

# 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	30APR2013 09:22:43
Data source version	GOMOS/6.01
Start time of products	15-12-2009 (15DEC2009 00:00:00)
Stop time of products	16-12-2009 (16DEC2009 00:00:00)
Store outputs in DB	Yes
Nb of level 2 prods	399
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__2PRFIN20091215_000044_000000452085_00102_40737_6746.N1	15-DEC-2009 00:00:44	Bright	44.500	28	12Bet Tau	1.6500	15200.	89	40737	No
2	GOM_NL__2PRFIN20091215_000425_000000672085_00102_40737_6747.N1	15-DEC-2009 00:04:25	Bright	67.000	107	37The Aur	2.6490	11000.	134	40737	No
3	GOM_NL__2PRFIN20091215_000634_000000452085_00102_40737_6748.N1	15-DEC-2009 00:06:34	Bright	44.500	42	34Bet Aur	1.9000	10200.	89	40737	No
4	GOM_NL__2PRFIN20091215_002135_000000382085_00102_40737_6749.N1	15-DEC-2009 00:21:35	Bright	37.500	60	7Bet UMi	2.0810	3950.0	75	40737	No
5	GOM_NL__2PRFIN20091215_002616_000000472085_00102_40737_6750.N1	15-DEC-2009 00:26:16	Bright	47.000	32	77Eps UMa	1.7630	11000.	94	40737	No
6	GOM_NL__2PRFIN20091215_002849_000000432085_00102_40737_6751.N1	15-DEC-2009 00:28:49	Bright	43.000	39	85Eta UMa	1.8540	24000.	86	40737	No
7	GOM_NL__2PRFIN20091215_003208_000000412085_00102_40737_6752.N1	15-DEC-2009 00:32:08	Bright	41.000	180	27Gam Boo	3.0400	8000.0	82	40737	No
8	GOM_NL__2PRFIN20091215_003519_000000362085_00102_40737_6753.N1	15-DEC-2009 00:35:19	Bright	36.000	83		2.3780	11000.	72	40737	No
9	GOM_NL__2PRFIN20091215_003837_000000402085_00102_40737_6754.N1	15-DEC-2009 00:38:37	Bright	40.000	111	8Eta Boo	2.6800	6000.0	80	40737	No
10	GOM_NL__2PRFIN20091215_004230_000000522085_00102_40737_6755.N1	15-DEC-2009 00:42:30	Bright	52.000	138	47Eps Vir	2.8280	4700.0	104	40737	No
11	GOM_NL__2PRFIN20091215_004827_000000552085_00102_40737_6756.N1	15-DEC-2009 00:48:27	Twilight	54.500	15	67Alp Vir	0.97600	28000.	109	40737	No
12	GOM_NL__2PRFIN20091215_005157_000000502085_00102_40737_6757.N1	15-DEC-2009 00:51:57	Twilight	49.500	169	46Gam Hya	2.9910	4700.0	99	40737	No
13	GOM_NL__2PRFIN20091215_005422_000000512085_00102_40737_6758.N1	15-DEC-2009 00:54:22	Dark	51.000	106	9Bet Crv	2.6480	5600.0	102	40737	No
14	GOM_NL__2PRFIN20091215_005554_000000652085_00102_40737_6759.N1	15-DEC-2009 00:55:54	Dark	65.000	171	2Eps Crv	3.0010	4250.0	130	40737	No
15	GOM_NL__2PRFIN20091215_005918_000000432085_00102_40737_6760.N1	15-DEC-2009 00:59:18	Dark	42.500	64	Gam Cen	2.2000	10600.	85	40737	No
16	GOM_NL__2PRFIN20091215_010055_000000412085_00103_40738_6745.N1	15-DEC-2009 01:00:55	Dark	40.500	99	Del Cen	2.5750	26000.	81	40738	No
17	GOM_NL__2PRFIN20091215_010443_000000452085_00103_40738_6746.N1	15-DEC-2009 01:04:43	Dark	45.000	113	Mu Vel	2.6920	5000.0	90	40738	No
18	GOM_NL__2PRFIN20091215_010835_000000502085_00103_40738_6747.N1	15-DEC-2009 01:08:35	Dark	49.500	71	Iot Car	2.2460	7700.0	99	40738	No
19	GOM_NL__2PRFIN20091215_011313_000000462085_00103_40738_6748.N1	15-DEC-2009 01:13:13	Dark	46.000	34	Gam2Vel	1.7930	23000.	92	40738	No
20	GOM_NL__2PRFIN20091215_011526_000000492085_00103_40738_6749.N1	15-DEC-2009 01:15:26	Dark	48.500	2	Alp Car	-0.73600	7000.0	97	40738	No
21	GOM_NL__2PRFIN20091215_011807_000000532085_00103_40738_6750.N1	15-DEC-2009 01:18:07	Dark	53.000	117	Pi Pup	2.7060	3800.0	106	40738	No
22	GOM_NL__2PRFIN20091215_012124_000000542085_00103_40738_6751.N1	15-DEC-2009 01:21:24	Straylight	53.500	23	21Eps CMa	1.5020	26000.	107	40738	No
23	GOM_NL__2PRFIN20091215_012602_000000532085_00103_40738_6752.N1	15-DEC-2009 01:26:02	Straylight	53.000	47	2Bet CMa	1.9760	28000.	106	40738	No
24	GOM_NL__2PRFIN20091215_012936_000000482085_00103_40738_6753.N1	15-DEC-2009 01:29:36	Straylight	48.000	7	19Bet Ori	0.10000	14000.	96	40738	No
25	GOM_NL__2PRFIN20091215_013153_000000482085_00103_40738_6754.N1	15-DEC-2009 01:31:53	Straylight	48.000	30	46Eps Ori	1.6940	30000.	96	40738	No
26	GOM_NL__2PRFIN20091215_013506_000000612085_00103_40738_6755.N1	15-DEC-2009 01:35:06	Twilight	61.000	14	58Alp Ori	0.87000	3000.0	122	40738	No
27	GOM_NL__2PRFIN20091215_013658_000000542085_00103_40738_6756.N1	15-DEC-2009 01:36:58	Twilight	54.000	13	87Alp Tau	0.86700	3800.0	108	40738	No
28	GOM_NL__2PRFIN20091215_013917_000000452085_00103_40738_6757.N1	15-DEC-2009 01:39:17	Bright	45.000	176	23Zet Tau	3.0200	22000.	90	40738	No
29	GOM_NL__2PRFIN20091215_014120_000000432085_00103_40738_6758.N1	15-DEC-2009 01:41:20	Bright	42.500	28	12Bet Tau	1.6500	15200.	85	40738	No
30	GOM_NL__2PRFIN20091215_014500_000000452085_00103_40738_6759.N1	15-DEC-2009 01:45:00	Bright	45.000	107	37The Aur	2.6490	11000.	90	40738	No
31	GOM_NL__2PRFIN20091215_014709_000000442085_00103_40738_6760.N1	15-DEC-2009 01:47:09	Bright	43.500	42	34Bet Aur	1.9000	10200.	87	40738	No
32	GOM_NL__2PRFIN20091215_020211_000000382085_00103_40738_6761.N1	15-DEC-2009 02:02:11	Bright	38.000	60	7Bet UMi	2.0810	3950.0	76	40738	No
33	GOM_NL__2PRFIN20091215_020652_000000612085_00103_40738_6762.N1	15-DEC-2009 02:06:52	Bright	61.000	32	77Eps UMa	1.7630	11000.	122	40738	No
34	GOM_NL__2PRFIN20091215_020925_000000572085_00103_40738_6763.N1	15-DEC-2009 02:09:25	Bright	57.000	39	85Eta UMa	1.8540	24000.	114	40738	No
35	GOM_NL__2PRFIN20091215_021244_000000352085_00103_40738_6764.N1	15-DEC-2009 02:12:44	Bright	34.500	180	27Gam Boo	3.0400	8000.0	69	40738	No
36	GOM_NL__2PRFIN20091215_021555_000000352085_00103_40738_6765.N1	15-DEC-2009 02:15:55	Bright	35.000	83		2.3780	11000.	70	40738	No
37	GOM_NL__2PRFIN20091215_021913_000000592085_00103_40738_6766.N1	15-DEC-2009 02:19:13	Bright	59.000	111	8Eta Boo	2.6800	6000.0	118	40738	No
38	GOM_NL__2PRFIN20091215_022306_000000722085_00103_40738_6767.N1	15-DEC-2009 02:23:06	Bright	72.000	138	47Eps Vir	2.8280	4700.0	144	40738	No
39	GOM_NL__2PRFIN20091215_022904_000000522085_00103_40738_6768.N1	15-DEC-2009 02:29:04	Twilight	52.000	15	67Alp Vir	0.97600	28000.	104	40738	No
40	GOM_NL__2PRFIN20091215_023233_000000472085_00103_40738_6769.N1	15-DEC-2009 02:32:33	Twilight	47.000	169	46Gam Hya	2.9910	4700.0	94	40738	No
41	GOM_NL__2PRFIN20091215_023459_000000542085_00103_40738_6770.N1	15-DEC-2009 02:34:59	Dark	53.500	106	9Bet Crv	2.6480	5600.0	107	40738	No
42	GOM_NL__2PRFIN20091215_023631_000000572085_00103_40738_6771.N1	15-DEC-2009 02:36:31	Dark	57.000	171	2Eps Crv	3.0010	4250.0	114	40738	No













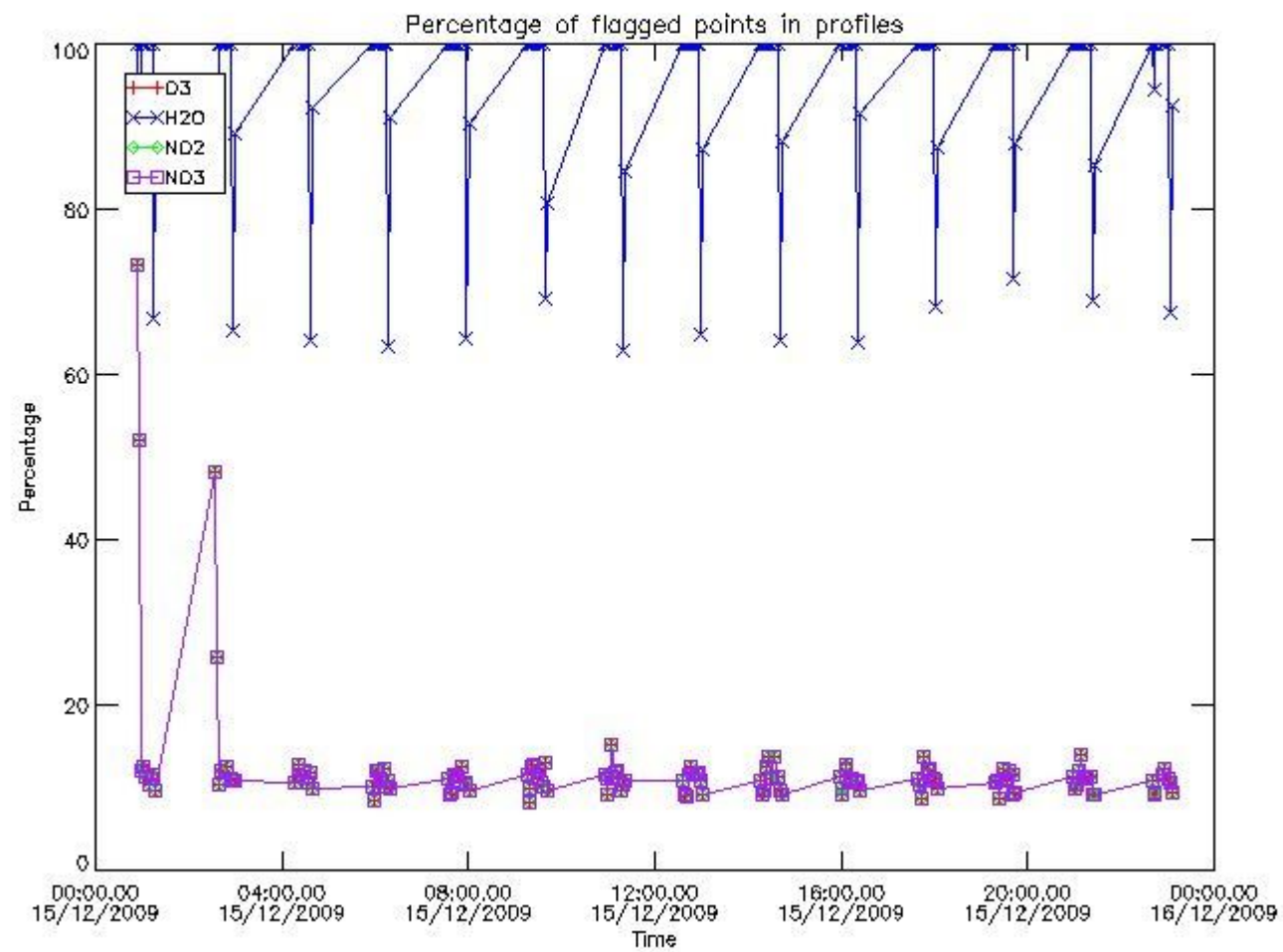


397	GOM_NL__2PRFIN20091215_234958_000000532085_00116_40751_6962.N1	15-DEC-2009 23:49:58	Bright	53.000	60	7Bet UMi	2.0810	3950.0	106	40751	No
398	GOM_NL__2PRFIN20091215_235436_000000422085_00116_40751_6963.N1	15-DEC-2009 23:54:36	Bright	41.500	32	77Eps UMa	1.7630	11000.	83	40751	No
399	GOM_NL__2PRFIN20091215_235711_000000582085_00116_40751_6964.N1	15-DEC-2009 23:57:11	Bright	58.000	39	85Eta UMa	1.8540	24000.	116	40751	No

### 3. Quality information per product

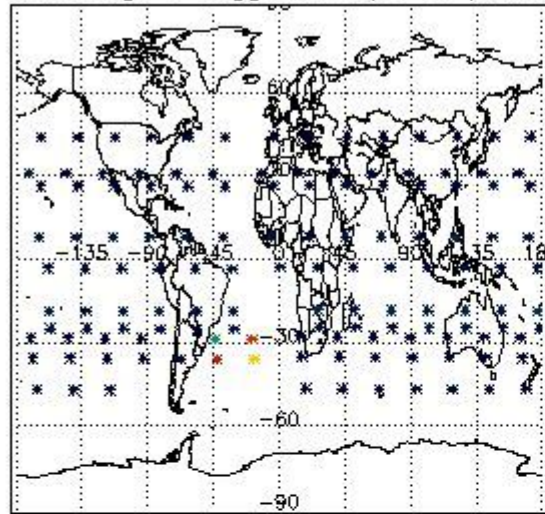
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

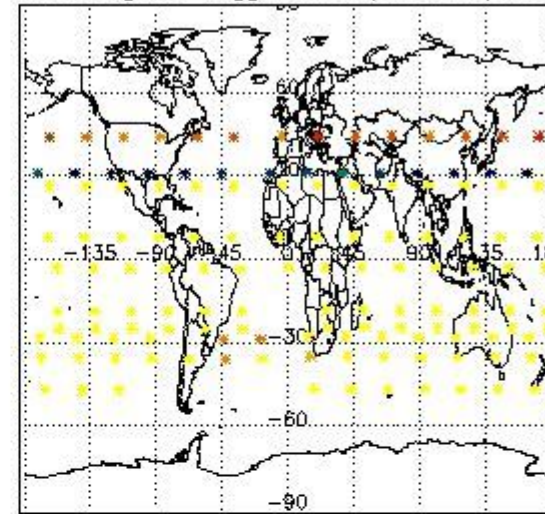


#### 3.2 Plot quality information per product (world map)

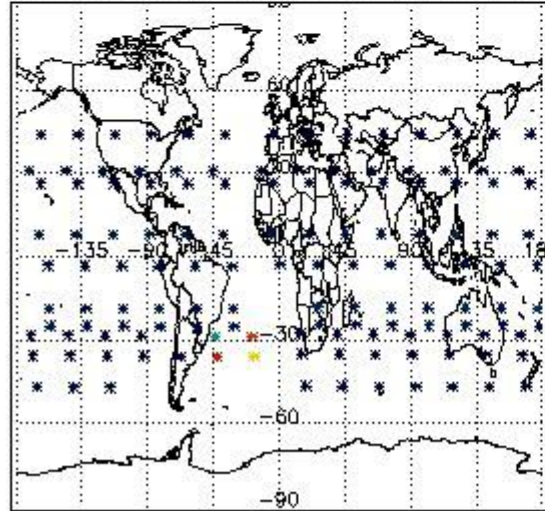
Percentage of flagged data per O3 profile



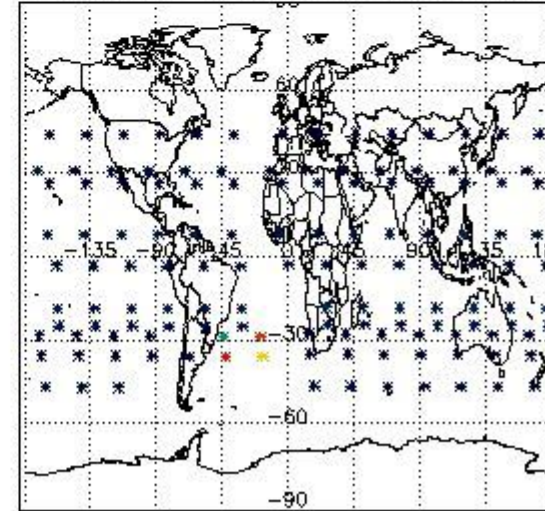
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

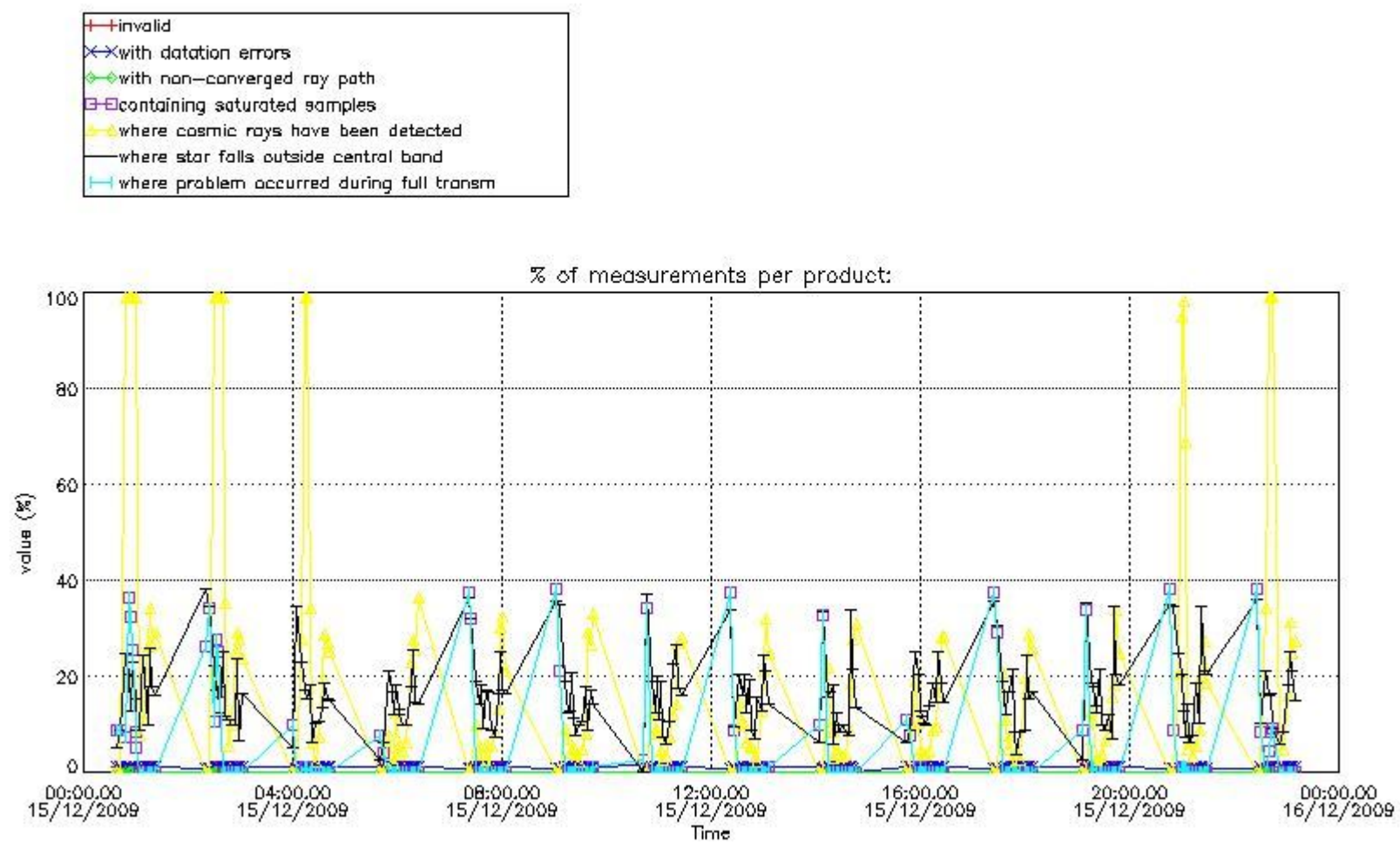


#### 4. Level 1 quality information per product

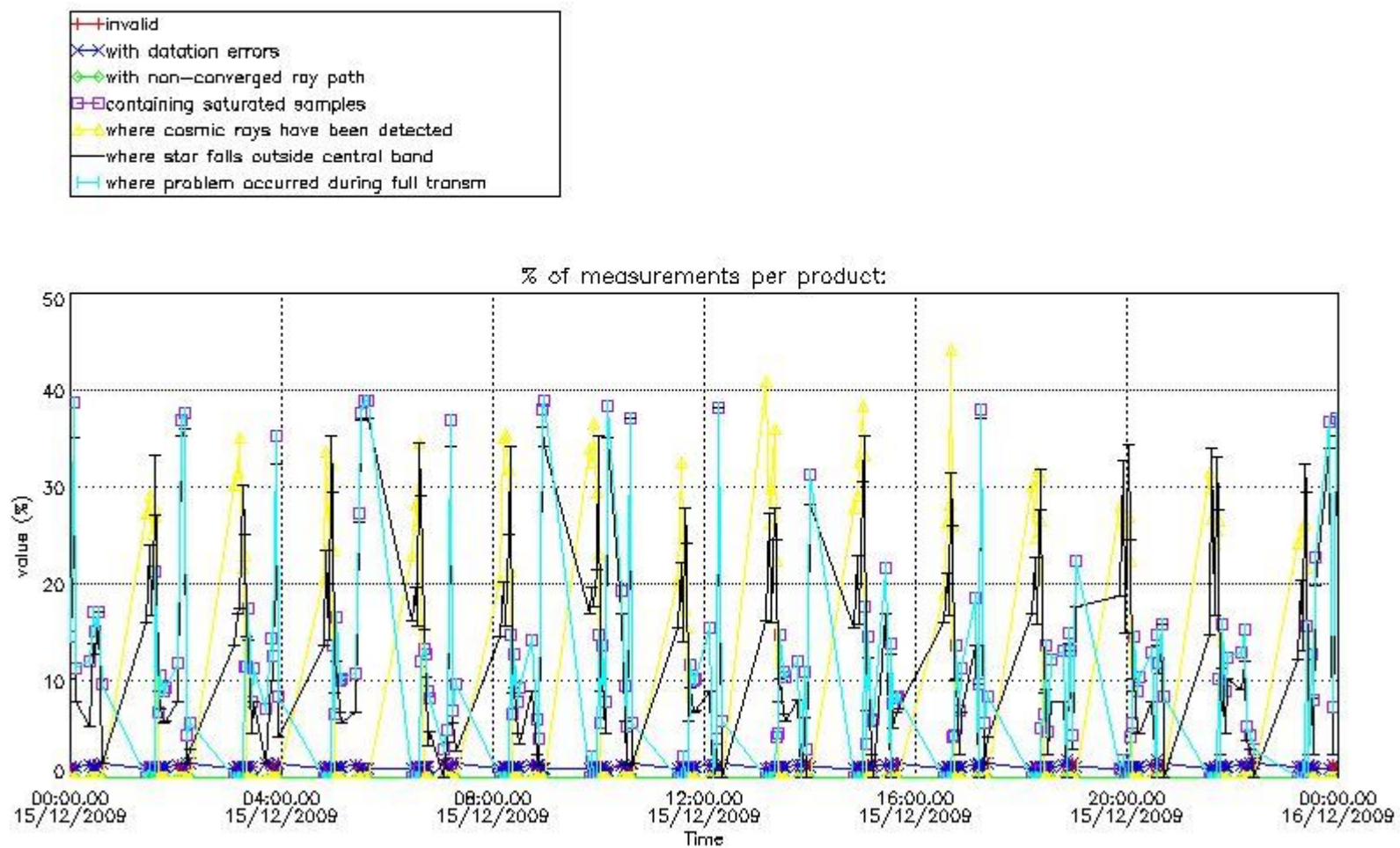
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

##### 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

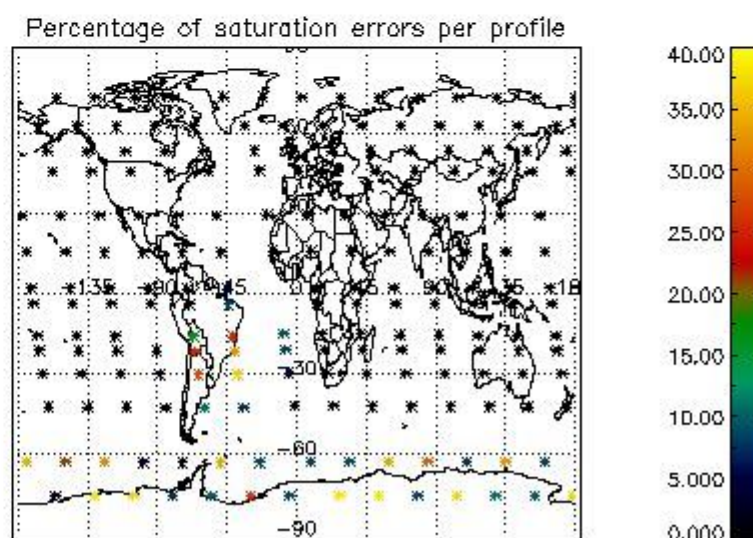
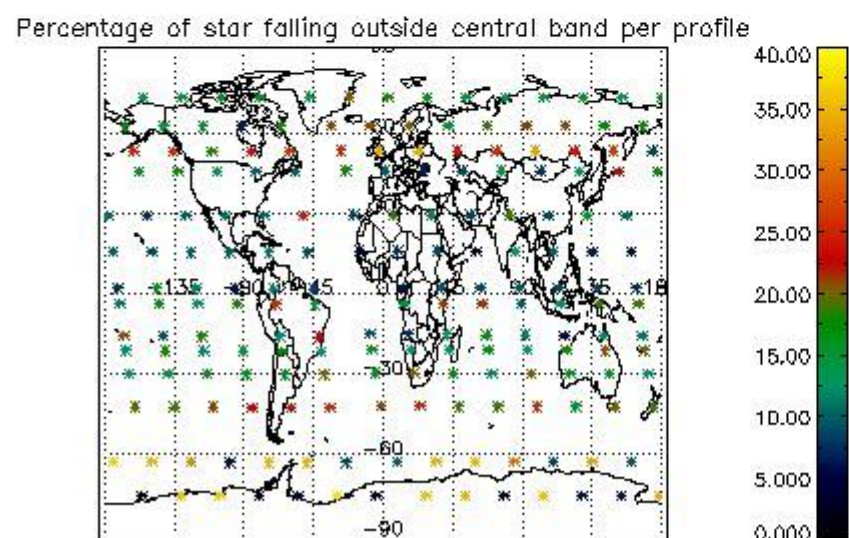
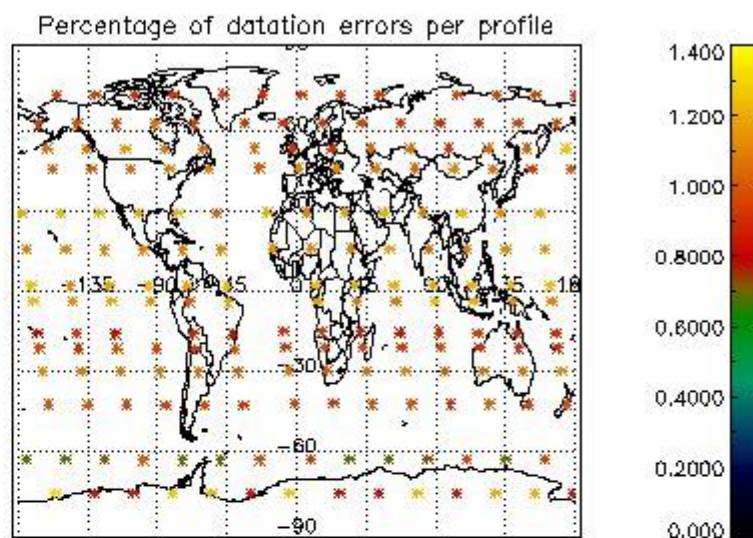
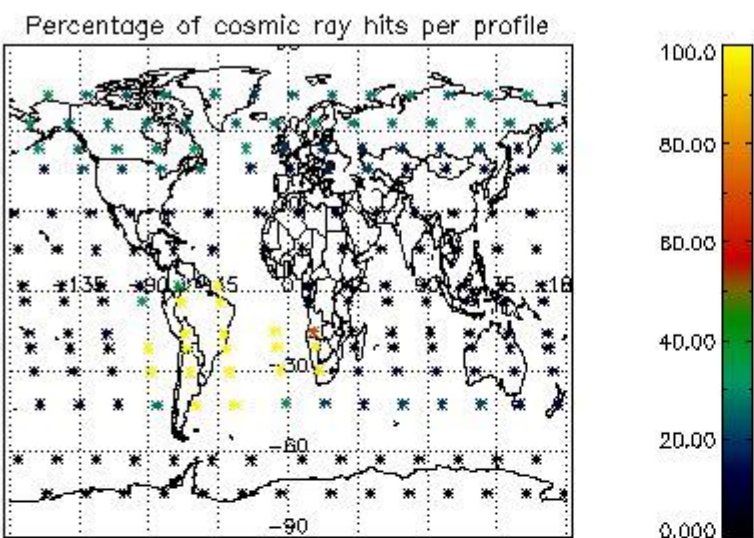


4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes

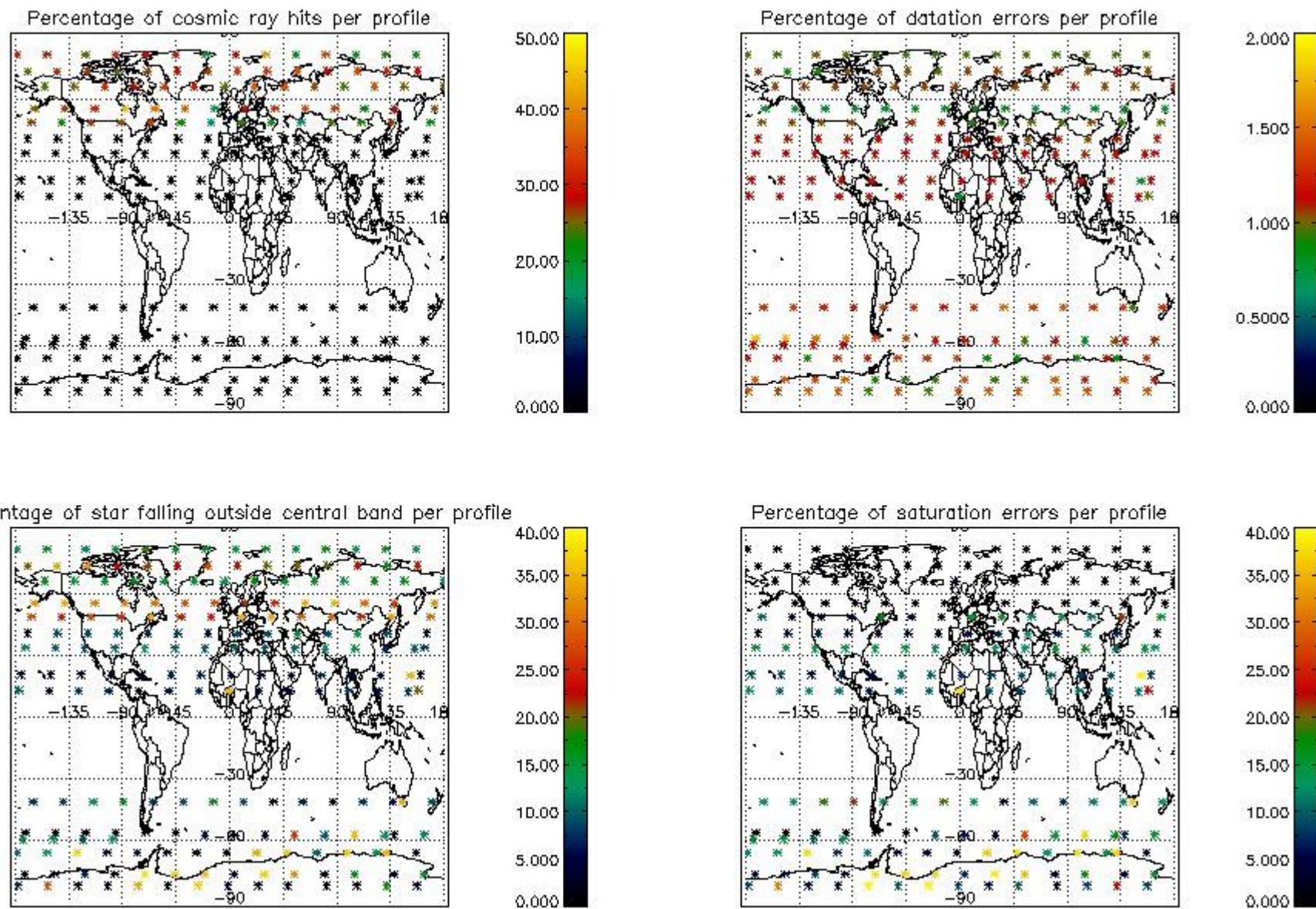


4.2 Plot quality information per product coming from level 1b processing (world map)

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

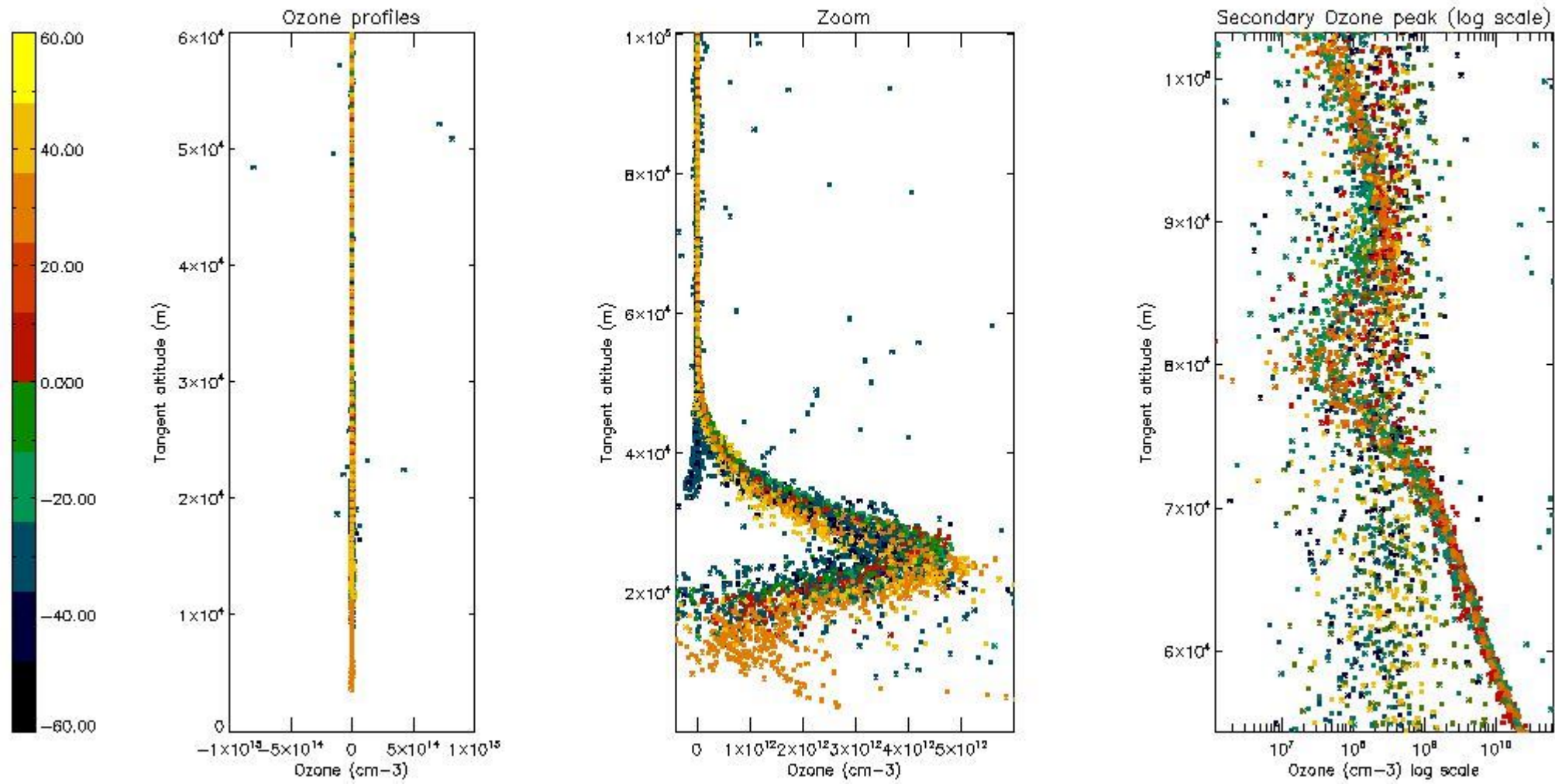
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	34
STD < 20	14

STD < 10	9
STD < 5	5

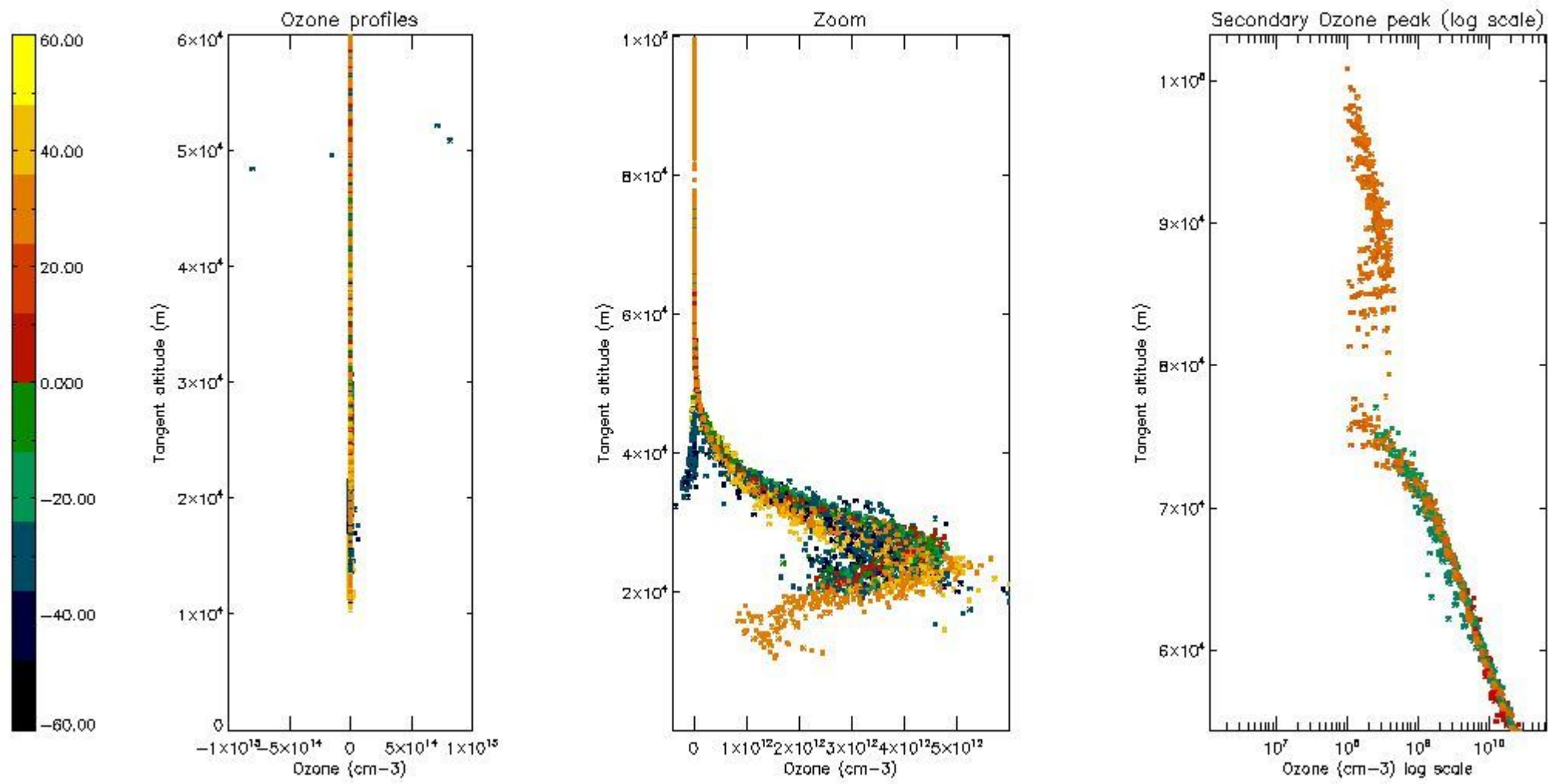
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



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

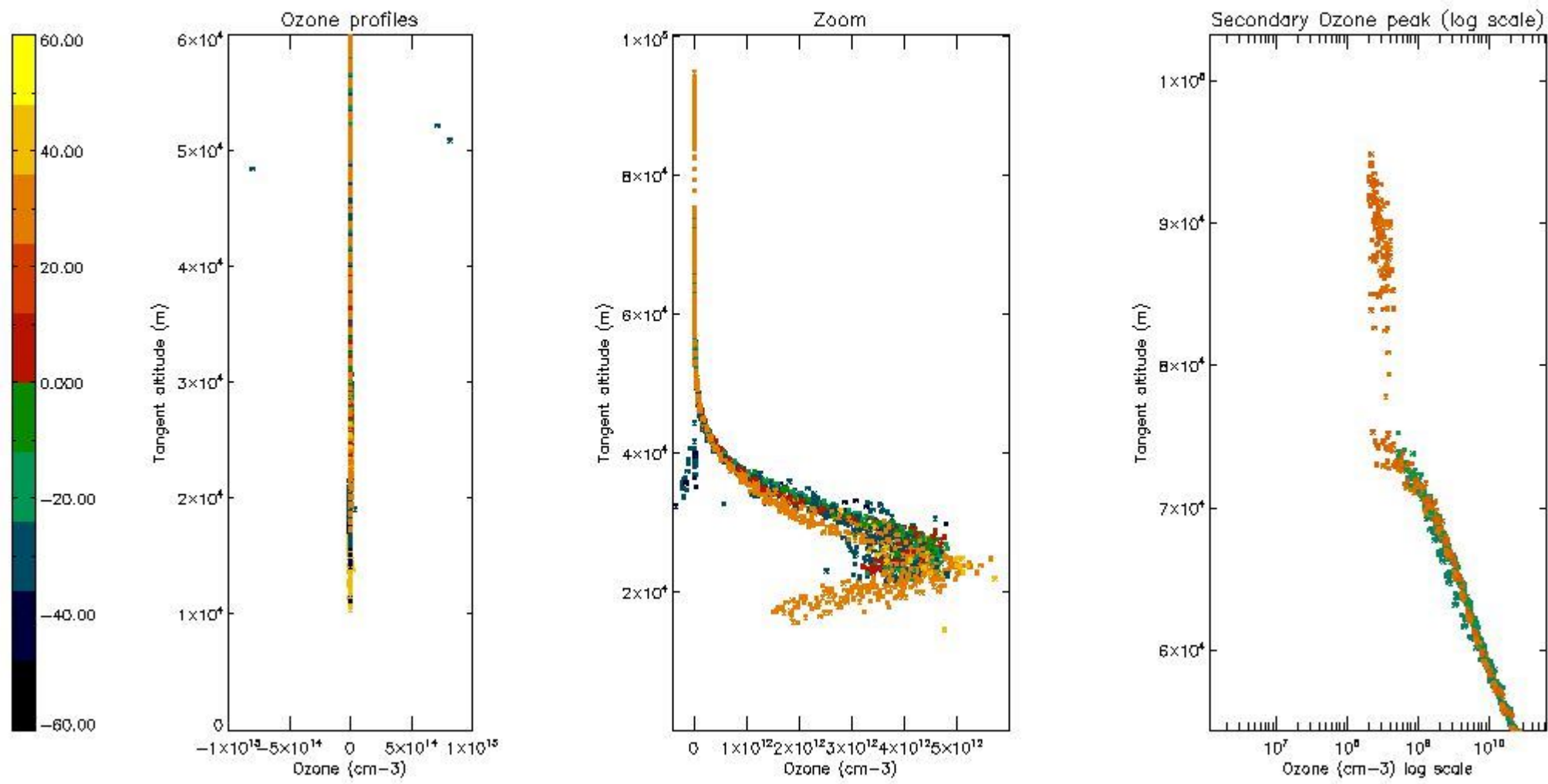
The colorbar represents the latitude.



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

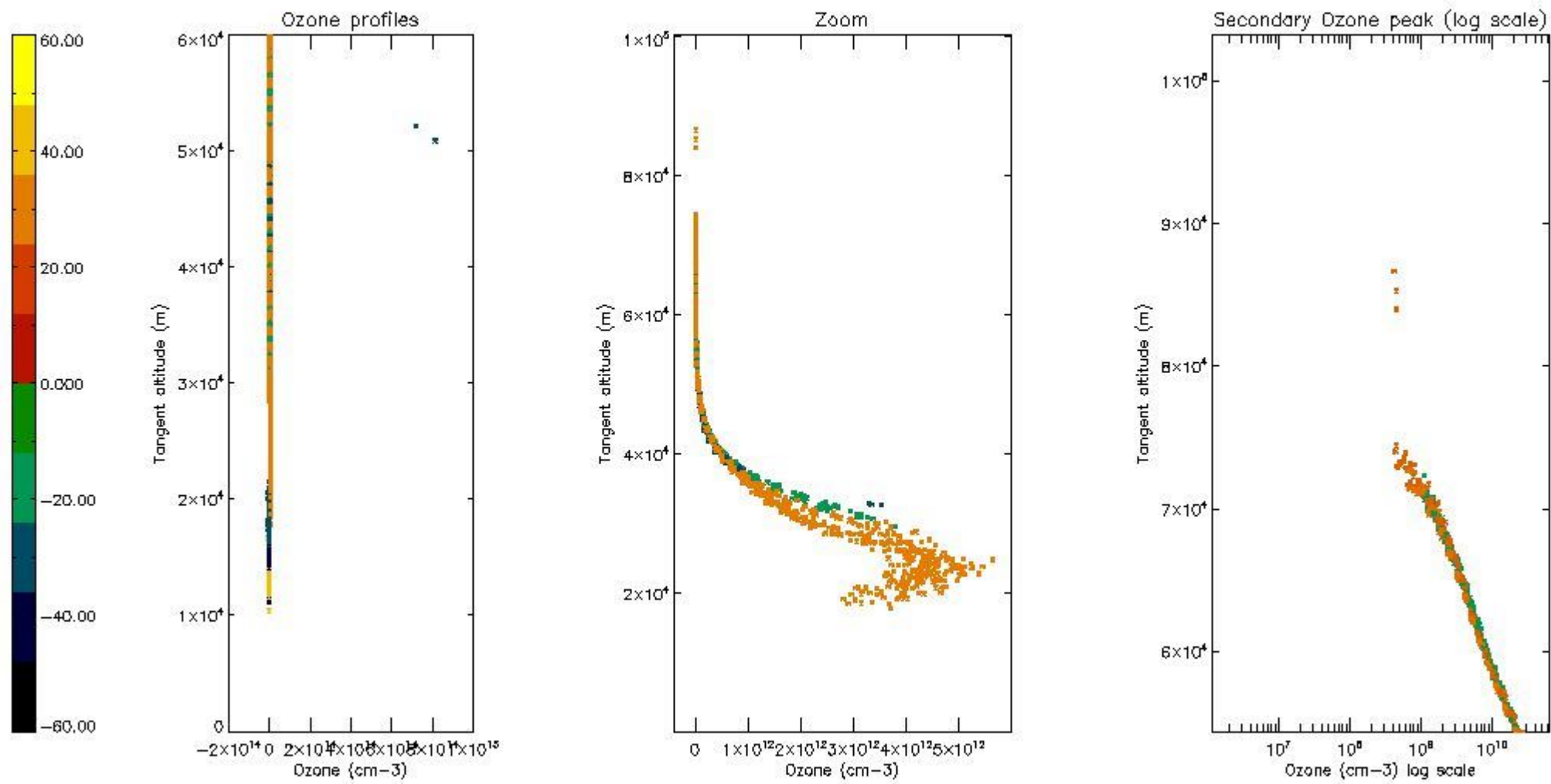
The colorbar represents the latitude.





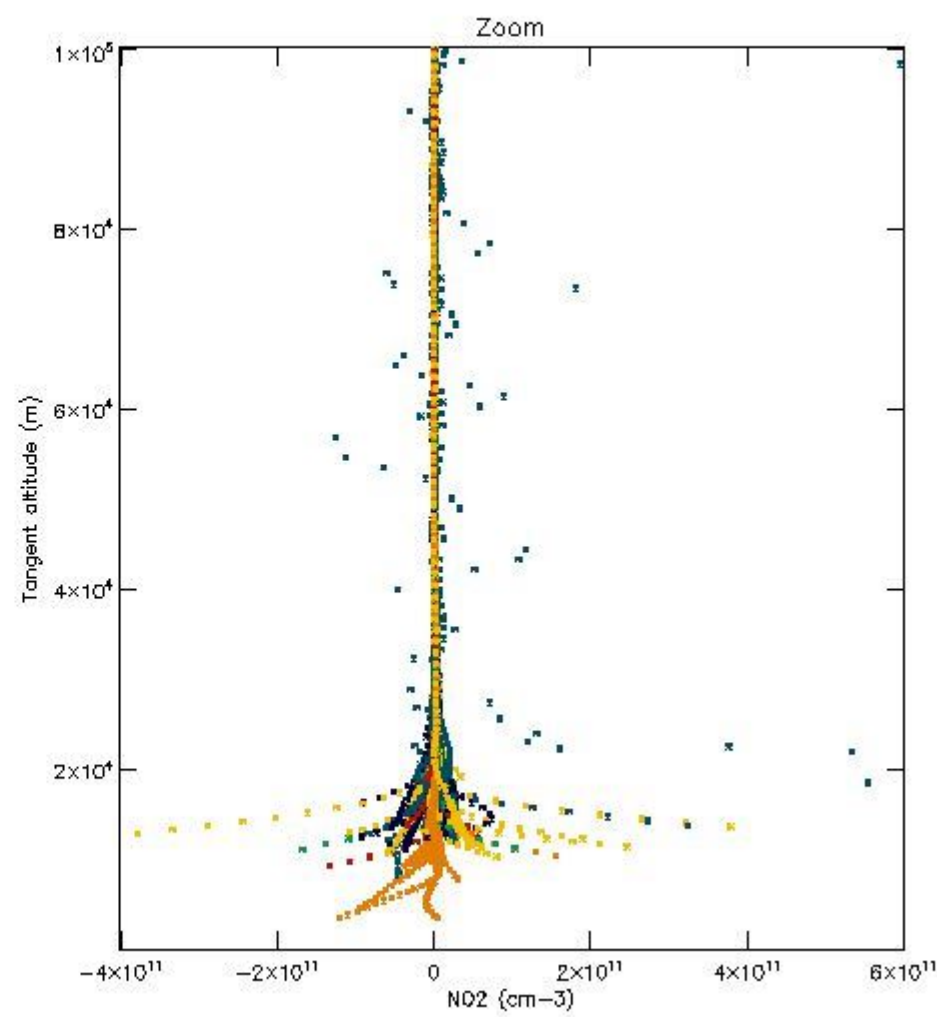
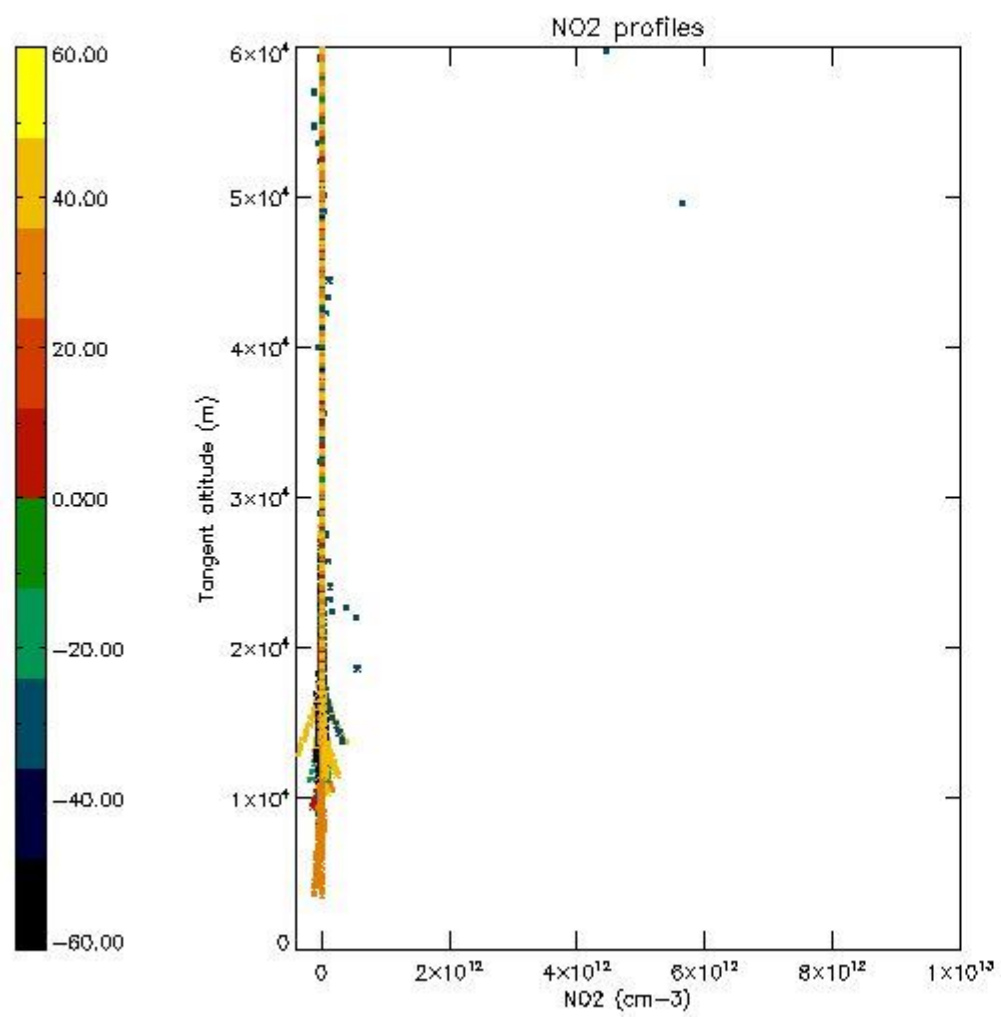
*5.5 Plot ozone profiles where  $STD < 5\%$  (dark without errors)*

The colorbar represents the latitude.



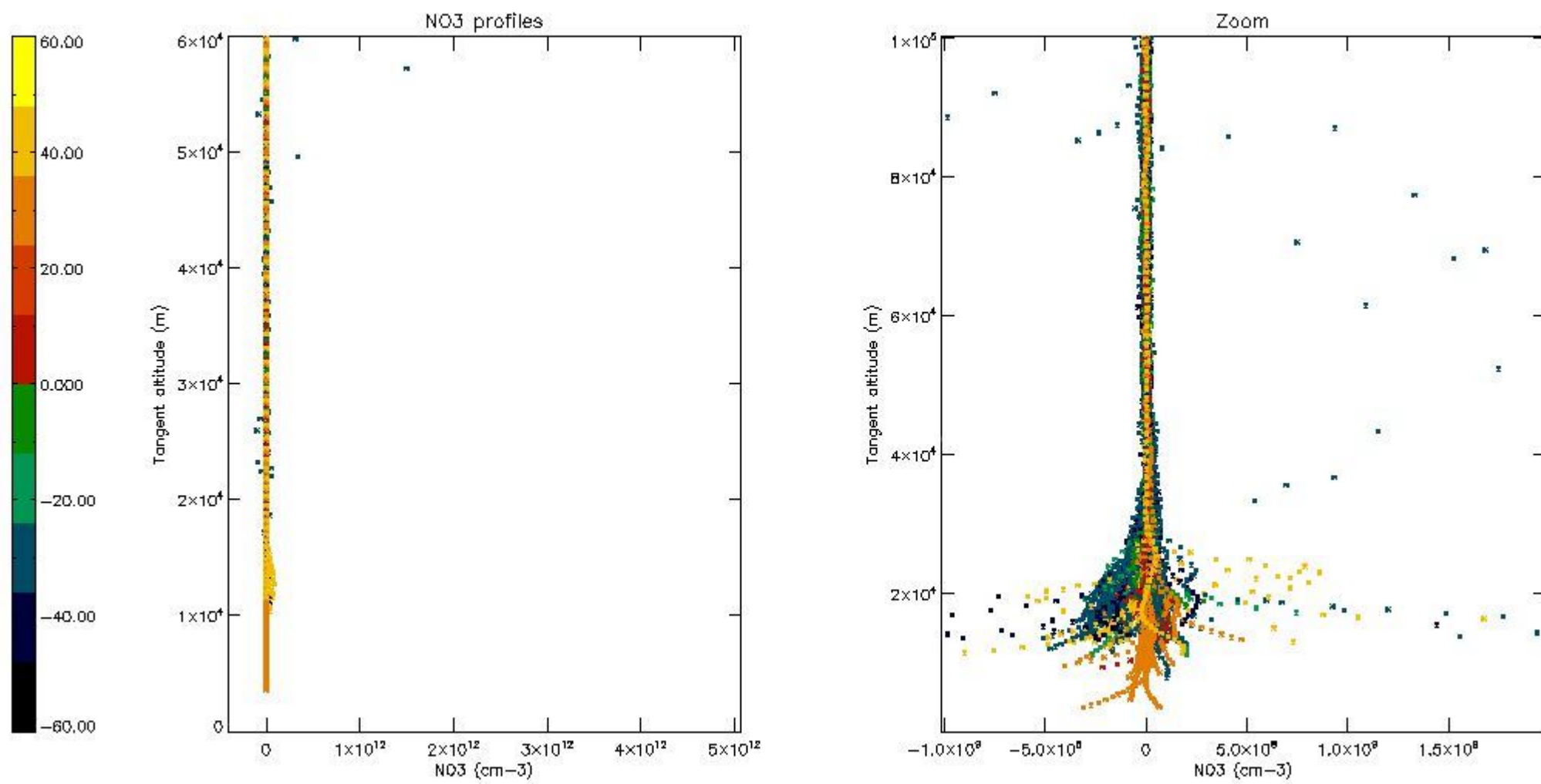
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

The colorbar represents the latitude.



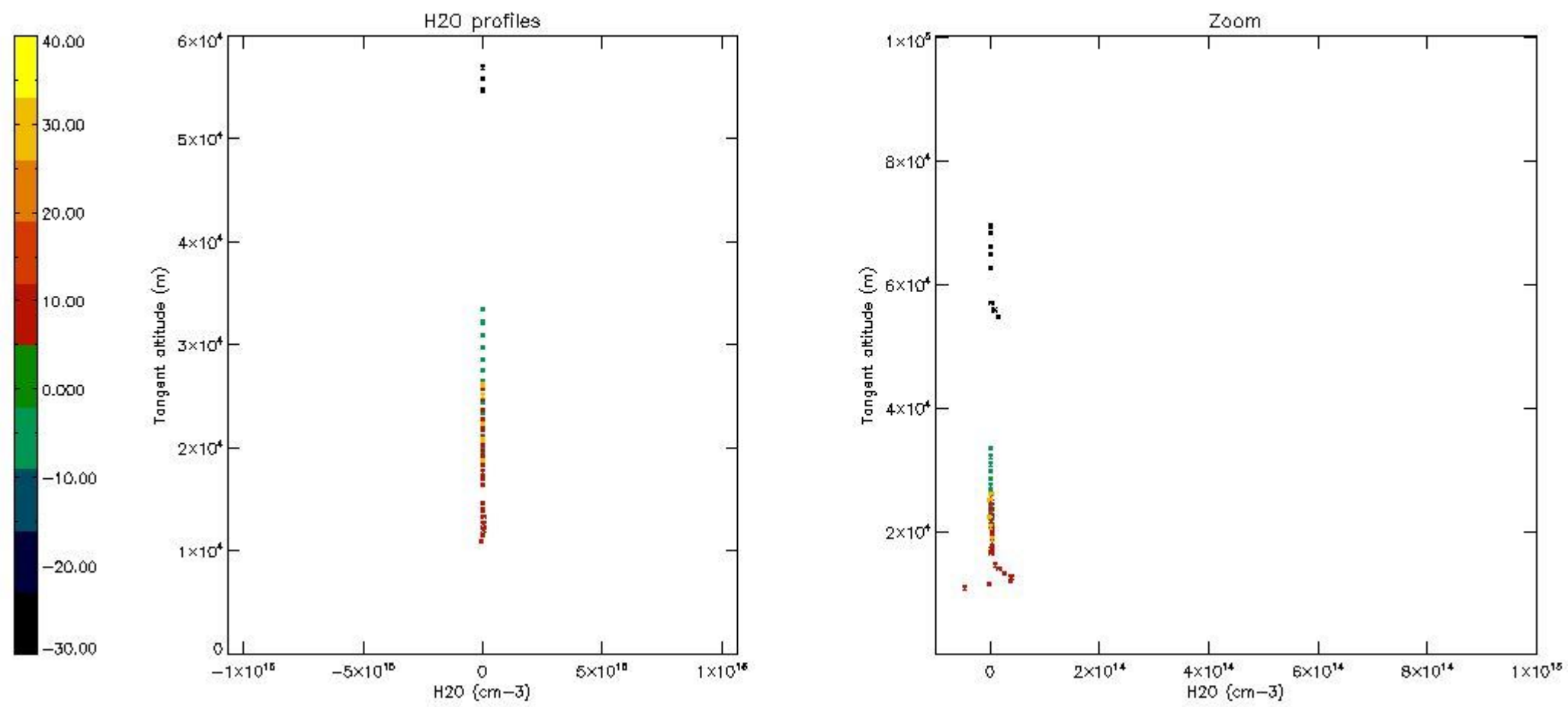
*5.7 Plot NO3 profiles for all STD (dark without errors)*

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	15-DEC-2009 00:00:44
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	15-DEC-2009 00:00:44
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	15-DEC-2009 00:00:44

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#### [3.2 Plot of level 2 quality information per product \(world map\)](#)

### [4. Level 1 Quality information per product \(stored on level 2 products\)](#)

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

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

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

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

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

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

### [5. Ozone profiles based on quality statistics and other trace gas profiles](#)

#### [5.1 Ozone statistics based on quality of products](#)

#### [5.2 Plot ozone profiles for all STD \(dark without errors\)](#)

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#### [5.6 Plot NO2 profiles for all STD \(dark without errors\)](#)

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

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

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	30APR2013 09:22:43
Data source version	GOMOS/6.01
Start time of products	15-12-2009 (15DEC2009 00:00:00)
Stop time of products	16-12-2009 (16DEC2009 00:00:00)
Store outputs in DB	Yes
Nb of level 2 prods	399
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__2PRFIN20091215_000044_000000452085_00102_40737_6746.N1	15-DEC-2009 00:00:44	Bright	44.500	28	12Bet Tau	1.6500	15200.	89	40737	No
2	GOM_NL__2PRFIN20091215_000425_000000672085_00102_40737_6747.N1	15-DEC-2009 00:04:25	Bright	67.000	107	37The Aur	2.6490	11000.	134	40737	No
3	GOM_NL__2PRFIN20091215_000634_000000452085_00102_40737_6748.N1	15-DEC-2009 00:06:34	Bright	44.500	42	34Bet Aur	1.9000	10200.	89	40737	No
4	GOM_NL__2PRFIN20091215_002135_000000382085_00102_40737_6749.N1	15-DEC-2009 00:21:35	Bright	37.500	60	7Bet UMi	2.0810	3950.0	75	40737	No
5	GOM_NL__2PRFIN20091215_002616_000000472085_00102_40737_6750.N1	15-DEC-2009 00:26:16	Bright	47.000	32	77Eps UMa	1.7630	11000.	94	40737	No
6	GOM_NL__2PRFIN20091215_002849_000000432085_00102_40737_6751.N1	15-DEC-2009 00:28:49	Bright	43.000	39	85Eta UMa	1.8540	24000.	86	40737	No
7	GOM_NL__2PRFIN20091215_003208_000000412085_00102_40737_6752.N1	15-DEC-2009 00:32:08	Bright	41.000	180	27Gam Boo	3.0400	8000.0	82	40737	No
8	GOM_NL__2PRFIN20091215_003519_000000362085_00102_40737_6753.N1	15-DEC-2009 00:35:19	Bright	36.000	83		2.3780	11000.	72	40737	No
9	GOM_NL__2PRFIN20091215_003837_000000402085_00102_40737_6754.N1	15-DEC-2009 00:38:37	Bright	40.000	111	8Eta Boo	2.6800	6000.0	80	40737	No
10	GOM_NL__2PRFIN20091215_004230_000000522085_00102_40737_6755.N1	15-DEC-2009 00:42:30	Bright	52.000	138	47Eps Vir	2.8280	4700.0	104	40737	No
11	GOM_NL__2PRFIN20091215_004827_000000552085_00102_40737_6756.N1	15-DEC-2009 00:48:27	Twilight	54.500	15	67Alp Vir	0.97600	28000.	109	40737	No
12	GOM_NL__2PRFIN20091215_005157_000000502085_00102_40737_6757.N1	15-DEC-2009 00:51:57	Twilight	49.500	169	46Gam Hya	2.9910	4700.0	99	40737	No
13	GOM_NL__2PRFIN20091215_005422_000000512085_00102_40737_6758.N1	15-DEC-2009 00:54:22	Dark	51.000	106	9Bet Crv	2.6480	5600.0	102	40737	No
14	GOM_NL__2PRFIN20091215_005554_000000652085_00102_40737_6759.N1	15-DEC-2009 00:55:54	Dark	65.000	171	2Eps Crv	3.0010	4250.0	130	40737	No
15	GOM_NL__2PRFIN20091215_005918_000000432085_00102_40737_6760.N1	15-DEC-2009 00:59:18	Dark	42.500	64	Gam Cen	2.2000	10600.	85	40737	No
16	GOM_NL__2PRFIN20091215_010055_000000412085_00103_40738_6745.N1	15-DEC-2009 01:00:55	Dark	40.500	99	Del Cen	2.5750	26000.	81	40738	No
17	GOM_NL__2PRFIN20091215_010443_000000452085_00103_40738_6746.N1	15-DEC-2009 01:04:43	Dark	45.000	113	Mu Vel	2.6920	5000.0	90	40738	No
18	GOM_NL__2PRFIN20091215_010835_000000502085_00103_40738_6747.N1	15-DEC-2009 01:08:35	Dark	49.500	71	Iot Car	2.2460	7700.0	99	40738	No
19	GOM_NL__2PRFIN20091215_011313_000000462085_00103_40738_6748.N1	15-DEC-2009 01:13:13	Dark	46.000	34	Gam2Vel	1.7930	23000.	92	40738	No
20	GOM_NL__2PRFIN20091215_011526_000000492085_00103_40738_6749.N1	15-DEC-2009 01:15:26	Dark	48.500	2	Alp Car	-0.73600	7000.0	97	40738	No
21	GOM_NL__2PRFIN20091215_011807_000000532085_00103_40738_6750.N1	15-DEC-2009 01:18:07	Dark	53.000	117	Pi Pup	2.7060	3800.0	106	40738	No
22	GOM_NL__2PRFIN20091215_012124_000000542085_00103_40738_6751.N1	15-DEC-2009 01:21:24	Straylight	53.500	23	21Eps CMa	1.5020	26000.	107	40738	No
23	GOM_NL__2PRFIN20091215_012602_000000532085_00103_40738_6752.N1	15-DEC-2009 01:26:02	Straylight	53.000	47	2Bet CMa	1.9760	28000.	106	40738	No
24	GOM_NL__2PRFIN20091215_012936_000000482085_00103_40738_6753.N1	15-DEC-2009 01:29:36	Straylight	48.000	7	19Bet Ori	0.10000	14000.	96	40738	No
25	GOM_NL__2PRFIN20091215_013153_000000482085_00103_40738_6754.N1	15-DEC-2009 01:31:53	Straylight	48.000	30	46Eps Ori	1.6940	30000.	96	40738	No
26	GOM_NL__2PRFIN20091215_013506_000000612085_00103_40738_6755.N1	15-DEC-2009 01:35:06	Twilight	61.000	14	58Alp Ori	0.87000	3000.0	122	40738	No
27	GOM_NL__2PRFIN20091215_013658_000000542085_00103_40738_6756.N1	15-DEC-2009 01:36:58	Twilight	54.000	13	87Alp Tau	0.86700	3800.0	108	40738	No
28	GOM_NL__2PRFIN20091215_013917_000000452085_00103_40738_6757.N1	15-DEC-2009 01:39:17	Bright	45.000	176	23Zet Tau	3.0200	22000.	90	40738	No
29	GOM_NL__2PRFIN20091215_014120_000000432085_00103_40738_6758.N1	15-DEC-2009 01:41:20	Bright	42.500	28	12Bet Tau	1.6500	15200.	85	40738	No
30	GOM_NL__2PRFIN20091215_014500_000000452085_00103_40738_6759.N1	15-DEC-2009 01:45:00	Bright	45.000	107	37The Aur	2.6490	11000.	90	40738	No
31	GOM_NL__2PRFIN20091215_014709_000000442085_00103_40738_6760.N1	15-DEC-2009 01:47:09	Bright	43.500	42	34Bet Aur	1.9000	10200.	87	40738	No
32	GOM_NL__2PRFIN20091215_020211_000000382085_00103_40738_6761.N1	15-DEC-2009 02:02:11	Bright	38.000	60	7Bet UMi	2.0810	3950.0	76	40738	No
33	GOM_NL__2PRFIN20091215_020652_000000612085_00103_40738_6762.N1	15-DEC-2009 02:06:52	Bright	61.000	32	77Eps UMa	1.7630	11000.	122	40738	No
34	GOM_NL__2PRFIN20091215_020925_000000572085_00103_40738_6763.N1	15-DEC-2009 02:09:25	Bright	57.000	39	85Eta UMa	1.8540	24000.	114	40738	No
35	GOM_NL__2PRFIN20091215_021244_000000352085_00103_40738_6764.N1	15-DEC-2009 02:12:44	Bright	34.500	180	27Gam Boo	3.0400	8000.0	69	40738	No
36	GOM_NL__2PRFIN20091215_021555_000000352085_00103_40738_6765.N1	15-DEC-2009 02:15:55	Bright	35.000	83		2.3780	11000.	70	40738	No
37	GOM_NL__2PRFIN20091215_021913_000000592085_00103_40738_6766.N1	15-DEC-2009 02:19:13	Bright	59.000	111	8Eta Boo	2.6800	6000.0	118	40738	No
38	GOM_NL__2PRFIN20091215_022306_000000722085_00103_40738_6767.N1	15-DEC-2009 02:23:06	Bright	72.000	138	47Eps Vir	2.8280	4700.0	144	40738	No
39	GOM_NL__2PRFIN20091215_022904_000000522085_00103_40738_6768.N1	15-DEC-2009 02:29:04	Twilight	52.000	15	67Alp Vir	0.97600	28000.	104	40738	No
40	GOM_NL__2PRFIN20091215_023233_000000472085_00103_40738_6769.N1	15-DEC-2009 02:32:33	Twilight	47.000	169	46Gam Hya	2.9910	4700.0	94	40738	No
41	GOM_NL__2PRFIN20091215_023459_000000542085_00103_40738_6770.N1	15-DEC-2009 02:34:59	Dark	53.500	106	9Bet Crv	2.6480	5600.0	107	40738	No
42	GOM_NL__2PRFIN20091215_023631_000000572085_00103_40738_6771.N1	15-DEC-2009 02:36:31	Dark	57.000	171	2Eps Crv	3.0010	4250.0	114	40738	No













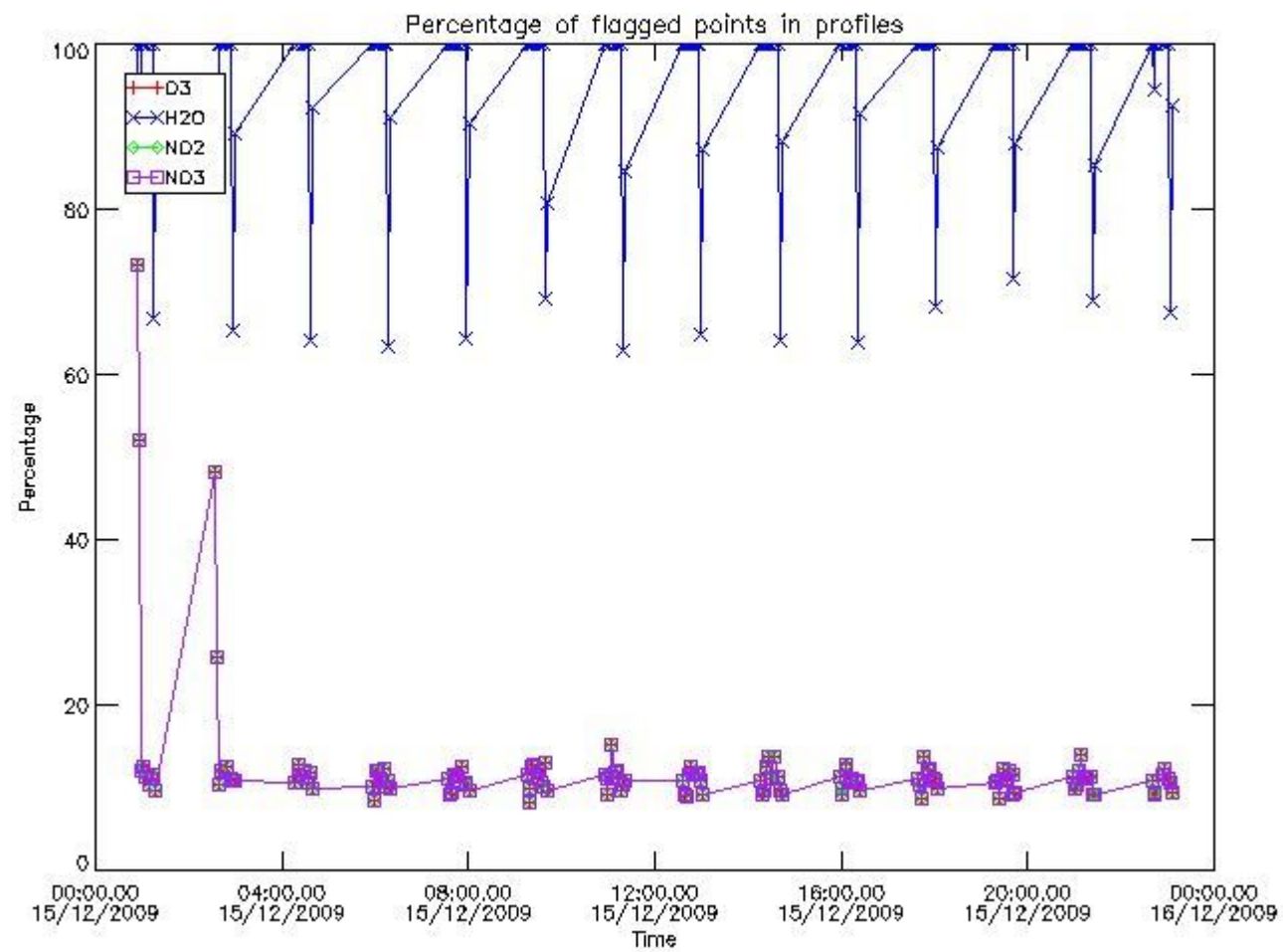


397	GOM_NL__2PRFIN20091215_234958_000000532085_00116_40751_6962.N1	15-DEC-2009 23:49:58	Bright	53.000	60	7Bet UMi	2.0810	3950.0	106	40751	No
398	GOM_NL__2PRFIN20091215_235436_000000422085_00116_40751_6963.N1	15-DEC-2009 23:54:36	Bright	41.500	32	77Eps UMa	1.7630	11000.	83	40751	No
399	GOM_NL__2PRFIN20091215_235711_000000582085_00116_40751_6964.N1	15-DEC-2009 23:57:11	Bright	58.000	39	85Eta UMa	1.8540	24000.	116	40751	No

### 3. Quality information per product

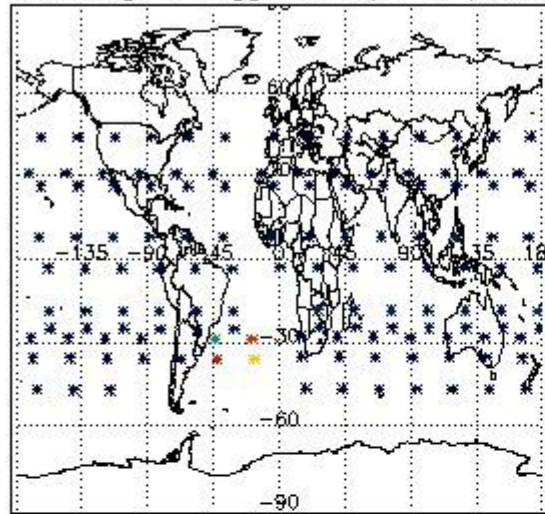
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

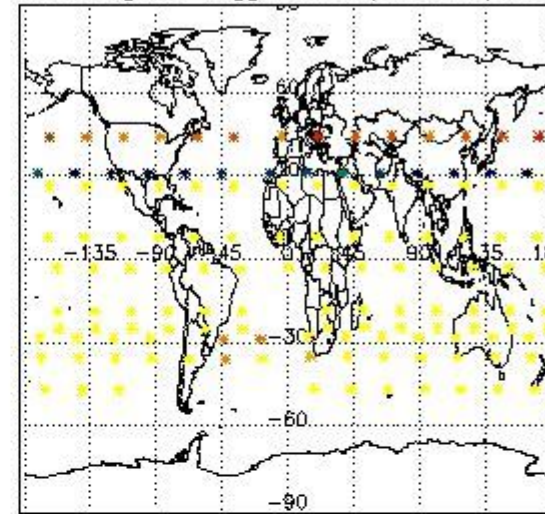


#### 3.2 Plot quality information per product (world map)

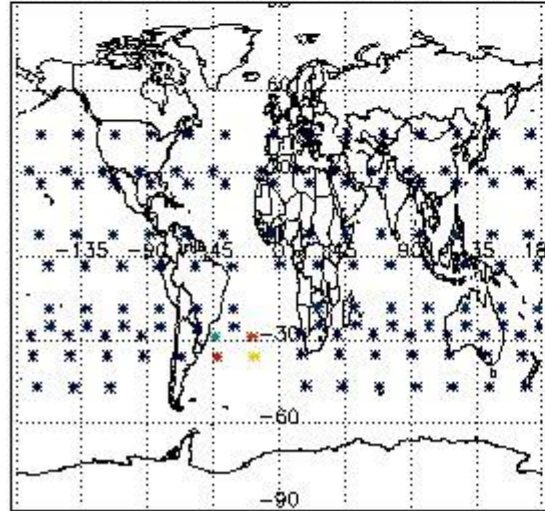
Percentage of flagged data per O3 profile



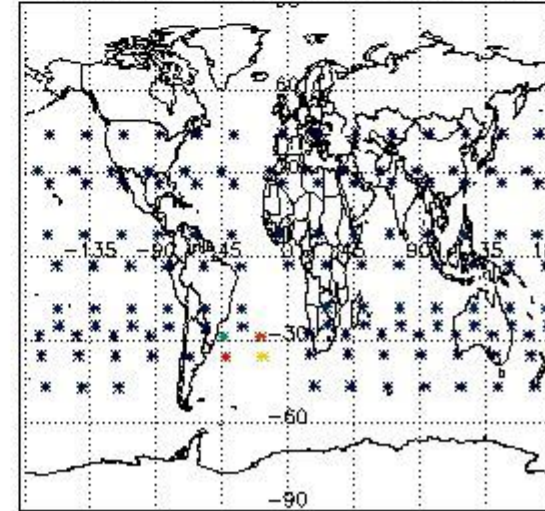
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

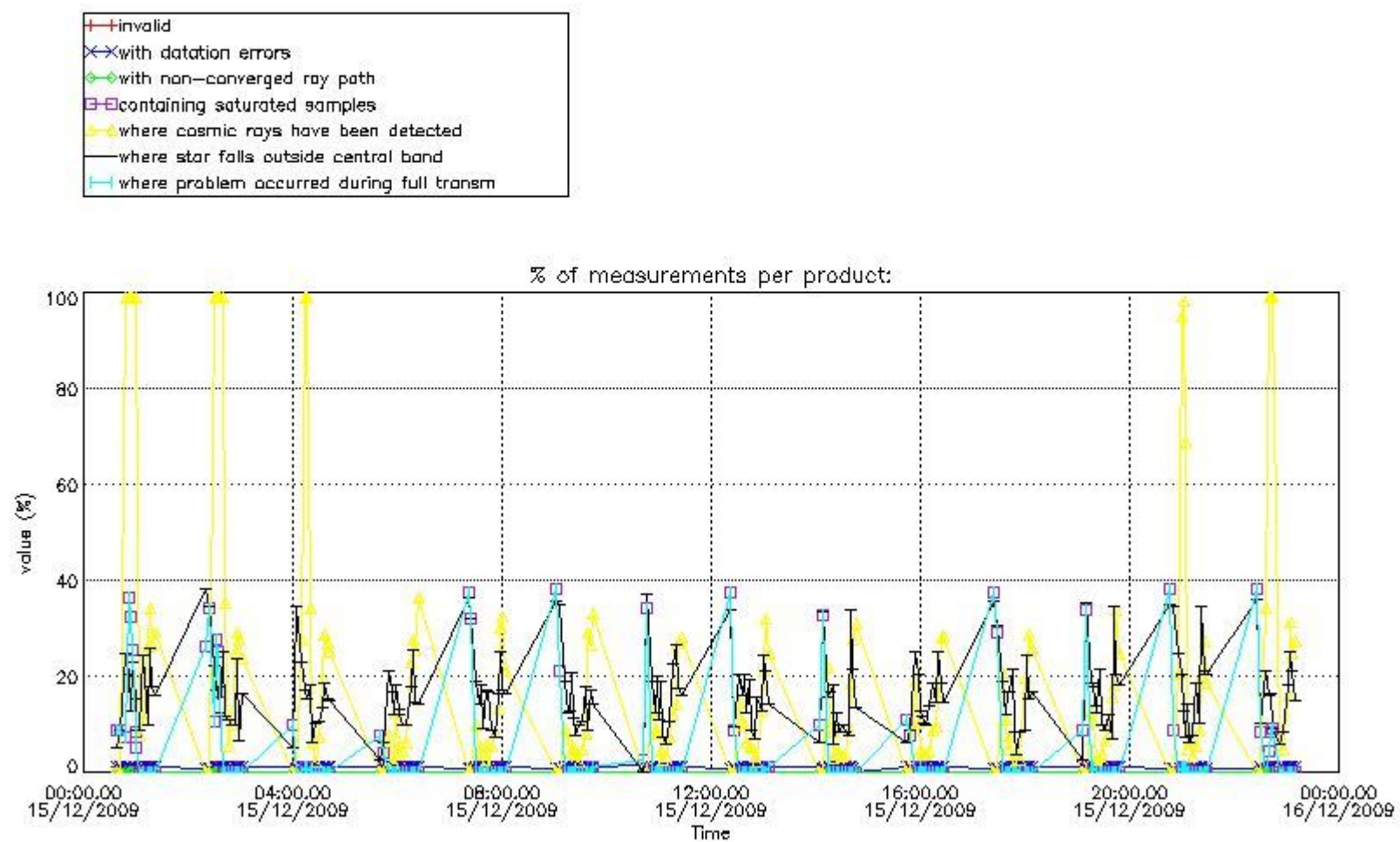


#### 4. Level 1 quality information per product

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.

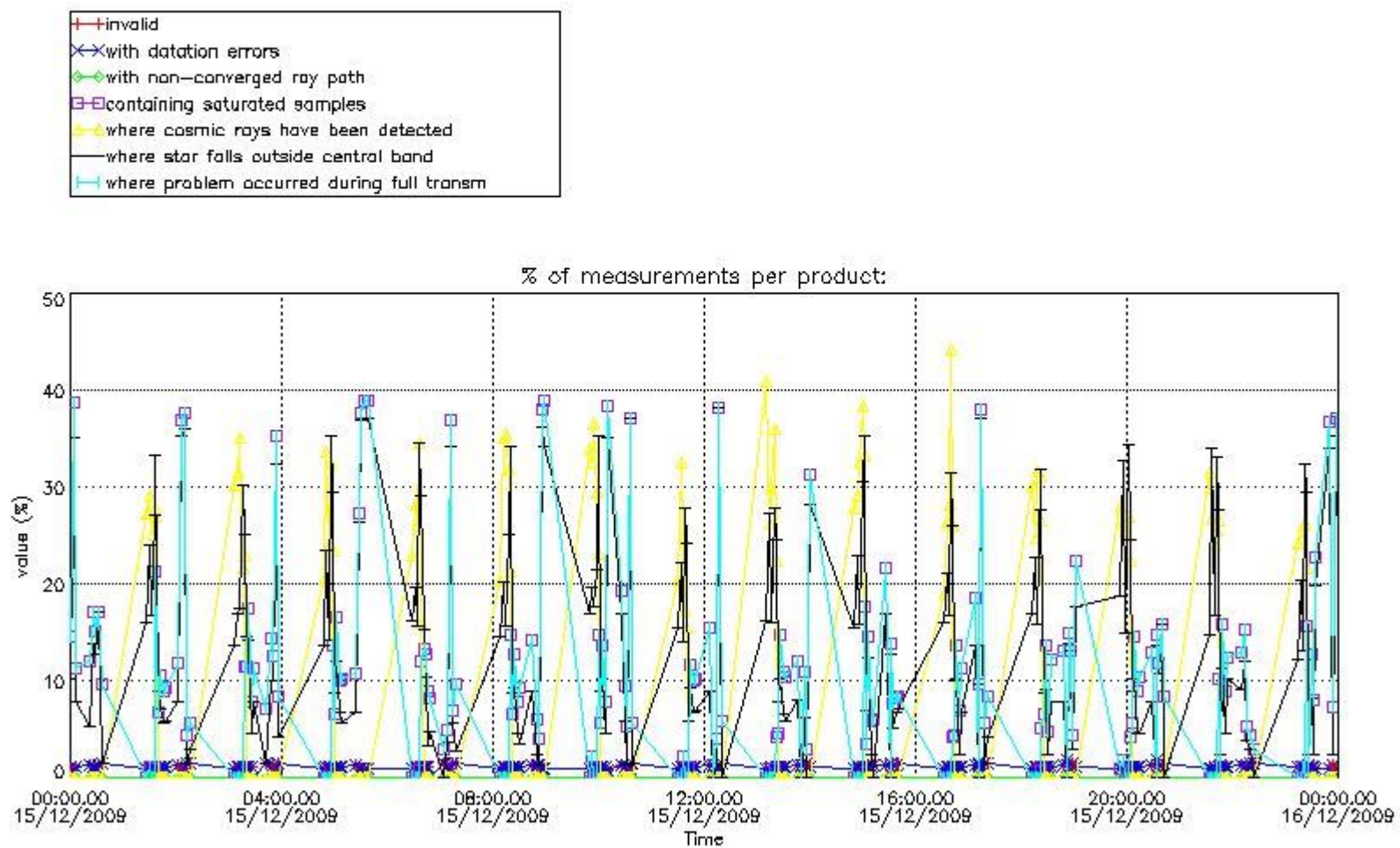
##### 4.1 Plot quality information per product (time dependant) coming from level 1b processing

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



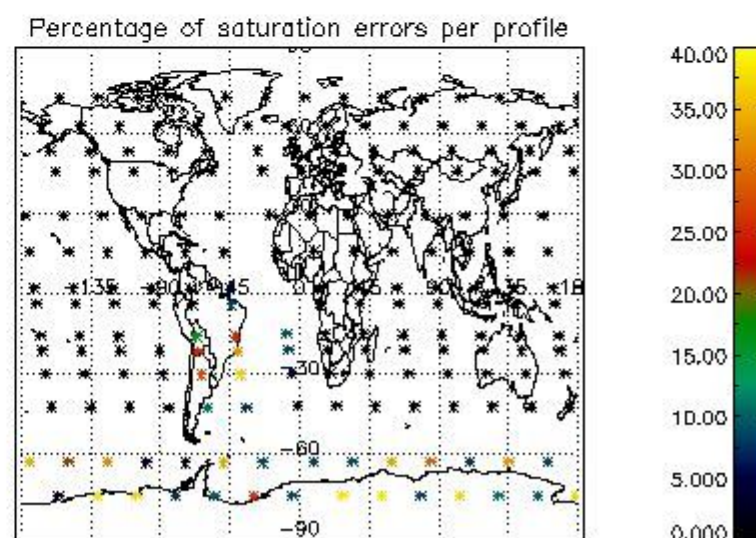
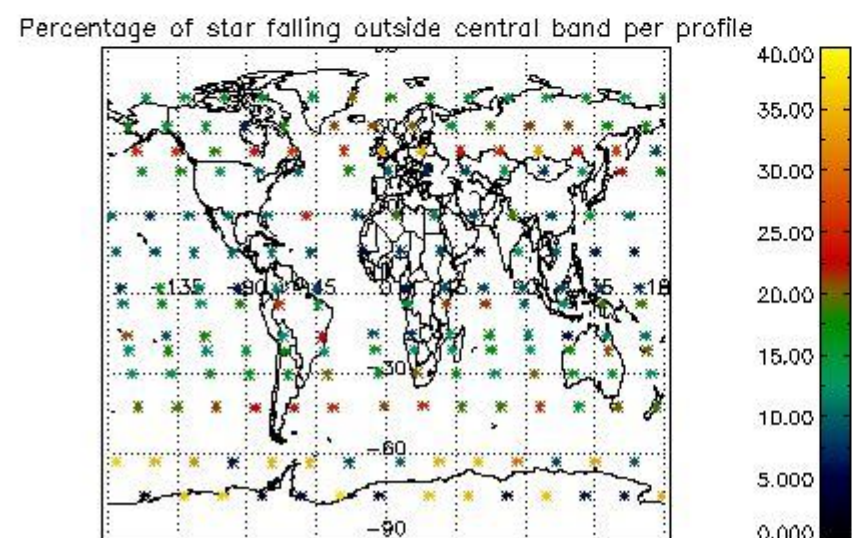
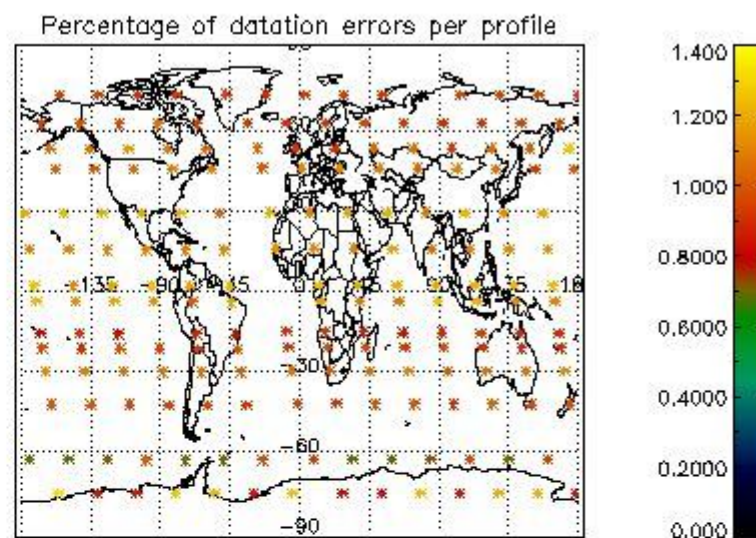
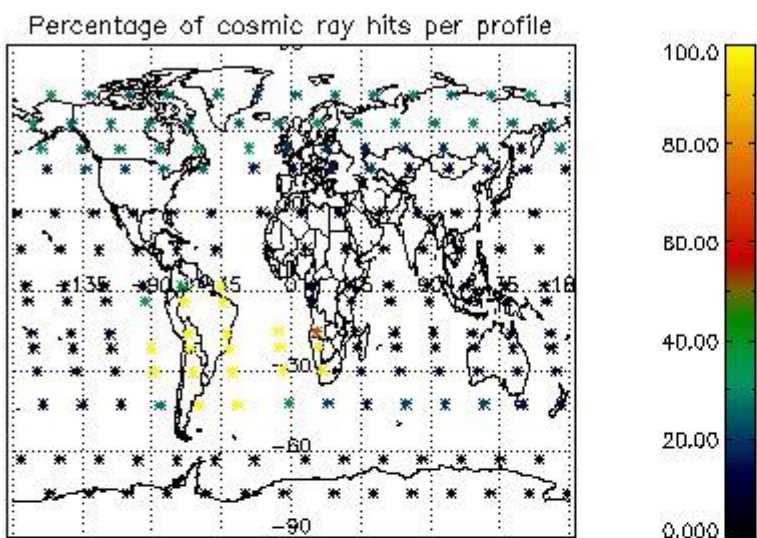
4.1.2 Plot level 1 quality information per product (time dependant): ENVISAT DESCENDING passes



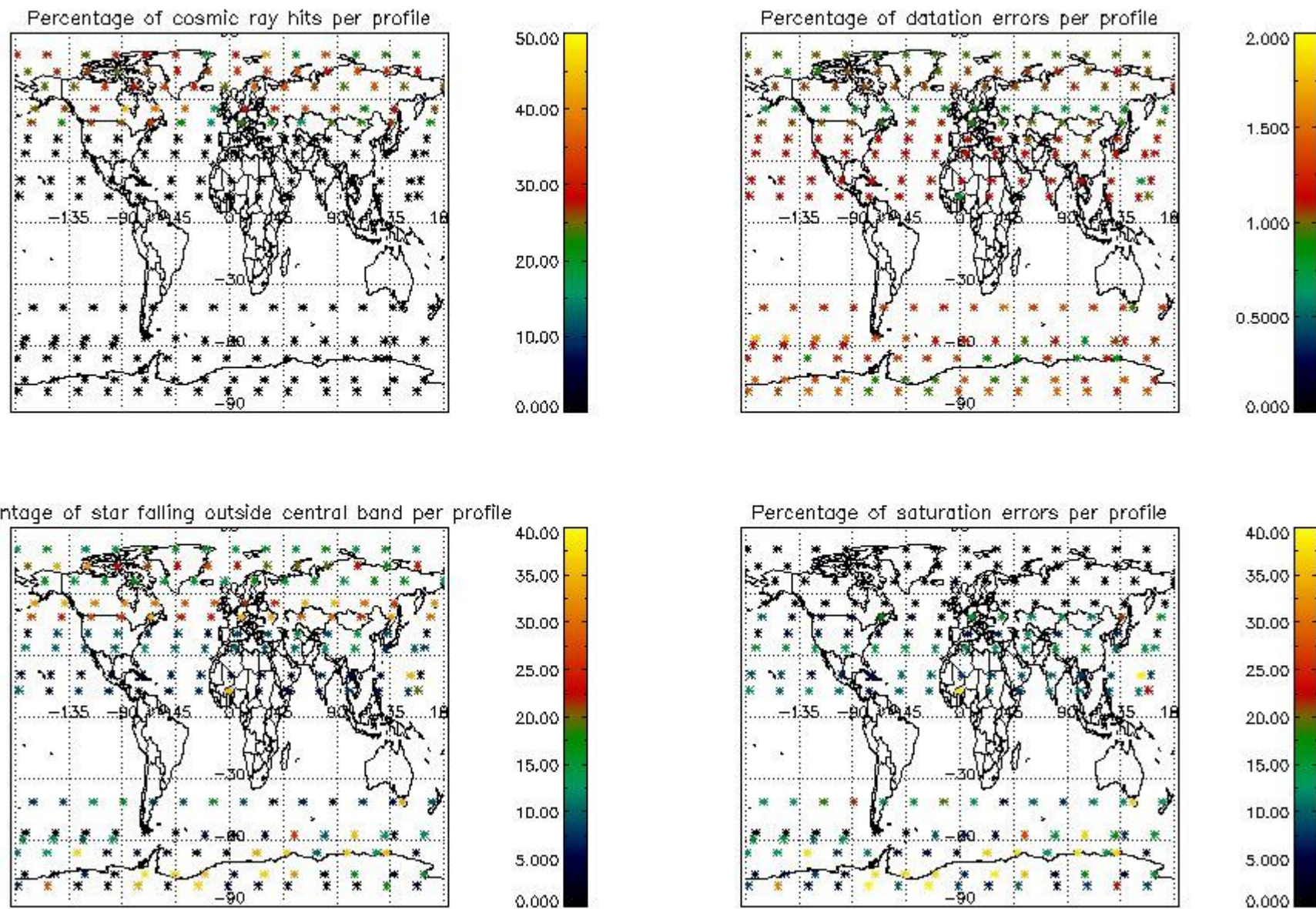


4.2 Plot quality information per product coming from level 1b processing (world map)

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

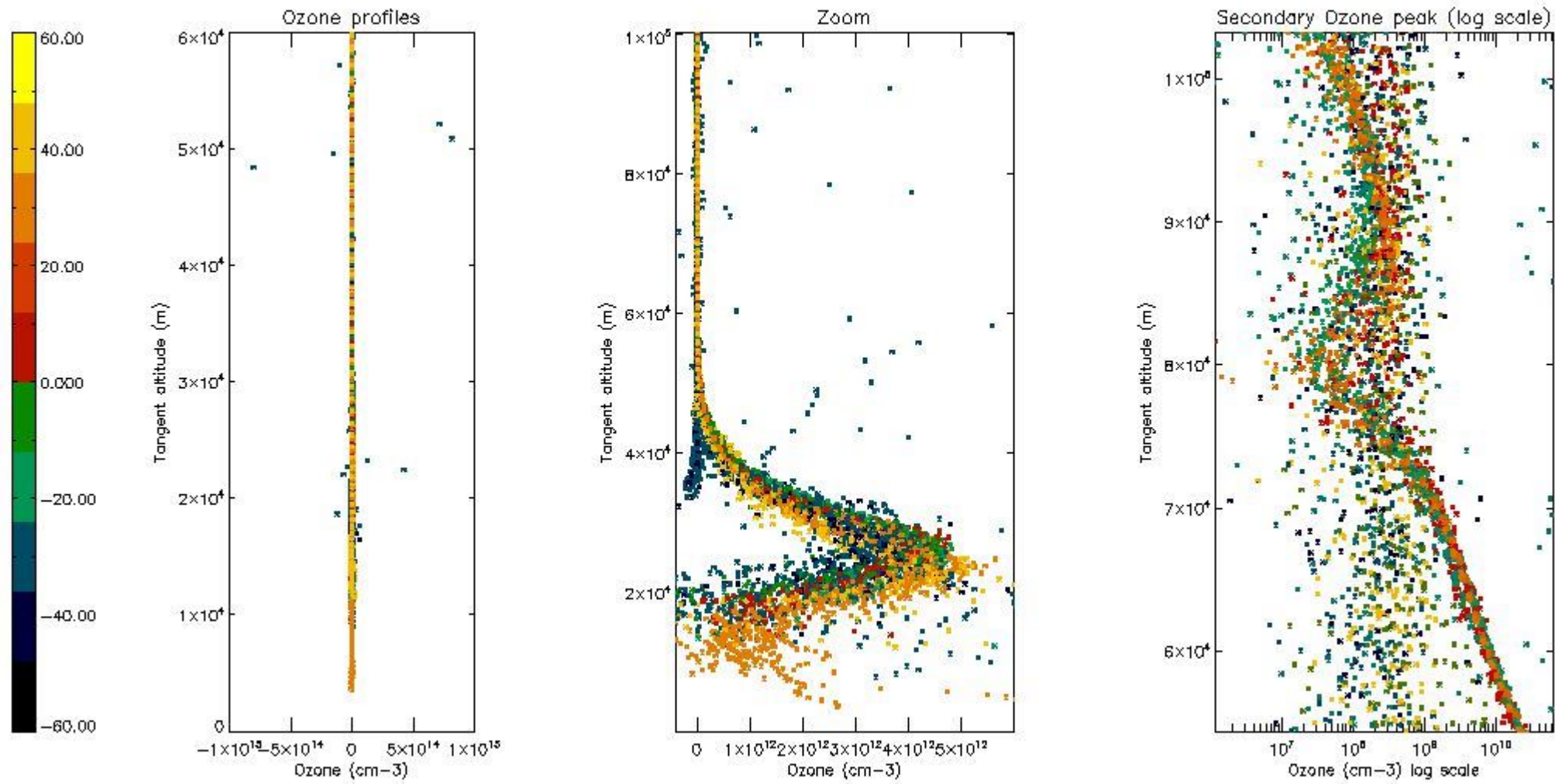
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	34
STD < 20	14

STD < 10	9
STD < 5	5

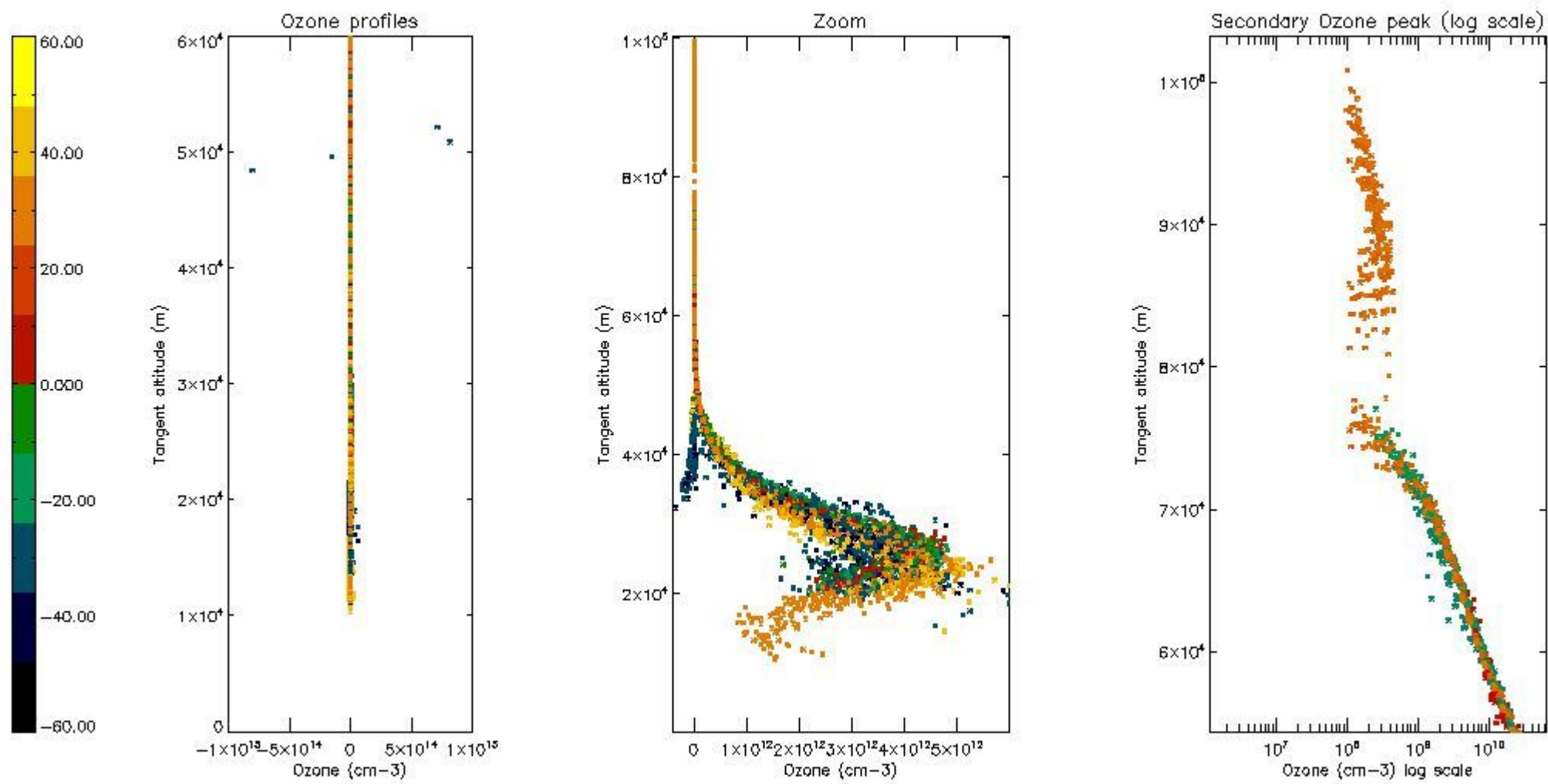
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



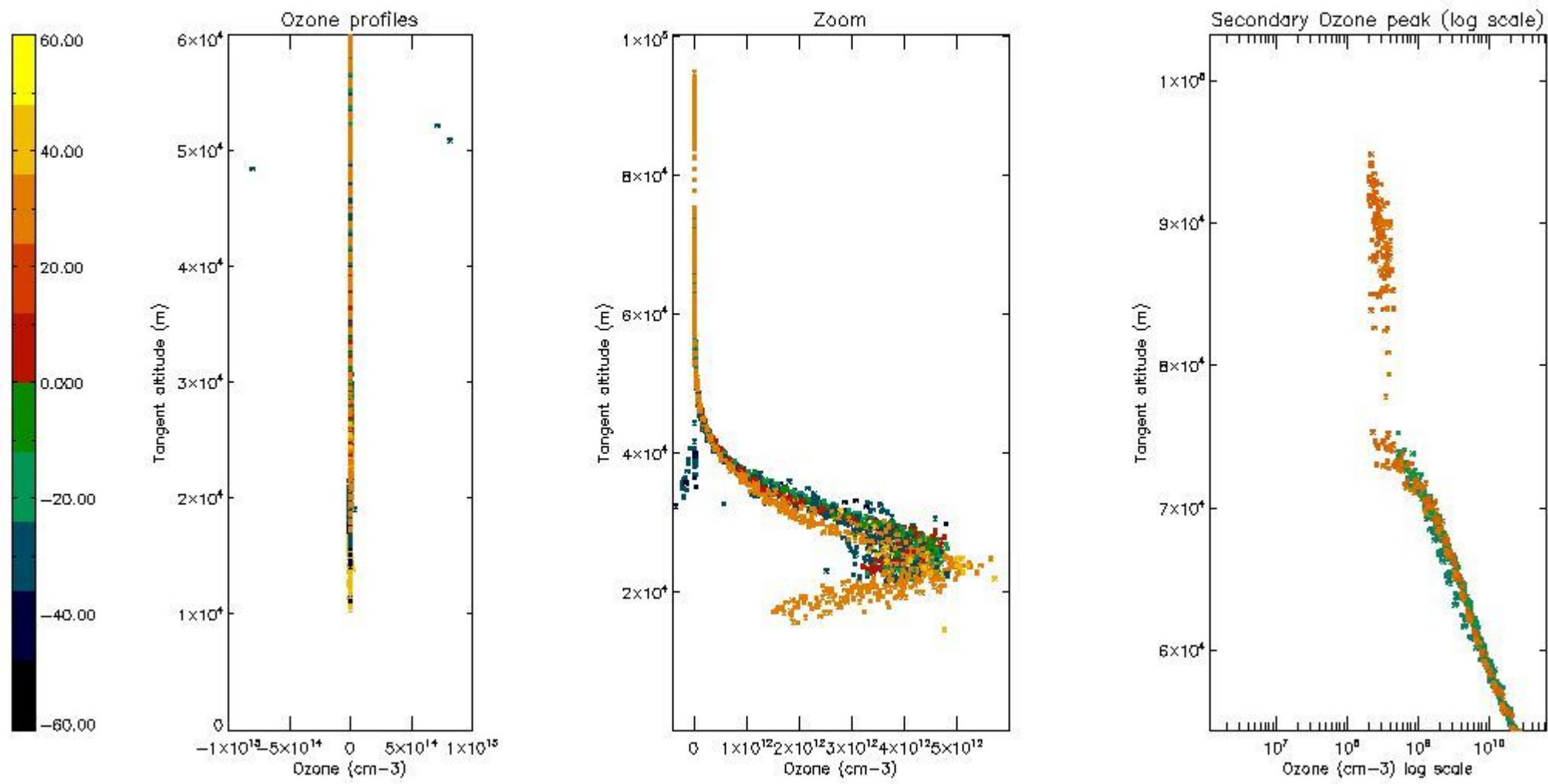
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



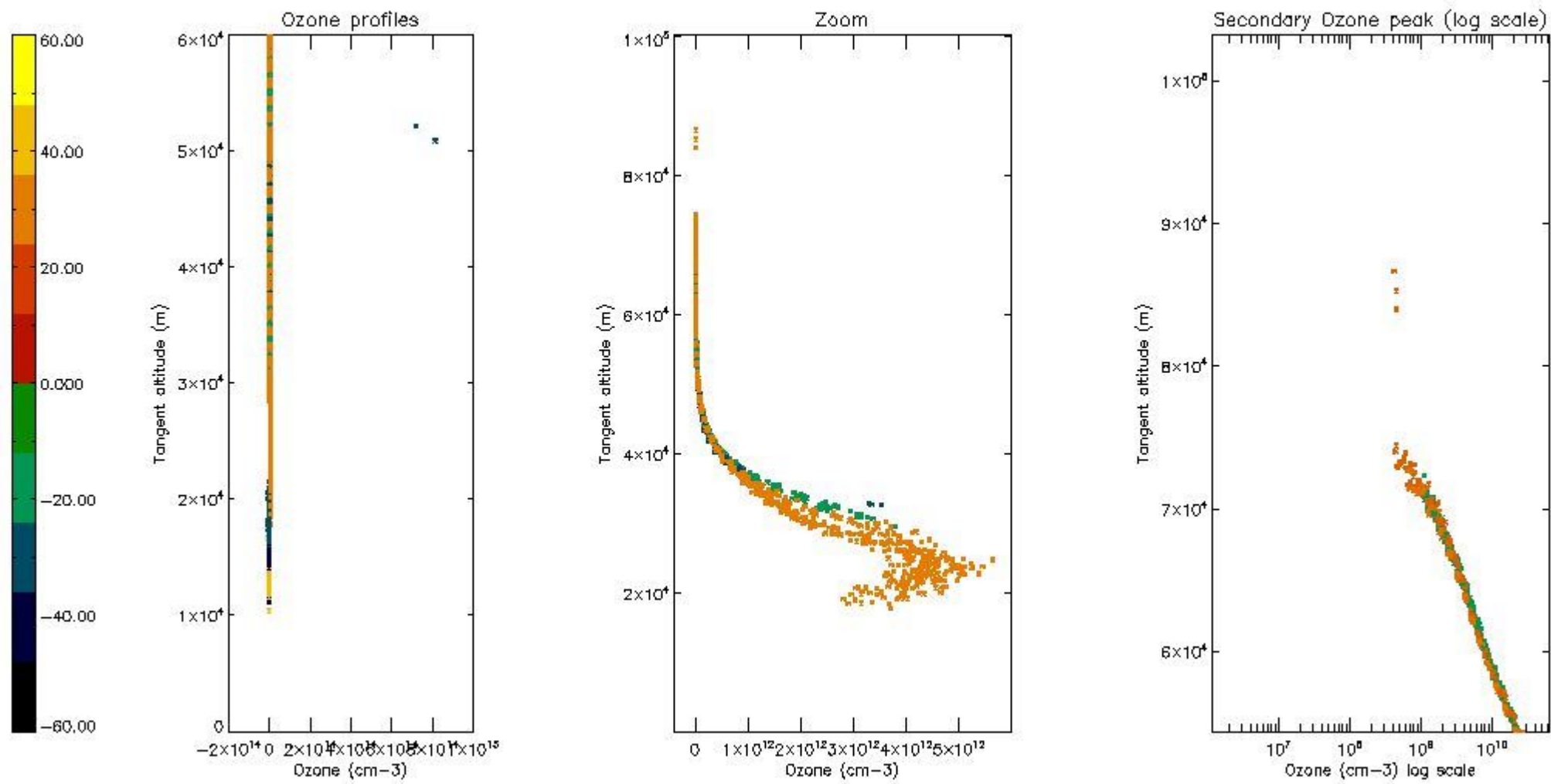
*5.4 Plot ozone profiles where STD < 10% (dark without errors)*

The colorbar represents the latitude.



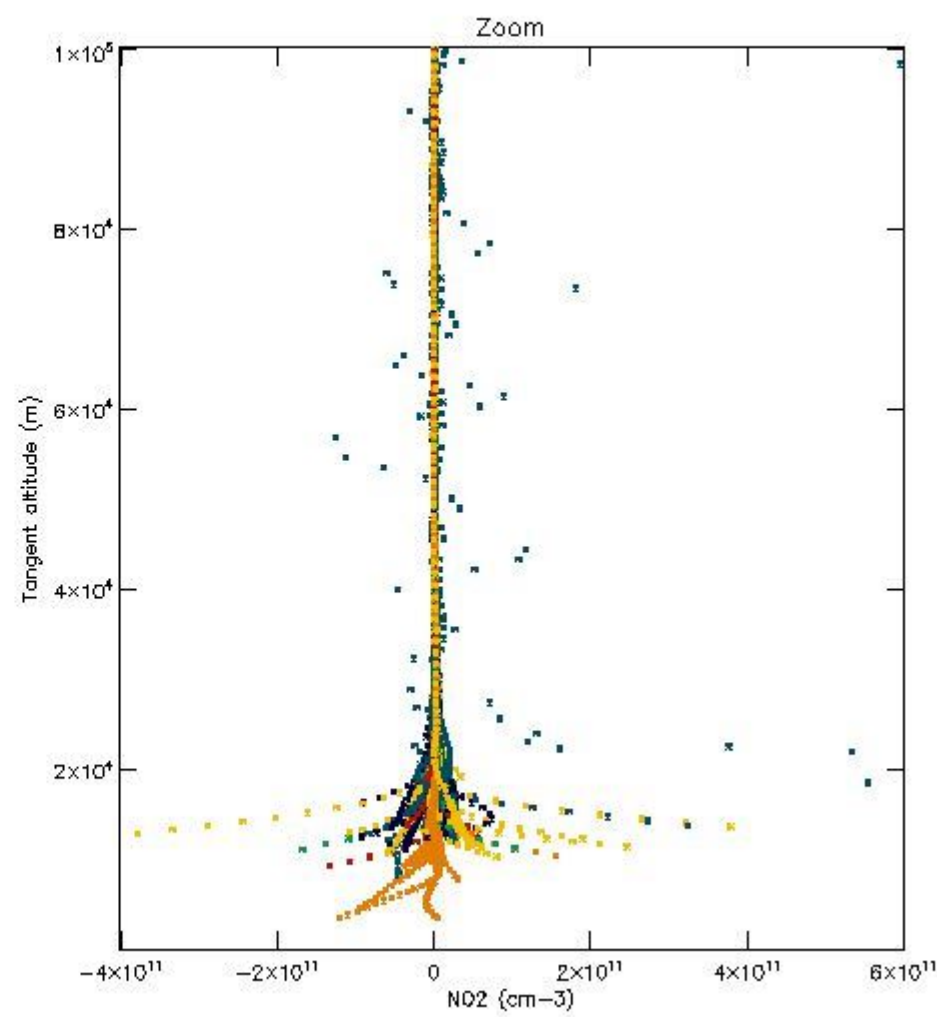
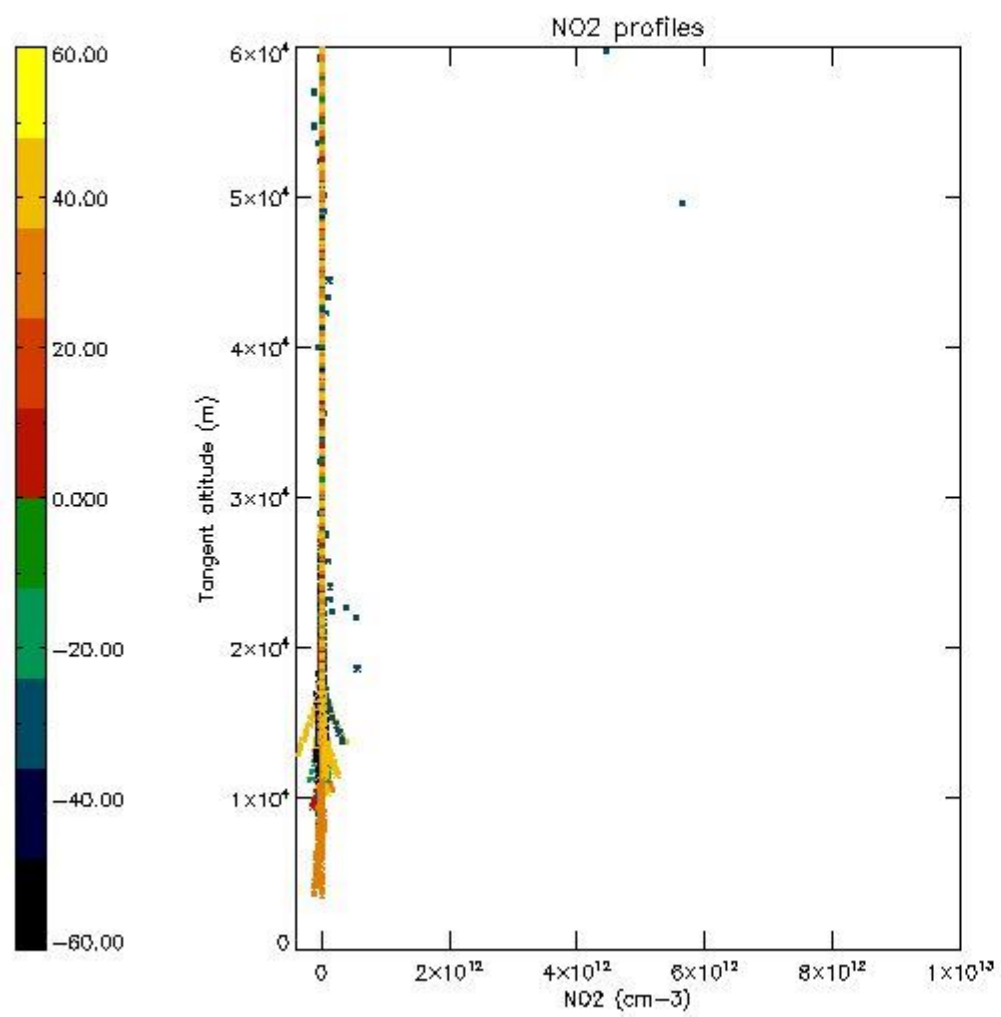
*5.5 Plot ozone profiles where  $STD < 5\%$  (dark without errors)*

The colorbar represents the latitude.



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

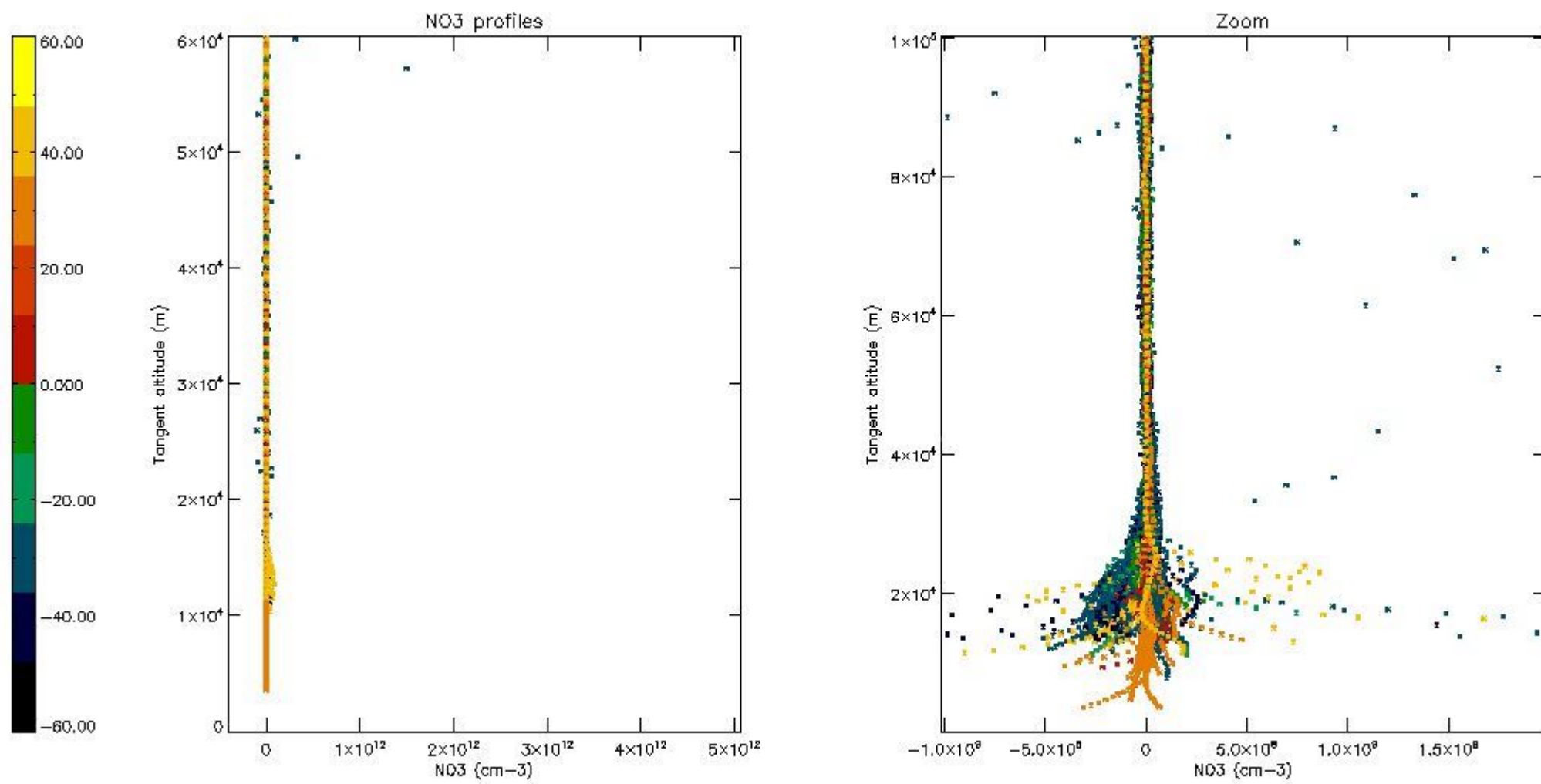
The colorbar represents the latitude.



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

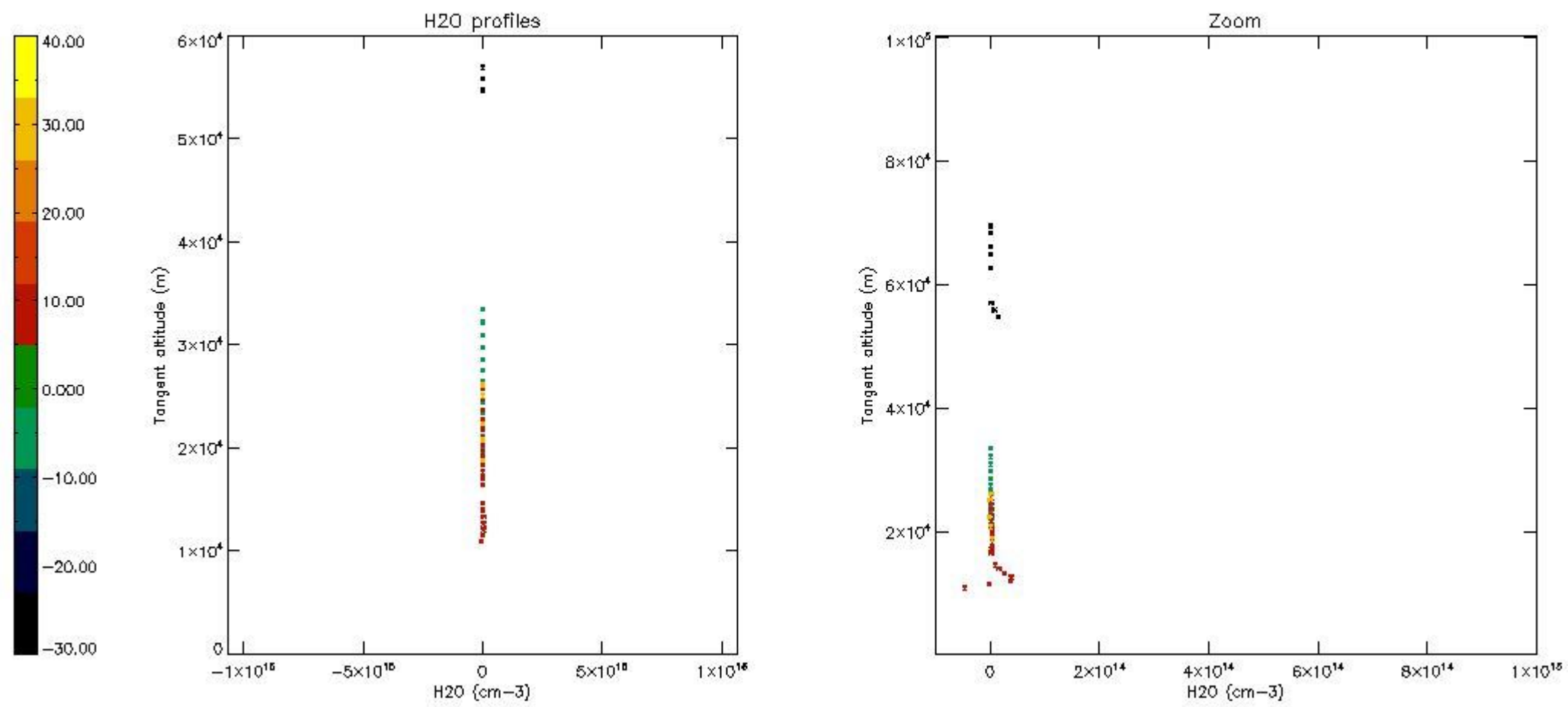
The colorbar represents the latitude.





*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)*

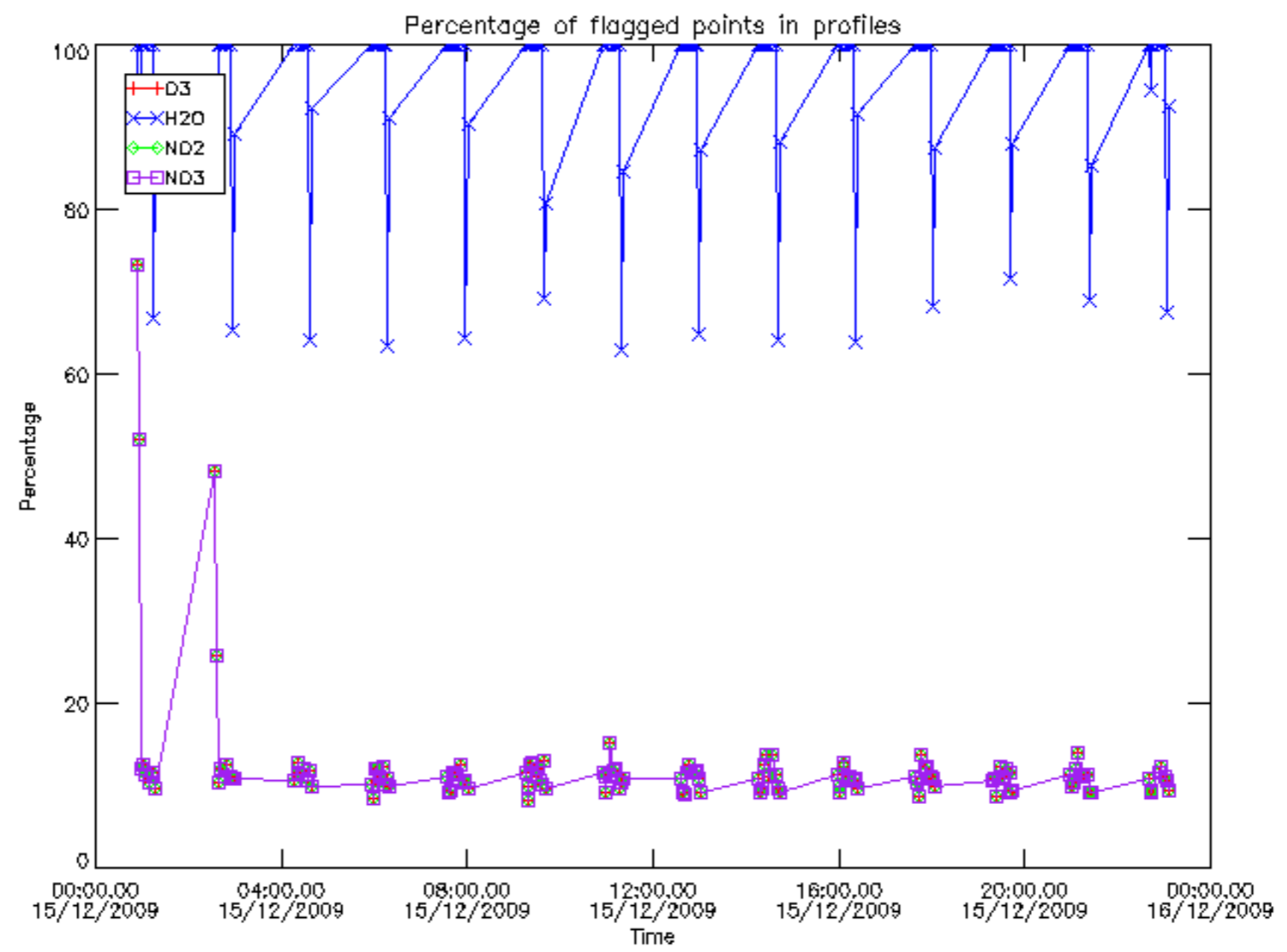
The colorbar represents the latitude.



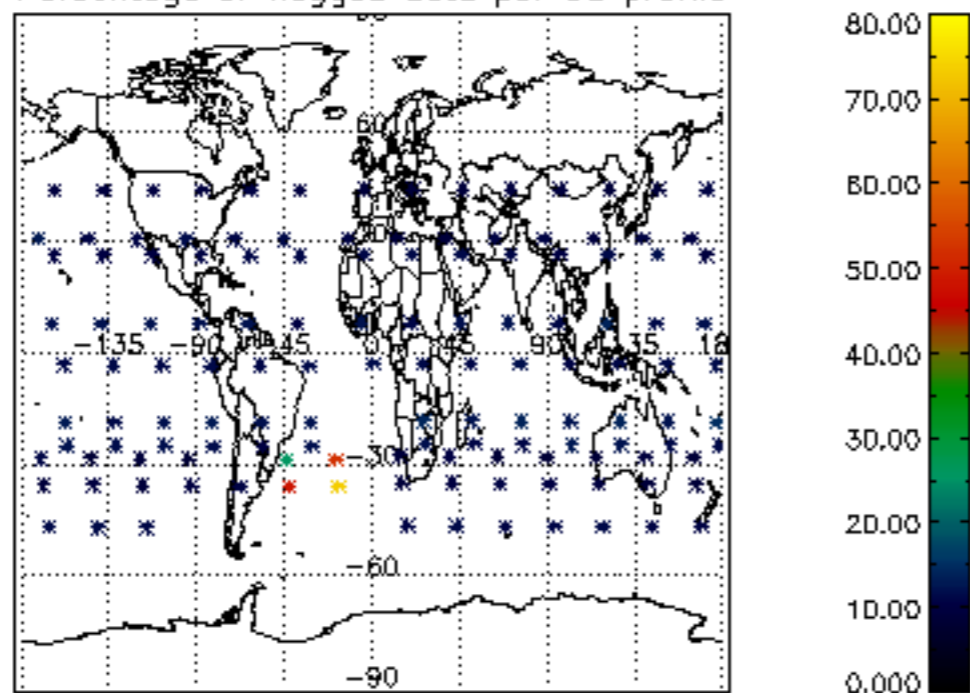
## 6. Auxiliary Data Files used for the production reported in section 2

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.

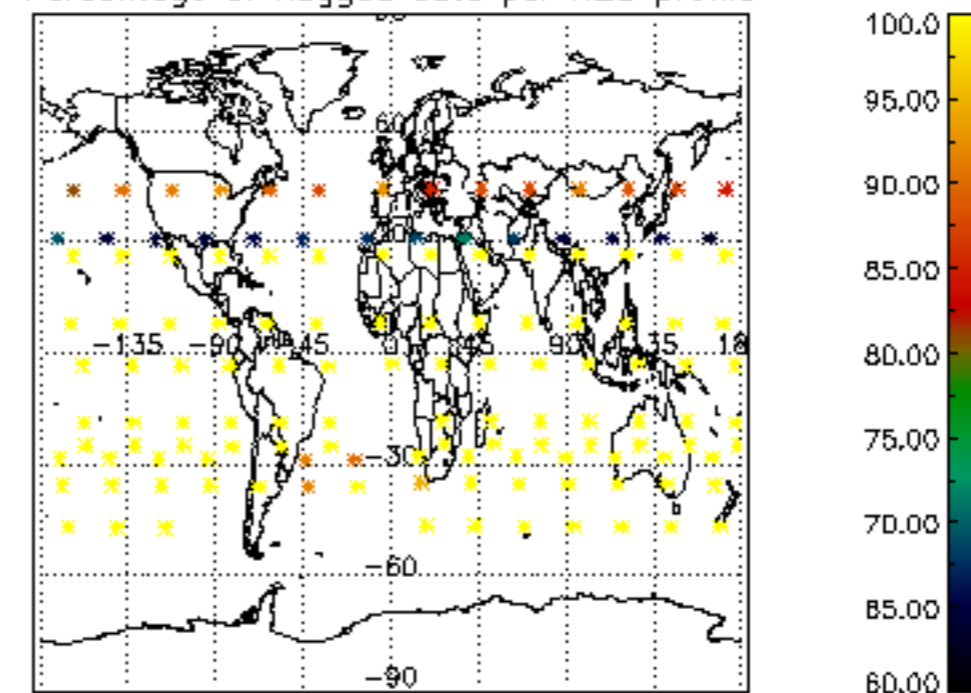
Type	Auxiliary Filename	Used since product	Used since product date
INST_PHYS_CHARACTERISTICS	GOM_INS_AXVIEC20091111_143220_20030716_120000_20500101_000000	1	15-DEC-2009 00:00:44
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	15-DEC-2009 00:00:44
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	15-DEC-2009 00:00:44



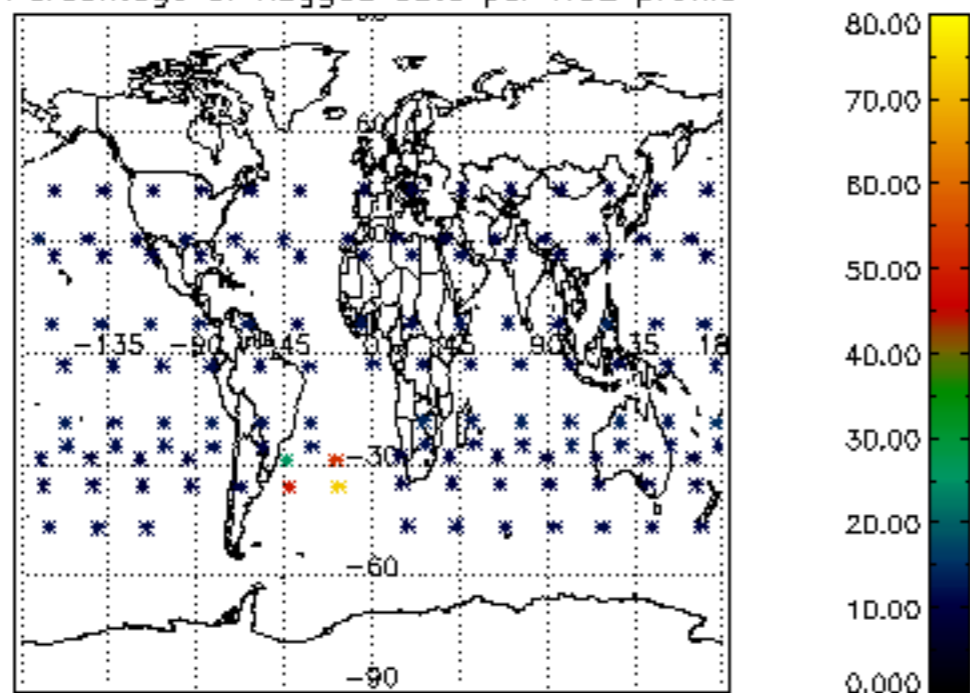
Percentage of flagged data per D3 profile



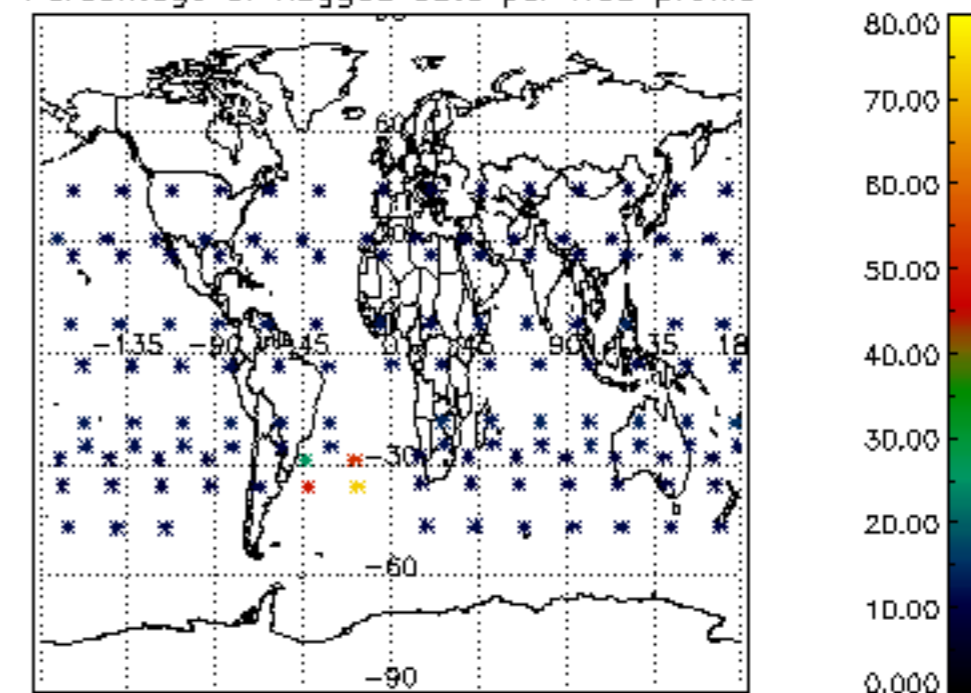
Percentage of flagged data per H2O profile

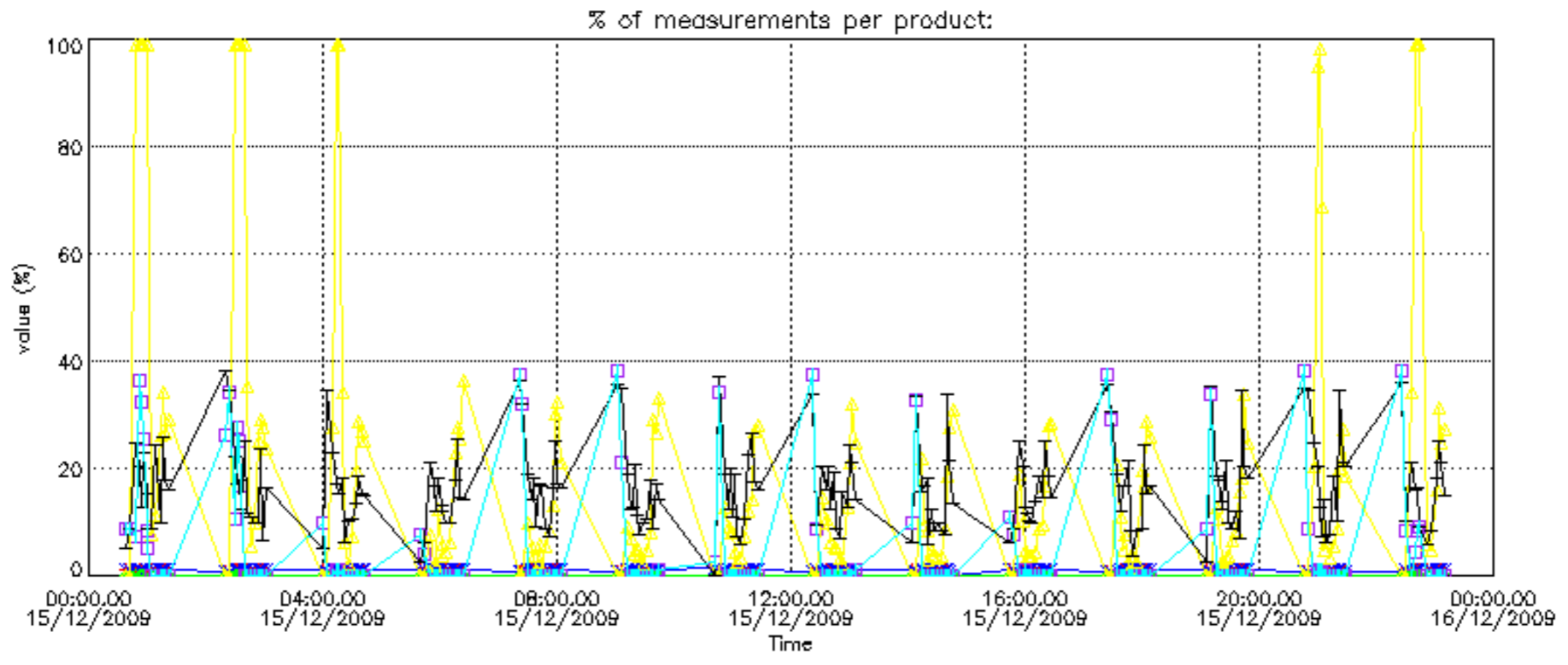


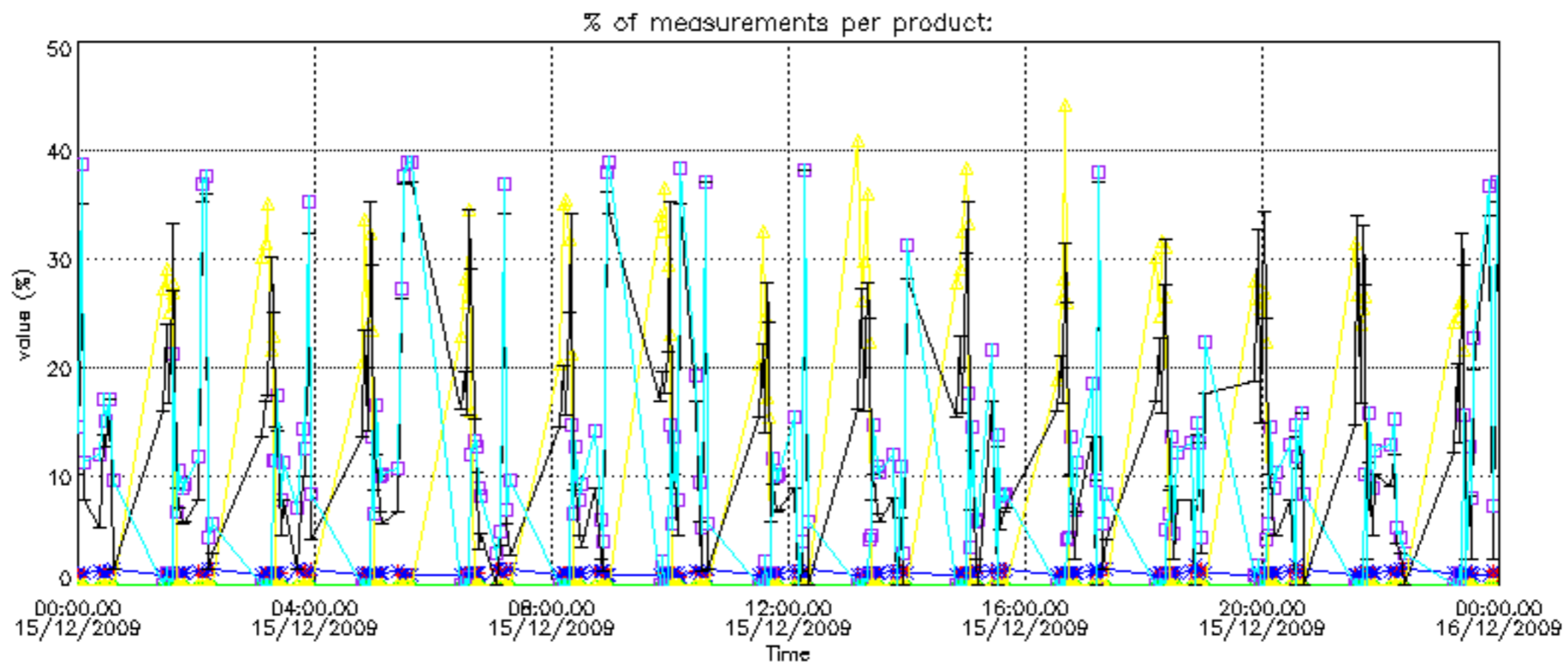
Percentage of flagged data per NO2 profile



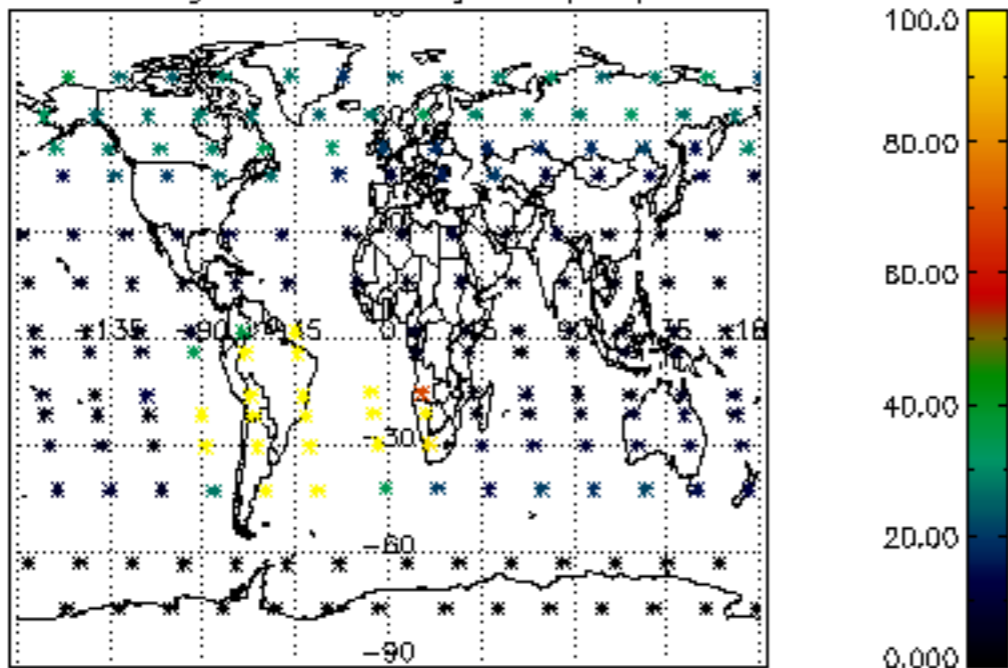
Percentage of flagged data per NO3 profile



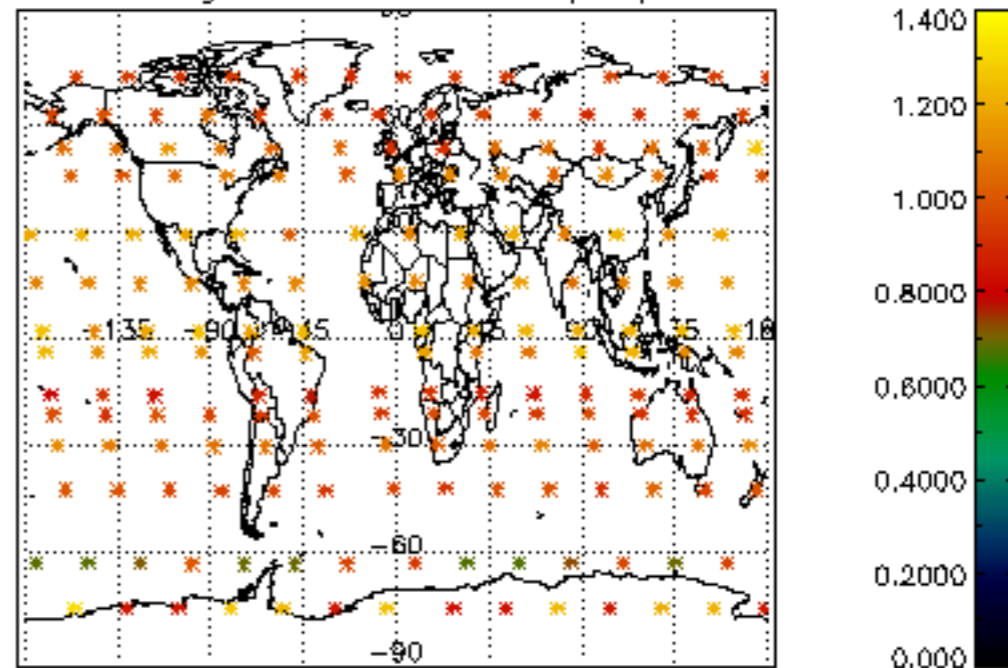




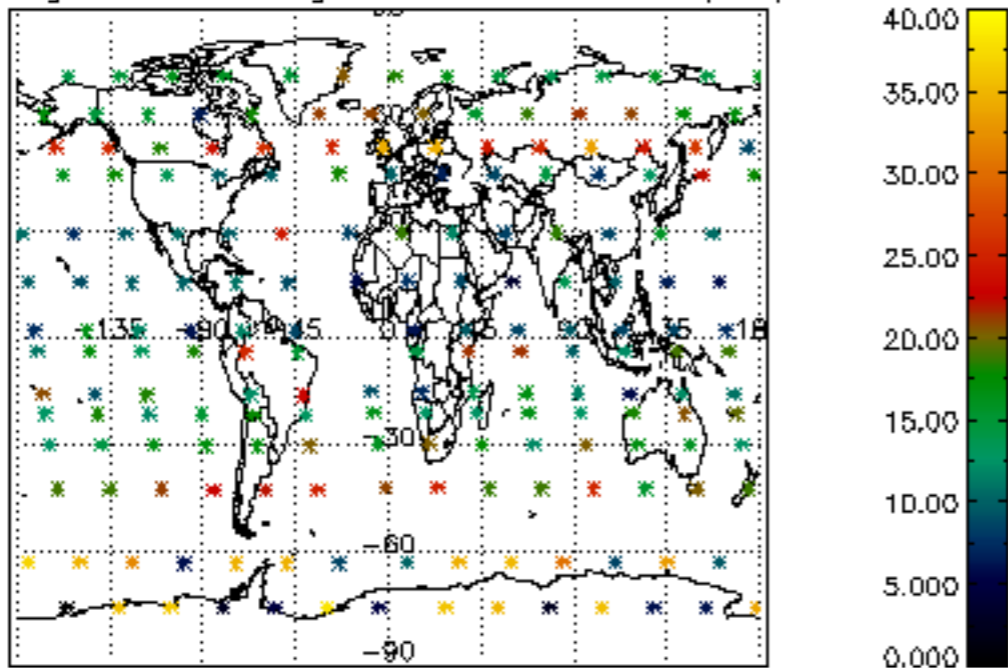
Percentage of cosmic ray hits per profile



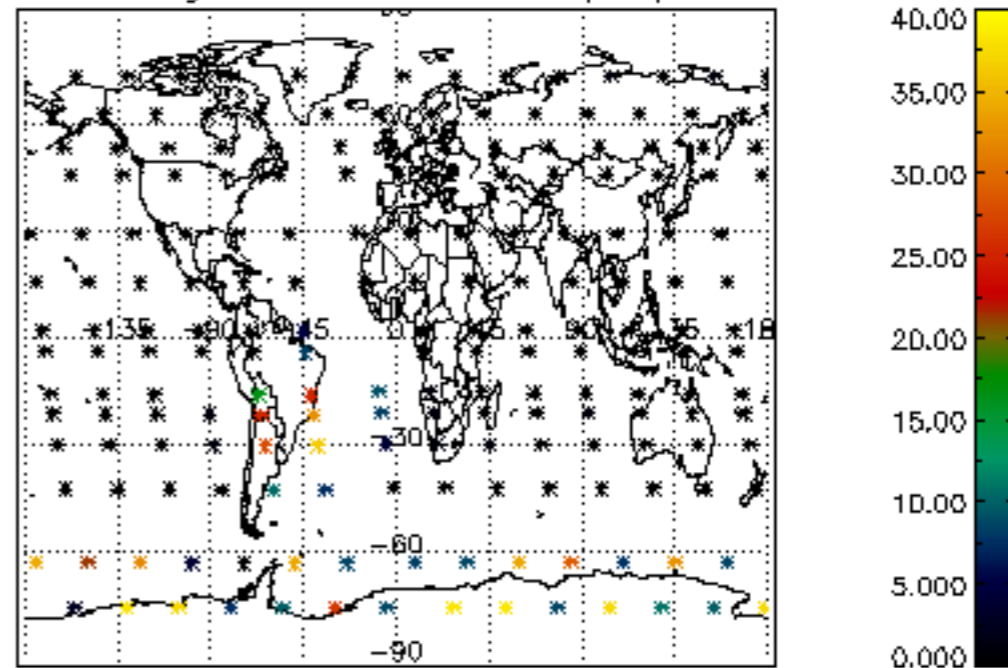
Percentage of datation errors per profile



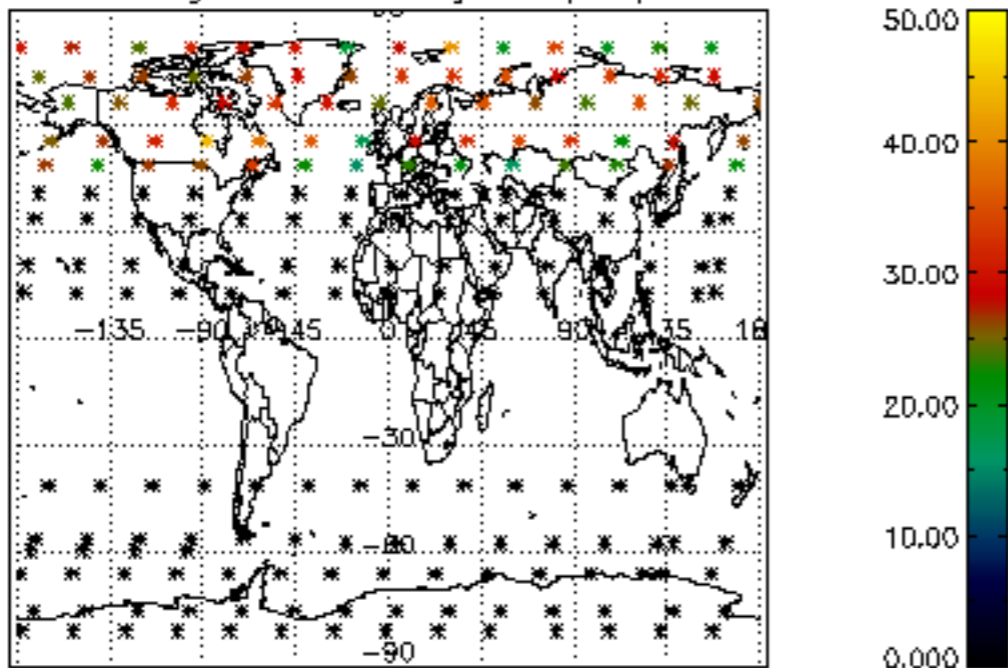
Percentage of star falling outside central band per profile



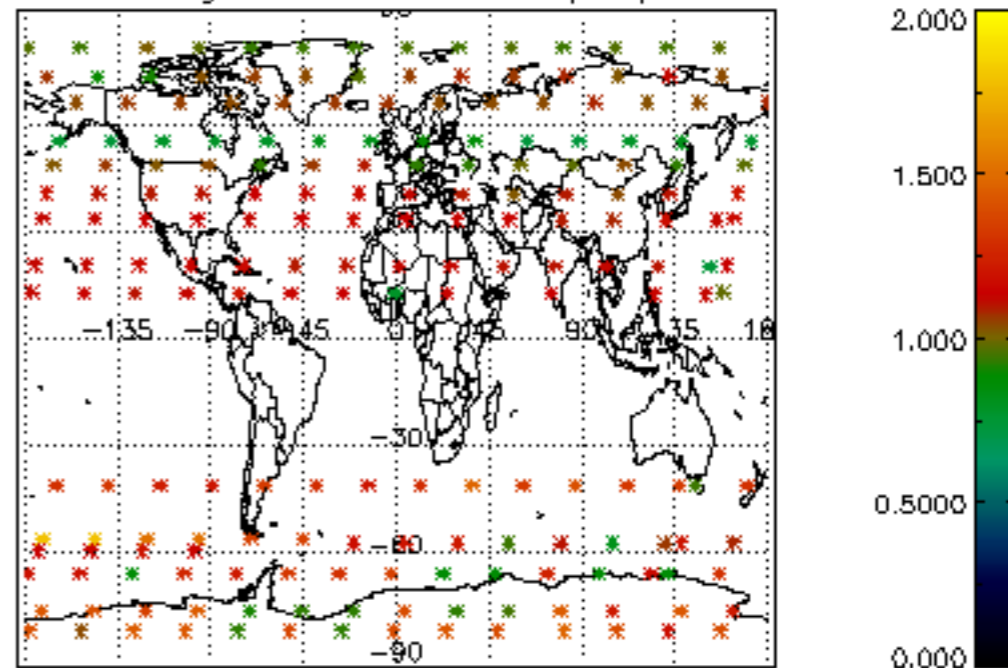
Percentage of saturation errors per profile



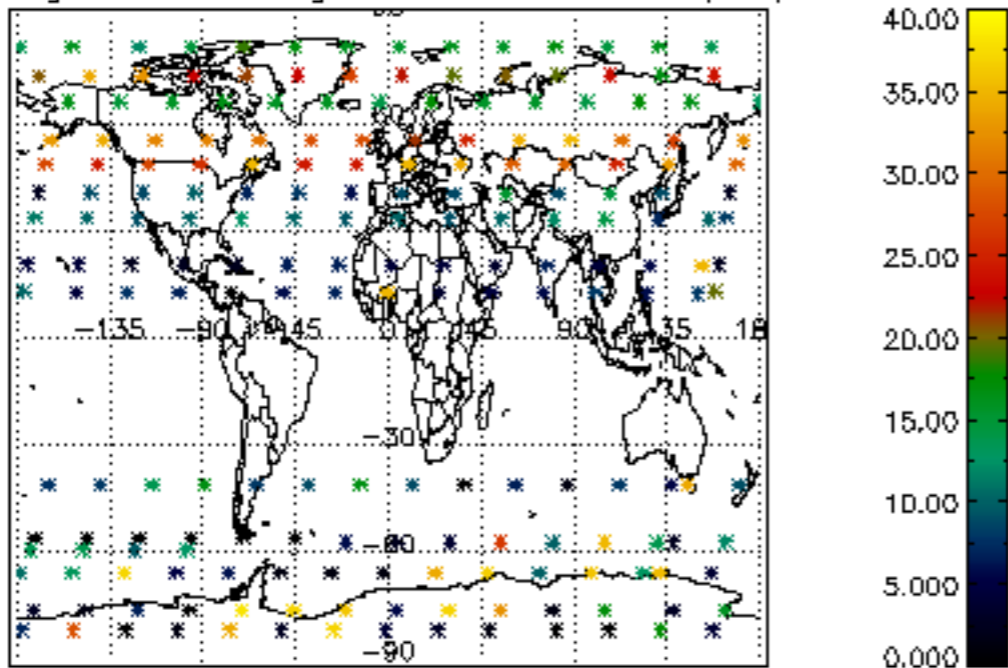
Percentage of cosmic ray hits per profile



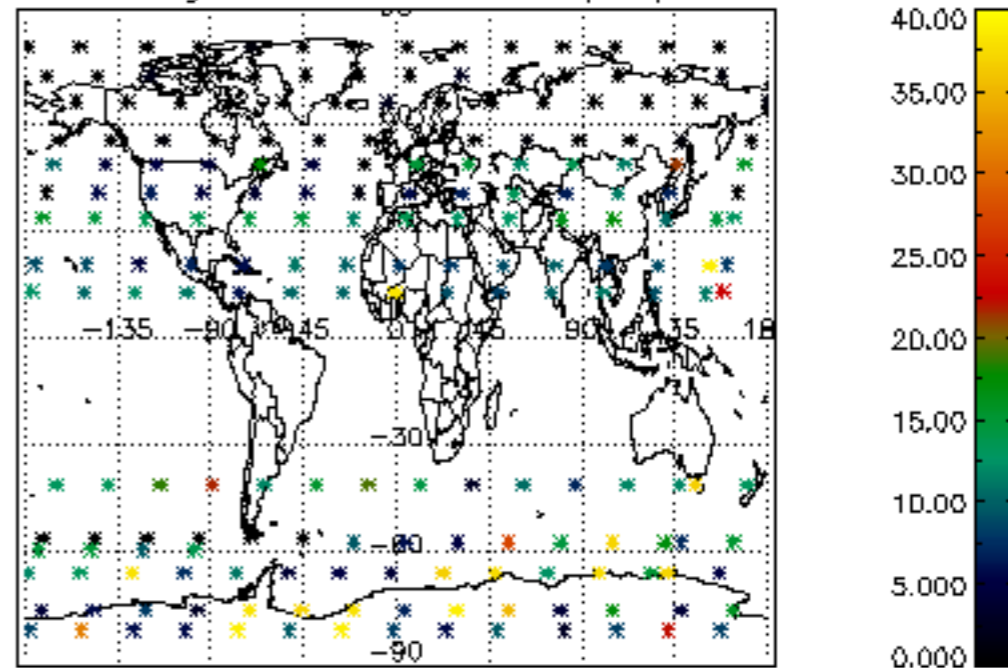
Percentage of datation errors per profile



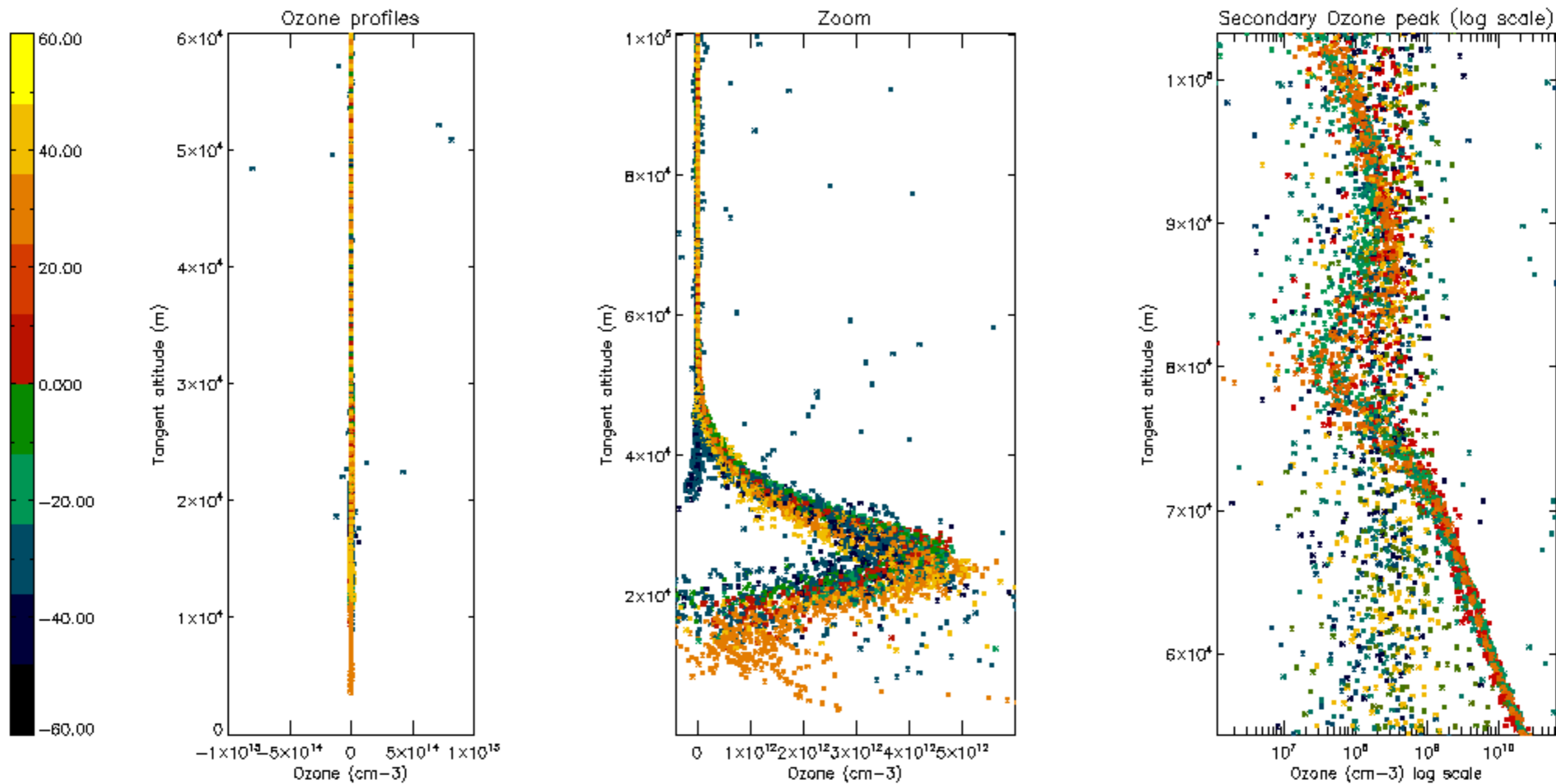
Percentage of star falling outside central band per profile

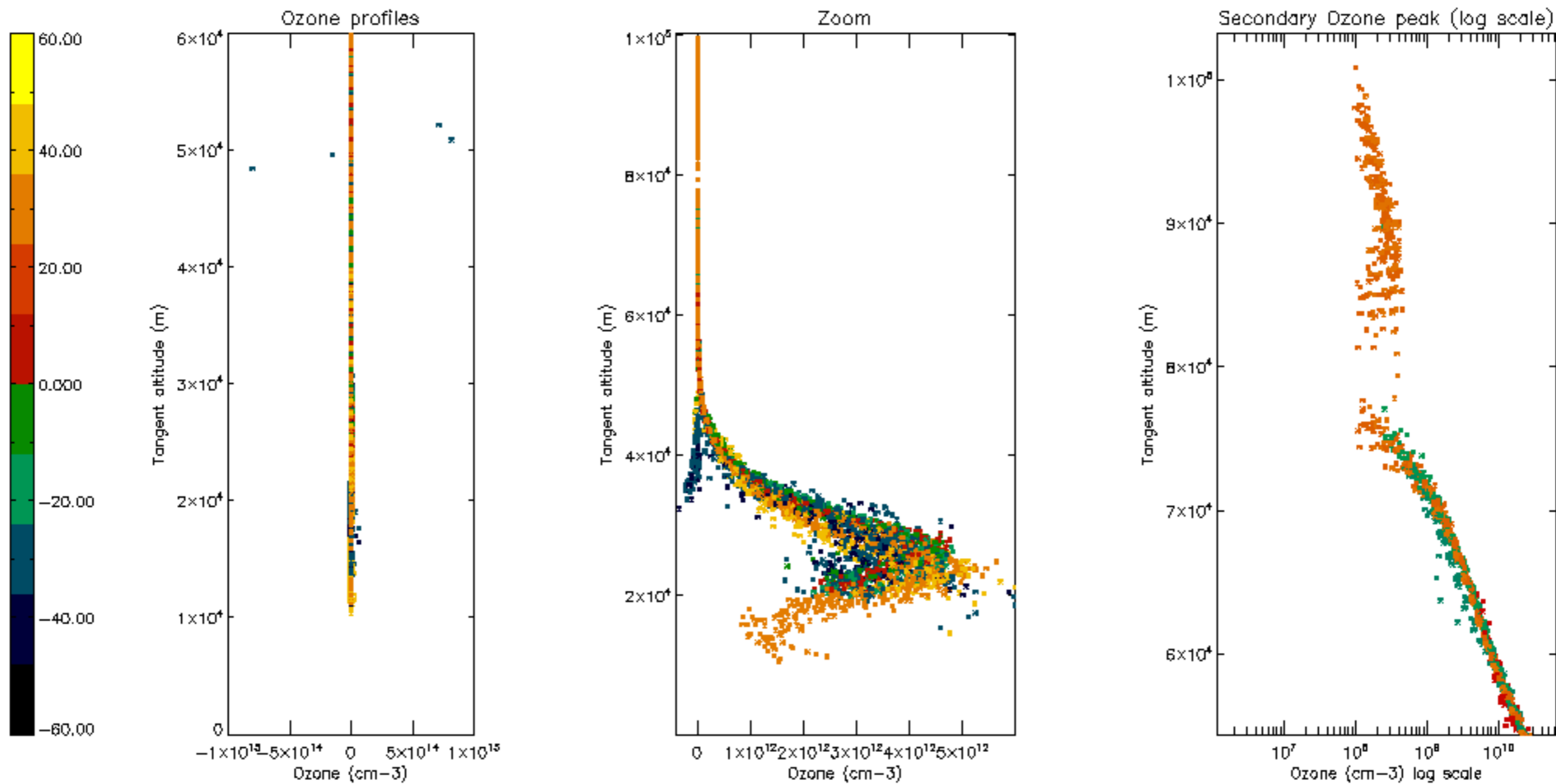


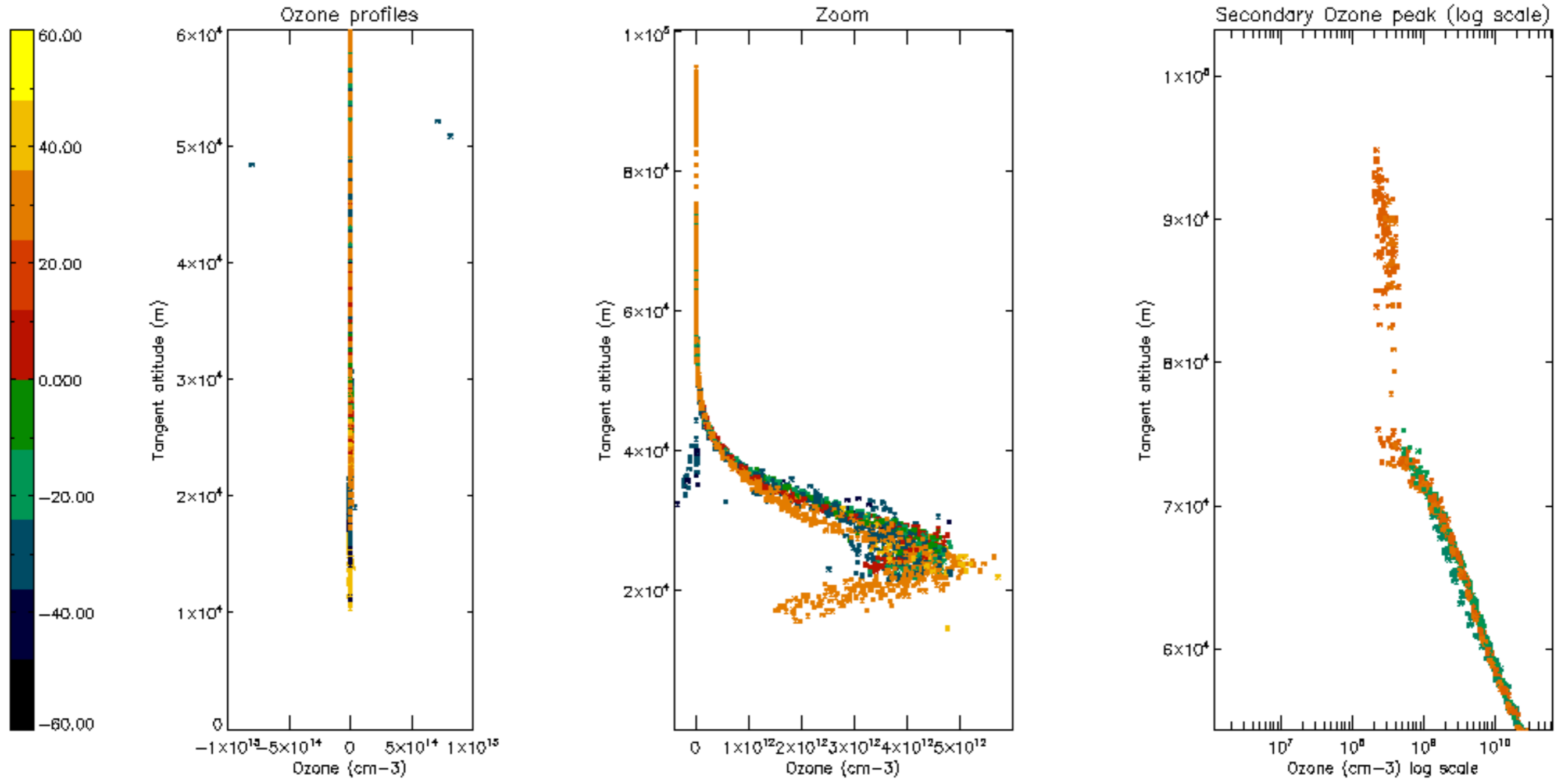
Percentage of saturation errors per profile

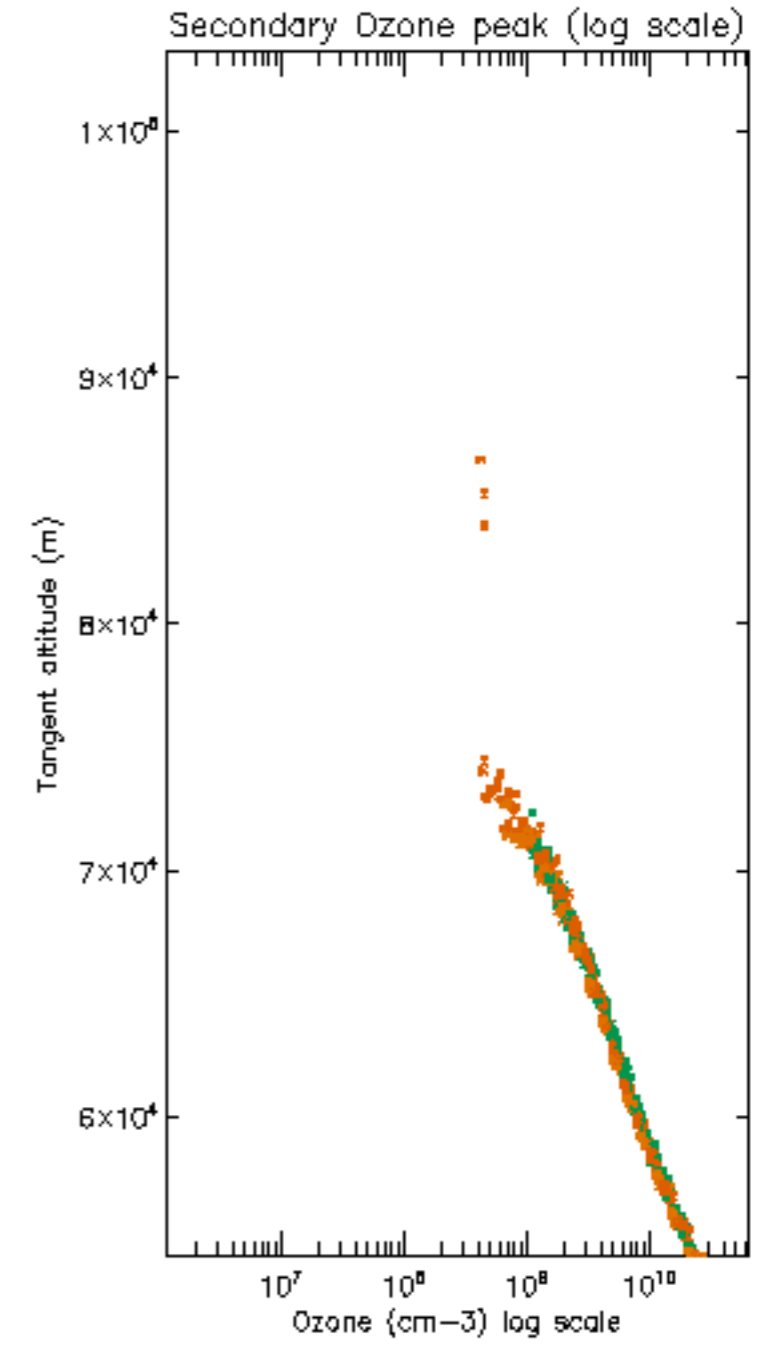
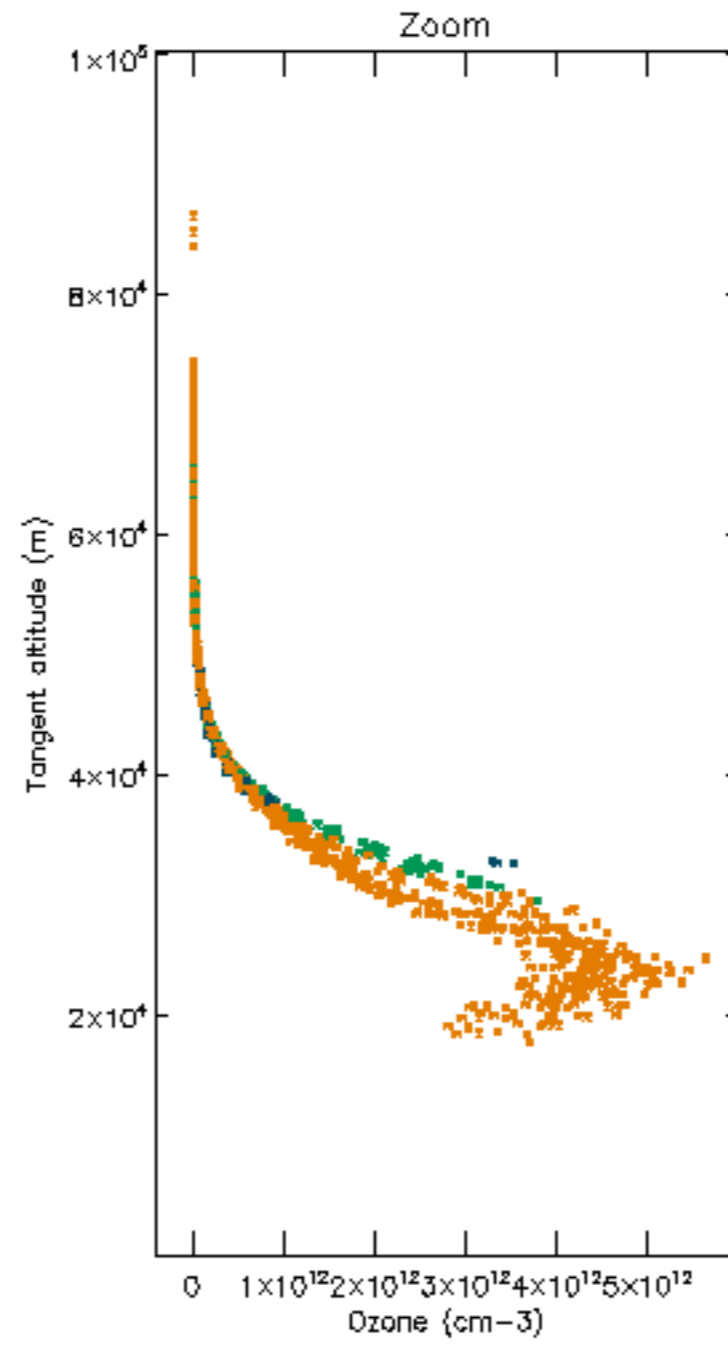
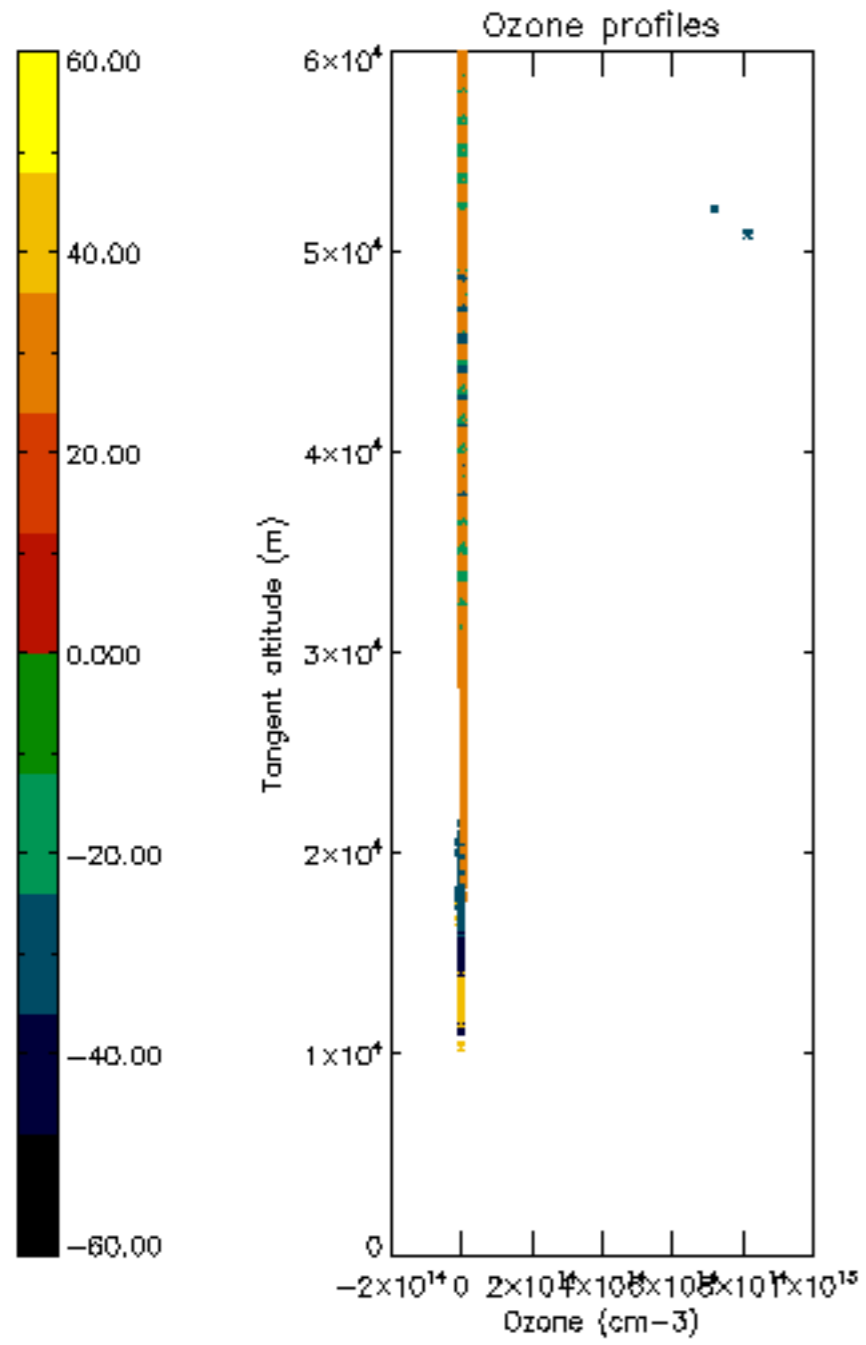


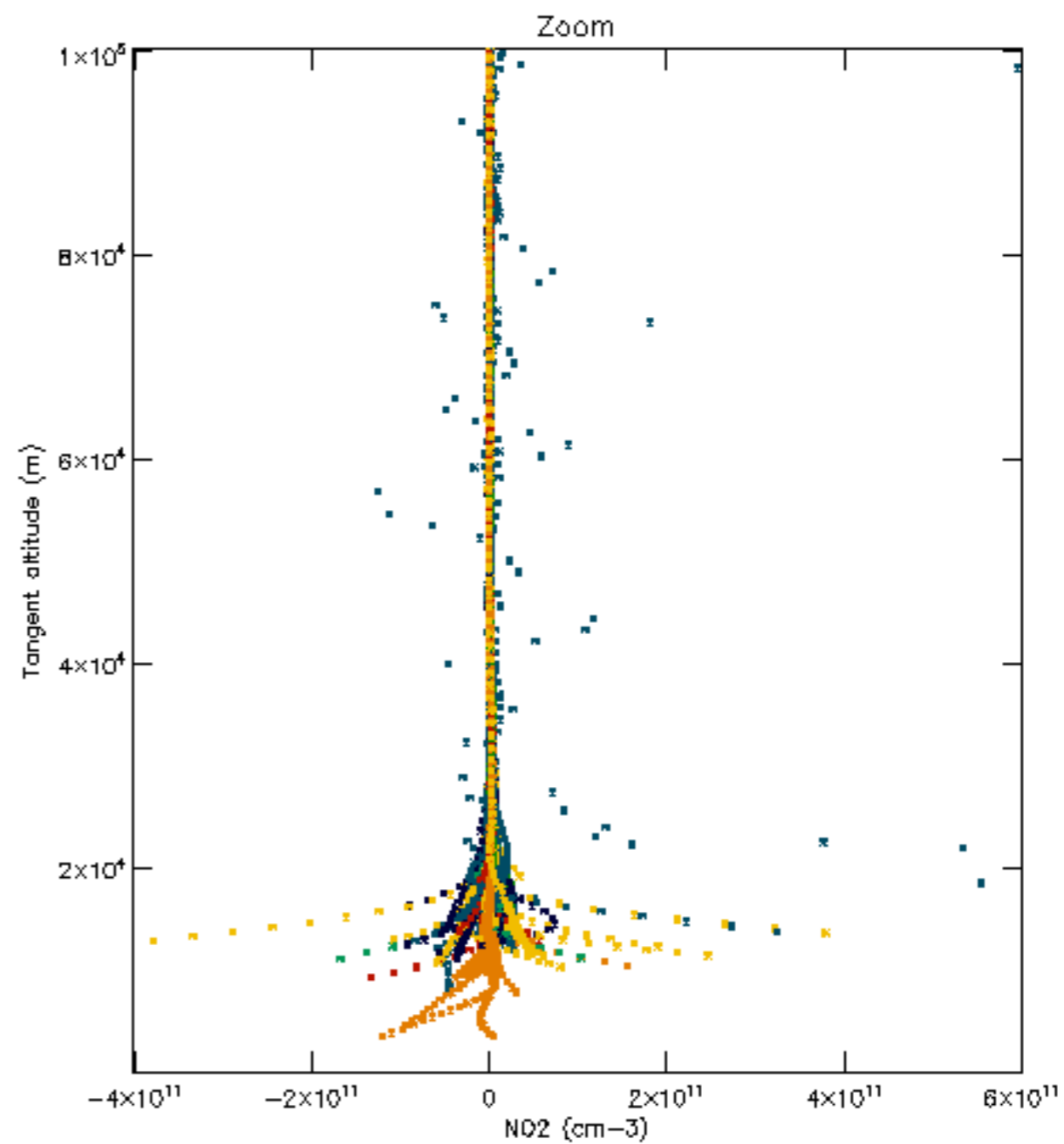
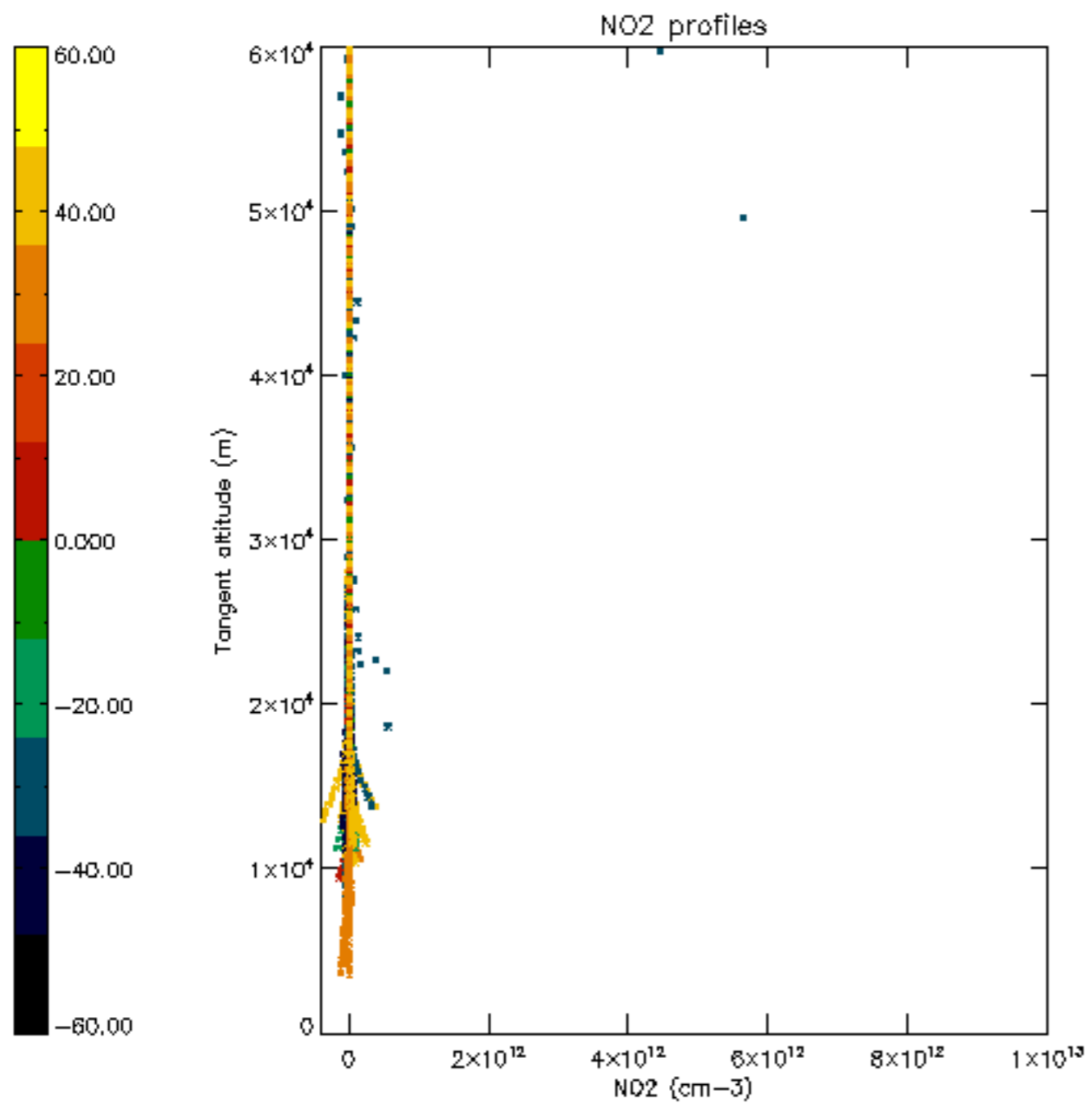


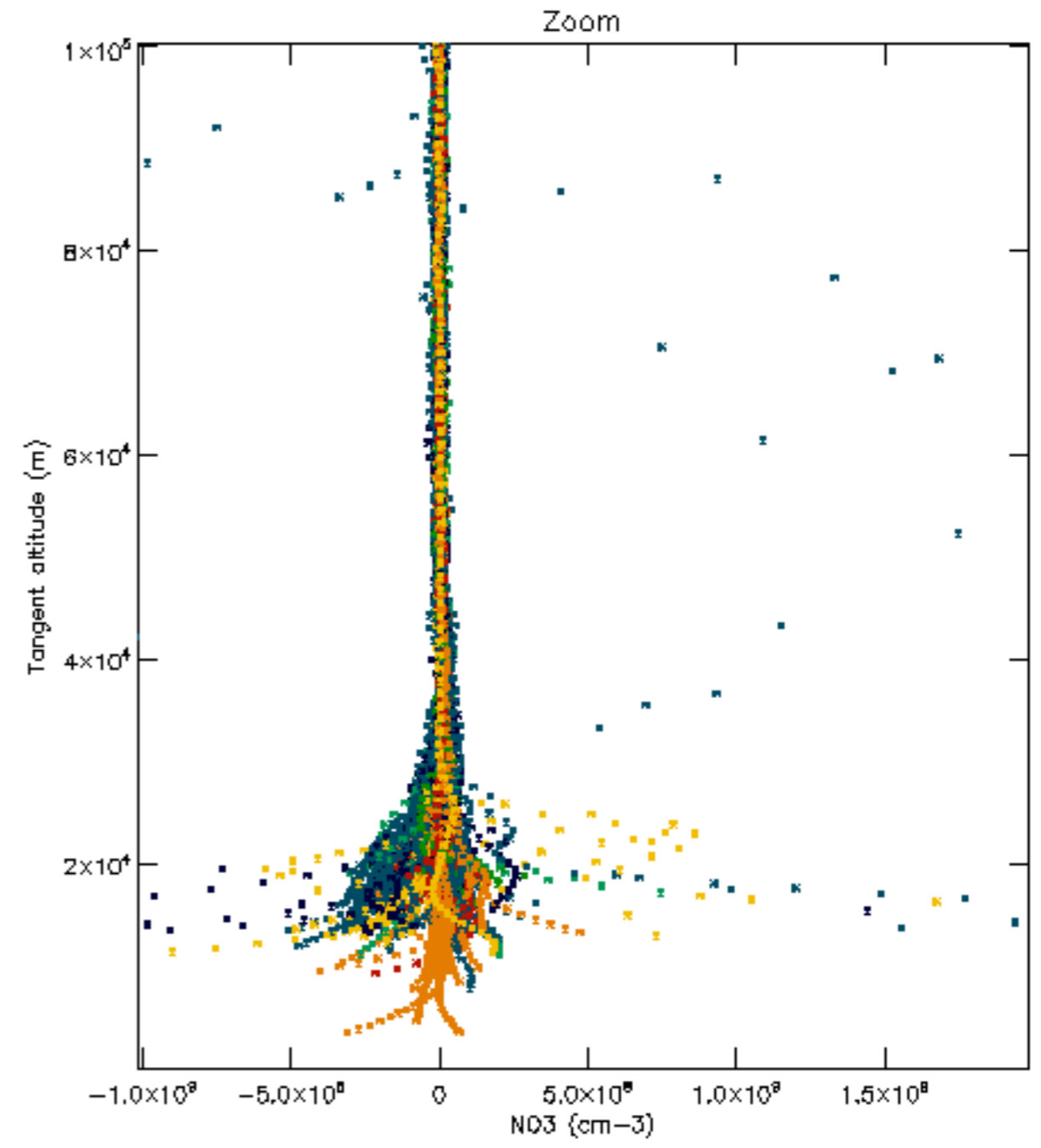
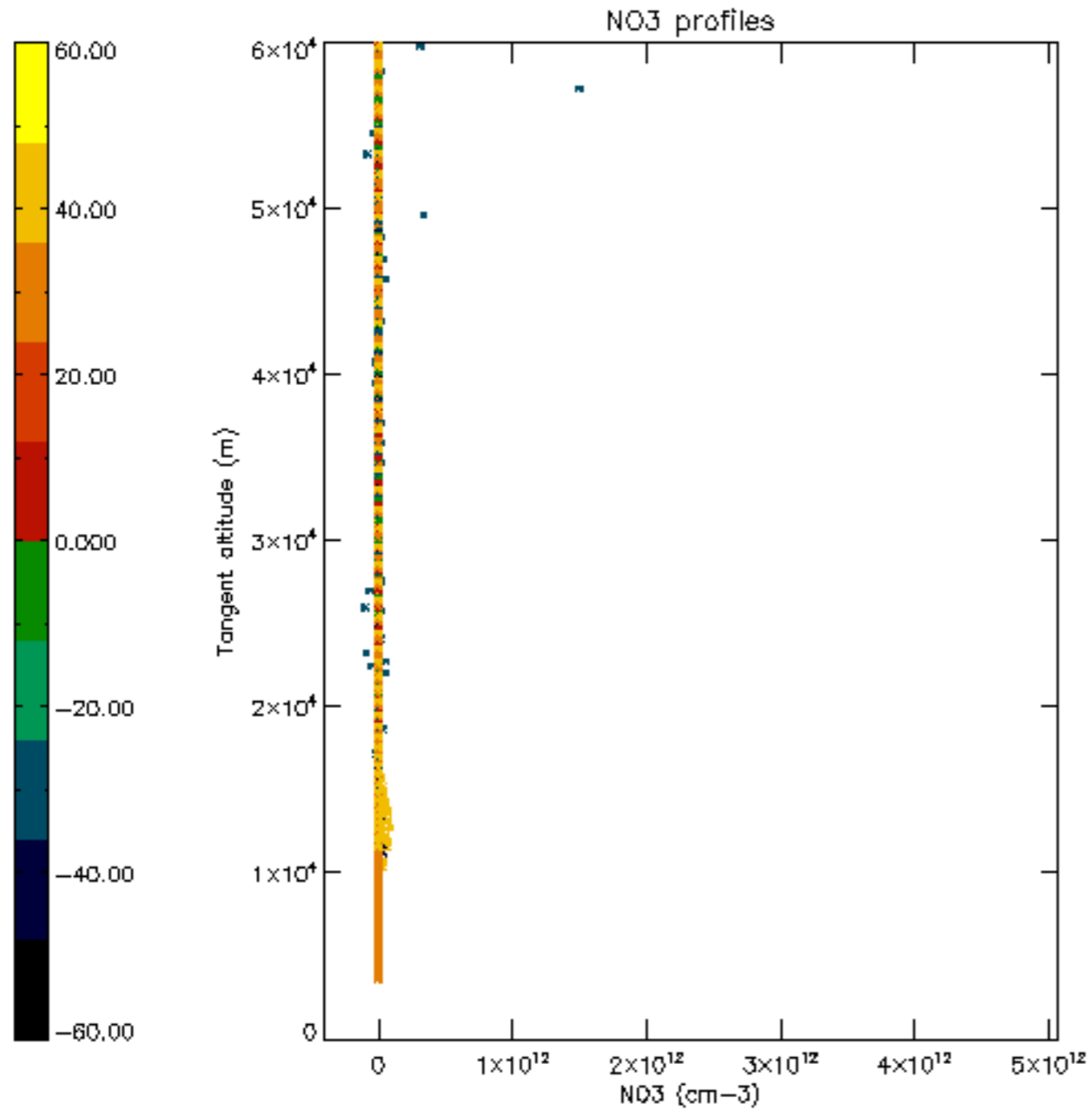


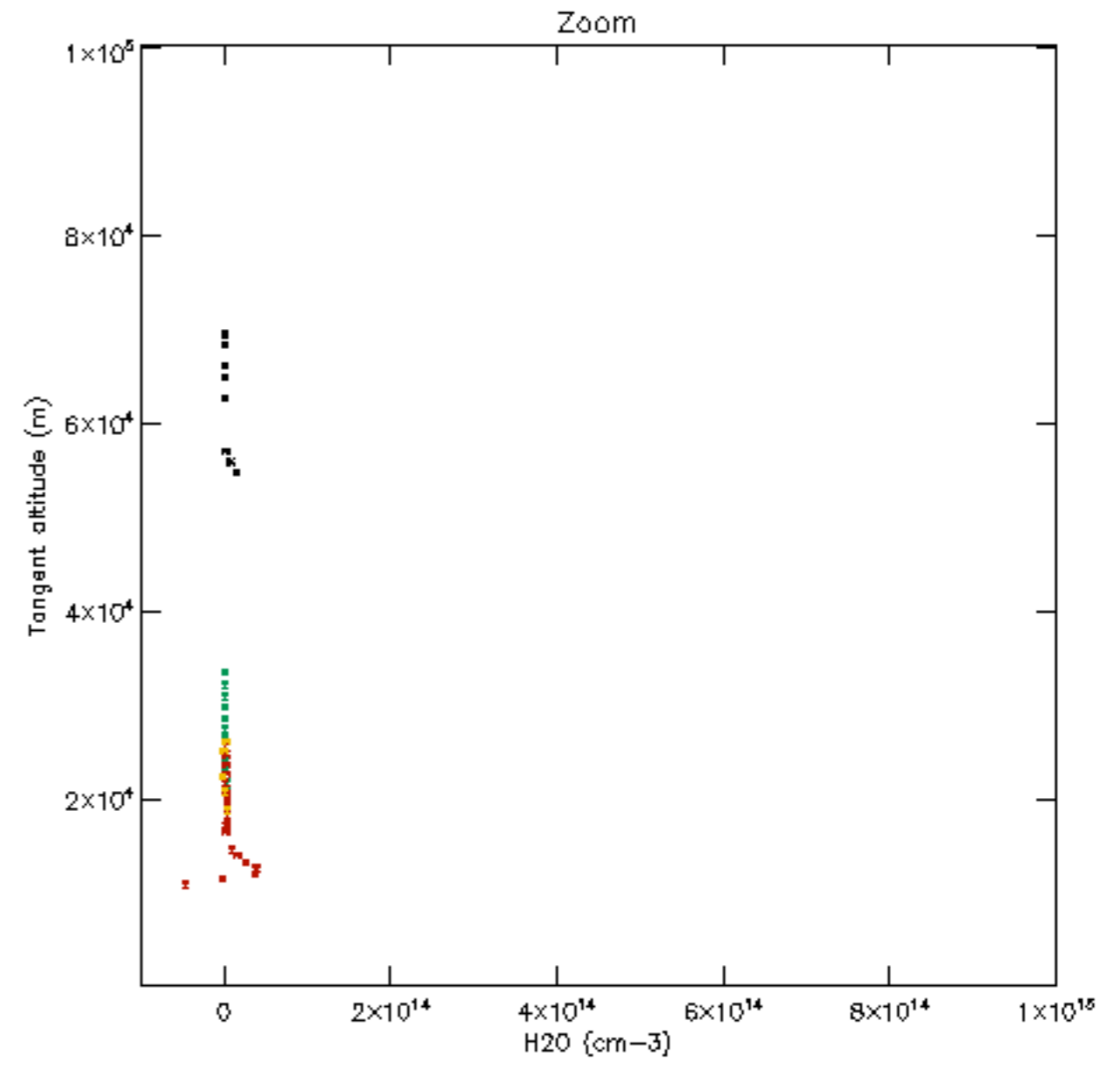
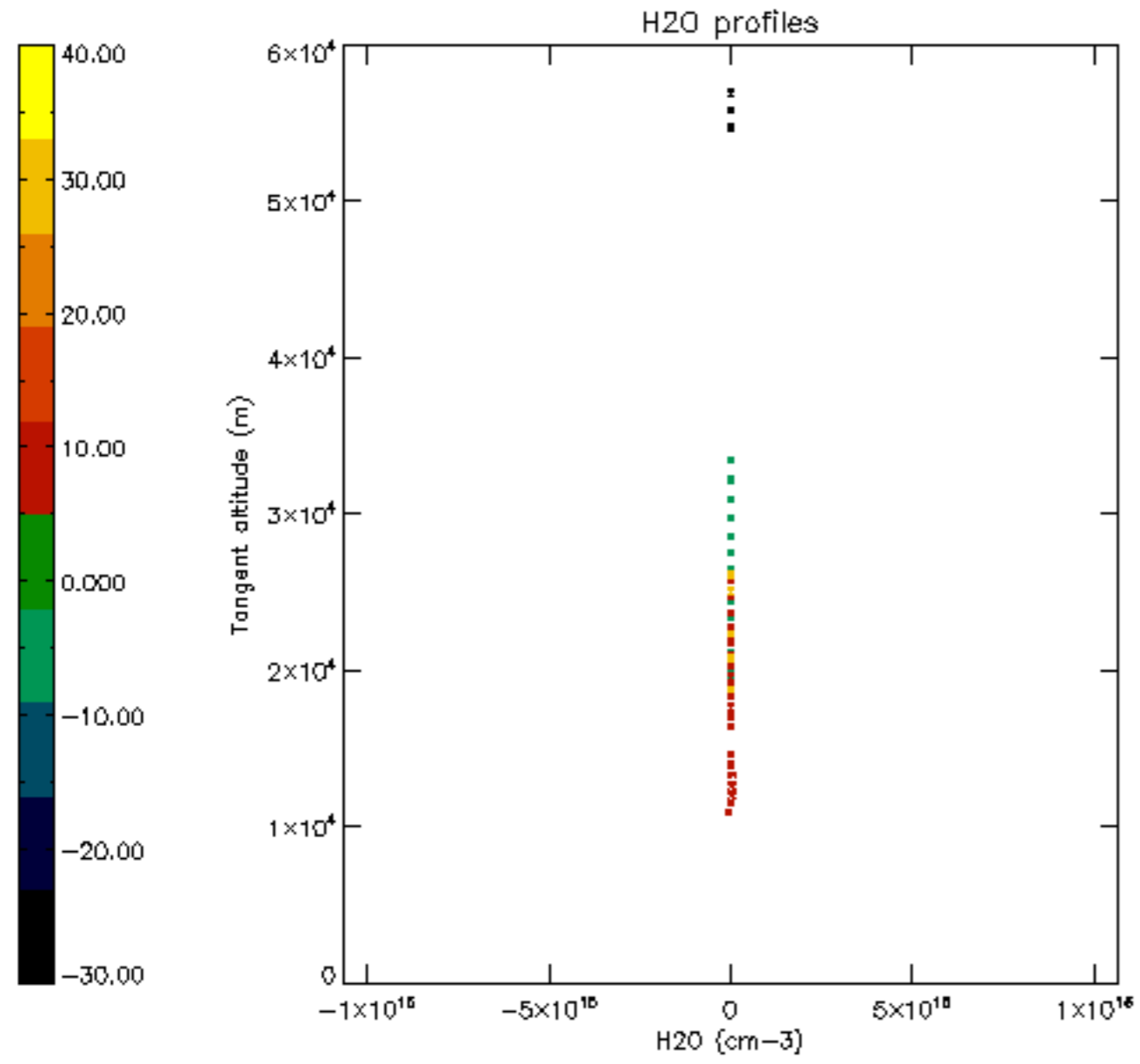


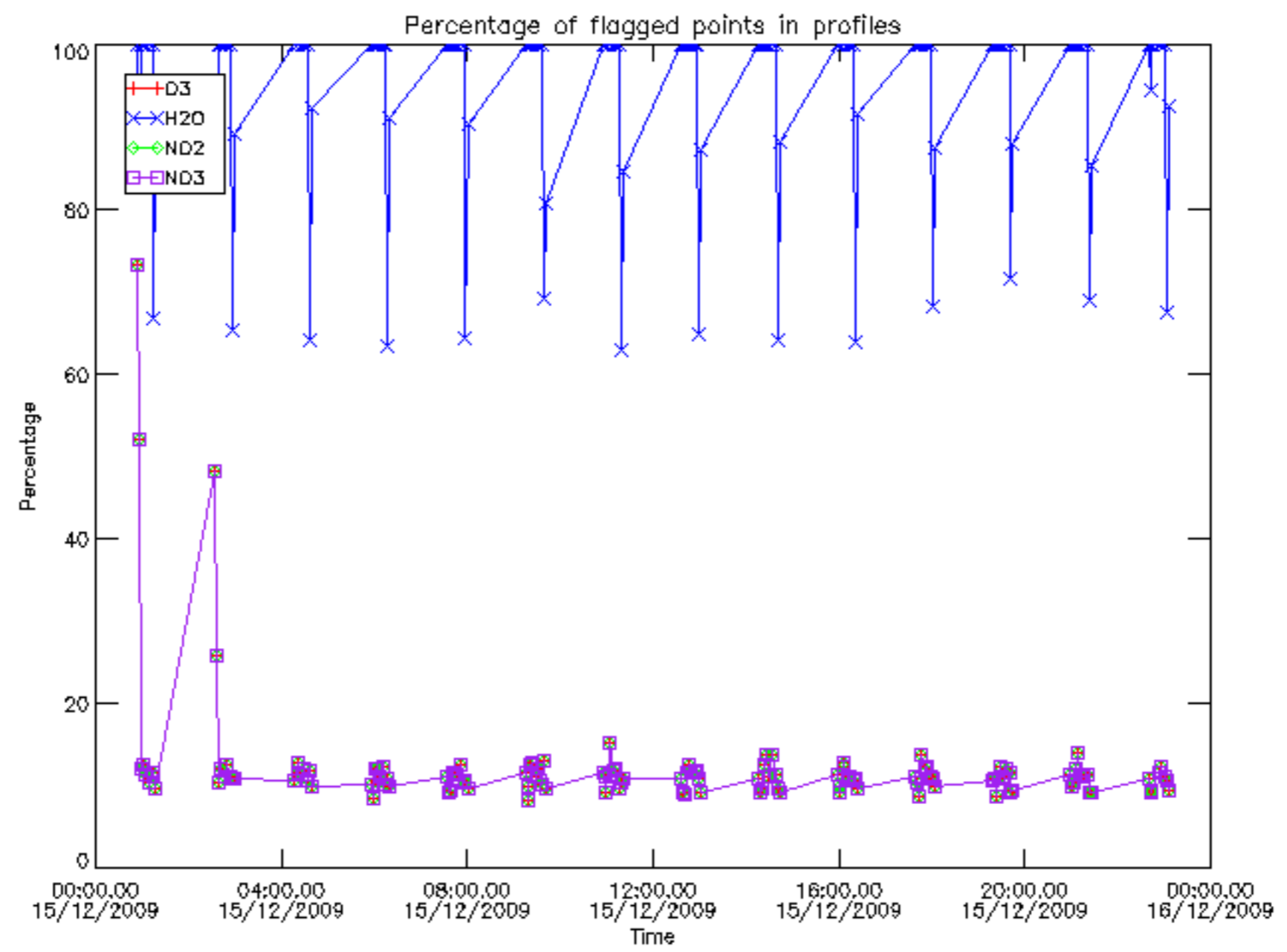






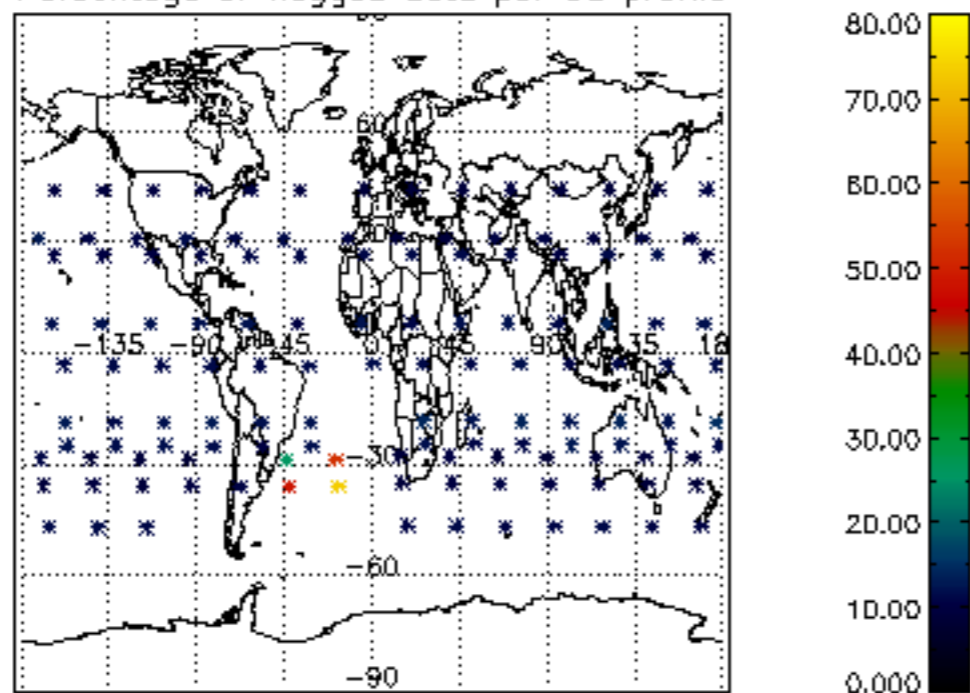




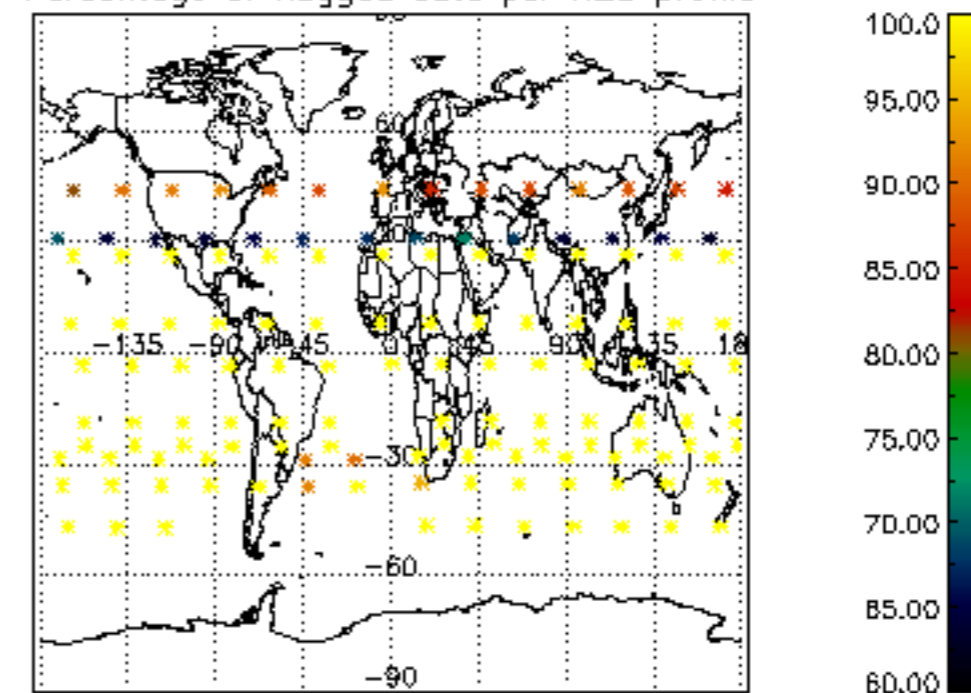




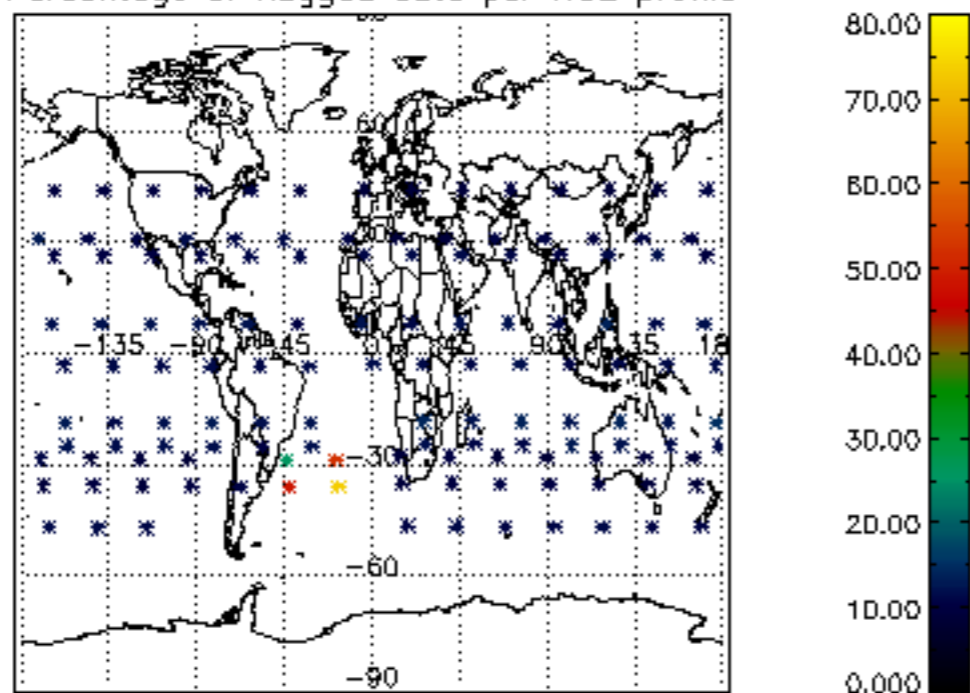
Percentage of flagged data per D3 profile



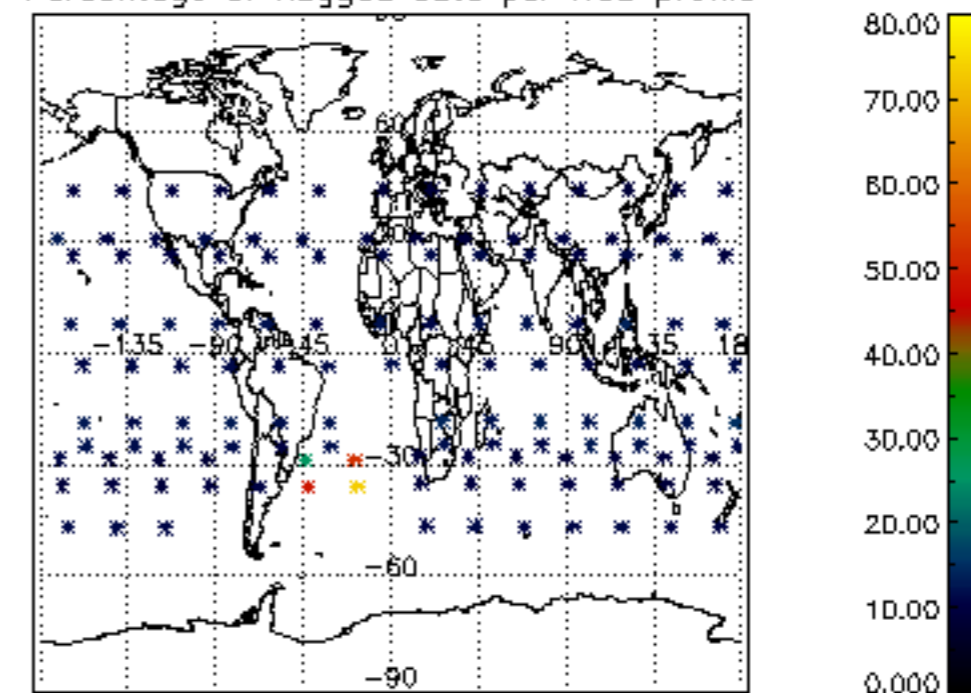
Percentage of flagged data per H2O profile

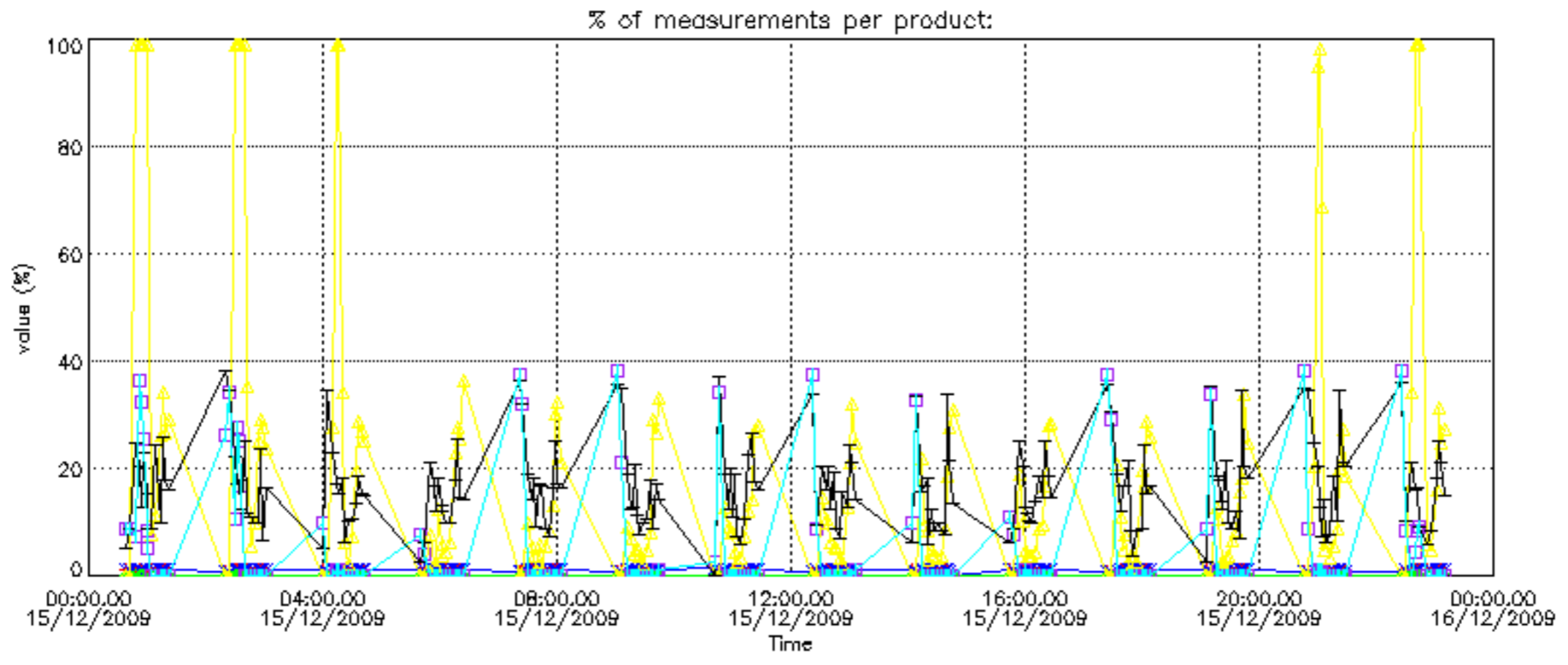


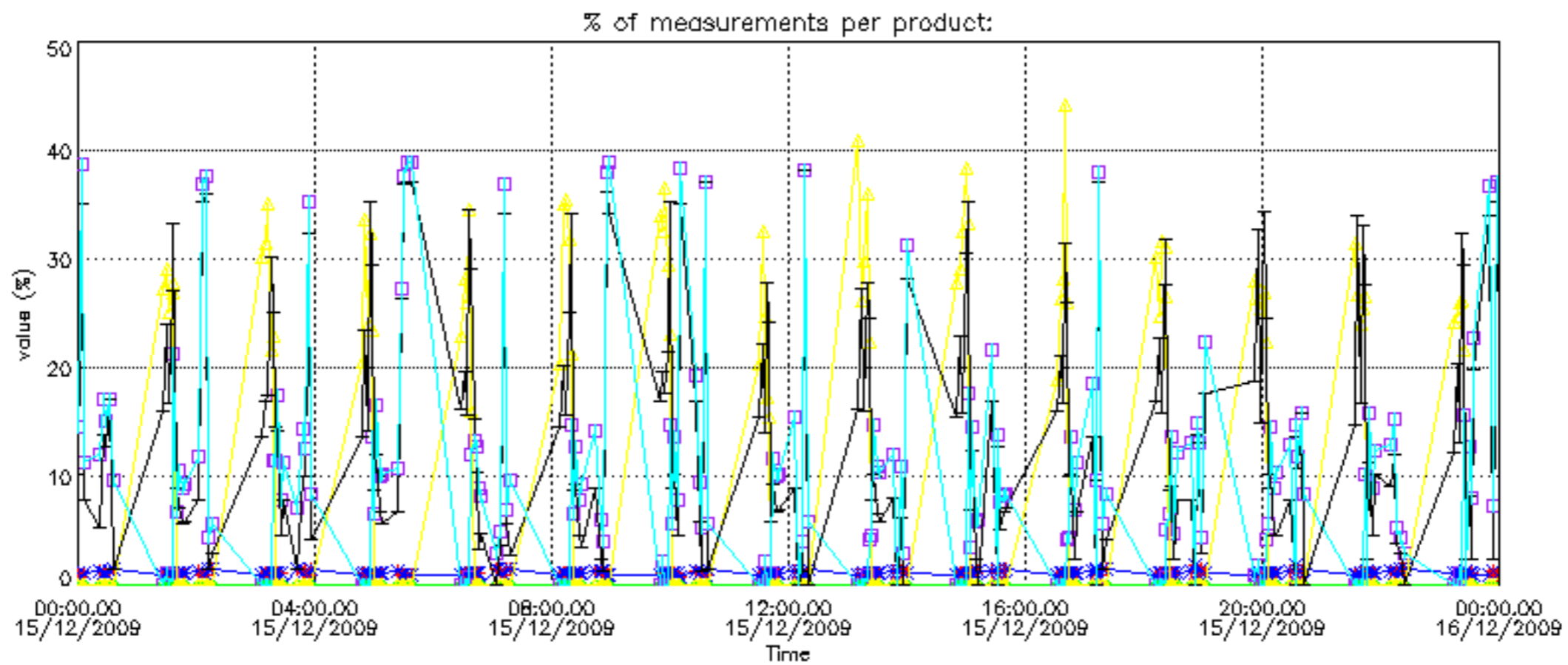
Percentage of flagged data per NO2 profile



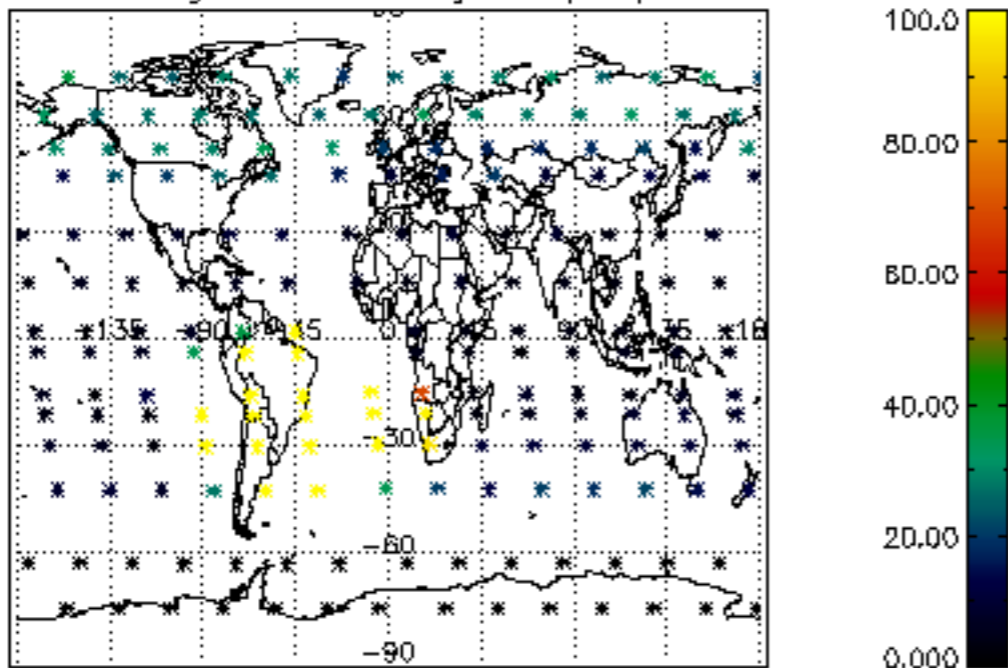
Percentage of flagged data per NO3 profile



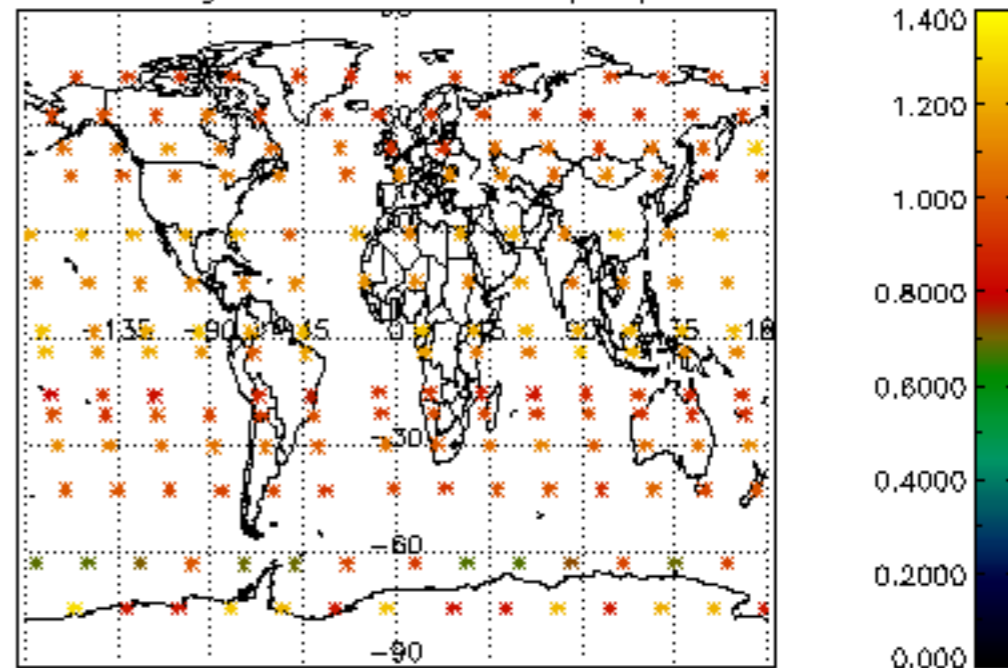




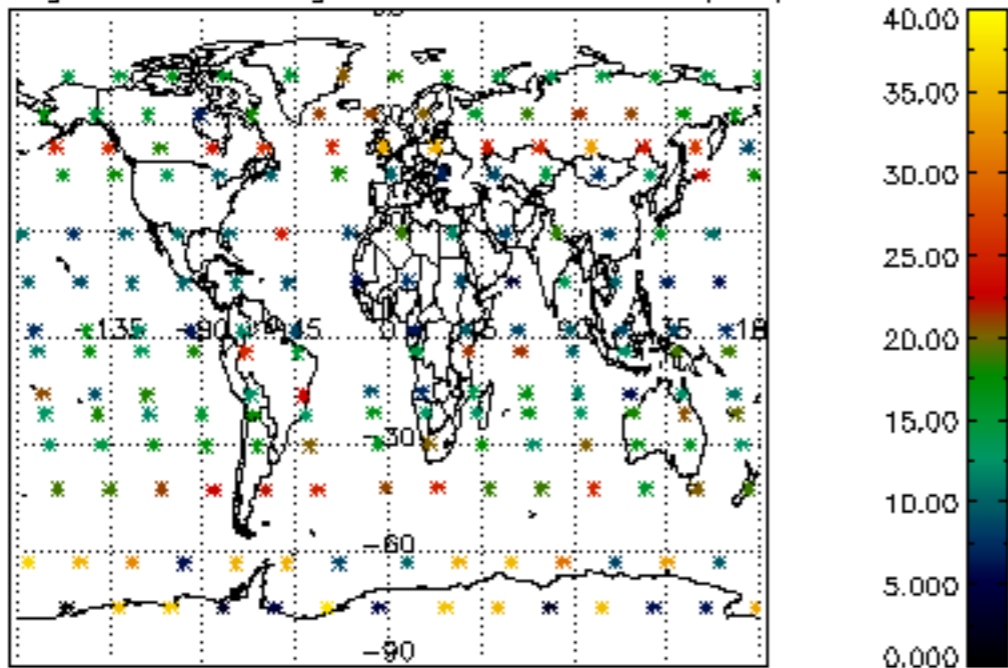
Percentage of cosmic ray hits per profile



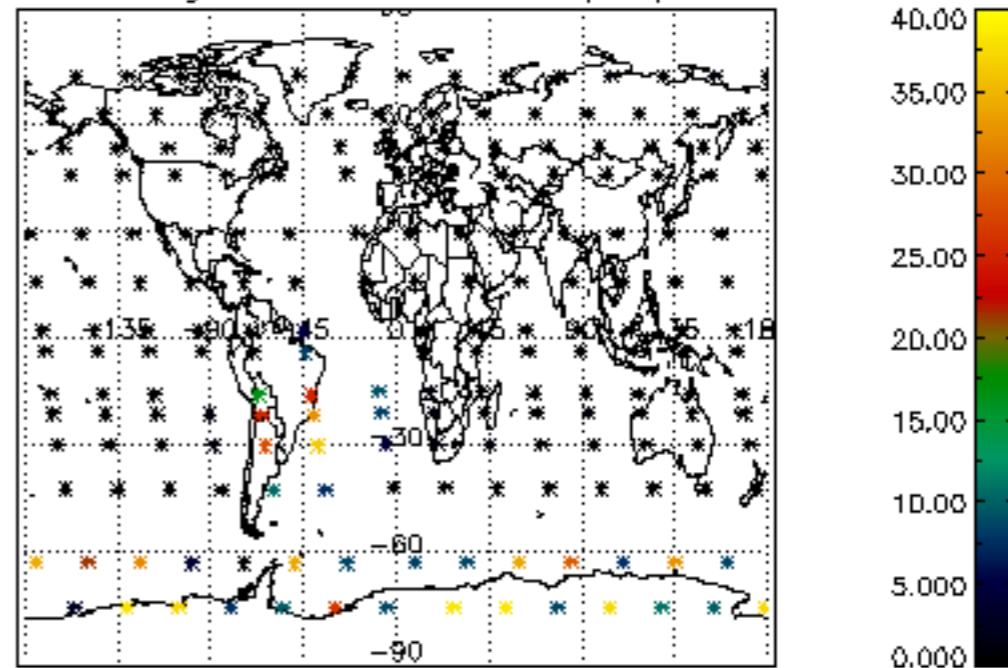
Percentage of datation errors per profile



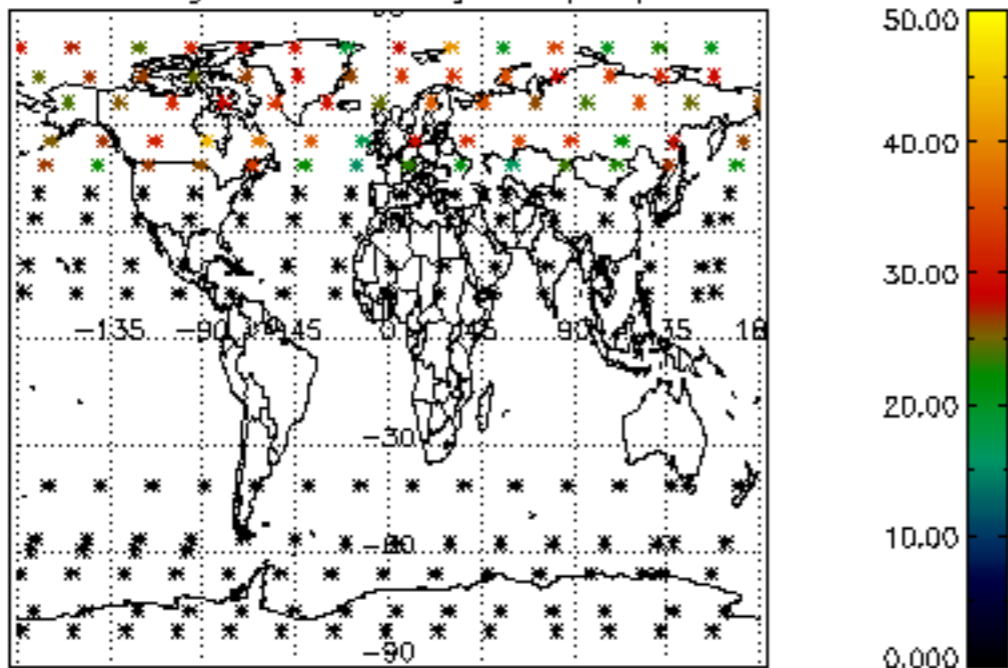
Percentage of star falling outside central band per profile



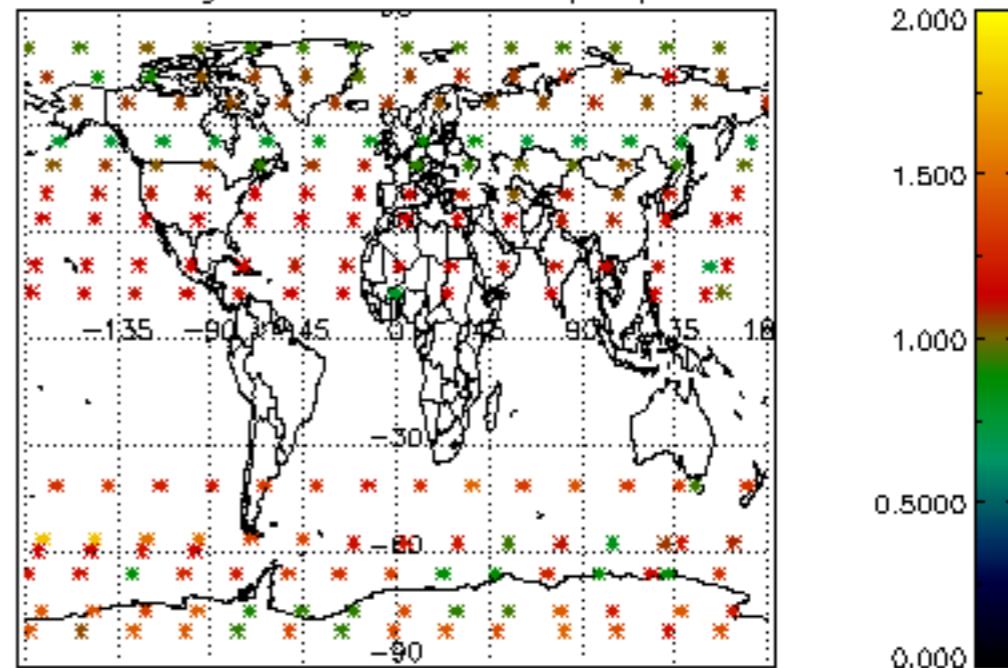
Percentage of saturation errors per profile



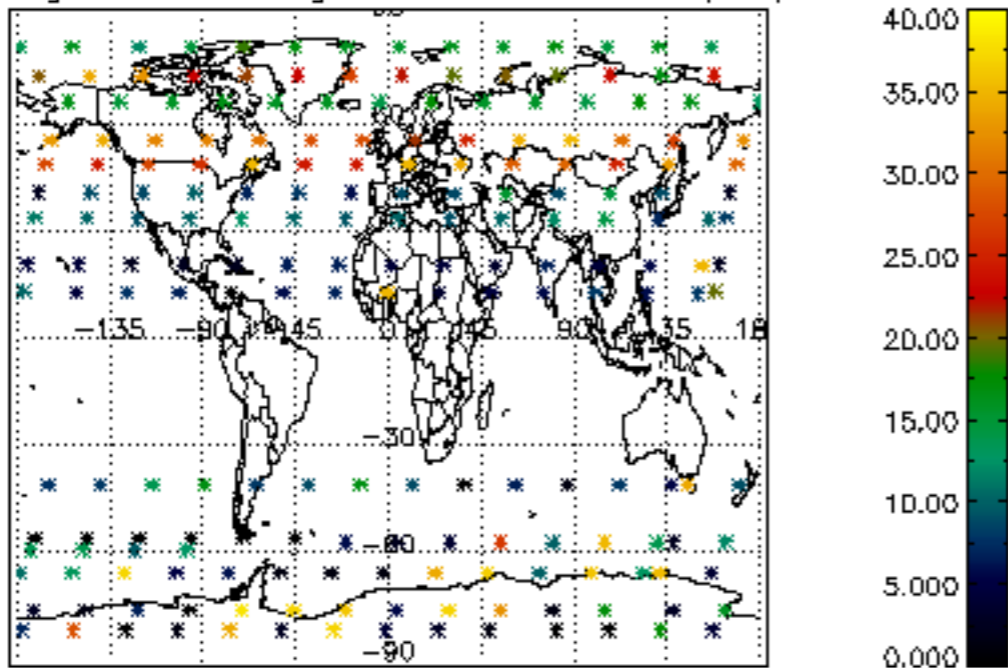
Percentage of cosmic ray hits per profile



Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile

