFIN20041105_225858_000000432031_00459_14040_5903.N1 | 05-NOV-2004 22:58:58 | Bright         | 43.000 | 36  | 50Alp UMa | 1.8000   | 6300.0 | 86  | 14040 | No |
| 354 | GOM_NL__2PRFIN20041105_230036_000000572031_00459_14040_5904.N1 | 05-NOV-2004 23:00:36 | Bright         | 57.000 | 82  | 48Bet UMa | 2.3650   | 10600. | 114 | 14040 | No |
| 355 | GOM_NL__2PRFIN20041105_230214_000000352031_00459_14040_5905.N1 | 05-NOV-2004 23:02:14 | Bright         | 34.500 | 39  | 85Eta UMa | 1.8540   | 24000. | 69  | 14040 | No |
| 356 | GOM_NL__2PRFIN20041105_230424_000000432031_00459_14040_5906.N1 | 05-NOV-2004 23:04:24 | Bright         | 43.000 | 174 | 52Psi UMa | 3.0040   | 4400.0 | 86  | 14040 | No |
| 357 | GOM_NL__2PRFIN20041105_231300_000000662031_00459_14040_5907.N1 | 05-NOV-2004 23:13:00 | Bright         | 66.000 | 166 | 17Eps Leo | 2.9800   | 6000.0 | 132 | 14040 | No |
| 358 | GOM_NL__2PRFIN20041105_231706_000000662031_00459_14040_5908.N1 | 05-NOV-2004 23:17:06 | Twilight_stray | 65.500 | 22  | 32Alp Leo | 1.3600   | 15200. | 131 | 14040 | No |
| 359 | GOM_NL__2PRFIN20041105_232732_000000932031_00459_14040_5909.N1 | 05-NOV-2004 23:27:32 | Dark           | 92.500 | 48  | 30Alp Hya | 1.9770   | 4100.0 | 185 | 14040 | No |
| 360 | GOM_NL__2PRFIN20041105_233050_000000412031_00459_14040_5910.N1 | 05-NOV-2004 23:30:50 | Dark           | 41.000 | 99  | Del Cen   | 2.5750   | 26000. | 82  | 14040 | No |
| 361 | GOM_NL__2PRFIN20041105_233222_000000392031_00459_14040_5911.N1 | 05-NOV-2004 23:32:22 | Dark           | 38.500 | 26  | Gam Cru   | 1.6240   | 2900.0 | 77  | 14040 | No |
| 362 | GOM_NL__2PRFIN20041105_233402_000000422031_00459_14040_5912.N1 | 05-NOV-2004 23:34:02 | Dark           | 41.500 | 12  | Alp1Cru   | 0.77500  | 30000. | 83  | 14040 | No |
| 363 | GOM_NL__2PRFIN20041105_233826_000000482031_00460_14041_5900.N1 | 05-NOV-2004 23:38:26 | Dark           | 48.000 | 29  | Bet Car   | 1.6720   | 10200. | 96  | 14041 | No |
| 364 | GOM_NL__2PRFIN20041105_234412_000000512031_00460_14041_5901.N1 | 05-NOV-2004 23:44:12 | Dark           | 51.000 | 2   | Alp Car   | -0.73600 | 7000.0 | 102 | 14041 | No |
| 365 | GOM_NL__2PRFIN20041105_234654_000000912031_00460_14041_5902.N1 | 05-NOV-2004 23:46:54 | Dark           | 90.500 | 23  | 21Eps CMa | 1.5020   | 26000. | 181 | 14041 | No |
| 366 | GOM_NL__2PRFIN20041105_235027_000000502031_00460_14041_5903.N1 | 05-NOV-2004 23:50:27 | Dark           | 50.000 | 9   | Alp Eri   | 0.45300  | 24000. | 100 | 14041 | No |
| 367 | GOM_NL__2PRFIN20041105_235353_000000452031_00460_14041_5904.N1 | 05-NOV-2004 23:53:53 | Straylight     | 45.000 | 157 | The1Eri   | 2.9060   | 9300.0 | 90  | 14041 | No |
| 368 | GOM_NL__2PRFIN20041105_235721_000000912031_00460_14041_5905.N1 | 05-NOV-2004 23:57:21 | Straylight     | 90.500 | 139 | 9Bet Lep  | 2.8330   | 5600.0 | 181 | 14041 | No |

### 3. Quality information per product

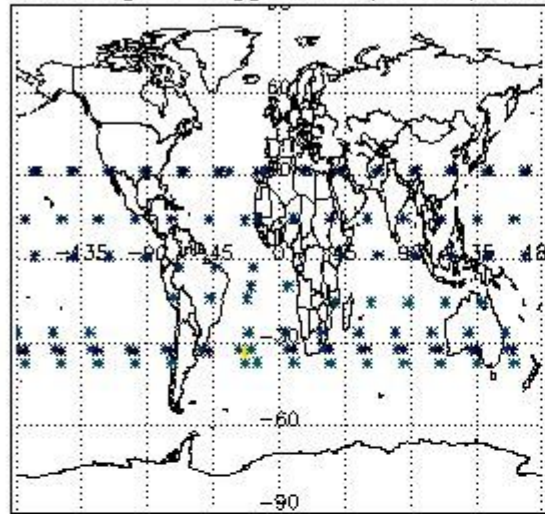
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

#### 3.1 Plot quality information per product (time dependant)

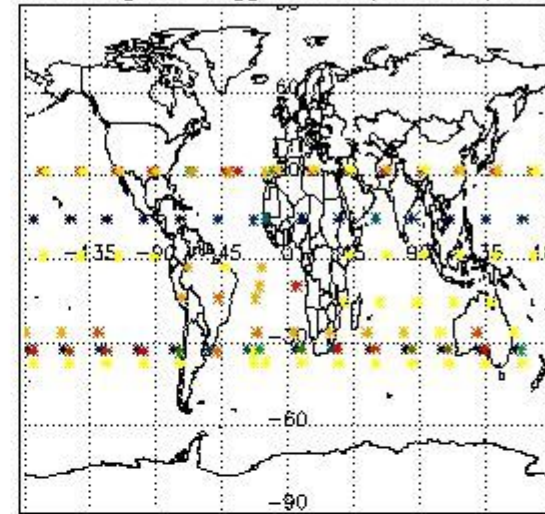


3.2 Plot quality information per product (world map)

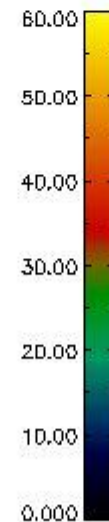
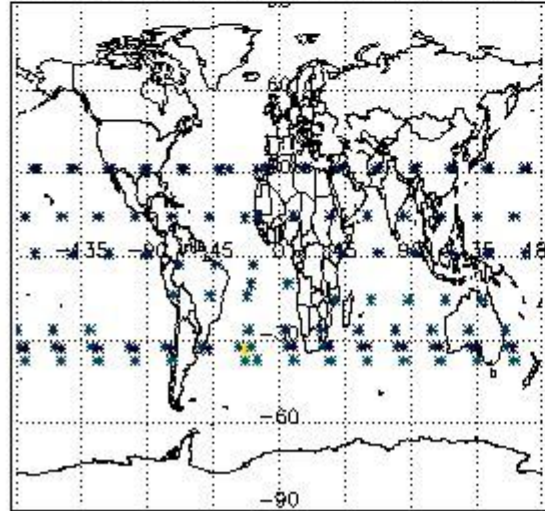
Percentage of flagged data per O3 profile



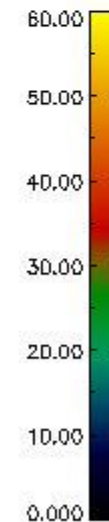
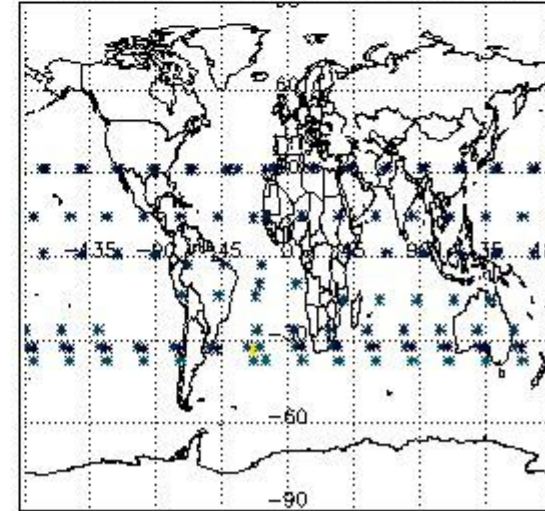
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

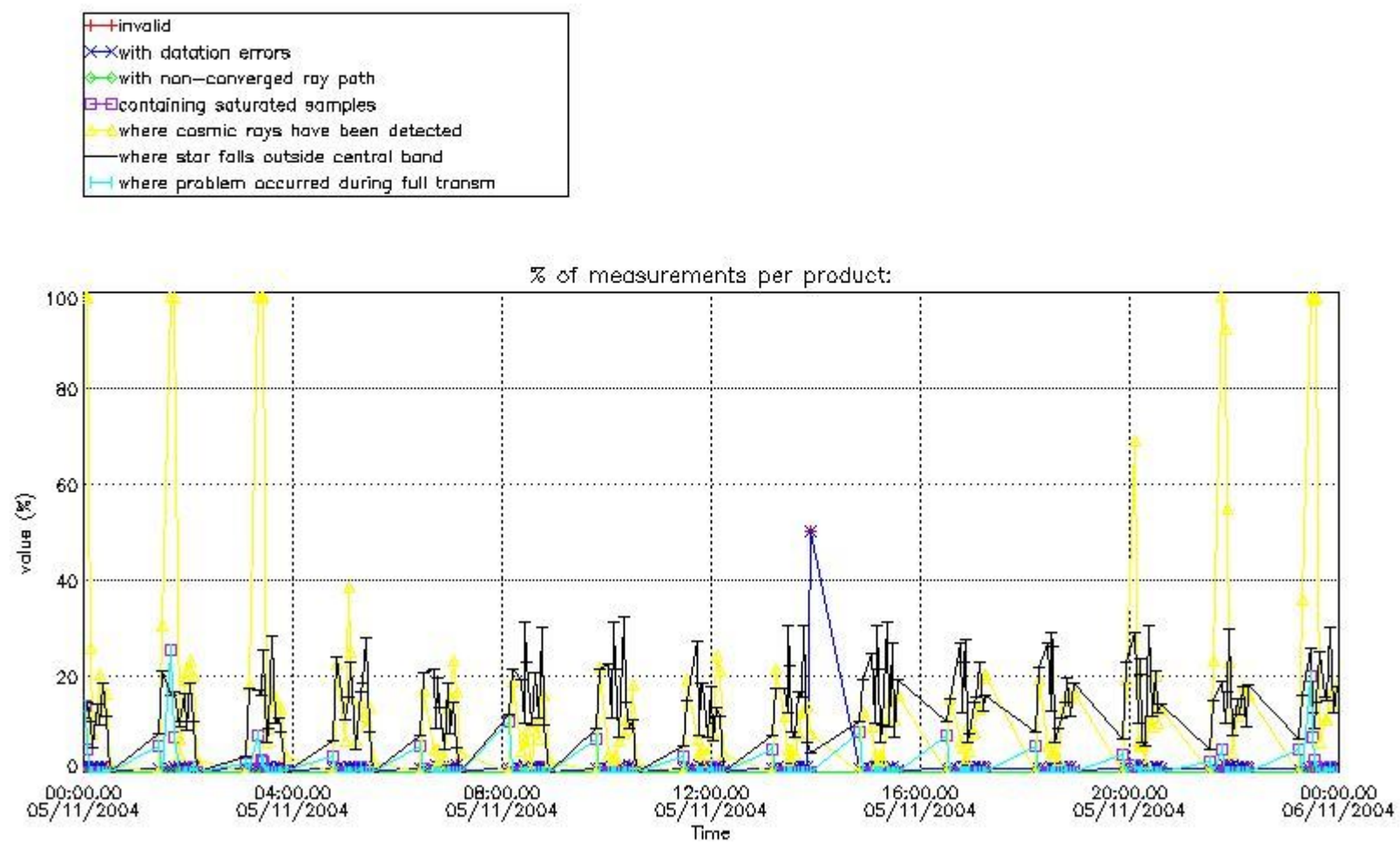


#### 4. Level 1 quality information per product

In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

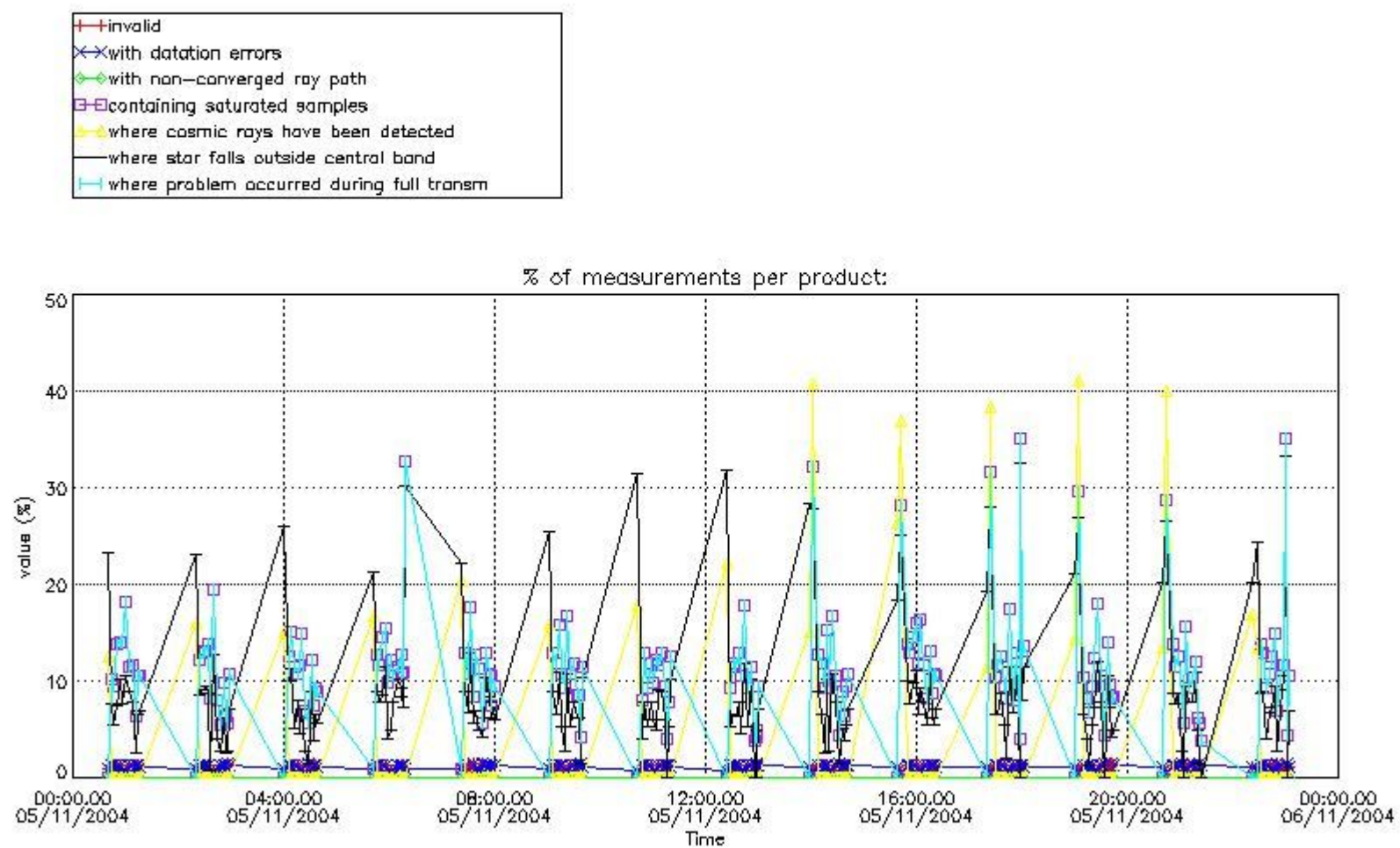
##### 4.1 Plot quality information per product (time dependant) coming from level 1b processing

###### 4.1.1 Plot level 1 quality information per product (time dependant): ENVISAT ASCENDING passes



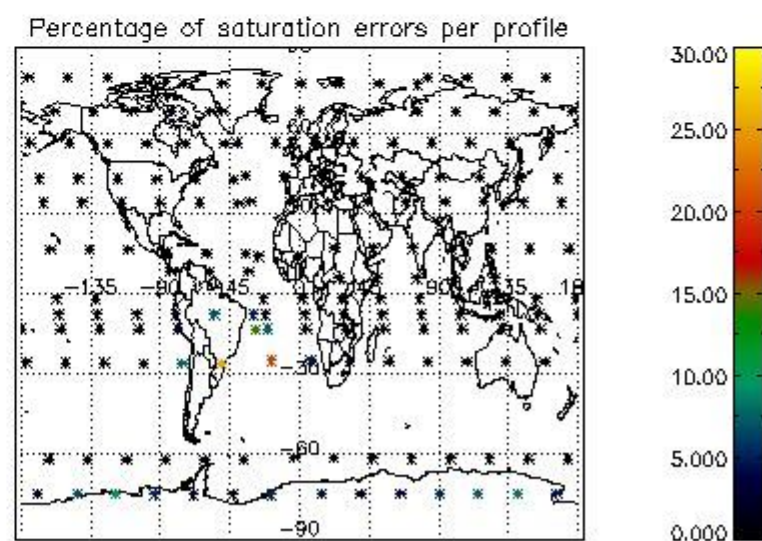
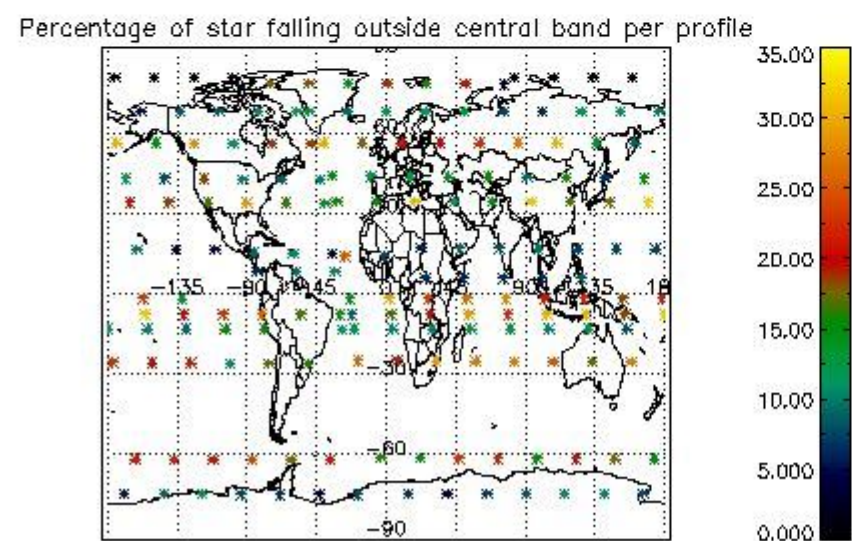
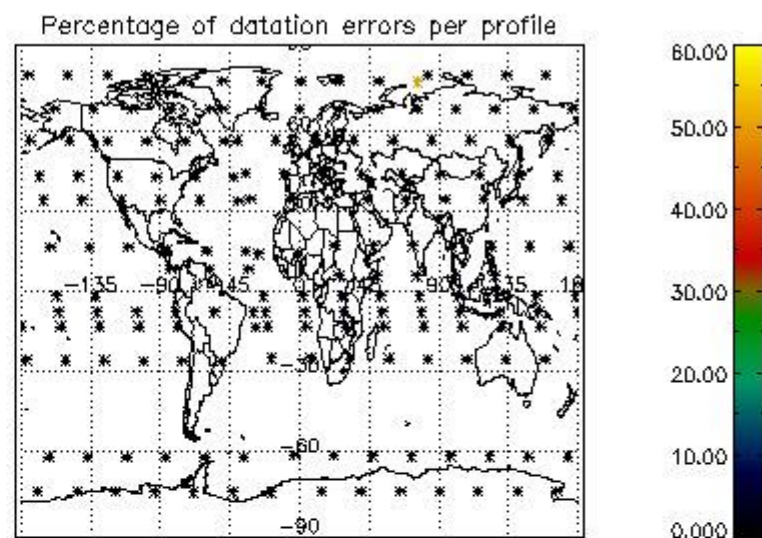
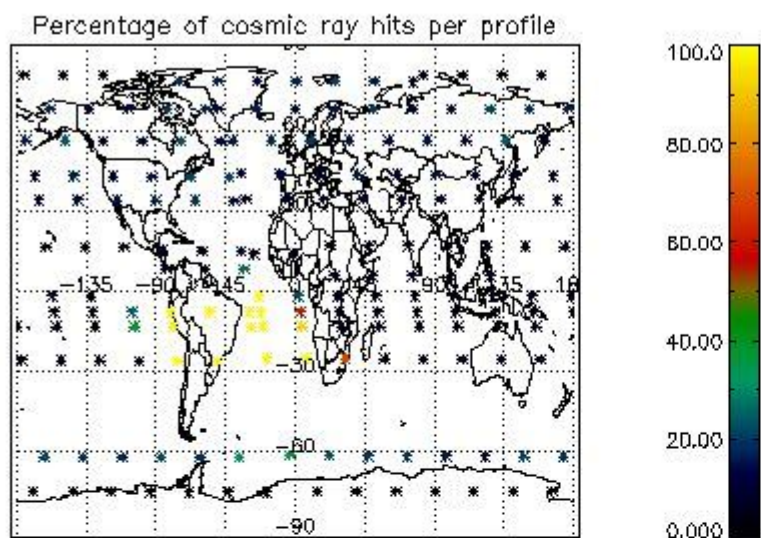
4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes





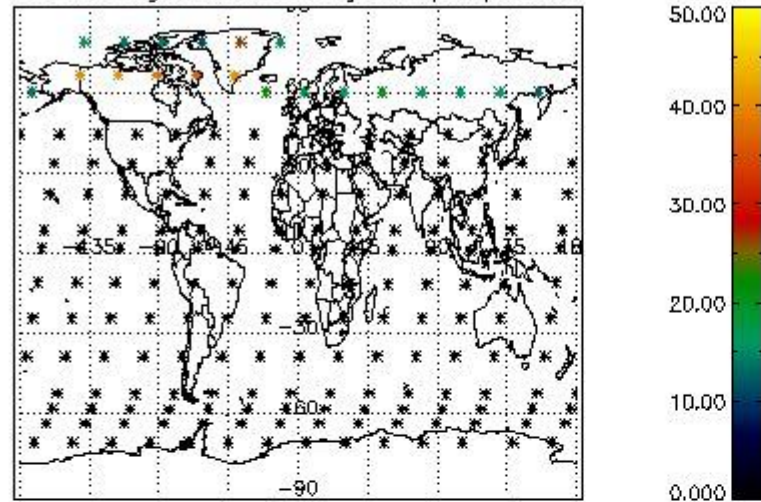
4.2 Plot quality information per product coming from level 1b processing (world map)

4.2.1 Plot level 1 quality information per product (world map): ENVISAT ASCENDING passes

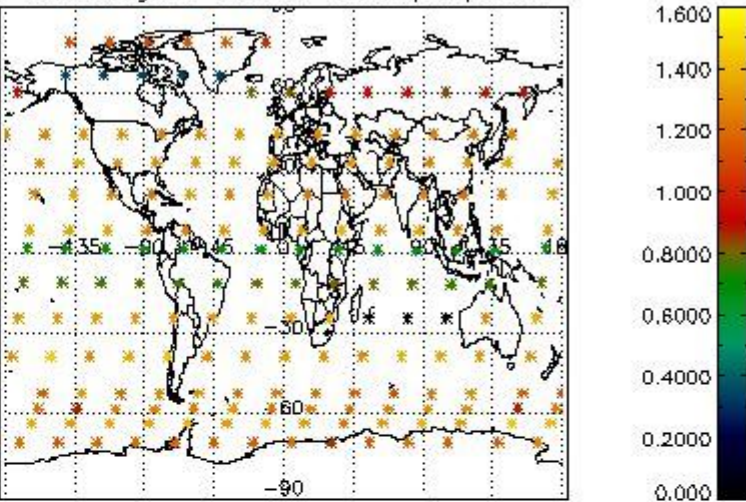


4.2.2 Plot level 1 quality information per product (world map): ENVISAT DESCENDING passes

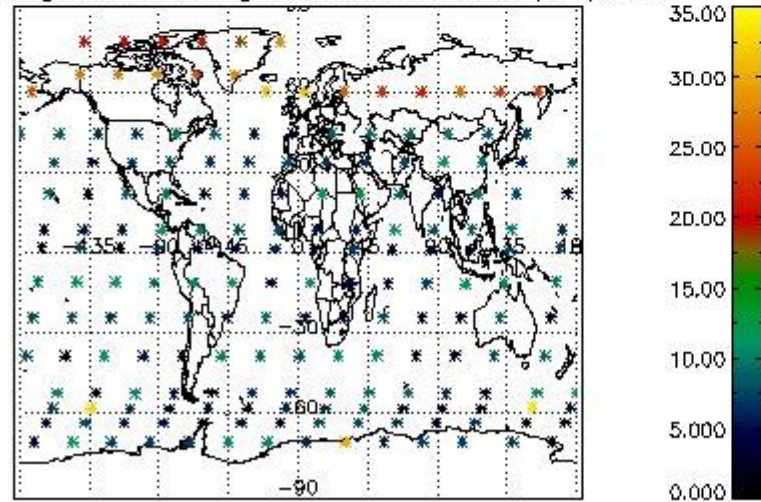
Percentage of cosmic ray hits per profile



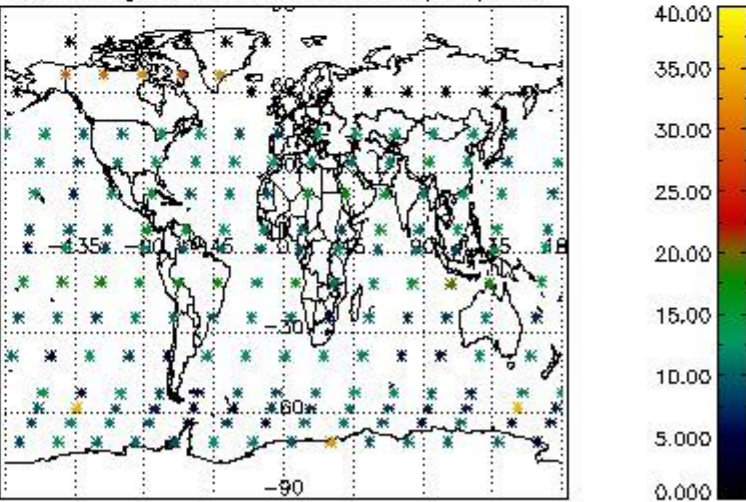
Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile



## 5. Trace gas profiles

### 5.1 Ozone statistics based on quality of products

The final quality of the products can be "measured" using the STD (Standard Deviation) attached to every point profile. This information is written to the parameter GOM\_NL\_\_2P/NL\_LOCAL\_SPECIES\_DENSITY/o3\_std of the level 2 products. The table below shows the statistics for given STD ranges.

The statistics are given with respect to the overall valid production:

- Products without fatal errors: GOM\_NL\_\_2P/MPH/PRODUCT\_ERR=0
- Valid point profile: GOM\_NL\_\_2P/NL\_LOCAL\_SPECIES\_DENSITY/pcd(0)=0

The 'Criteria' is applied to valid points of dark limb products:

- Products in dark limb illumination condition: GOM\_NL\_\_2P/NL\_SUMMARY\_QUALITY/obs\_ill\_cond=0
- Products without fatal errors: GOM\_NL\_\_2P/MPH/PRODUCT\_ERR=0
- Valid point profile: GOM\_NL\_\_2P/NL\_LOCAL\_SPECIES\_DENSITY/pcd(0)=0

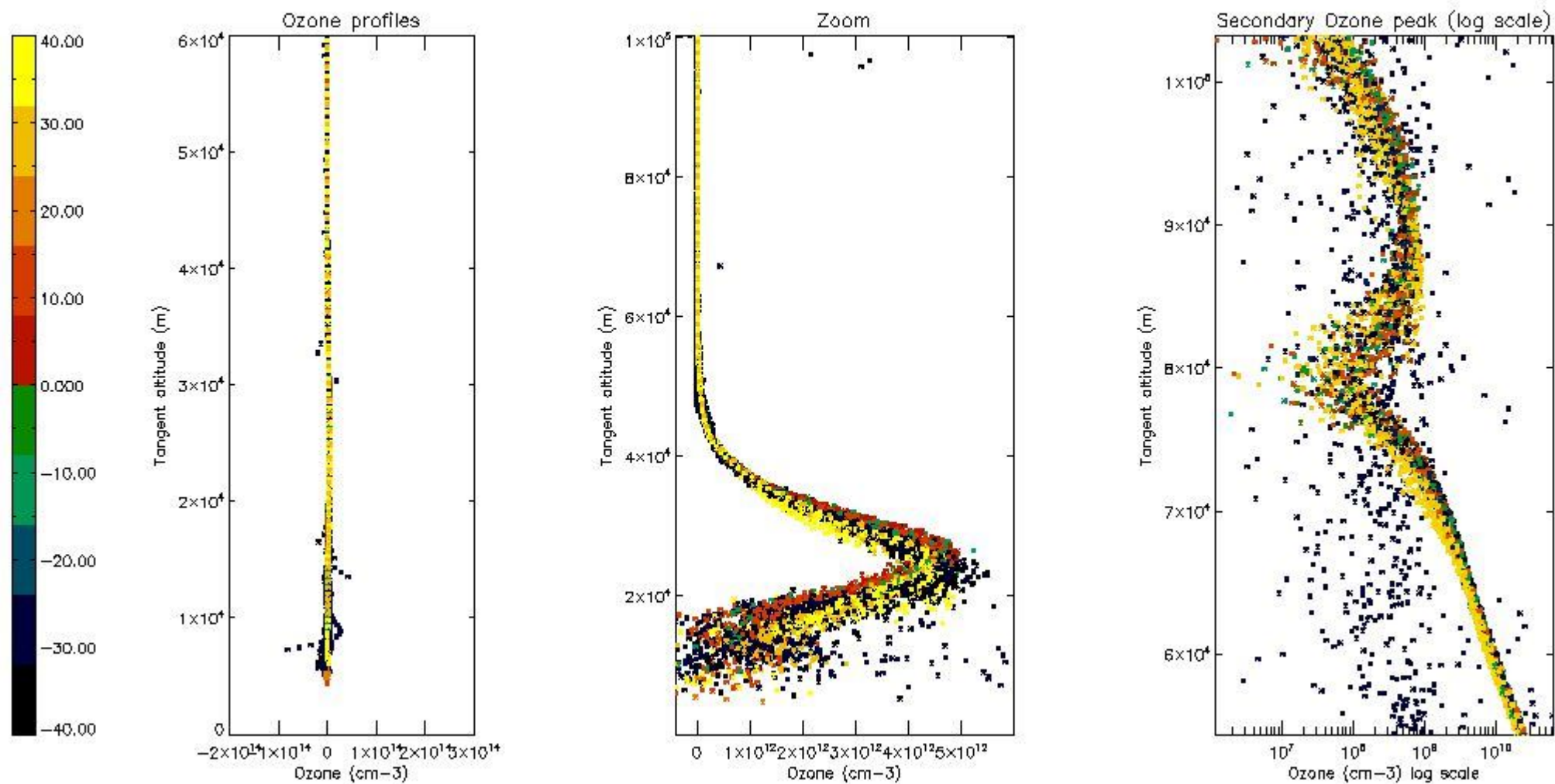
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

| Criteria | % of total production |
|----------|-----------------------|
| All STD  | 34                    |
| STD < 20 | 20                    |

|          |    |
|----------|----|
| STD < 10 | 18 |
| STD < 5  | 14 |

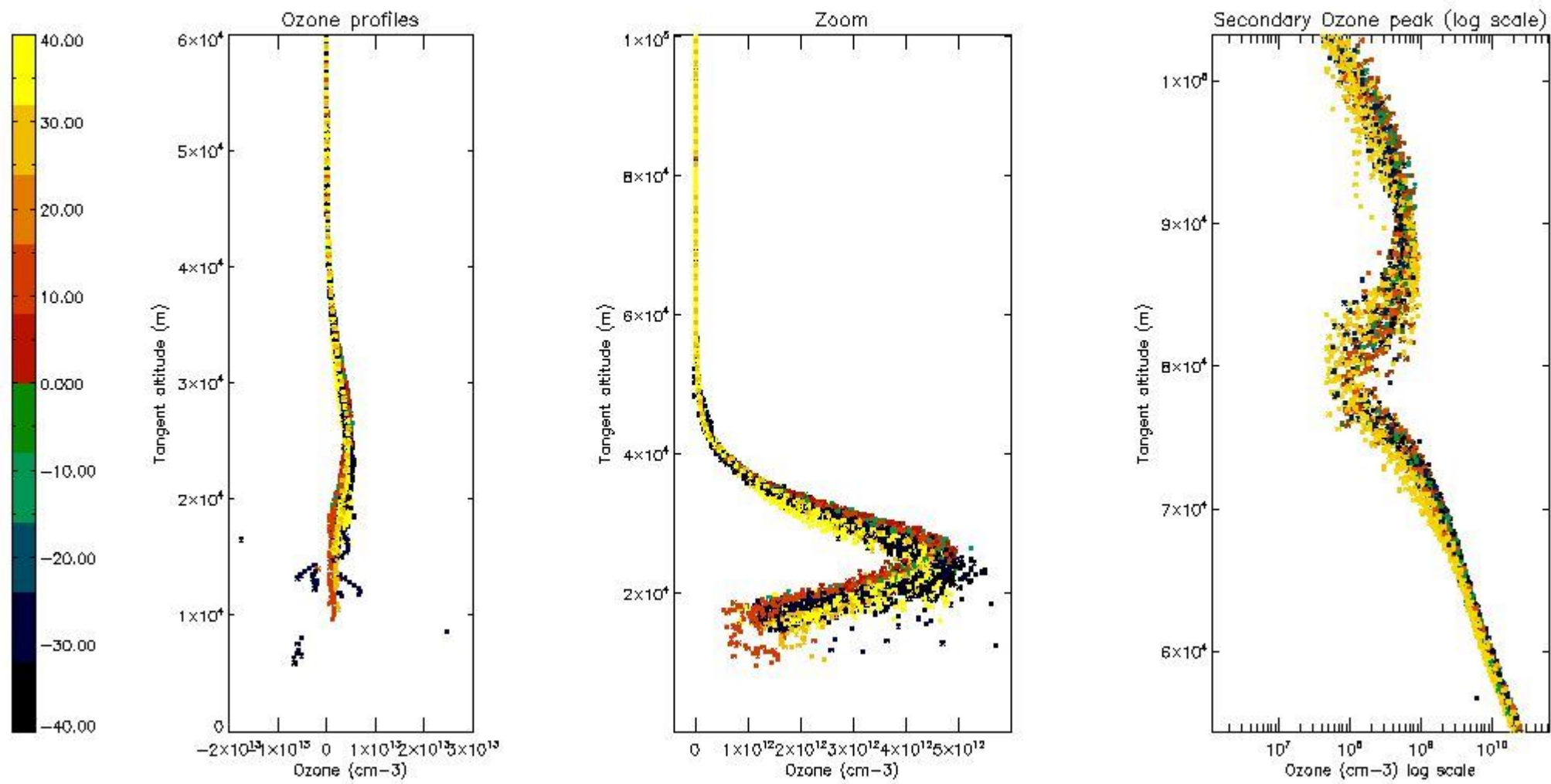
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



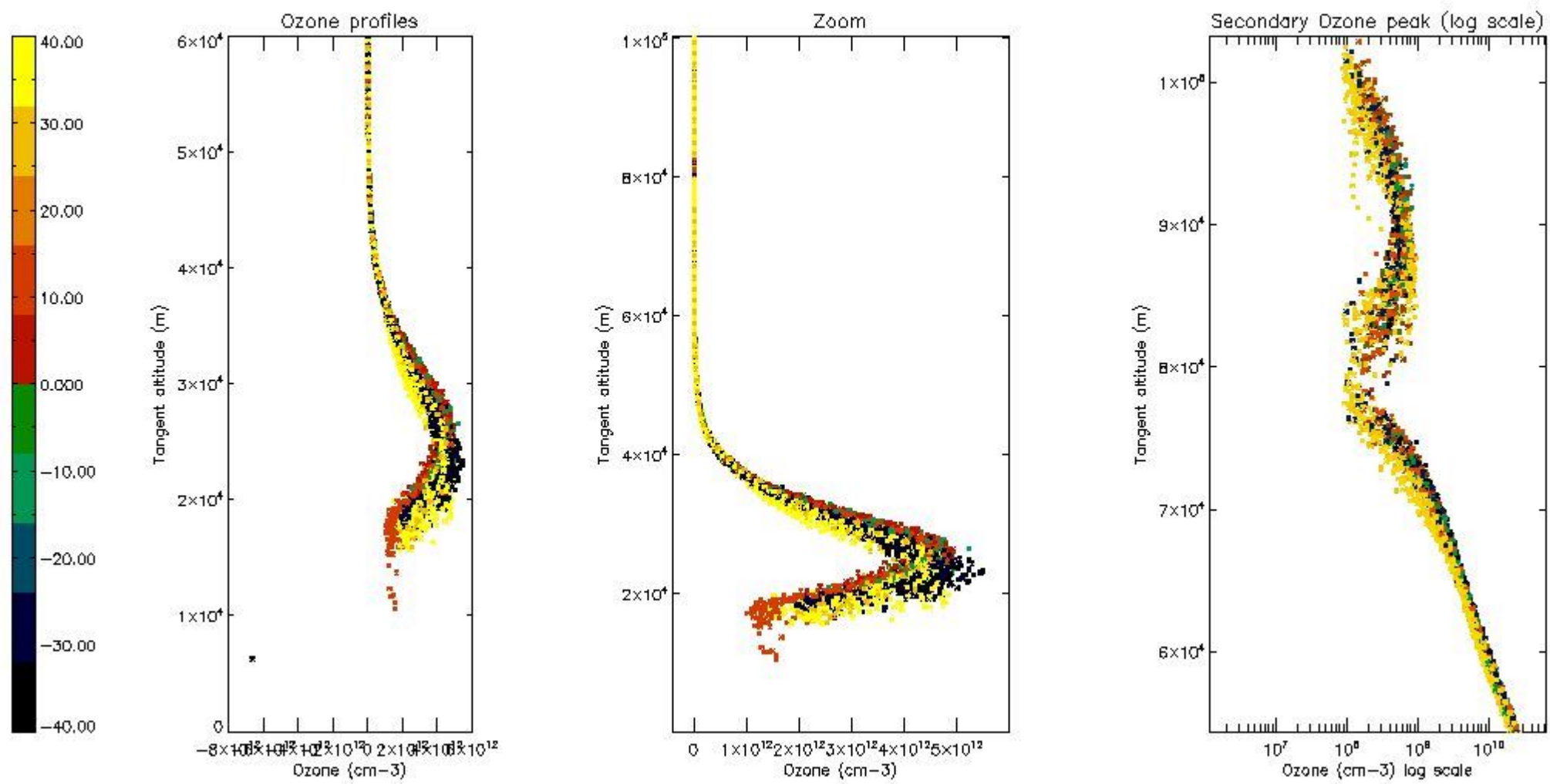
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



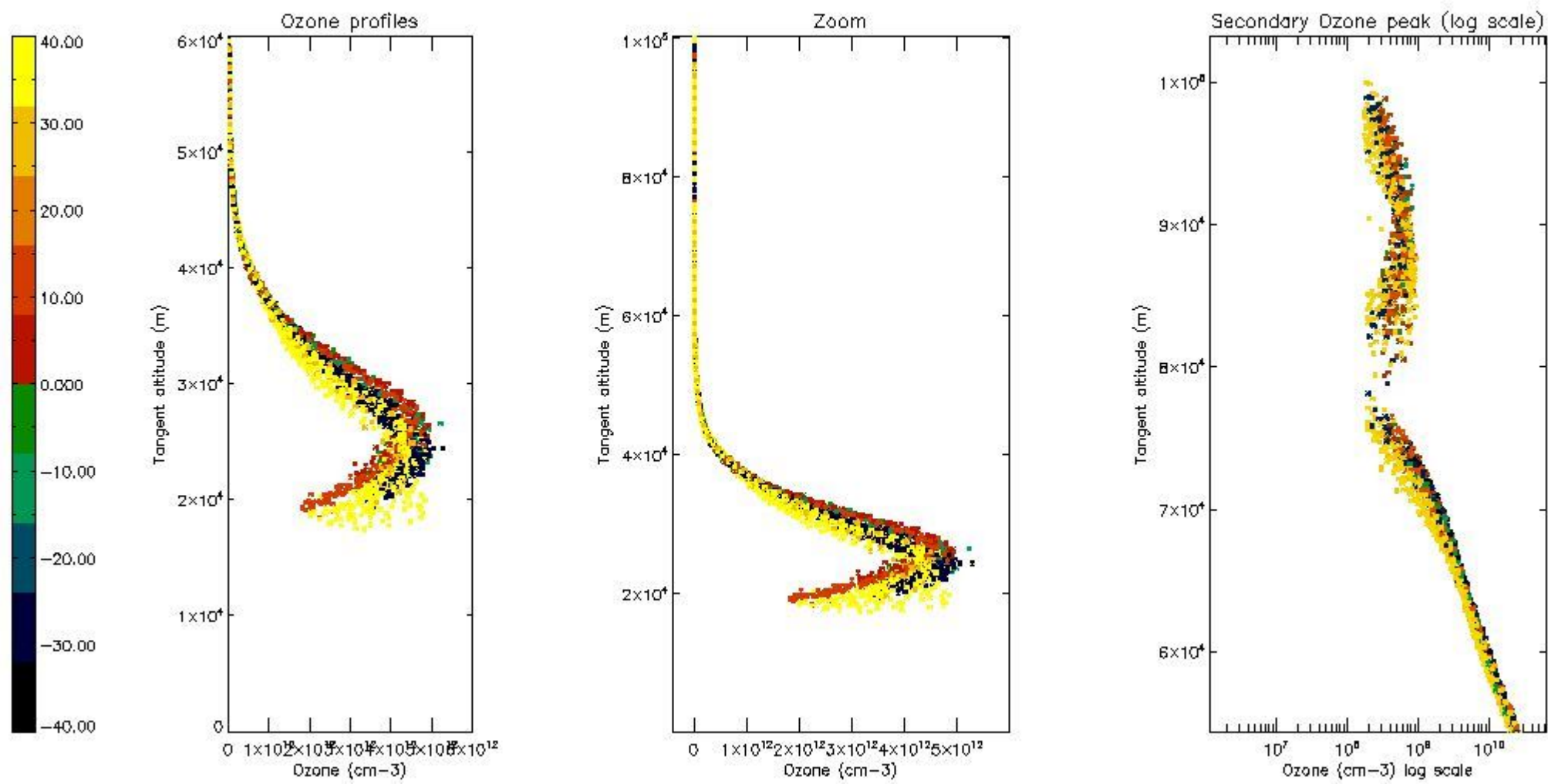
*5.4 Plot ozone profiles where STD < 10% (dark without errors)*

The colorbar represents the latitude.



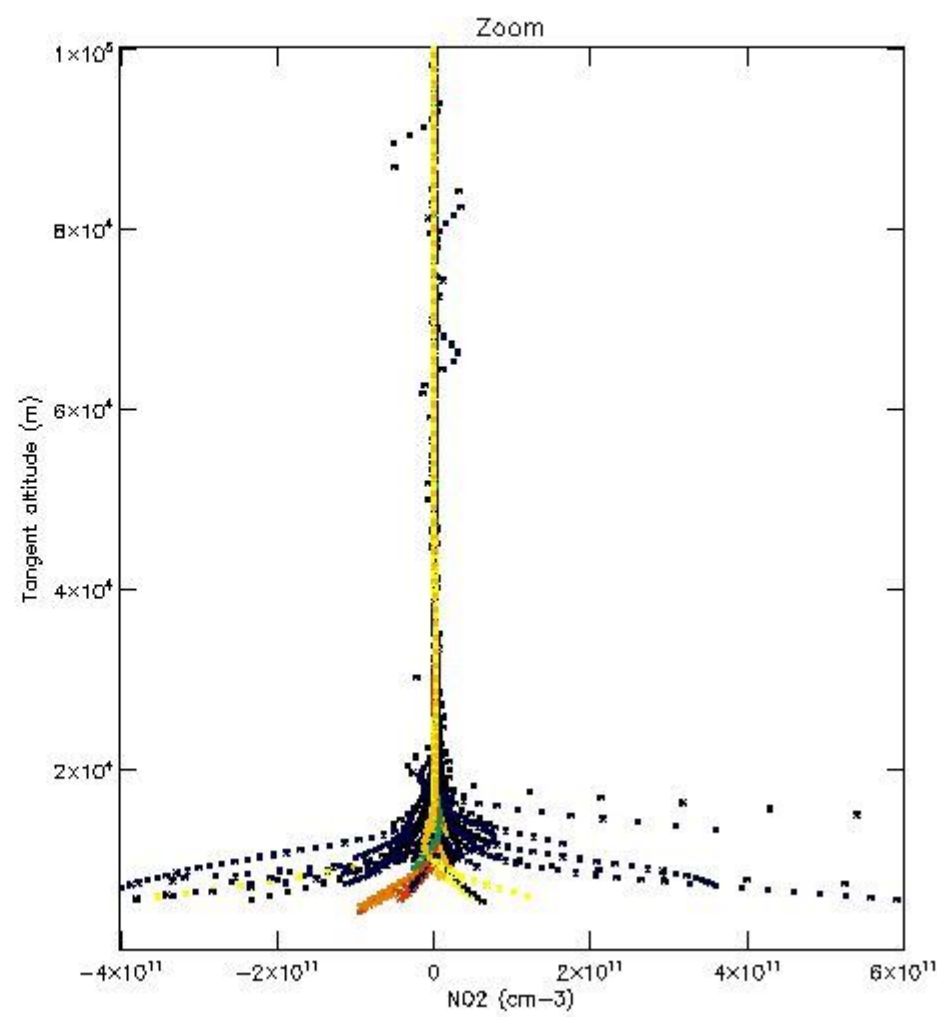
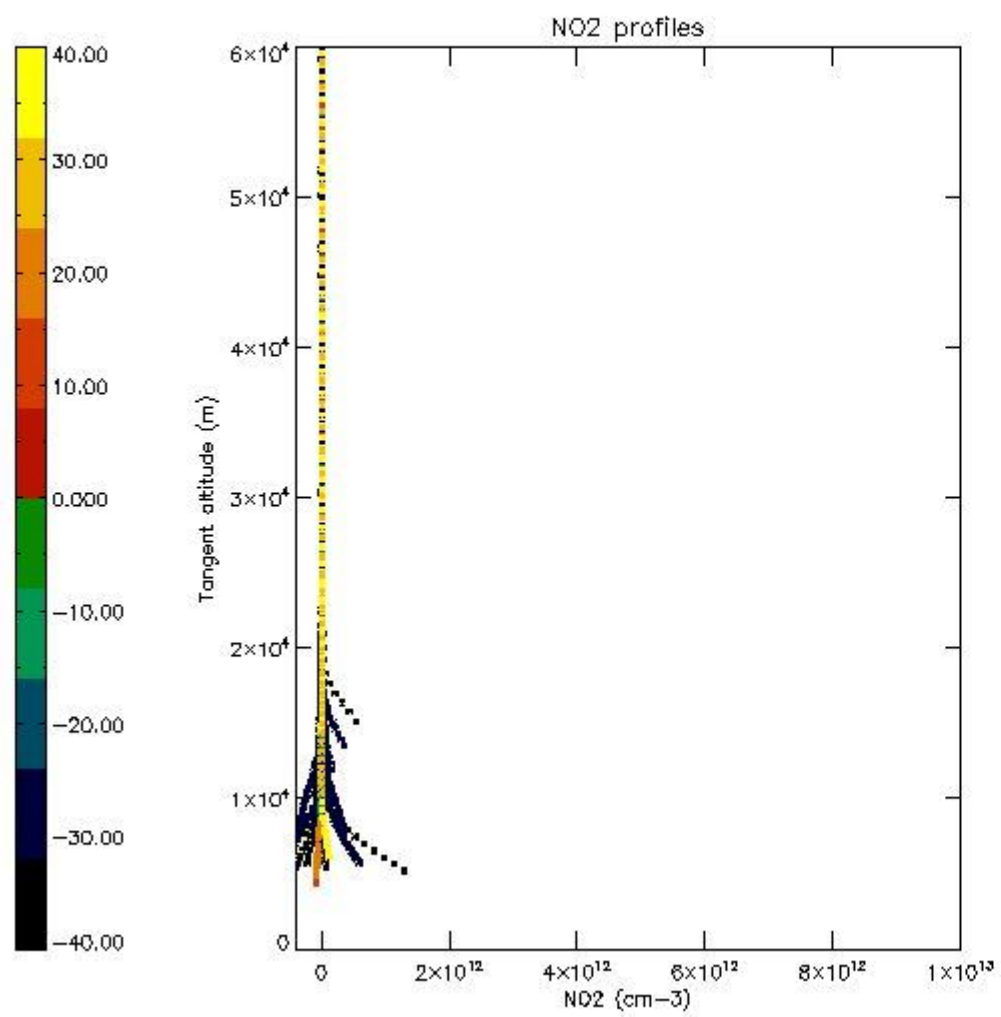
*5.5 Plot ozone profiles where STD < 5% (dark without errors)*

The colorbar represents the latitude.



*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

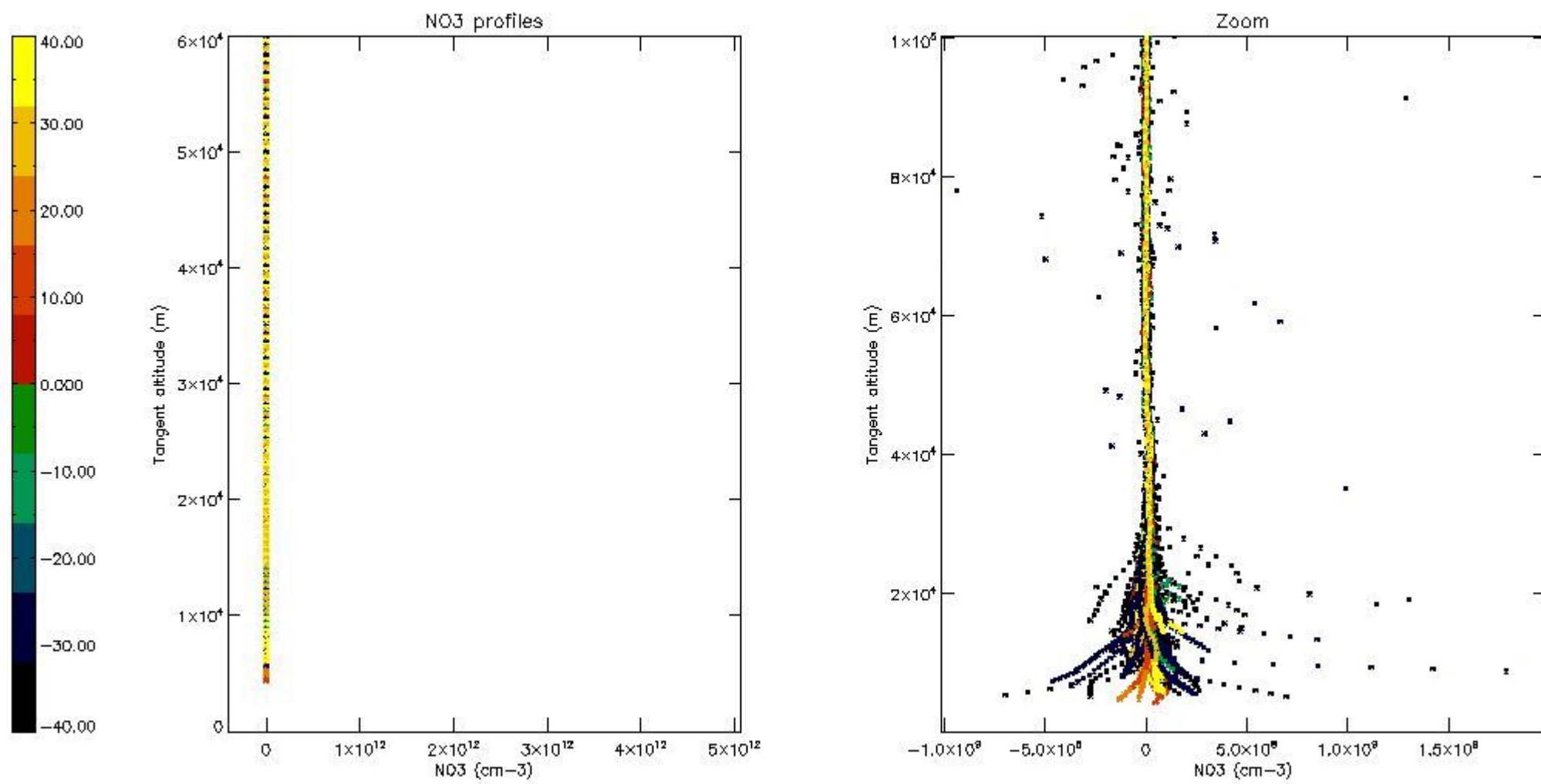
The colorbar represents the latitude.



*5.7 Plot NO3 profiles for all STD (dark without errors)*

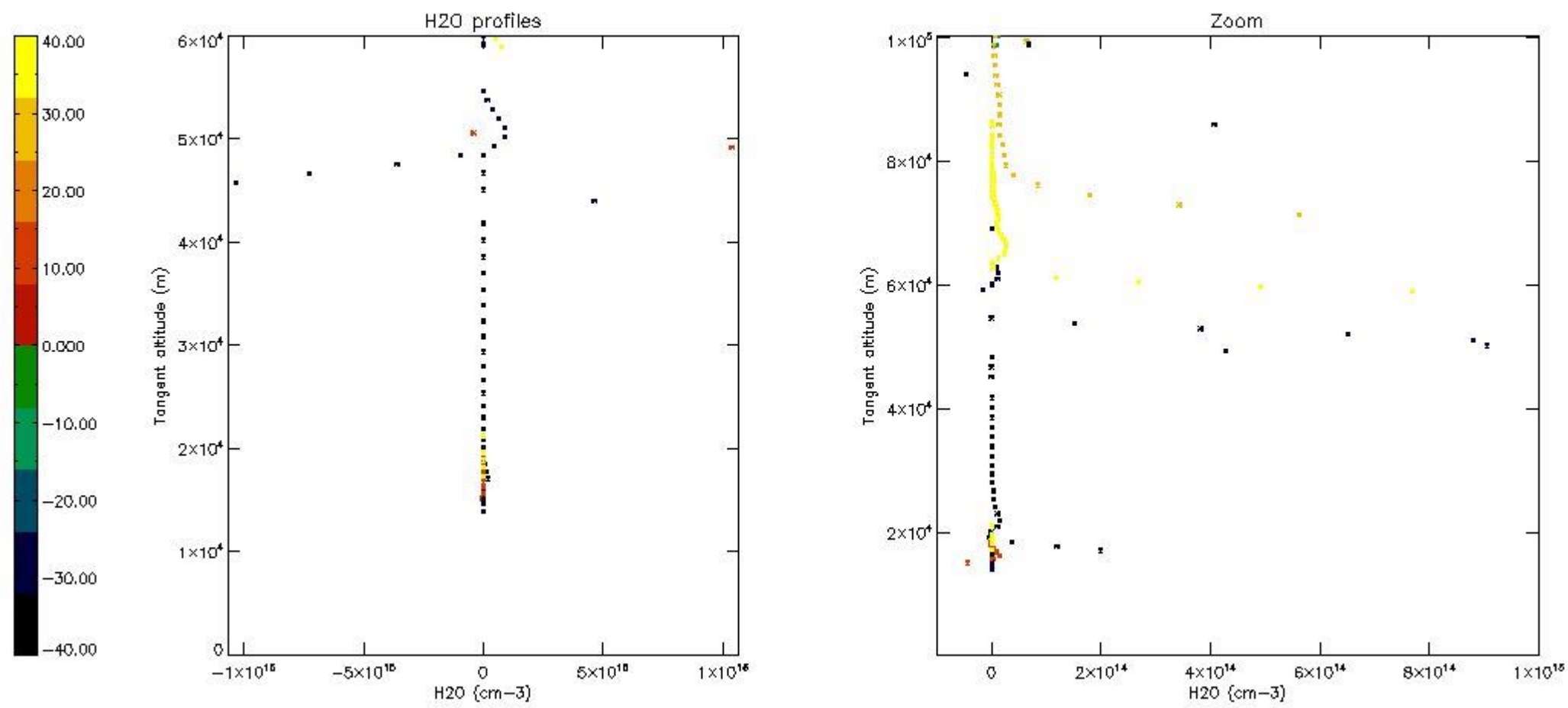
The colorbar represents the latitude.





5.8 Plot H2O profiles for all STD (only for occultations of stars 1,2,3,4,13,14,16,26,63 dark without errors)

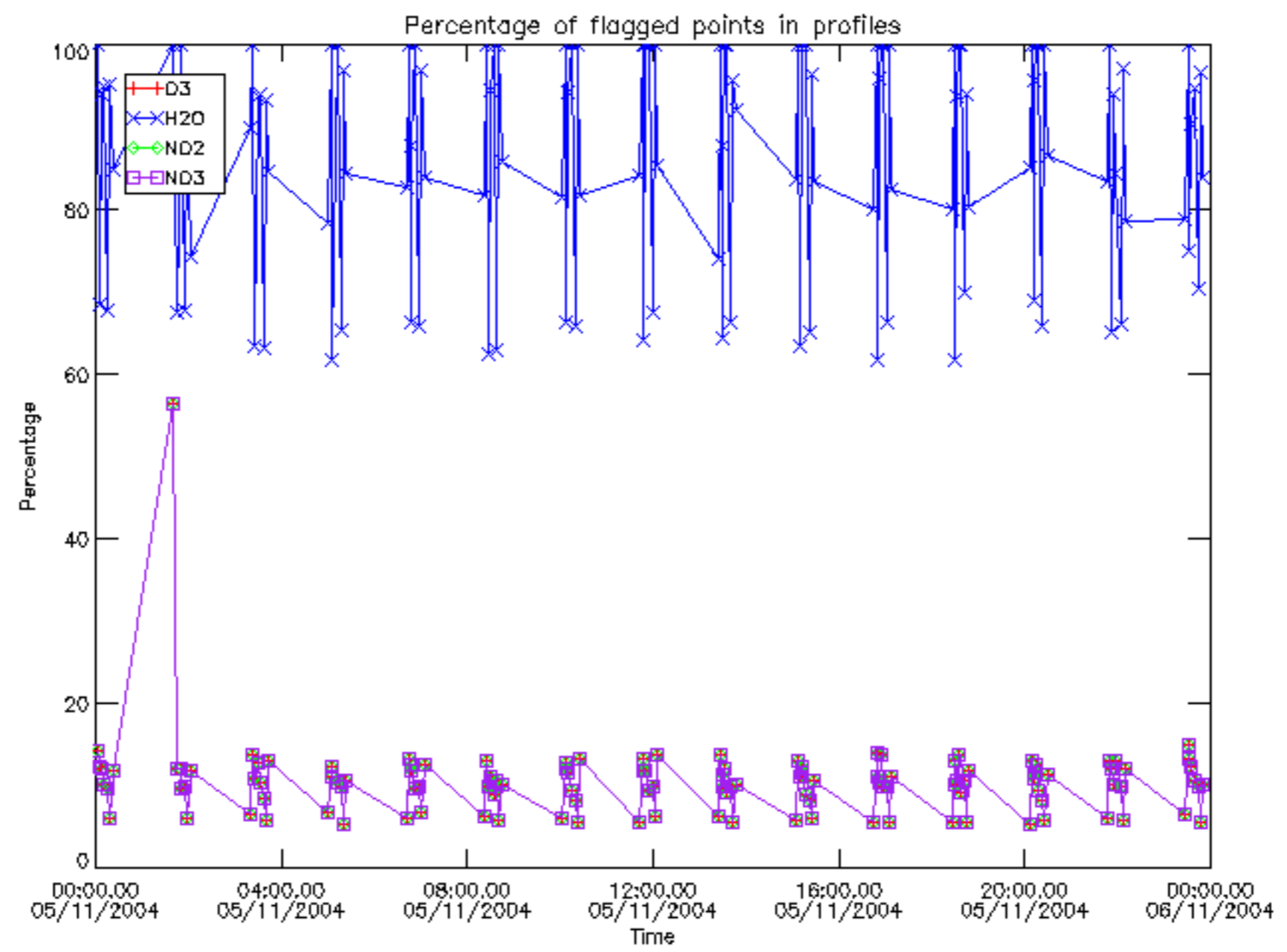
The colorbar represents the latitude.



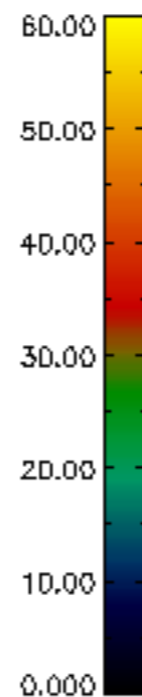
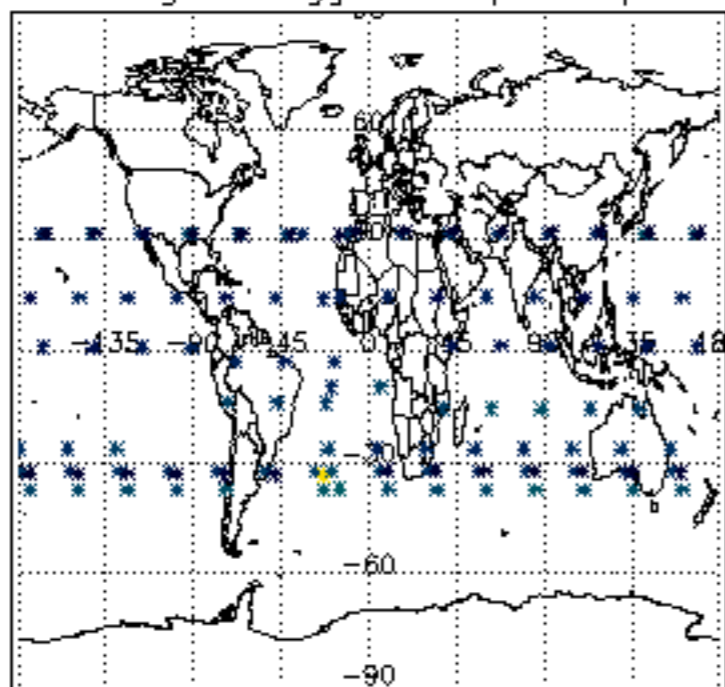
## 6. Auxiliary Data Files used for the production reported in section 2

The number reported in the third column indicates since which file (see list in section 2) the corresponding auxiliary file has been used. The fourth column is the date of those product files.

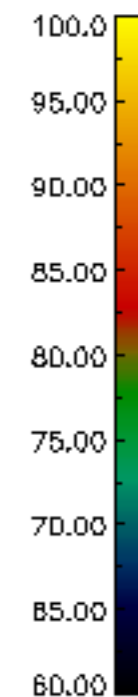
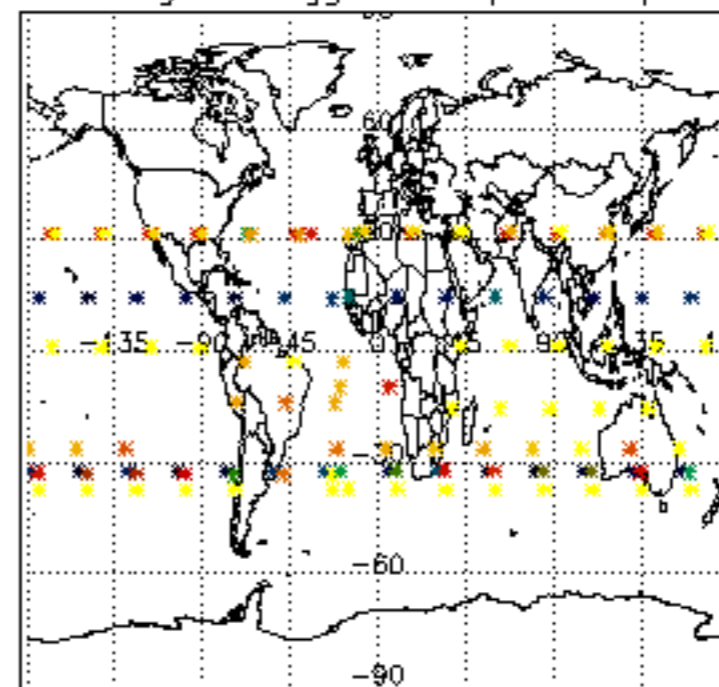
| Type                      | Auxiliary Filename  | Used since product | Used since product date |
|---------------------------|---|--------------------|-------------------------|
| INST_PHYS_CHARACTERISTICS | GOM_INS_AXVIEC20091111_143220_20030716_120000_20500101_000000 | 1                  | 05-NOV-2004 00:02:26    |
| LEVEL-2_PROC_CONFIG       | GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000 | 1                  | 05-NOV-2004 00:02:26    |
| CROSS_SECTIONS_FILE       | GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000 | 1                  | 05-NOV-2004 00:02:26    |



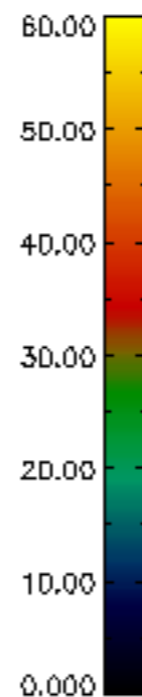
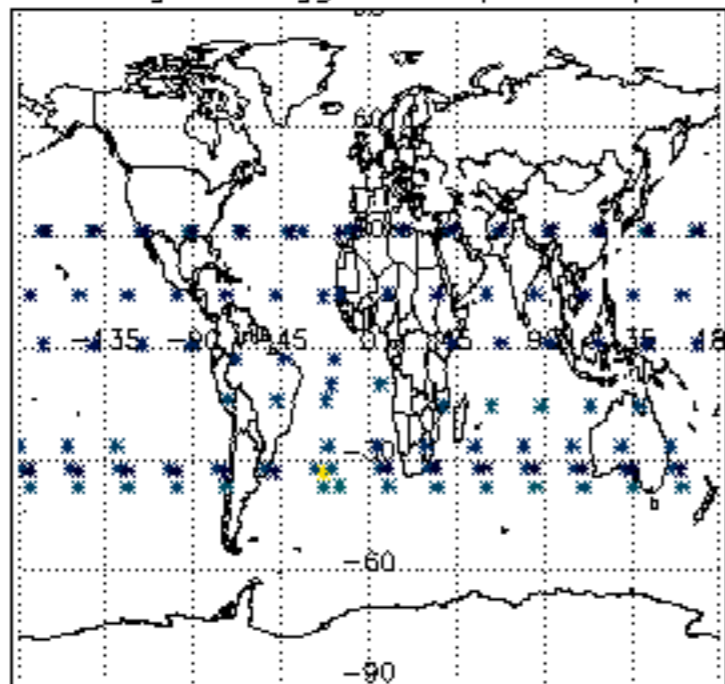
Percentage of flagged data per D3 profile



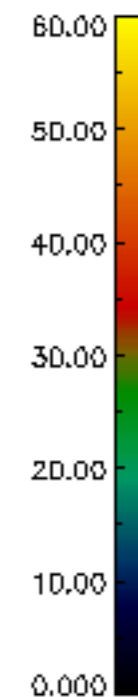
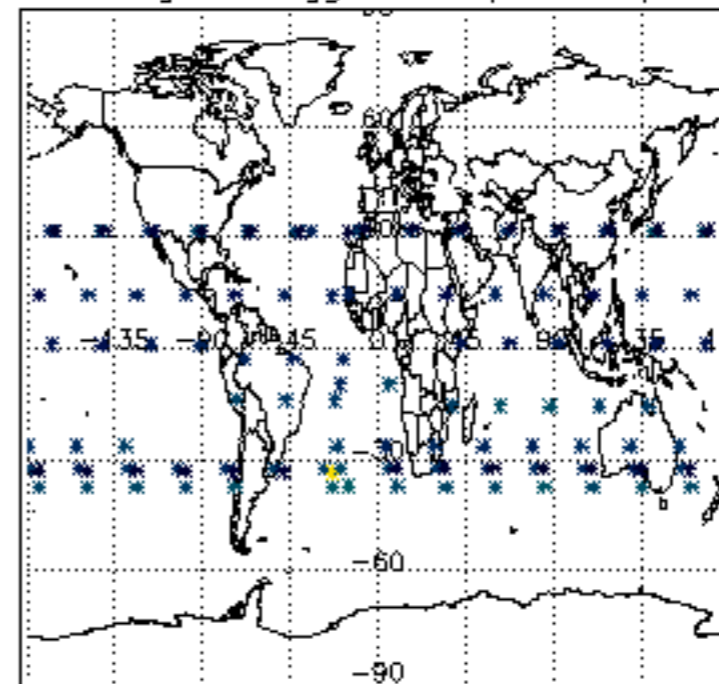
Percentage of flagged data per H2O profile

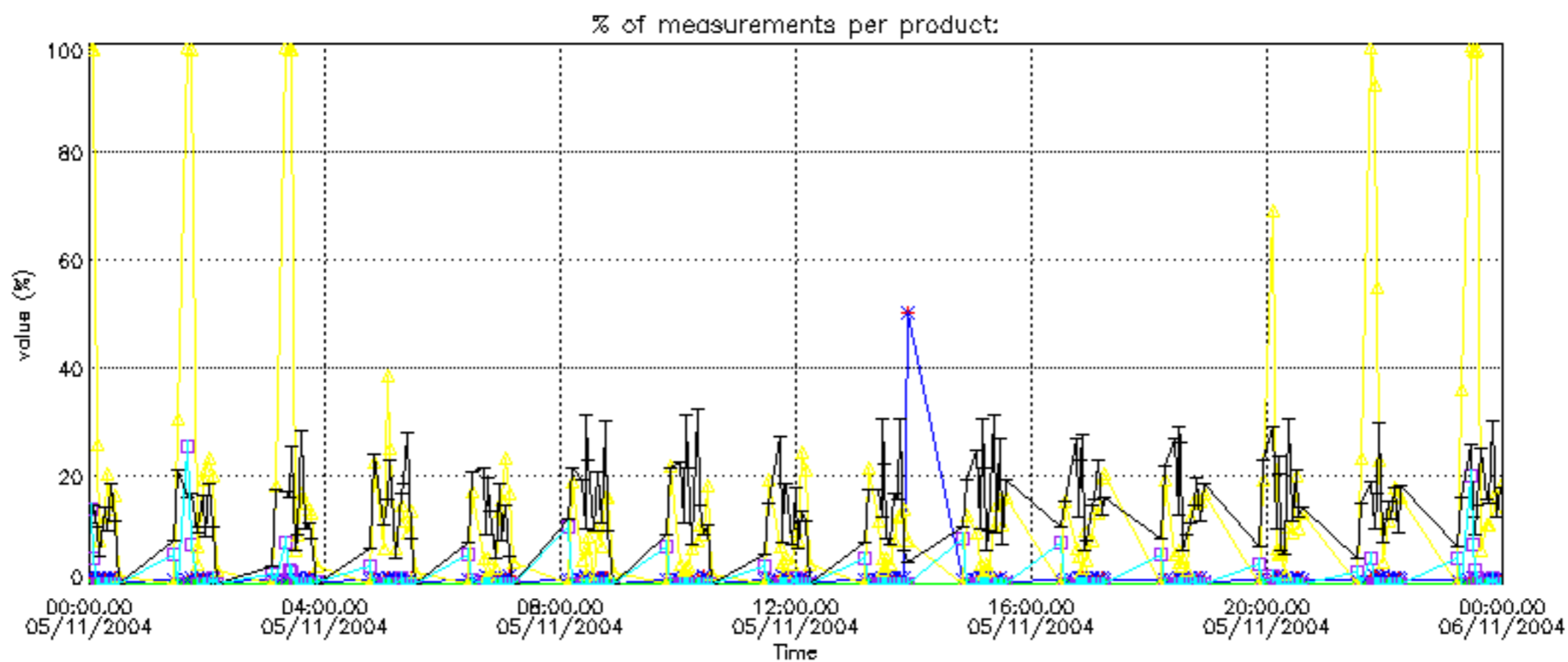
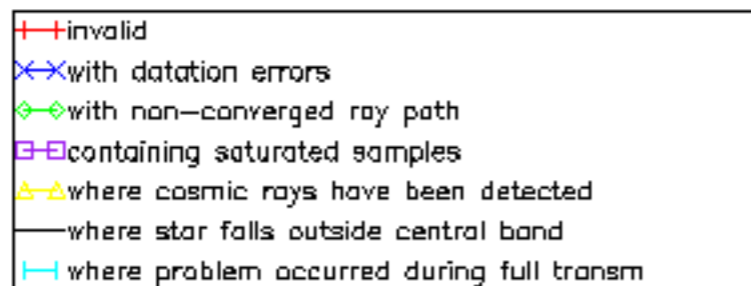


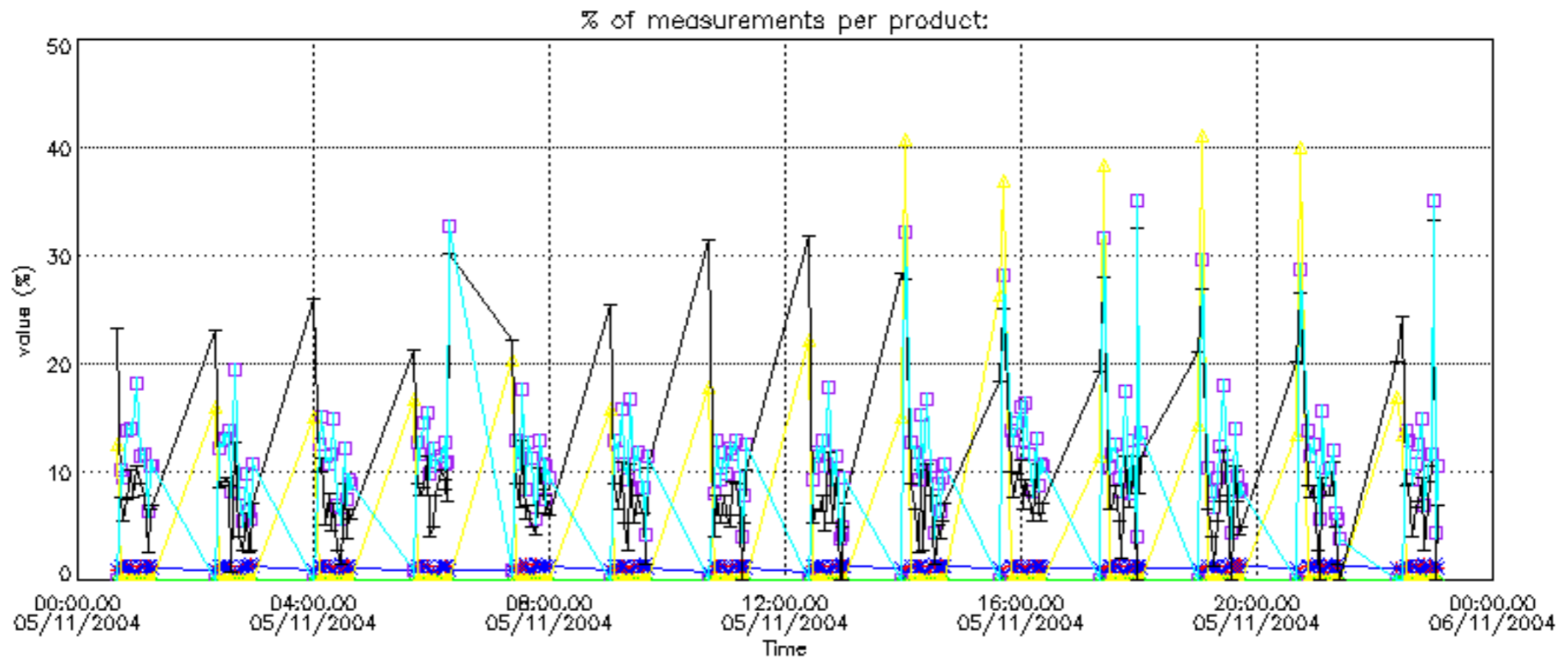
Percentage of flagged data per NO2 profile



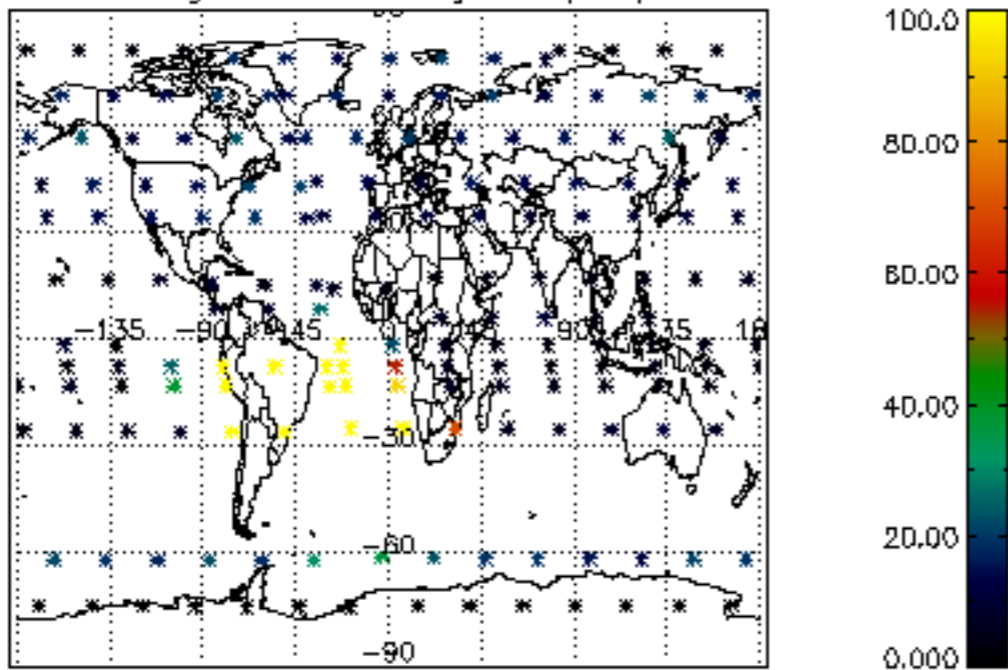
Percentage of flagged data per NO3 profile



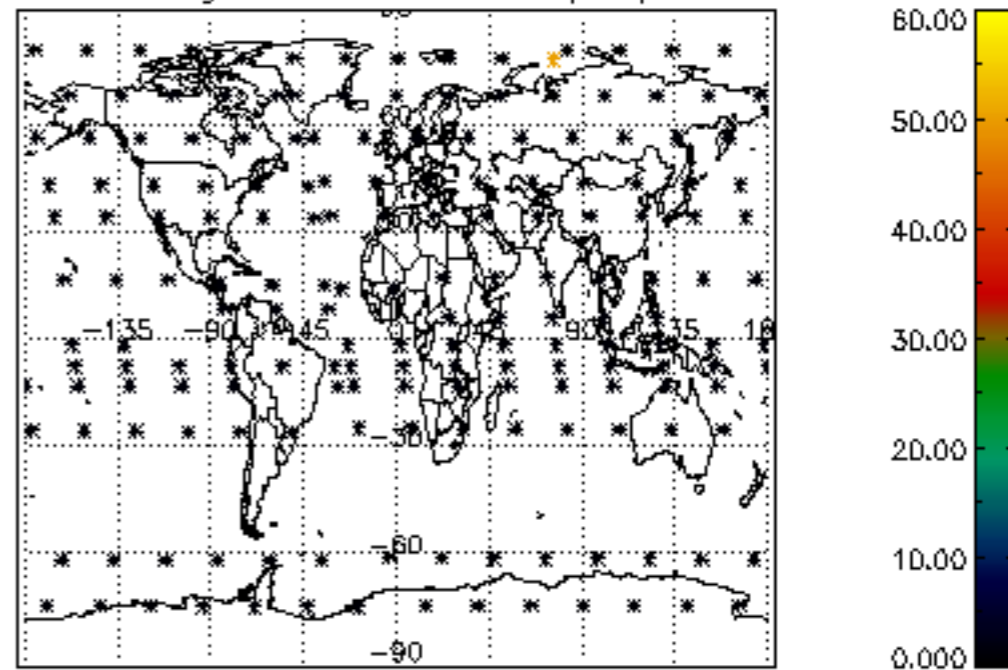




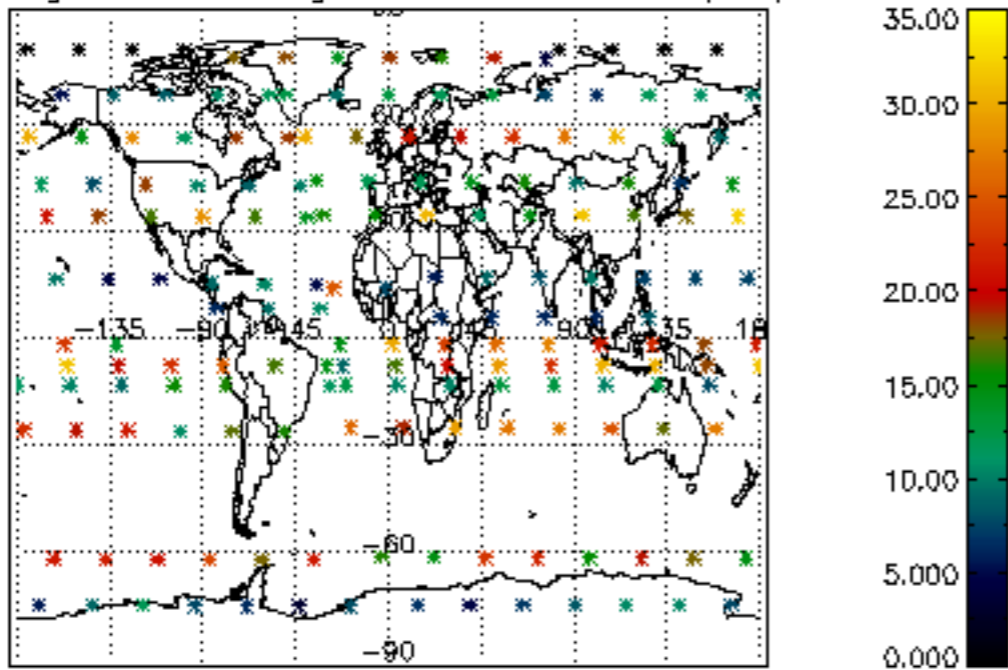
Percentage of cosmic ray hits per profile



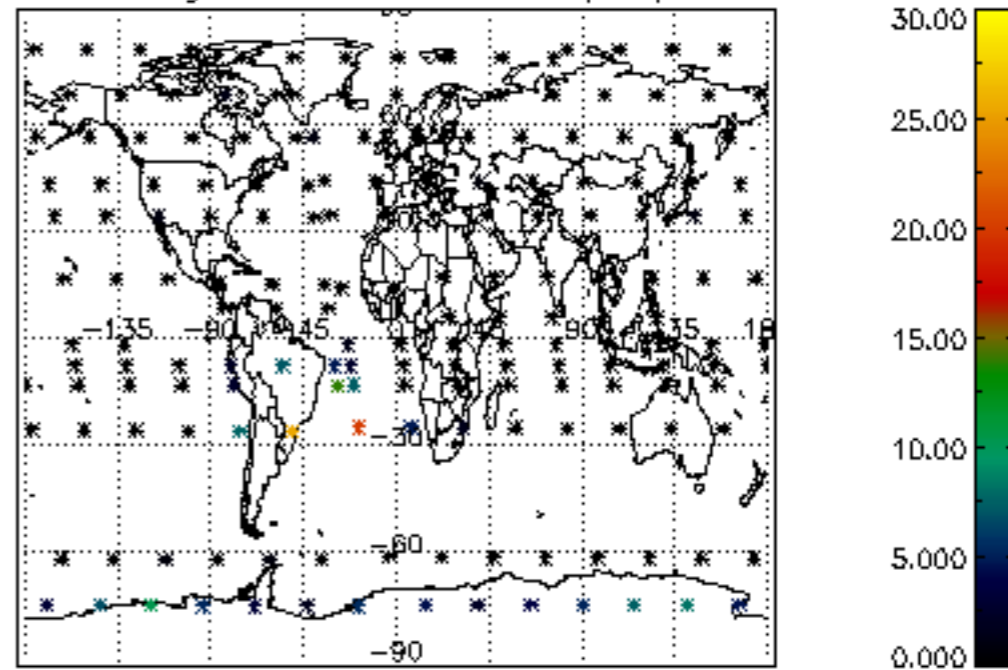
Percentage of datation errors per profile



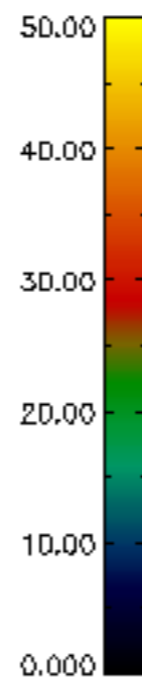
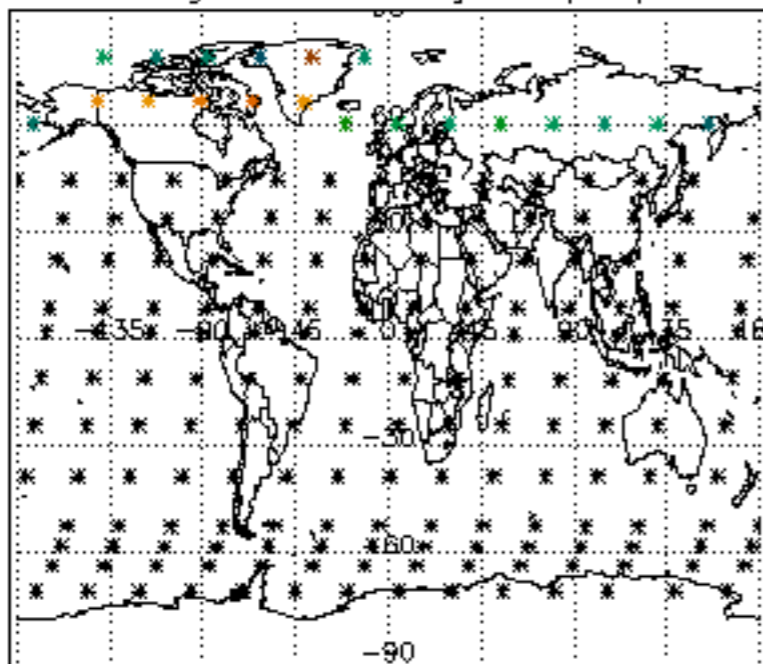
Percentage of star falling outside central band per profile



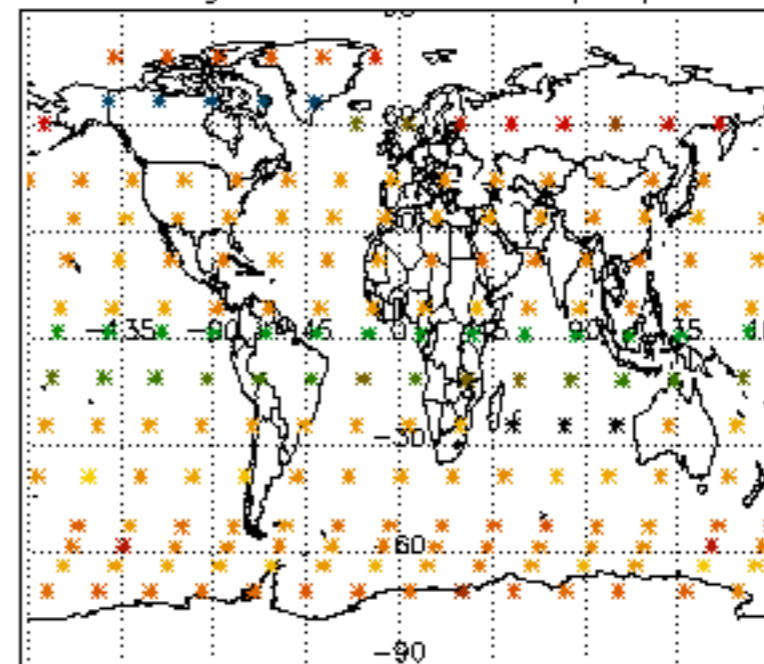
Percentage of saturation errors per profile



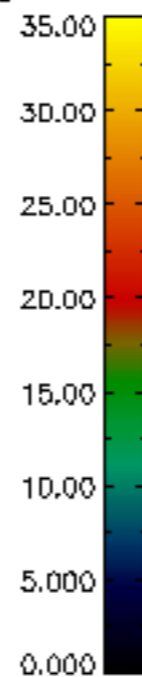
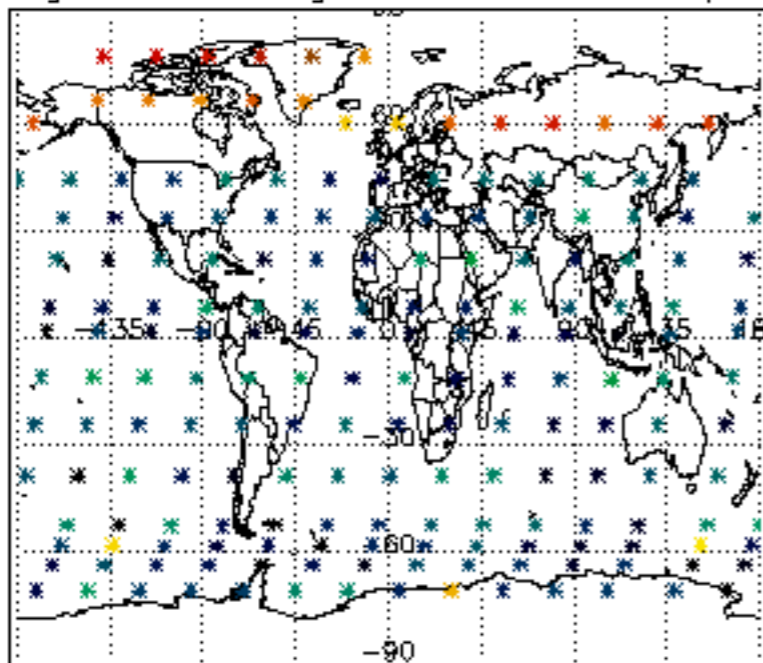
Percentage of cosmic ray hits per profile



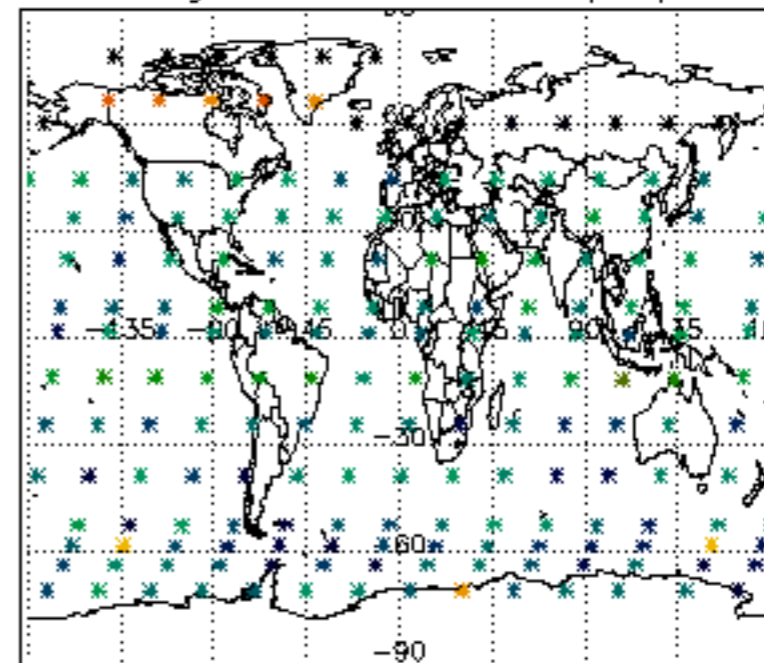
Percentage of datation errors per profile



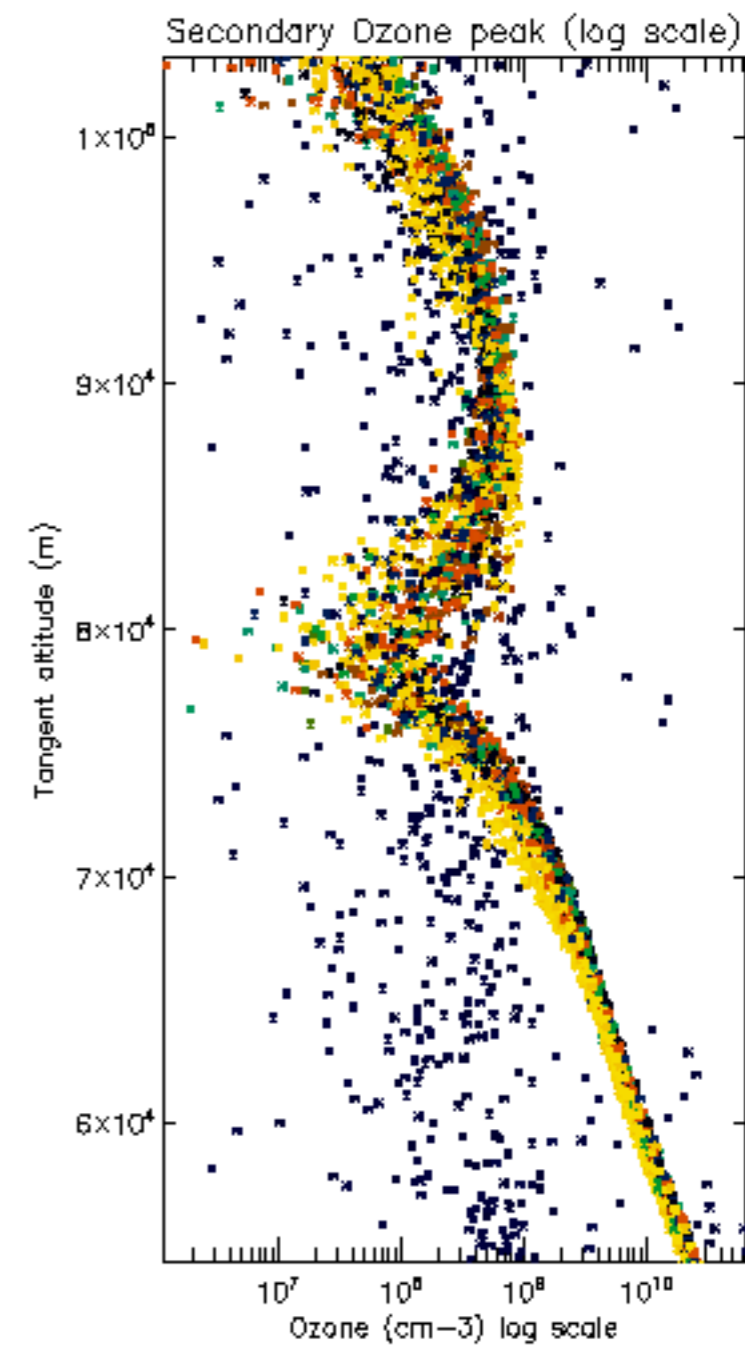
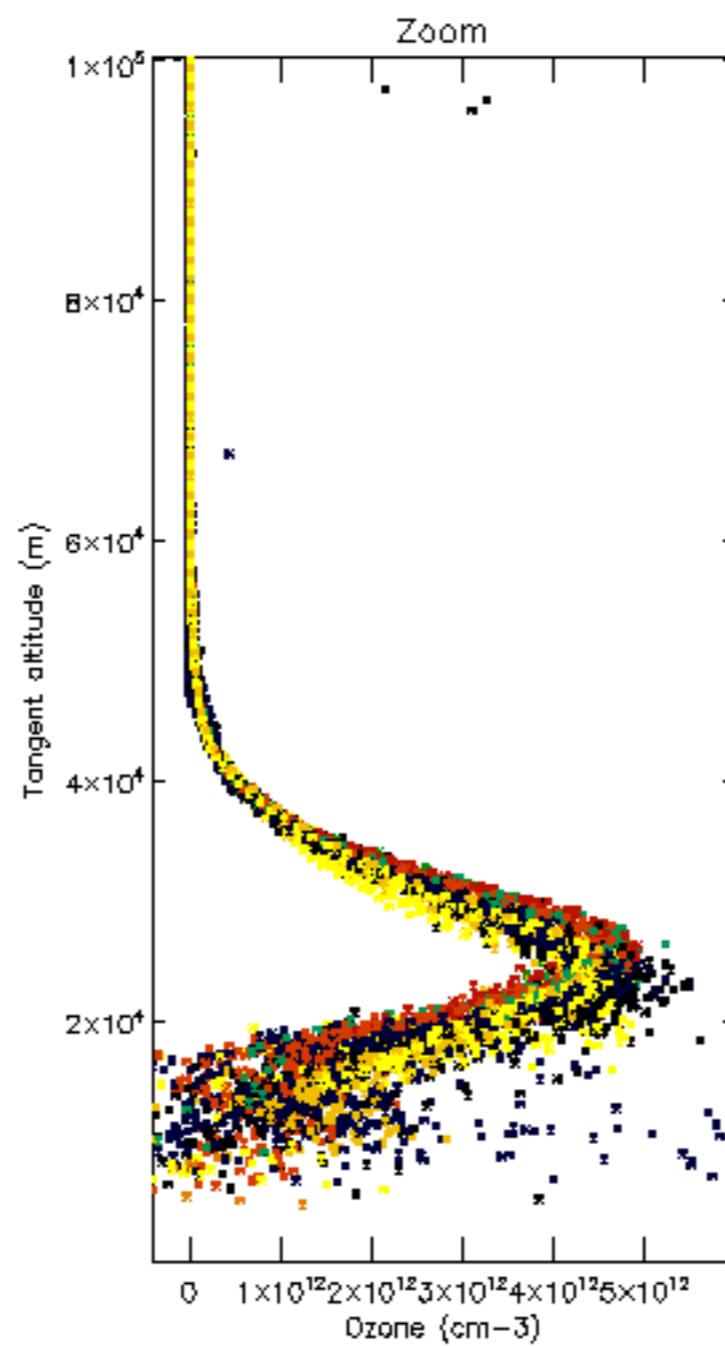
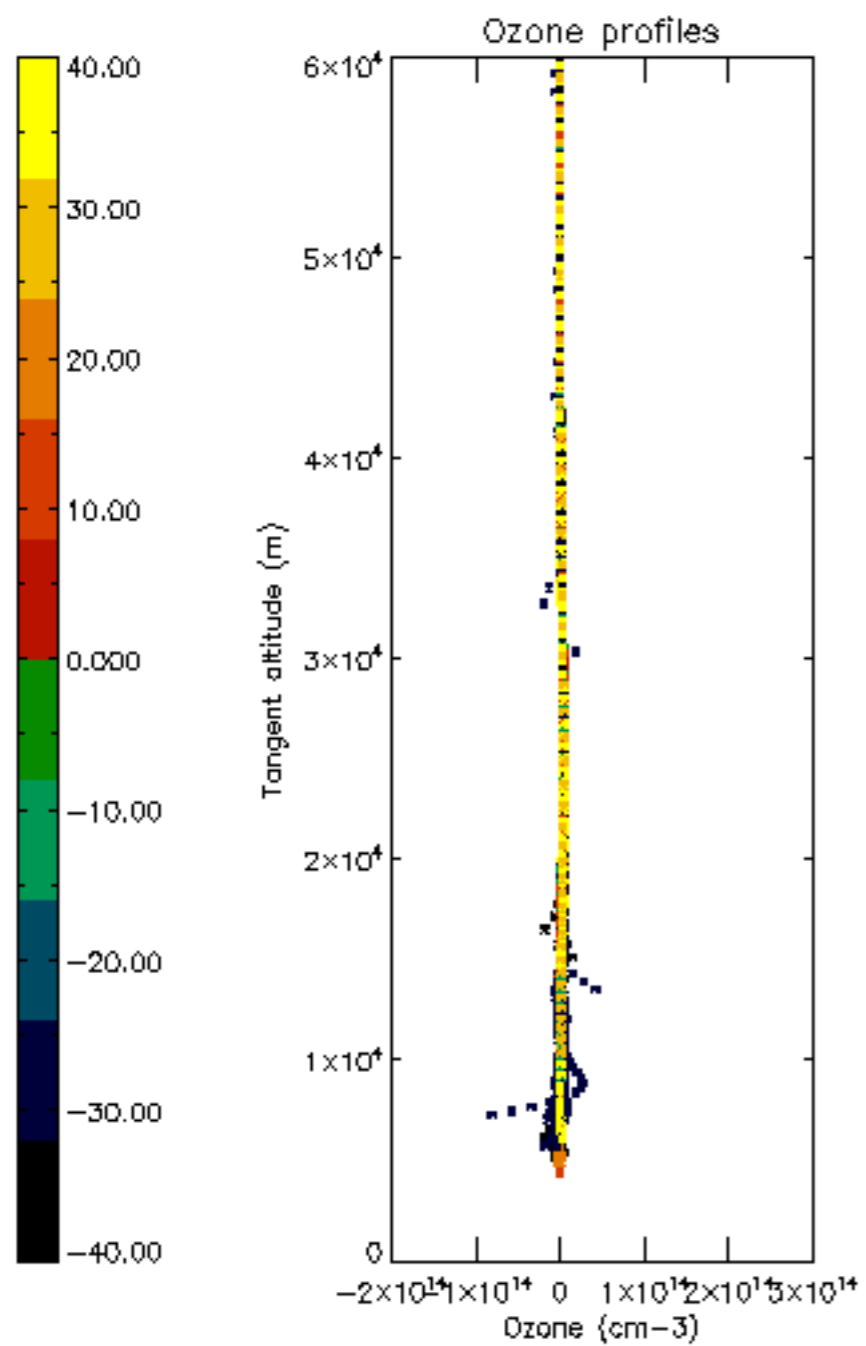
Percentage of star falling outside central band per profile

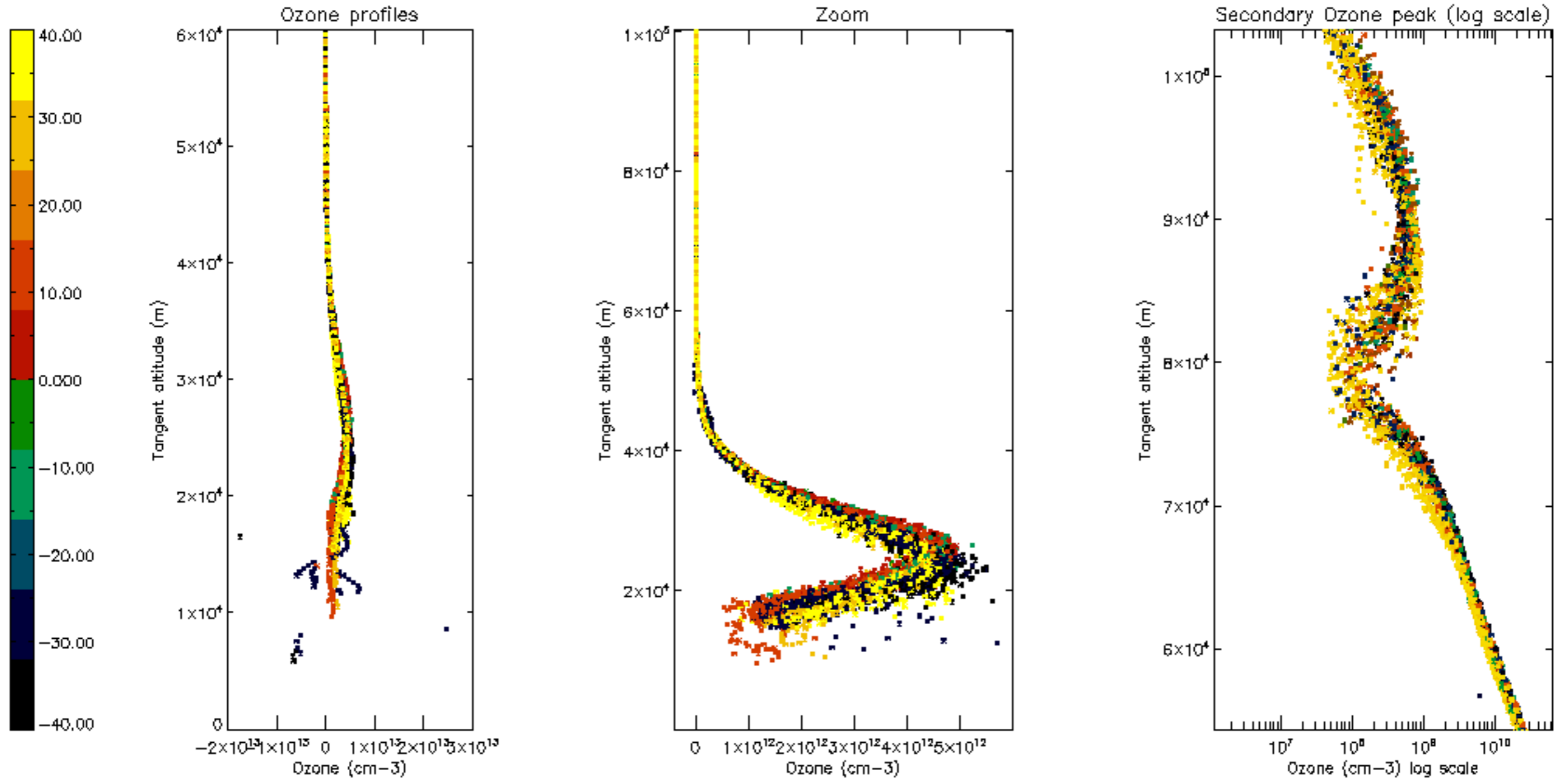


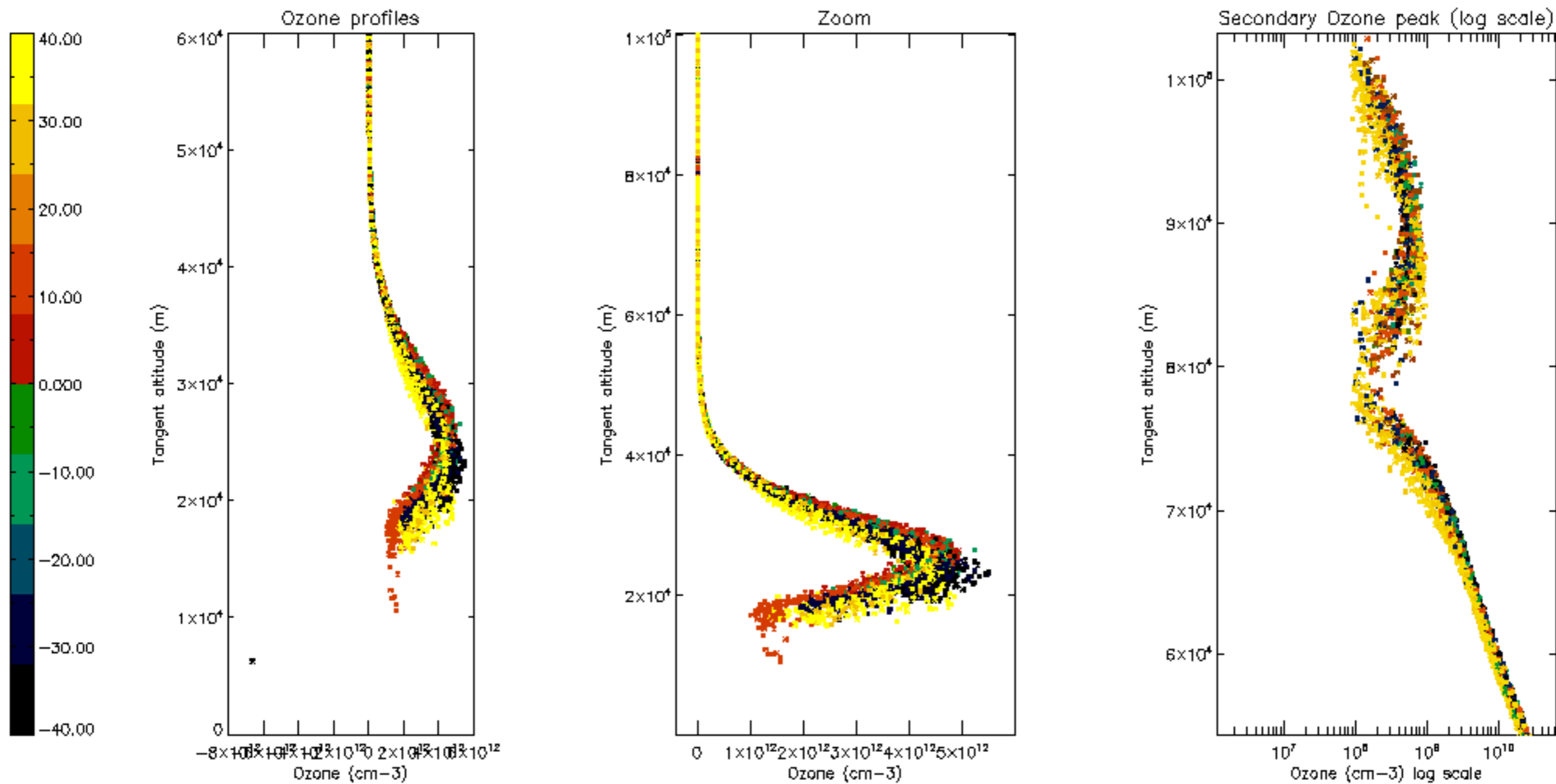
Percentage of saturation errors per profile

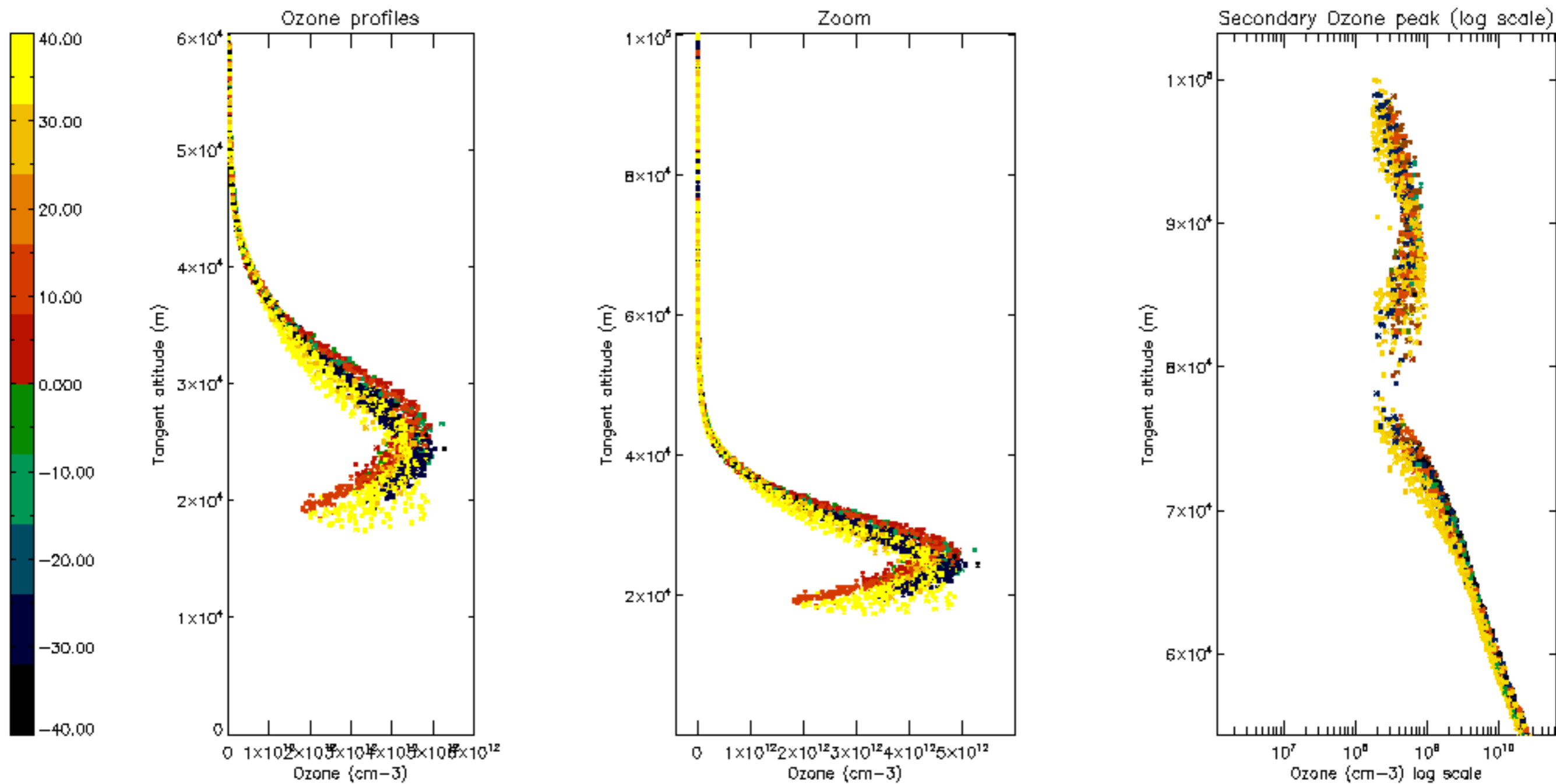


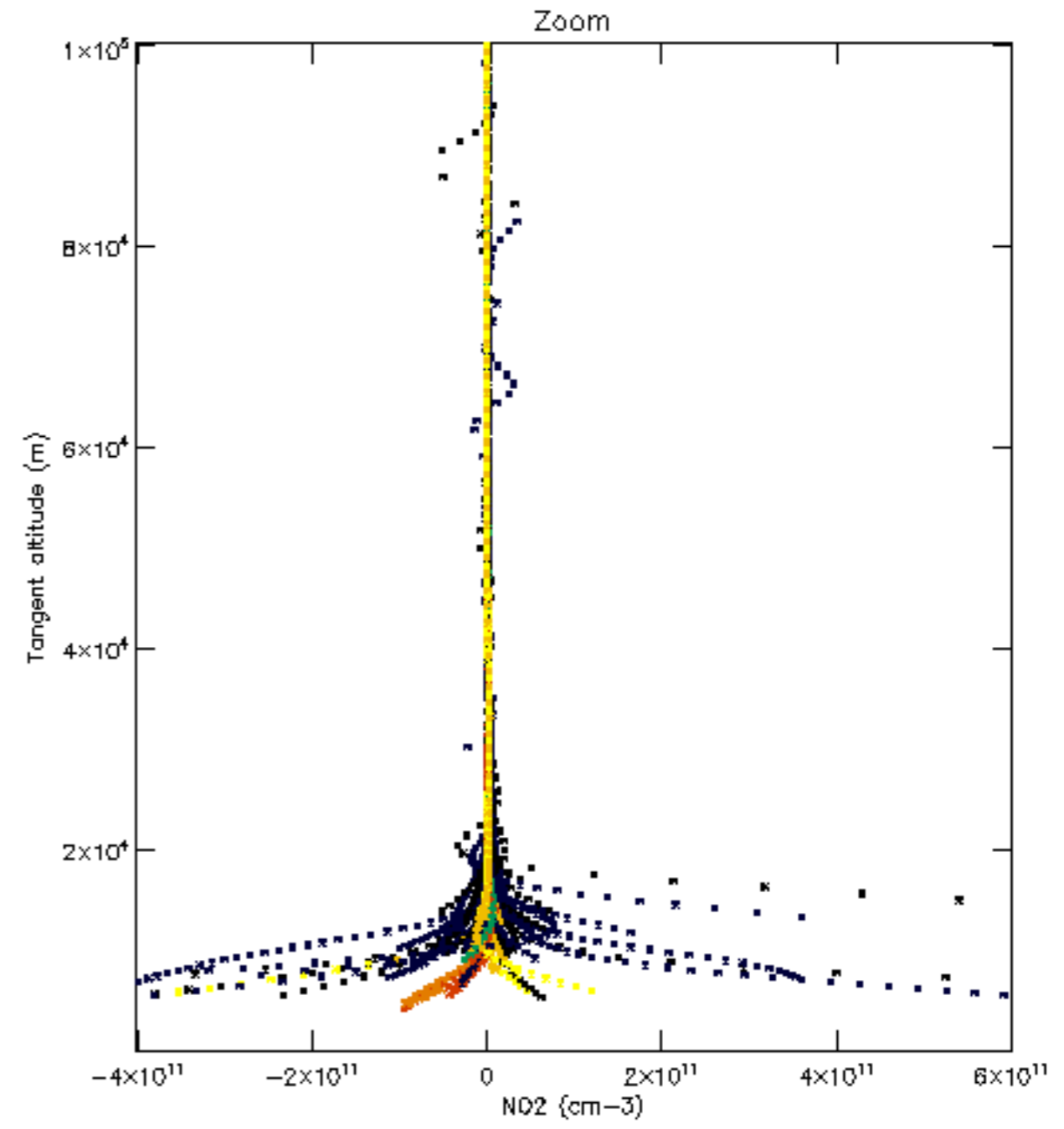
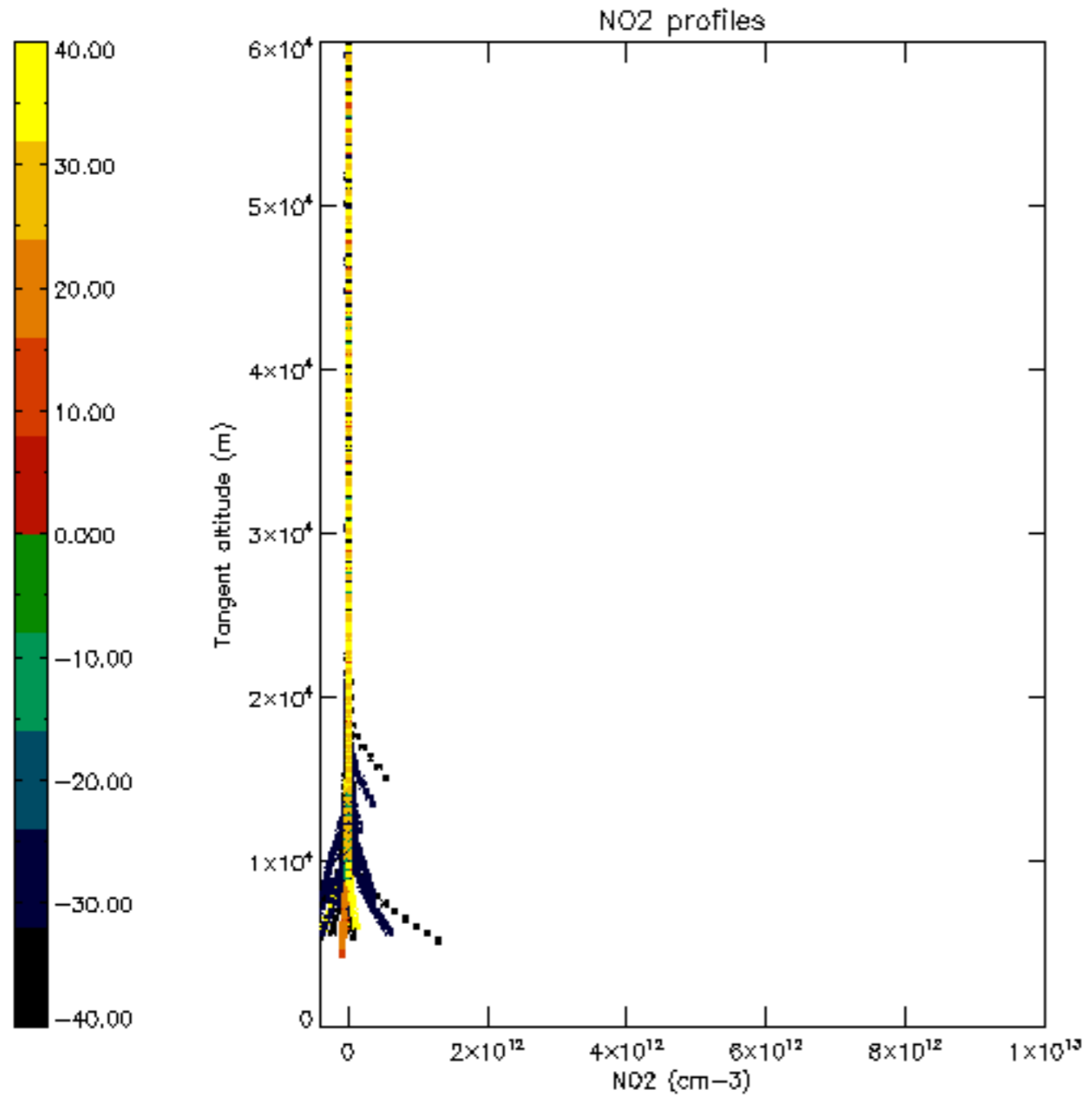


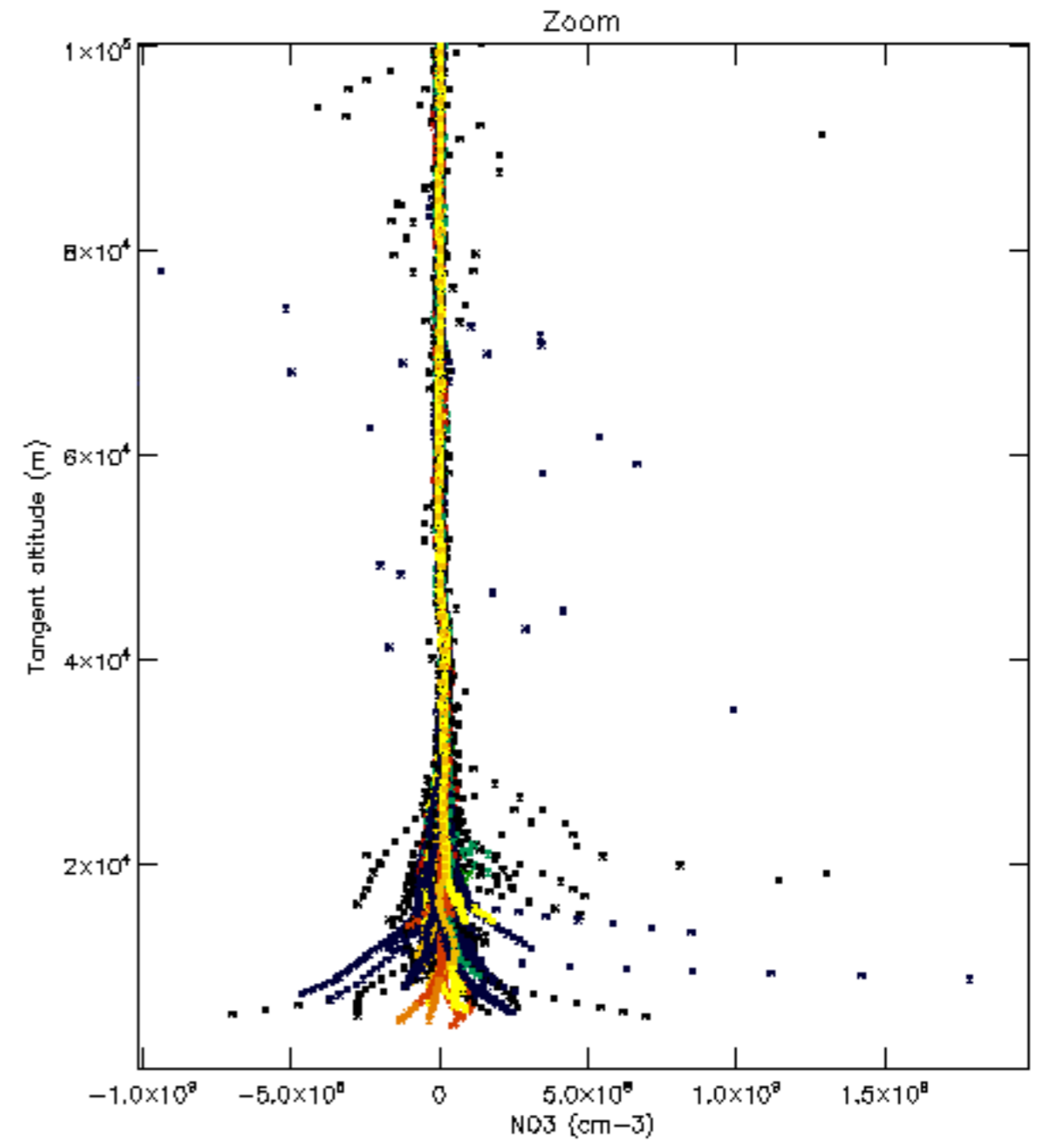
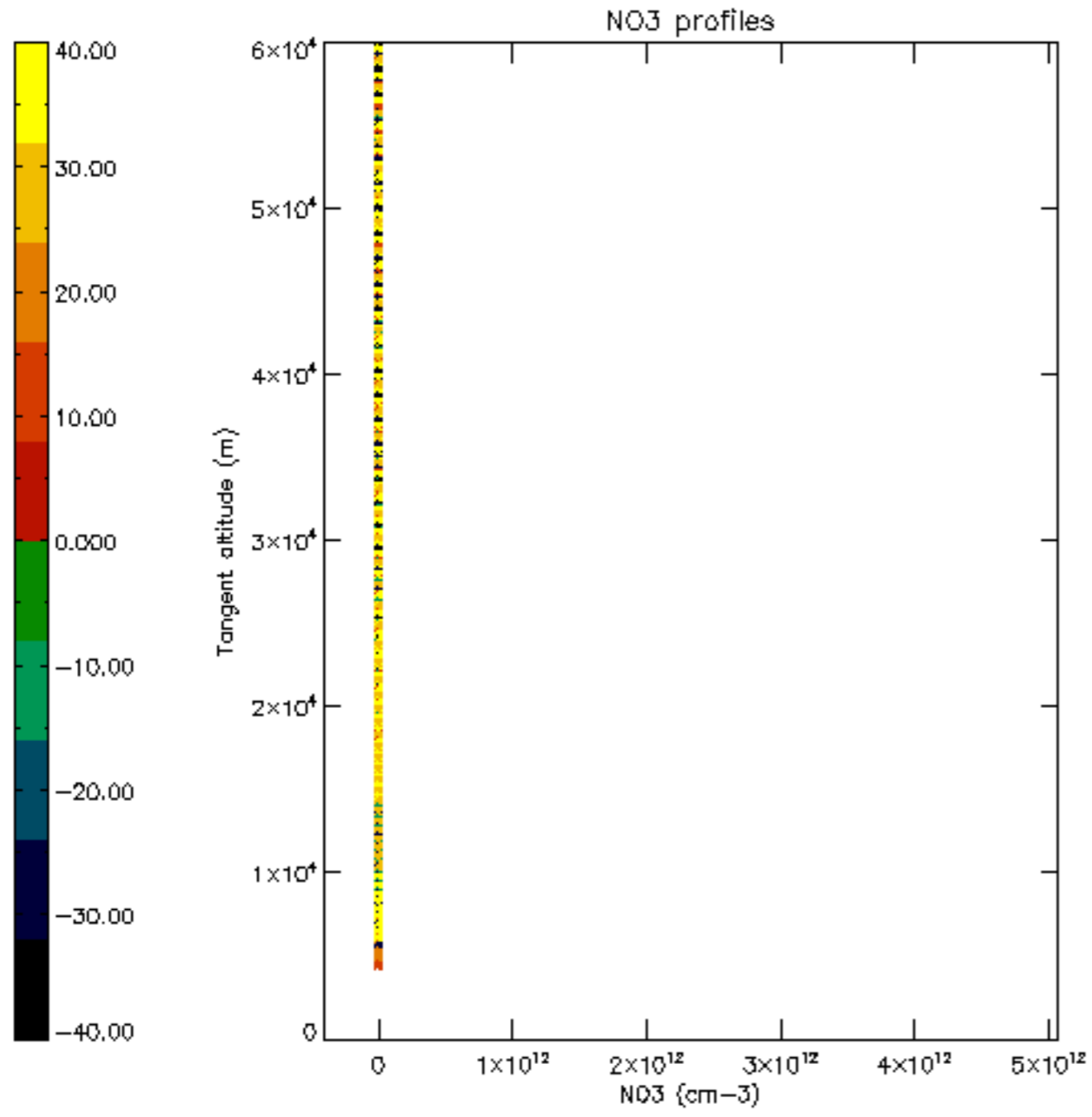


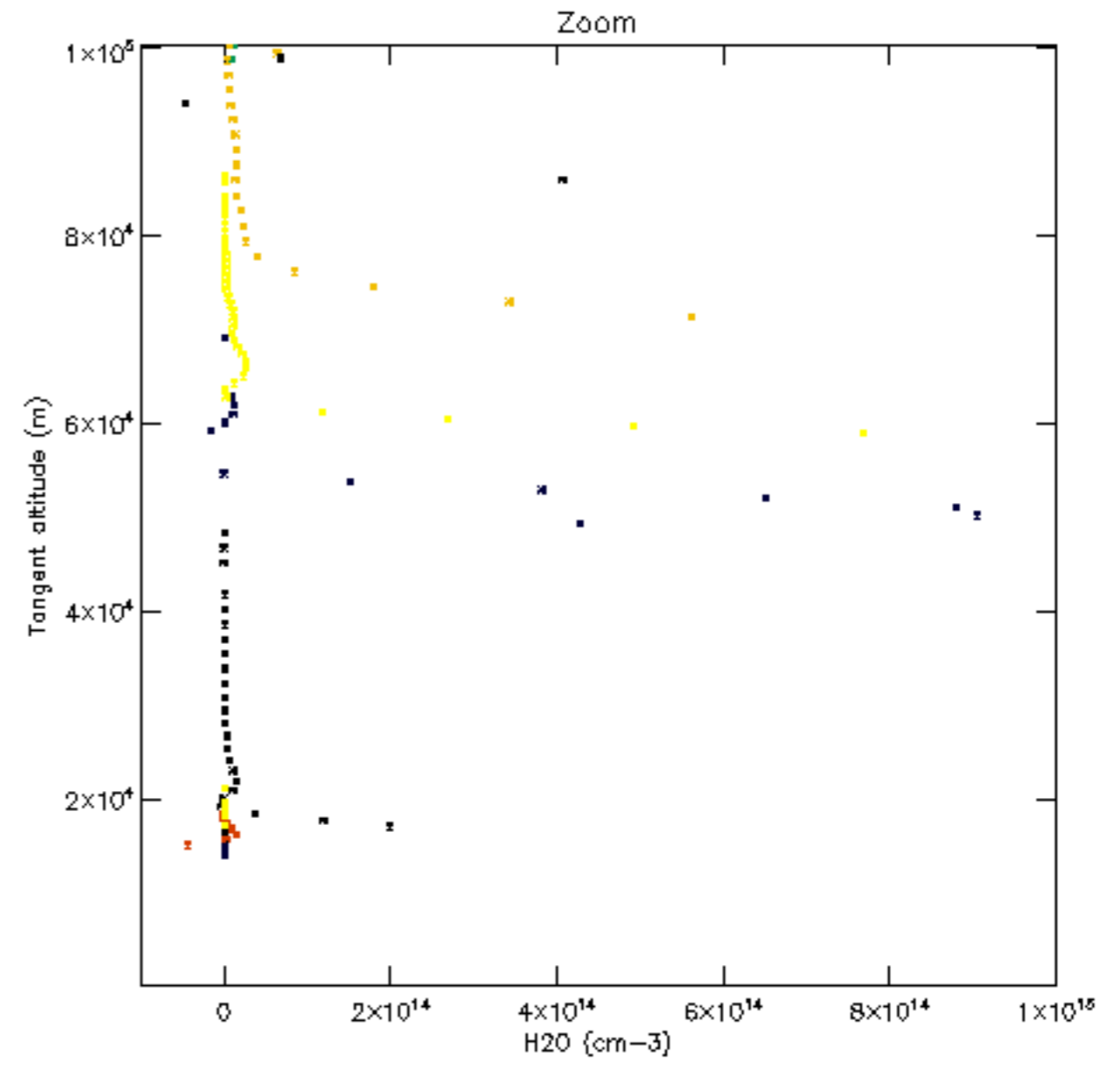
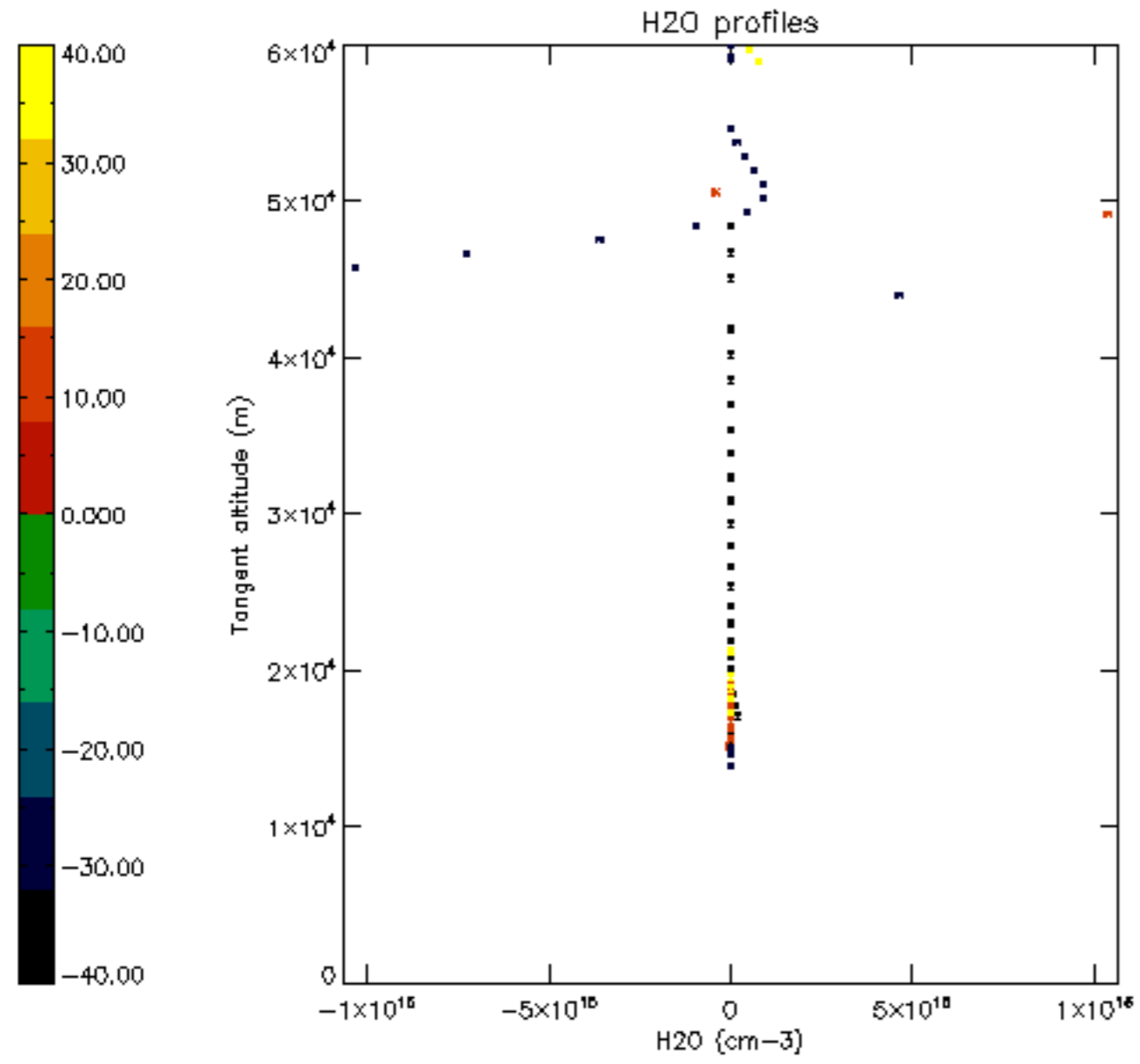


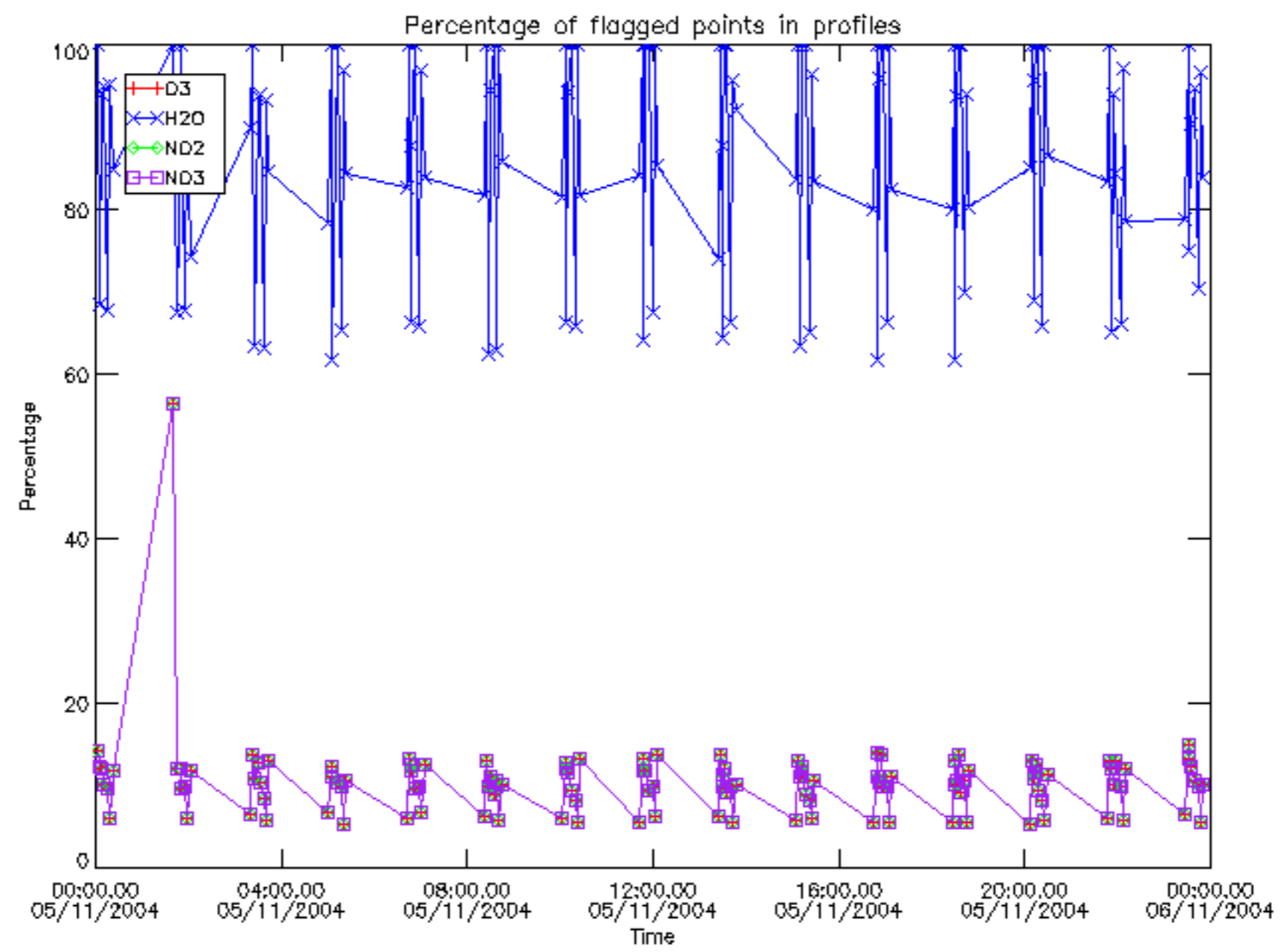






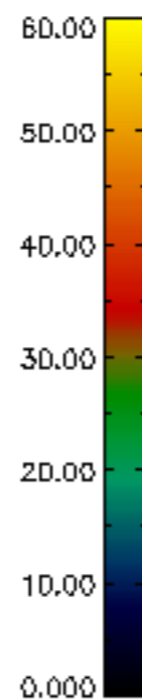
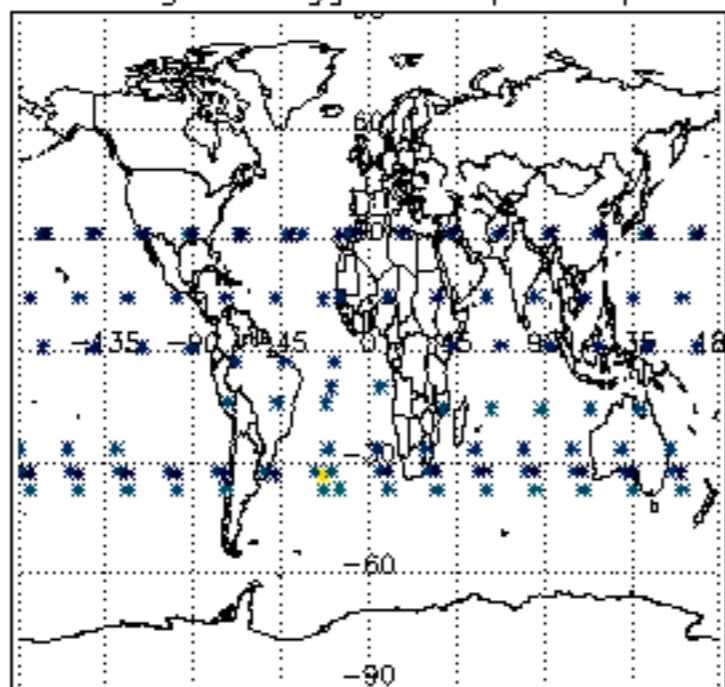




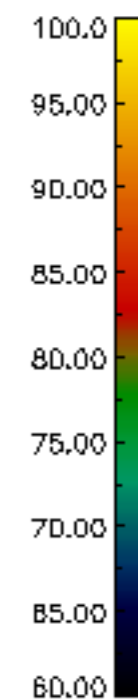
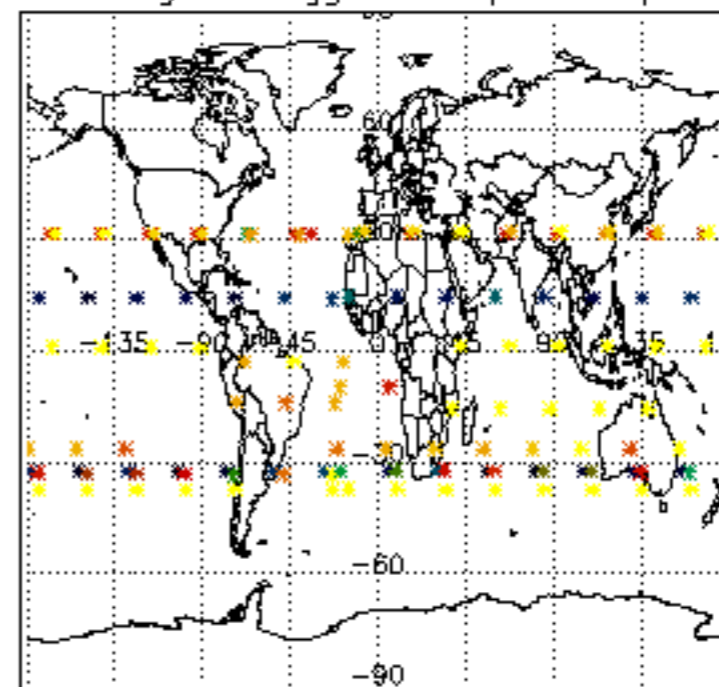




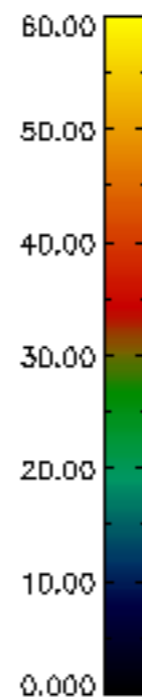
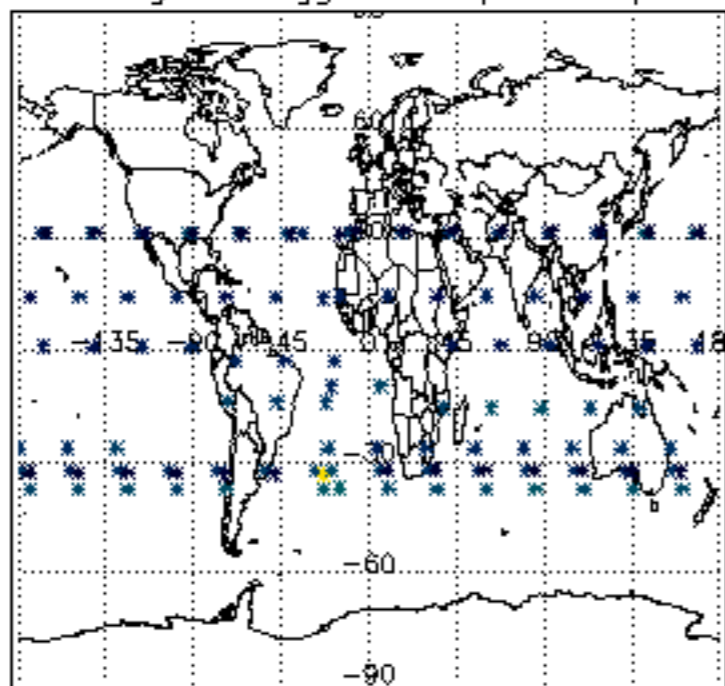
Percentage of flagged data per D3 profile



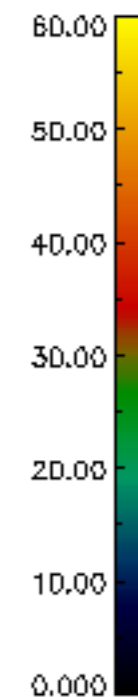
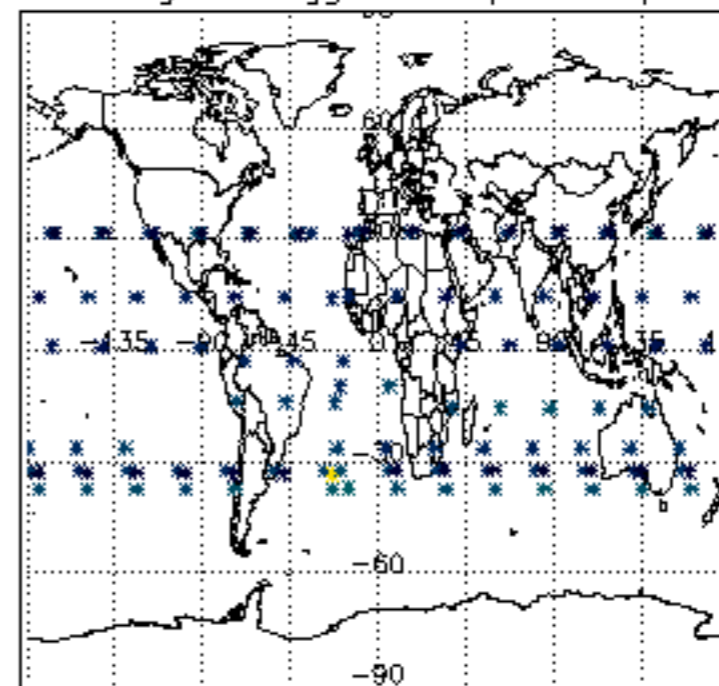
Percentage of flagged data per H2O profile

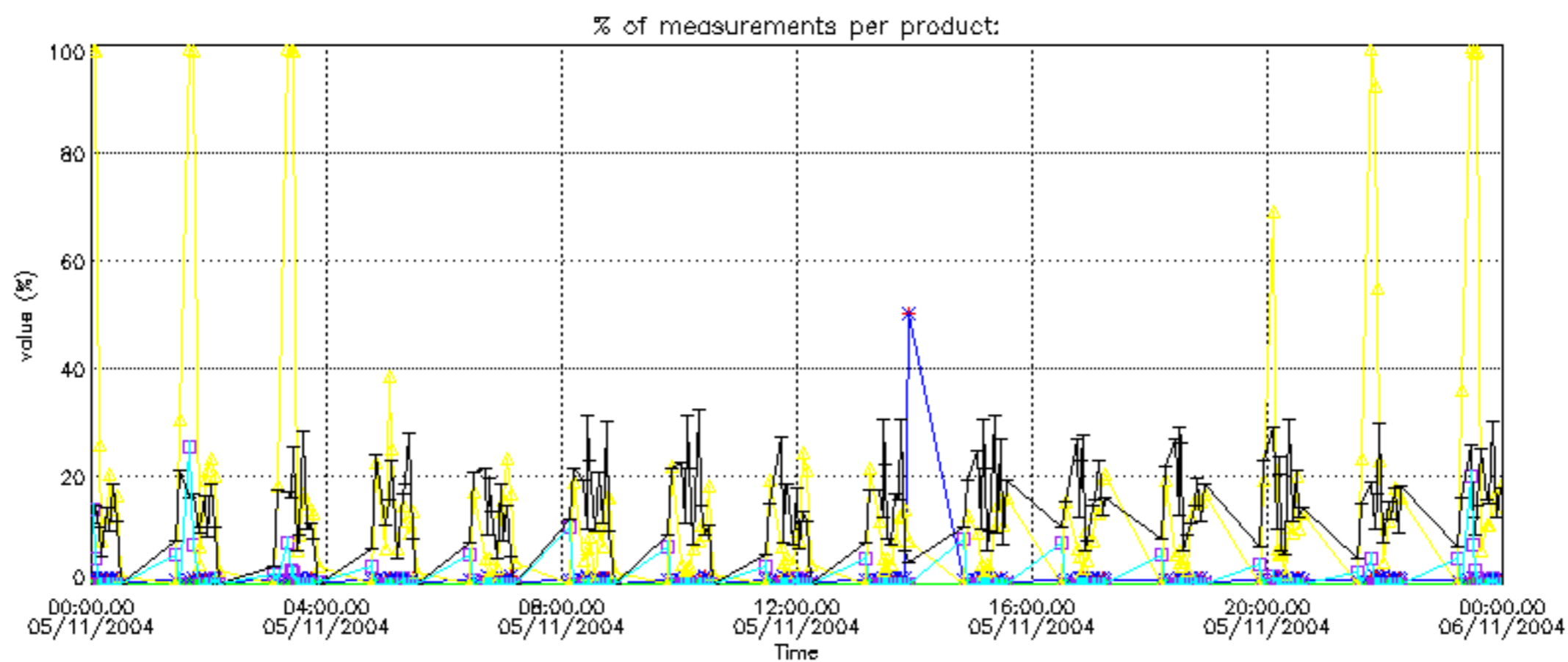
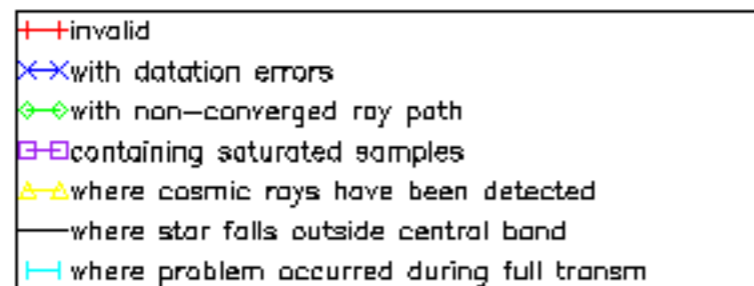


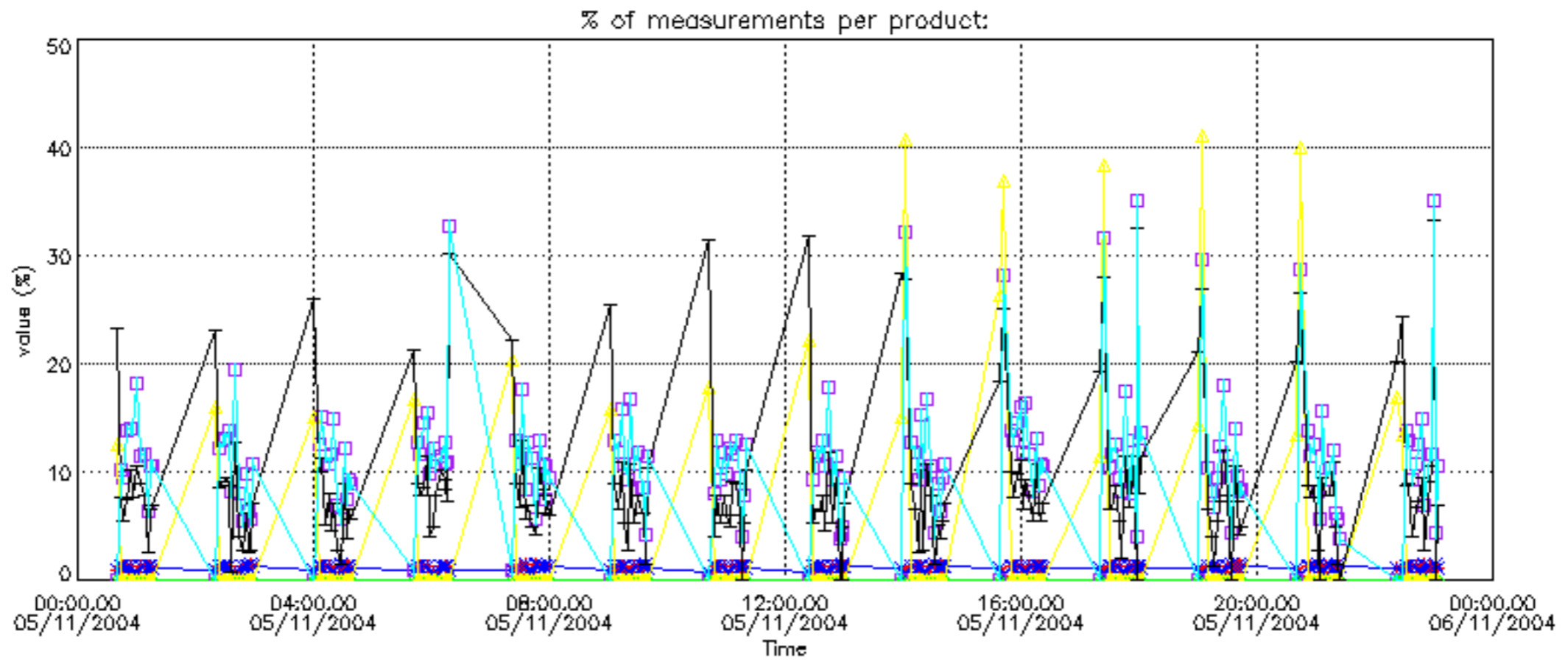
Percentage of flagged data per NO2 profile



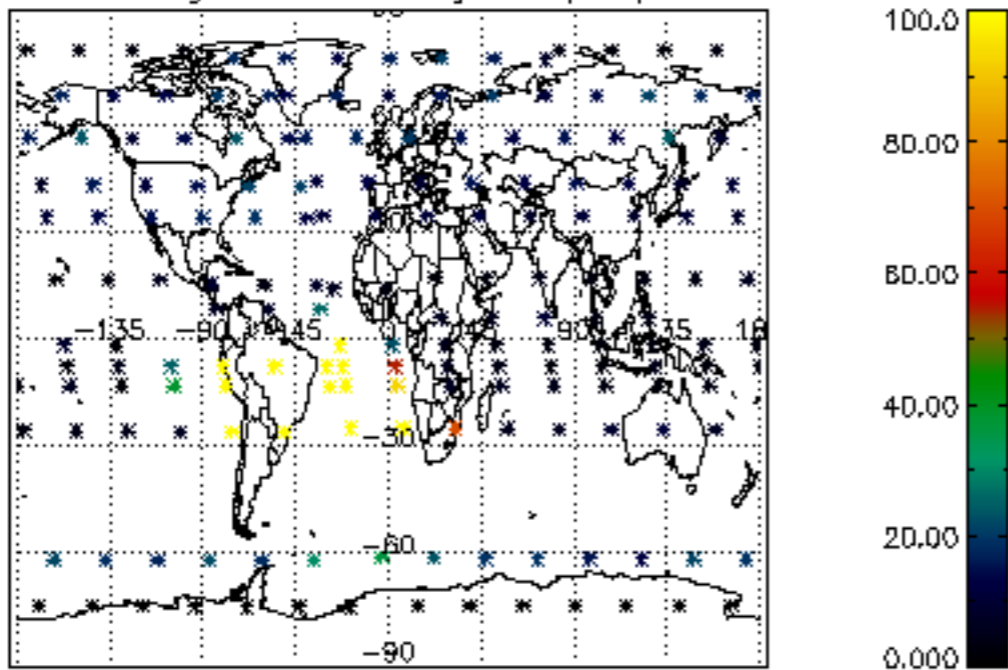
Percentage of flagged data per NO3 profile



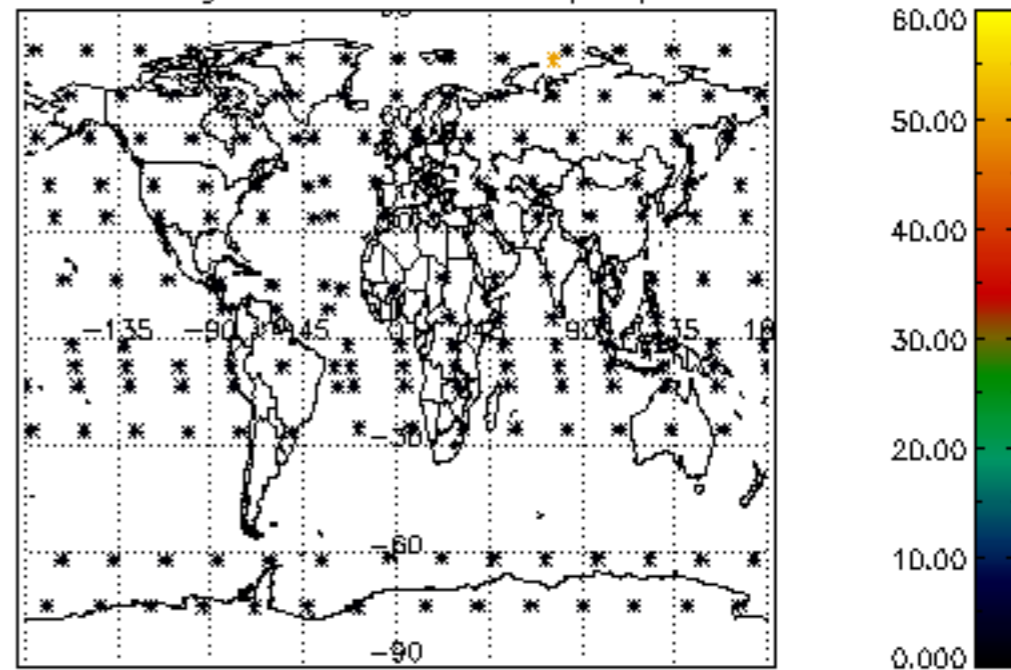




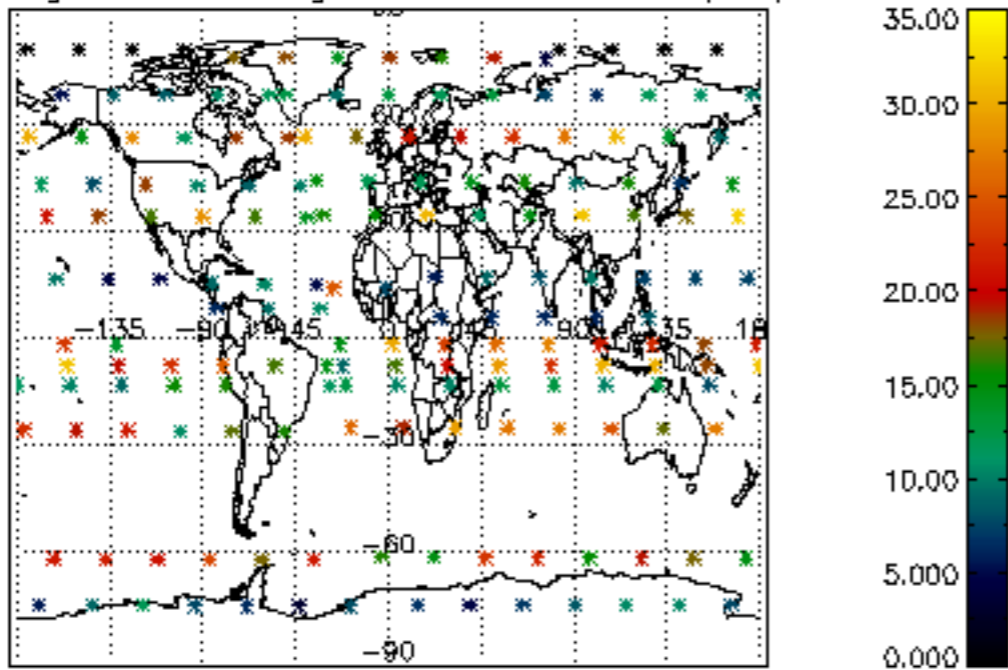
Percentage of cosmic ray hits per profile



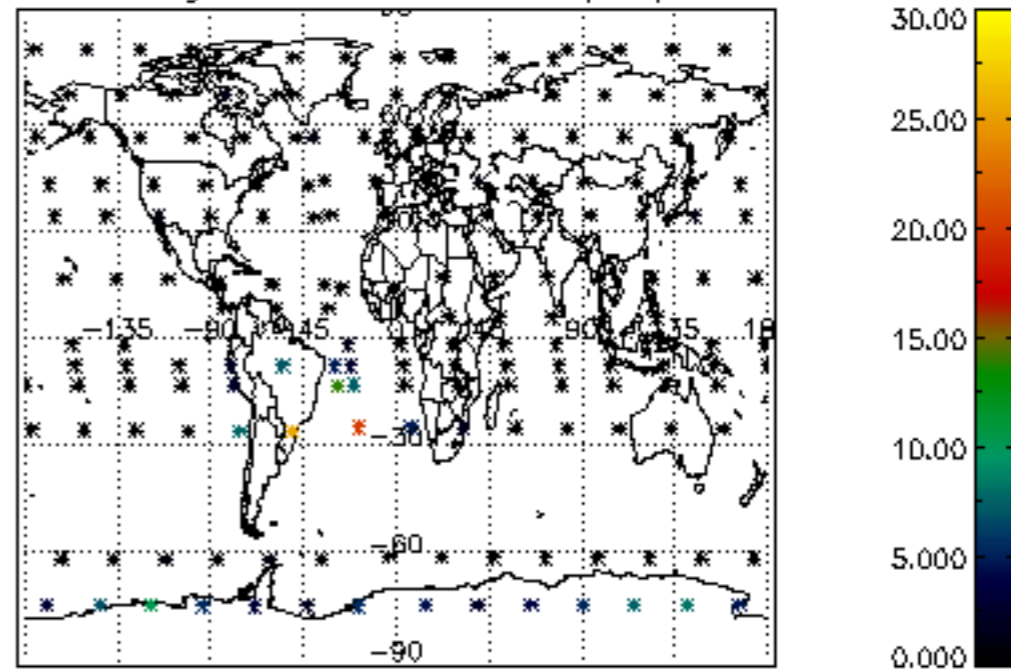
Percentage of datation errors per profile



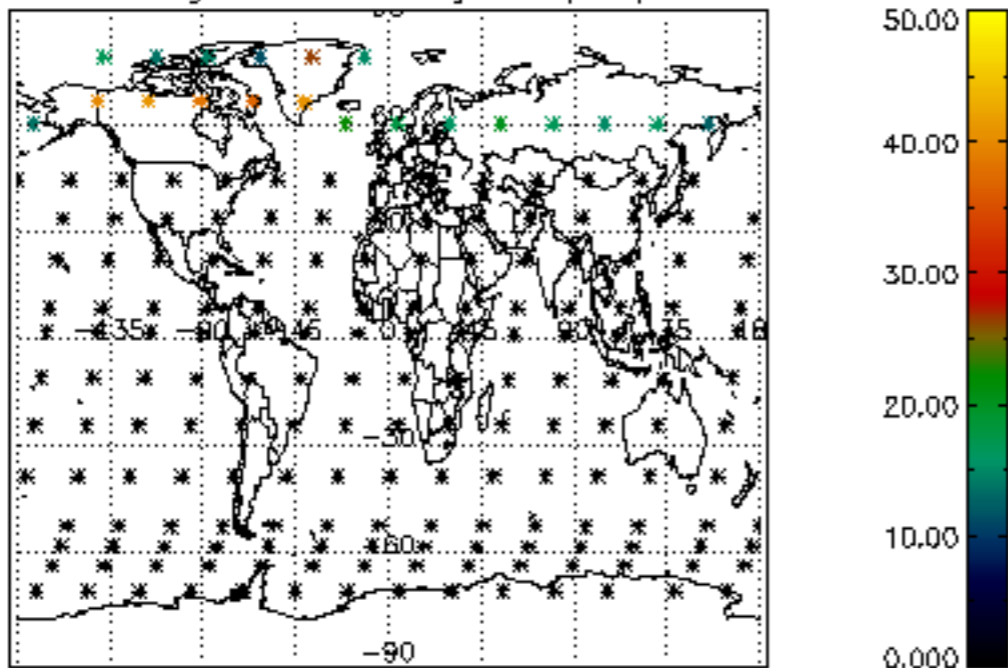
Percentage of star falling outside central band per profile



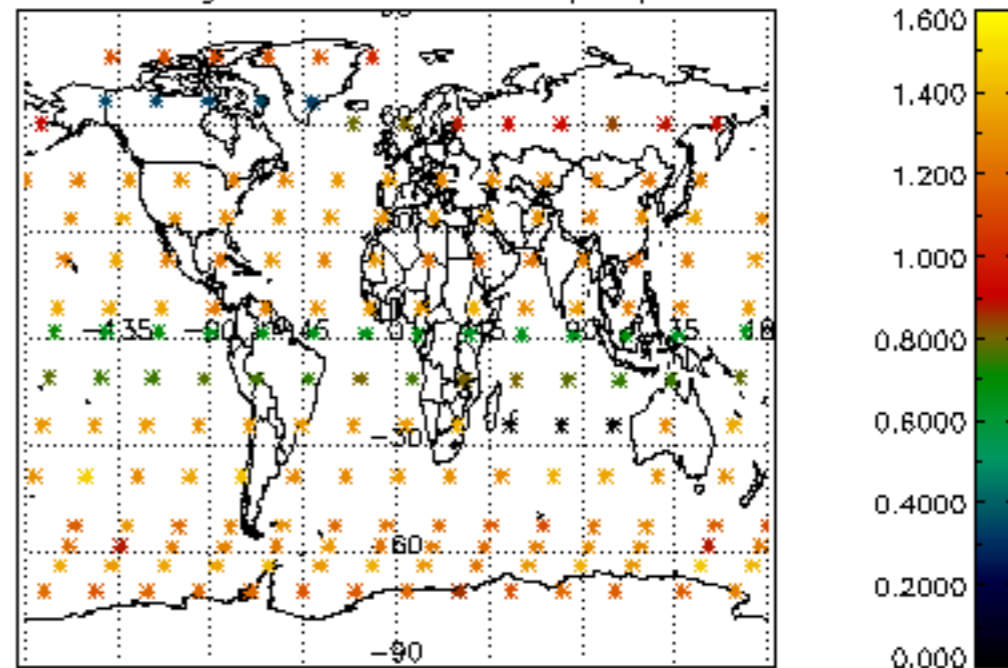
Percentage of saturation errors per profile



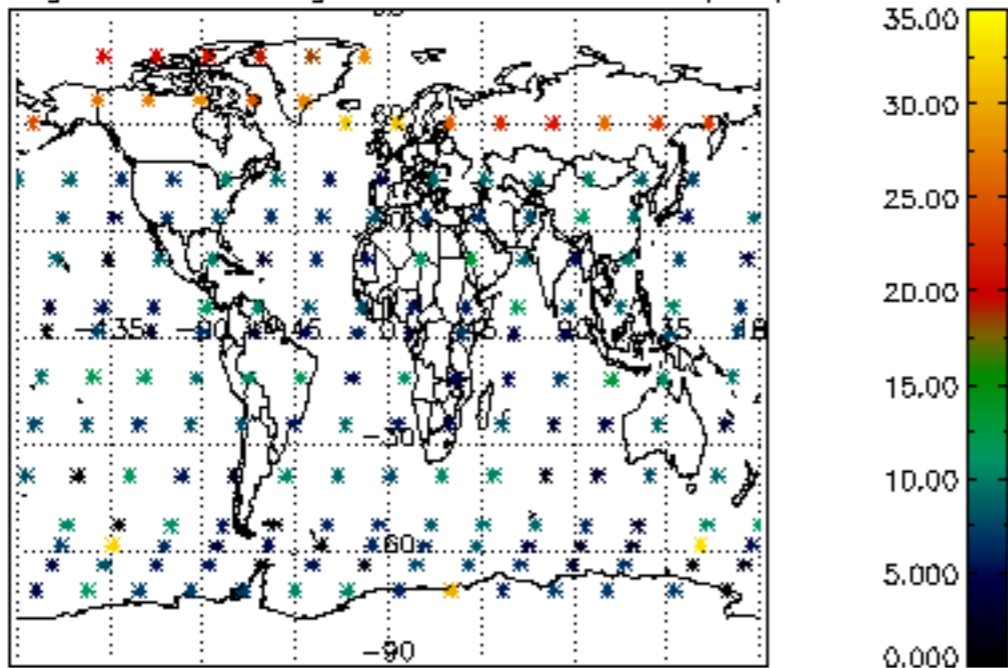
Percentage of cosmic ray hits per profile



Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile

