

# GOMOS Level 2 Daily Report

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This report presents the daily analysis on parameters extracted from GOMOS level 2 data (GOM\_NL\_\_2P). It is intended to monitor some important parameters that will impact the quality of these products. A list of level 2 products (and content) that have arrived during the reporting day to the PCF is also given.

| Item                      | Value                           |
|---------------------------|---------------------------------|
| Time of report generation | 22APR2013 20:21:03              |
| Data source version       | GOMOS/6.01                      |
| Start time of products    | 04-06-2007 (04JUN2007 00:00:00) |
| Stop time of products     | 05-06-2007 (05JUN2007 00:00:00) |
| Store outputs in DB       | Yes                             |
| Nb of level 2 prods       | 306                             |
| Nb of prods with errors   | 0                               |

## 2. Summary of processed GOM\_NL\_\_2P products.

| Nr | Filename   | UTC Start time       | Limb       | Duration | Star Id | Star Name | Star Mag | Star Temp | Nb Meas | Orbit | Prod. error |
|----|--|----------------------|------------|----------|---------|-----------|----------|-----------|---------|-------|-------------|
| 1  | GOM_NL__2PRFIN20070604_000438_000000582058_00388_27496_6025.N1 | 04-JUN-2007 00:04:38 | Bright     | 57.500   | 53      | 43Bet And | 2.0480   | 3300.0    | 115     | 27496 | No          |
| 2  | GOM_NL__2PRFIN20070604_002136_000000482058_00388_27496_6026.N1 | 04-JUN-2007 00:21:36 | Dark       | 47.500   | 52      | 16Bet Cet | 2.0370   | 4500.0    | 95      | 27496 | No          |
| 3  | GOM_NL__2PRFIN20070604_002815_000000402058_00388_27496_6027.N1 | 04-JUN-2007 00:28:15 | Dark       | 39.500   | 84      | Alp Phe   | 2.3970   | 4500.0    | 79      | 27496 | No          |
| 4  | GOM_NL__2PRFIN20070604_003345_000000492058_00389_27497_6012.N1 | 04-JUN-2007 00:33:45 | Dark       | 49.000   | 63      | Bet Gru   | 2.1500   | 2800.0    | 98      | 27497 | No          |
| 5  | GOM_NL__2PRFIN20070604_003541_000000452058_00389_27497_6013.N1 | 04-JUN-2007 00:35:41 | Dark       | 45.000   | 31      | Alp Gru   | 1.7340   | 15200.    | 90      | 27497 | No          |
| 6  | GOM_NL__2PRFIN20070604_004029_000000422058_00389_27497_6014.N1 | 04-JUN-2007 00:40:29 | Straylight | 41.500   | 45      | Alp Pav   | 1.9400   | 26000.    | 83      | 27497 | No          |
| 7  | GOM_NL__2PRFIN20070604_004630_000000392058_00389_27497_6015.N1 | 04-JUN-2007 00:46:30 | Straylight | 38.500   | 141     | Bet Ara   | 2.8400   | 4600.0    | 77      | 27497 | No          |
| 8  | GOM_NL__2PRFIN20070604_004746_000000402058_00389_27497_6016.N1 | 04-JUN-2007 00:47:46 | Straylight | 40.000   | 147     | Alp Ara   | 2.8770   | 26000.    | 80      | 27497 | No          |
| 9  | GOM_NL__2PRFIN20070604_004928_000000442058_00389_27497_6017.N1 | 04-JUN-2007 00:49:28 | Straylight | 44.000   | 40      | The Sco   | 1.8590   | 7100.0    | 88      | 27497 | No          |
| 10 | GOM_NL__2PRFIN20070604_005115_000000452058_00389_27497_6018.N1 | 04-JUN-2007 00:51:15 | Twilight   | 45.000   | 25      | 35Lam Sco | 1.6200   | 28000.    | 90      | 27497 | No          |
| 11 | GOM_NL__2PRFIN20070604_005258_000000482058_00389_27497_6019.N1 | 04-JUN-2007 00:52:58 | Twilight   | 48.000   | 75      | 26Eps Sco | 2.2910   | 4250.0    | 96      | 27497 | No          |
| 12 | GOM_NL__2PRFIN20070604_005458_000000472058_00389_27497_6020.N1 | 04-JUN-2007 00:54:58 | Bright     | 47.000   | 136     | 23Tau Sco | 2.8220   | 30000.    | 94      | 27497 | No          |
| 13 | GOM_NL__2PRFIN20070604_005746_000000382058_00389_27497_6021.N1 | 04-JUN-2007 00:57:46 | Bright     | 37.500   | 97      | 8Bet1Sco  | 2.5610   | 30000.    | 75      | 27497 | No          |
| 14 | GOM_NL__2PRFIN20070604_010020_000000402058_00389_27497_6022.N1 | 04-JUN-2007 01:00:20 | Bright     | 40.000   | 98      | 13Zet Oph | 2.5710   | 30000.    | 80      | 27497 | No          |
| 15 | GOM_NL__2PRFIN20070604_010230_000000382058_00389_27497_6023.N1 | 04-JUN-2007 01:02:30 | Bright     | 38.000   | 120     | 1Del Oph  | 2.7340   | 3200.0    | 76      | 27497 | No          |
| 16 | GOM_NL__2PRFIN20070604_010531_000000362058_00389_27497_6024.N1 | 04-JUN-2007 01:05:31 | Bright     | 36.000   | 102     | 24Alp Ser | 2.6000   | 4250.0    | 72      | 27497 | No          |
| 17 | GOM_NL__2PRFIN20070604_011027_000000392058_00389_27497_6025.N1 | 04-JUN-2007 01:10:27 | Bright     | 38.500   | 127     | 27Bet Her | 2.7810   | 4700.0    | 77      | 27497 | No          |
| 18 | GOM_NL__2PRFIN20070604_012151_000000372058_00389_27497_6026.N1 | 04-JUN-2007 01:21:51 | Bright     | 37.000   | 119     | 14Eta Dra | 2.7270   | 4700.0    | 74      | 27497 | No          |
| 19 | GOM_NL__2PRFIN20070604_012442_000000372058_00389_27497_6027.N1 | 04-JUN-2007 01:24:42 | Bright     | 36.500   | 60      | 7Bet UMi  | 2.0810   | 3950.0    | 73      | 27497 | No          |
| 20 | GOM_NL__2PRFIN20070604_012923_000000342058_00389_27497_6028.N1 | 04-JUN-2007 01:29:23 | Bright     | 34.000   | 49      | 1Alp UMi  | 1.9900   | 6300.0    | 68      | 27497 | No          |
| 21 | GOM_NL__2PRFIN20070604_013722_000000372058_00389_27497_6029.N1 | 04-JUN-2007 01:37:22 | Bright     | 36.500   | 76      | 27Gam Cas | 2.3000   | 30000.    | 73      | 27497 | No          |
| 22 | GOM_NL__2PRFIN20070604_014514_000000442058_00389_27497_6030.N1 | 04-JUN-2007 01:45:14 | Bright     | 44.000   | 53      | 43Bet And | 2.0480   | 3300.0    | 88      | 27497 | No          |
| 23 | GOM_NL__2PRFIN20070604_020212_000000492058_00389_27497_6031.N1 | 04-JUN-2007 02:02:12 | Dark       | 48.500   | 52      | 16Bet Cet | 2.0370   | 4500.0    | 97      | 27497 | No          |
| 24 | GOM_NL__2PRFIN20070604_020851_000000462058_00389_27497_6032.N1 | 04-JUN-2007 02:08:51 | Dark       | 45.500   | 84      | Alp Phe   | 2.3970   | 4500.0    | 91      | 27497 | No          |
| 25 | GOM_NL__2PRFIN20070604_021422_000000612058_00390_27498_6026.N1 | 04-JUN-2007 02:14:22 | Dark       | 61.000   | 63      | Bet Gru   | 2.1500   | 2800.0    | 122     | 27498 | No          |
| 26 | GOM_NL__2PRFIN20070604_021617_000000452058_00390_27498_6027.N1 | 04-JUN-2007 02:16:17 | Dark       | 45.000   | 31      | Alp Gru   | 1.7340   | 15200.    | 90      | 27498 | No          |
| 27 | GOM_NL__2PRFIN20070604_022106_000000412058_00390_27498_6028.N1 | 04-JUN-2007 02:21:06 | Straylight | 41.000   | 45      | Alp Pav   | 1.9400   | 26000.    | 82      | 27498 | No          |
| 28 | GOM_NL__2PRFIN20070604_022706_000000412058_00390_27498_6029.N1 | 04-JUN-2007 02:27:06 | Straylight | 40.500   | 141     | Bet Ara   | 2.8400   | 4600.0    | 81      | 27498 | No          |
| 29 | GOM_NL__2PRFIN20070604_022823_000000402058_00390_27498_6030.N1 | 04-JUN-2007 02:28:23 | Straylight | 39.500   | 147     | Alp Ara   | 2.8770   | 26000.    | 79      | 27498 | No          |
| 30 | GOM_NL__2PRFIN20070604_023005_000000452058_00390_27498_6031.N1 | 04-JUN-2007 02:30:05 | Straylight | 44.500   | 40      | The Sco   | 1.8590   | 7100.0    | 89      | 27498 | No          |
| 31 | GOM_NL__2PRFIN20070604_023152_000000432058_00390_27498_6032.N1 | 04-JUN-2007 02:31:52 | Twilight   | 43.000   | 25      | 35Lam Sco | 1.6200   | 28000.    | 86      | 27498 | No          |
| 32 | GOM_NL__2PRFIN20070604_023334_000000472058_00390_27498_6033.N1 | 04-JUN-2007 02:33:34 | Twilight   | 47.000   | 75      | 26Eps Sco | 2.2910   | 4250.0    | 94      | 27498 | No          |
| 33 | GOM_NL__2PRFIN20070604_023534_000000422058_00390_27498_6034.N1 | 04-JUN-2007 02:35:34 | Bright     | 42.000   | 136     | 23Tau Sco | 2.8220   | 30000.    | 84      | 27498 | No          |
| 34 | GOM_NL__2PRFIN20070604_023822_000000382058_00390_27498_6035.N1 | 04-JUN-2007 02:38:22 | Bright     | 38.000   | 97      | 8Bet1Sco  | 2.5610   | 30000.    | 76      | 27498 | No          |
| 35 | GOM_NL__2PRFIN20070604_024056_000000412058_00390_27498_6036.N1 | 04-JUN-2007 02:40:56 | Bright     | 40.500   | 98      | 13Zet Oph | 2.5710   | 30000.    | 81      | 27498 | No          |
| 36 | GOM_NL__2PRFIN20070604_024306_000000382058_00390_27498_6037.N1 | 04-JUN-2007 02:43:06 | Bright     | 38.000   | 120     | 1Del Oph  | 2.7340   | 3200.0    | 76      | 27498 | No          |
| 37 | GOM_NL__2PRFIN20070604_024607_000000362058_00390_27498_6038.N1 | 04-JUN-2007 02:46:07 | Bright     | 36.000   | 102     | 24Alp Ser | 2.6000   | 4250.0    | 72      | 27498 | No          |
| 38 | GOM_NL__2PRFIN20070604_025102_000000412058_00390_27498_6039.N1 | 04-JUN-2007 02:51:02 | Bright     | 40.500   | 127     | 27Bet Her | 2.7810   | 4700.0    | 81      | 27498 | No          |
| 39 | GOM_NL__2PRFIN20070604_030227_000000352058_00390_27498_6040.N1 | 04-JUN-2007 03:02:27 | Bright     | 35.000   | 119     | 14Eta Dra | 2.7270   | 4700.0    | 70      | 27498 | No          |
| 40 | GOM_NL__2PRFIN20070604_030517_000000352058_00390_27498_6041.N1 | 04-JUN-2007 03:05:17 | Bright     | 35.000   | 60      | 7Bet UMi  | 2.0810   | 3950.0    | 70      | 27498 | No          |
| 41 | GOM_NL__2PRFIN20070604_030959_000000332058_00390_27498_6042.N1 | 04-JUN-2007 03:09:59 | Bright     | 32.500   | 49      | 1Alp UMi  | 1.9900   | 6300.0    | 65      | 27498 | No          |
| 42 | GOM_NL__2PRFIN20070604_031757_000000442058_00390_27498_6043.N1 | 04-JUN-2007 03:17:57 | Bright     | 44.000   | 76      | 27Gam Cas | 2.3000   | 30000.    | 88      | 27498 | No          |







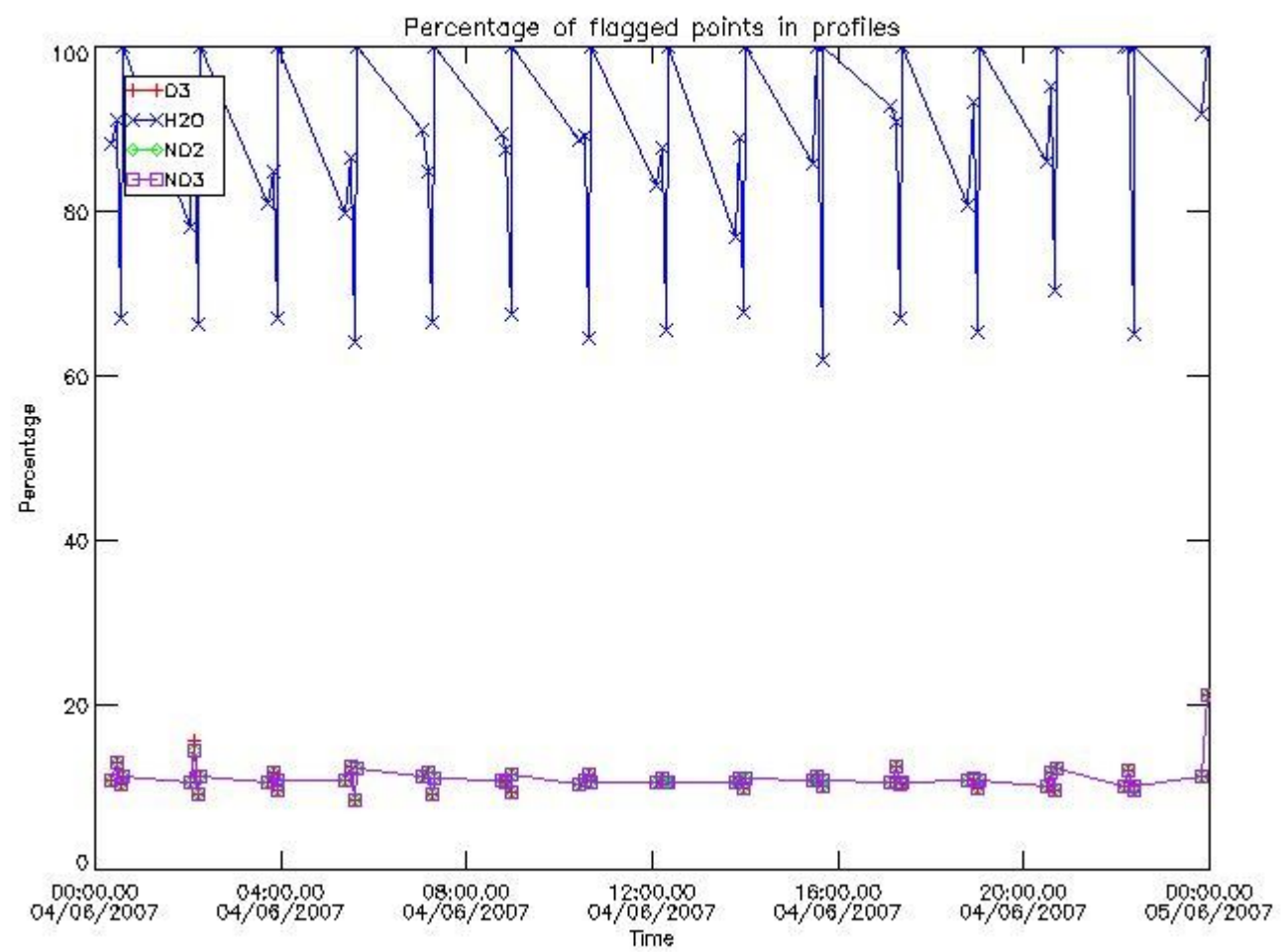


|     |  |                      |                |        |     |           |        |        |     |       |    |
|-----|--|----------------------|----------------|--------|-----|-----------|--------|--------|-----|-------|----|
| 279 | GOM_NL__2PRFIN20070604_214432_000000372058_00401_27509_6291.N1 | 04-JUN-2007 21:44:32 | Bright         | 37.000 | 76  | 27Gam Cas | 2.3000 | 30000. | 74  | 27509 | No |
| 280 | GOM_NL__2PRFIN20070604_215227_000000452058_00401_27509_6292.N1 | 04-JUN-2007 21:52:27 | Bright         | 44.500 | 53  | 43Bet And | 2.0480 | 3300.0 | 89  | 27509 | No |
| 281 | GOM_NL__2PRFIN20070604_215630_000000402058_00401_27509_6293.N1 | 04-JUN-2007 21:56:30 | Twilight       | 40.000 | 105 | 6Bet Ari  | 2.6450 | 8900.0 | 80  | 27509 | No |
| 282 | GOM_NL__2PRFIN20070604_220932_000000502058_00401_27509_6294.N1 | 04-JUN-2007 22:09:32 | Dark           | 50.000 | 52  | 16Bet Cet | 2.0370 | 4500.0 | 100 | 27509 | No |
| 283 | GOM_NL__2PRFIN20070604_221610_000000432058_00401_27509_6295.N1 | 04-JUN-2007 22:16:10 | Dark           | 42.500 | 84  | Alp Phe   | 2.3970 | 4500.0 | 85  | 27509 | No |
| 284 | GOM_NL__2PRFIN20070604_222144_000000542058_00402_27510_6291.N1 | 04-JUN-2007 22:21:44 | Dark           | 53.500 | 63  | Bet Gru   | 2.1500 | 2800.0 | 107 | 27510 | No |
| 285 | GOM_NL__2PRFIN20070604_222340_000000502058_00402_27510_6292.N1 | 04-JUN-2007 22:23:40 | Dark           | 50.000 | 31  | Alp Gru   | 1.7340 | 15200. | 100 | 27510 | No |
| 286 | GOM_NL__2PRFIN20070604_222825_000000442058_00402_27510_6293.N1 | 04-JUN-2007 22:28:25 | Straylight     | 43.500 | 45  | Alp Pav   | 1.9400 | 26000. | 87  | 27510 | No |
| 287 | GOM_NL__2PRFIN20070604_223422_000000402058_00402_27510_6294.N1 | 04-JUN-2007 22:34:22 | Straylight     | 40.000 | 141 | Bet Ara   | 2.8400 | 4600.0 | 80  | 27510 | No |
| 288 | GOM_NL__2PRFIN20070604_223539_000000382058_00402_27510_6295.N1 | 04-JUN-2007 22:35:39 | Straylight     | 38.000 | 147 | Alp Ara   | 2.8770 | 26000. | 76  | 27510 | No |
| 289 | GOM_NL__2PRFIN20070604_223721_000000462058_00402_27510_6296.N1 | 04-JUN-2007 22:37:21 | Straylight     | 46.000 | 40  | The Sco   | 1.8590 | 7100.0 | 92  | 27510 | No |
| 290 | GOM_NL__2PRFIN20070604_223908_000000442058_00402_27510_6297.N1 | 04-JUN-2007 22:39:08 | Tw_i_and_stray | 44.000 | 25  | 35Lam Sco | 1.6200 | 28000. | 88  | 27510 | No |
| 291 | GOM_NL__2PRFIN20070604_224049_000000422058_00402_27510_6298.N1 | 04-JUN-2007 22:40:49 | Tw_i_and_stray | 42.000 | 75  | 26Eps Sco | 2.2910 | 4250.0 | 84  | 27510 | No |
| 292 | GOM_NL__2PRFIN20070604_224248_000000442058_00402_27510_6299.N1 | 04-JUN-2007 22:42:48 | Bright         | 44.000 | 136 | 23Tau Sco | 2.8220 | 30000. | 88  | 27510 | No |
| 293 | GOM_NL__2PRFIN20070604_224450_000000372058_00402_27510_6300.N1 | 04-JUN-2007 22:44:50 | Bright         | 36.500 | 80  | 7Del Sco  | 2.3160 | 30000. | 73  | 27510 | No |
| 294 | GOM_NL__2PRFIN20070604_224619_000000292058_00402_27510_6301.N1 | 04-JUN-2007 22:46:19 | Tw_i_and_stray | 29.000 | 86  | 35Eta Oph | 2.4300 | 10200. | 58  | 27510 | No |
| 295 | GOM_NL__2PRFIN20070604_224808_000000412058_00402_27510_6302.N1 | 04-JUN-2007 22:48:08 | Bright         | 40.500 | 98  | 13Zet Oph | 2.5710 | 30000. | 81  | 27510 | No |
| 296 | GOM_NL__2PRFIN20070604_225018_000000382058_00402_27510_6303.N1 | 04-JUN-2007 22:50:18 | Bright         | 38.000 | 120 | 1Del Oph  | 2.7340 | 3200.0 | 76  | 27510 | No |
| 297 | GOM_NL__2PRFIN20070604_225318_000000352058_00402_27510_6304.N1 | 04-JUN-2007 22:53:18 | Bright         | 35.000 | 102 | 24Alp Ser | 2.6000 | 4250.0 | 70  | 27510 | No |
| 298 | GOM_NL__2PRFIN20070604_225810_000000452058_00402_27510_6305.N1 | 04-JUN-2007 22:58:10 | Bright         | 45.000 | 127 | 27Bet Her | 2.7810 | 4700.0 | 90  | 27510 | No |
| 299 | GOM_NL__2PRFIN20070604_230935_000000382058_00402_27510_6306.N1 | 04-JUN-2007 23:09:35 | Bright         | 37.500 | 119 | 14Eta Dra | 2.7270 | 4700.0 | 75  | 27510 | No |
| 300 | GOM_NL__2PRFIN20070604_231229_000000382058_00402_27510_6307.N1 | 04-JUN-2007 23:12:29 | Bright         | 37.500 | 60  | 7Bet UMi  | 2.0810 | 3950.0 | 75  | 27510 | No |
| 301 | GOM_NL__2PRFIN20070604_231710_000000362058_00402_27510_6308.N1 | 04-JUN-2007 23:17:10 | Bright         | 35.500 | 49  | 1Alp UMi  | 1.9900 | 6300.0 | 71  | 27510 | No |
| 302 | GOM_NL__2PRFIN20070604_232507_000000372058_00402_27510_6309.N1 | 04-JUN-2007 23:25:07 | Bright         | 36.500 | 76  | 27Gam Cas | 2.3000 | 30000. | 73  | 27510 | No |
| 303 | GOM_NL__2PRFIN20070604_233302_000000452058_00402_27510_6310.N1 | 04-JUN-2007 23:33:02 | Bright         | 44.500 | 53  | 43Bet And | 2.0480 | 3300.0 | 89  | 27510 | No |
| 304 | GOM_NL__2PRFIN20070604_233706_000000422058_00402_27510_6311.N1 | 04-JUN-2007 23:37:06 | Twilight       | 42.000 | 105 | 6Bet Ari  | 2.6450 | 8900.0 | 84  | 27510 | No |
| 305 | GOM_NL__2PRFIN20070604_235008_000000492058_00402_27510_6312.N1 | 04-JUN-2007 23:50:08 | Dark           | 49.000 | 52  | 16Bet Cet | 2.0370 | 4500.0 | 98  | 27510 | No |
| 306 | GOM_NL__2PRFIN20070604_235647_000000432058_00402_27510_6313.N1 | 04-JUN-2007 23:56:47 | Dark           | 43.000 | 84  | Alp Phe   | 2.3970 | 4500.0 | 86  | 27510 | 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.

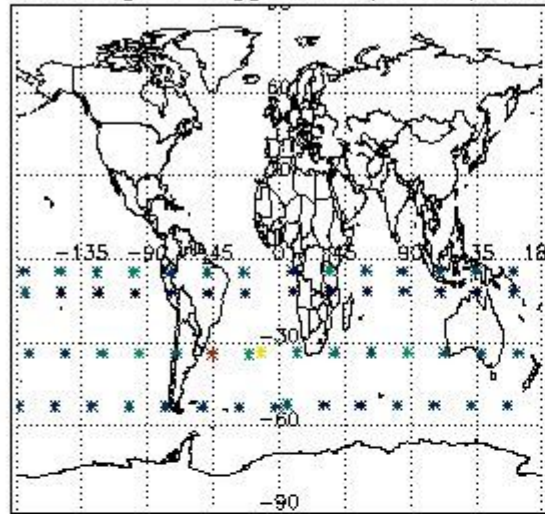
#### 3.1 Plot quality information per product (time dependant)



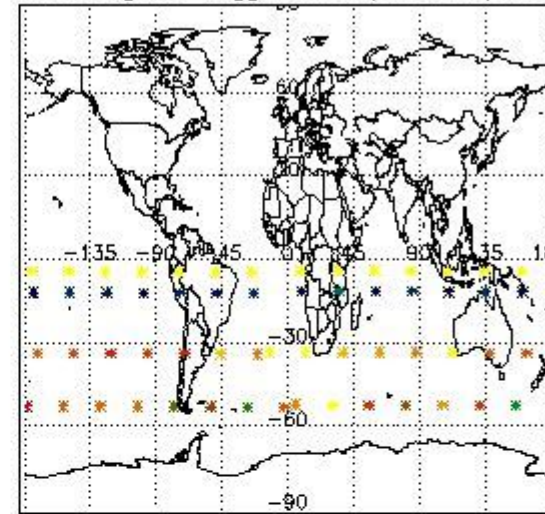
*3.2 Plot quality information per product (world map)*



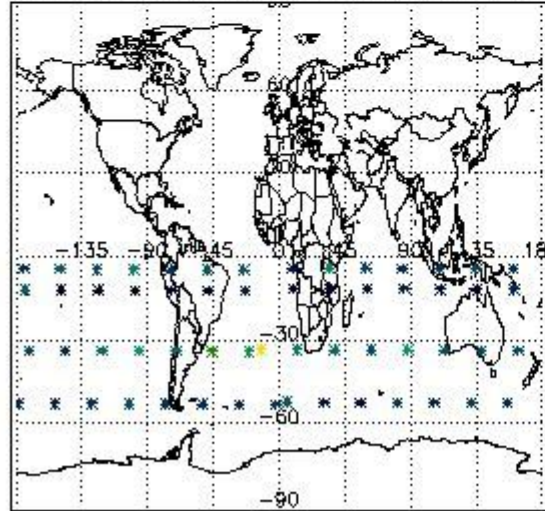
Percentage of flagged data per O3 profile



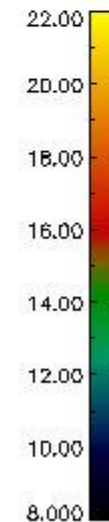
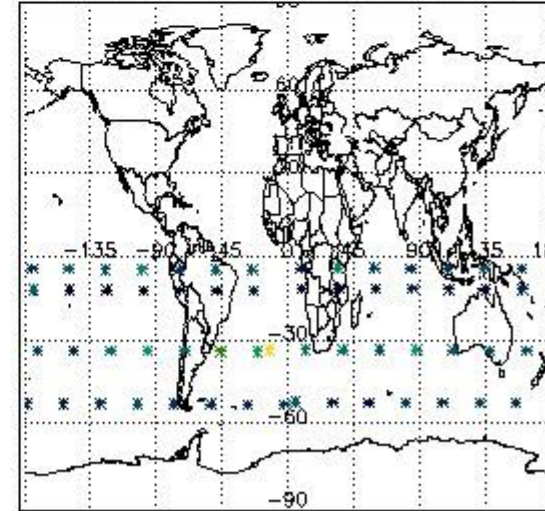
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

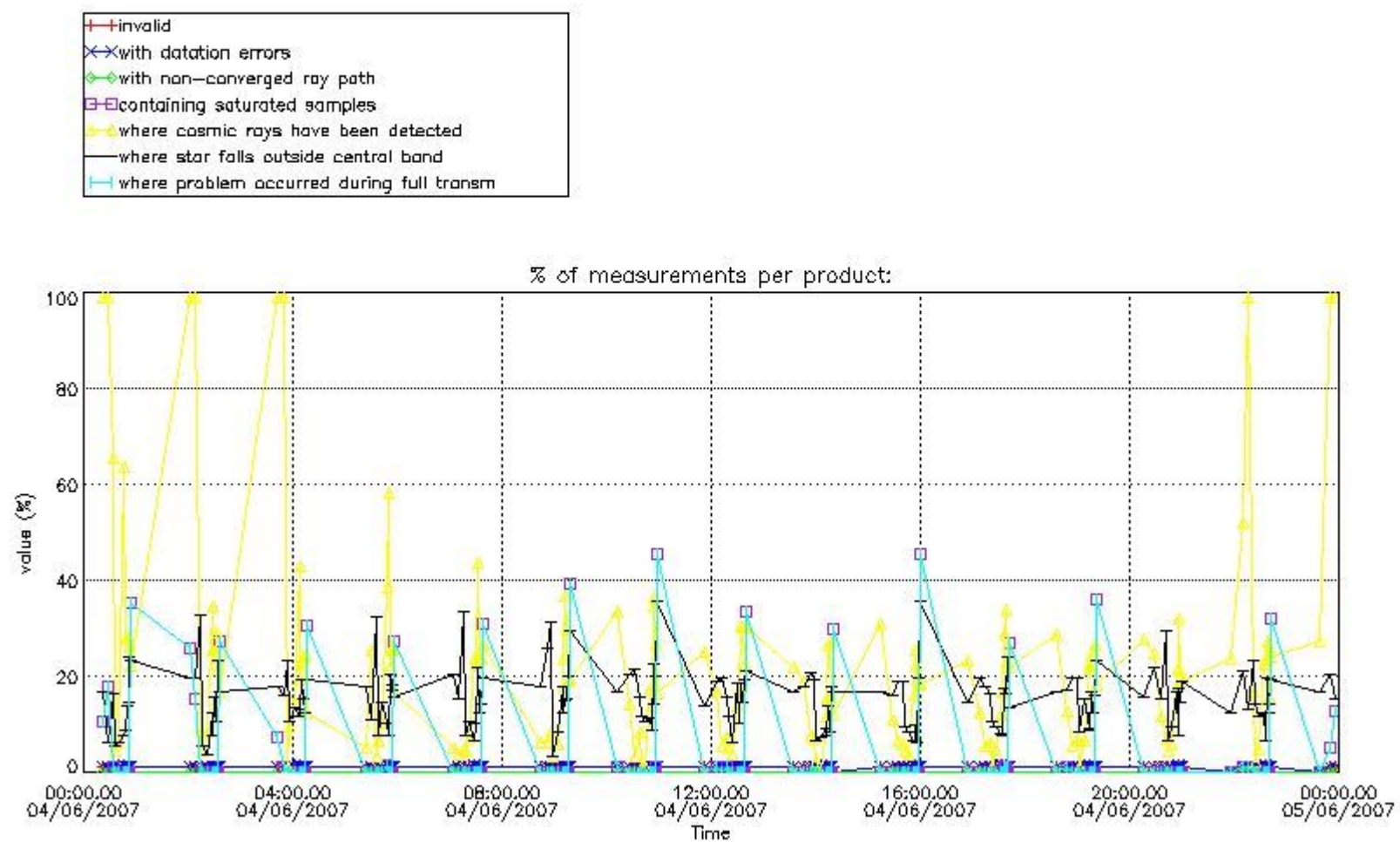


#### 4. Level 1 quality information per product

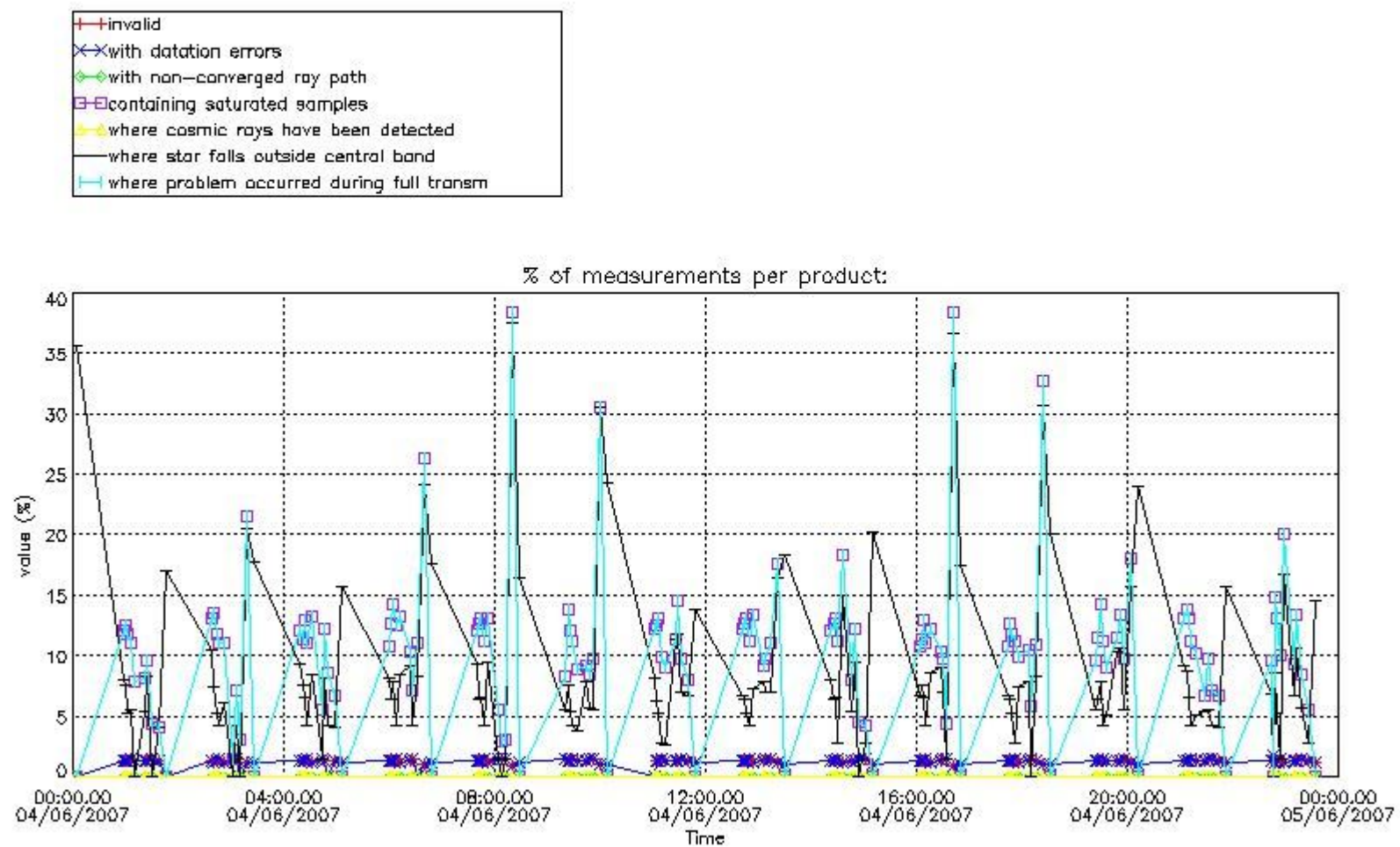
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

##### 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

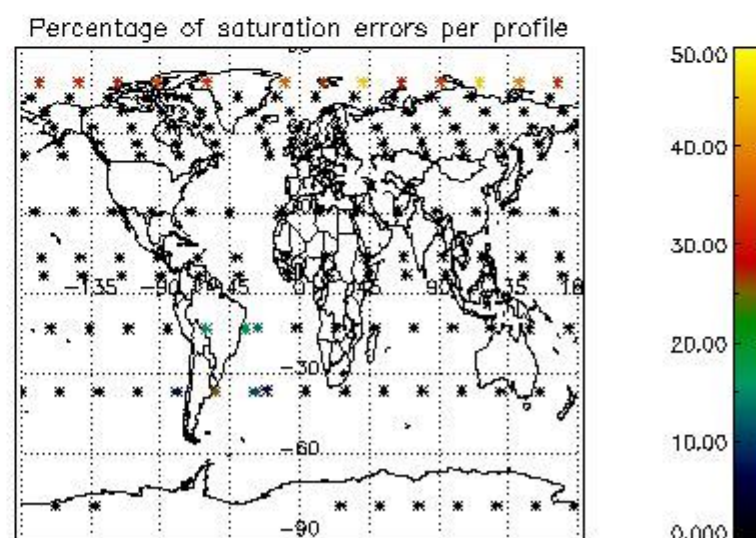
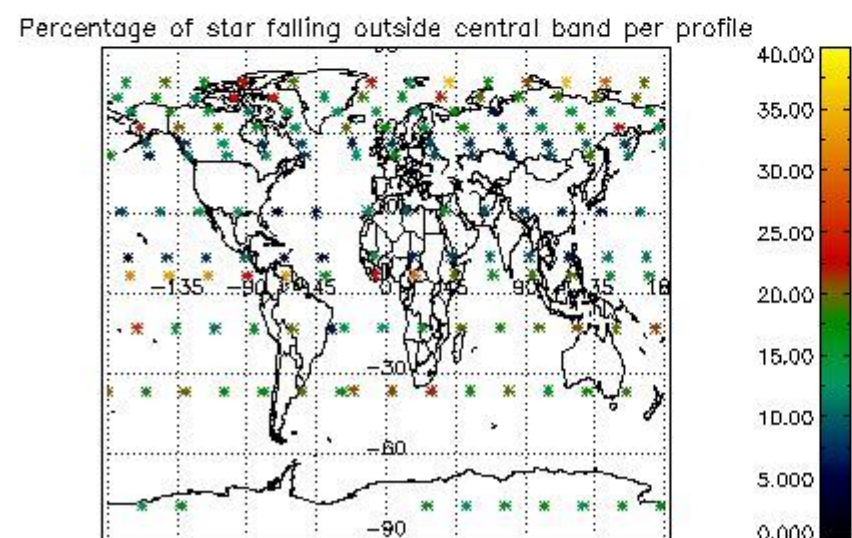
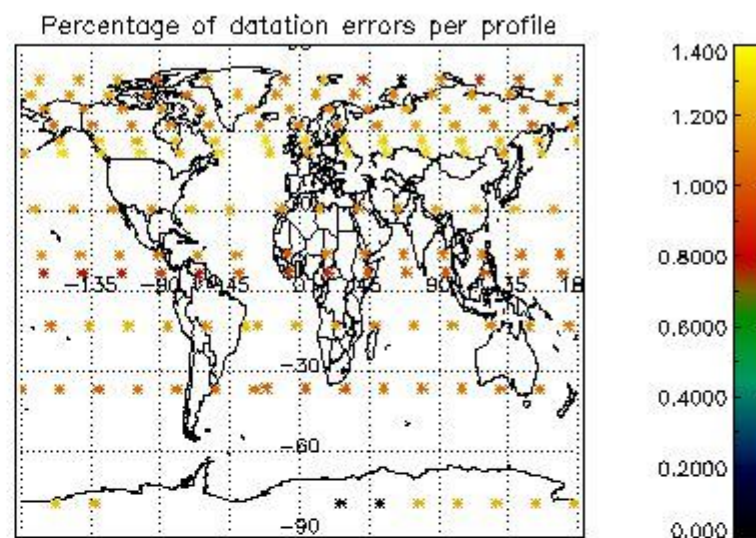
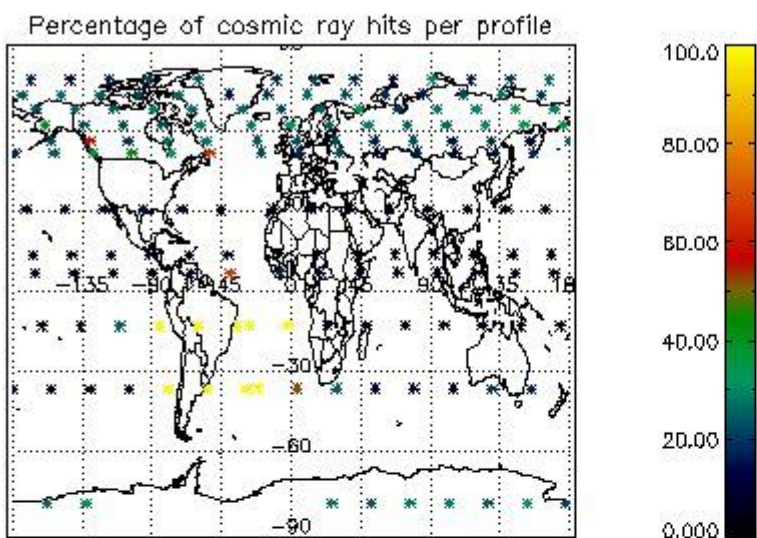


4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes

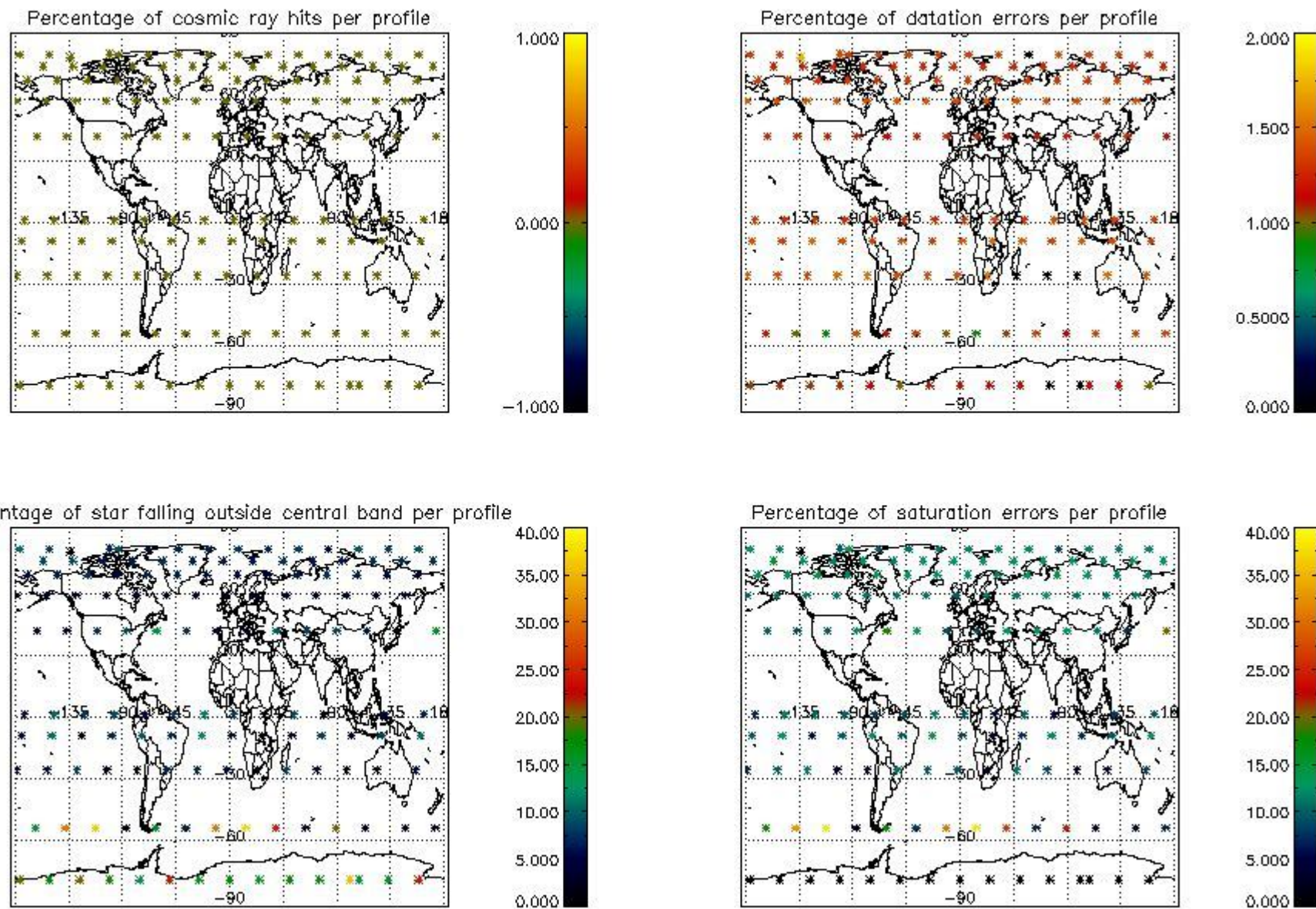


4.2 Plot quality information per product coming from level 1b processing (world map)

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

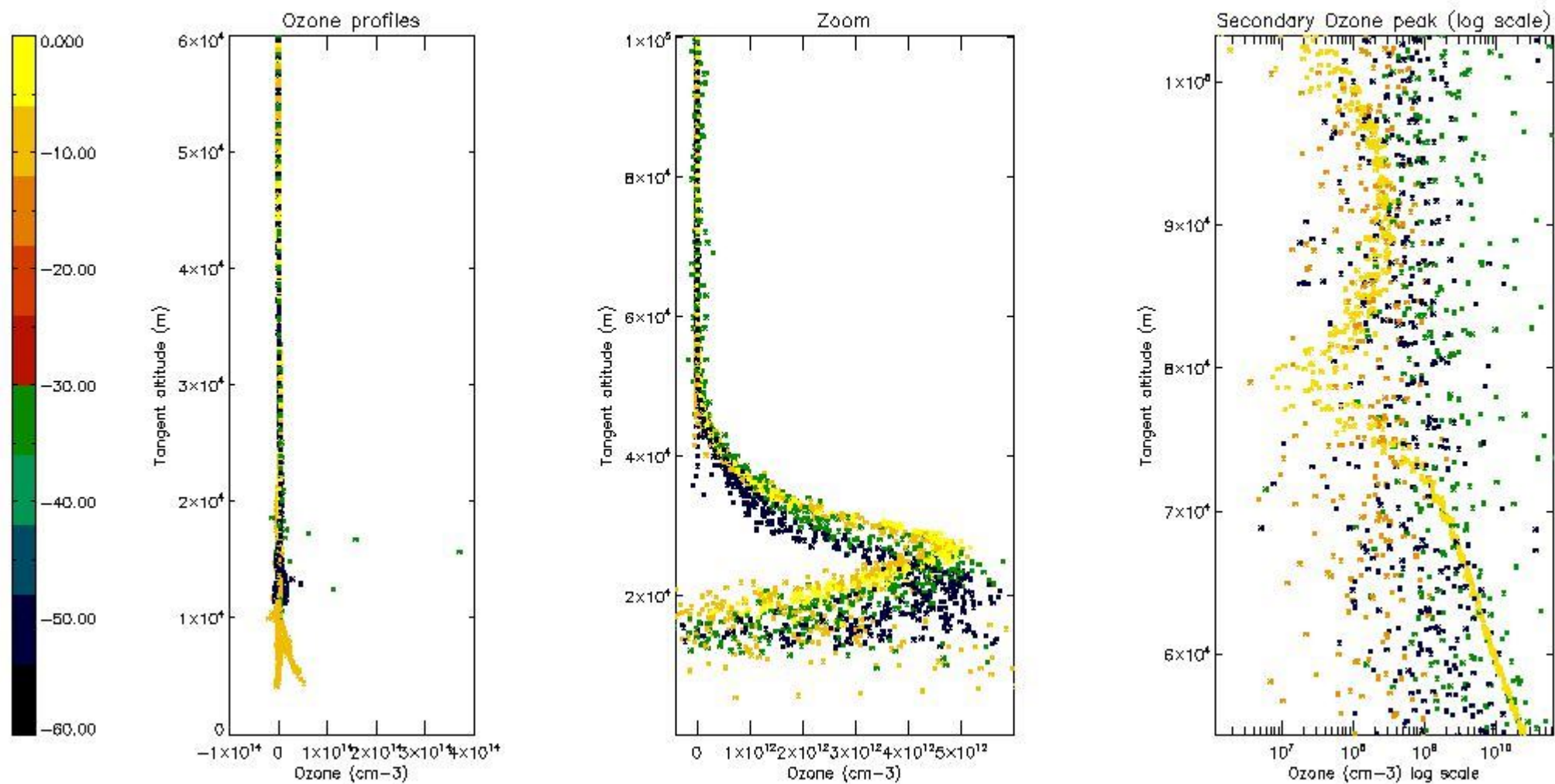
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

| Criteria | % of total production |
|----------|-----------------------|
| All STD  | 23                    |
| STD < 20 | 8                     |

|          |   |
|----------|---|
| STD < 10 | 5 |
| STD < 5  | 3 |

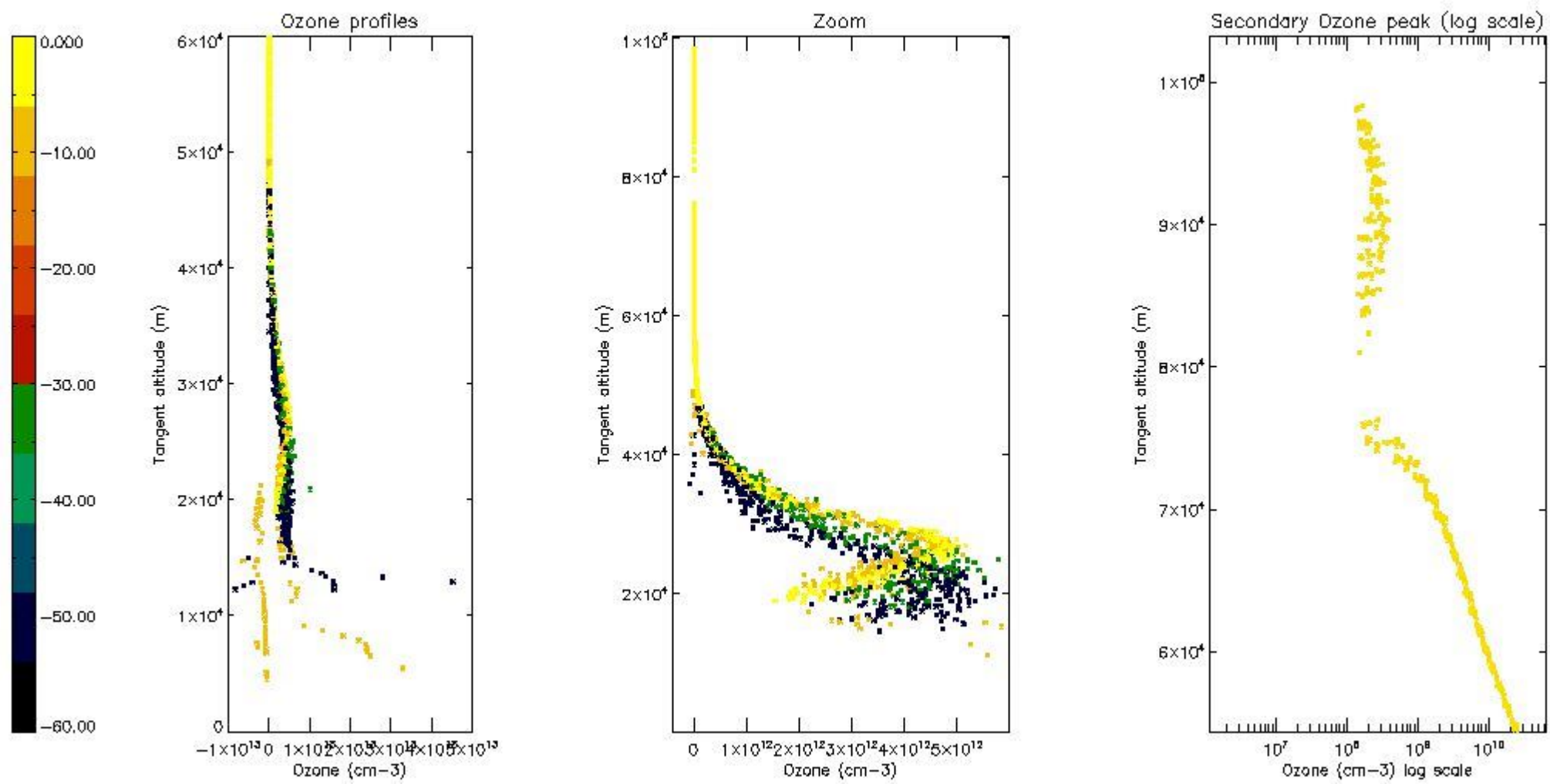
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



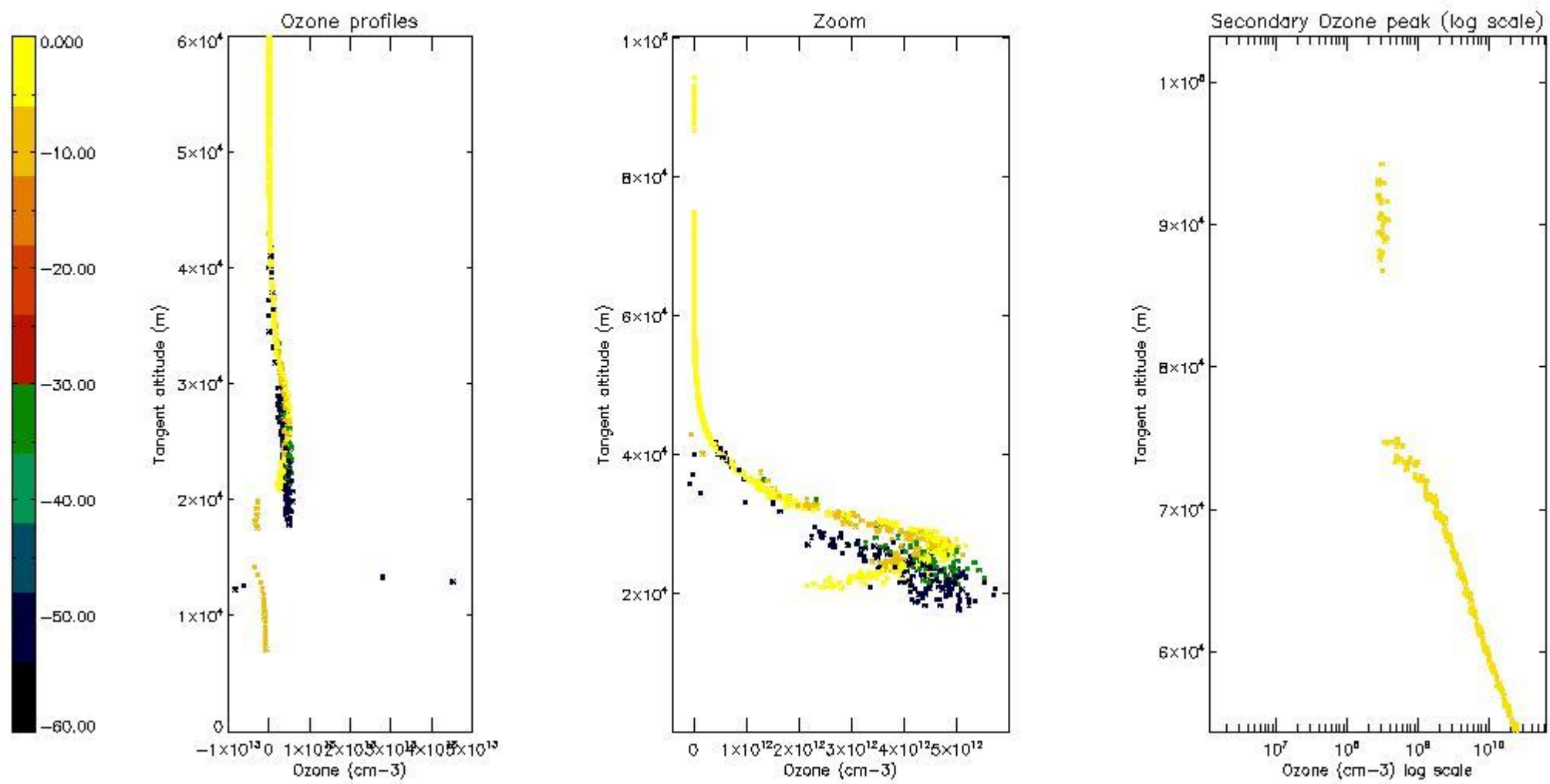
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



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

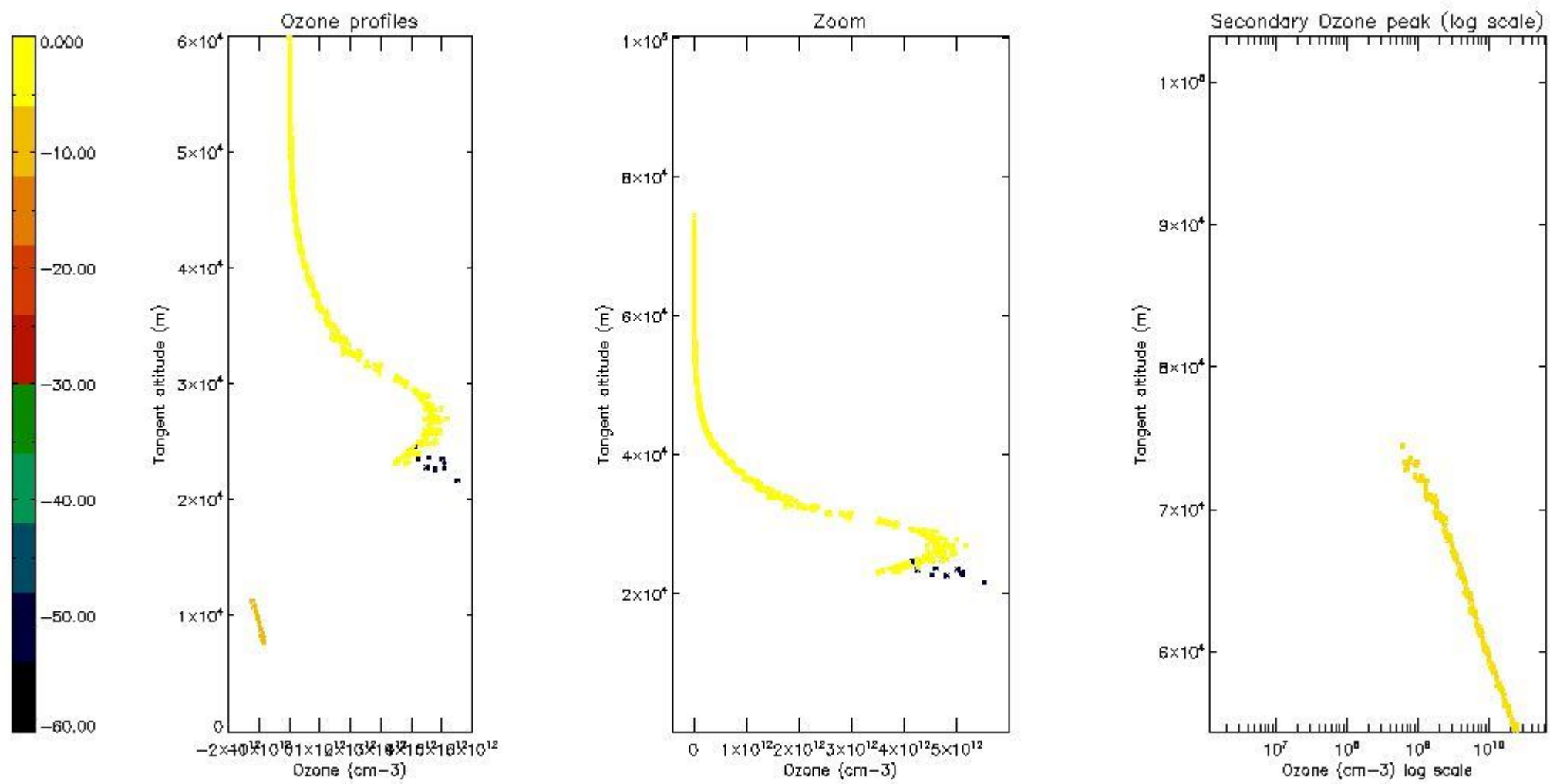
The colorbar represents the latitude.



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

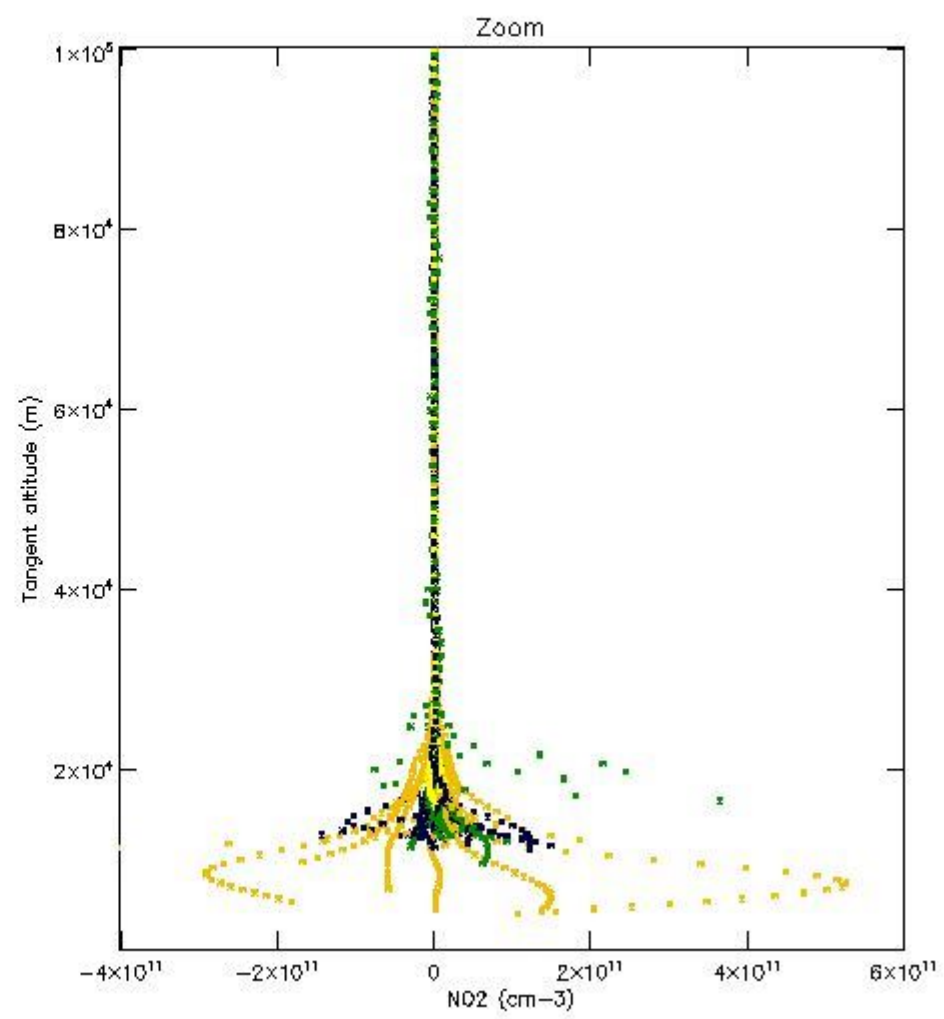
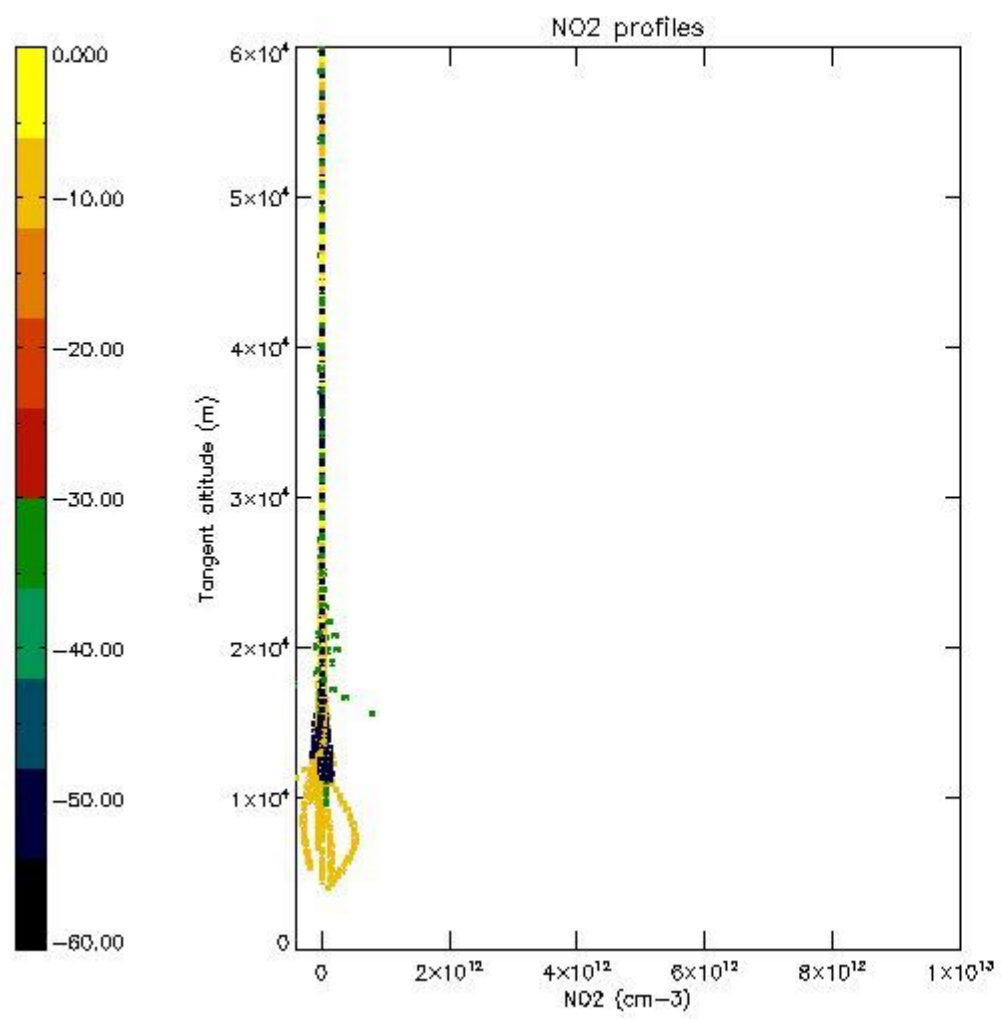
The colorbar represents the latitude.





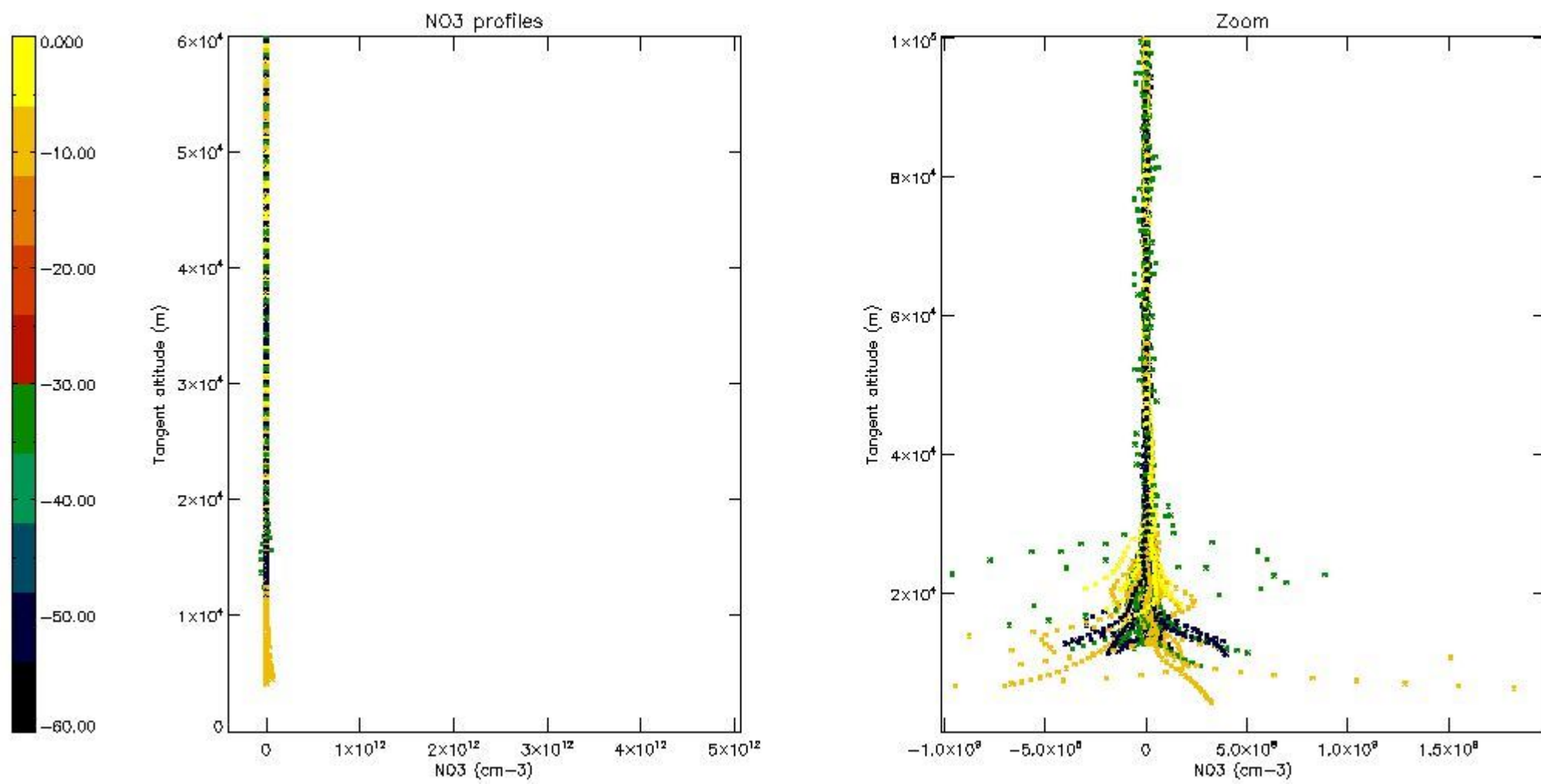
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

The colorbar represents the latitude.



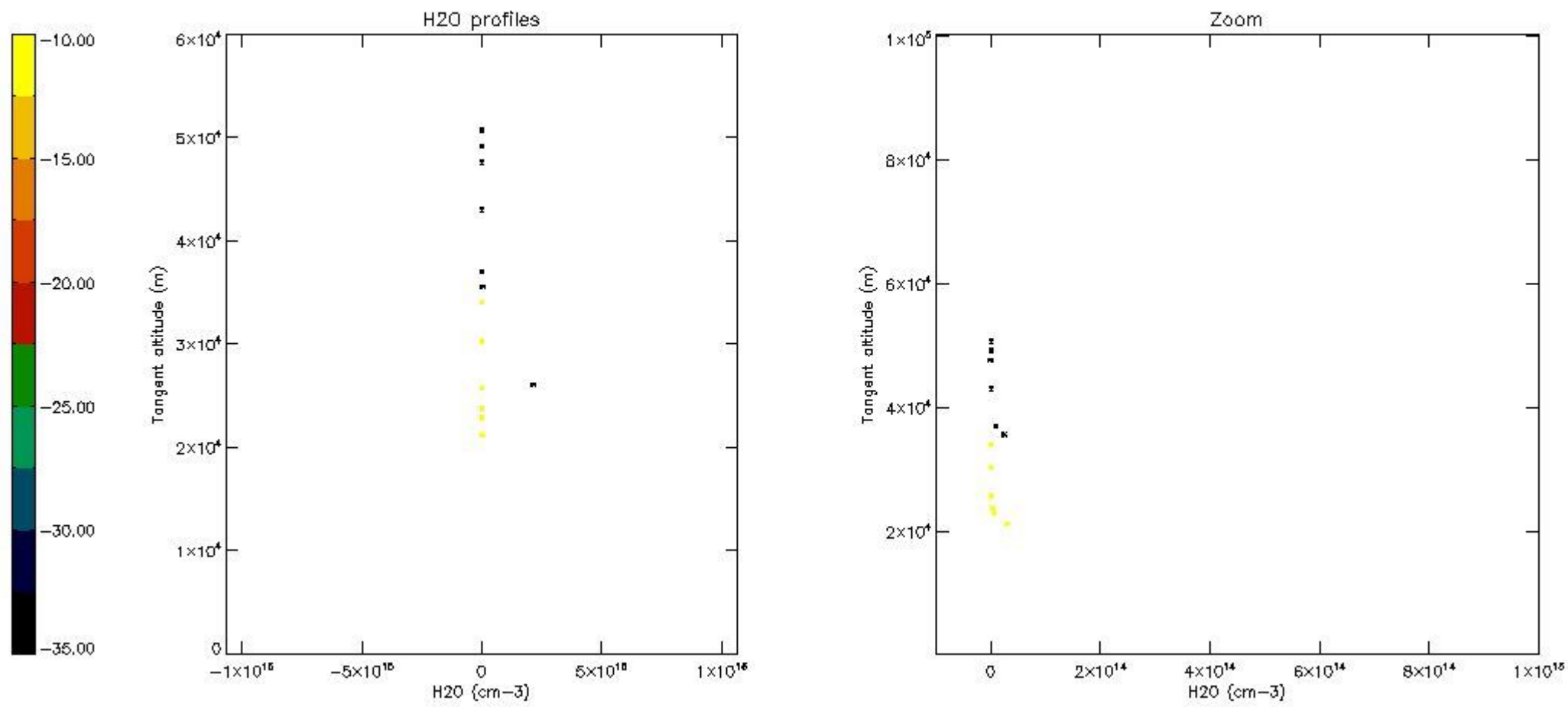
*5.7 Plot NO3 profiles for all STD (dark without errors)*

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                  | 04-JUN-2007 00:04:38    |
| LEVEL-2_PROC_CONFIG       | GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000 | 1                  | 04-JUN-2007 00:04:38    |
| CROSS_SECTIONS_FILE       | GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000 | 1                  | 04-JUN-2007 00:04:38    |

# GOMOS Level 2 Daily Report

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### [6. Auxiliary Data Files used for the production reported in section 2](#)











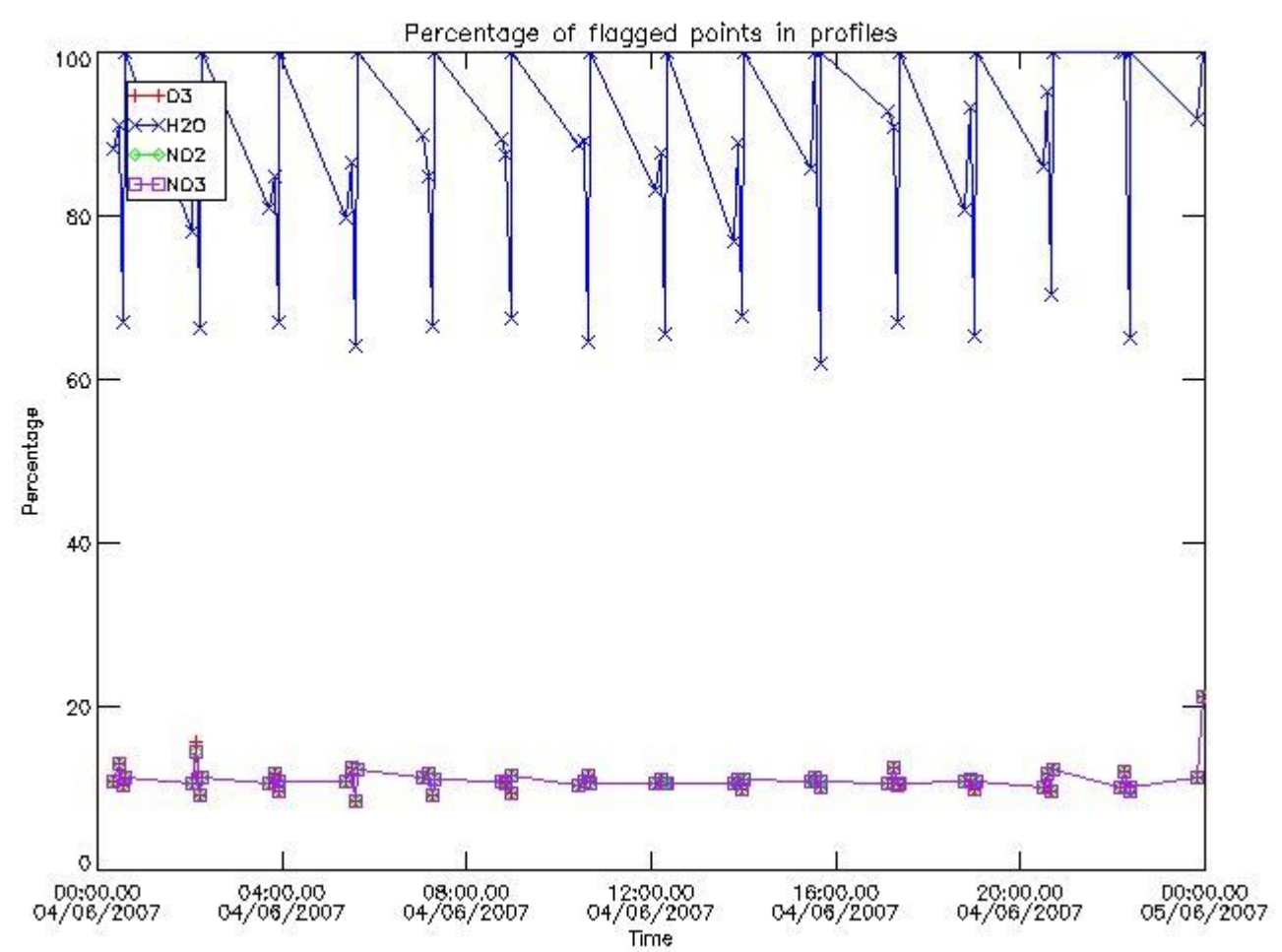


|     |  |                      |                |        |     |           |        |        |     |       |    |
|-----|--|----------------------|----------------|--------|-----|-----------|--------|--------|-----|-------|----|
| 279 | GOM_NL__2PRFIN20070604_214432_000000372058_00401_27509_6291.N1 | 04-JUN-2007 21:44:32 | Bright         | 37.000 | 76  | 27Gam Cas | 2.3000 | 30000. | 74  | 27509 | No |
| 280 | GOM_NL__2PRFIN20070604_215227_000000452058_00401_27509_6292.N1 | 04-JUN-2007 21:52:27 | Bright         | 44.500 | 53  | 43Bet And | 2.0480 | 3300.0 | 89  | 27509 | No |
| 281 | GOM_NL__2PRFIN20070604_215630_000000402058_00401_27509_6293.N1 | 04-JUN-2007 21:56:30 | Twilight       | 40.000 | 105 | 6Bet Ari  | 2.6450 | 8900.0 | 80  | 27509 | No |
| 282 | GOM_NL__2PRFIN20070604_220932_000000502058_00401_27509_6294.N1 | 04-JUN-2007 22:09:32 | Dark           | 50.000 | 52  | 16Bet Cet | 2.0370 | 4500.0 | 100 | 27509 | No |
| 283 | GOM_NL__2PRFIN20070604_221610_000000432058_00401_27509_6295.N1 | 04-JUN-2007 22:16:10 | Dark           | 42.500 | 84  | Alp Phe   | 2.3970 | 4500.0 | 85  | 27509 | No |
| 284 | GOM_NL__2PRFIN20070604_222144_000000542058_00402_27510_6291.N1 | 04-JUN-2007 22:21:44 | Dark           | 53.500 | 63  | Bet Gru   | 2.1500 | 2800.0 | 107 | 27510 | No |
| 285 | GOM_NL__2PRFIN20070604_222340_000000502058_00402_27510_6292.N1 | 04-JUN-2007 22:23:40 | Dark           | 50.000 | 31  | Alp Gru   | 1.7340 | 15200. | 100 | 27510 | No |
| 286 | GOM_NL__2PRFIN20070604_222825_000000442058_00402_27510_6293.N1 | 04-JUN-2007 22:28:25 | Straylight     | 43.500 | 45  | Alp Pav   | 1.9400 | 26000. | 87  | 27510 | No |
| 287 | GOM_NL__2PRFIN20070604_223422_000000402058_00402_27510_6294.N1 | 04-JUN-2007 22:34:22 | Straylight     | 40.000 | 141 | Bet Ara   | 2.8400 | 4600.0 | 80  | 27510 | No |
| 288 | GOM_NL__2PRFIN20070604_223539_000000382058_00402_27510_6295.N1 | 04-JUN-2007 22:35:39 | Straylight     | 38.000 | 147 | Alp Ara   | 2.8770 | 26000. | 76  | 27510 | No |
| 289 | GOM_NL__2PRFIN20070604_223721_000000462058_00402_27510_6296.N1 | 04-JUN-2007 22:37:21 | Straylight     | 46.000 | 40  | The Sco   | 1.8590 | 7100.0 | 92  | 27510 | No |
| 290 | GOM_NL__2PRFIN20070604_223908_000000442058_00402_27510_6297.N1 | 04-JUN-2007 22:39:08 | Tw_i_and_stray | 44.000 | 25  | 35Lam Sco | 1.6200 | 28000. | 88  | 27510 | No |
| 291 | GOM_NL__2PRFIN20070604_224049_000000422058_00402_27510_6298.N1 | 04-JUN-2007 22:40:49 | Tw_i_and_stray | 42.000 | 75  | 26Eps Sco | 2.2910 | 4250.0 | 84  | 27510 | No |
| 292 | GOM_NL__2PRFIN20070604_224248_000000442058_00402_27510_6299.N1 | 04-JUN-2007 22:42:48 | Bright         | 44.000 | 136 | 23Tau Sco | 2.8220 | 30000. | 88  | 27510 | No |
| 293 | GOM_NL__2PRFIN20070604_224450_000000372058_00402_27510_6300.N1 | 04-JUN-2007 22:44:50 | Bright         | 36.500 | 80  | 7Del Sco  | 2.3160 | 30000. | 73  | 27510 | No |
| 294 | GOM_NL__2PRFIN20070604_224619_000000292058_00402_27510_6301.N1 | 04-JUN-2007 22:46:19 | Tw_i_and_stray | 29.000 | 86  | 35Eta Oph | 2.4300 | 10200. | 58  | 27510 | No |
| 295 | GOM_NL__2PRFIN20070604_224808_000000412058_00402_27510_6302.N1 | 04-JUN-2007 22:48:08 | Bright         | 40.500 | 98  | 13Zet Oph | 2.5710 | 30000. | 81  | 27510 | No |
| 296 | GOM_NL__2PRFIN20070604_225018_000000382058_00402_27510_6303.N1 | 04-JUN-2007 22:50:18 | Bright         | 38.000 | 120 | 1Del Oph  | 2.7340 | 3200.0 | 76  | 27510 | No |
| 297 | GOM_NL__2PRFIN20070604_225318_000000352058_00402_27510_6304.N1 | 04-JUN-2007 22:53:18 | Bright         | 35.000 | 102 | 24Alp Ser | 2.6000 | 4250.0 | 70  | 27510 | No |
| 298 | GOM_NL__2PRFIN20070604_225810_000000452058_00402_27510_6305.N1 | 04-JUN-2007 22:58:10 | Bright         | 45.000 | 127 | 27Bet Her | 2.7810 | 4700.0 | 90  | 27510 | No |
| 299 | GOM_NL__2PRFIN20070604_230935_000000382058_00402_27510_6306.N1 | 04-JUN-2007 23:09:35 | Bright         | 37.500 | 119 | 14Eta Dra | 2.7270 | 4700.0 | 75  | 27510 | No |
| 300 | GOM_NL__2PRFIN20070604_231229_000000382058_00402_27510_6307.N1 | 04-JUN-2007 23:12:29 | Bright         | 37.500 | 60  | 7Bet UMi  | 2.0810 | 3950.0 | 75  | 27510 | No |
| 301 | GOM_NL__2PRFIN20070604_231710_000000362058_00402_27510_6308.N1 | 04-JUN-2007 23:17:10 | Bright         | 35.500 | 49  | 1Alp UMi  | 1.9900 | 6300.0 | 71  | 27510 | No |
| 302 | GOM_NL__2PRFIN20070604_232507_000000372058_00402_27510_6309.N1 | 04-JUN-2007 23:25:07 | Bright         | 36.500 | 76  | 27Gam Cas | 2.3000 | 30000. | 73  | 27510 | No |
| 303 | GOM_NL__2PRFIN20070604_233302_000000452058_00402_27510_6310.N1 | 04-JUN-2007 23:33:02 | Bright         | 44.500 | 53  | 43Bet And | 2.0480 | 3300.0 | 89  | 27510 | No |
| 304 | GOM_NL__2PRFIN20070604_233706_000000422058_00402_27510_6311.N1 | 04-JUN-2007 23:37:06 | Twilight       | 42.000 | 105 | 6Bet Ari  | 2.6450 | 8900.0 | 84  | 27510 | No |
| 305 | GOM_NL__2PRFIN20070604_235008_000000492058_00402_27510_6312.N1 | 04-JUN-2007 23:50:08 | Dark           | 49.000 | 52  | 16Bet Cet | 2.0370 | 4500.0 | 98  | 27510 | No |
| 306 | GOM_NL__2PRFIN20070604_235647_000000432058_00402_27510_6313.N1 | 04-JUN-2007 23:56:47 | Dark           | 43.000 | 84  | Alp Phe   | 2.3970 | 4500.0 | 86  | 27510 | No |

### 3. Quality information per product

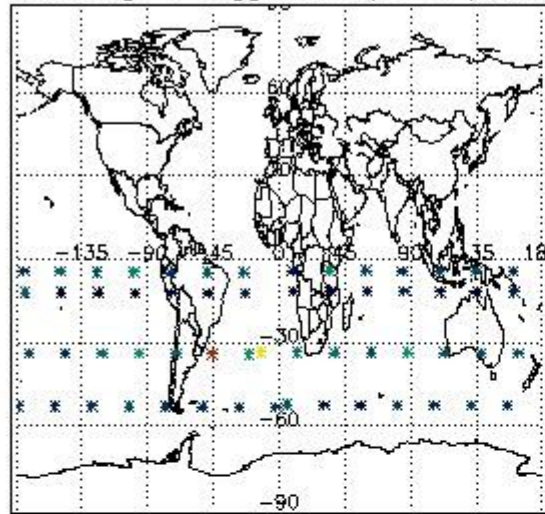
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

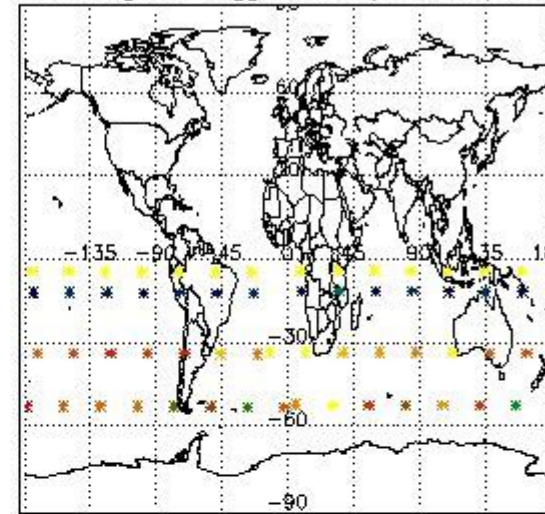


3.2 Plot quality information per product (world map)

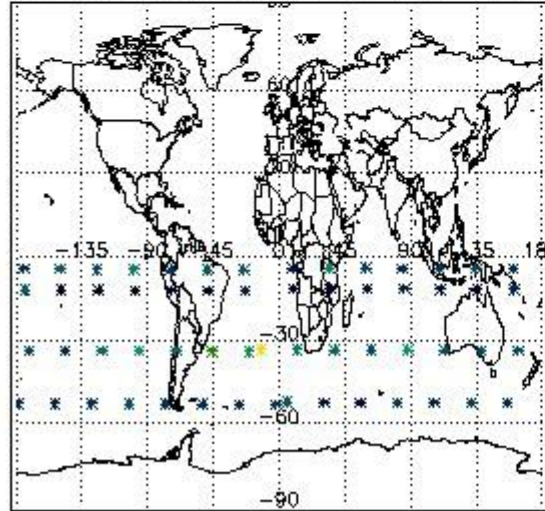
Percentage of flagged data per O3 profile



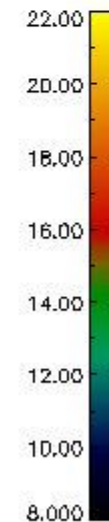
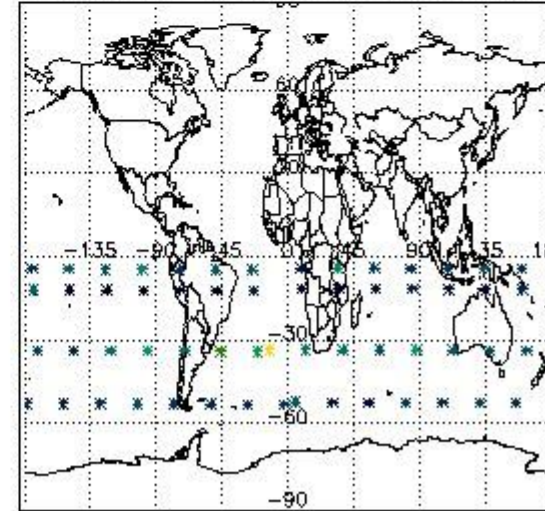
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

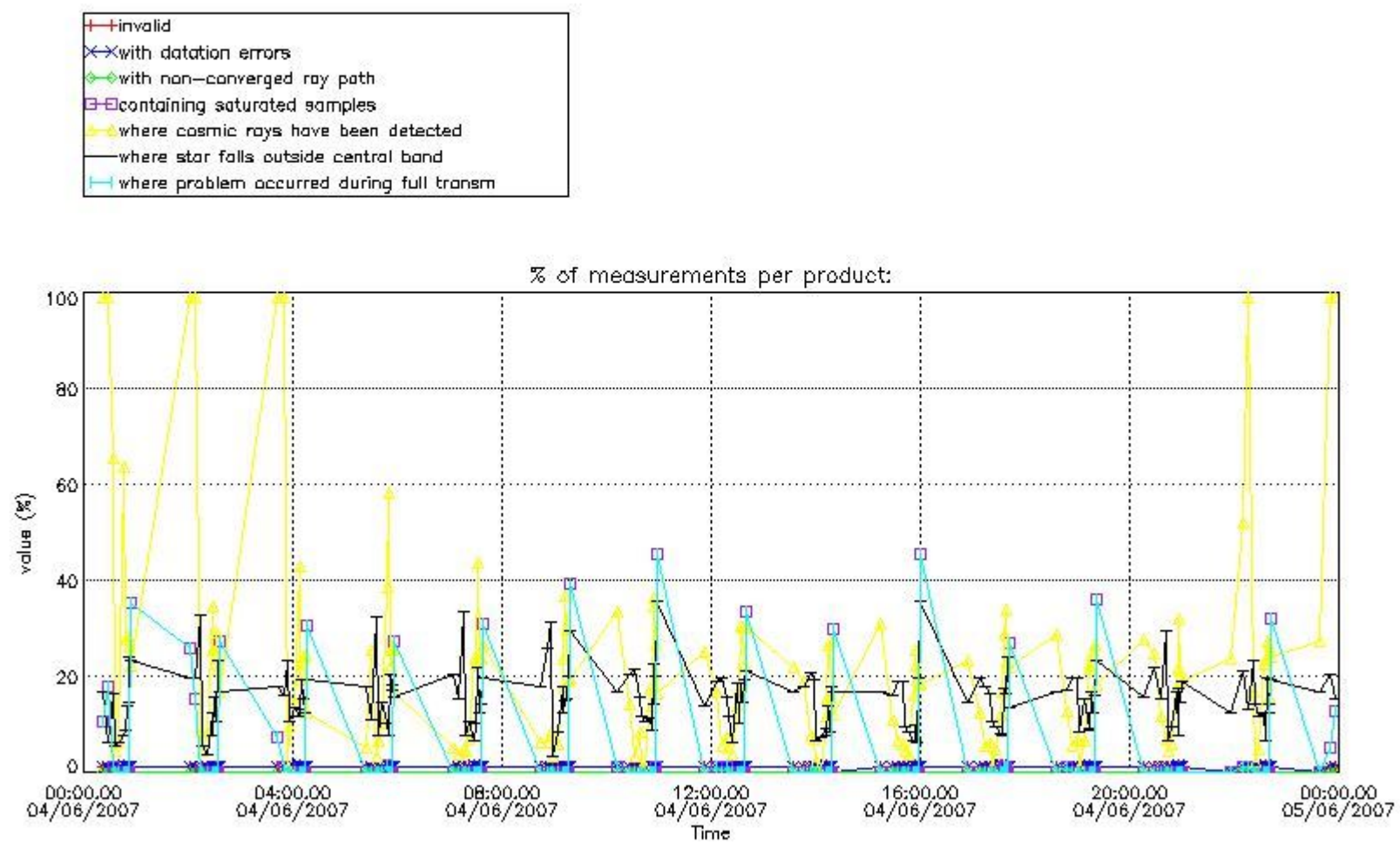


#### 4. Level 1 quality information per product

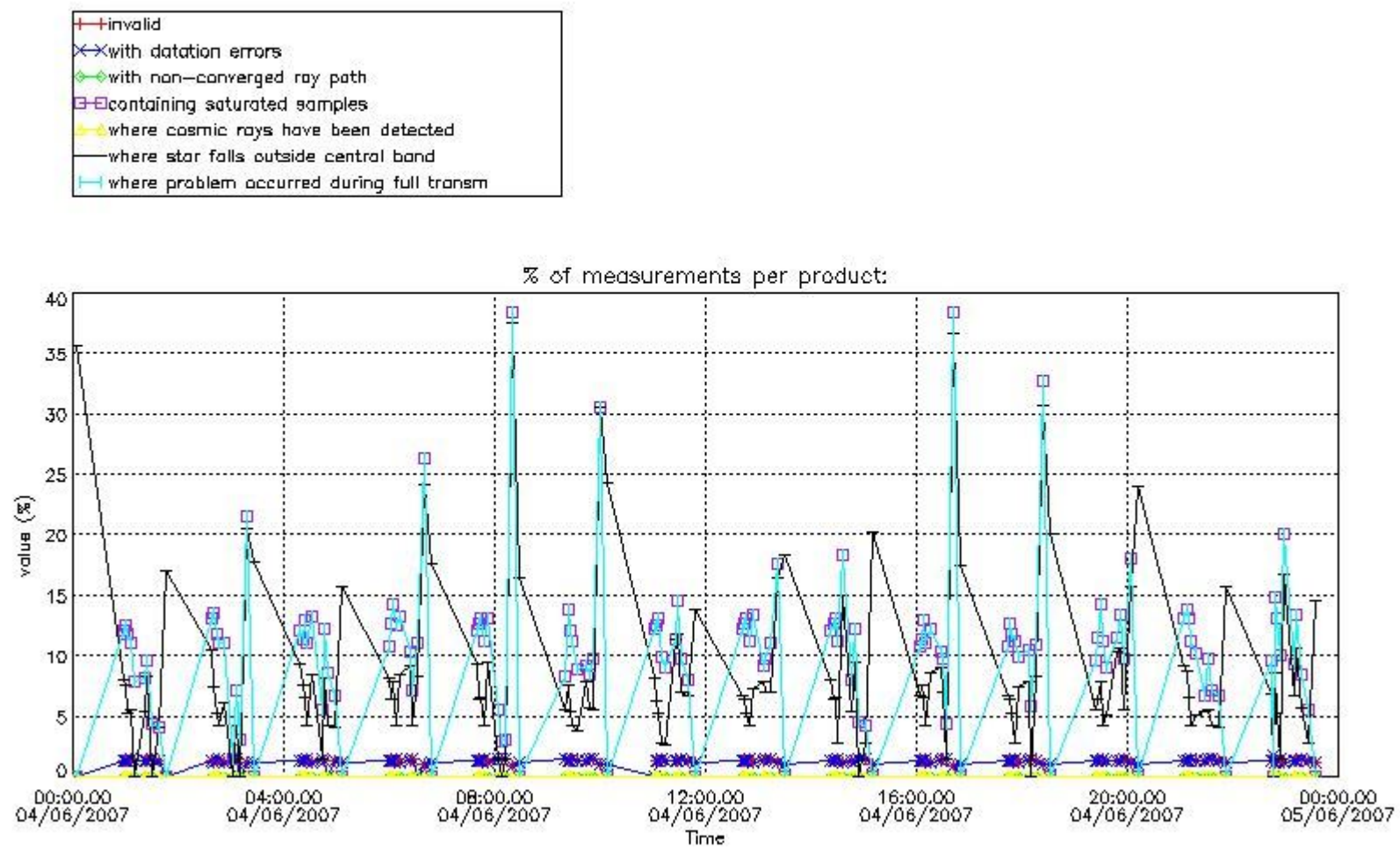
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

##### 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

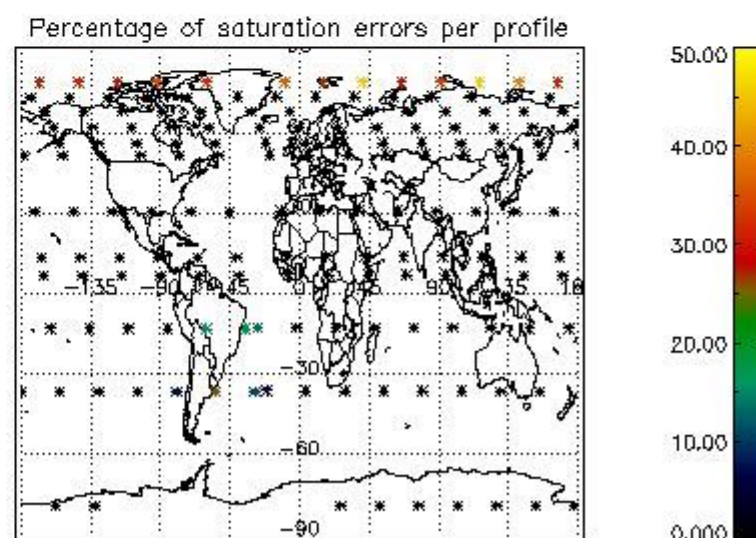
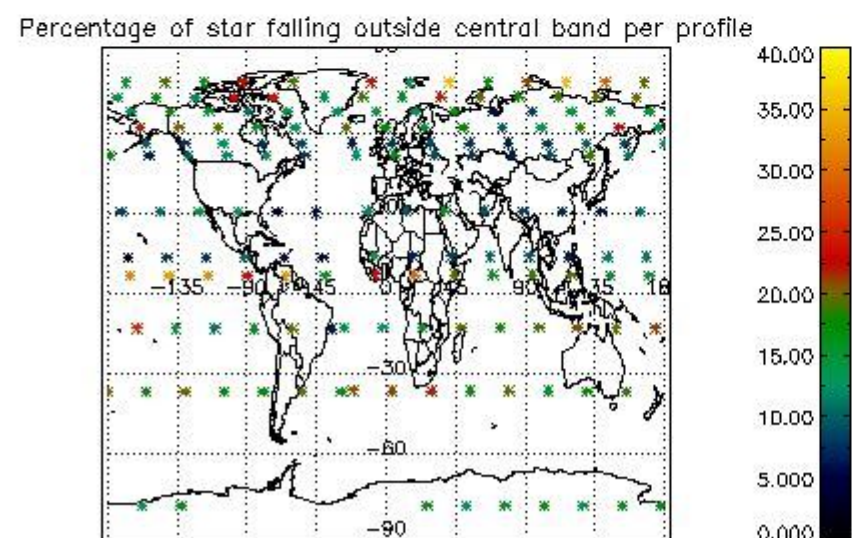
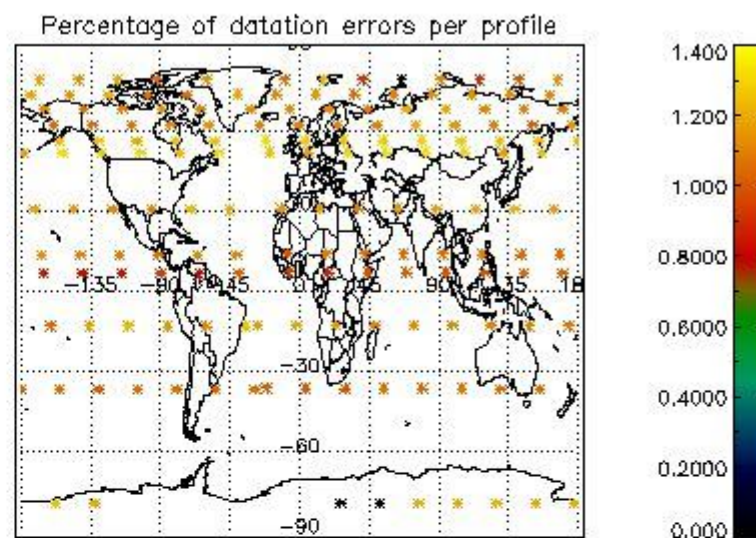
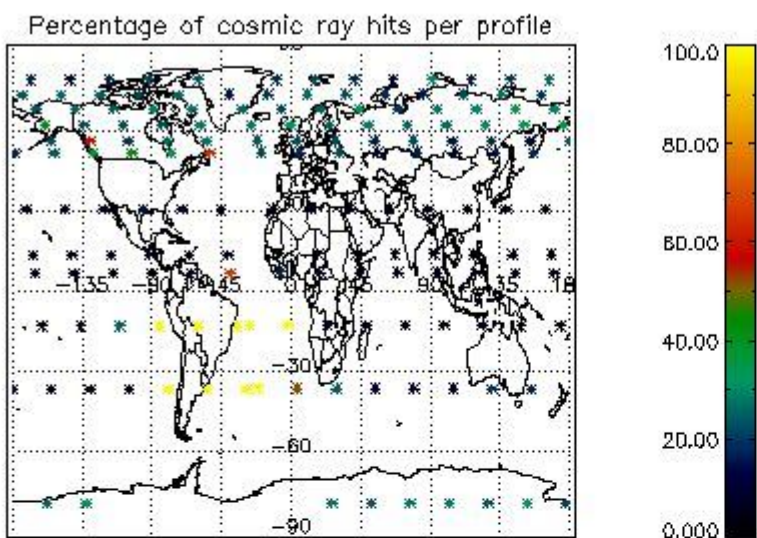


4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes



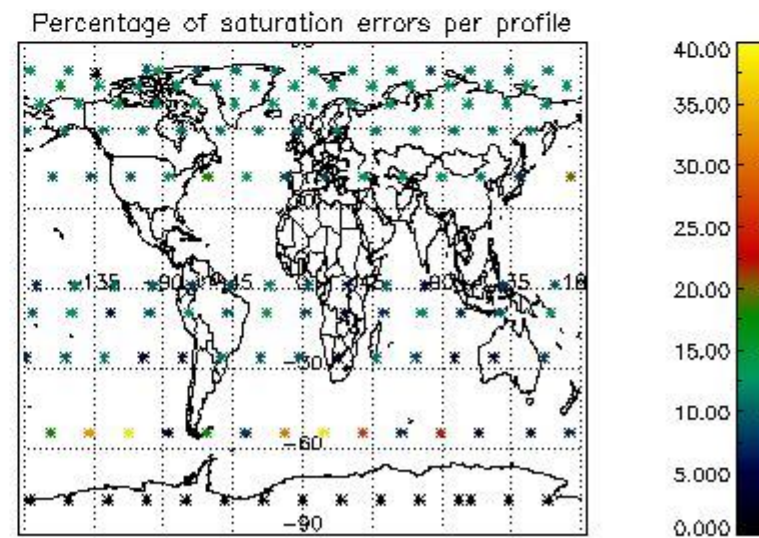
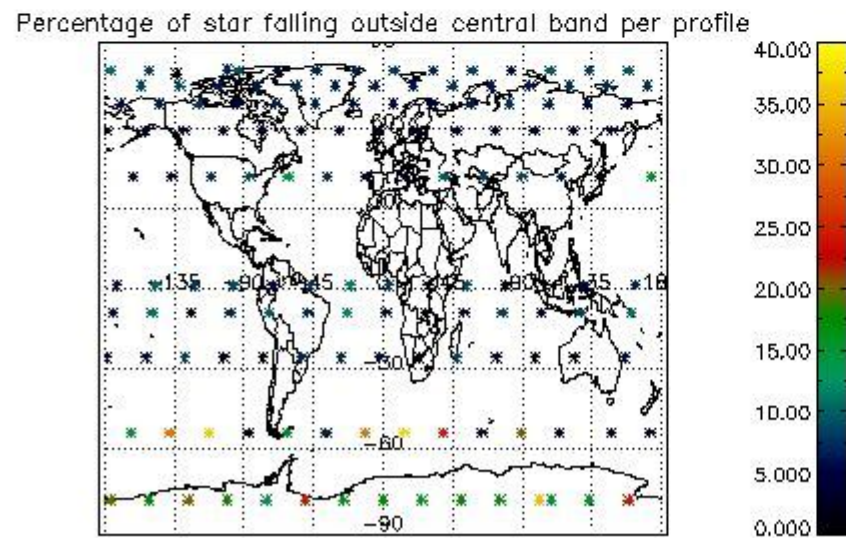
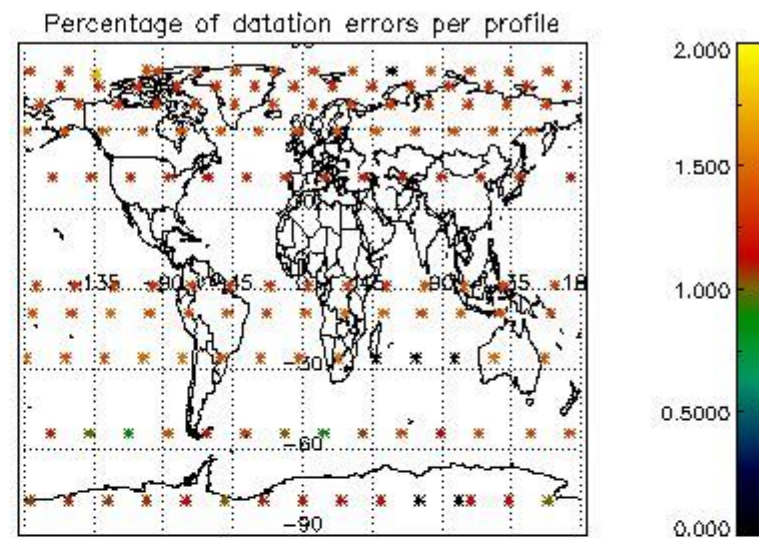
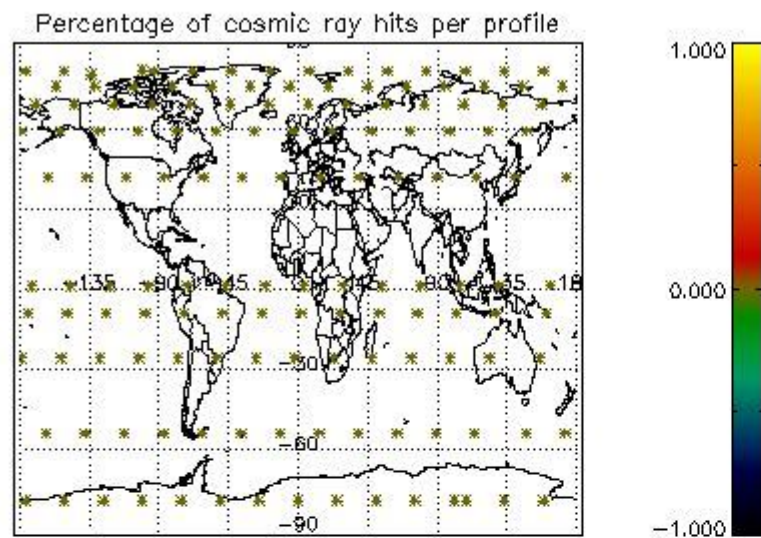
*4.2 Plot quality information per product coming from level 1b processing (world map)*

*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

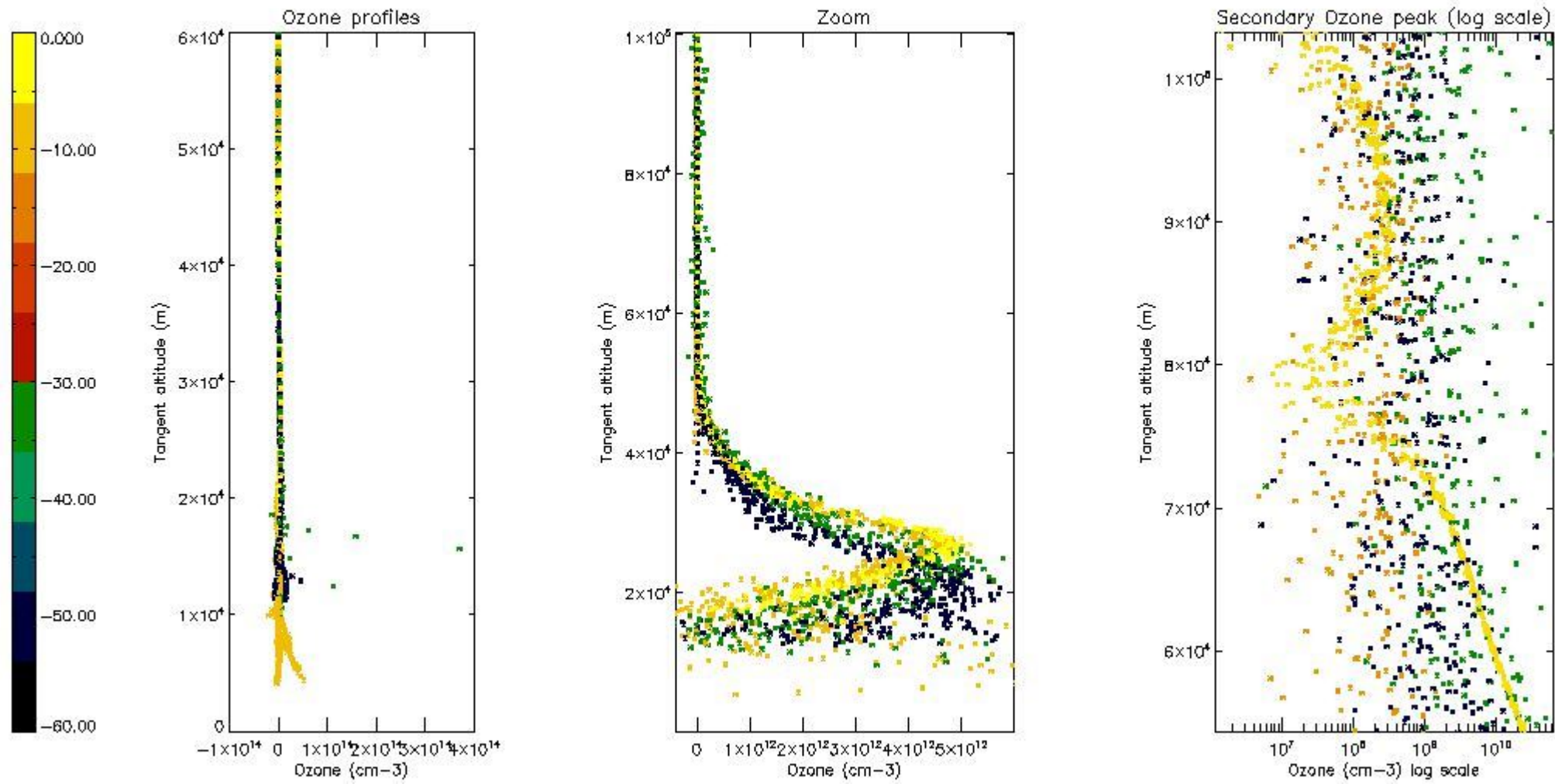
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

| Criteria | % of total production |
|----------|-----------------------|
| All STD  | 23                    |
| STD < 20 | 8                     |

|          |   |
|----------|---|
| STD < 10 | 5 |
| STD < 5  | 3 |

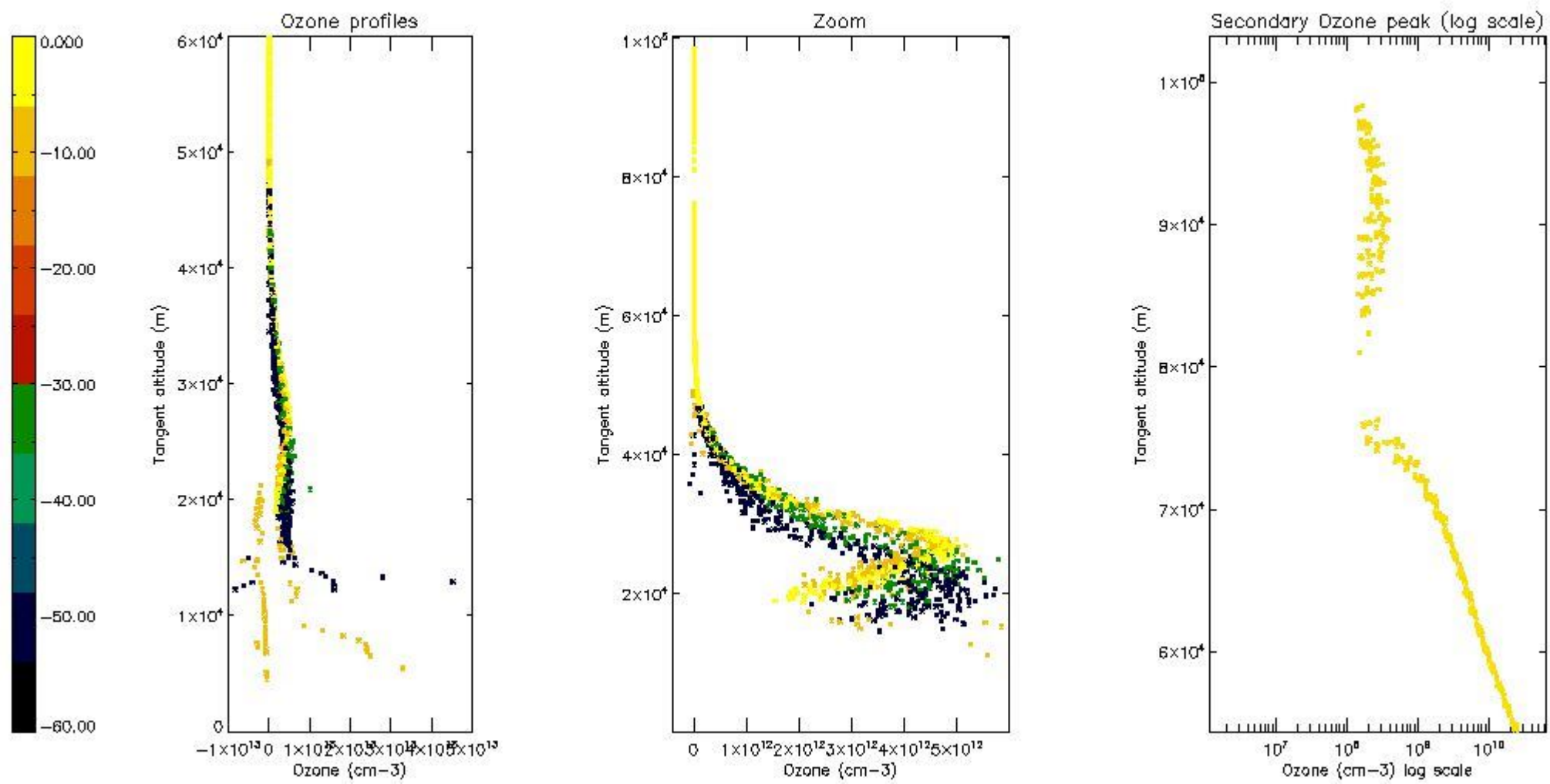
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



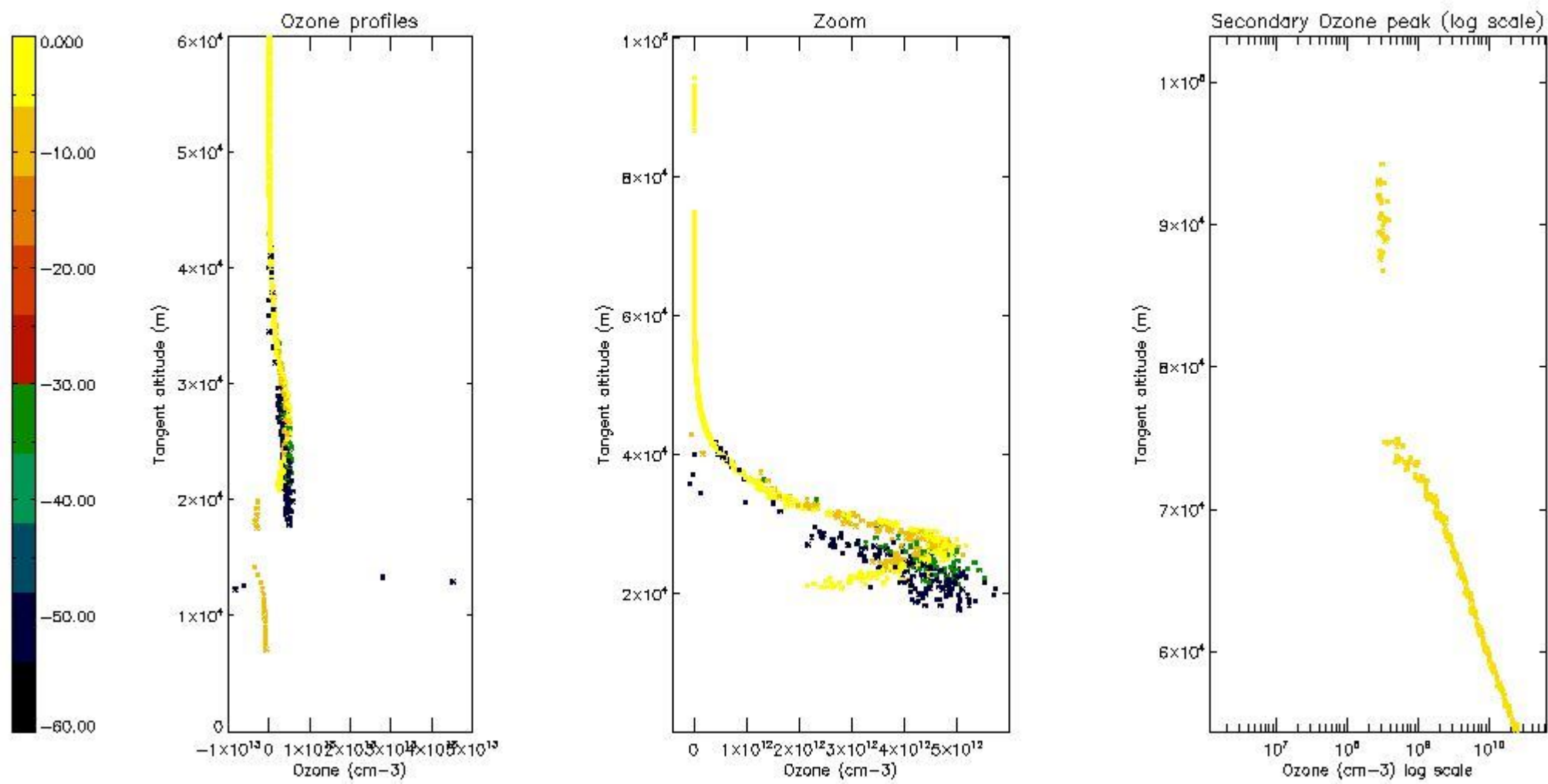
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



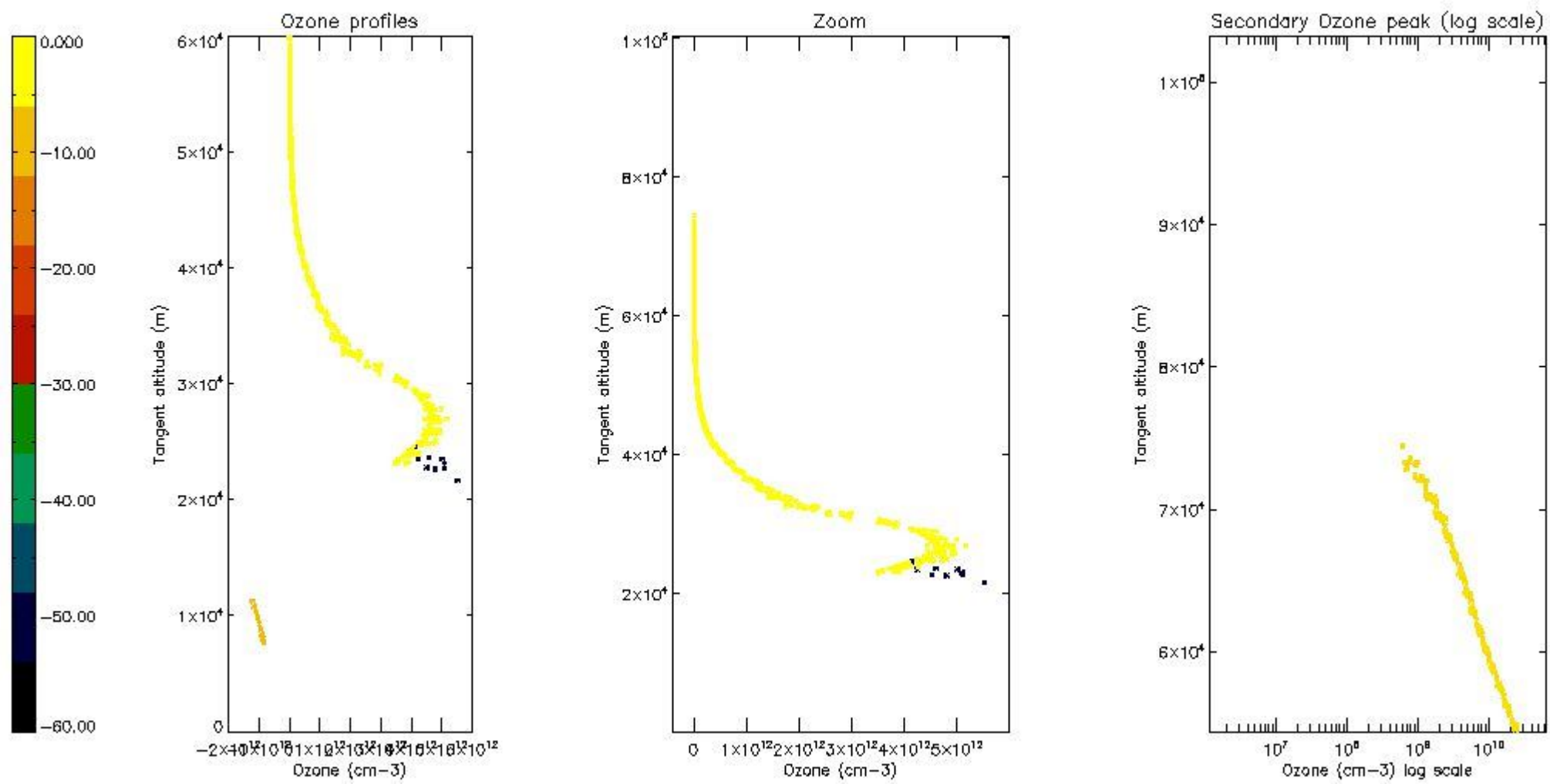
5.4 Plot ozone profiles where  $STD < 10\%$  (dark without errors)

The colorbar represents the latitude.



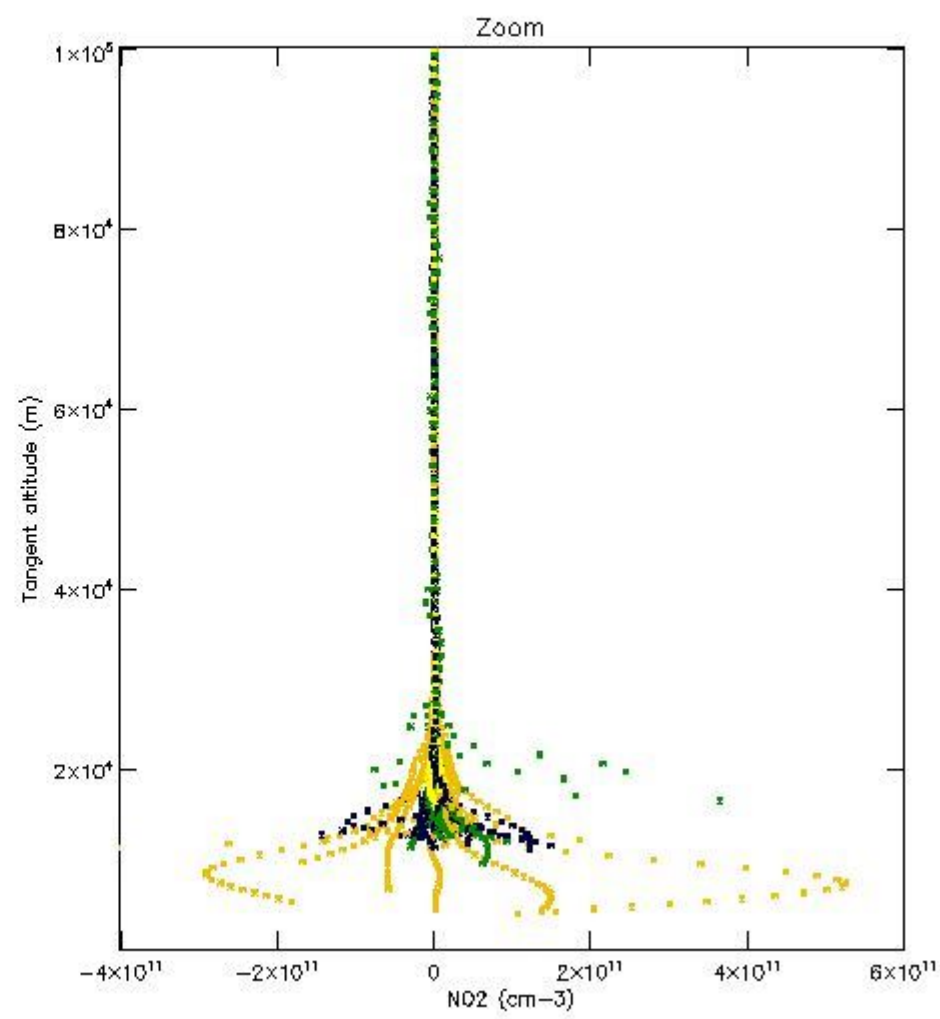
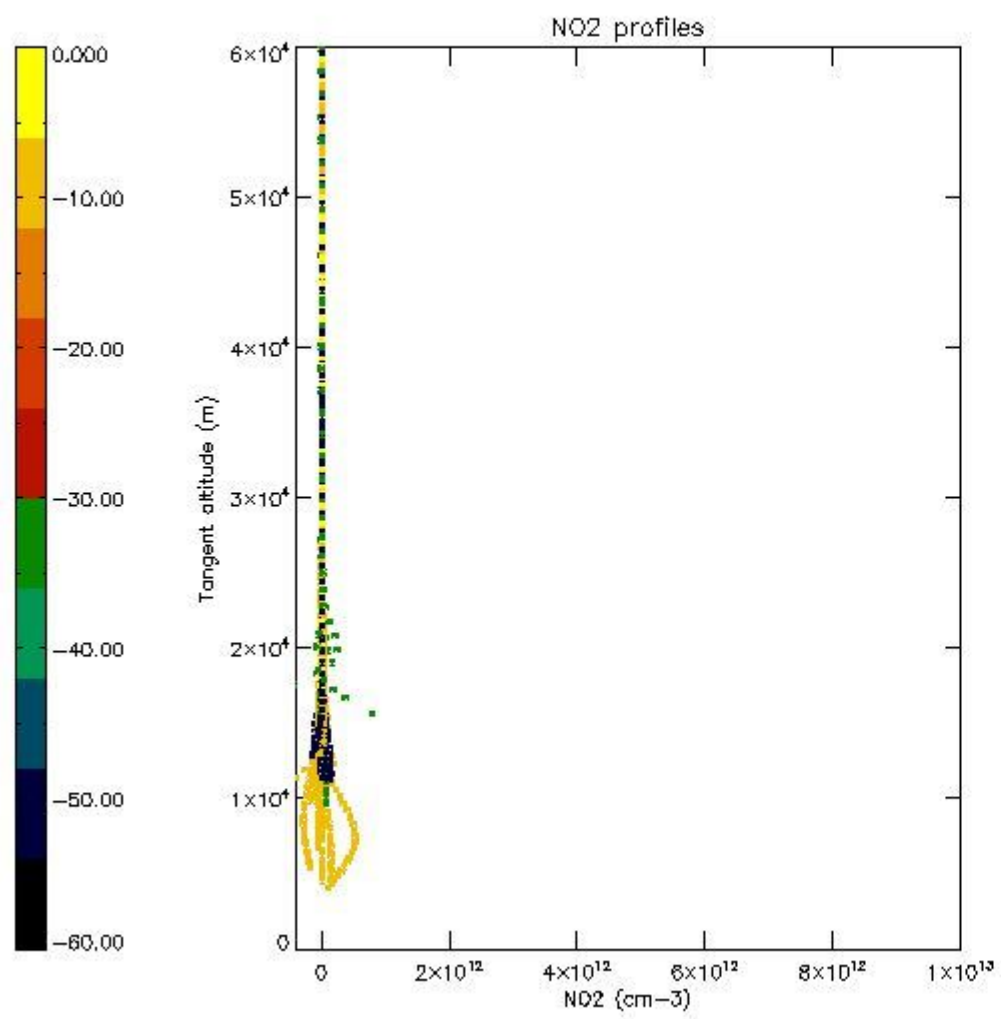
*5.5 Plot ozone profiles where  $STD < 5\%$  (dark without errors)*

The colorbar represents the latitude.



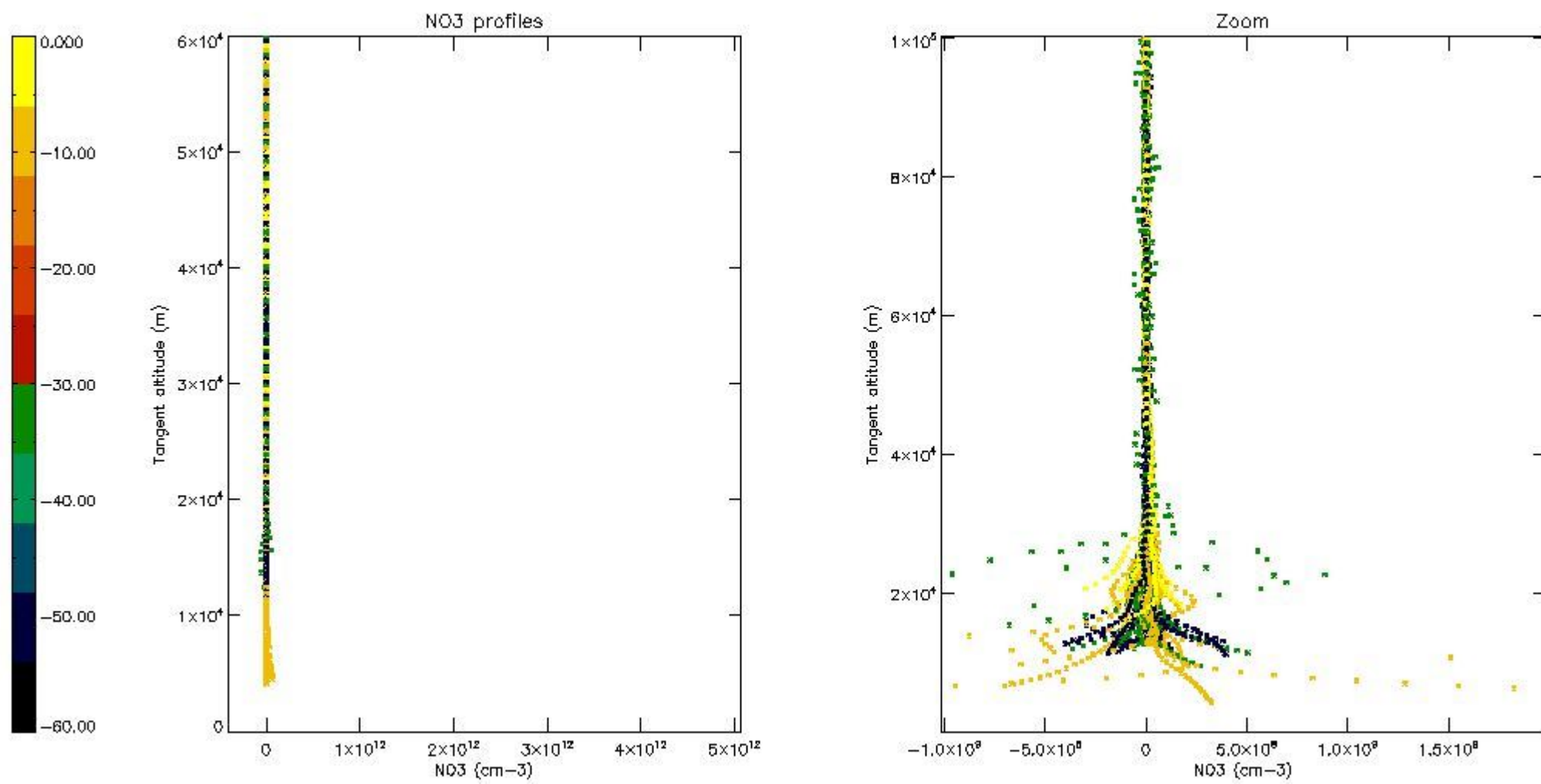
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

The colorbar represents the latitude.



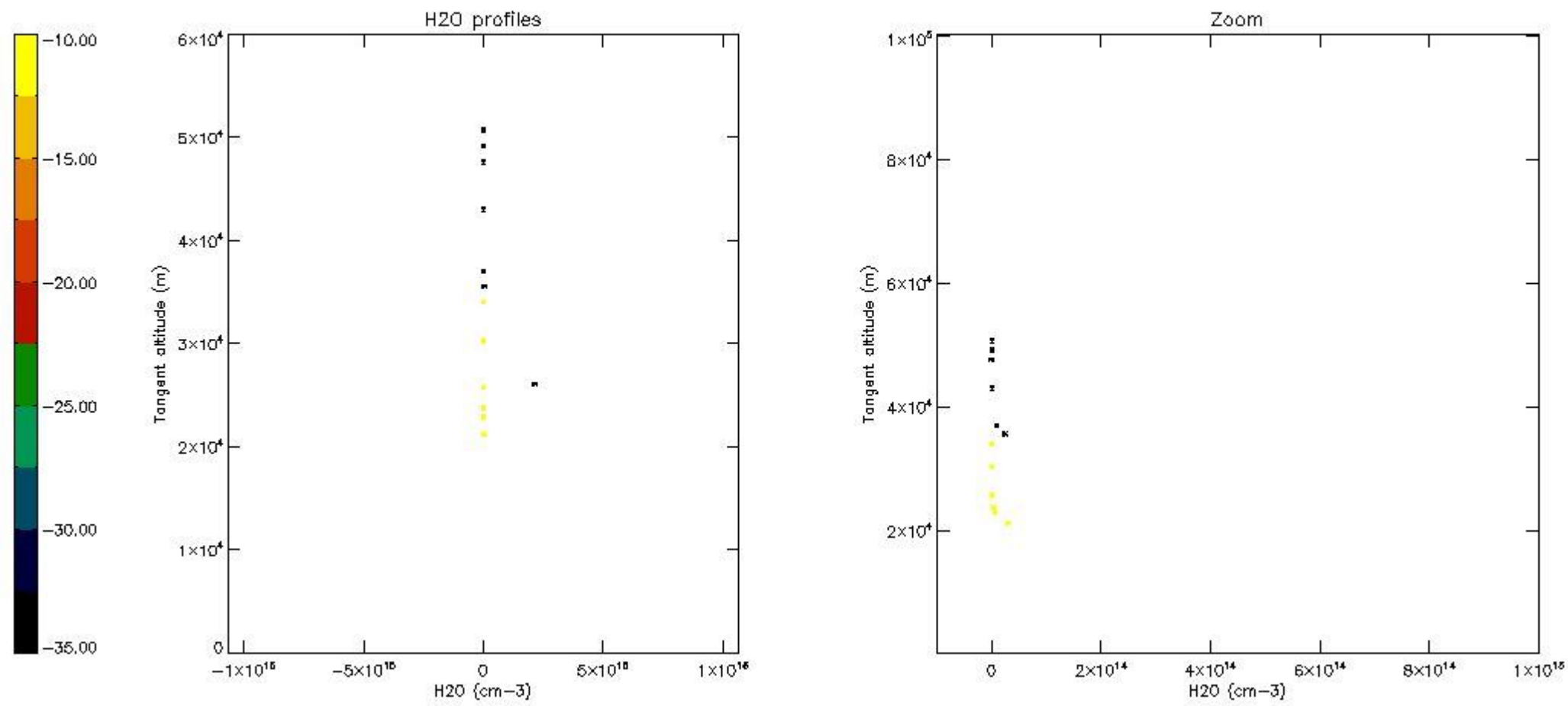
*5.7 Plot NO3 profiles for all STD (dark without errors)*

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.

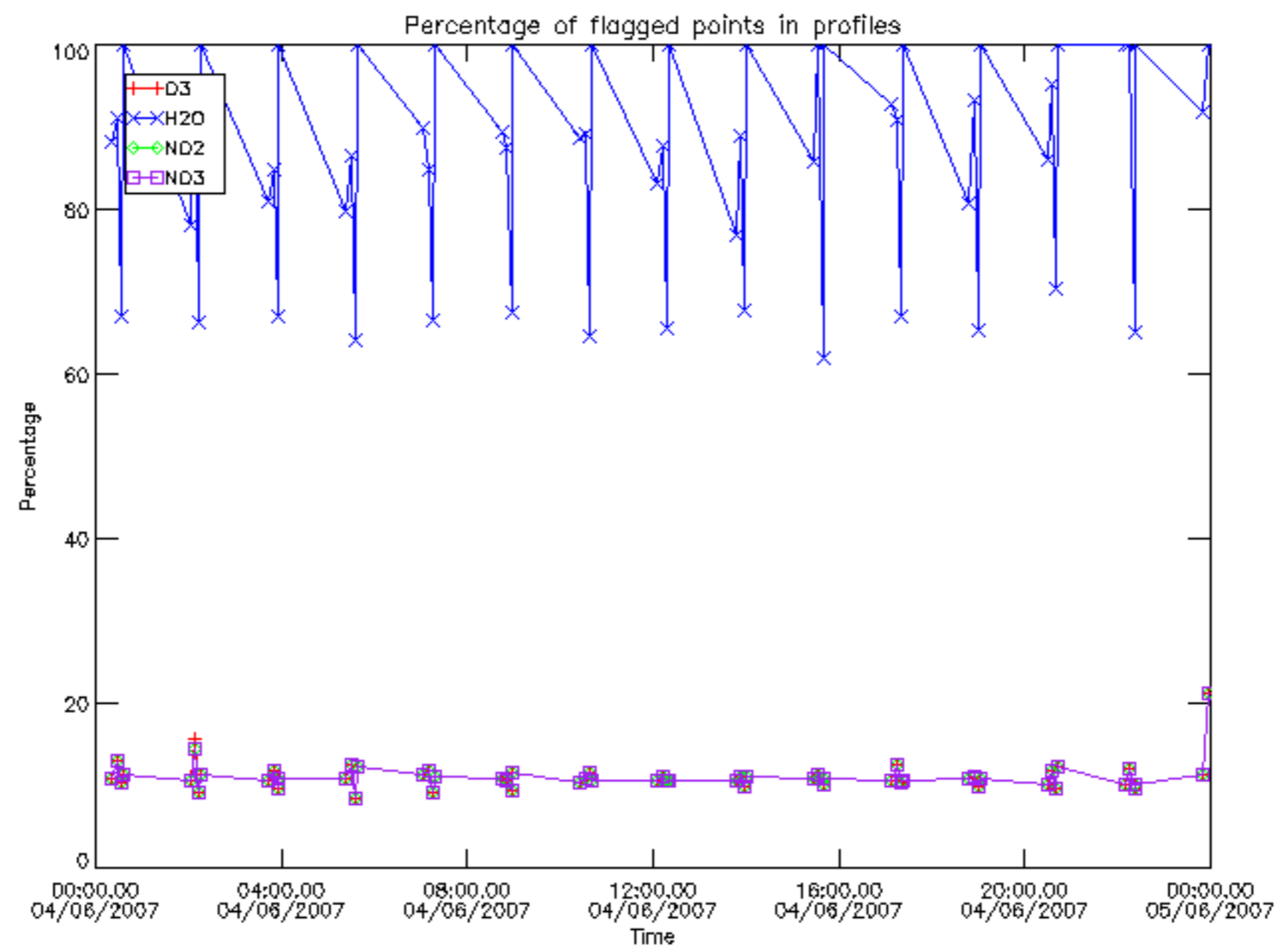


## 6. Auxiliary Data Files used for the production reported in section 2

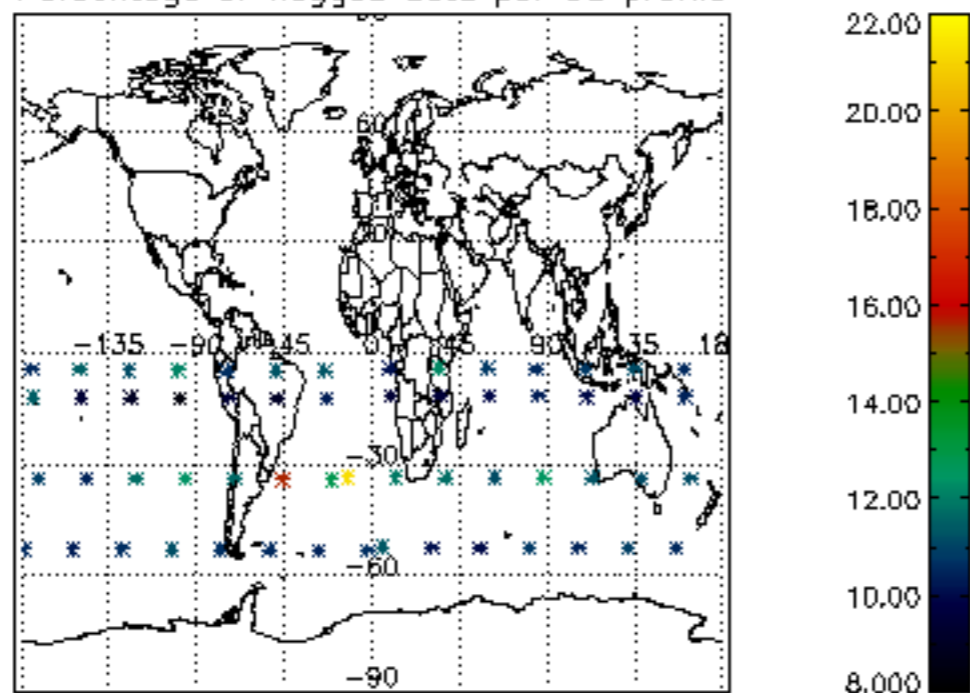
The number reported in the third column indicates since which file (see list in section 2) the corresponding auxiliary file has been used. The fourth column is the date of those product files.

| Type                      | Auxiliary Filename  | Used since product | Used since product date |
|---------------------------|---|--------------------|-------------------------|
| INST_PHYS_CHARACTERISTICS | GOM_INS_AXVIEC20091111_143220_20030716_120000_20500101_000000 | 1                  | 04-JUN-2007 00:04:38    |
| LEVEL-2_PROC_CONFIG       | GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000 | 1                  | 04-JUN-2007 00:04:38    |
| CROSS_SECTIONS_FILE       | GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000 | 1                  | 04-JUN-2007 00:04:38    |

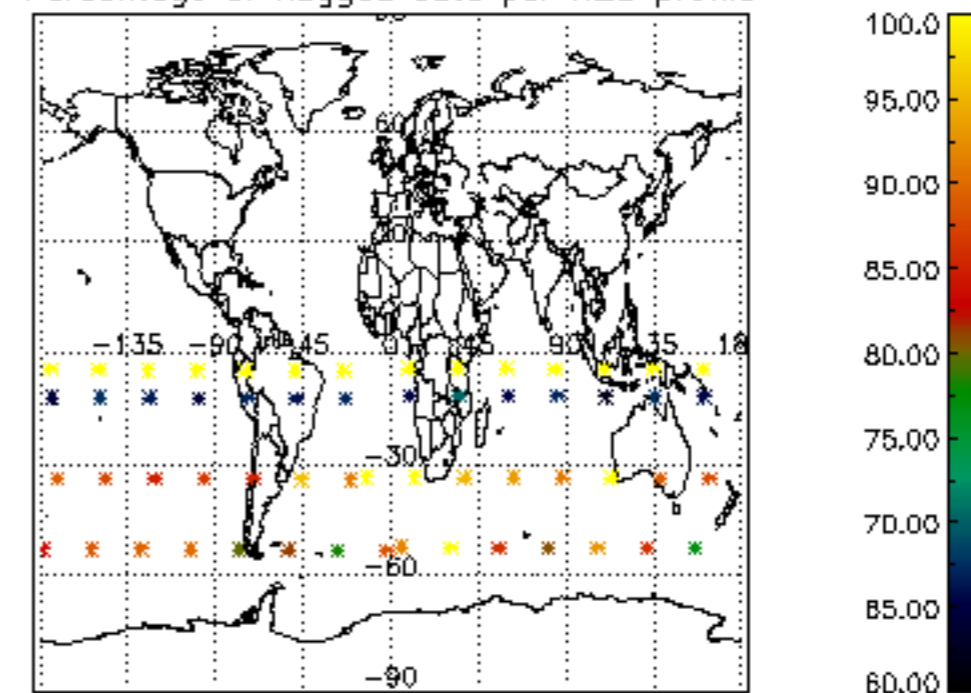




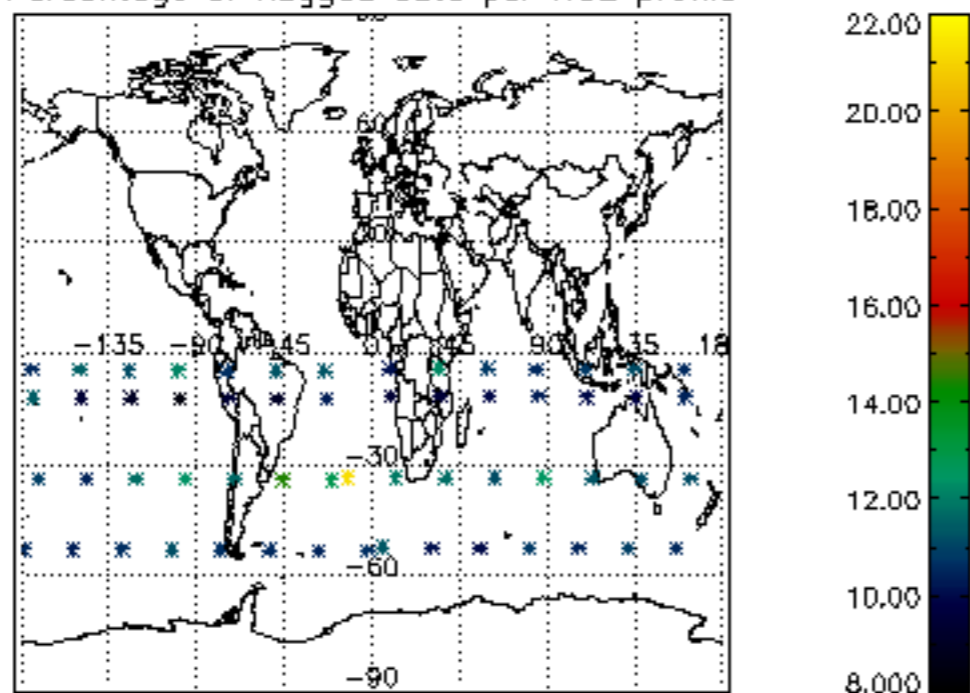
Percentage of flagged data per D3 profile



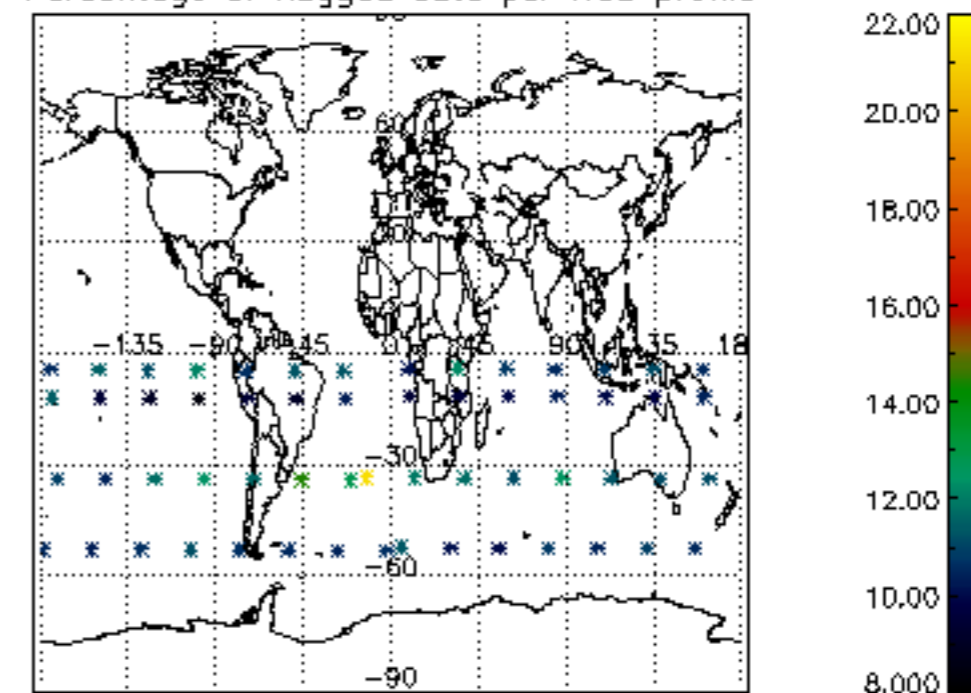
Percentage of flagged data per H2O profile

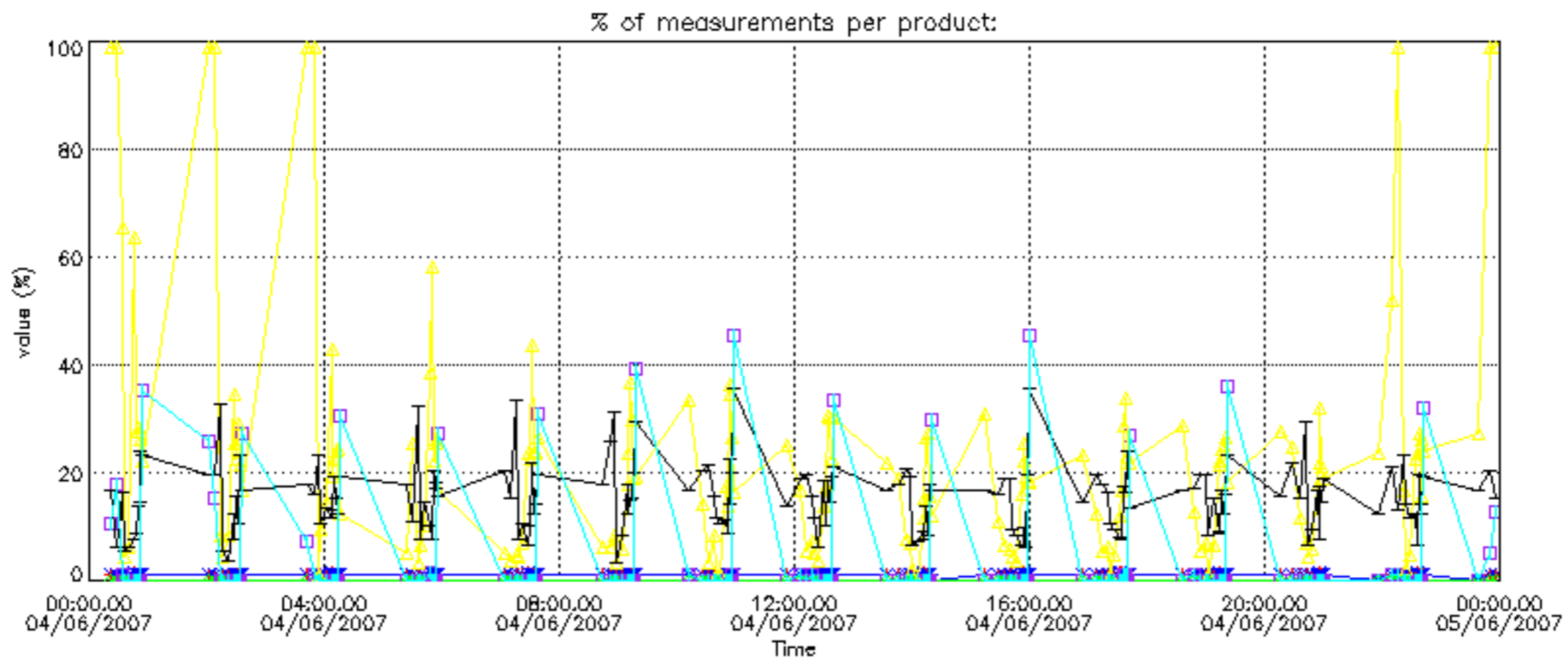


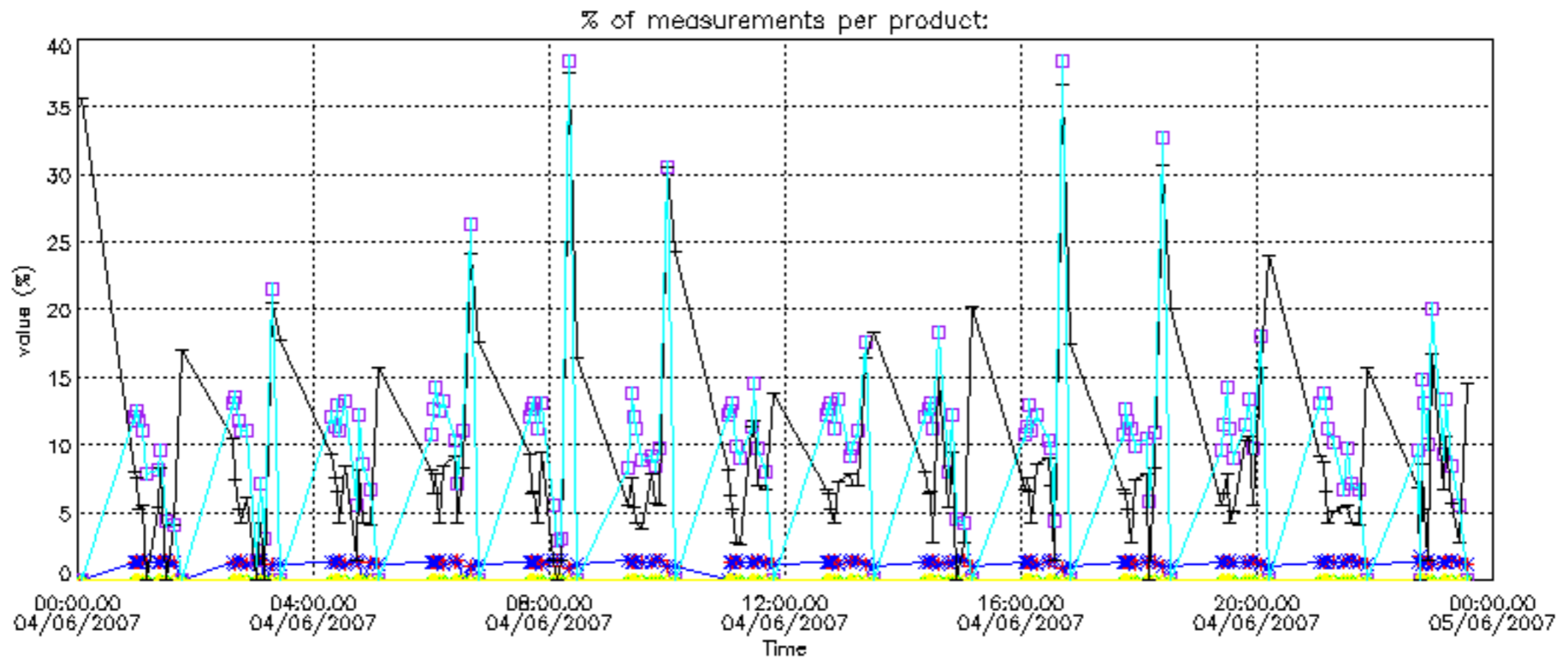
Percentage of flagged data per NO2 profile



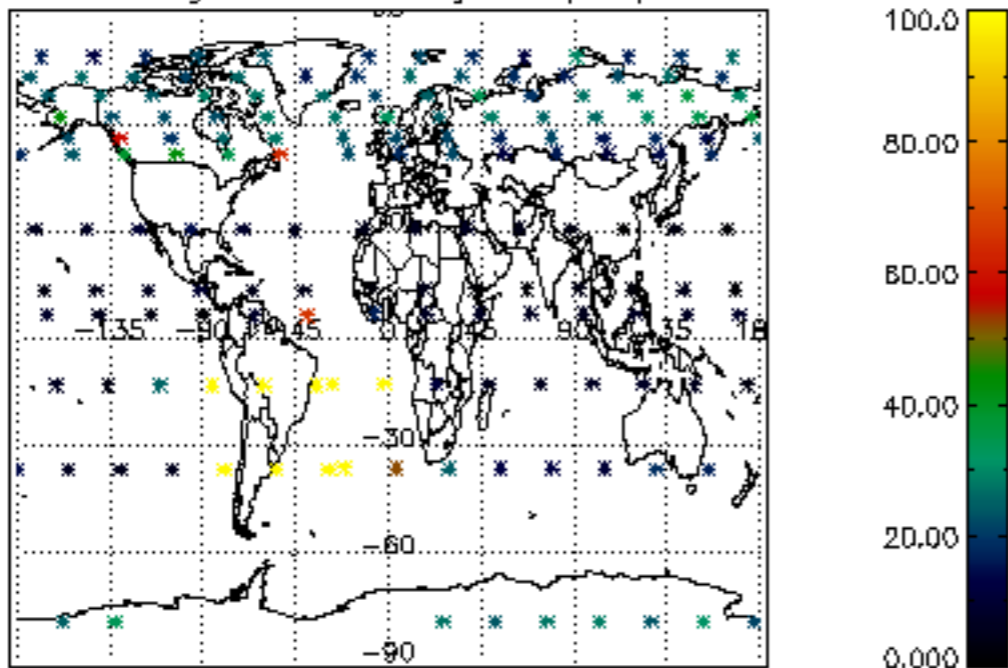
Percentage of flagged data per NO3 profile



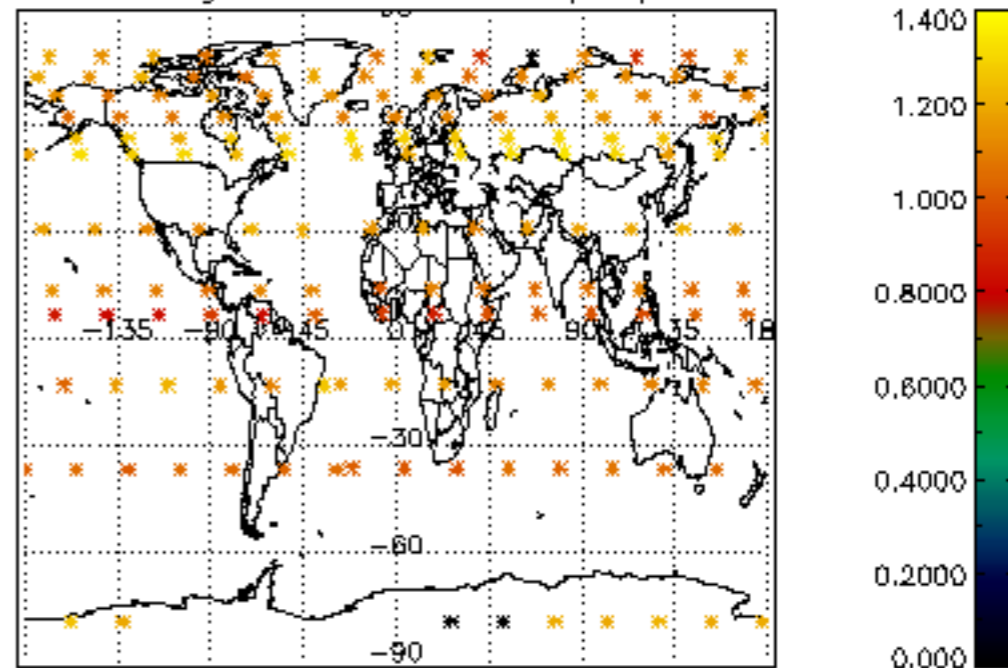




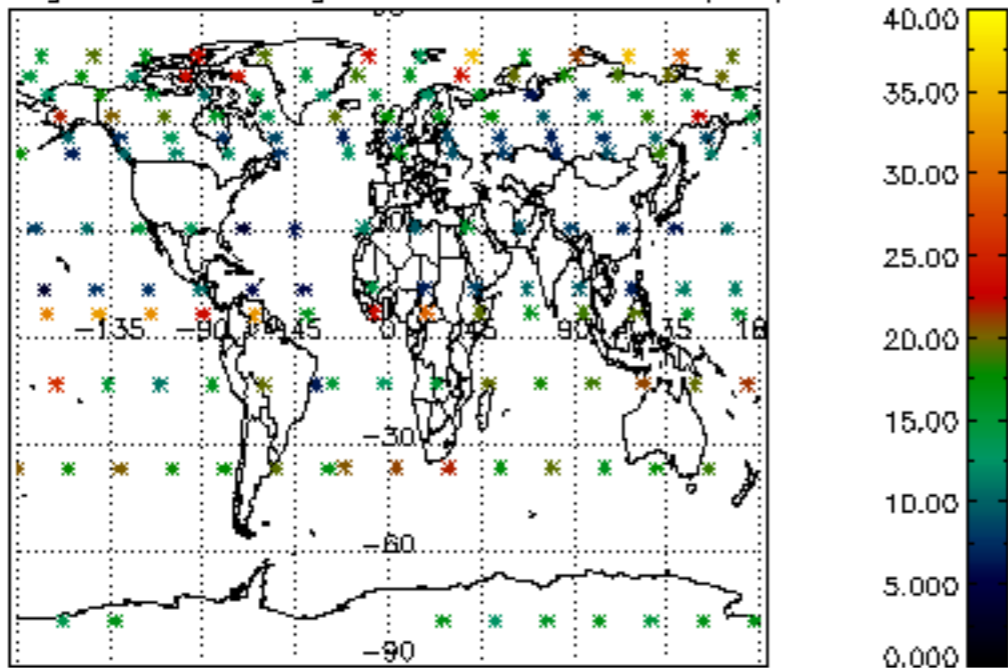
Percentage of cosmic ray hits per profile



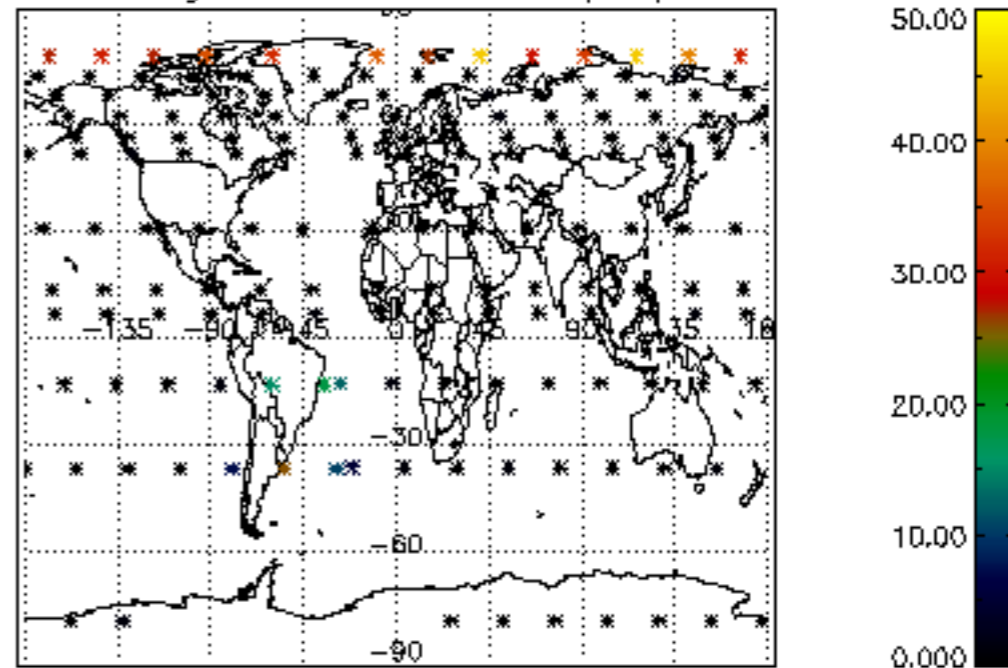
Percentage of datation errors per profile



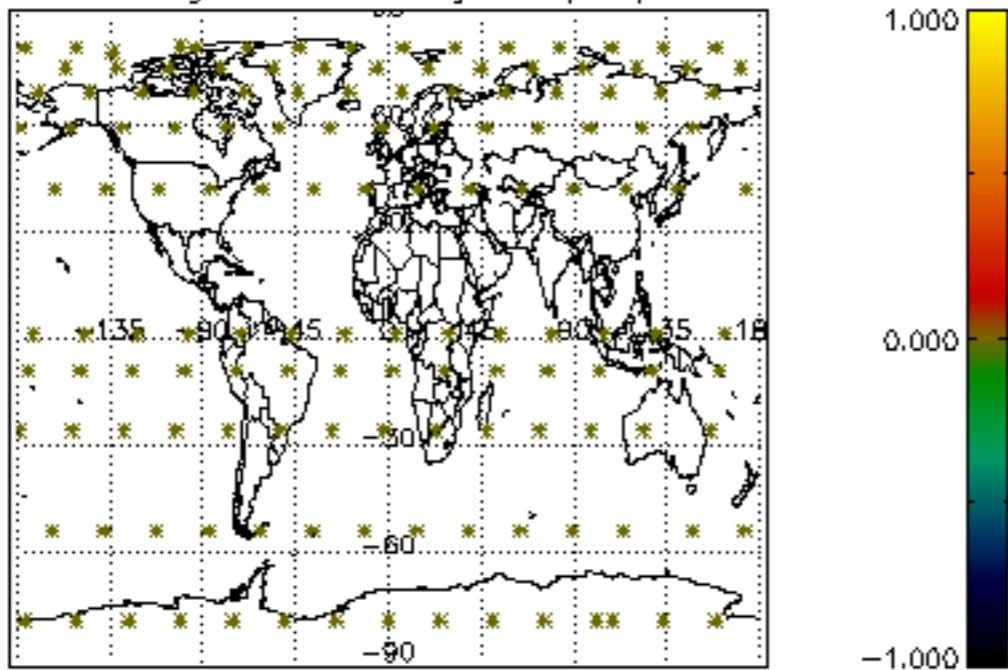
Percentage of star falling outside central band per profile



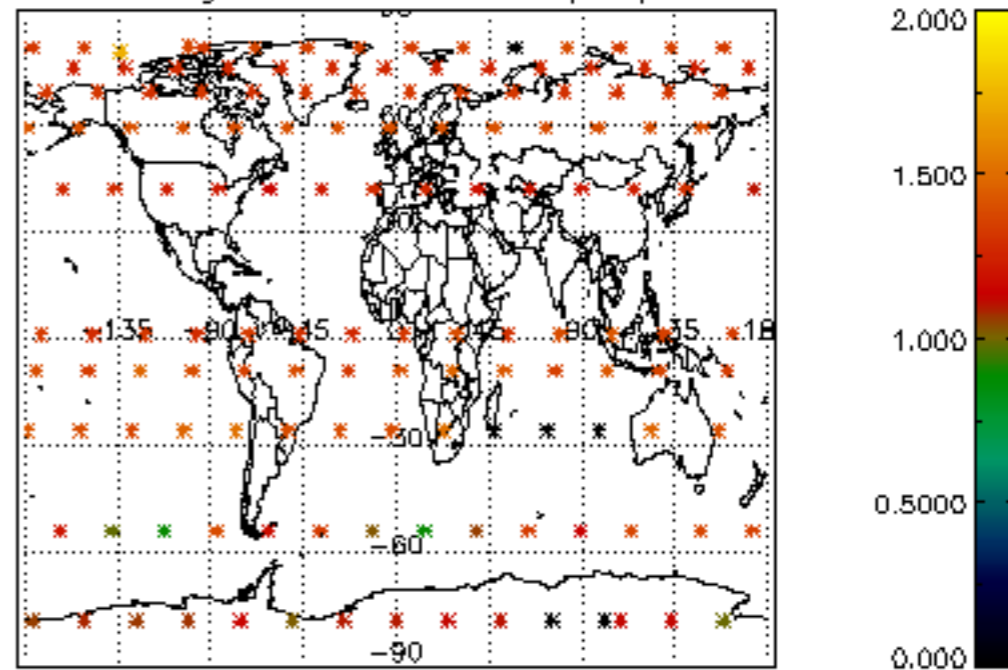
Percentage of saturation errors per profile



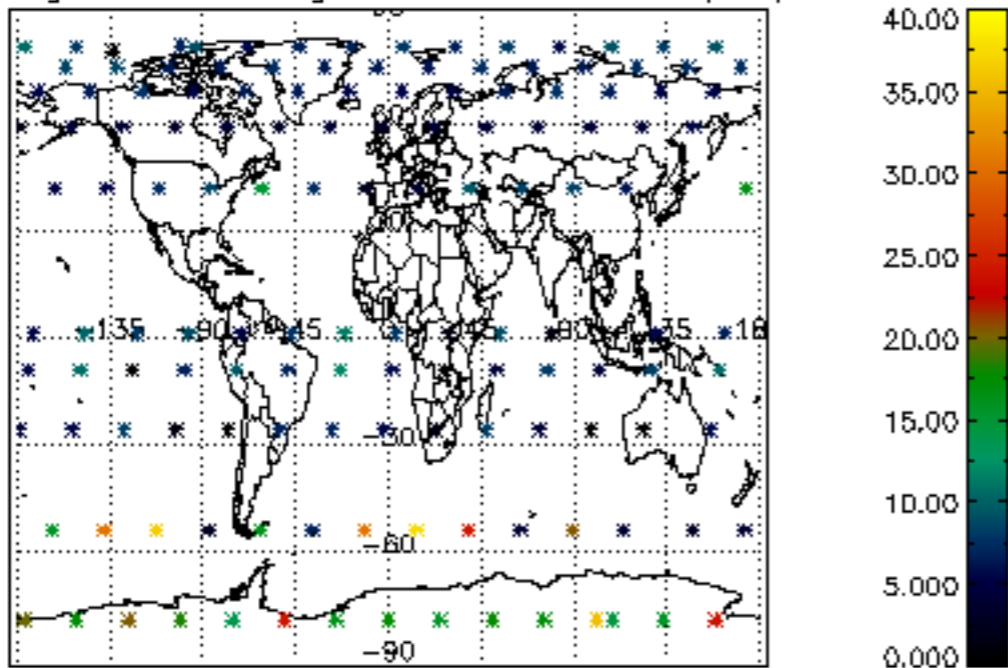
Percentage of cosmic ray hits per profile



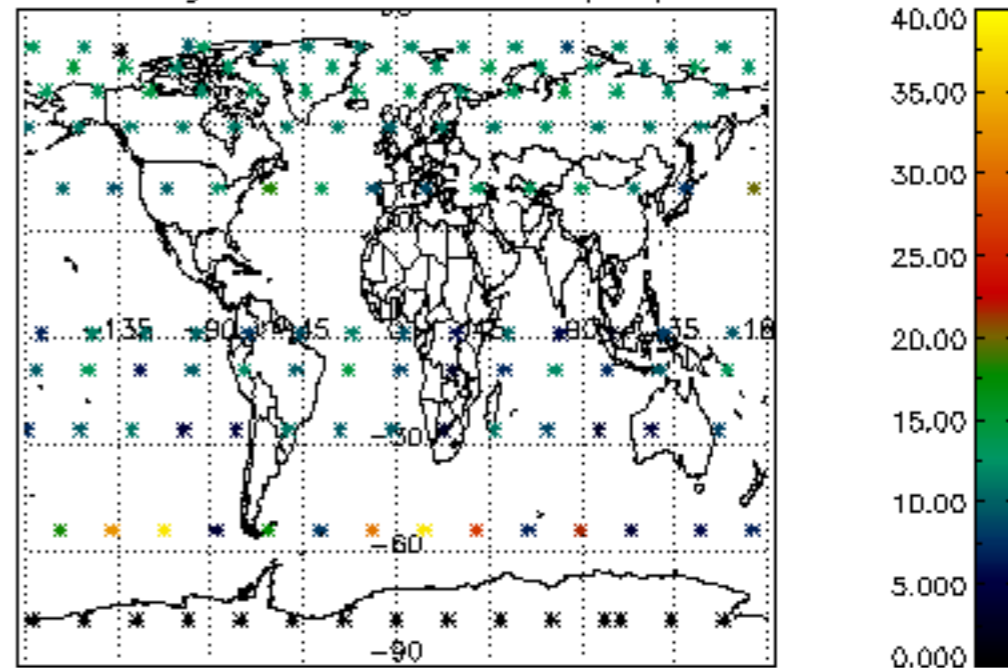
Percentage of datation errors per profile

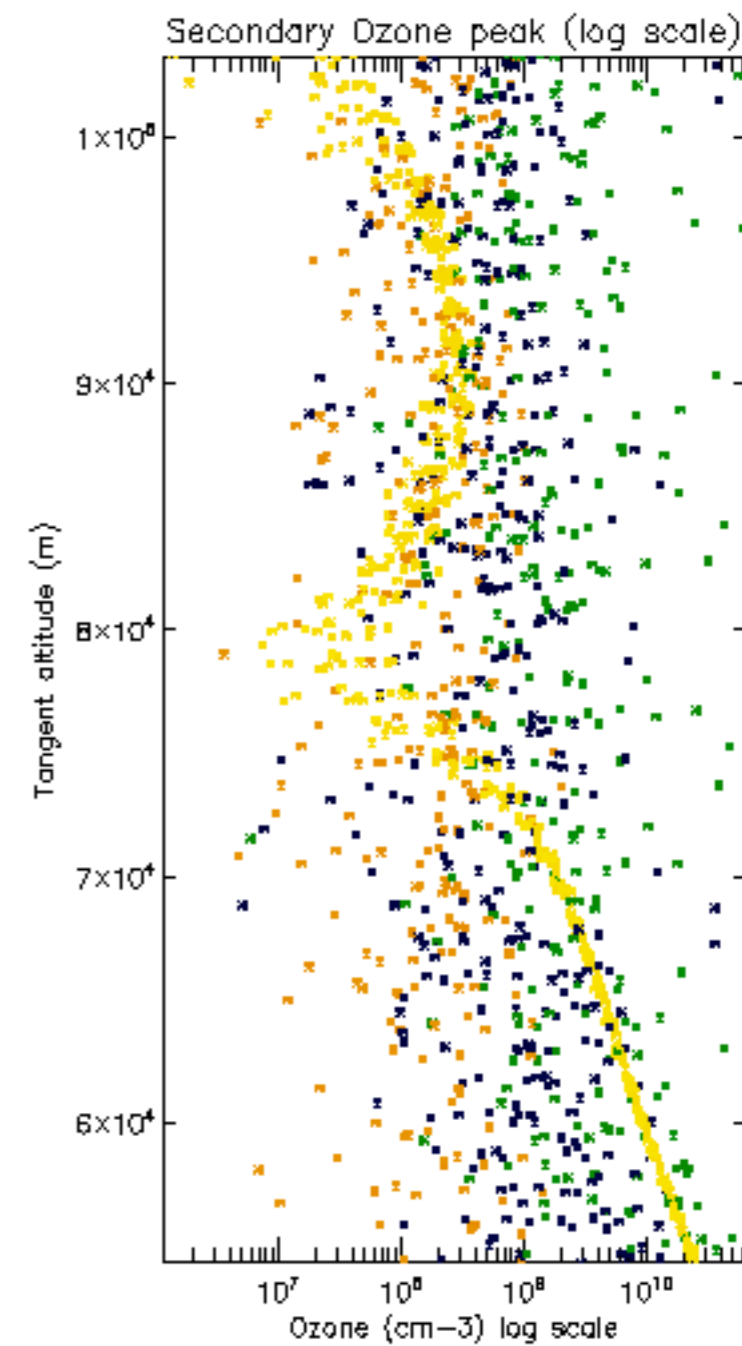
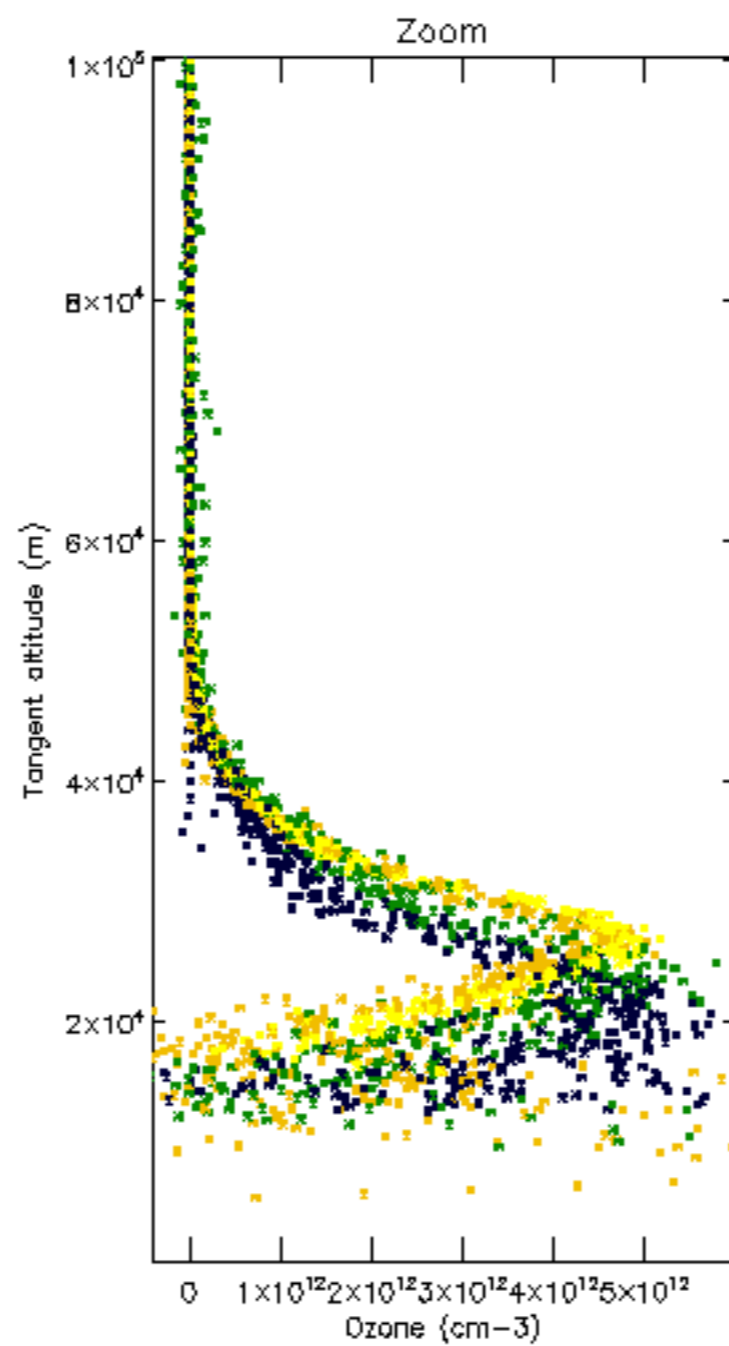
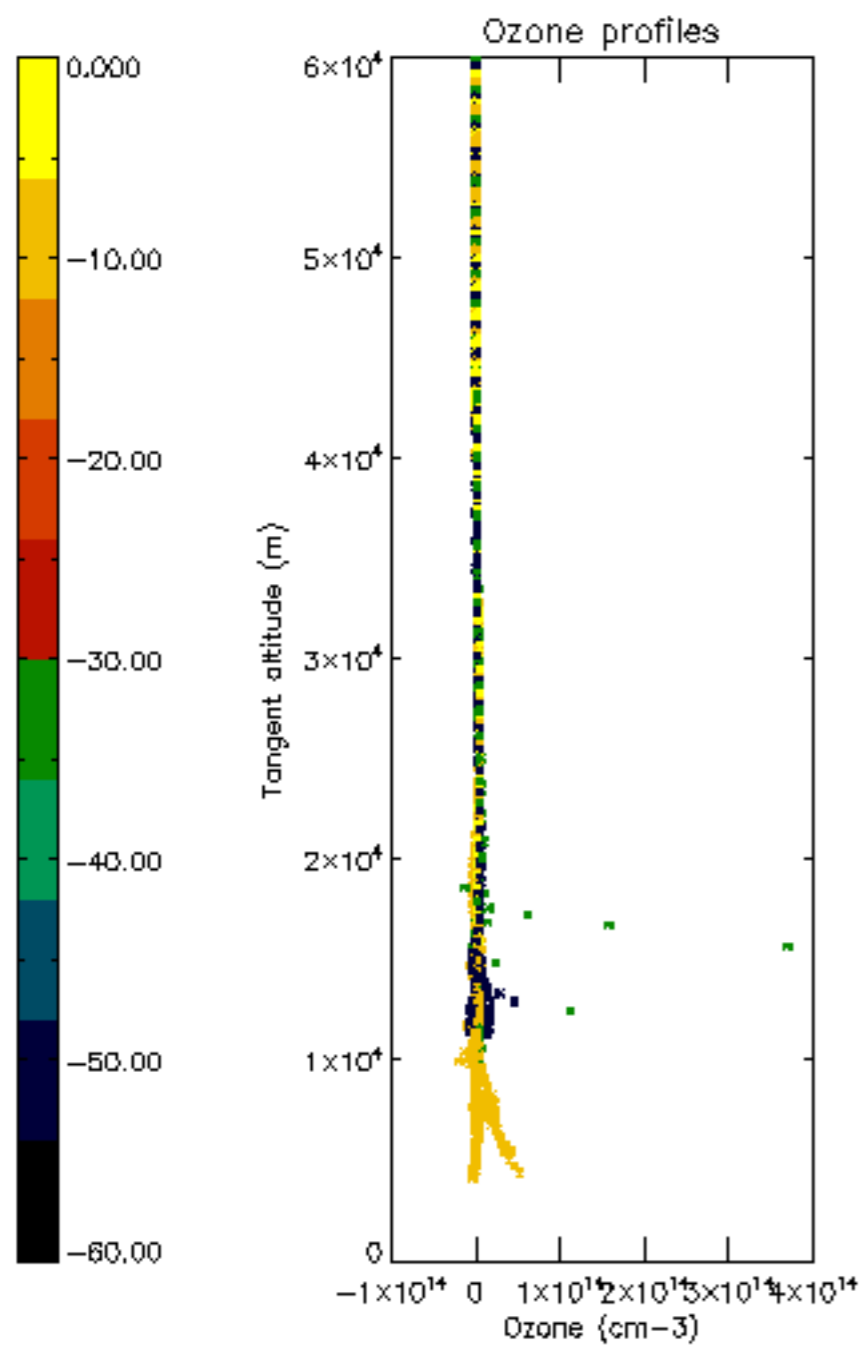


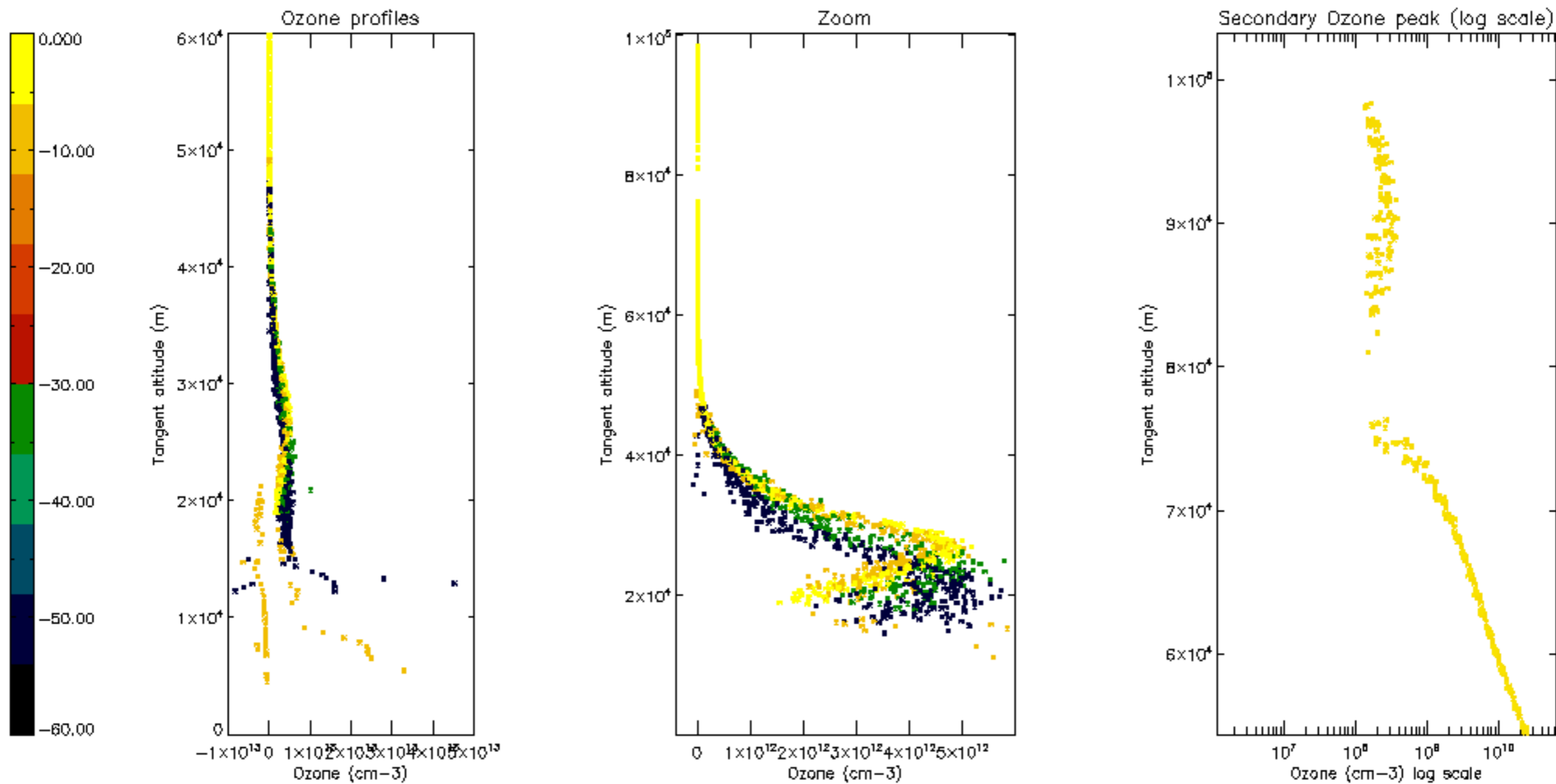
Percentage of star falling outside central band per profile



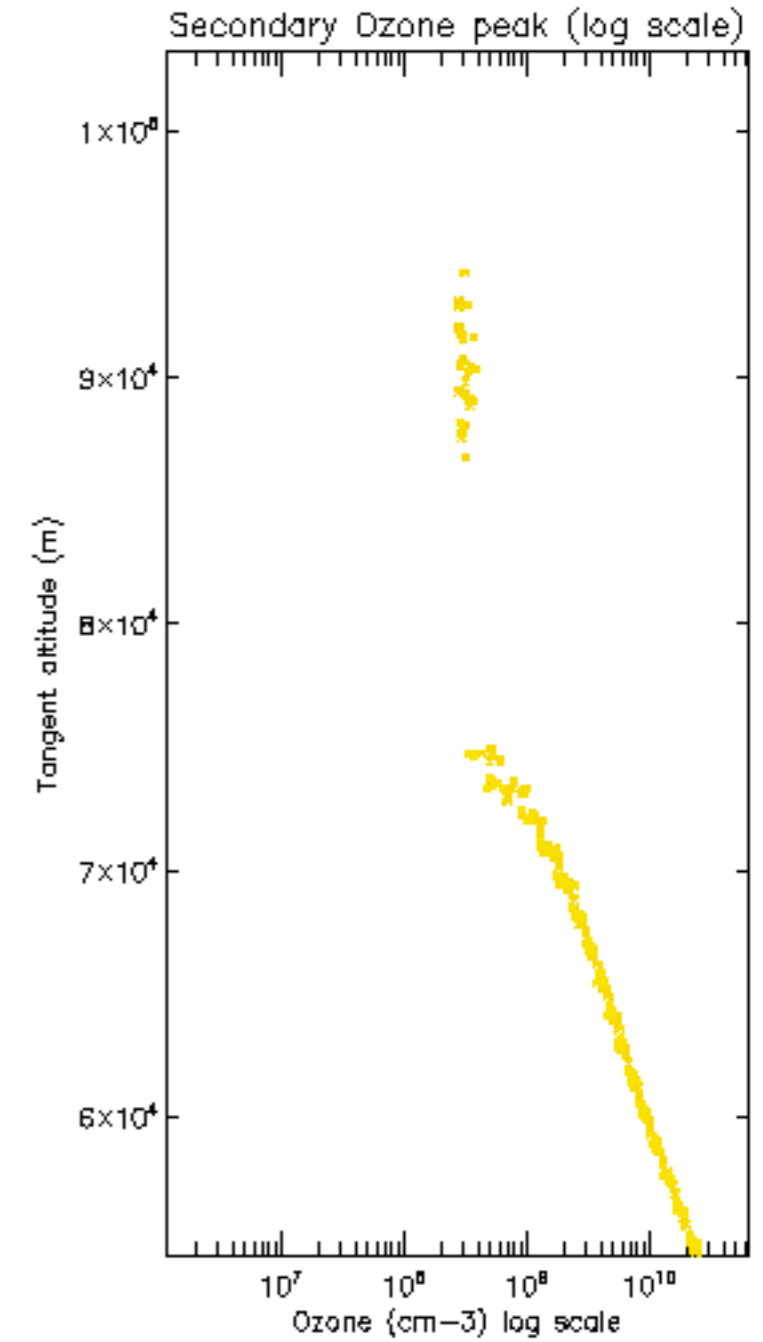
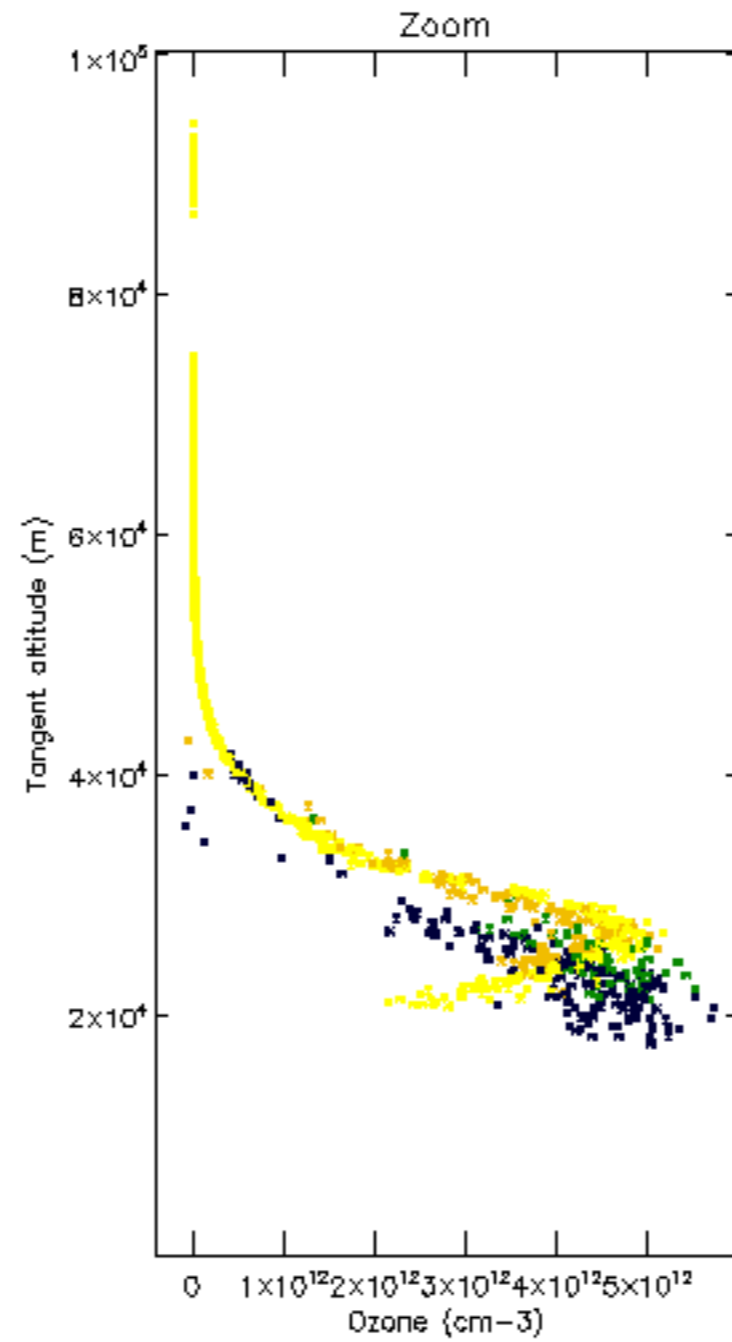
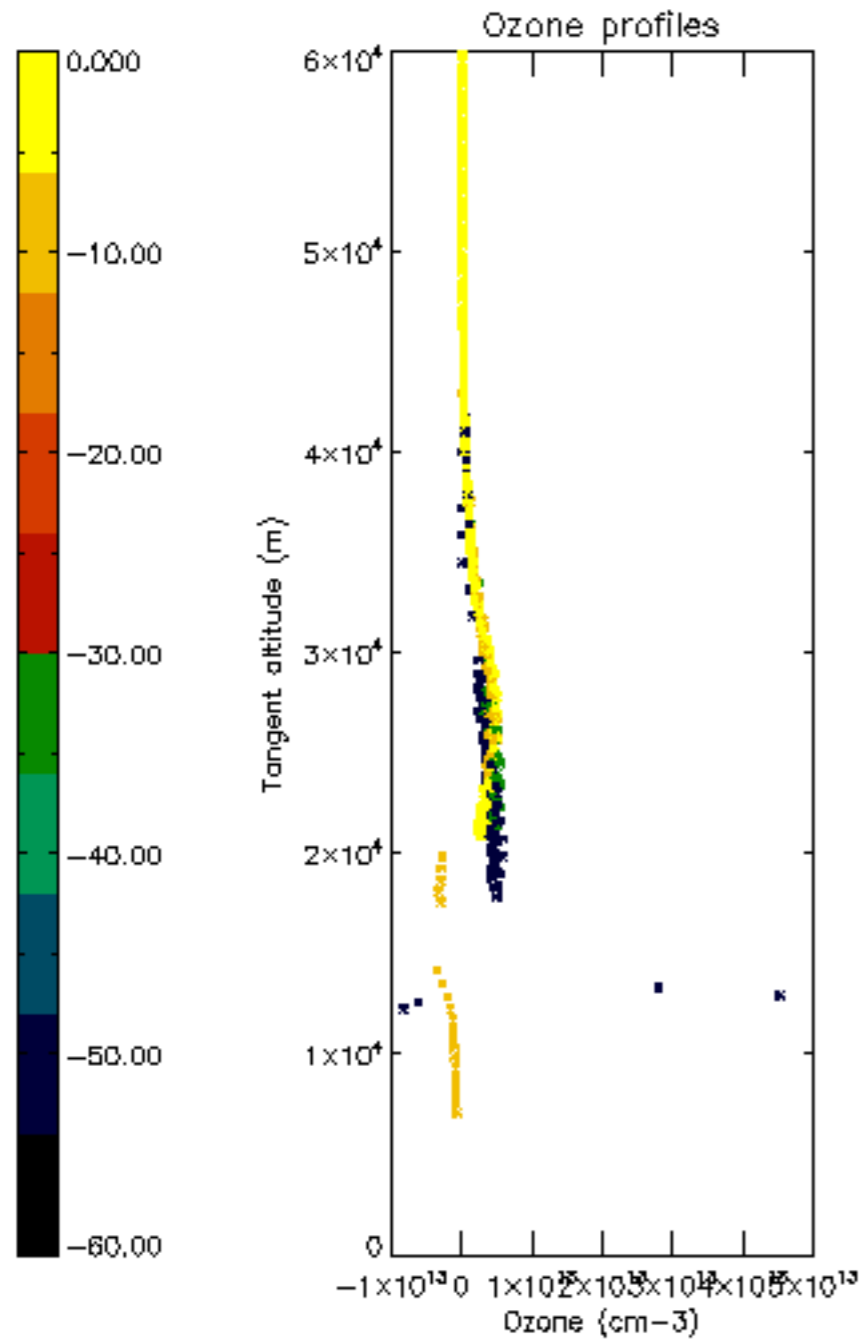
Percentage of saturation errors per profile

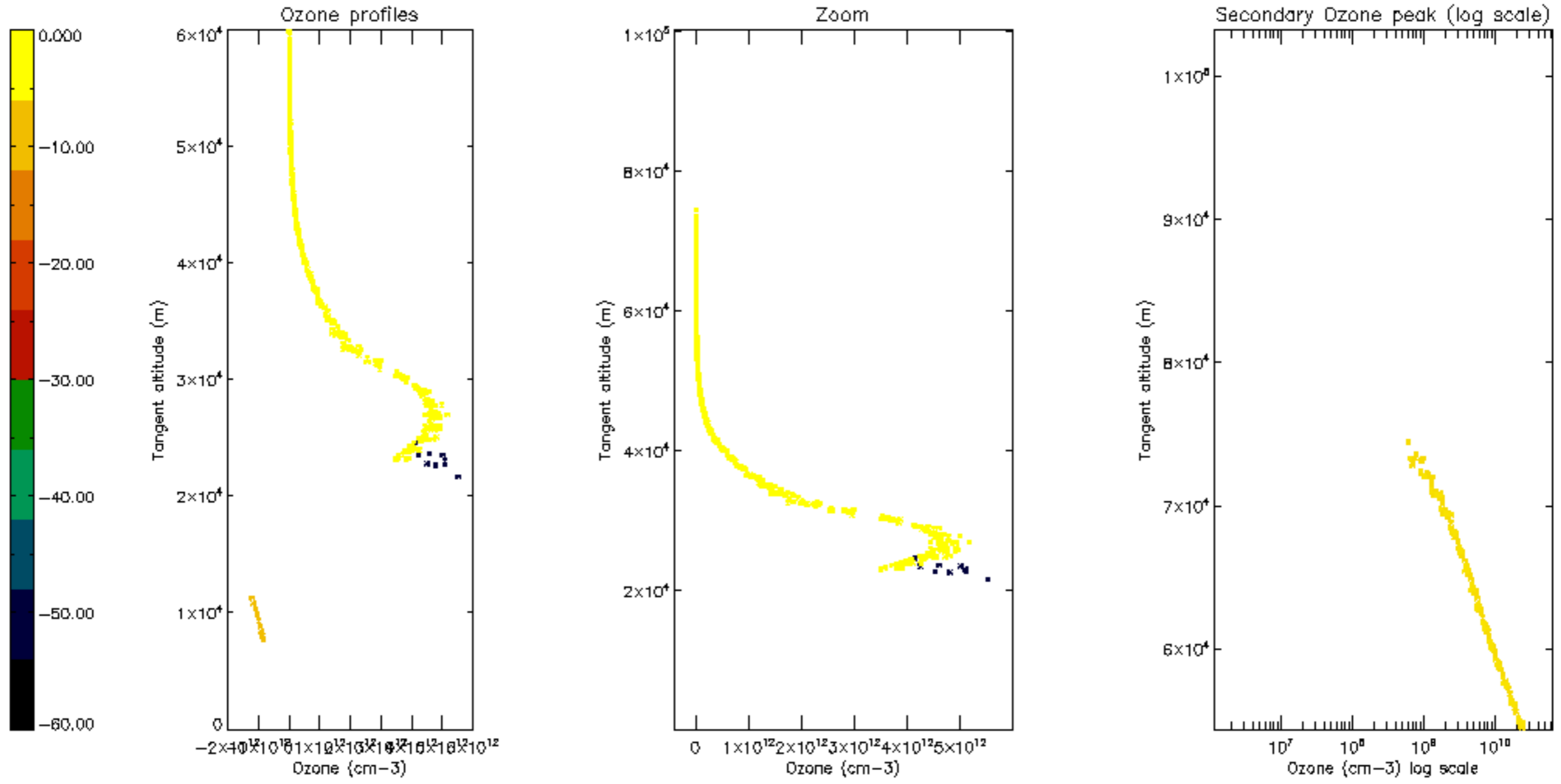


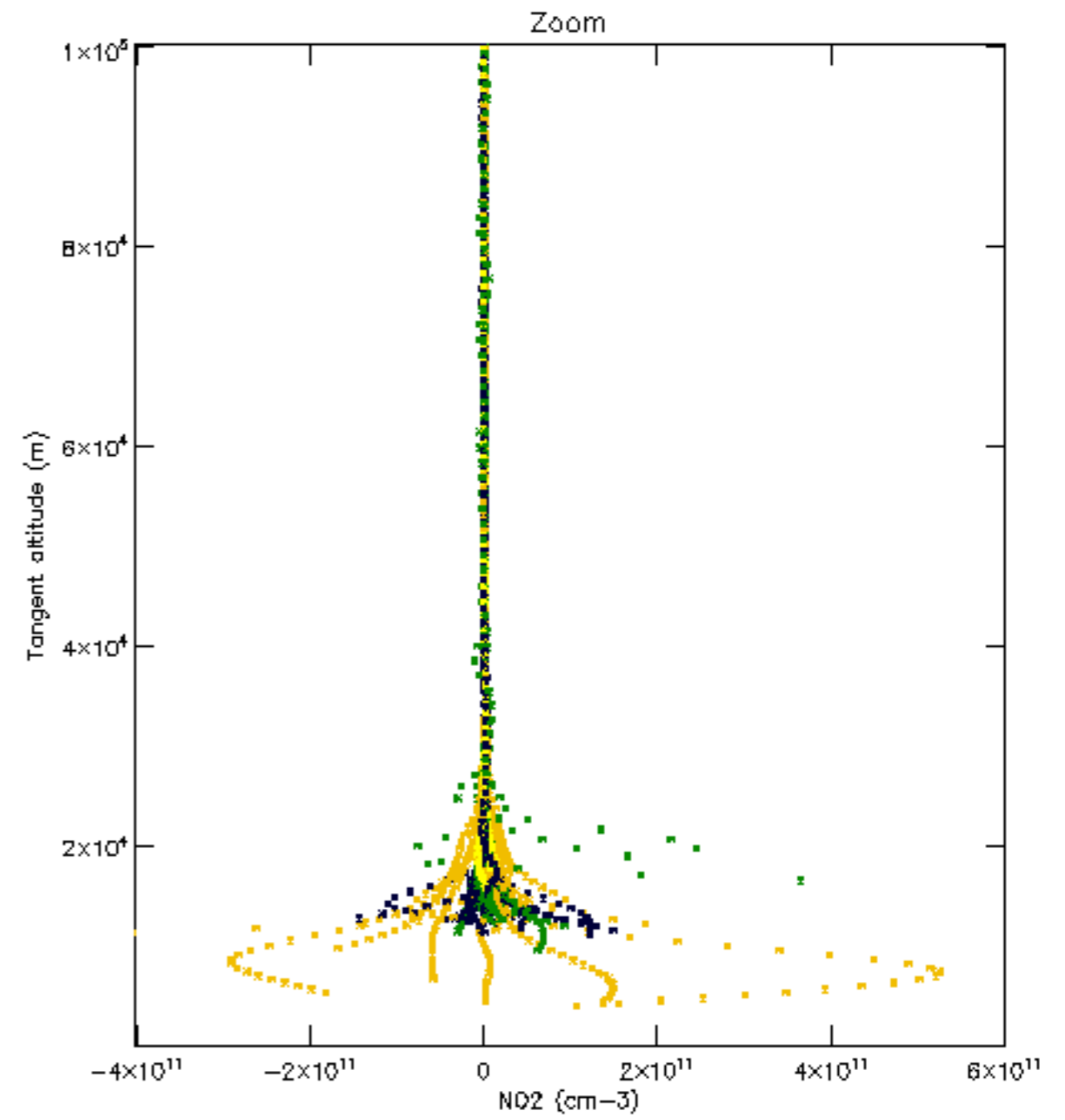
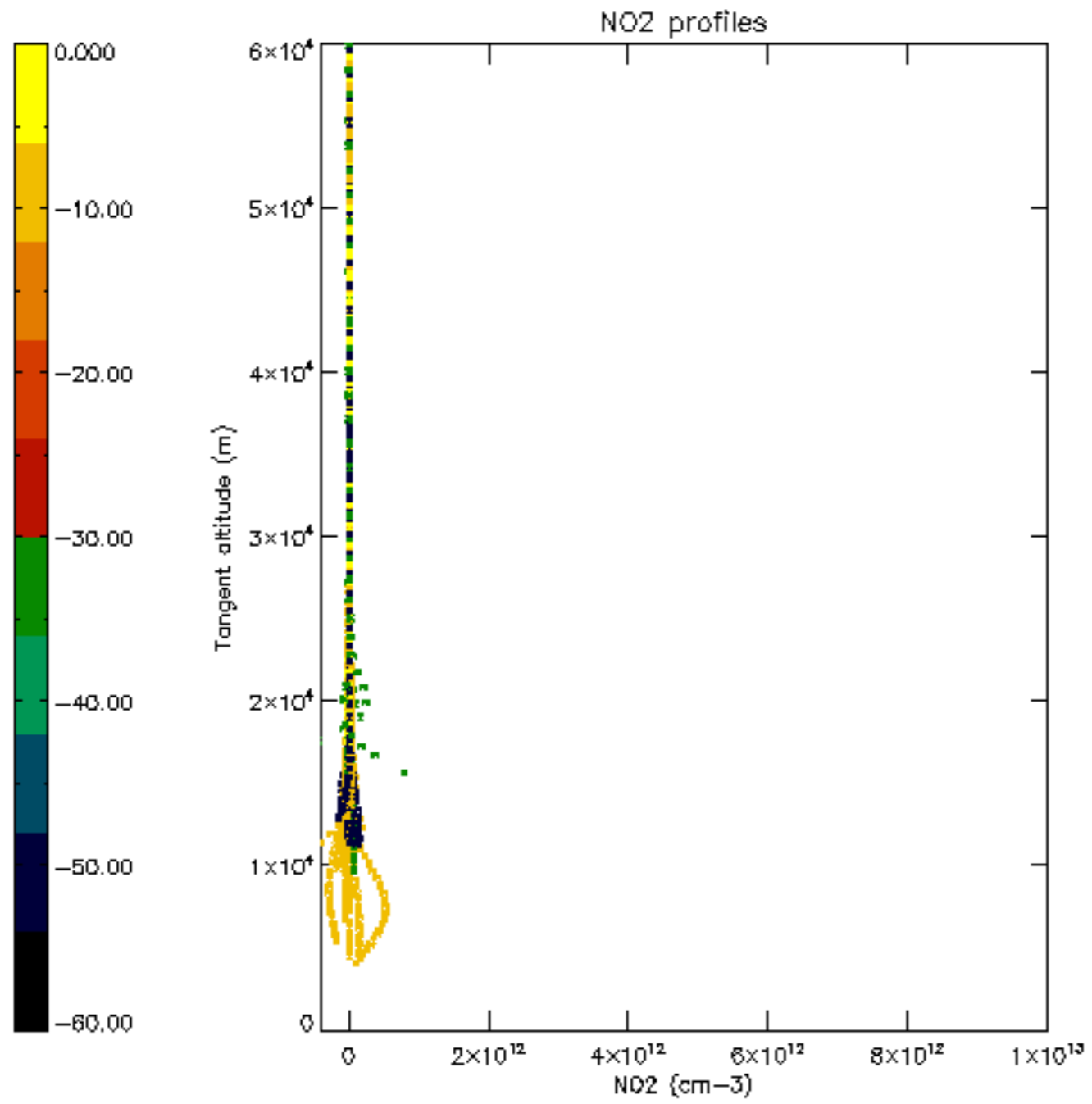


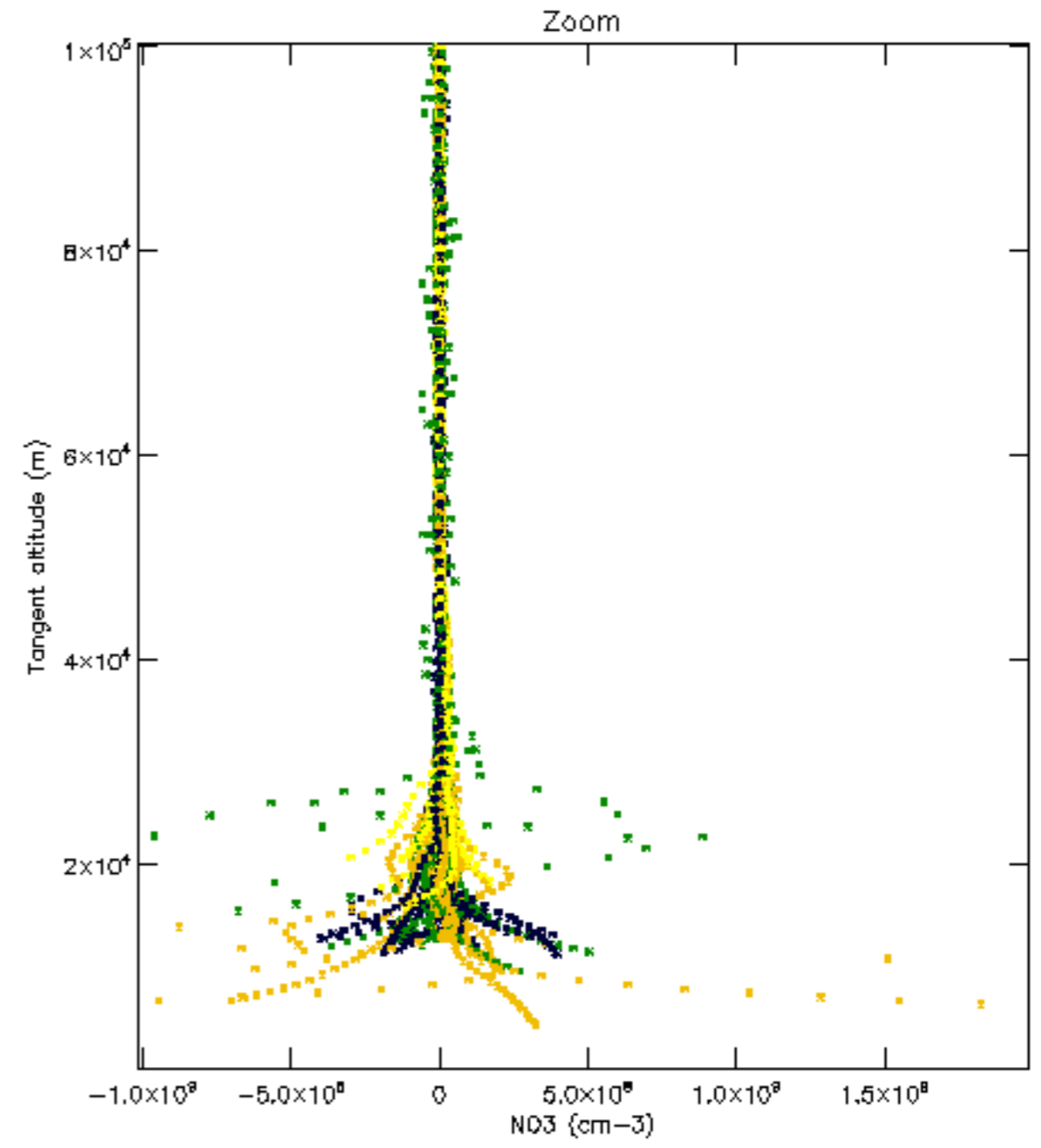
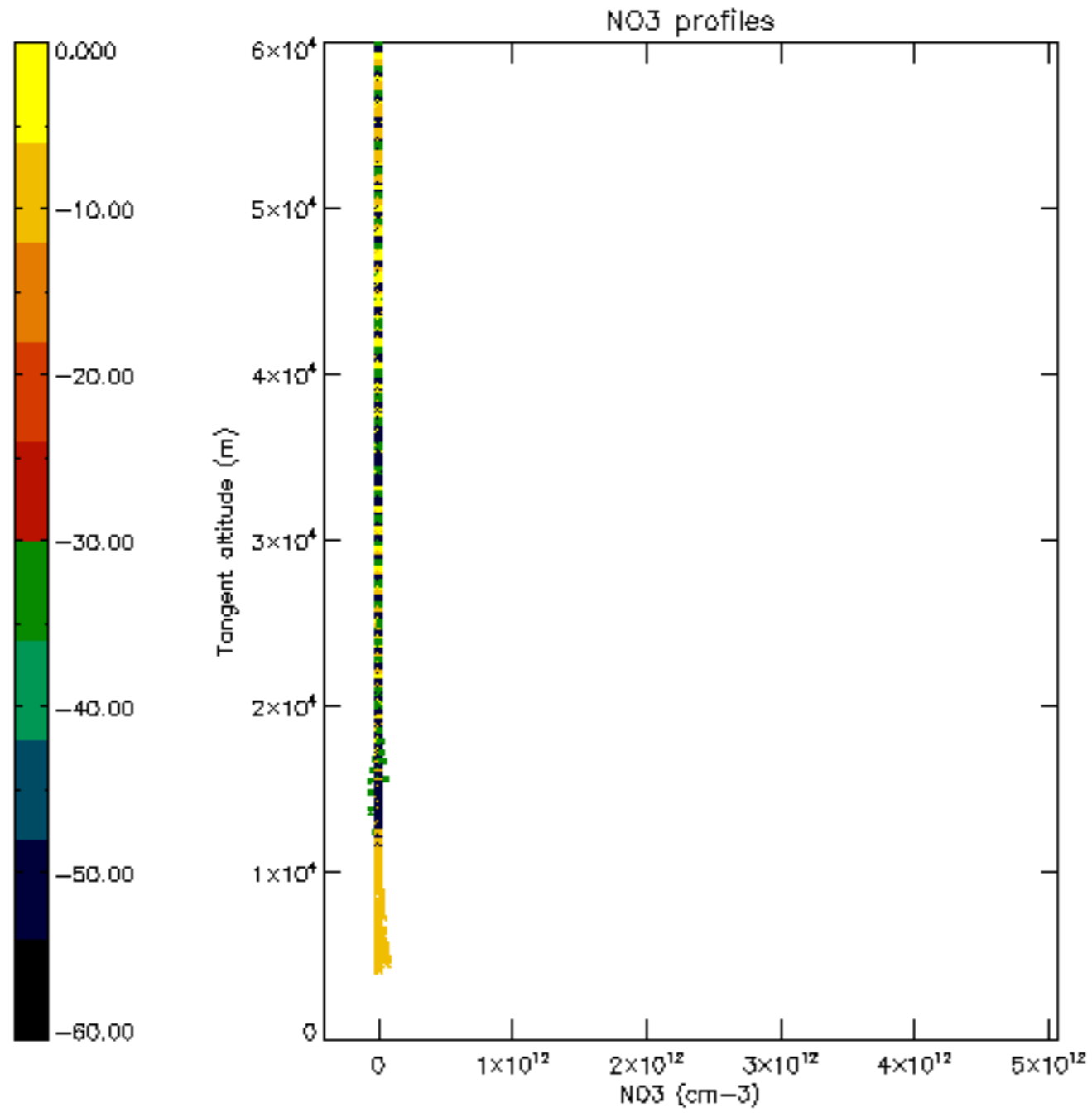


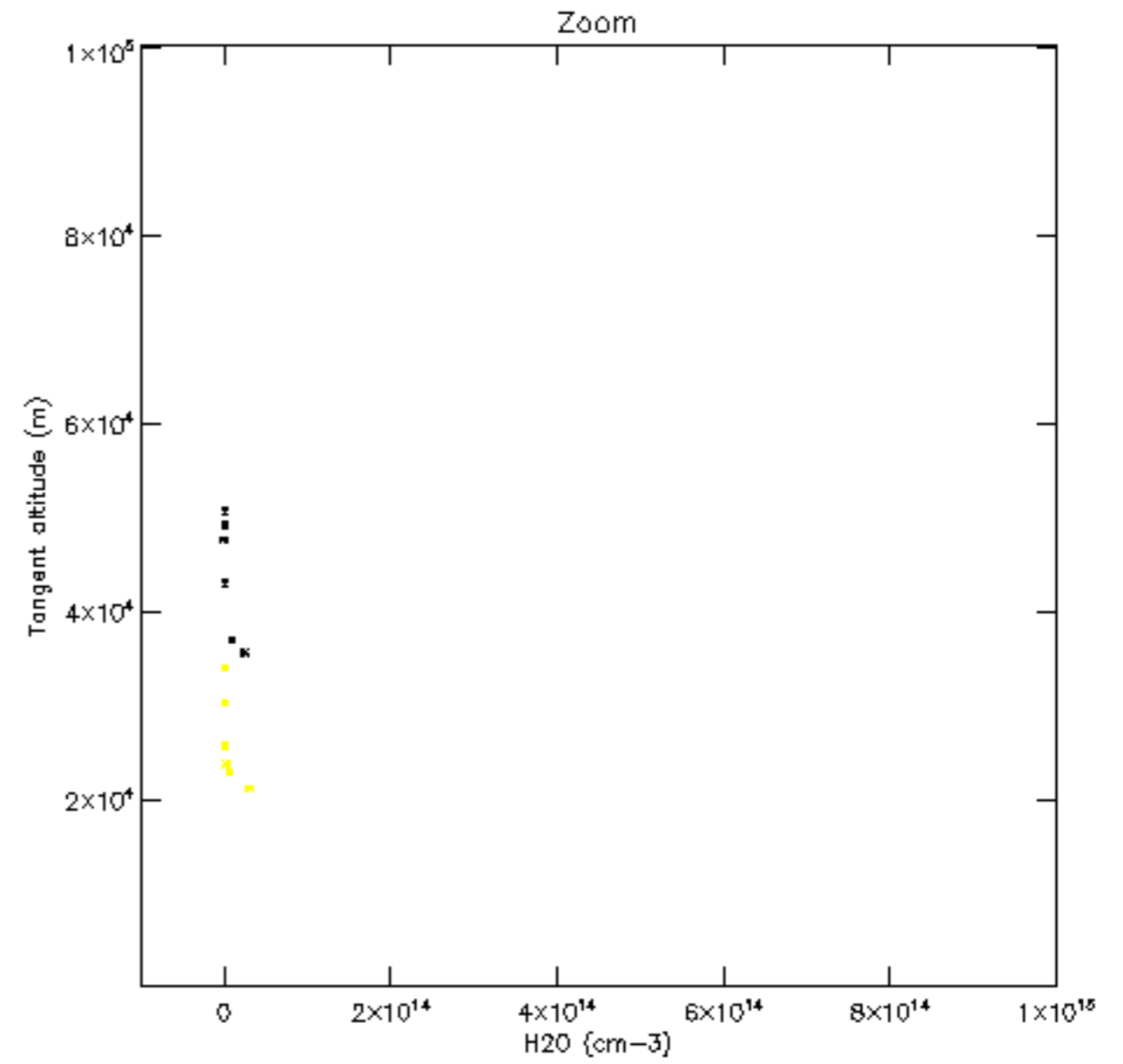
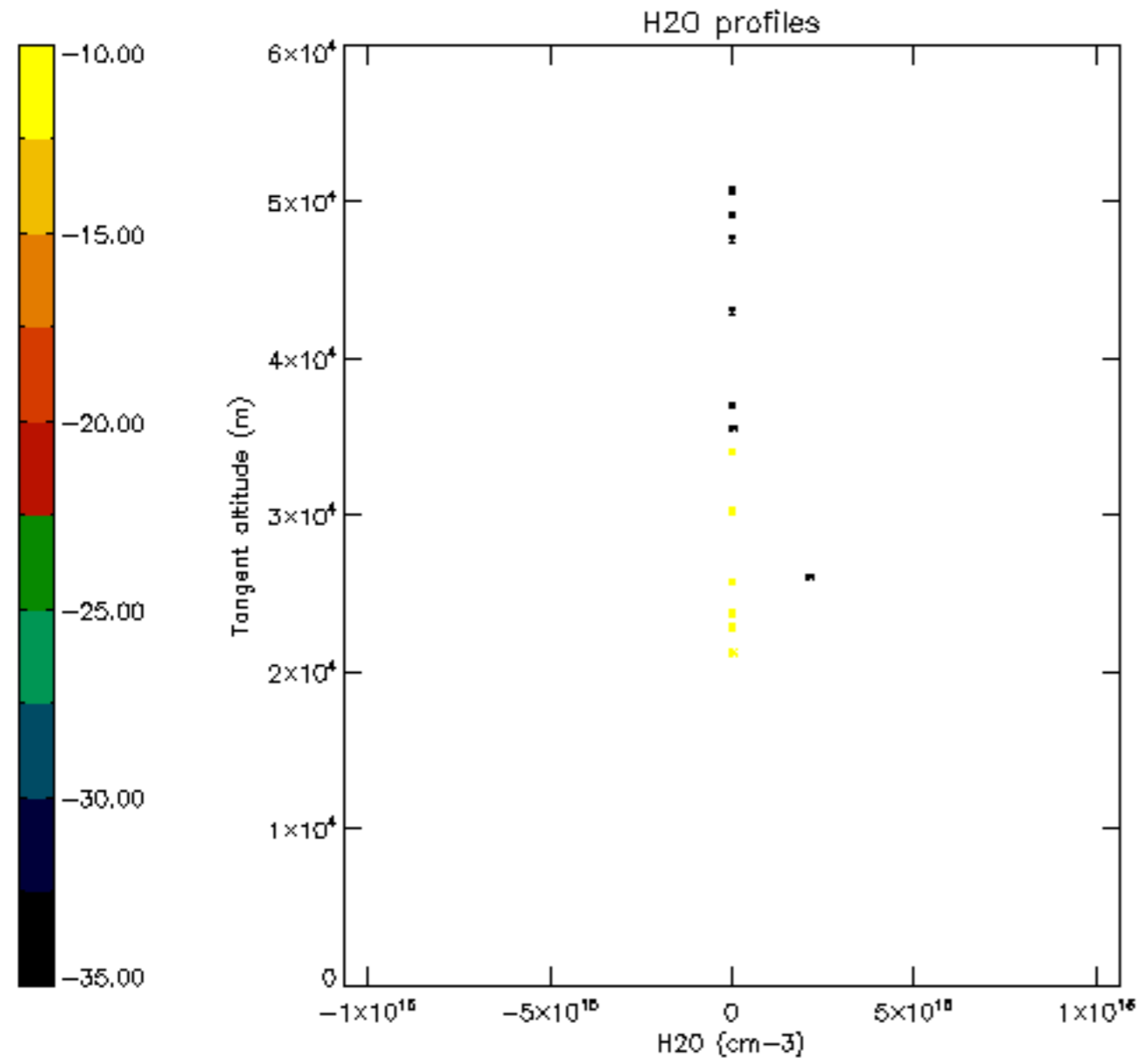


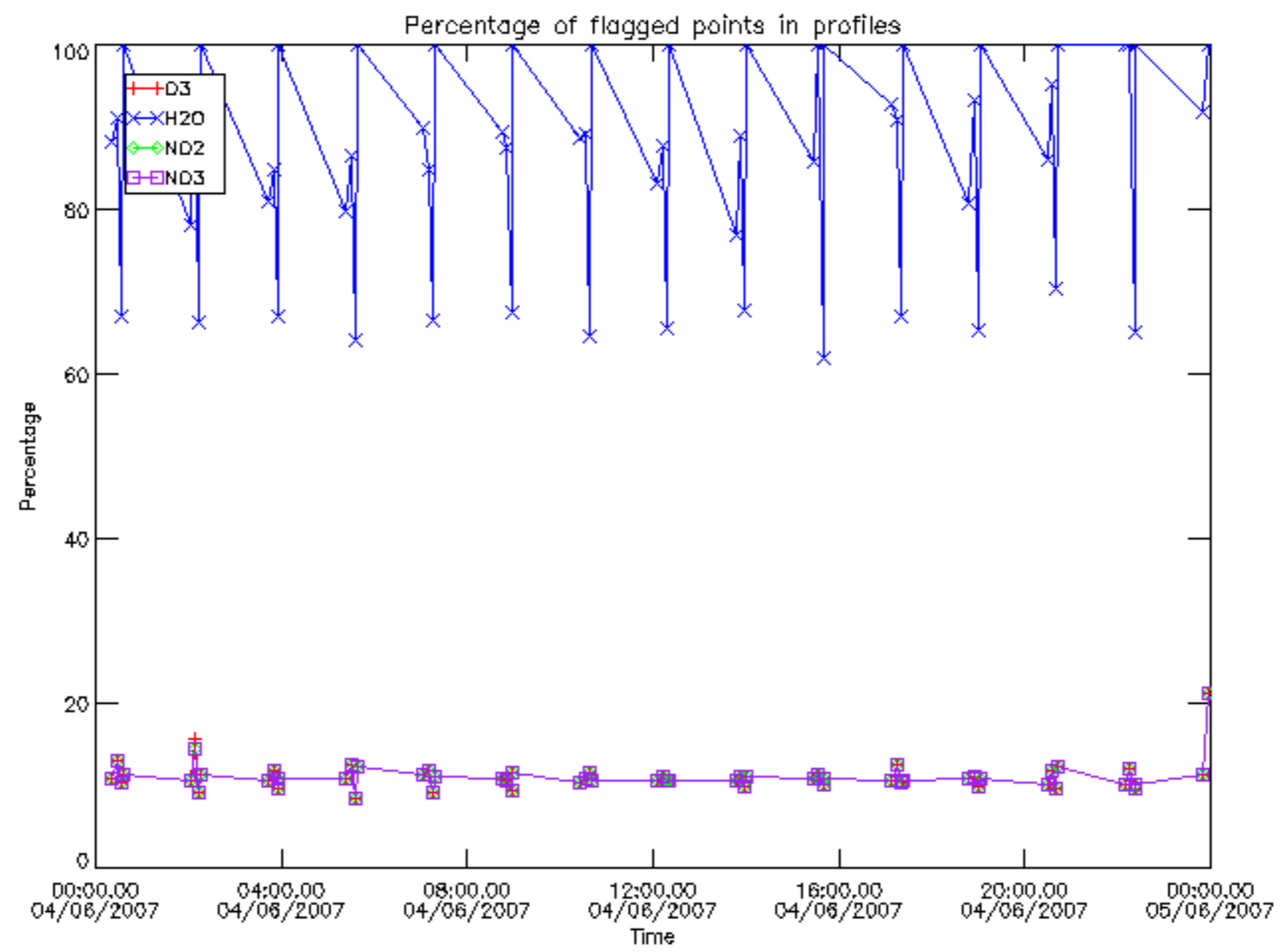




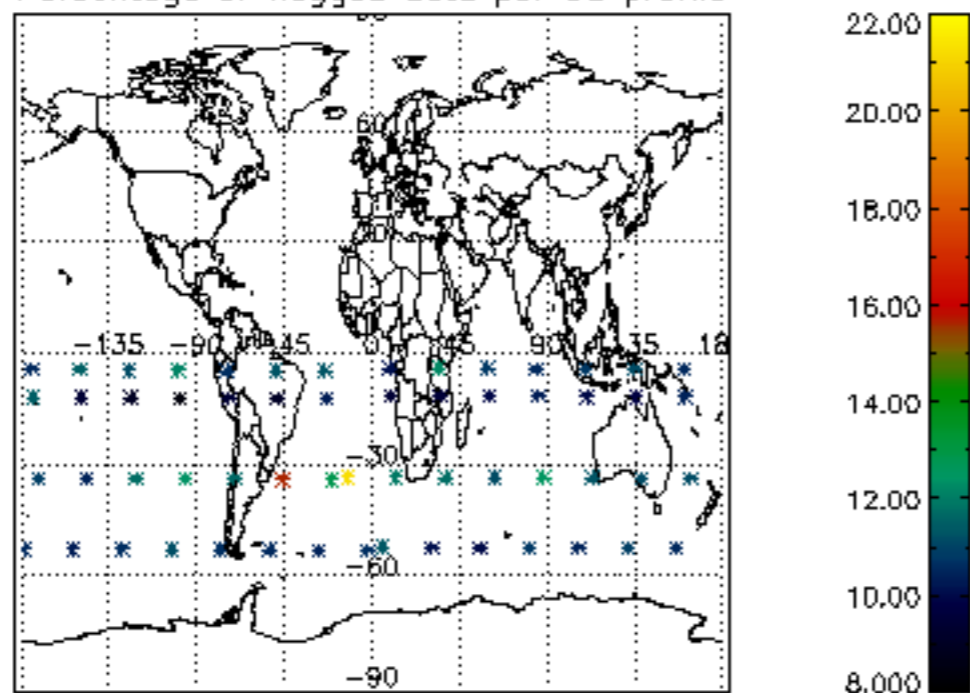




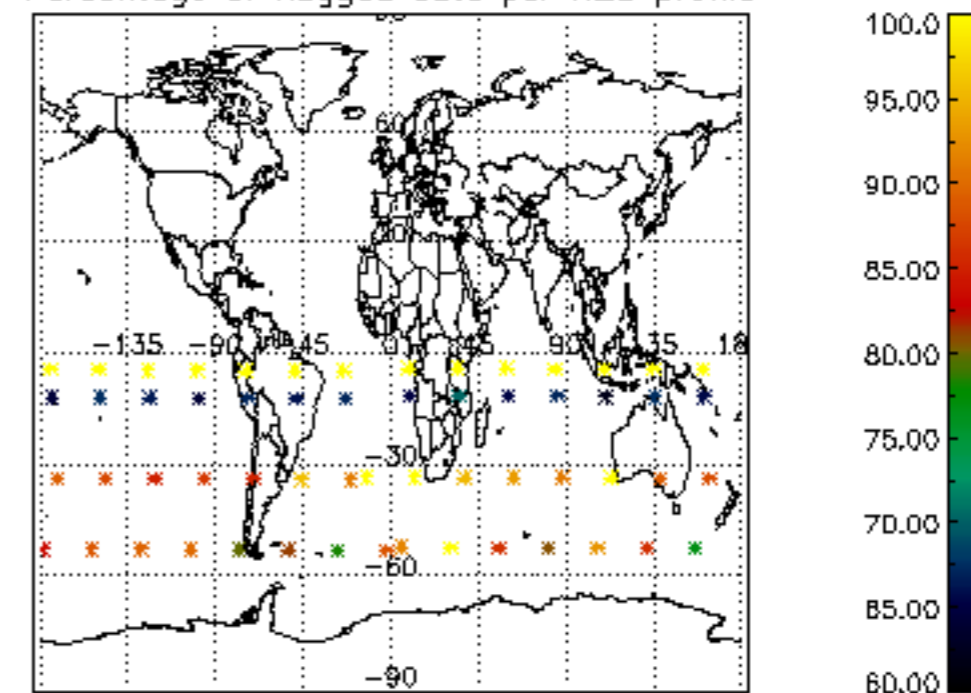




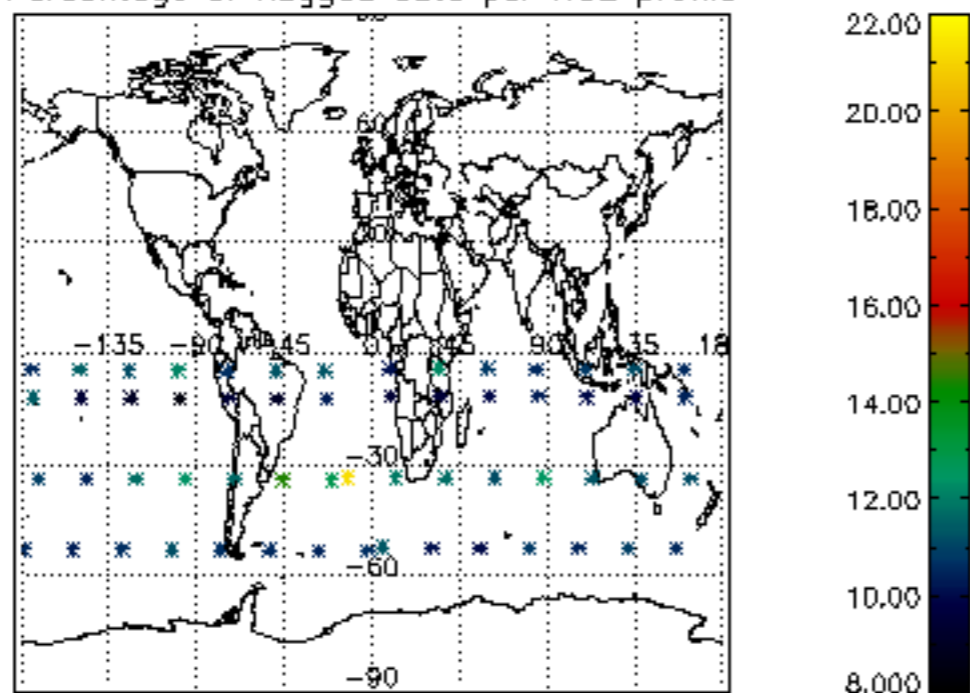
Percentage of flagged data per D3 profile



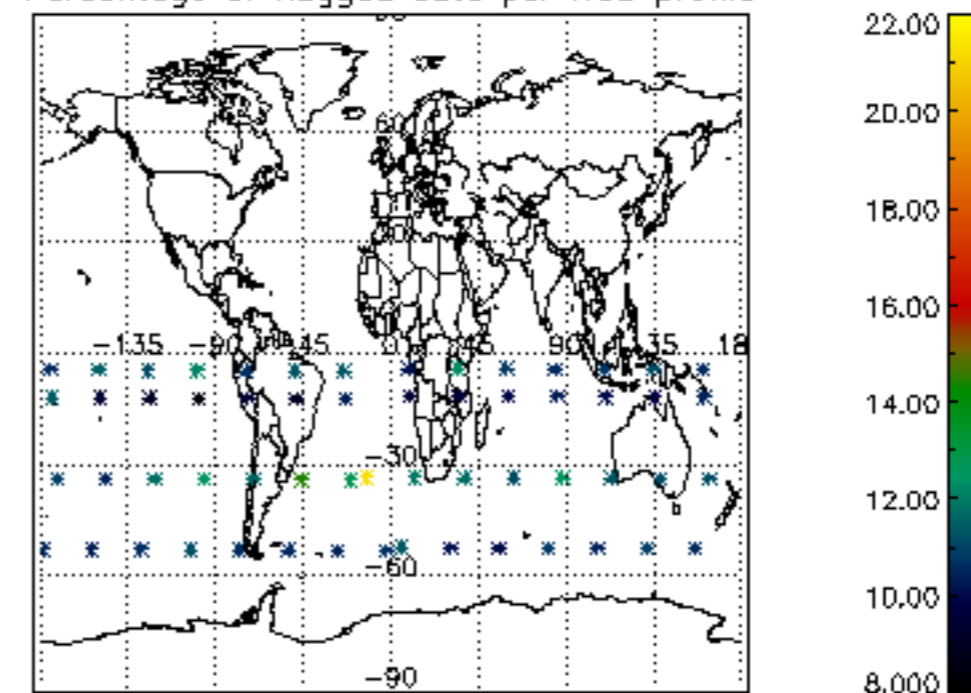
Percentage of flagged data per H2O profile

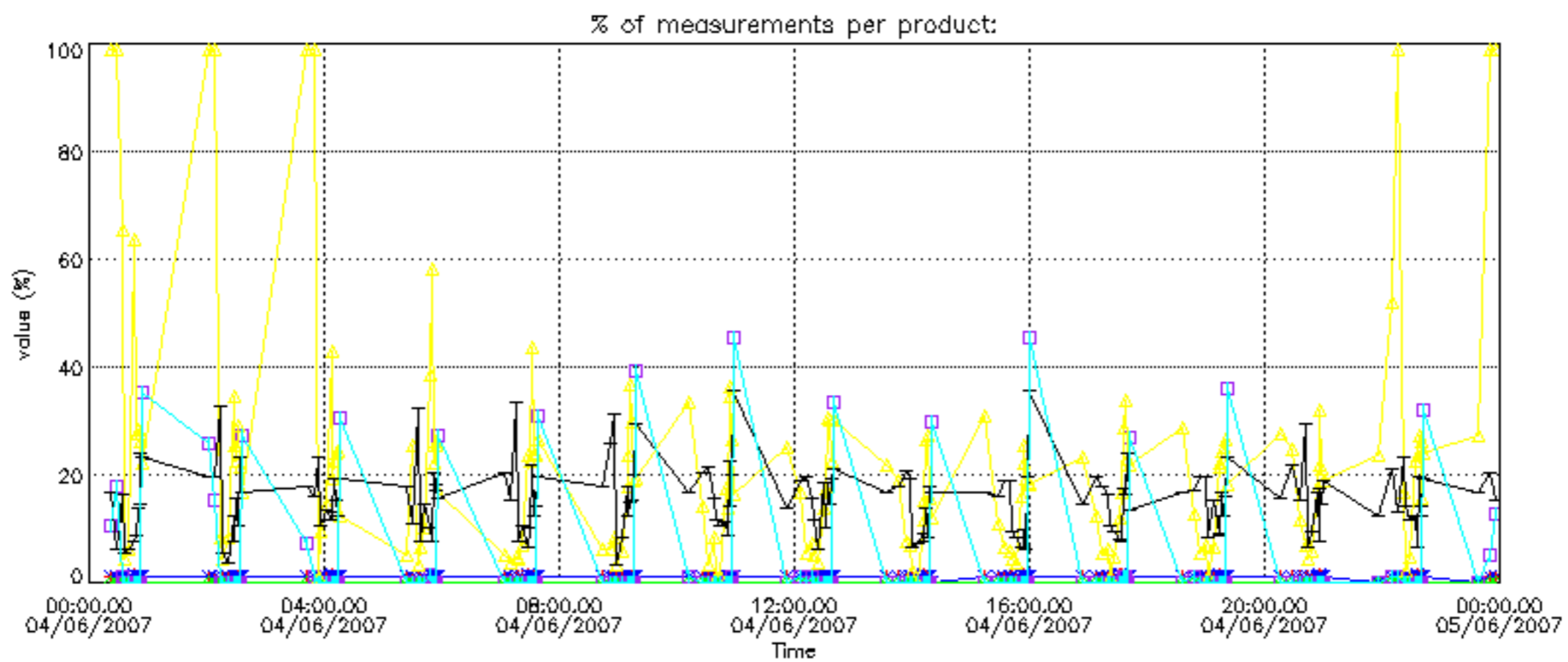


Percentage of flagged data per NO2 profile

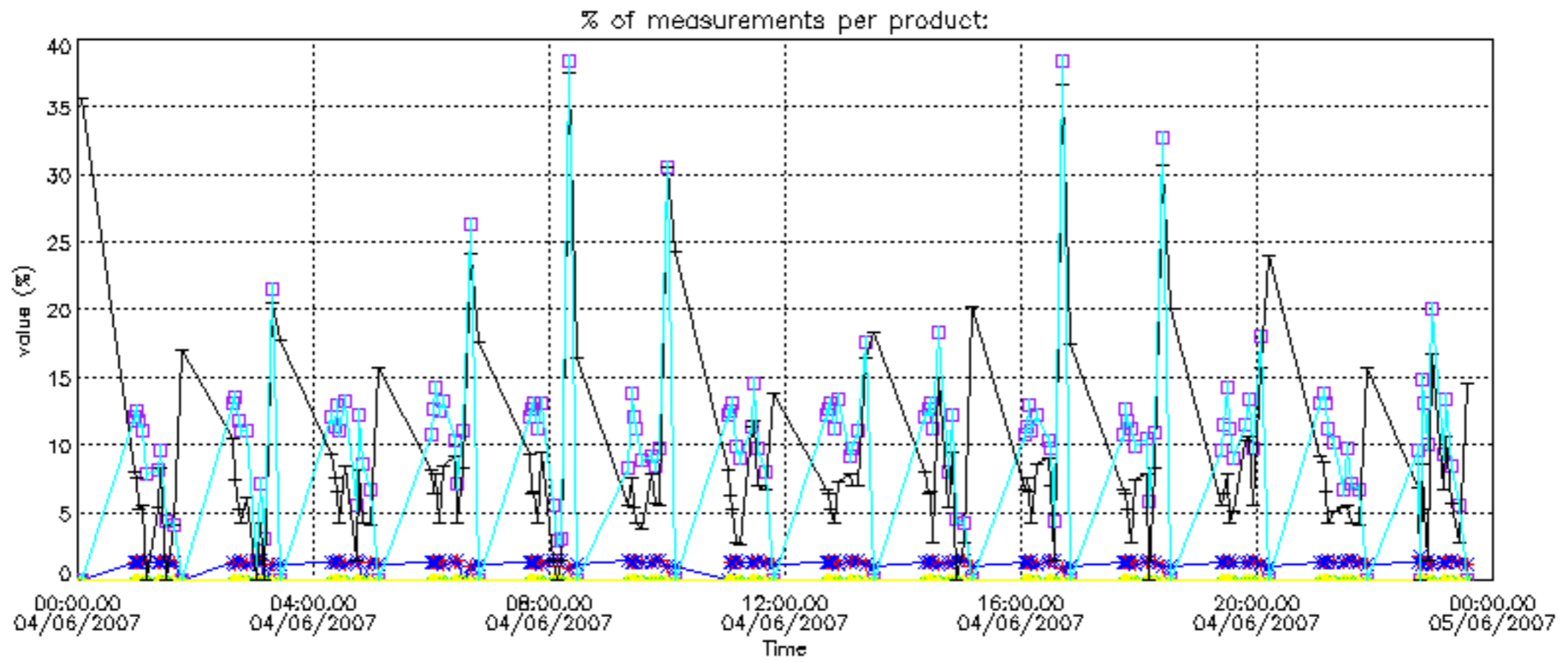


Percentage of flagged data per NO3 profile

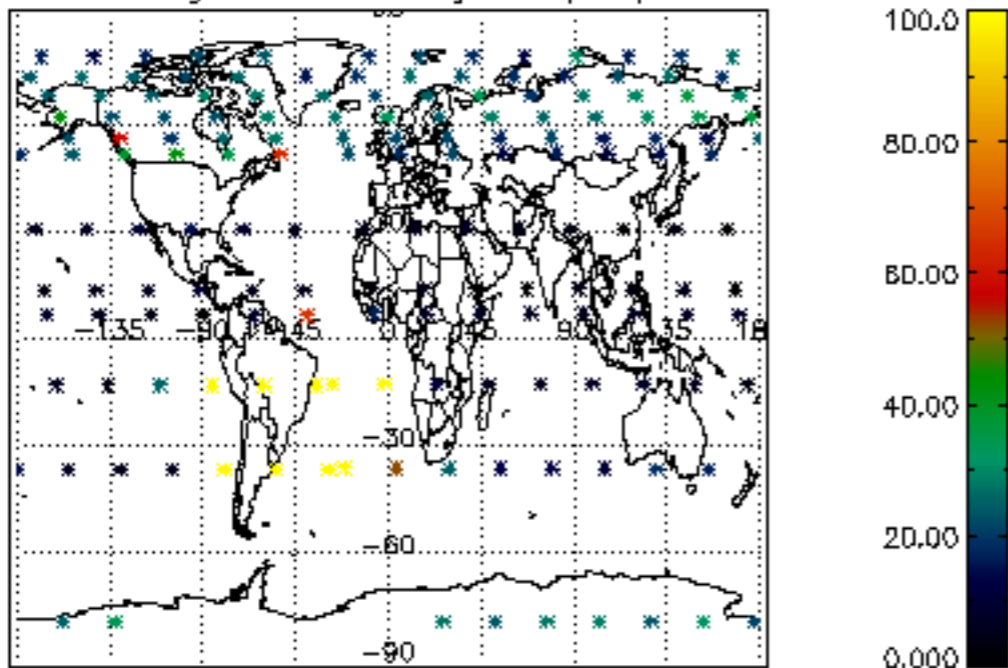




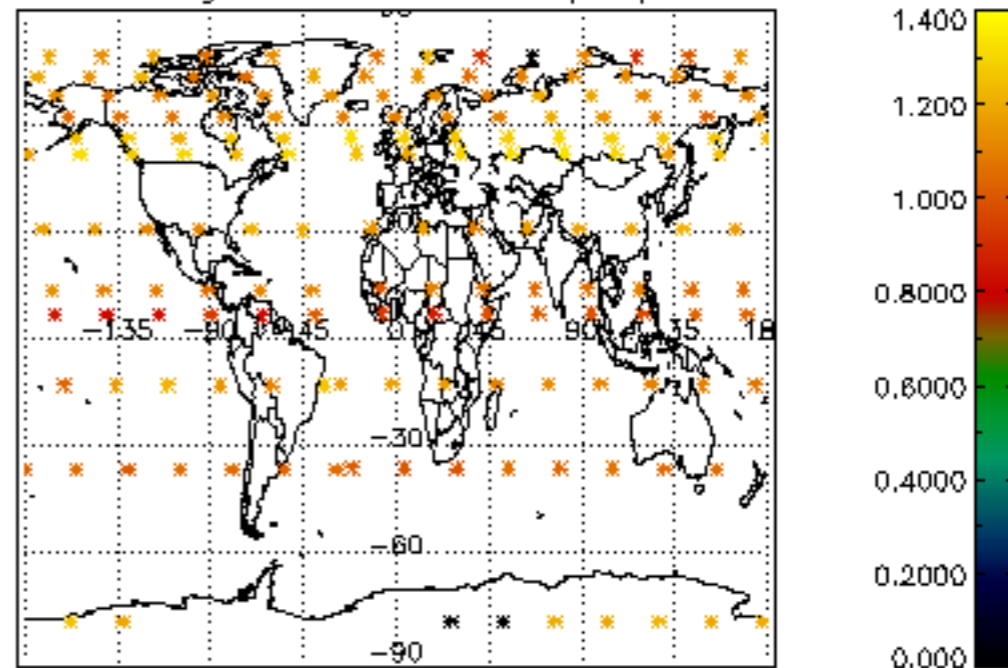




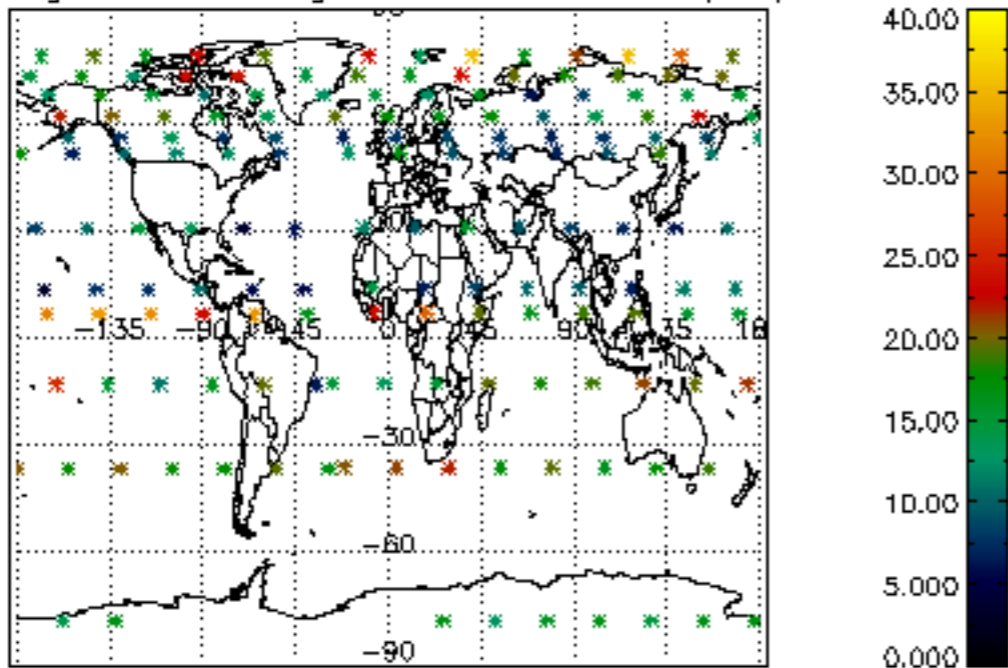
Percentage of cosmic ray hits per profile



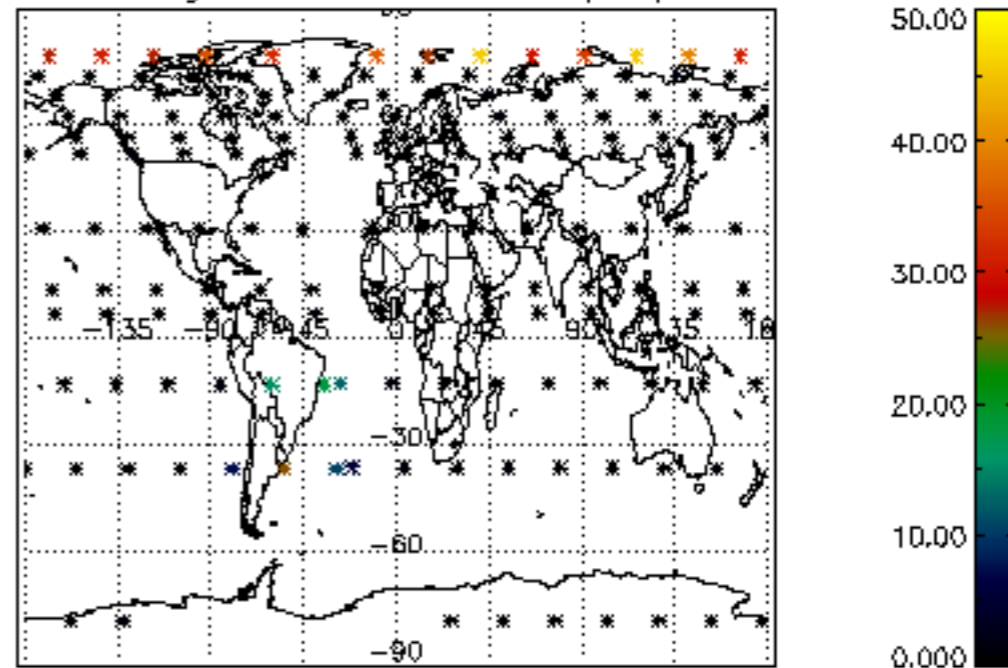
Percentage of datation errors per profile



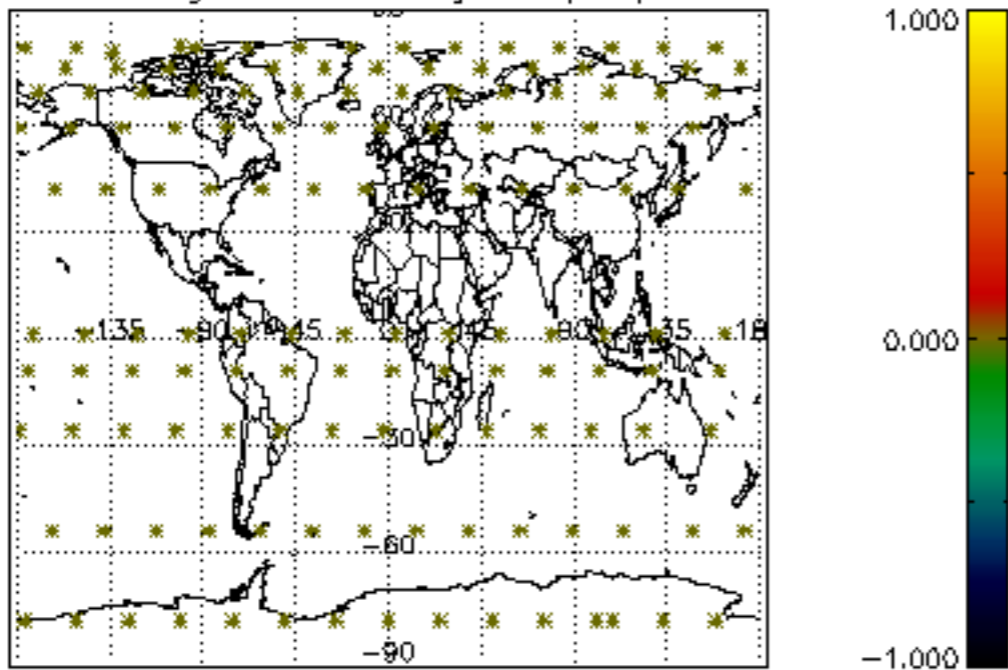
Percentage of star falling outside central band per profile



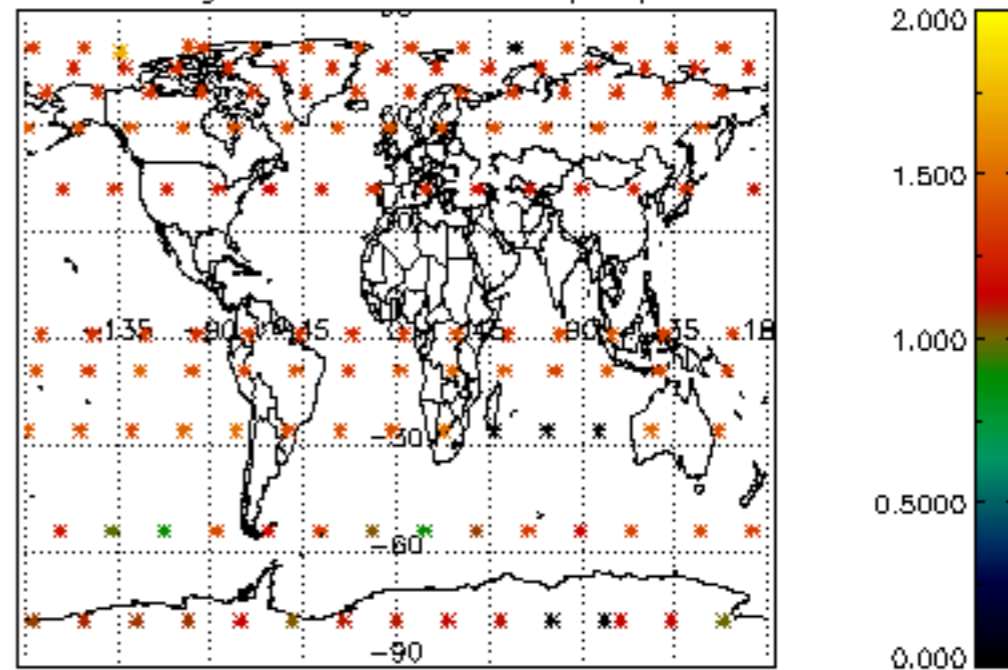
Percentage of saturation errors per profile



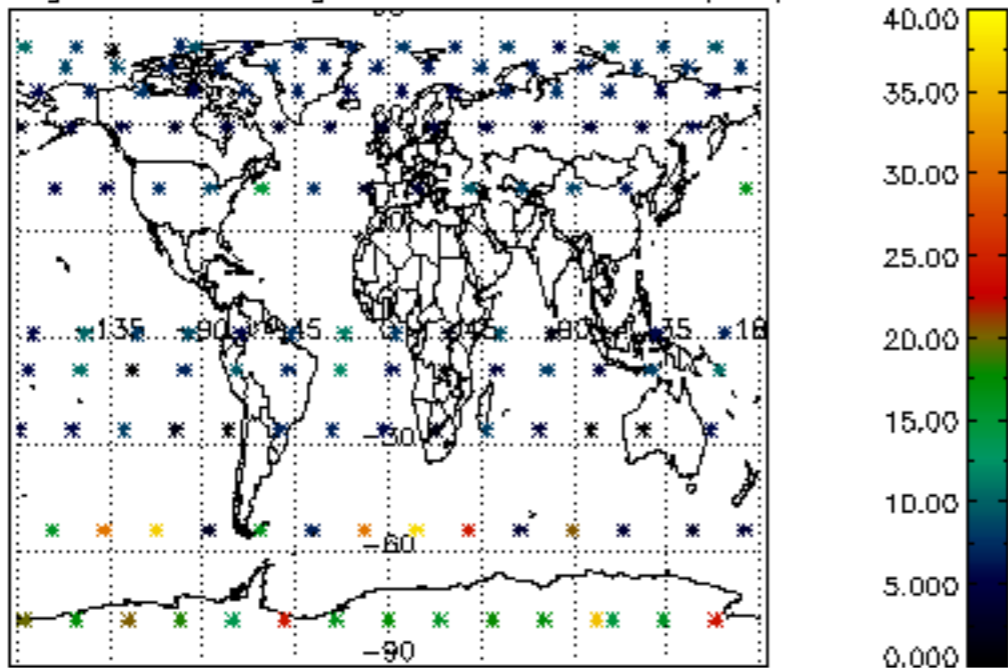
Percentage of cosmic ray hits per profile



Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile

