

# 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 17:08:42
Data source version	GOMOS/6.01
Start time of products	10-03-2007 (10MAR2007 00:00:00)
Stop time of products	11-03-2007 (11MAR2007 00:00:00)
Store outputs in DB	Yes
Nb of level 2 prods	226
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__2PRFIN20070310_000427_000000372056_00159_26265_9224.N1	10-MAR-2007 00:04:27	Bright	37.000	144	18Del Cyg	2.8600	11000.	74	26265	No
2	GOM_NL__2PRFIN20070310_000547_000000382056_00159_26265_9225.N1	10-MAR-2007 00:05:47	Bright	38.000	66	37Gam Cyg	2.2080	5900.0	76	26265	No
3	GOM_NL__2PRFIN20070310_001454_000000482056_00159_26265_9226.N1	10-MAR-2007 00:14:54	Twilight	48.000	168	17Zet Aql	2.9860	11000.	96	26265	No
4	GOM_NL__2PRFIN20070310_002658_000000422056_00159_26265_9227.N1	10-MAR-2007 00:26:58	Dark	41.500	57	34Sig Sgr	2.0660	26000.	83	26265	No
5	GOM_NL__2PRFIN20070310_003017_000000442056_00159_26265_9228.N1	10-MAR-2007 00:30:17	Dark	44.000	38	20Eps Sgr	1.8360	11000.	88	26265	No
6	GOM_NL__2PRFIN20070310_003322_000000492056_00159_26265_9229.N1	10-MAR-2007 00:33:22	Dark	49.000	85	Kap Sco	2.4070	28000.	98	26265	No
7	GOM_NL__2PRFIN20070310_004030_000000392056_00160_26266_9225.N1	10-MAR-2007 00:40:30	Dark	39.000	134	Bet TrA	2.8100	6600.0	78	26266	No
8	GOM_NL__2PRFIN20070310_004312_000000522056_00160_26266_9226.N1	10-MAR-2007 00:43:12	Dark	51.500	4	Alp1Cen	-0.010000	5800.0	103	26266	No
9	GOM_NL__2PRFIN20070310_004428_000000492056_00160_26266_9227.N1	10-MAR-2007 00:44:28	Dark	48.500	10	Bet Cen	0.61000	28000.	97	26266	No
10	GOM_NL__2PRFIN20070310_004626_000000442056_00160_26266_9228.N1	10-MAR-2007 00:46:26	Dark	44.000	77	Eps Cen	2.3030	28000.	88	26266	No
11	GOM_NL__2PRFIN20070310_004752_000000522056_00160_26266_9229.N1	10-MAR-2007 00:47:52	Dark	51.500	26	Gam Cru	1.6240	2900.0	103	26266	No
12	GOM_NL__2PRFIN20070310_004929_000000442056_00160_26266_9230.N1	10-MAR-2007 00:49:29	Straylight	43.500	64	Gam Cen	2.2000	10600.	87	26266	No
13	GOM_NL__2PRFIN20070310_010957_000000372056_00160_26266_9231.N1	10-MAR-2007 01:09:57	Bright	36.500	22	32Alp Leo	1.3600	15200.	73	26266	No
14	GOM_NL__2PRFIN20070310_011220_000000402056_00160_26266_9232.N1	10-MAR-2007 01:12:20	Bright	39.500	51	41Gam1Leo	2.0100	4500.0	79	26266	No
15	GOM_NL__2PRFIN20070310_012035_000000422056_00160_26266_9233.N1	10-MAR-2007 01:20:35	Bright	41.500	174	52Psi UMa	3.0040	4400.0	83	26266	No
16	GOM_NL__2PRFIN20070310_012337_000000382056_00160_26266_9234.N1	10-MAR-2007 01:23:37	Bright	38.000	82	48Bet UMa	2.3650	10600.	76	26266	No
17	GOM_NL__2PRFIN20070310_012504_000000402056_00160_26266_9235.N1	10-MAR-2007 01:25:04	Bright	40.000	36	50Alp UMa	1.8000	6300.0	80	26266	No
18	GOM_NL__2PRFIN20070310_013215_000000412056_00160_26266_9236.N1	10-MAR-2007 01:32:15	Bright	41.000	60	7Bet UMi	2.0810	3950.0	82	26266	No
19	GOM_NL__2PRFIN20070310_014503_000000372056_00160_26266_9237.N1	10-MAR-2007 01:45:03	Bright	36.500	144	18Del Cyg	2.8600	11000.	73	26266	No
20	GOM_NL__2PRFIN20070310_014623_000000372056_00160_26266_9238.N1	10-MAR-2007 01:46:23	Bright	37.000	66	37Gam Cyg	2.2080	5900.0	74	26266	No
21	GOM_NL__2PRFIN20070310_015530_000000472056_00160_26266_9239.N1	10-MAR-2007 01:55:30	Twilight	46.500	168	17Zet Aql	2.9860	11000.	93	26266	No
22	GOM_NL__2PRFIN20070310_020538_000000442056_00160_26266_9240.N1	10-MAR-2007 02:05:38	Dark	44.000	155	41Pi Sgr	2.9000	6600.0	88	26266	No
23	GOM_NL__2PRFIN20070310_020734_000000452056_00160_26266_9241.N1	10-MAR-2007 02:07:34	Dark	44.500	57	34Sig Sgr	2.0660	26000.	89	26266	No
24	GOM_NL__2PRFIN20070310_021054_000000452056_00160_26266_9242.N1	10-MAR-2007 02:10:54	Dark	44.500	38	20Eps Sgr	1.8360	11000.	89	26266	No
25	GOM_NL__2PRFIN20070310_021412_000000502056_00160_26266_9243.N1	10-MAR-2007 02:14:12	Dark	50.000	25	35Lam Sco	1.6200	28000.	100	26266	No
26	GOM_NL__2PRFIN20070310_021611_000000422056_00161_26267_9236.N1	10-MAR-2007 02:16:11	Dark	41.500	147	Alp Ara	2.8770	26000.	83	26267	No
27	GOM_NL__2PRFIN20070310_022106_000000392056_00161_26267_9237.N1	10-MAR-2007 02:21:06	Dark	39.000	134	Bet TrA	2.8100	6600.0	78	26267	No
28	GOM_NL__2PRFIN20070310_022348_000000532056_00161_26267_9238.N1	10-MAR-2007 02:23:48	Dark	52.500	4	Alp1Cen	-0.010000	5800.0	105	26267	No
29	GOM_NL__2PRFIN20070310_022504_000000412056_00161_26267_9239.N1	10-MAR-2007 02:25:04	Dark	41.000	10	Bet Cen	0.61000	28000.	82	26267	No
30	GOM_NL__2PRFIN20070310_022703_000000432056_00161_26267_9240.N1	10-MAR-2007 02:27:03	Dark	42.500	77	Eps Cen	2.3030	28000.	85	26267	No
31	GOM_NL__2PRFIN20070310_022828_000000472056_00161_26267_9241.N1	10-MAR-2007 02:28:28	Dark	46.500	26	Gam Cru	1.6240	2900.0	93	26267	No
32	GOM_NL__2PRFIN20070310_023005_000000412056_00161_26267_9242.N1	10-MAR-2007 02:30:05	Straylight	40.500	64	Gam Cen	2.2000	10600.	81	26267	No
33	GOM_NL__2PRFIN20070310_025033_000000392056_00161_26267_9243.N1	10-MAR-2007 02:50:33	Bright	39.000	22	32Alp Leo	1.3600	15200.	78	26267	No
34	GOM_NL__2PRFIN20070310_025256_000000402056_00161_26267_9244.N1	10-MAR-2007 02:52:56	Bright	40.000	51	41Gam1Leo	2.0100	4500.0	80	26267	No
35	GOM_NL__2PRFIN20070310_030111_000000402056_00161_26267_9245.N1	10-MAR-2007 03:01:11	Bright	39.500	174	52Psi UMa	3.0040	4400.0	79	26267	No
36	GOM_NL__2PRFIN20070310_030413_000000382056_00161_26267_9246.N1	10-MAR-2007 03:04:13	Bright	38.000	82	48Bet UMa	2.3650	10600.	76	26267	No
37	GOM_NL__2PRFIN20070310_030539_000000402056_00161_26267_9247.N1	10-MAR-2007 03:05:39	Bright	40.000	36	50Alp UMa	1.8000	6300.0	80	26267	No
38	GOM_NL__2PRFIN20070310_031251_000000402056_00161_26267_9248.N1	10-MAR-2007 03:12:51	Bright	40.000	60	7Bet UMi	2.0810	3950.0	80	26267	No
39	GOM_NL__2PRFIN20070310_032539_000000372056_00161_26267_9249.N1	10-MAR-2007 03:25:39	Bright	37.000	144	18Del Cyg	2.8600	11000.	74	26267	No
40	GOM_NL__2PRFIN20070310_032659_000000382056_00161_26267_9250.N1	10-MAR-2007 03:26:59	Bright	37.500	66	37Gam Cyg	2.2080	5900.0	75	26267	No
41	GOM_NL__2PRFIN20070310_033606_000000492056_00161_26267_9251.N1	10-MAR-2007 03:36:06	Twilight	48.500	168	17Zet Aql	2.9860	11000.	97	26267	No
42	GOM_NL__2PRFIN20070310_034615_000000442056_00161_26267_9252.N1	10-MAR-2007 03:46:15	Dark	43.500	155	41Pi Sgr	2.9000	6600.0	87	26267	No





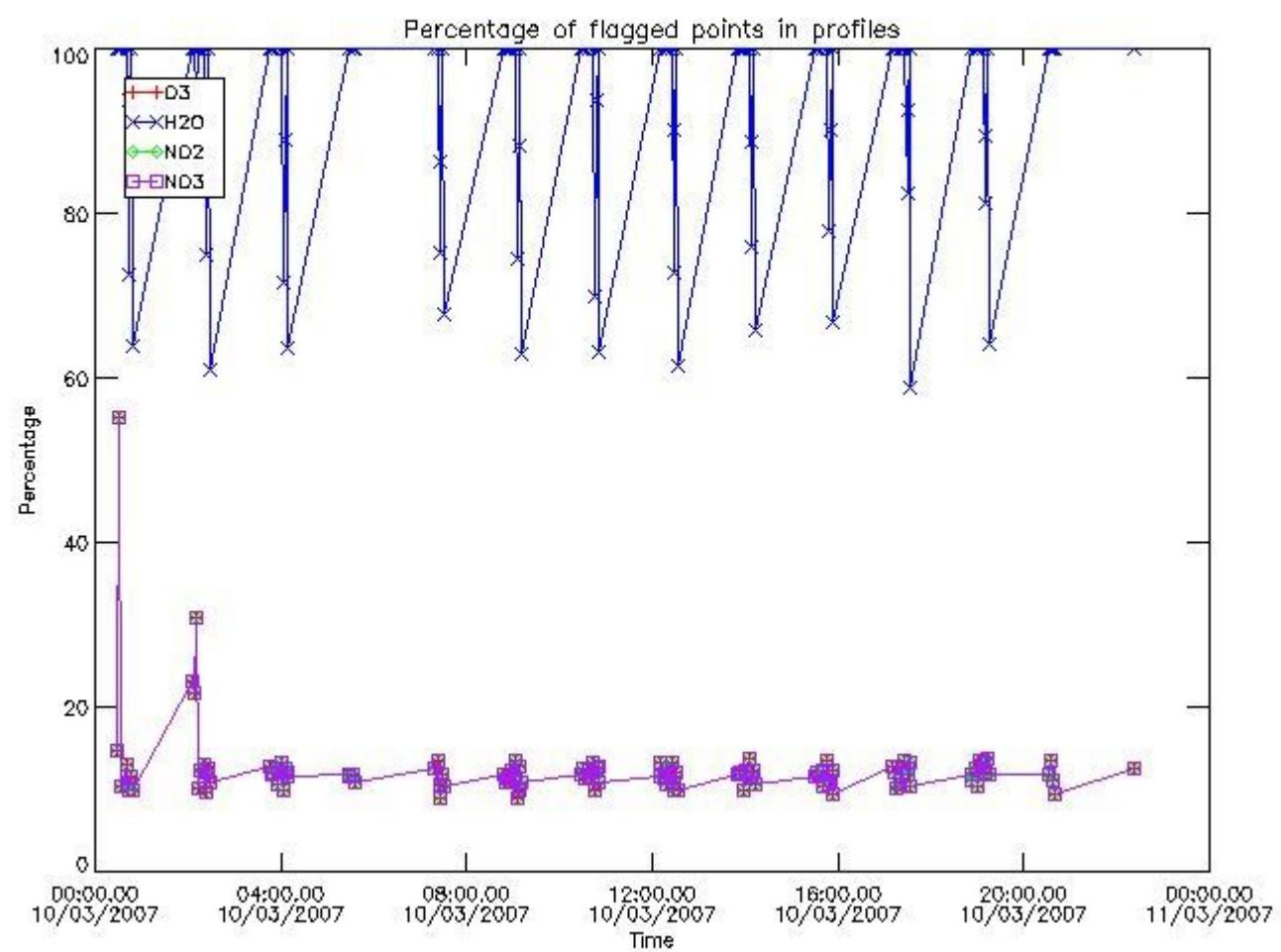


220	GOM_NL__2PRFIN20070310_201259_000000352056_00171_26277_9415.N1	10-MAR-2007 20:12:59	Bright	34.500	66	37Gam Cyg	2.2080	5900.0	69	26277	No
221	GOM_NL__2PRFIN20070310_202211_000000492056_00171_26277_9416.N1	10-MAR-2007 20:22:11	Twilight_stray	48.500	168	17Zet Aql	2.9860	11000.	97	26277	No
222	GOM_NL__2PRFIN20070310_203220_000000442056_00171_26277_9417.N1	10-MAR-2007 20:32:20	Dark	43.500	155	41Pi Sgr	2.9000	6600.0	87	26277	No
223	GOM_NL__2PRFIN20070310_203418_000000422056_00171_26277_9418.N1	10-MAR-2007 20:34:18	Dark	41.500	57	34Sig Sgr	2.0660	26000.	83	26277	No
224	GOM_NL__2PRFIN20070310_203738_000000462056_00171_26277_9419.N1	10-MAR-2007 20:37:38	Dark	45.500	38	20Eps Sgr	1.8360	11000.	91	26277	No
225	GOM_NL__2PRFIN20070310_204059_000000542056_00171_26277_9420.N1	10-MAR-2007 20:40:59	Dark	54.000	25	35Lam Sco	1.6200	28000.	108	26277	No
226	GOM_NL__2PRFIN20070310_222331_000000412056_00173_26279_9440.N1	10-MAR-2007 22:23:31	Dark	40.500	147	Alp Ara	2.8770	26000.	81	26279	No

### 3. Quality information per product

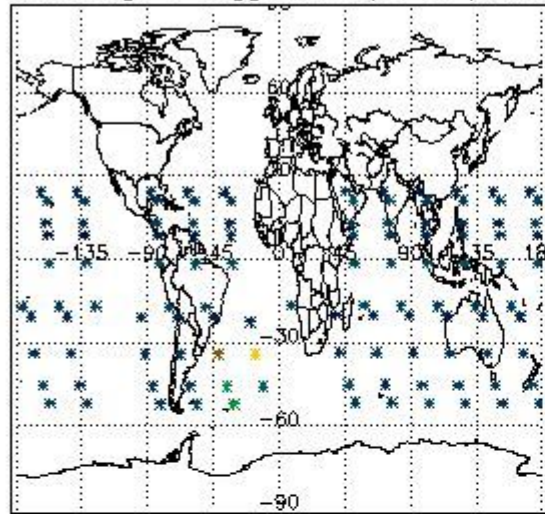
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

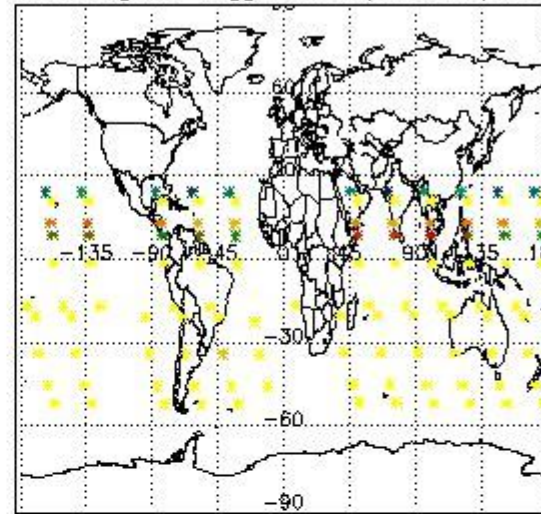


#### 3.2 Plot quality information per product (world map)

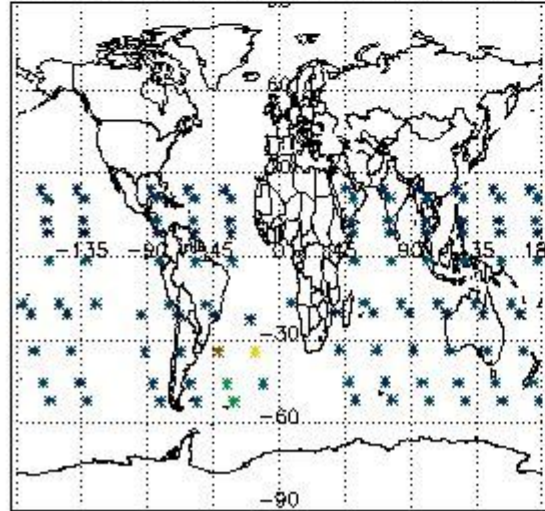
Percentage of flagged data per O3 profile



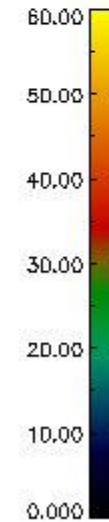
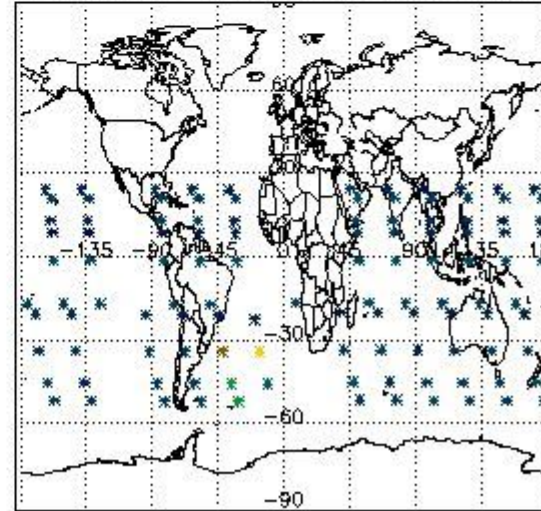
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

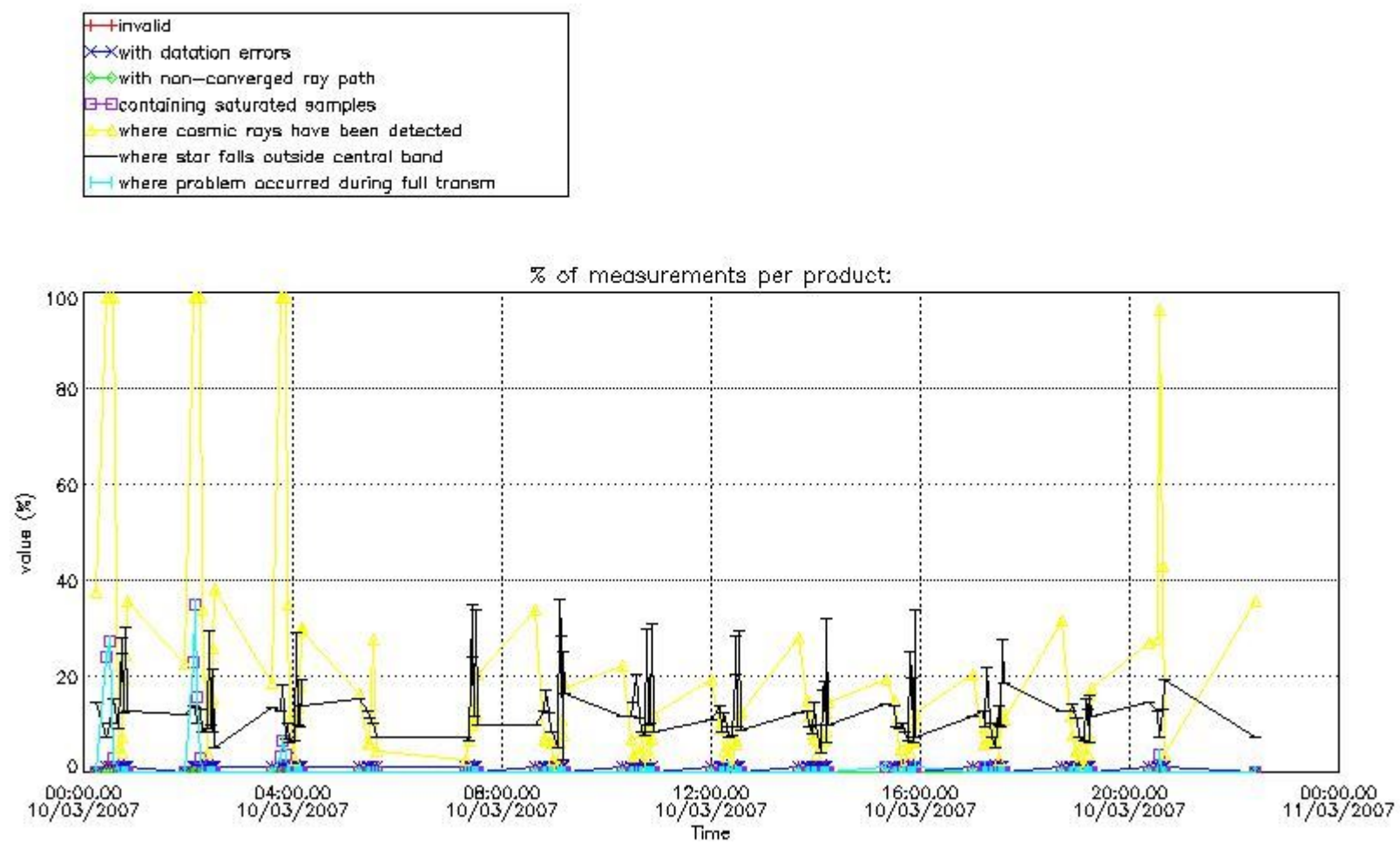


#### 4. Level 1 quality information per product

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.

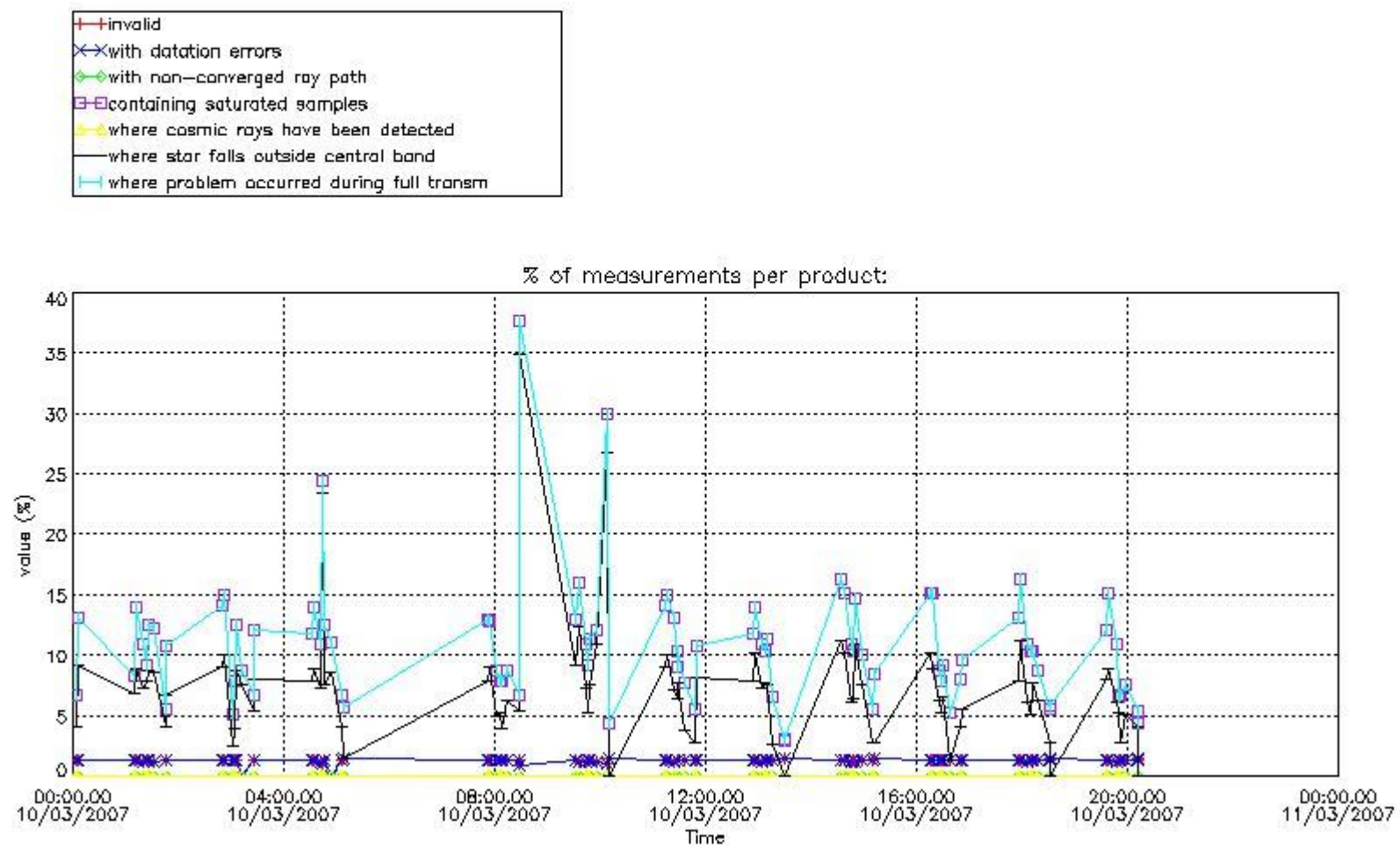
##### 4.1 Plot quality information per product (time dependant) coming from level 1b processing

###### 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

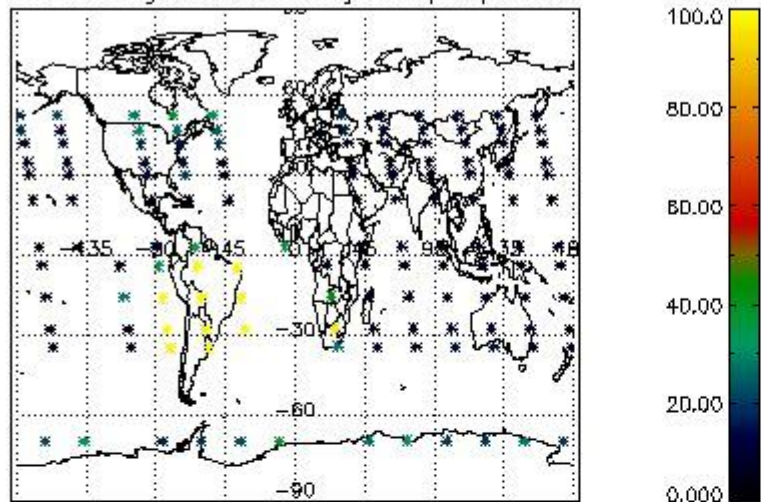




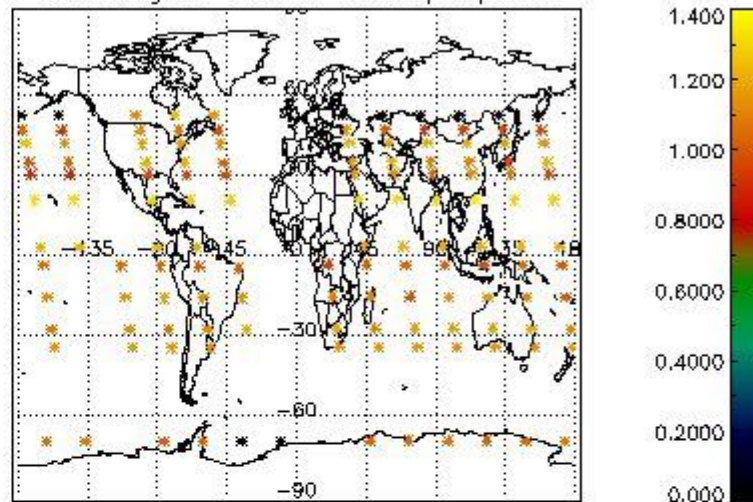
*4.2 Plot quality information per product coming from level 1b processing (world map)*

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

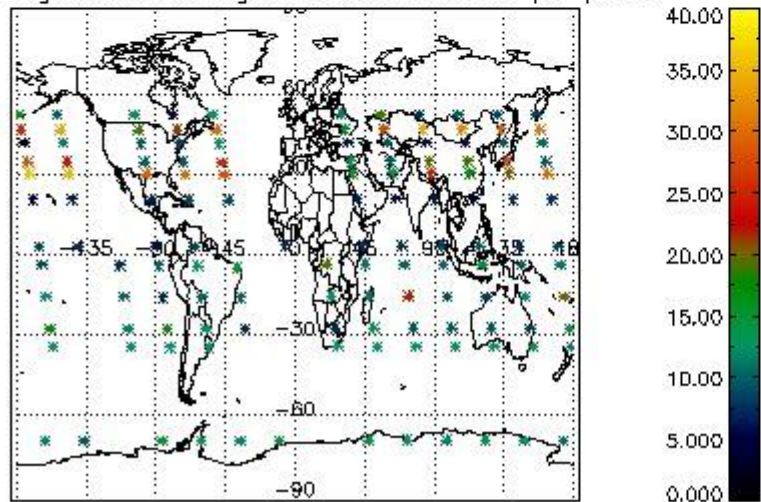
Percentage of cosmic ray hits per profile



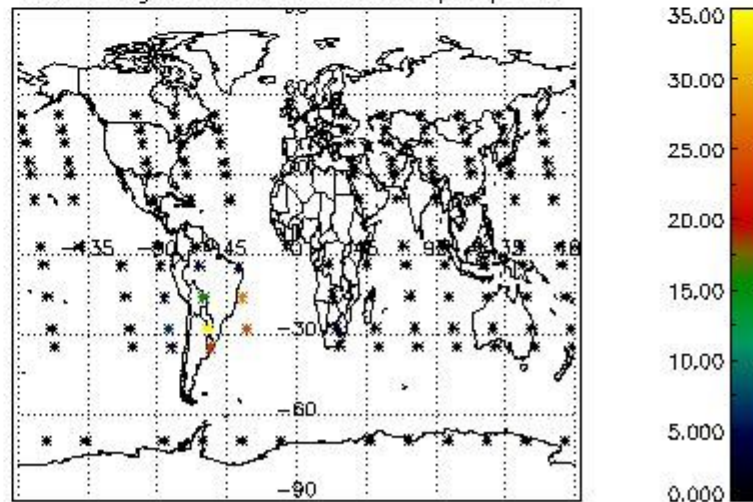
Percentage of datation errors per profile



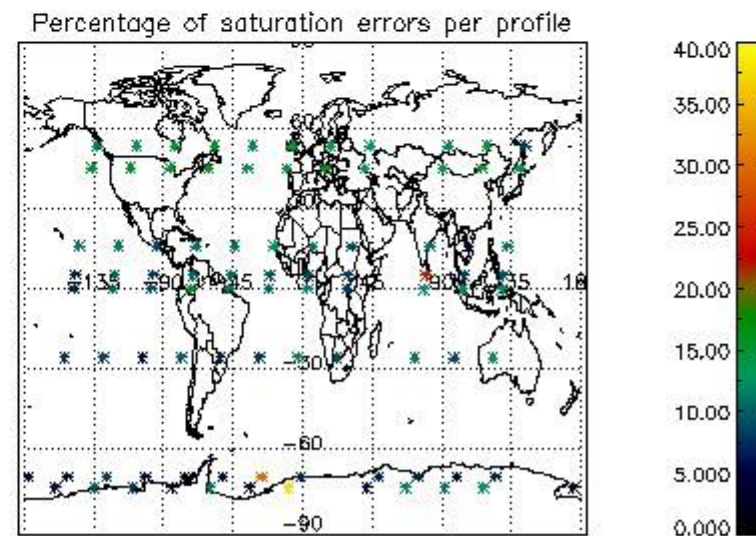
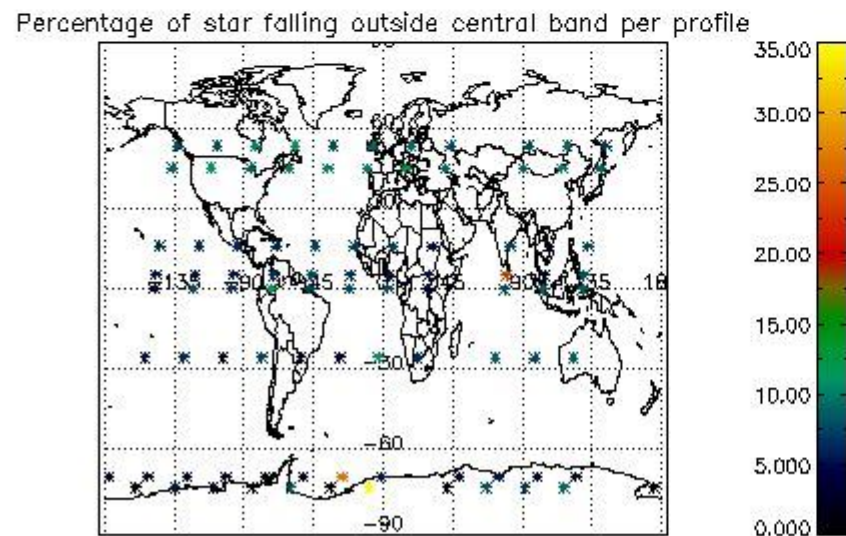
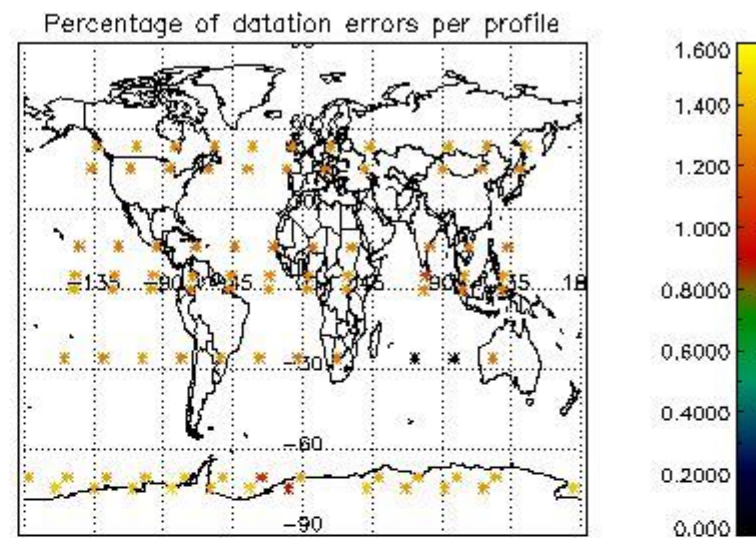
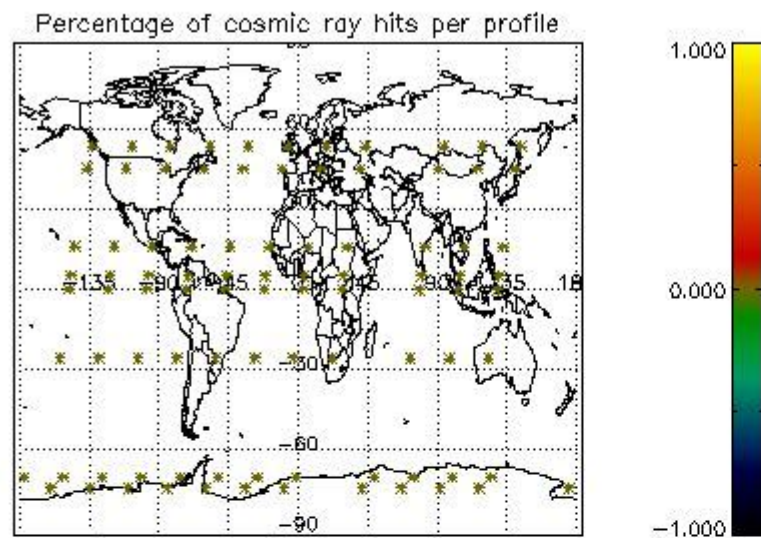
Percentage of star falling outside central band per profile



Percentage of saturation errors per profile



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

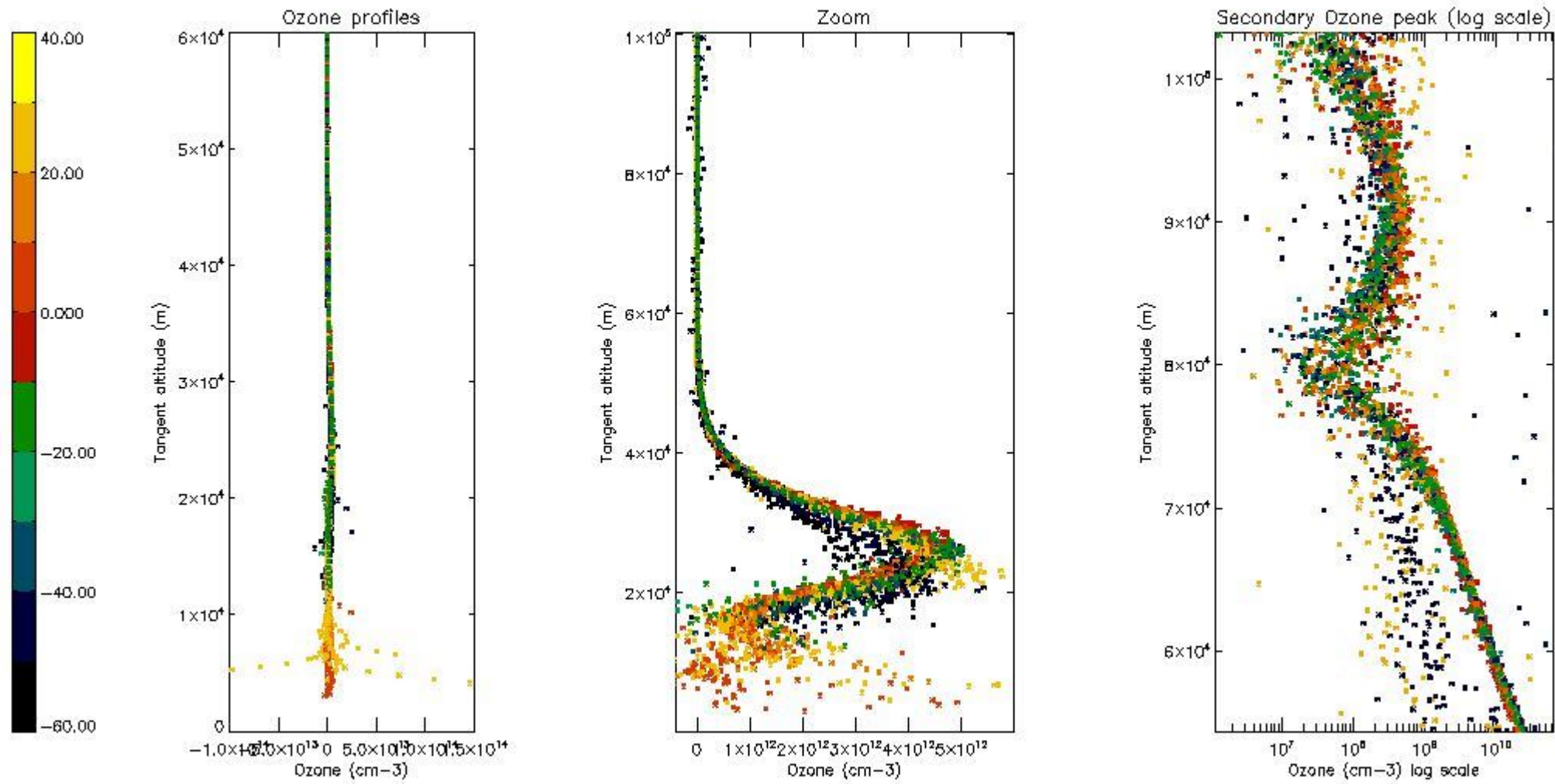
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	54
STD < 20	31

STD < 10	25
STD < 5	18

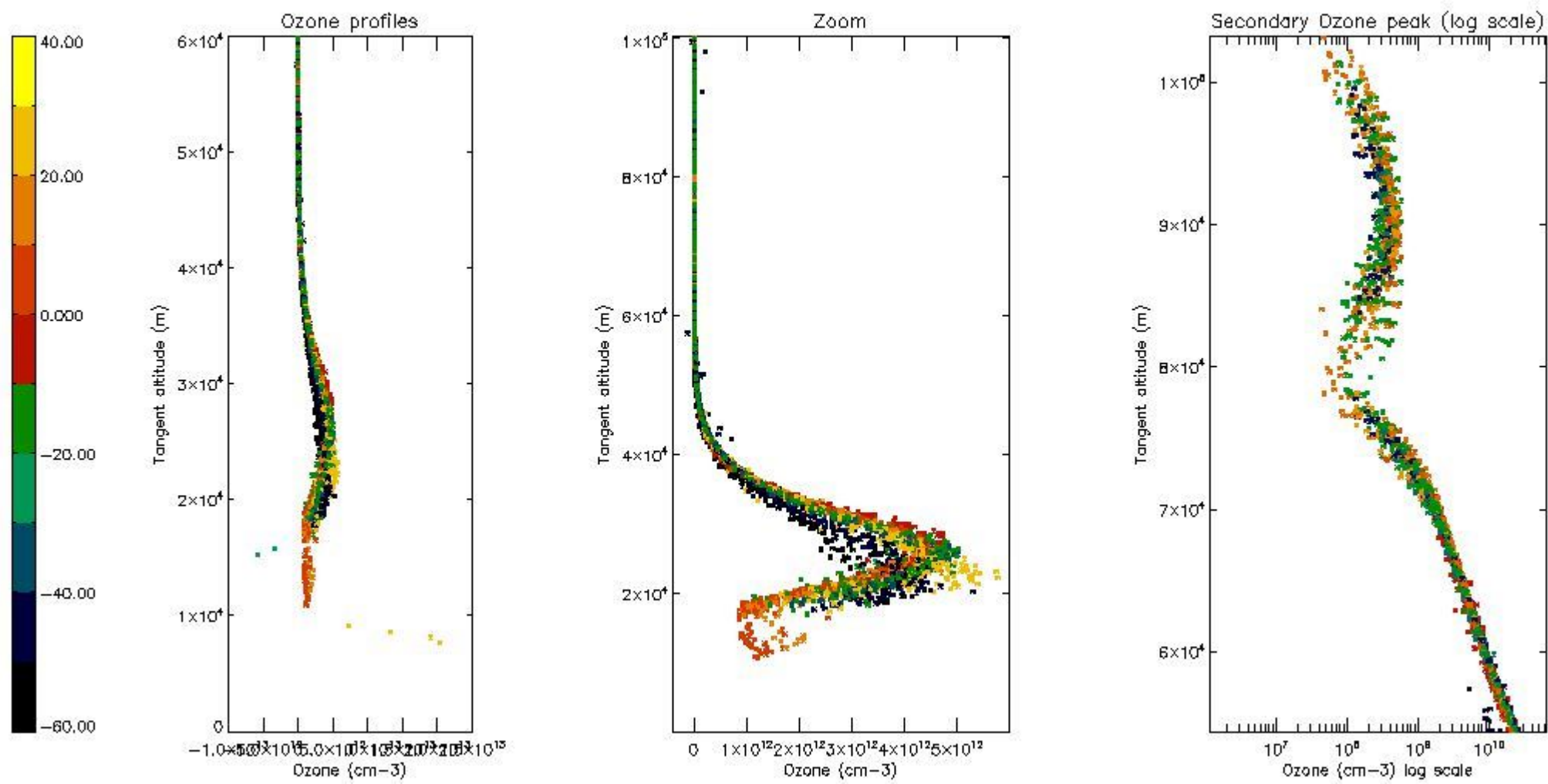
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



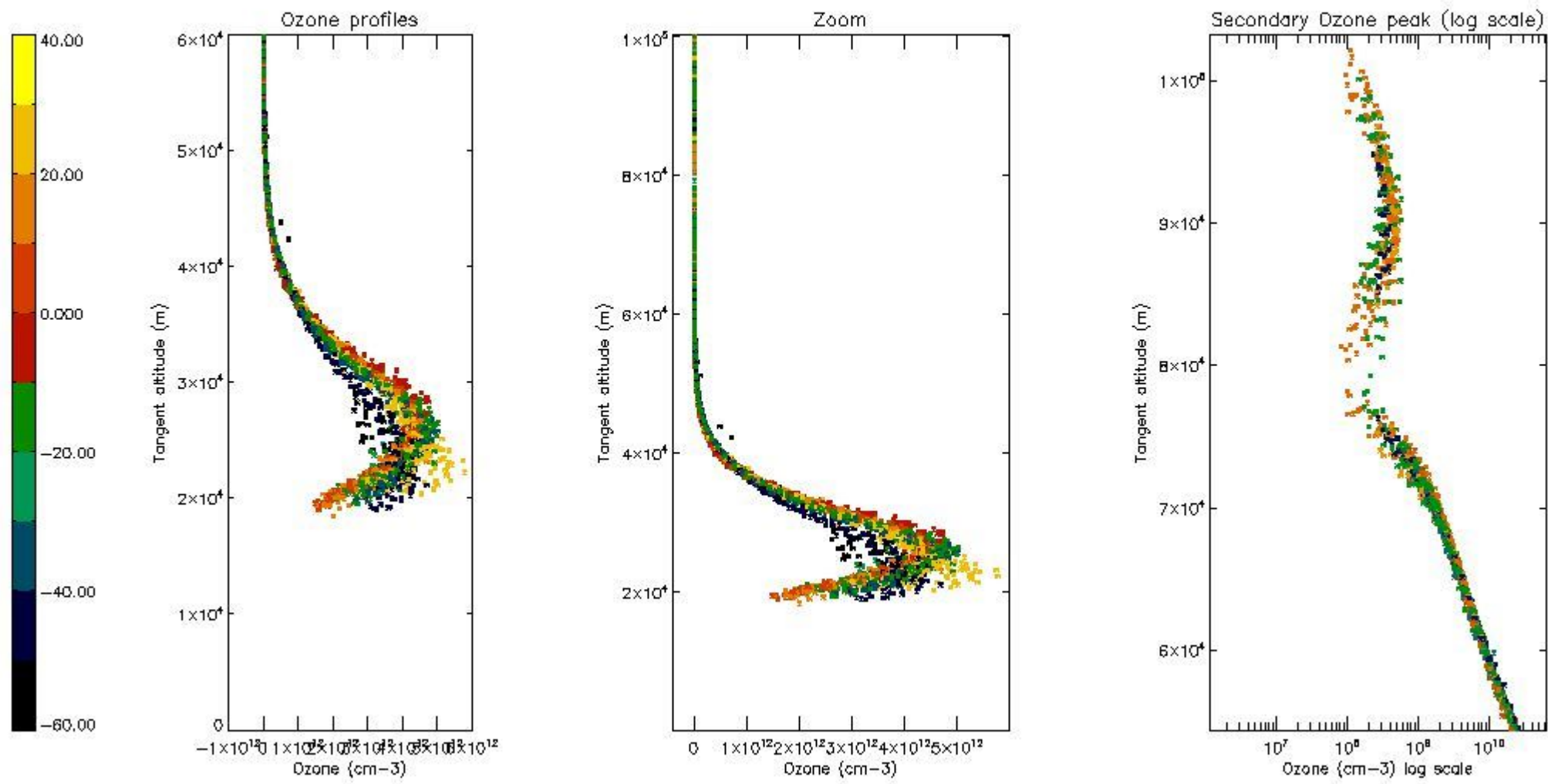
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



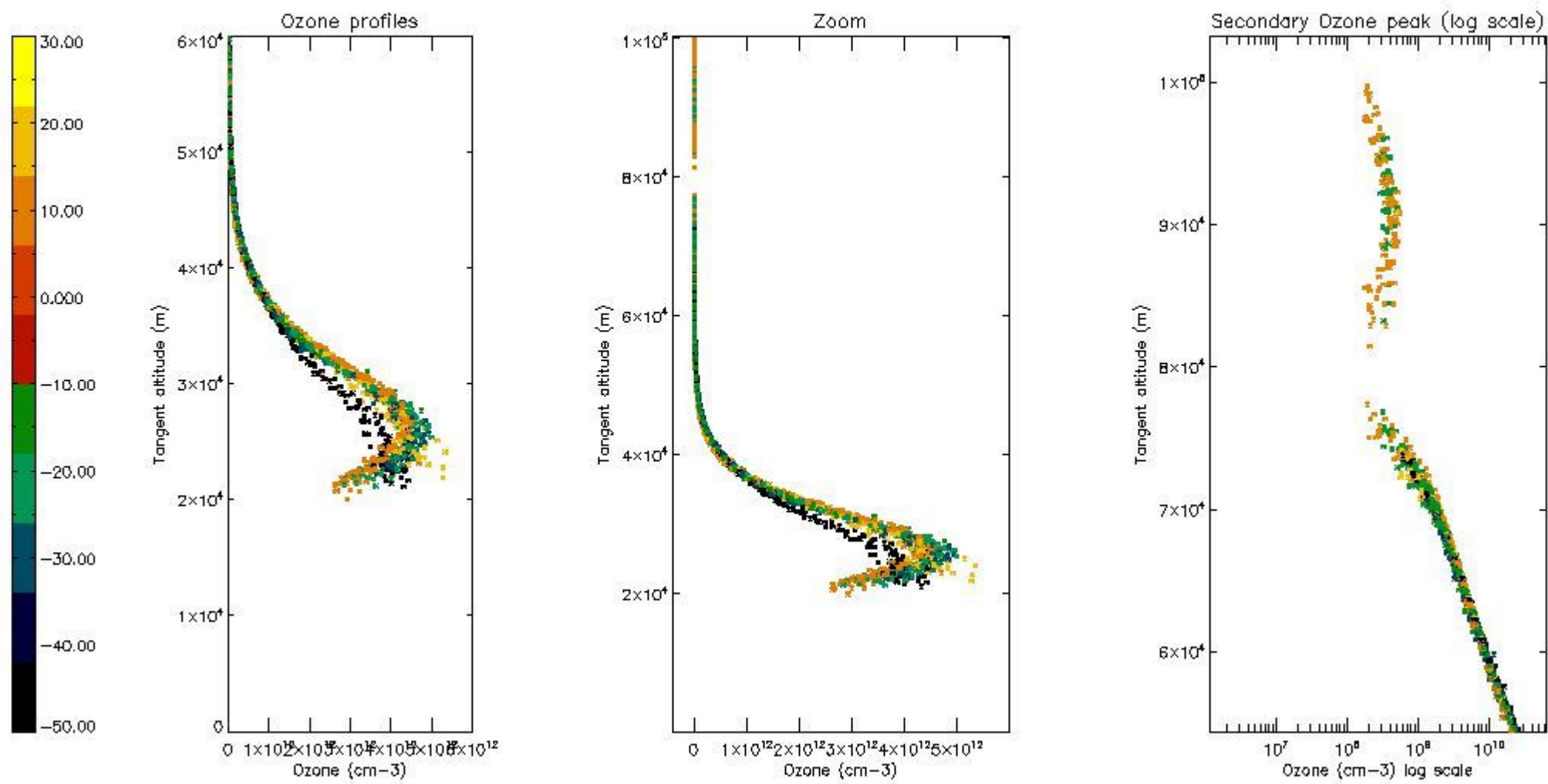
5.4 Plot ozone profiles where  $STD < 10\%$  (dark without errors)

The colorbar represents the latitude.



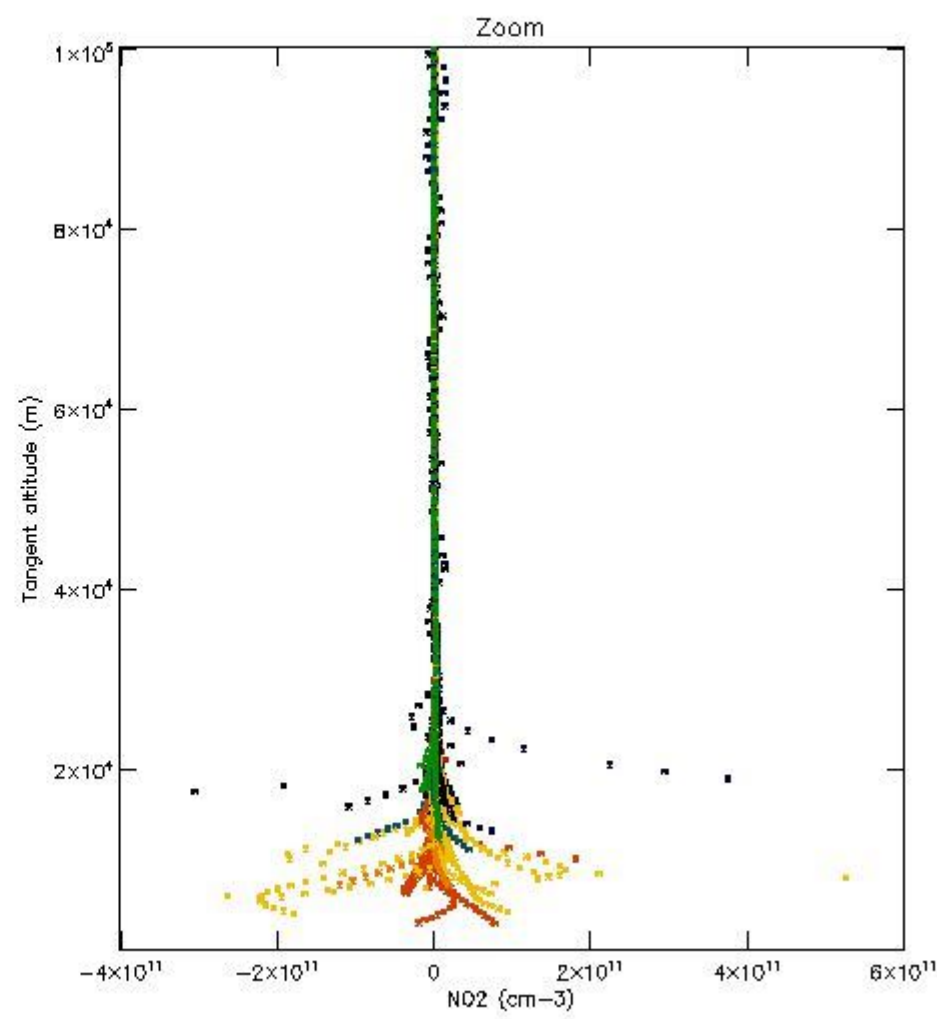
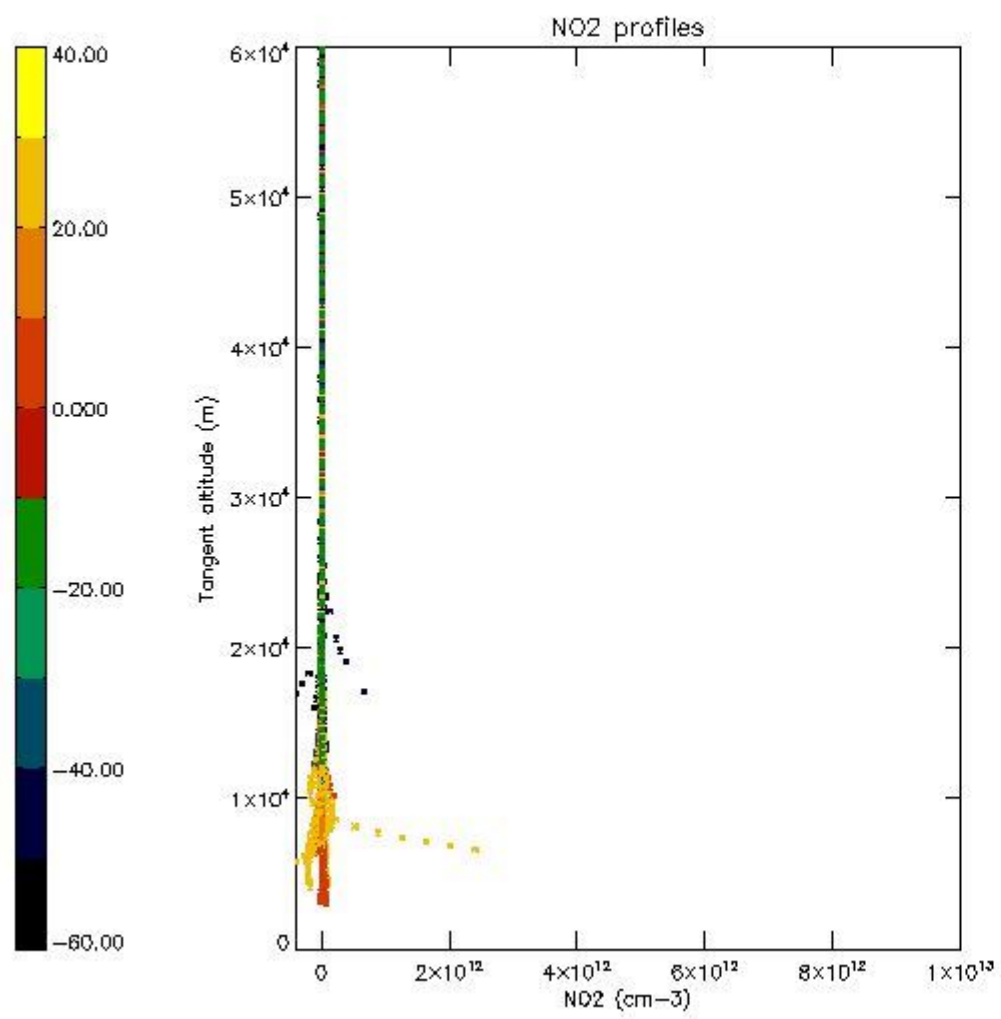
*5.5 Plot ozone profiles where STD < 5% (dark without errors)*

The colorbar represents the latitude.



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

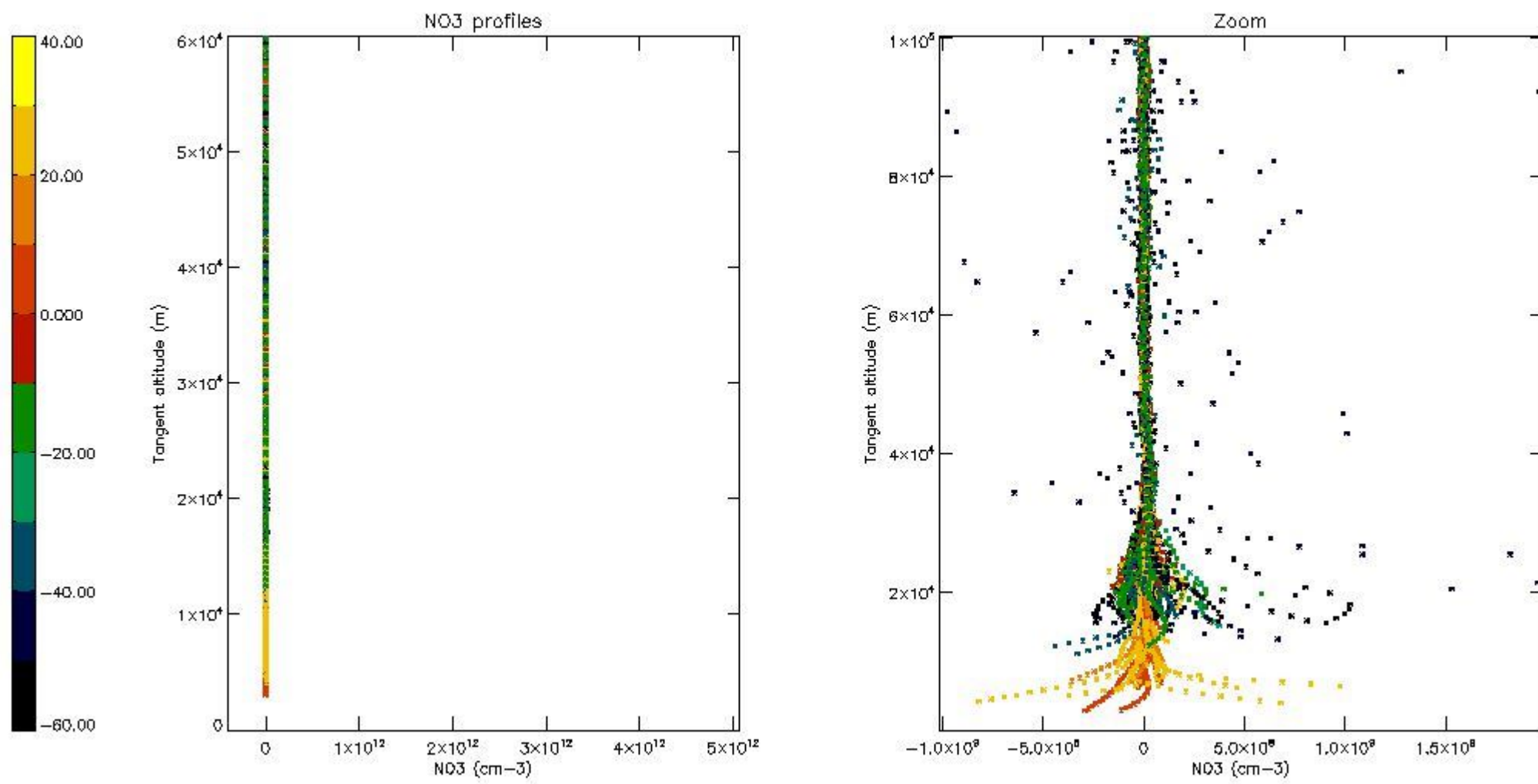
The colorbar represents the latitude.



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

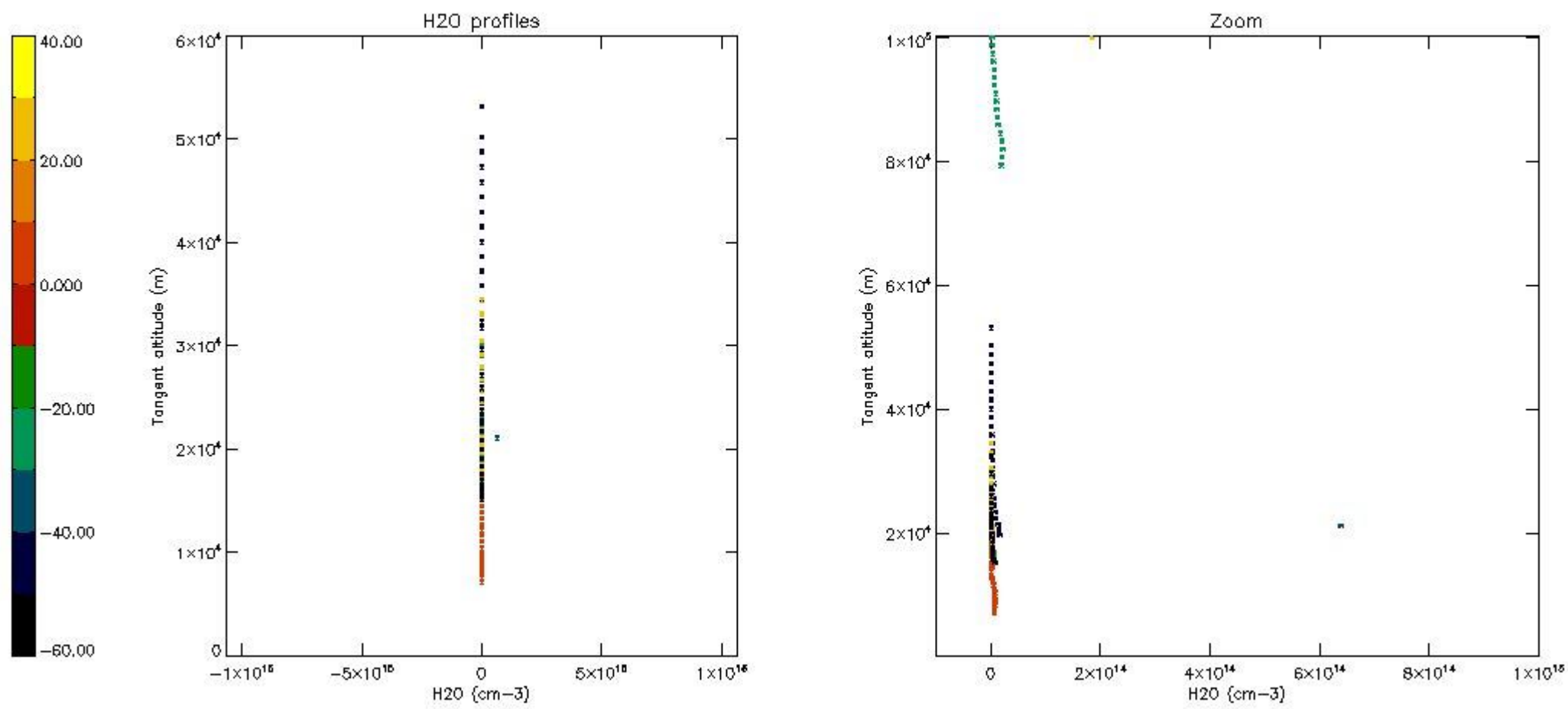
The colorbar represents the latitude.





*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	10-MAR-2007 00:04:27
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	10-MAR-2007 00:04:27
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	10-MAR-2007 00:04:27

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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 \(dark without errors\)](#)

#### [5.3 Plot ozone profiles where STD < 20% \(dark without errors\)](#)

#### [5.4. Plot ozone profiles where STD < 10% \(dark without errors\)](#)

#### [5.5. Plot ozone profiles where STD < 5% \(dark without errors\)](#)

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

#### [5.7 Plot NO3 profiles for all STD \(dark without errors\)](#)

#### [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	22APR2013 17:08:42
Data source version	GOMOS/6.01
Start time of products	10-03-2007 (10MAR2007 00:00:00)
Stop time of products	11-03-2007 (11MAR2007 00:00:00)
Store outputs in DB	Yes
Nb of level 2 prods	226
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__2PRFIN20070310_000427_000000372056_00159_26265_9224.N1	10-MAR-2007 00:04:27	Bright	37.000	144	18Del Cyg	2.8600	11000.	74	26265	No
2	GOM_NL__2PRFIN20070310_000547_000000382056_00159_26265_9225.N1	10-MAR-2007 00:05:47	Bright	38.000	66	37Gam Cyg	2.2080	5900.0	76	26265	No
3	GOM_NL__2PRFIN20070310_001454_000000482056_00159_26265_9226.N1	10-MAR-2007 00:14:54	Twilight	48.000	168	17Zet Aql	2.9860	11000.	96	26265	No
4	GOM_NL__2PRFIN20070310_002658_000000422056_00159_26265_9227.N1	10-MAR-2007 00:26:58	Dark	41.500	57	34Sig Sgr	2.0660	26000.	83	26265	No
5	GOM_NL__2PRFIN20070310_003017_000000442056_00159_26265_9228.N1	10-MAR-2007 00:30:17	Dark	44.000	38	20Eps Sgr	1.8360	11000.	88	26265	No
6	GOM_NL__2PRFIN20070310_003322_000000492056_00159_26265_9229.N1	10-MAR-2007 00:33:22	Dark	49.000	85	Kap Sco	2.4070	28000.	98	26265	No
7	GOM_NL__2PRFIN20070310_004030_000000392056_00160_26266_9225.N1	10-MAR-2007 00:40:30	Dark	39.000	134	Bet TrA	2.8100	6600.0	78	26266	No
8	GOM_NL__2PRFIN20070310_004312_000000522056_00160_26266_9226.N1	10-MAR-2007 00:43:12	Dark	51.500	4	Alp1Cen	-0.010000	5800.0	103	26266	No
9	GOM_NL__2PRFIN20070310_004428_000000492056_00160_26266_9227.N1	10-MAR-2007 00:44:28	Dark	48.500	10	Bet Cen	0.61000	28000.	97	26266	No
10	GOM_NL__2PRFIN20070310_004626_000000442056_00160_26266_9228.N1	10-MAR-2007 00:46:26	Dark	44.000	77	Eps Cen	2.3030	28000.	88	26266	No
11	GOM_NL__2PRFIN20070310_004752_000000522056_00160_26266_9229.N1	10-MAR-2007 00:47:52	Dark	51.500	26	Gam Cru	1.6240	2900.0	103	26266	No
12	GOM_NL__2PRFIN20070310_004929_000000442056_00160_26266_9230.N1	10-MAR-2007 00:49:29	Straylight	43.500	64	Gam Cen	2.2000	10600.	87	26266	No
13	GOM_NL__2PRFIN20070310_010957_000000372056_00160_26266_9231.N1	10-MAR-2007 01:09:57	Bright	36.500	22	32Alp Leo	1.3600	15200.	73	26266	No
14	GOM_NL__2PRFIN20070310_011220_000000402056_00160_26266_9232.N1	10-MAR-2007 01:12:20	Bright	39.500	51	41Gam1Leo	2.0100	4500.0	79	26266	No
15	GOM_NL__2PRFIN20070310_012035_000000422056_00160_26266_9233.N1	10-MAR-2007 01:20:35	Bright	41.500	174	52Psi UMa	3.0040	4400.0	83	26266	No
16	GOM_NL__2PRFIN20070310_012337_000000382056_00160_26266_9234.N1	10-MAR-2007 01:23:37	Bright	38.000	82	48Bet UMa	2.3650	10600.	76	26266	No
17	GOM_NL__2PRFIN20070310_012504_000000402056_00160_26266_9235.N1	10-MAR-2007 01:25:04	Bright	40.000	36	50Alp UMa	1.8000	6300.0	80	26266	No
18	GOM_NL__2PRFIN20070310_013215_000000412056_00160_26266_9236.N1	10-MAR-2007 01:32:15	Bright	41.000	60	7Bet UMi	2.0810	3950.0	82	26266	No
19	GOM_NL__2PRFIN20070310_014503_000000372056_00160_26266_9237.N1	10-MAR-2007 01:45:03	Bright	36.500	144	18Del Cyg	2.8600	11000.	73	26266	No
20	GOM_NL__2PRFIN20070310_014623_000000372056_00160_26266_9238.N1	10-MAR-2007 01:46:23	Bright	37.000	66	37Gam Cyg	2.2080	5900.0	74	26266	No
21	GOM_NL__2PRFIN20070310_015530_000000472056_00160_26266_9239.N1	10-MAR-2007 01:55:30	Twilight	46.500	168	17Zet Aql	2.9860	11000.	93	26266	No
22	GOM_NL__2PRFIN20070310_020538_000000442056_00160_26266_9240.N1	10-MAR-2007 02:05:38	Dark	44.000	155	41Pi Sgr	2.9000	6600.0	88	26266	No
23	GOM_NL__2PRFIN20070310_020734_000000452056_00160_26266_9241.N1	10-MAR-2007 02:07:34	Dark	44.500	57	34Sig Sgr	2.0660	26000.	89	26266	No
24	GOM_NL__2PRFIN20070310_021054_000000452056_00160_26266_9242.N1	10-MAR-2007 02:10:54	Dark	44.500	38	20Eps Sgr	1.8360	11000.	89	26266	No
25	GOM_NL__2PRFIN20070310_021412_000000502056_00160_26266_9243.N1	10-MAR-2007 02:14:12	Dark	50.000	25	35Lam Sco	1.6200	28000.	100	26266	No
26	GOM_NL__2PRFIN20070310_021611_000000422056_00161_26267_9236.N1	10-MAR-2007 02:16:11	Dark	41.500	147	Alp Ara	2.8770	26000.	83	26267	No
27	GOM_NL__2PRFIN20070310_022106_000000392056_00161_26267_9237.N1	10-MAR-2007 02:21:06	Dark	39.000	134	Bet TrA	2.8100	6600.0	78	26267	No
28	GOM_NL__2PRFIN20070310_022348_000000532056_00161_26267_9238.N1	10-MAR-2007 02:23:48	Dark	52.500	4	Alp1Cen	-0.010000	5800.0	105	26267	No
29	GOM_NL__2PRFIN20070310_022504_000000412056_00161_26267_9239.N1	10-MAR-2007 02:25:04	Dark	41.000	10	Bet Cen	0.61000	28000.	82	26267	No
30	GOM_NL__2PRFIN20070310_022703_000000432056_00161_26267_9240.N1	10-MAR-2007 02:27:03	Dark	42.500	77	Eps Cen	2.3030	28000.	85	26267	No
31	GOM_NL__2PRFIN20070310_022828_000000472056_00161_26267_9241.N1	10-MAR-2007 02:28:28	Dark	46.500	26	Gam Cru	1.6240	2900.0	93	26267	No
32	GOM_NL__2PRFIN20070310_023005_000000412056_00161_26267_9242.N1	10-MAR-2007 02:30:05	Straylight	40.500	64	Gam Cen	2.2000	10600.	81	26267	No
33	GOM_NL__2PRFIN20070310_025033_000000392056_00161_26267_9243.N1	10-MAR-2007 02:50:33	Bright	39.000	22	32Alp Leo	1.3600	15200.	78	26267	No
34	GOM_NL__2PRFIN20070310_025256_000000402056_00161_26267_9244.N1	10-MAR-2007 02:52:56	Bright	40.000	51	41Gam1Leo	2.0100	4500.0	80	26267	No
35	GOM_NL__2PRFIN20070310_030111_000000402056_00161_26267_9245.N1	10-MAR-2007 03:01:11	Bright	39.500	174	52Psi UMa	3.0040	4400.0	79	26267	No
36	GOM_NL__2PRFIN20070310_030413_000000382056_00161_26267_9246.N1	10-MAR-2007 03:04:13	Bright	38.000	82	48Bet UMa	2.3650	10600.	76	26267	No
37	GOM_NL__2PRFIN20070310_030539_000000402056_00161_26267_9247.N1	10-MAR-2007 03:05:39	Bright	40.000	36	50Alp UMa	1.8000	6300.0	80	26267	No
38	GOM_NL__2PRFIN20070310_031251_000000402056_00161_26267_9248.N1	10-MAR-2007 03:12:51	Bright	40.000	60	7Bet UMi	2.0810	3950.0	80	26267	No
39	GOM_NL__2PRFIN20070310_032539_000000372056_00161_26267_9249.N1	10-MAR-2007 03:25:39	Bright	37.000	144	18Del Cyg	2.8600	11000.	74	26267	No
40	GOM_NL__2PRFIN20070310_032659_000000382056_00161_26267_9250.N1	10-MAR-2007 03:26:59	Bright	37.500	66	37Gam Cyg	2.2080	5900.0	75	26267	No
41	GOM_NL__2PRFIN20070310_033606_000000492056_00161_26267_9251.N1	10-MAR-2007 03:36:06	Twilight	48.500	168	17Zet Aql	2.9860	11000.	97	26267	No
42	GOM_NL__2PRFIN20070310_034615_000000442056_00161_26267_9252.N1	10-MAR-2007 03:46:15	Dark	43.500	155	41Pi Sgr	2.9000	6600.0	87	26267	No





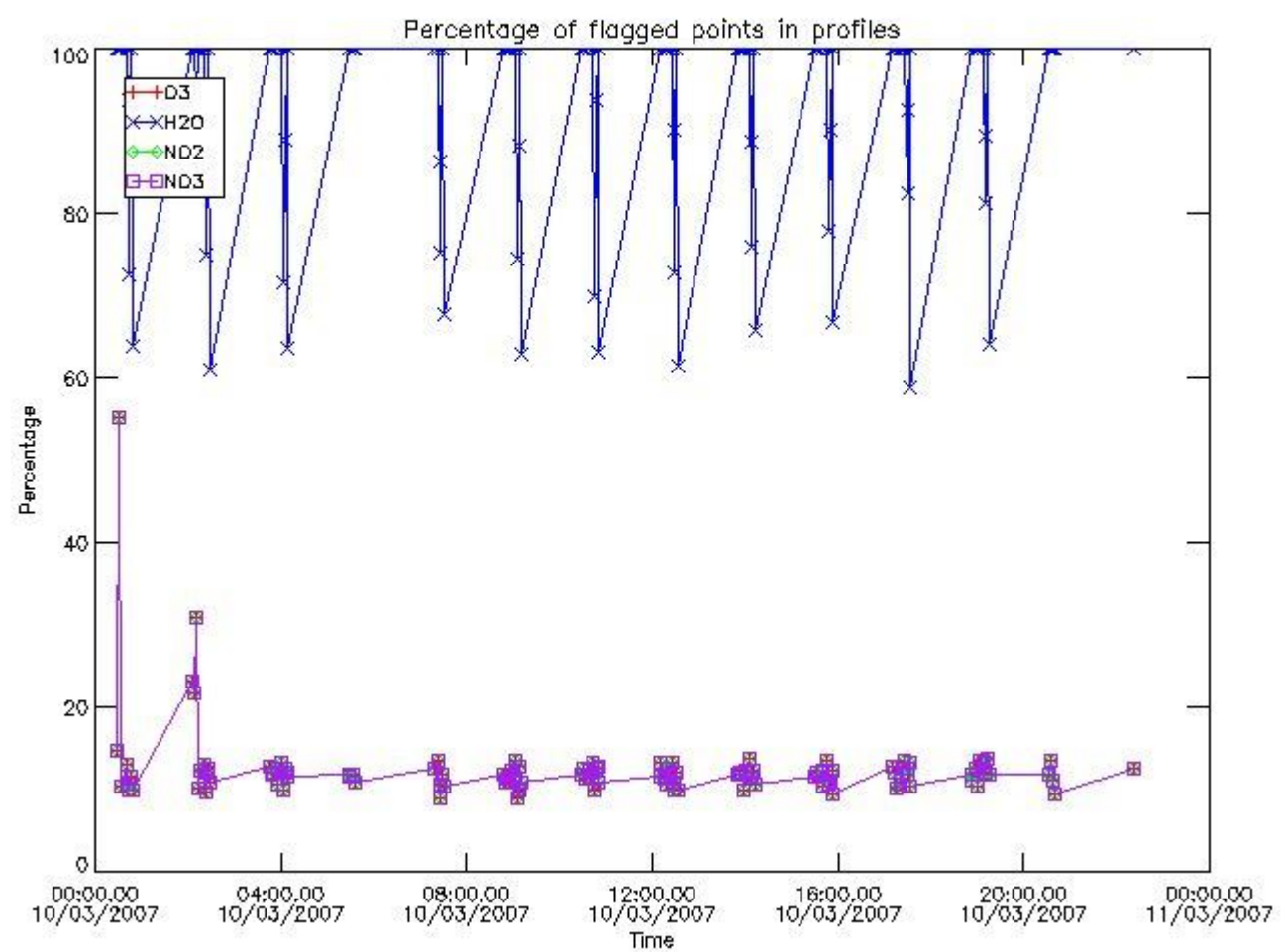


220	GOM_NL__2PRFIN20070310_201259_000000352056_00171_26277_9415.N1	10-MAR-2007 20:12:59	Bright	34.500	66	37Gam Cyg	2.2080	5900.0	69	26277	No
221	GOM_NL__2PRFIN20070310_202211_000000492056_00171_26277_9416.N1	10-MAR-2007 20:22:11	Twilight_stray	48.500	168	17Zet Aql	2.9860	11000.	97	26277	No
222	GOM_NL__2PRFIN20070310_203220_000000442056_00171_26277_9417.N1	10-MAR-2007 20:32:20	Dark	43.500	155	41Pi Sgr	2.9000	6600.0	87	26277	No
223	GOM_NL__2PRFIN20070310_203418_000000422056_00171_26277_9418.N1	10-MAR-2007 20:34:18	Dark	41.500	57	34Sig Sgr	2.0660	26000.	83	26277	No
224	GOM_NL__2PRFIN20070310_203738_000000462056_00171_26277_9419.N1	10-MAR-2007 20:37:38	Dark	45.500	38	20Eps Sgr	1.8360	11000.	91	26277	No
225	GOM_NL__2PRFIN20070310_204059_000000542056_00171_26277_9420.N1	10-MAR-2007 20:40:59	Dark	54.000	25	35Lam Sco	1.6200	28000.	108	26277	No
226	GOM_NL__2PRFIN20070310_222331_000000412056_00173_26279_9440.N1	10-MAR-2007 22:23:31	Dark	40.500	147	Alp Ara	2.8770	26000.	81	26279	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.

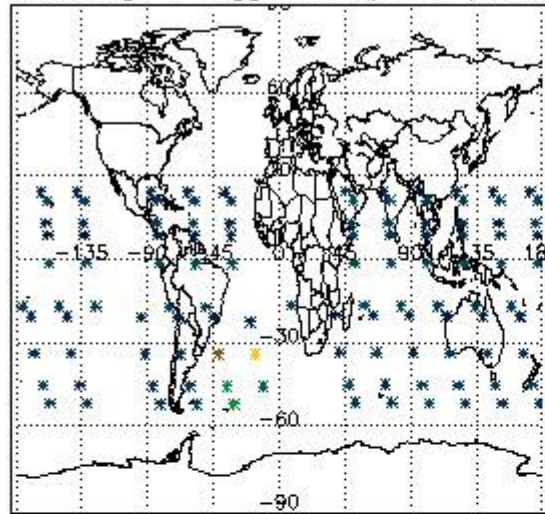
#### 3.1 Plot quality information per product (time dependant)



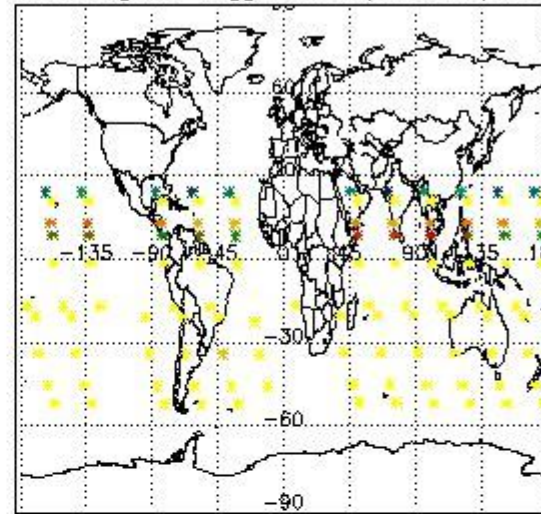
#### 3.2 Plot quality information per product (world map)



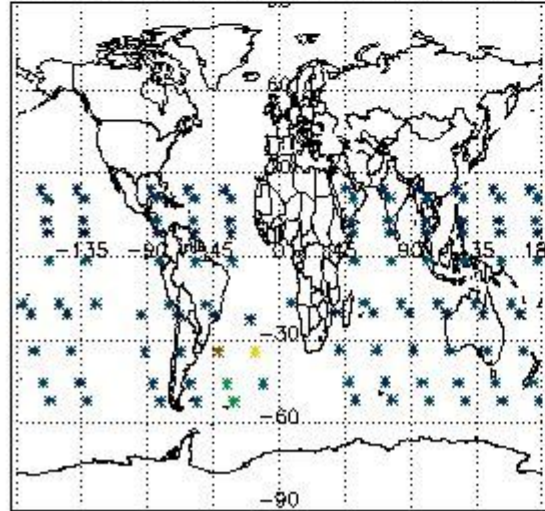
Percentage of flagged data per O3 profile



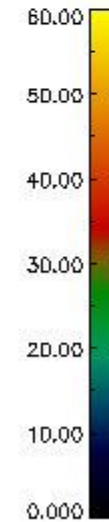
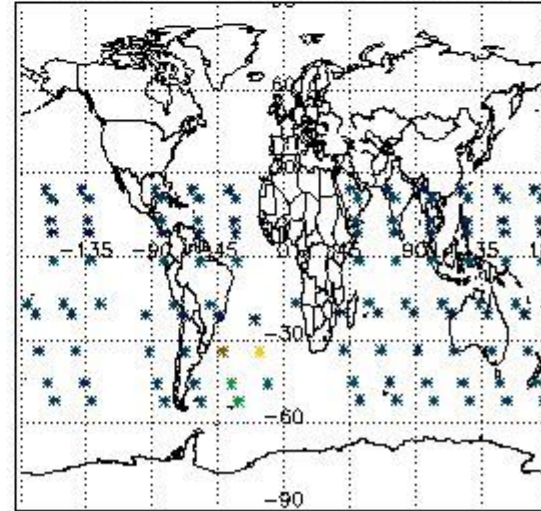
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

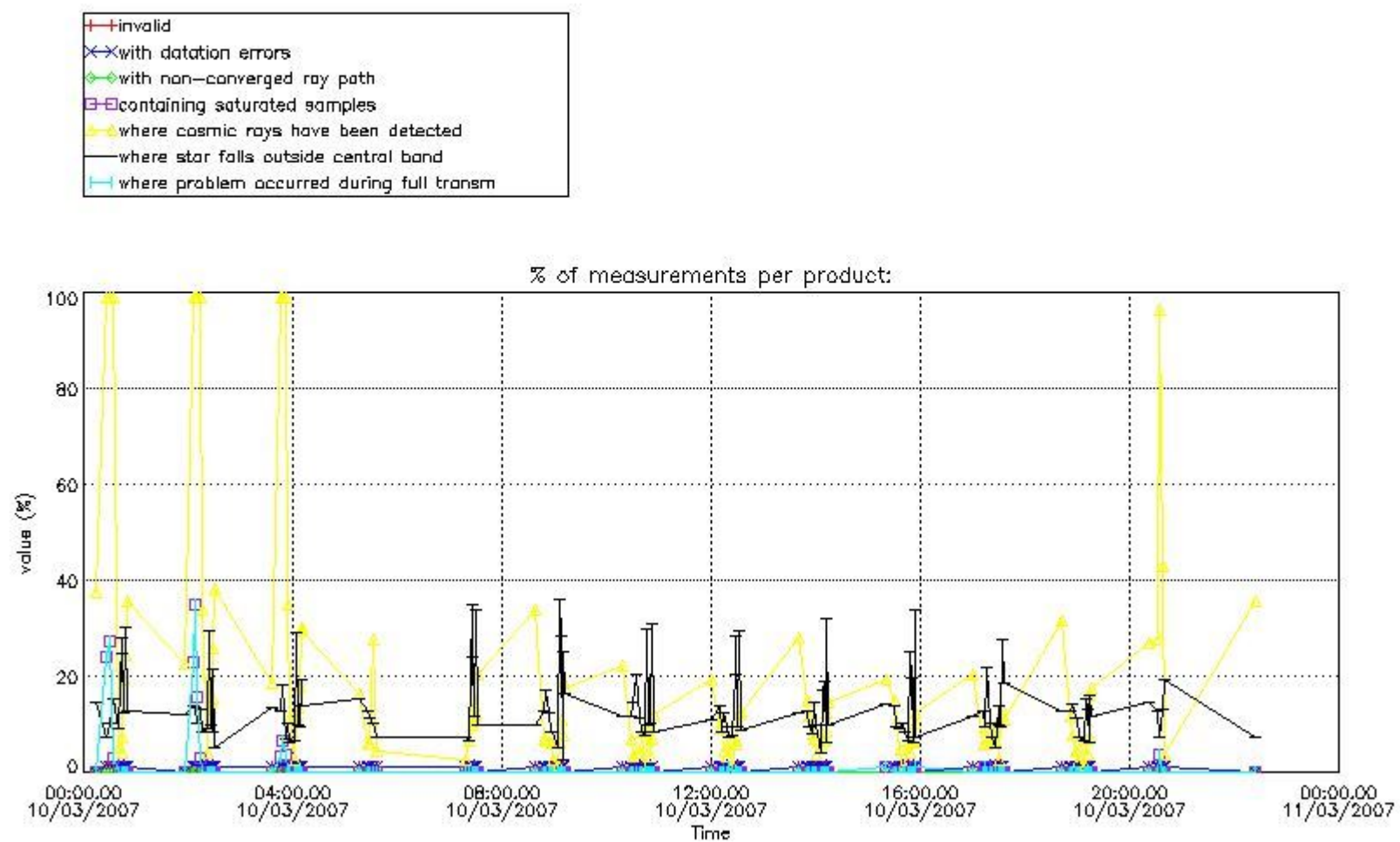


#### 4. Level 1 quality information per product

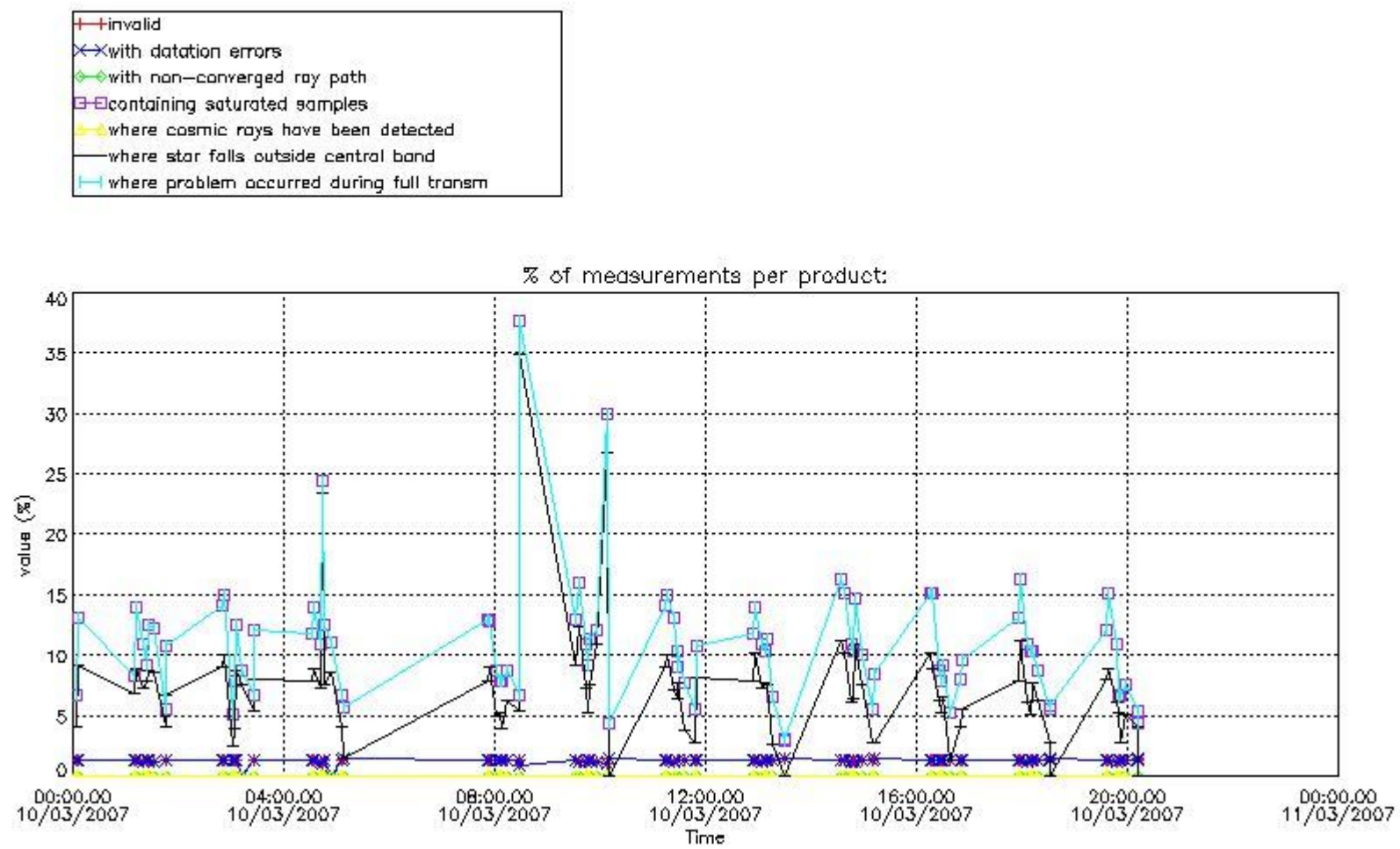
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

##### 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



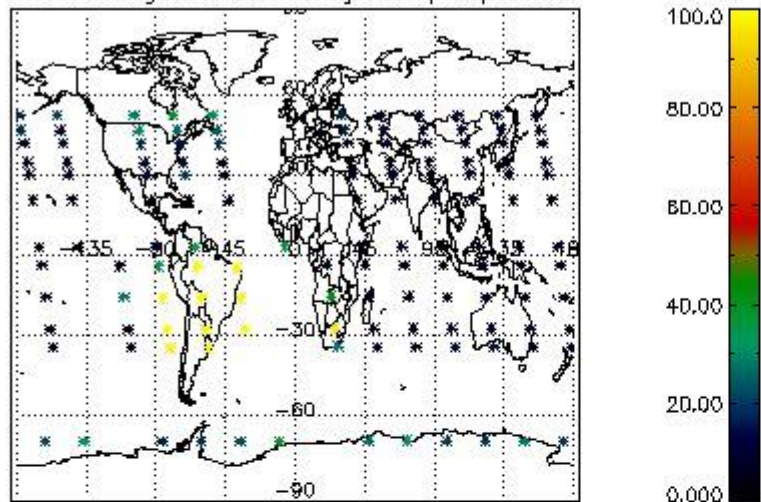
4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes



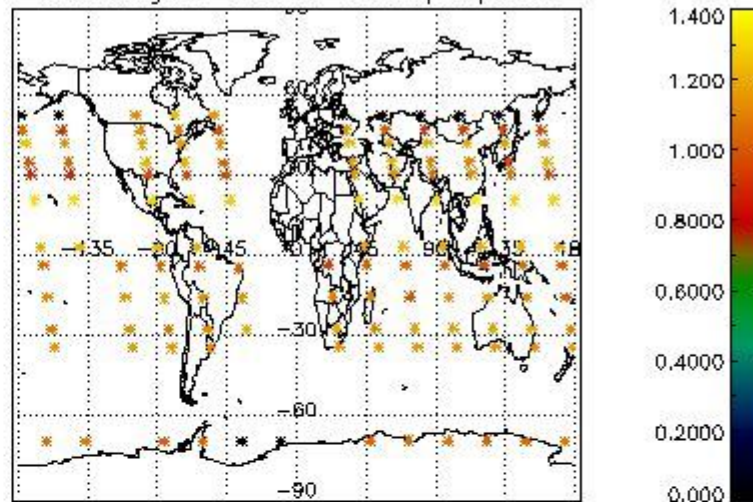
*4.2 Plot quality information per product coming from level 1b processing (world map)*

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

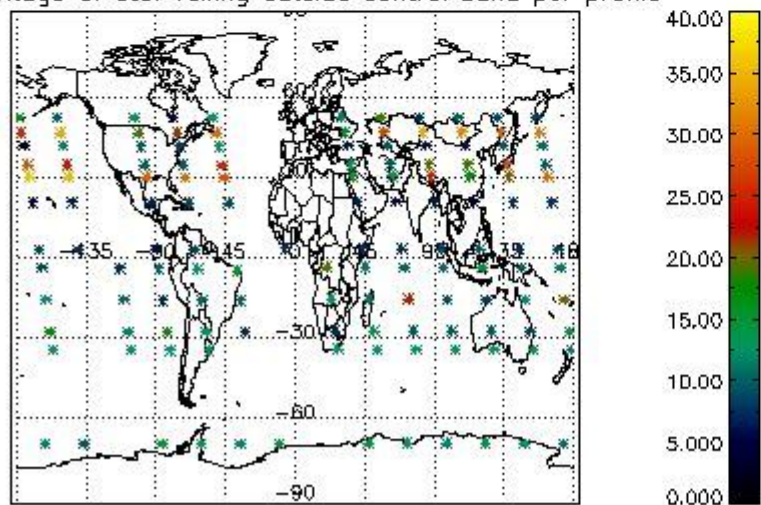
Percentage of cosmic ray hits per profile



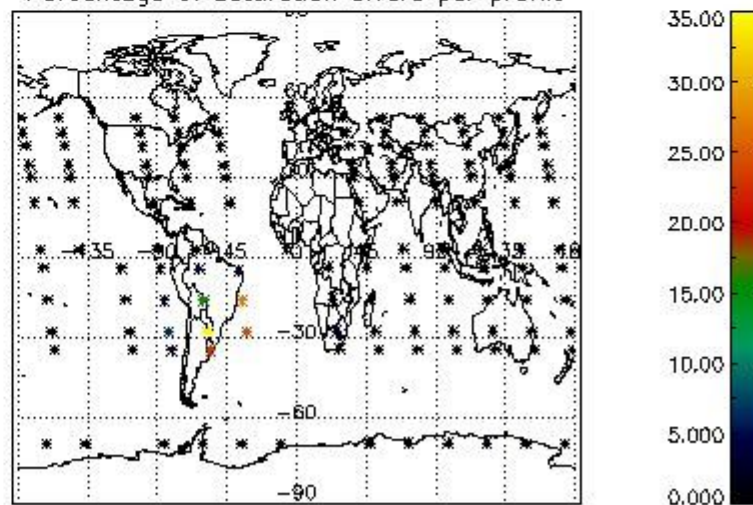
Percentage of datation errors per profile



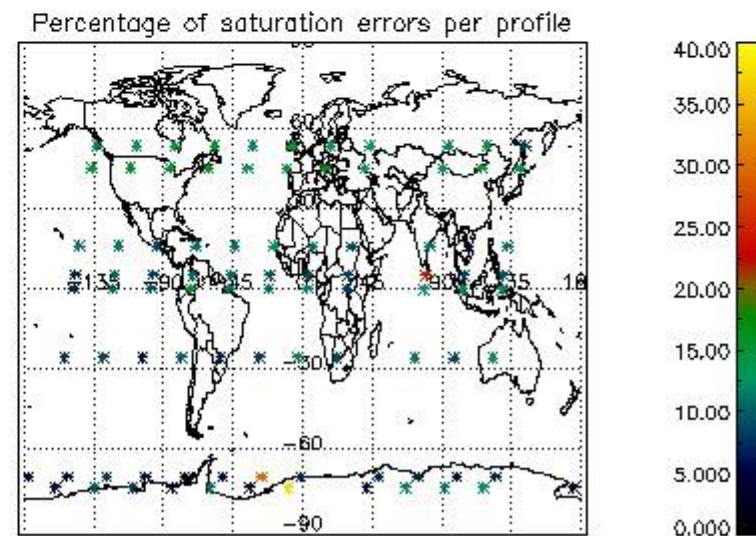
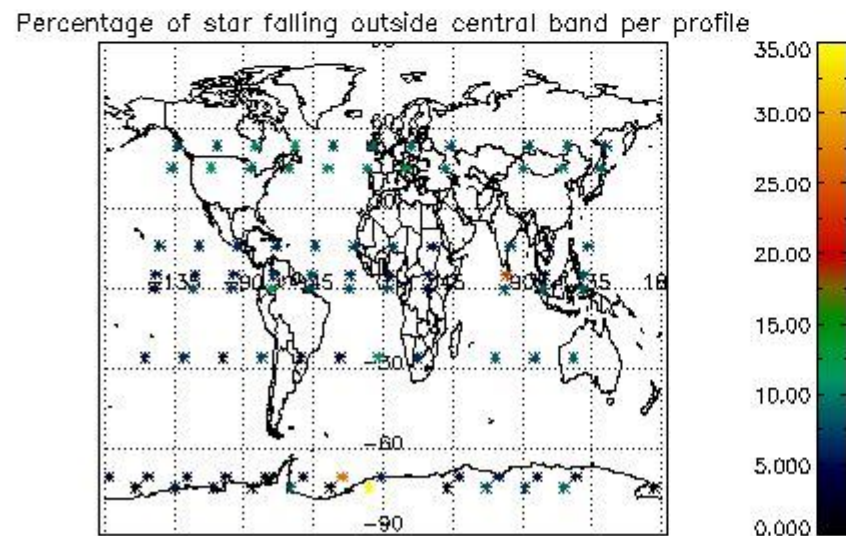
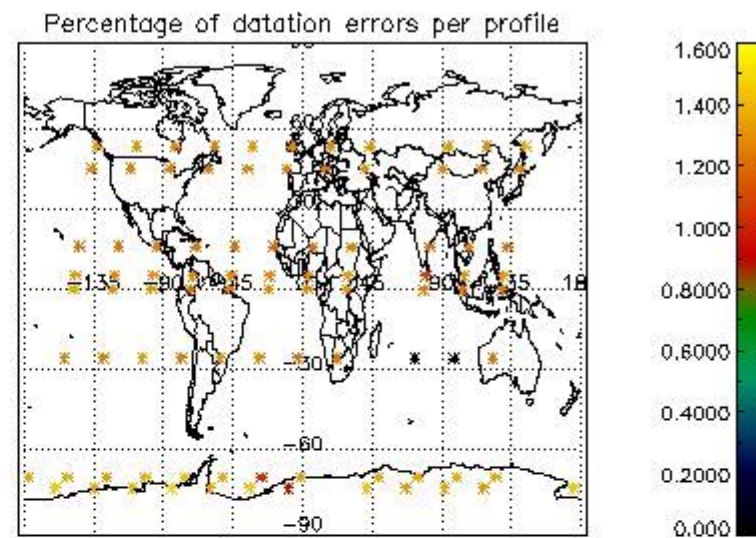
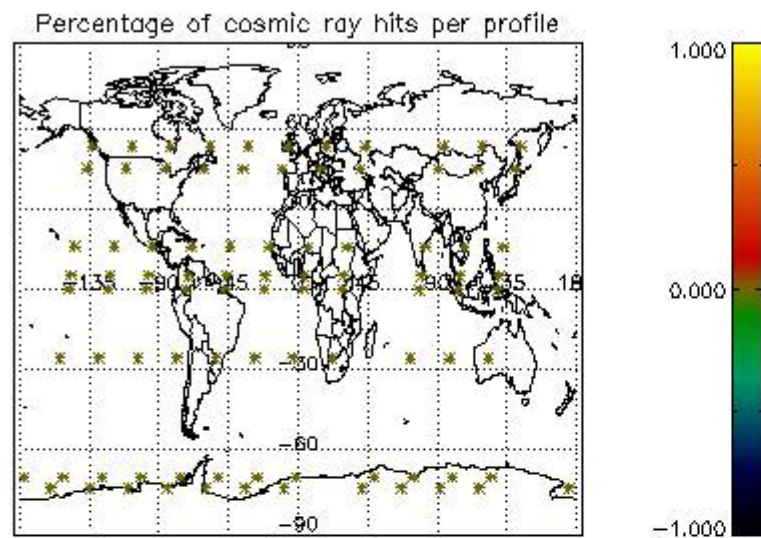
Percentage of star falling outside central band per profile



Percentage of saturation errors per profile



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

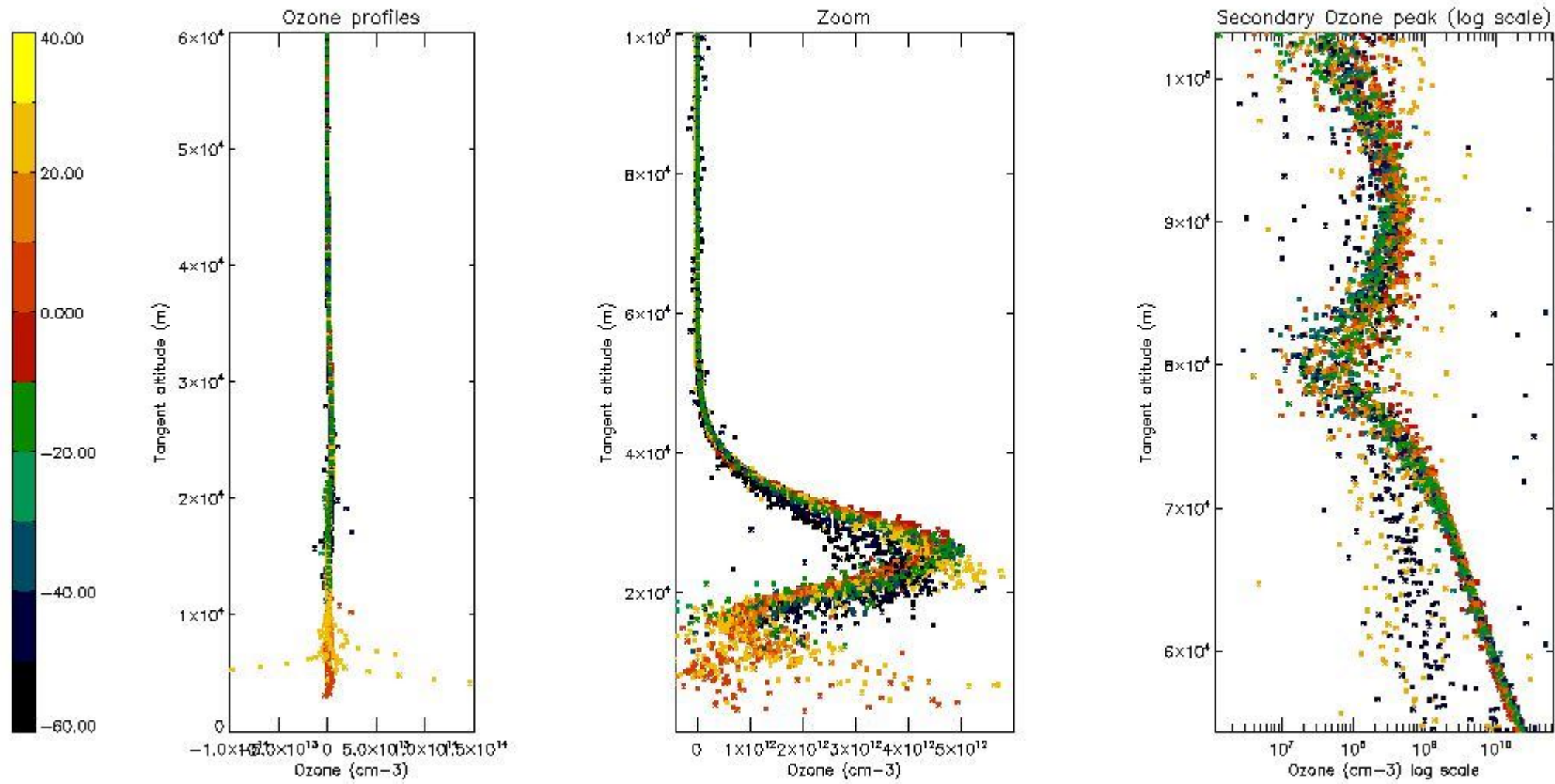
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	54
STD < 20	31

STD < 10	25
STD < 5	18

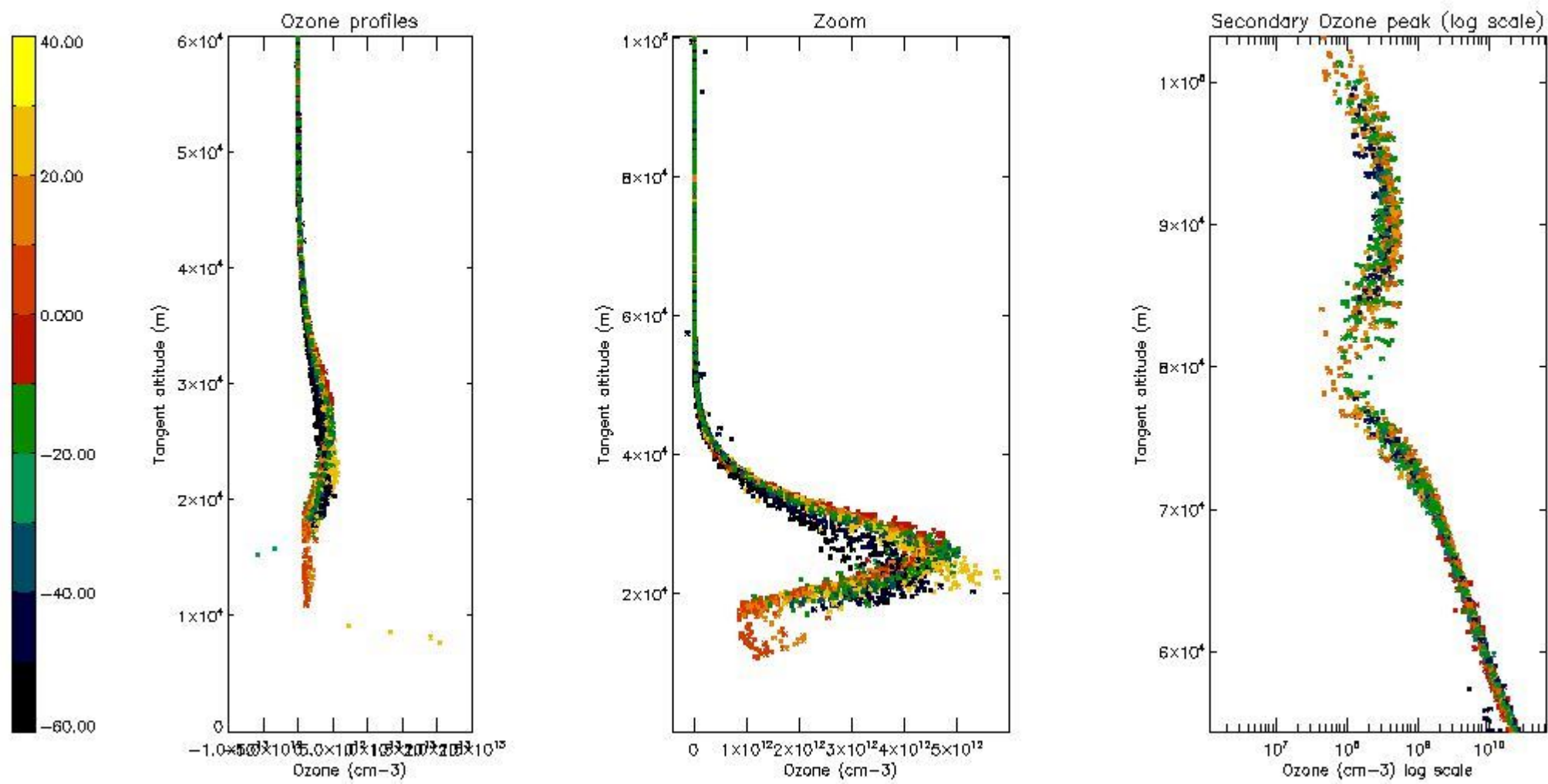
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



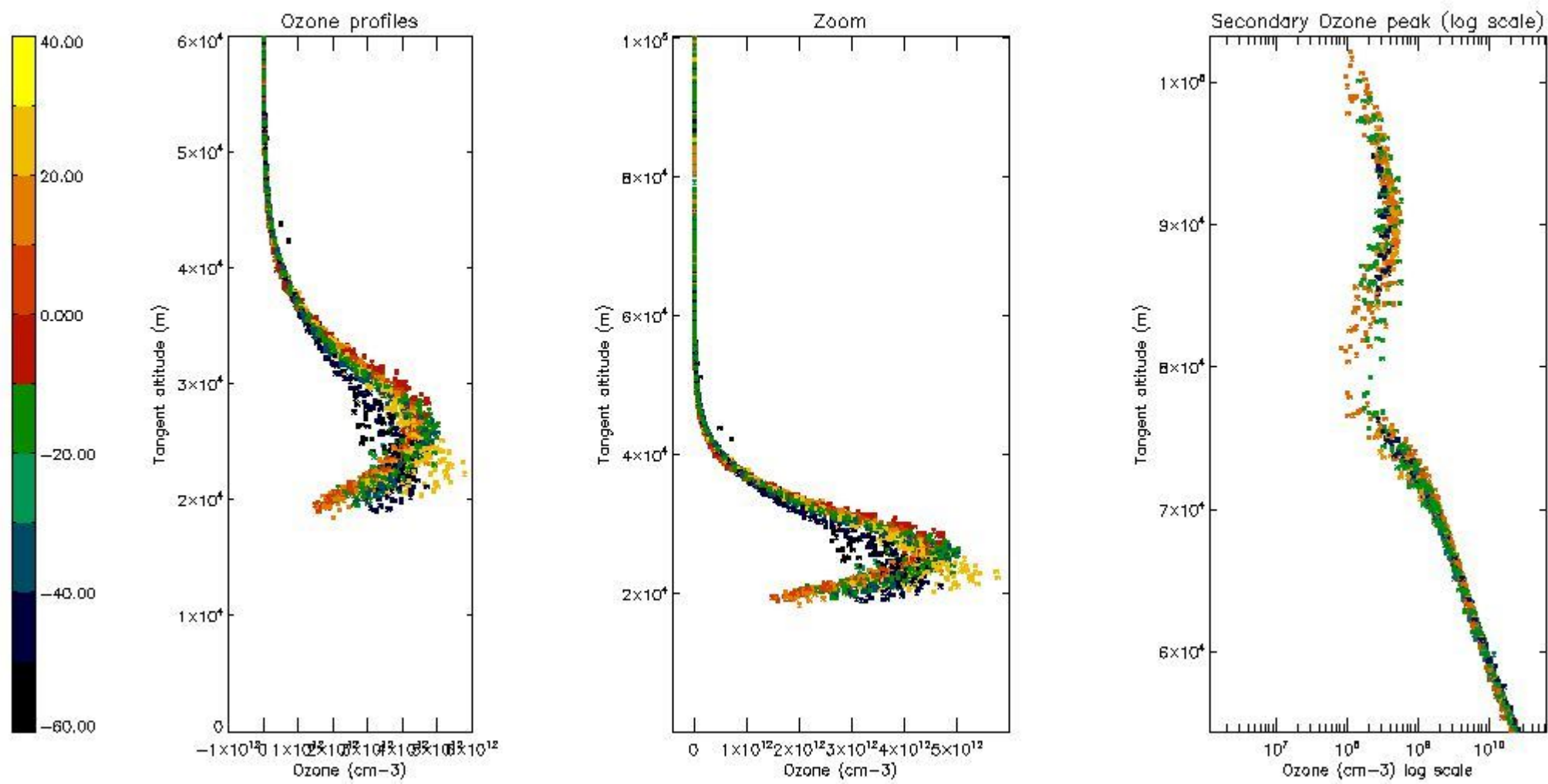
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



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

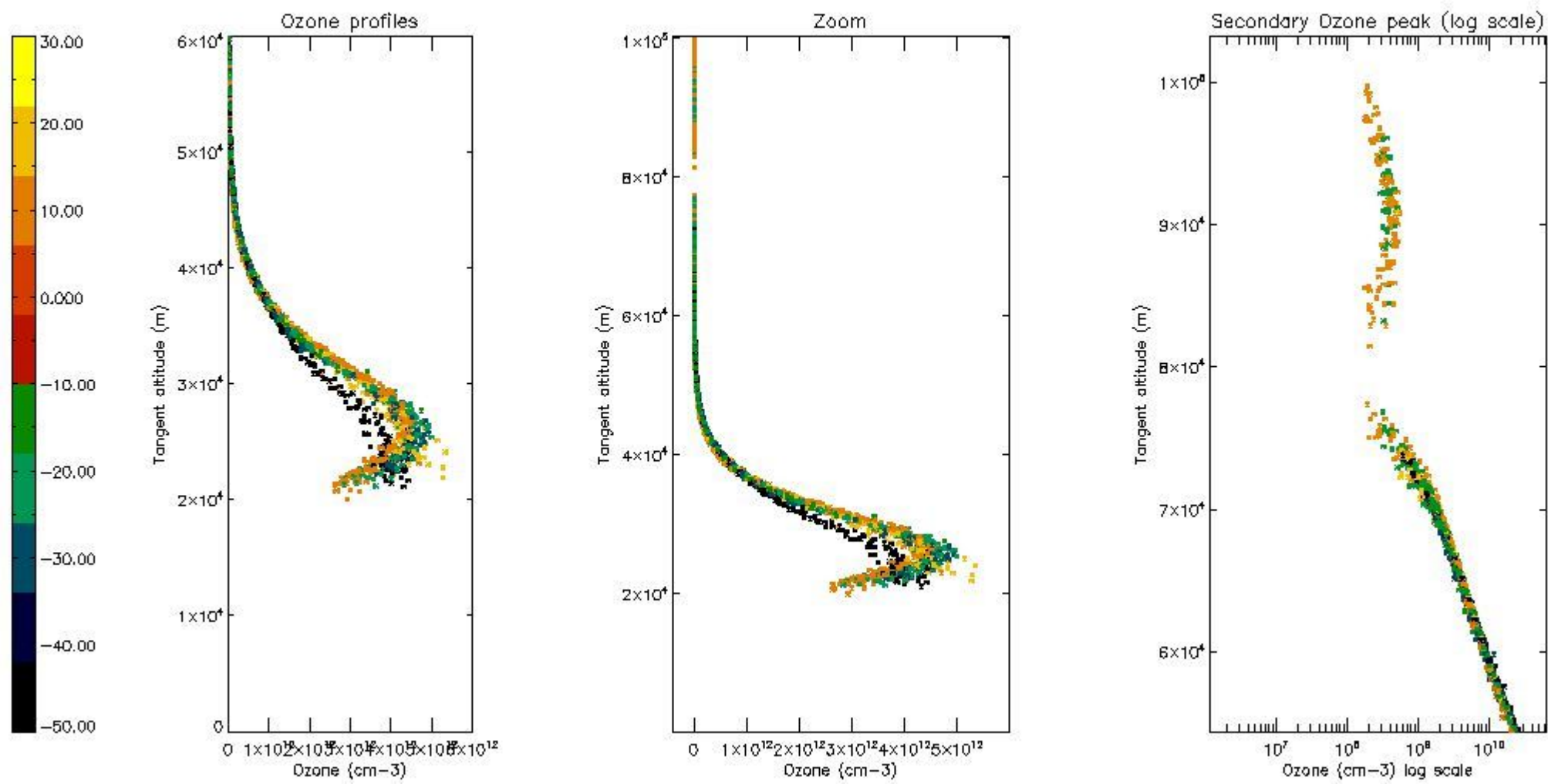
The colorbar represents the latitude.



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

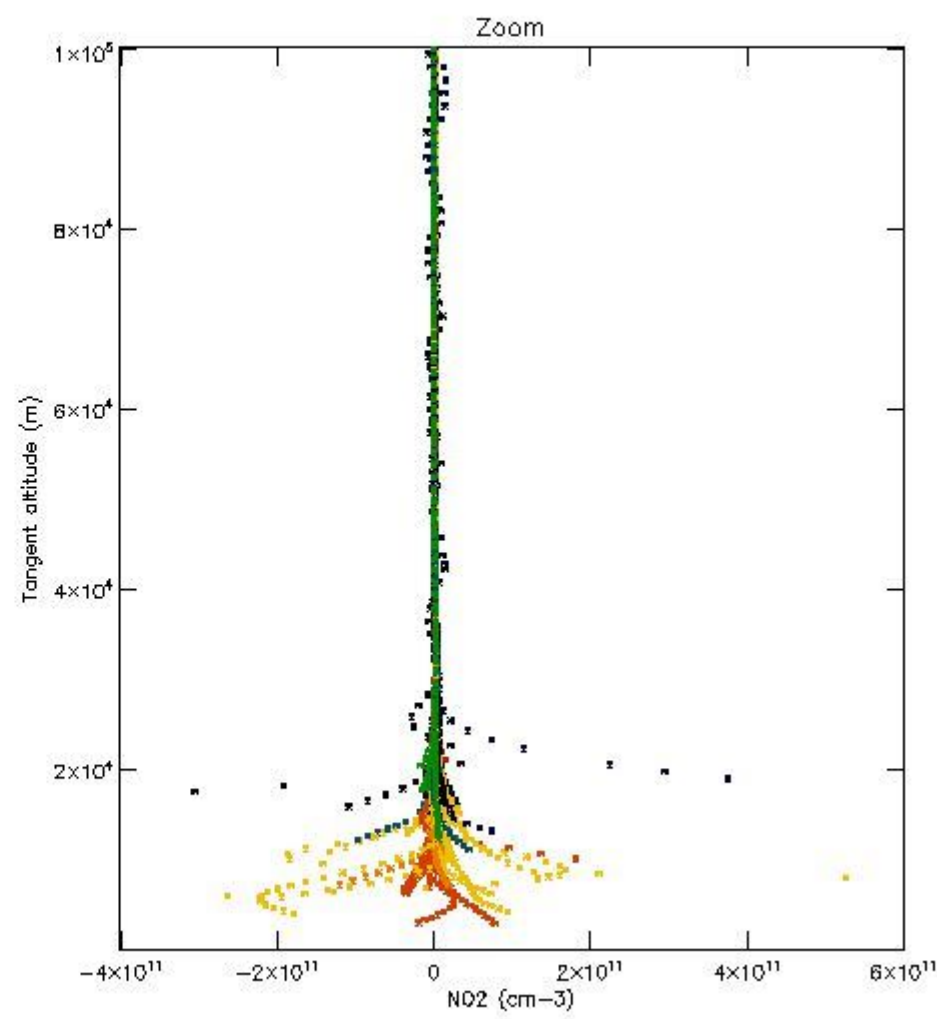
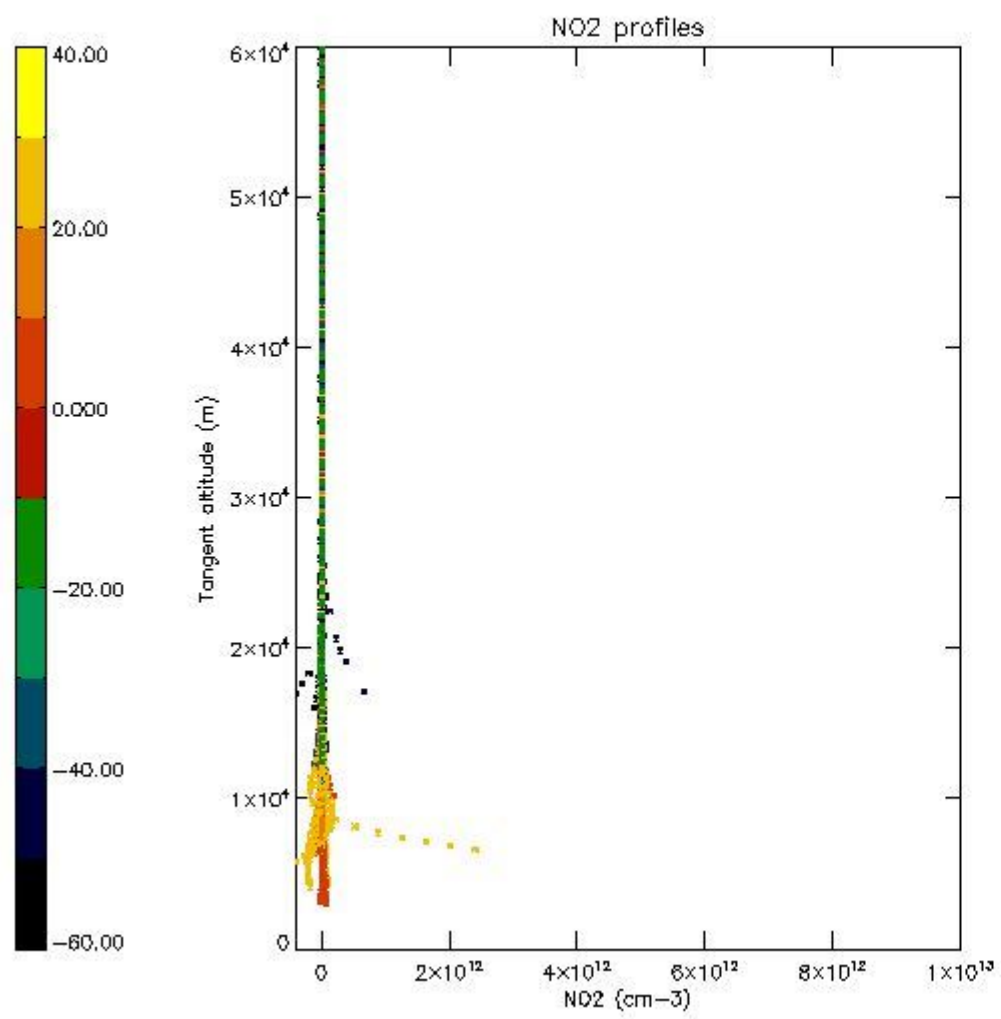
The colorbar represents the latitude.





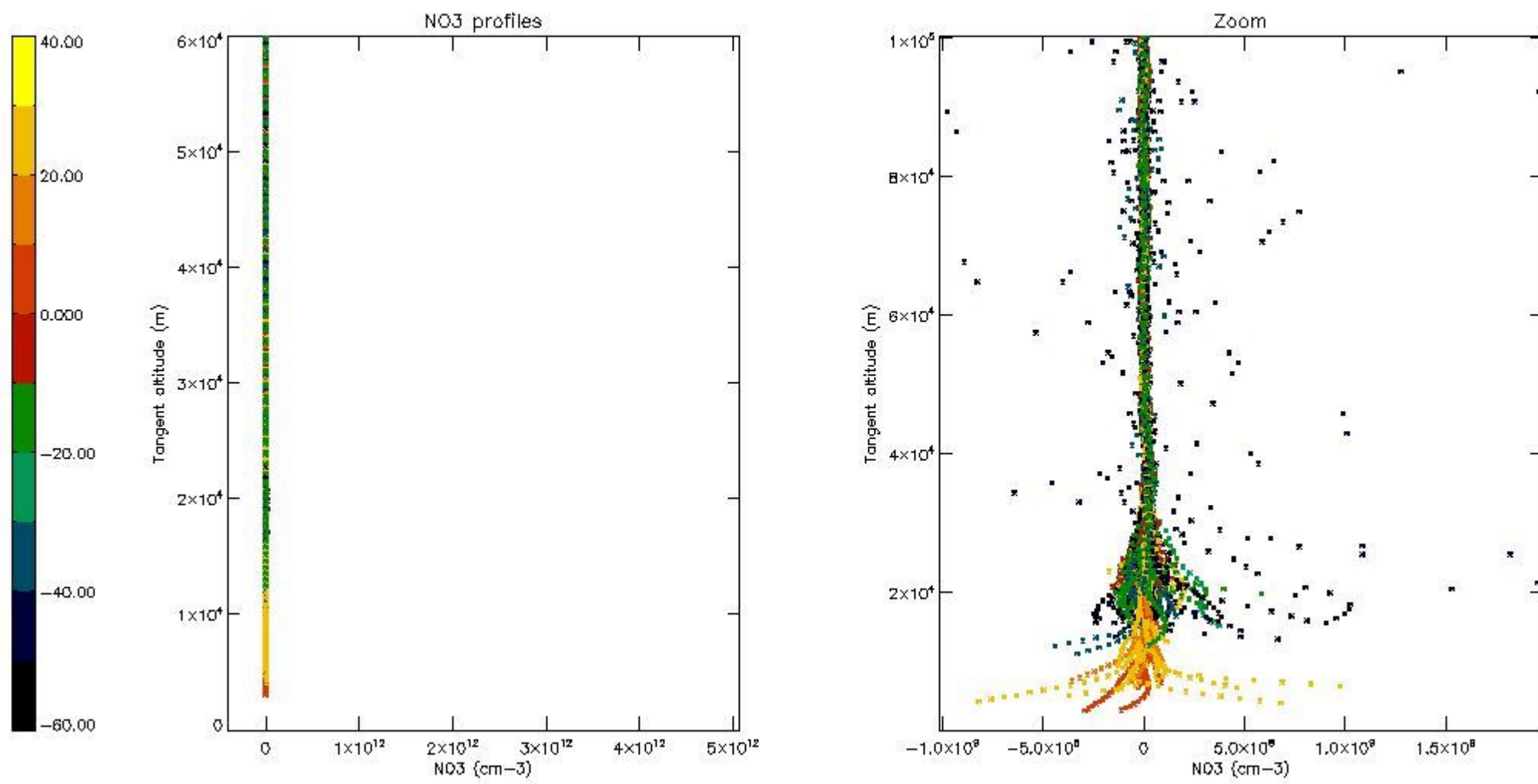
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

The colorbar represents the latitude.



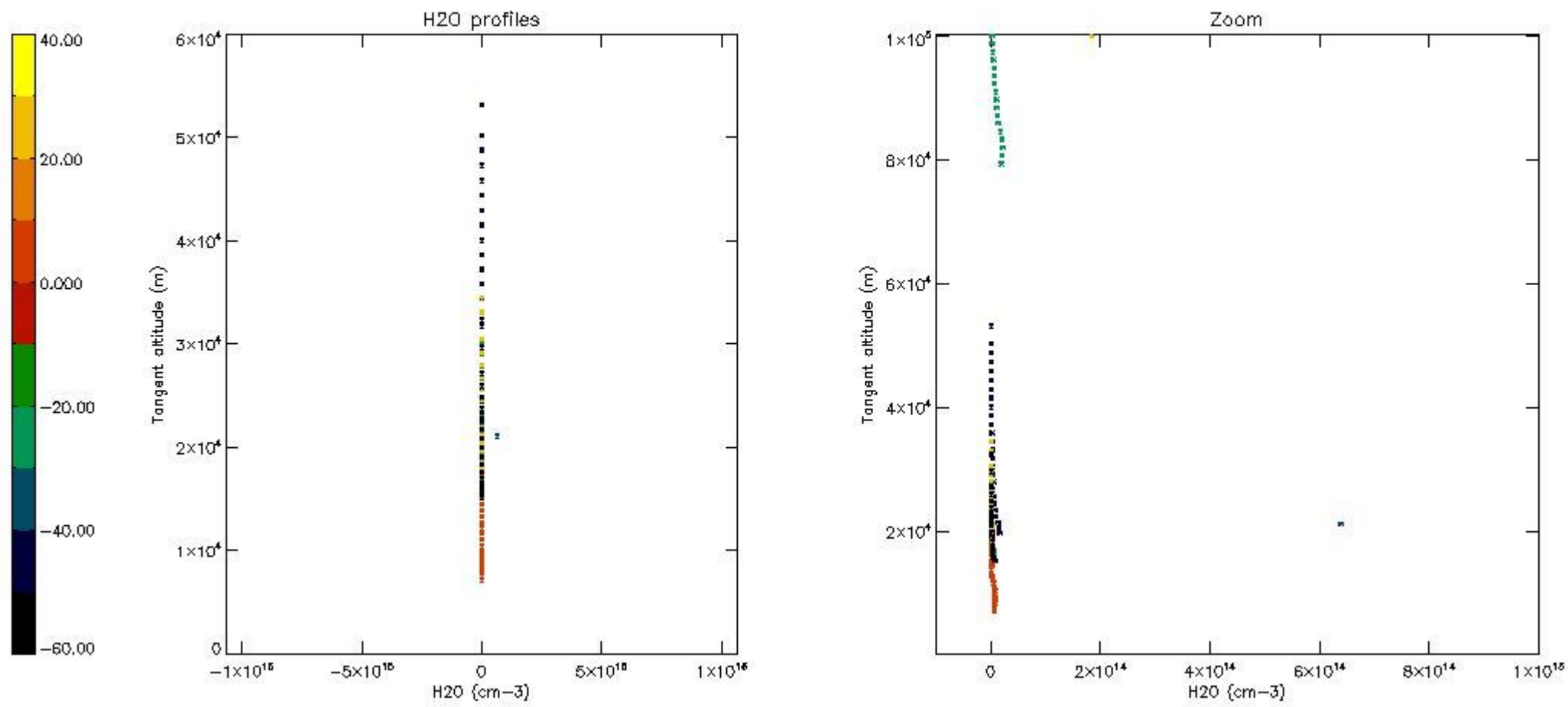
*5.7 Plot NO3 profiles for all STD (dark without errors)*

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)*

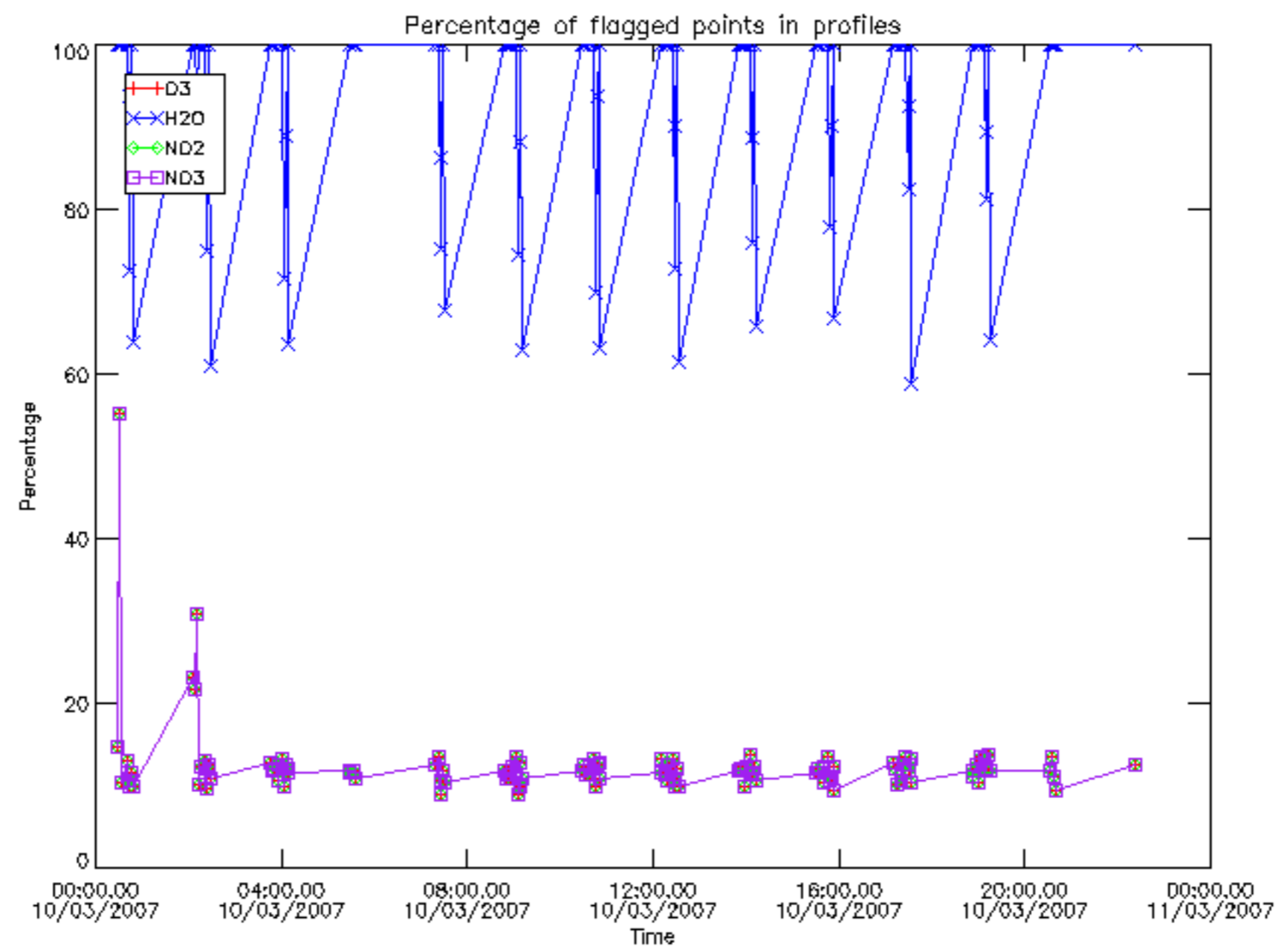
The colorbar represents the latitude.



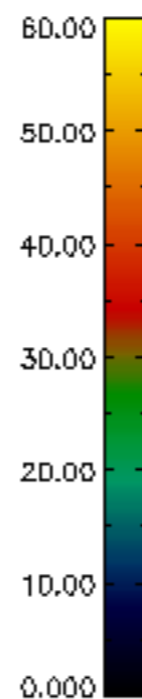
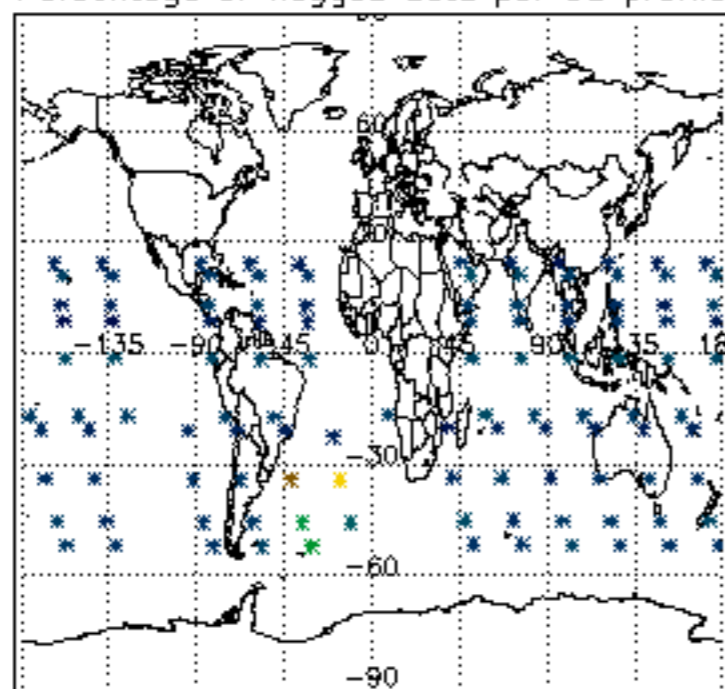
## 6. Auxiliary Data Files used for the production reported in section 2

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.

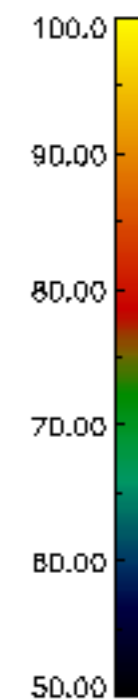
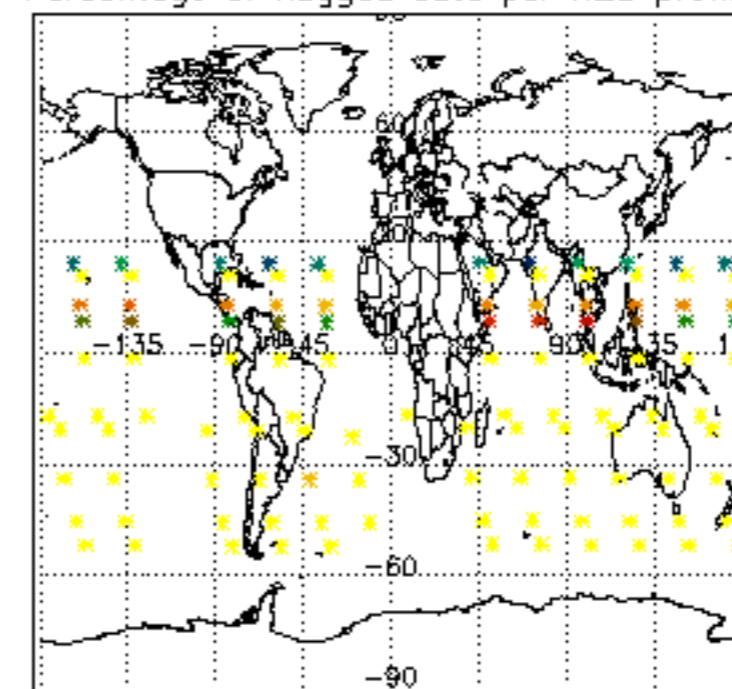
Type	Auxiliary Filename	Used since product	Used since product date
INST_PHYS_CHARACTERISTICS	GOM_INS_AXVIEC20091111_143220_20030716_120000_20500101_000000	1	10-MAR-2007 00:04:27
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	10-MAR-2007 00:04:27
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	10-MAR-2007 00:04:27



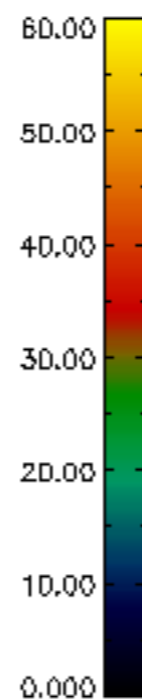
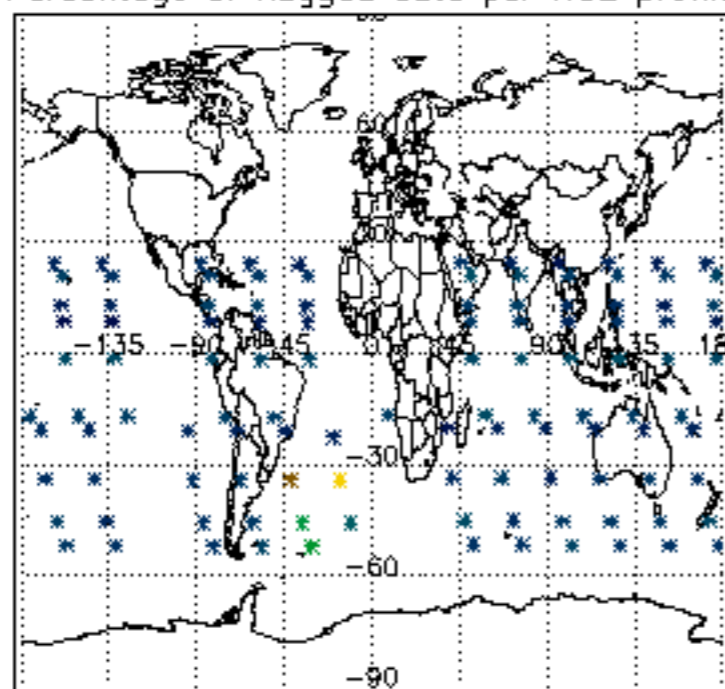
Percentage of flagged data per D3 profile



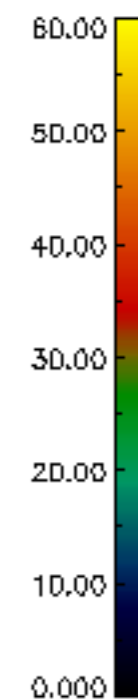
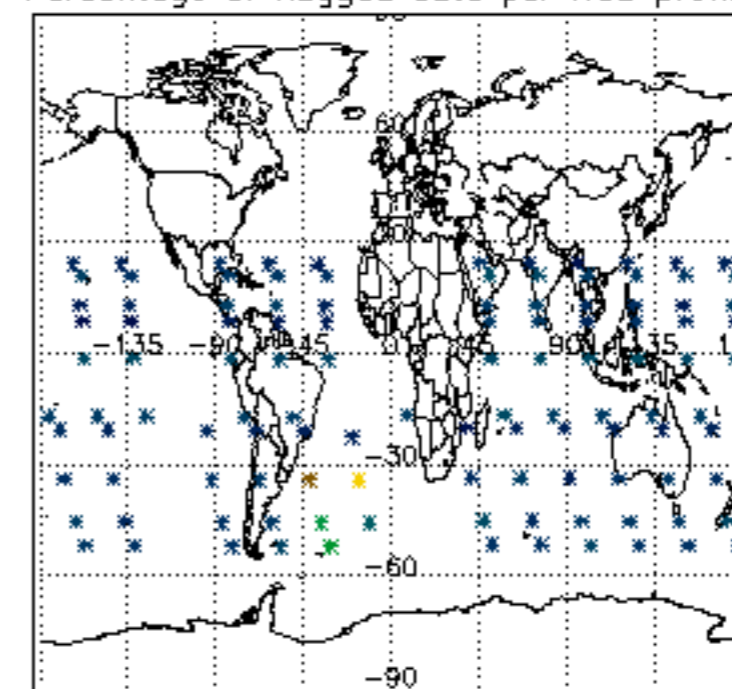
Percentage of flagged data per H2O profile

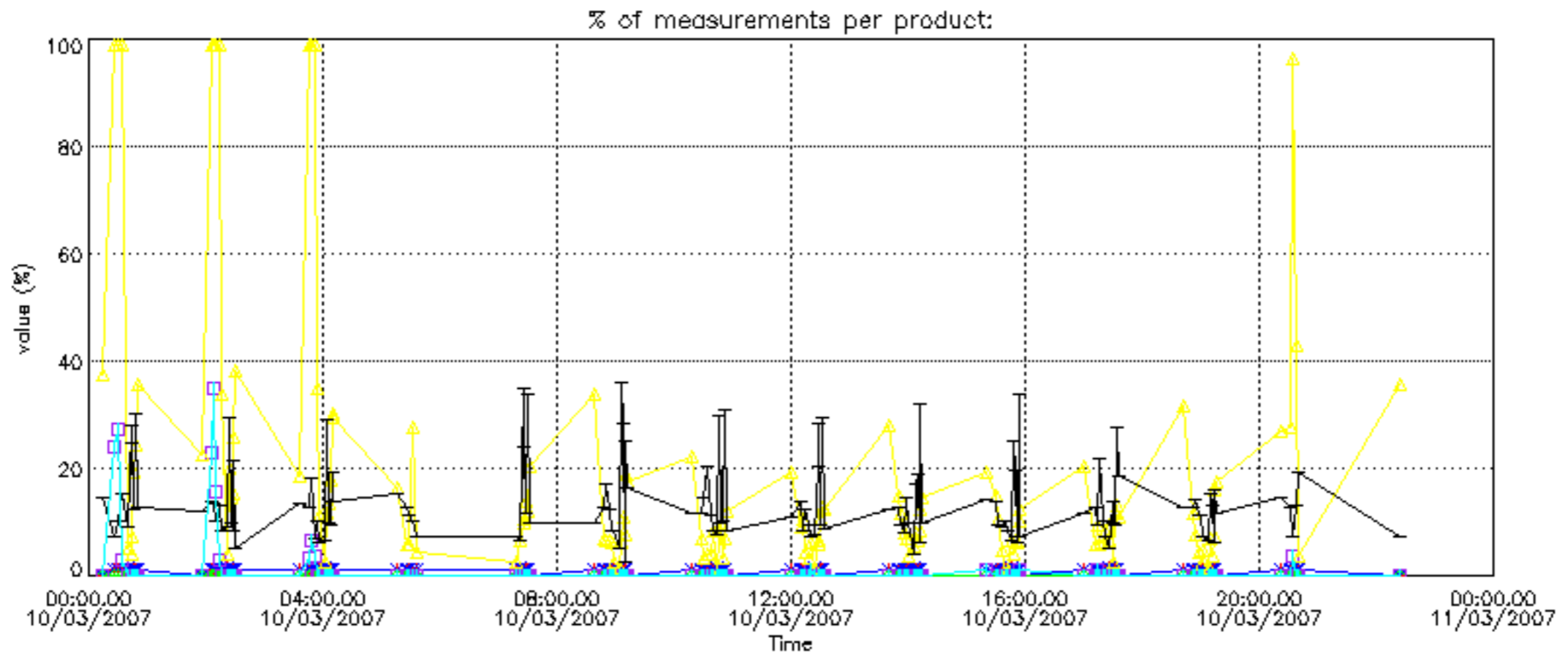


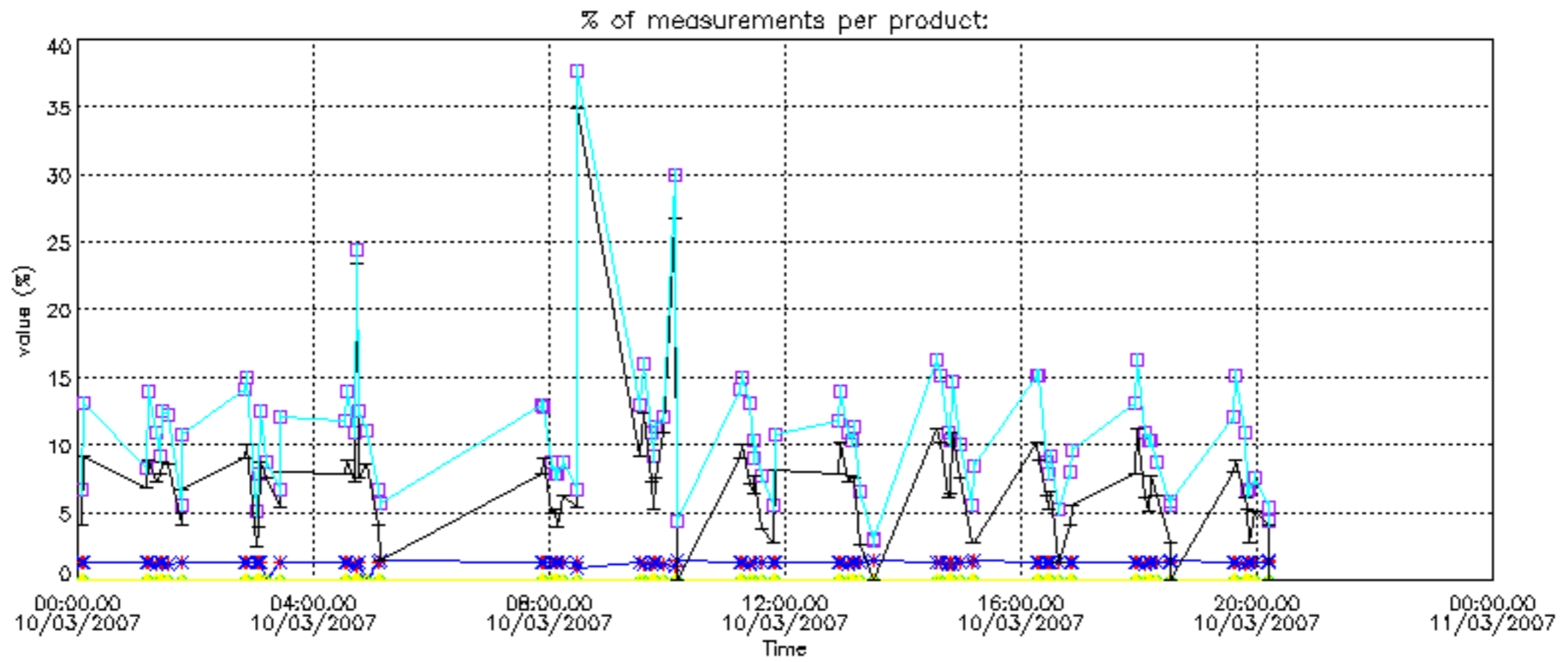
Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

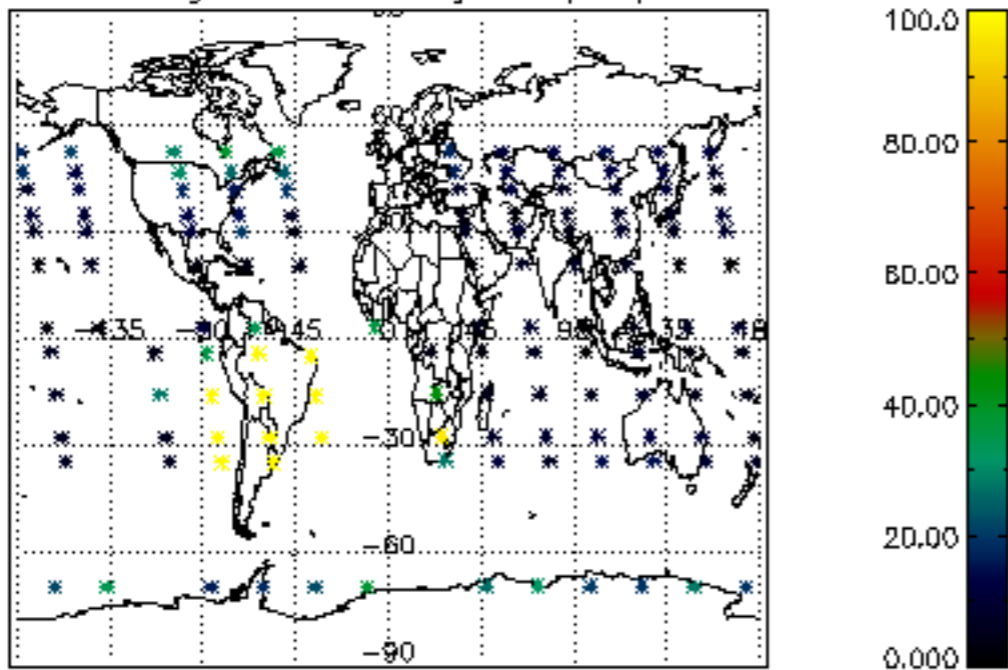




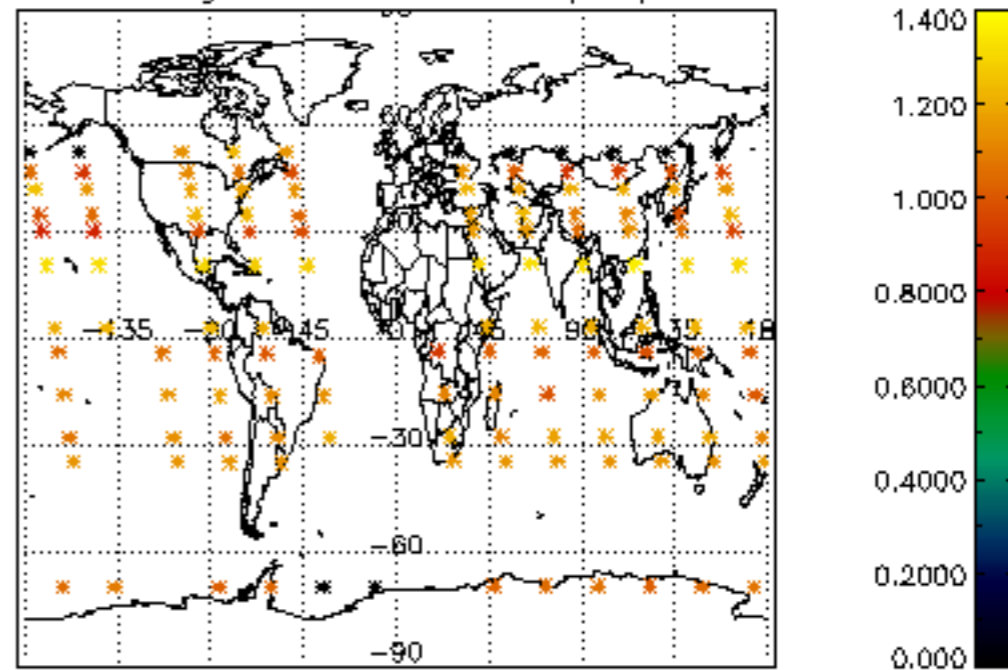




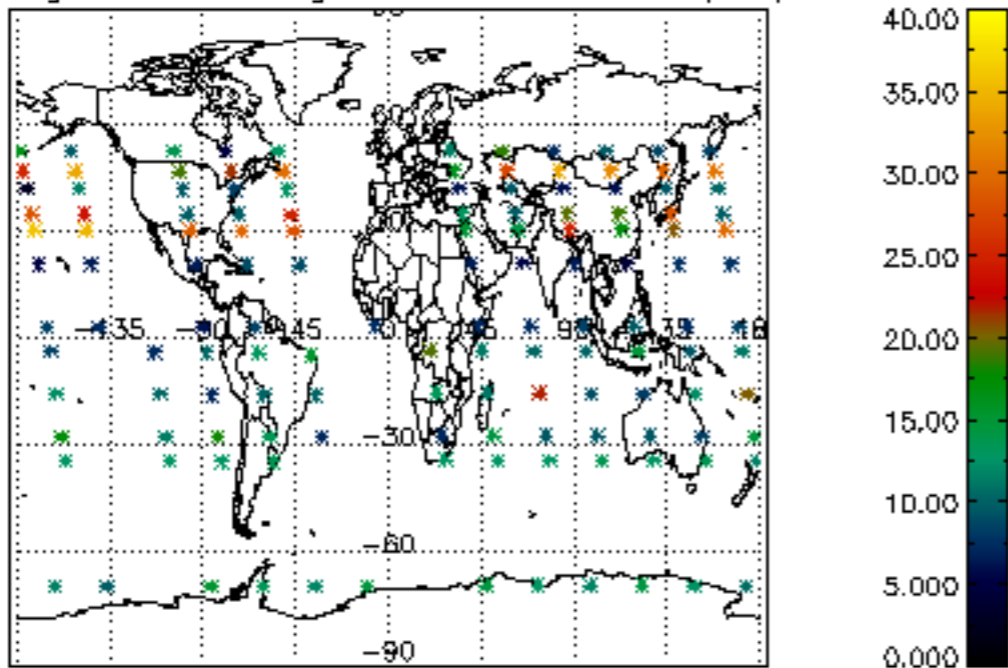
Percentage of cosmic ray hits per profile



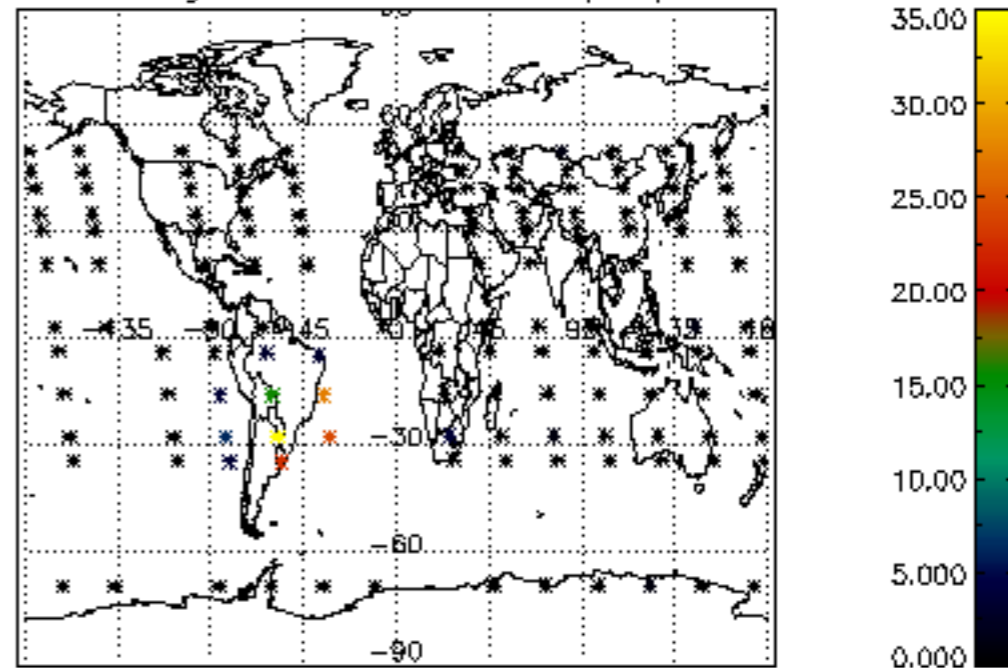
Percentage of datation errors per profile



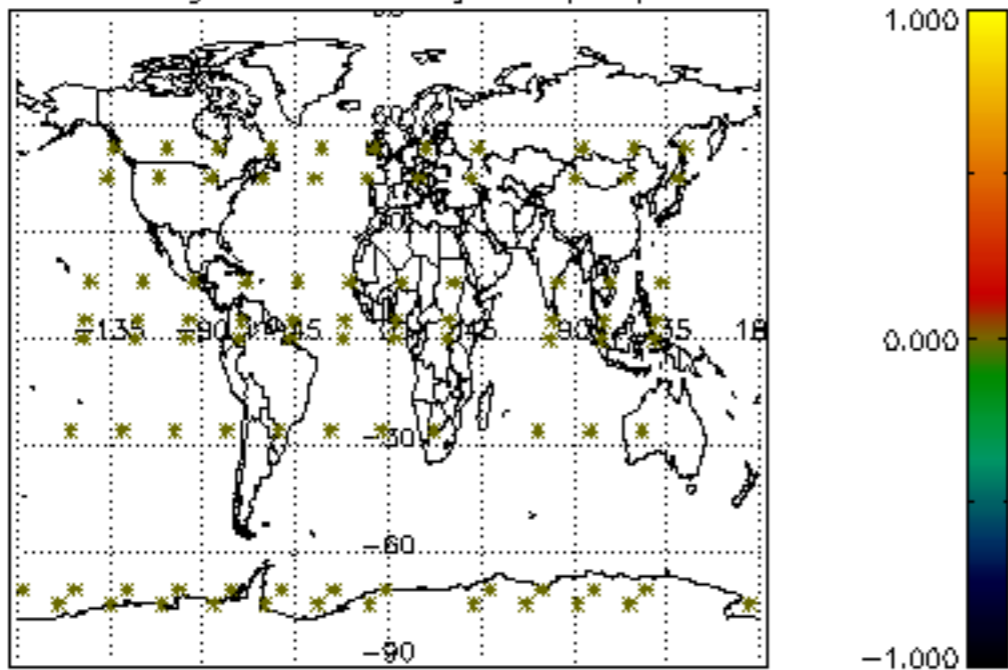
Percentage of star falling outside central band per profile



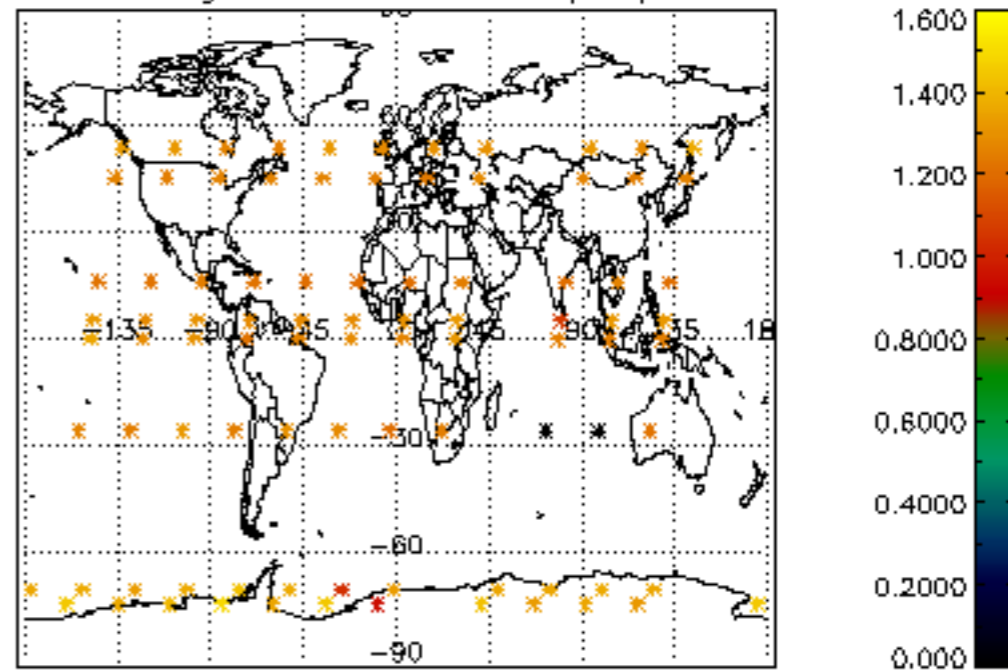
Percentage of saturation errors per profile



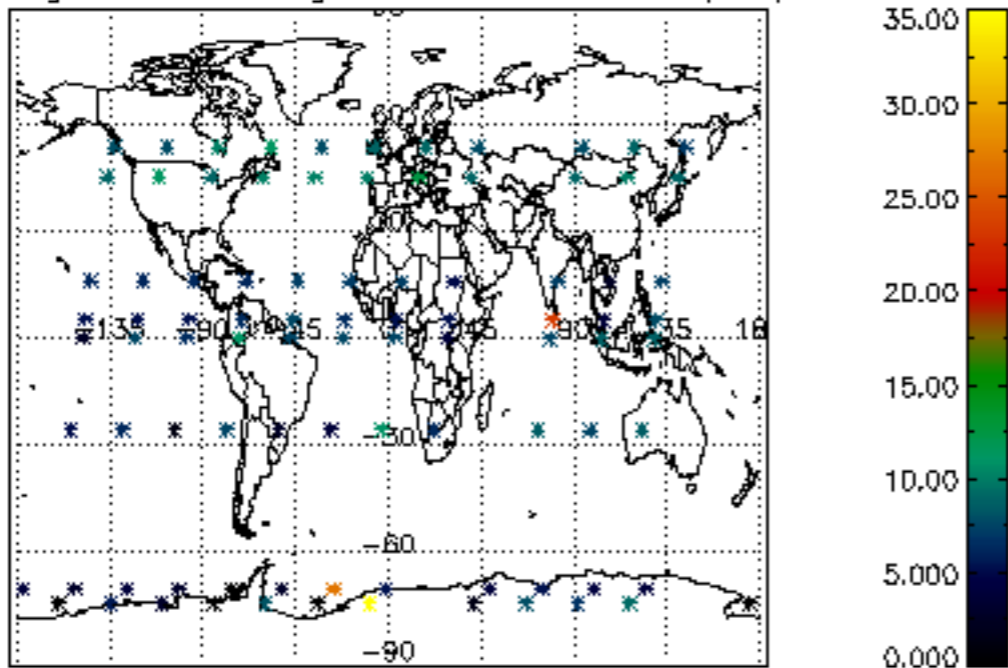
Percentage of cosmic ray hits per profile



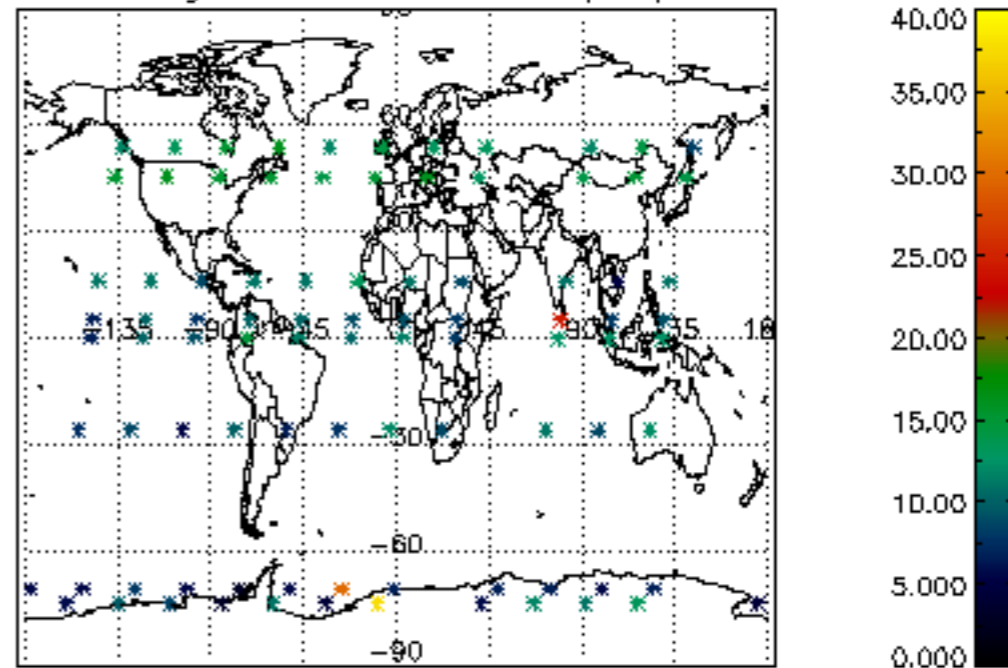
Percentage of datation errors per profile

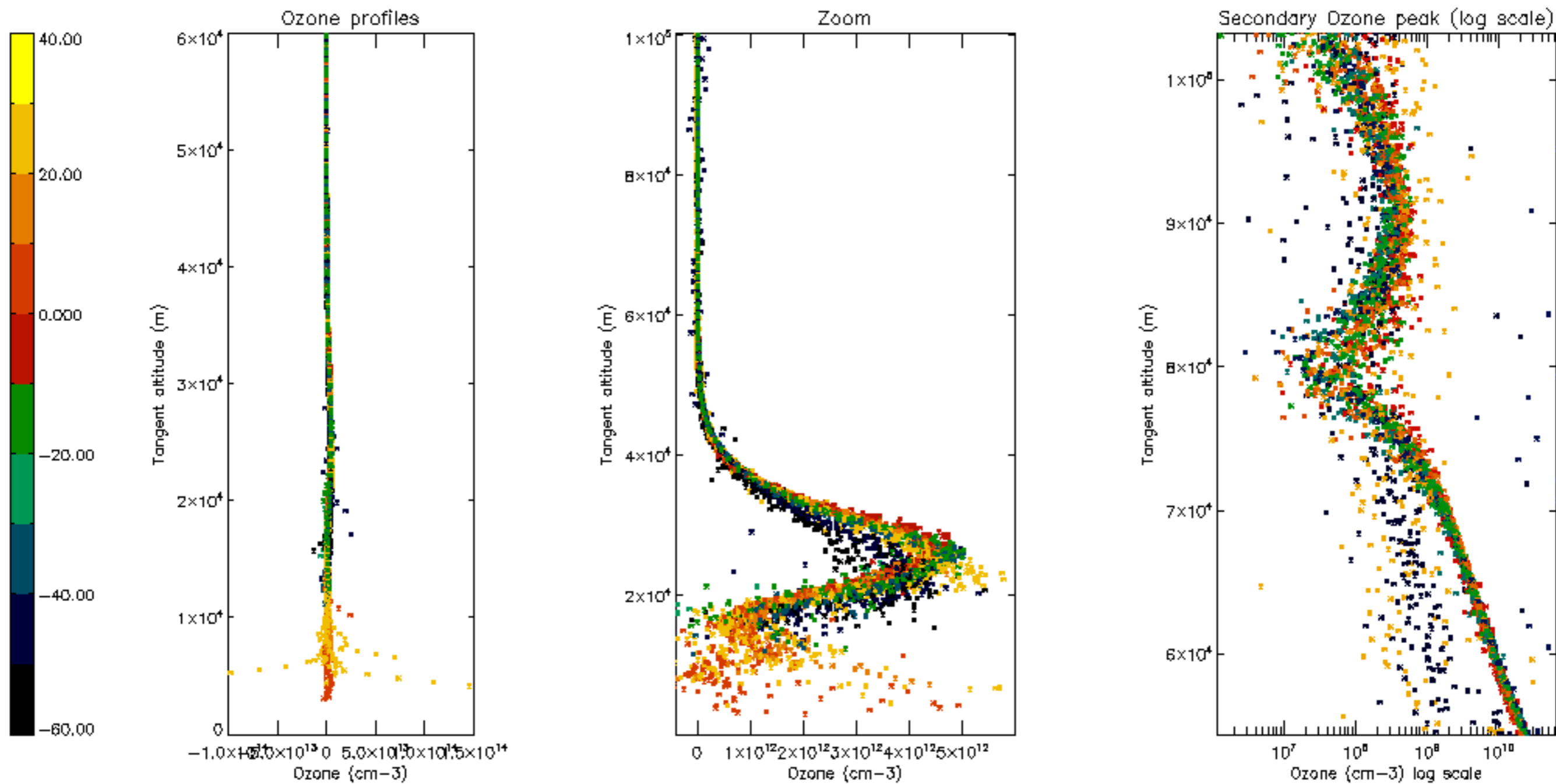


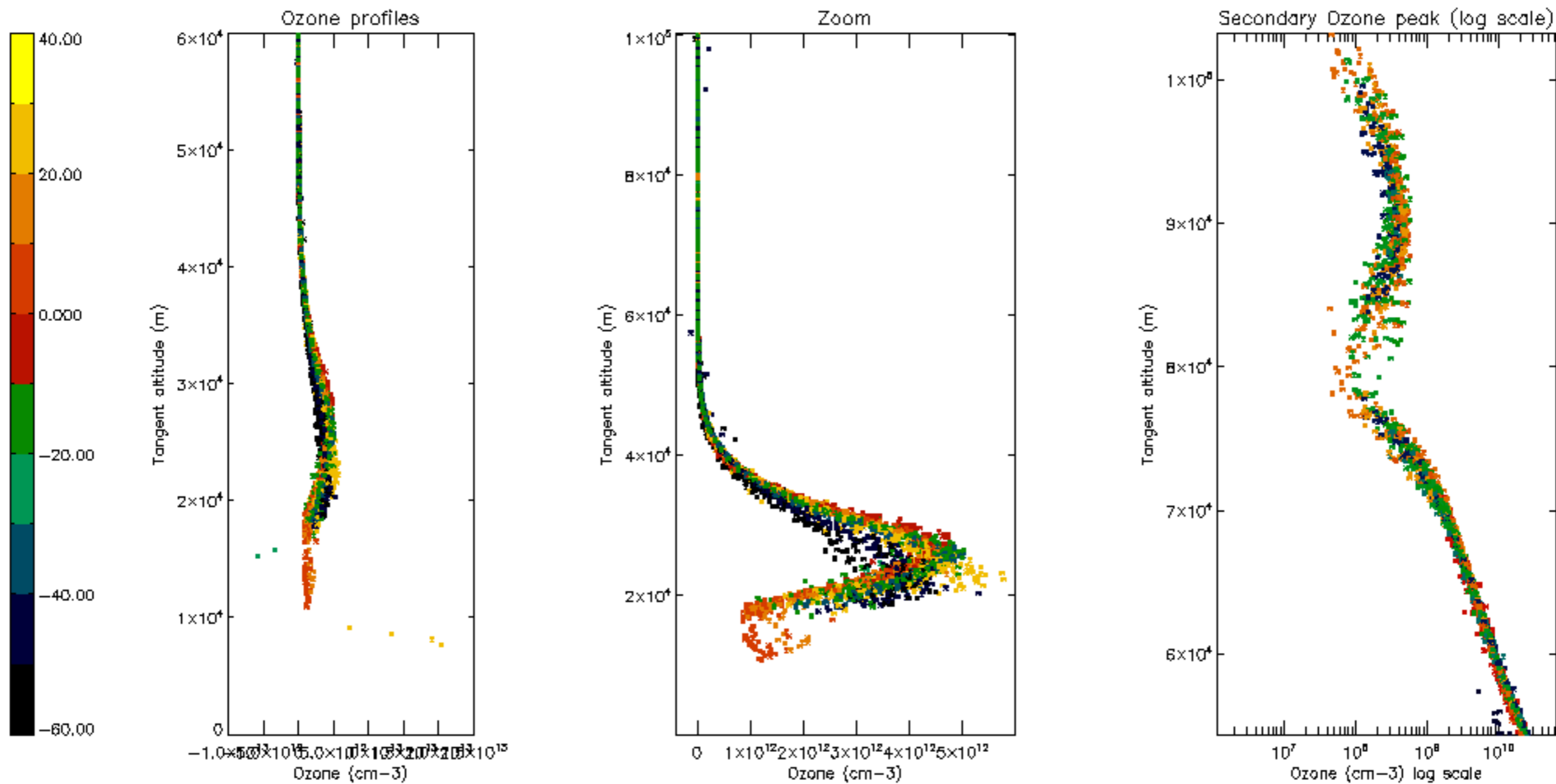
Percentage of star falling outside central band per profile

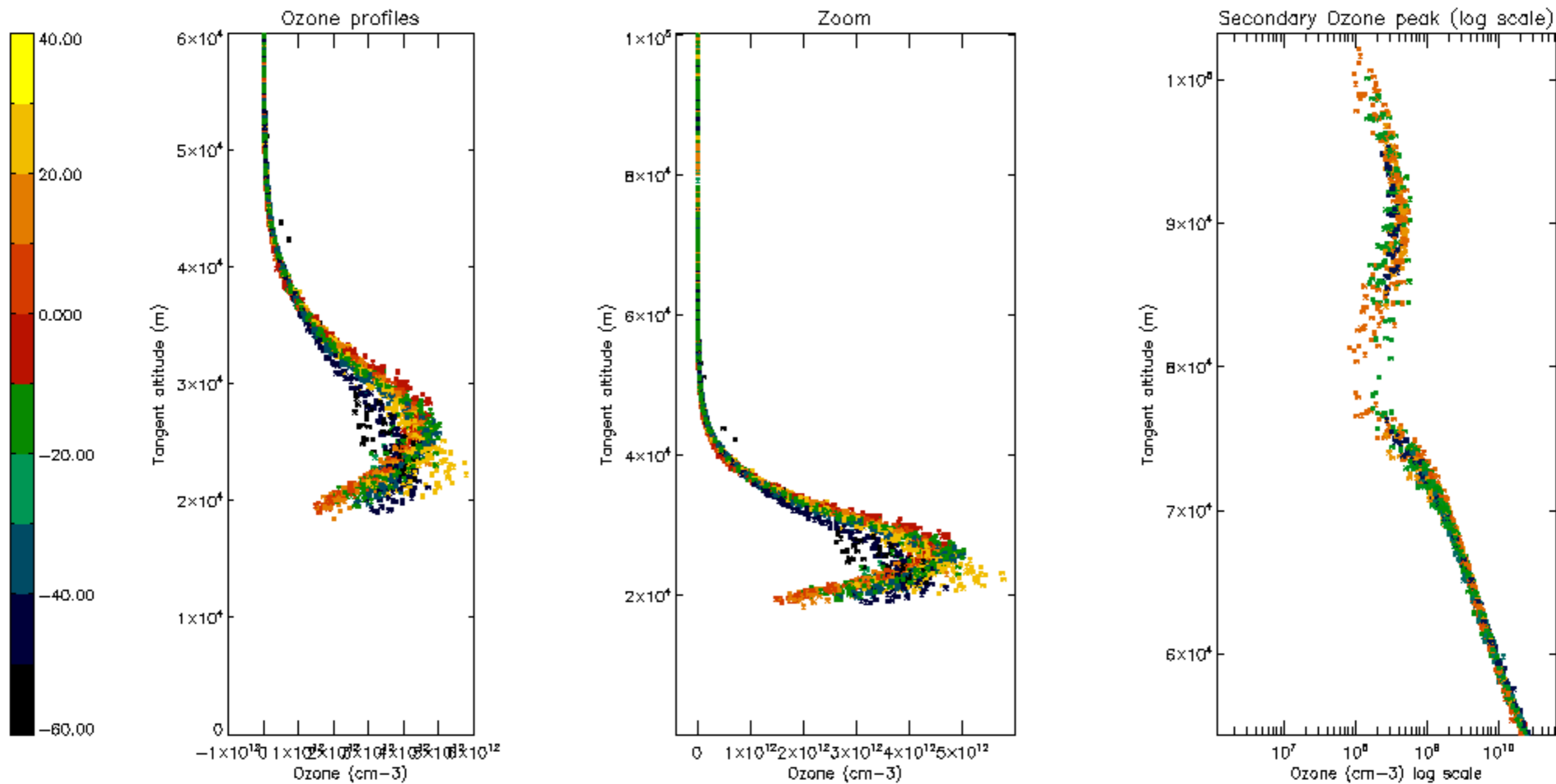


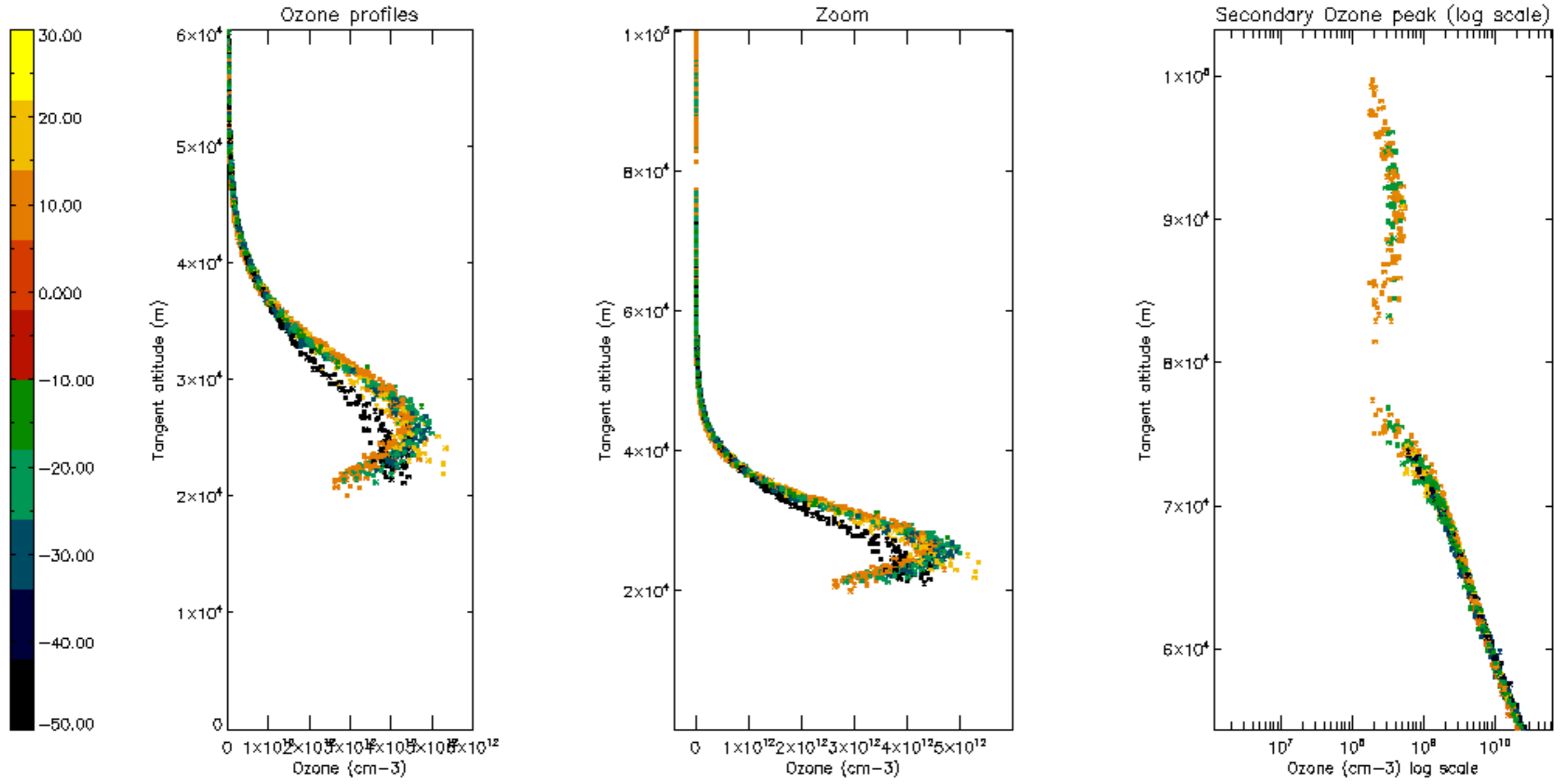
Percentage of saturation errors per profile

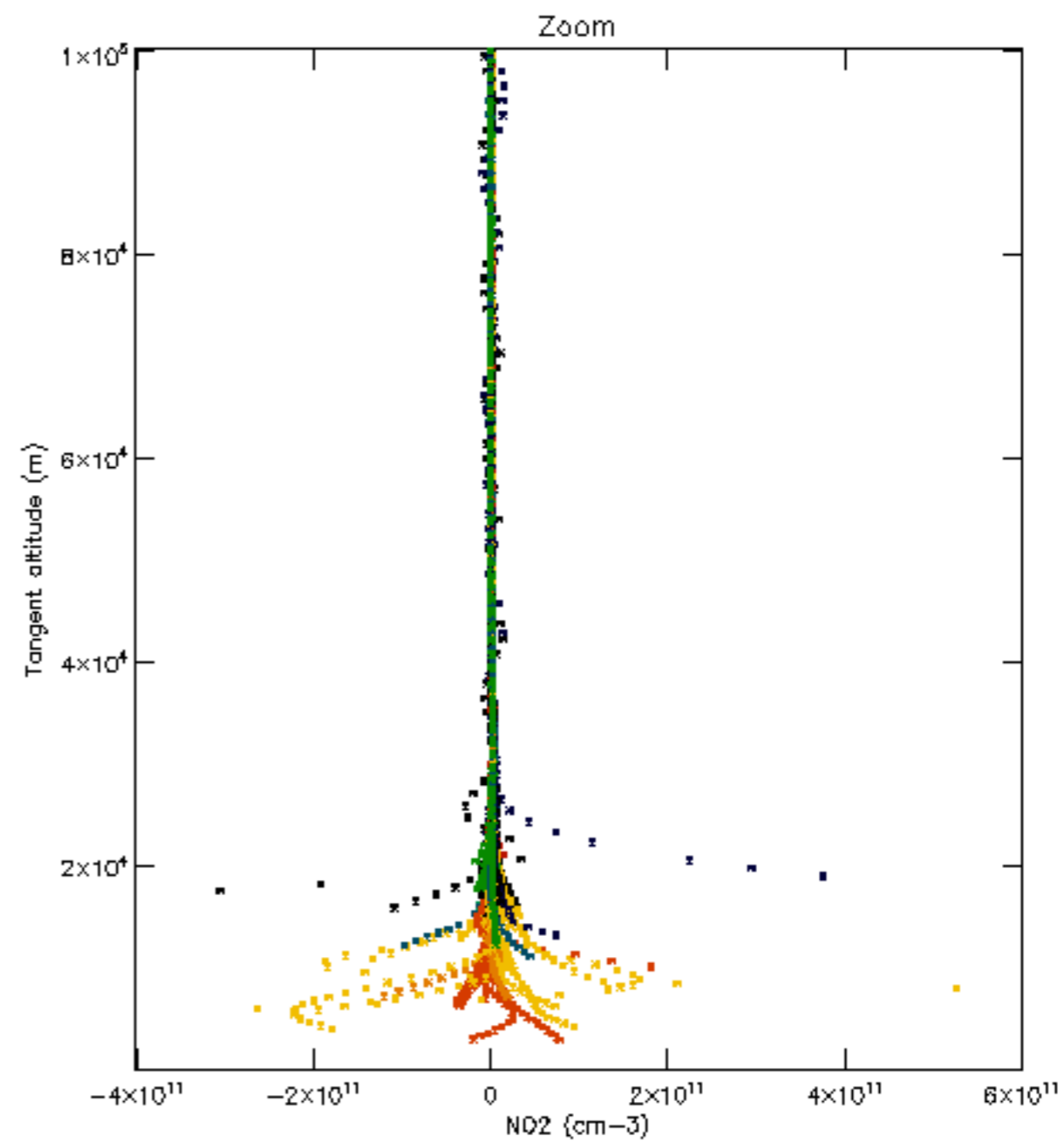
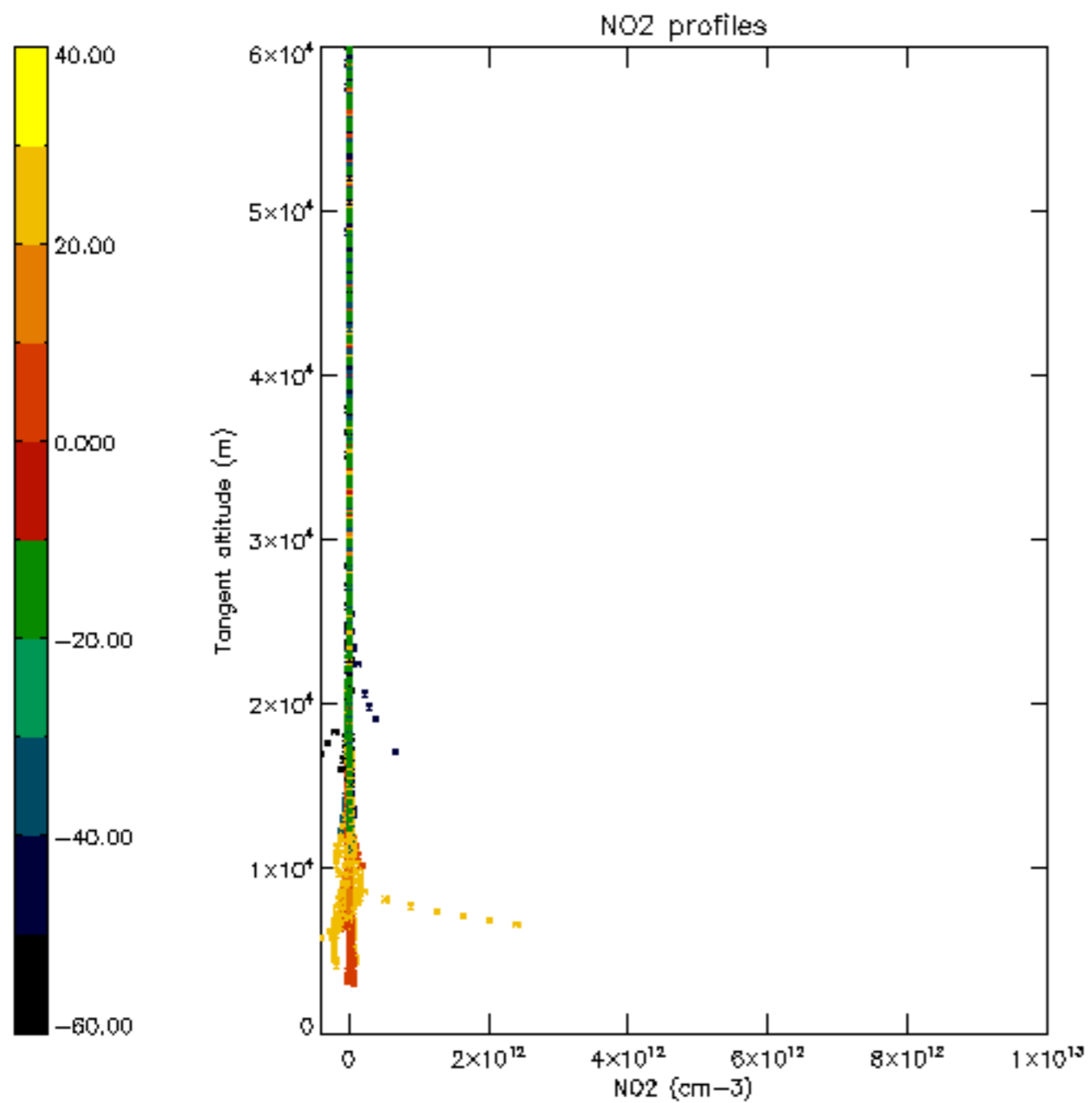


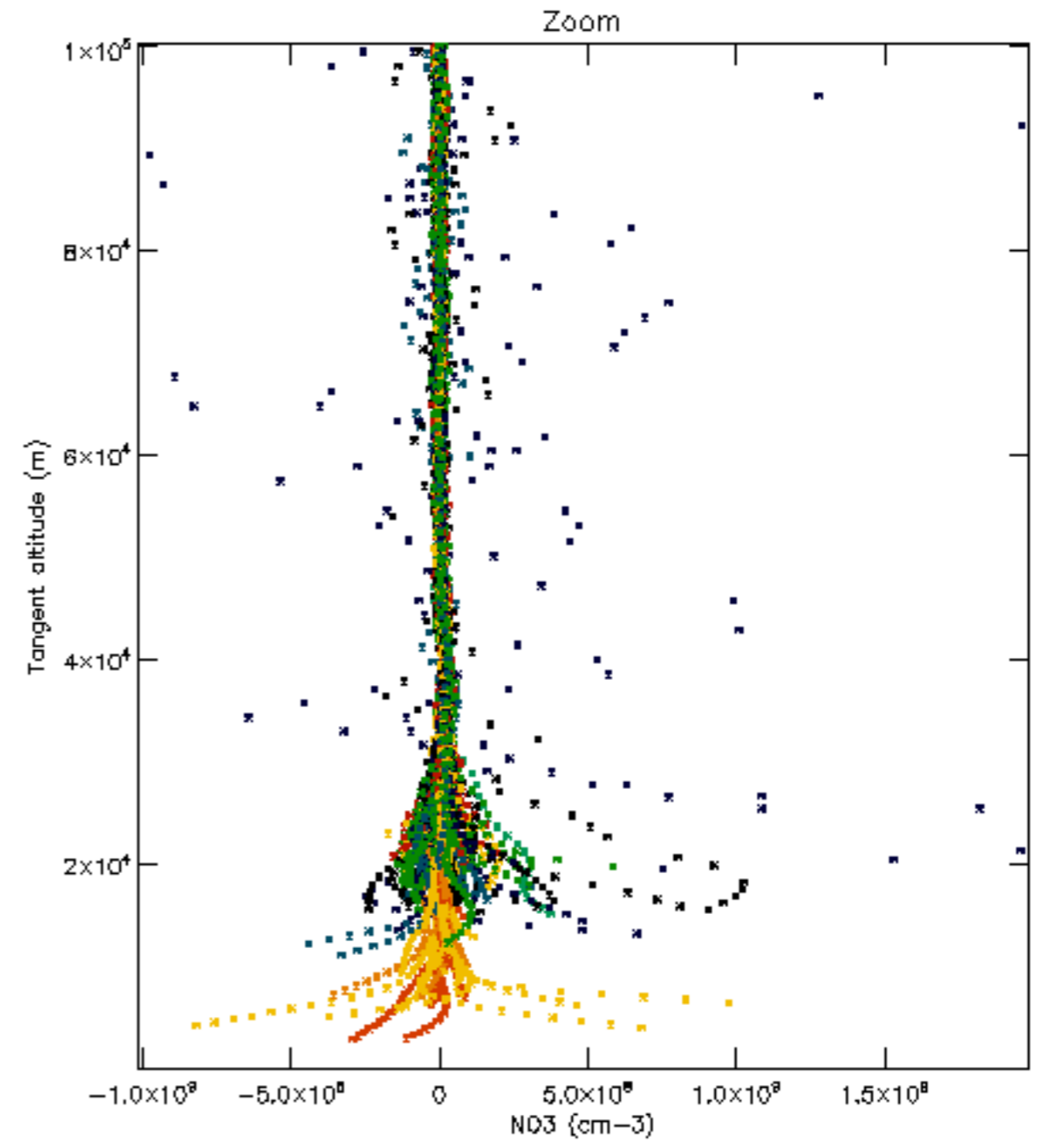
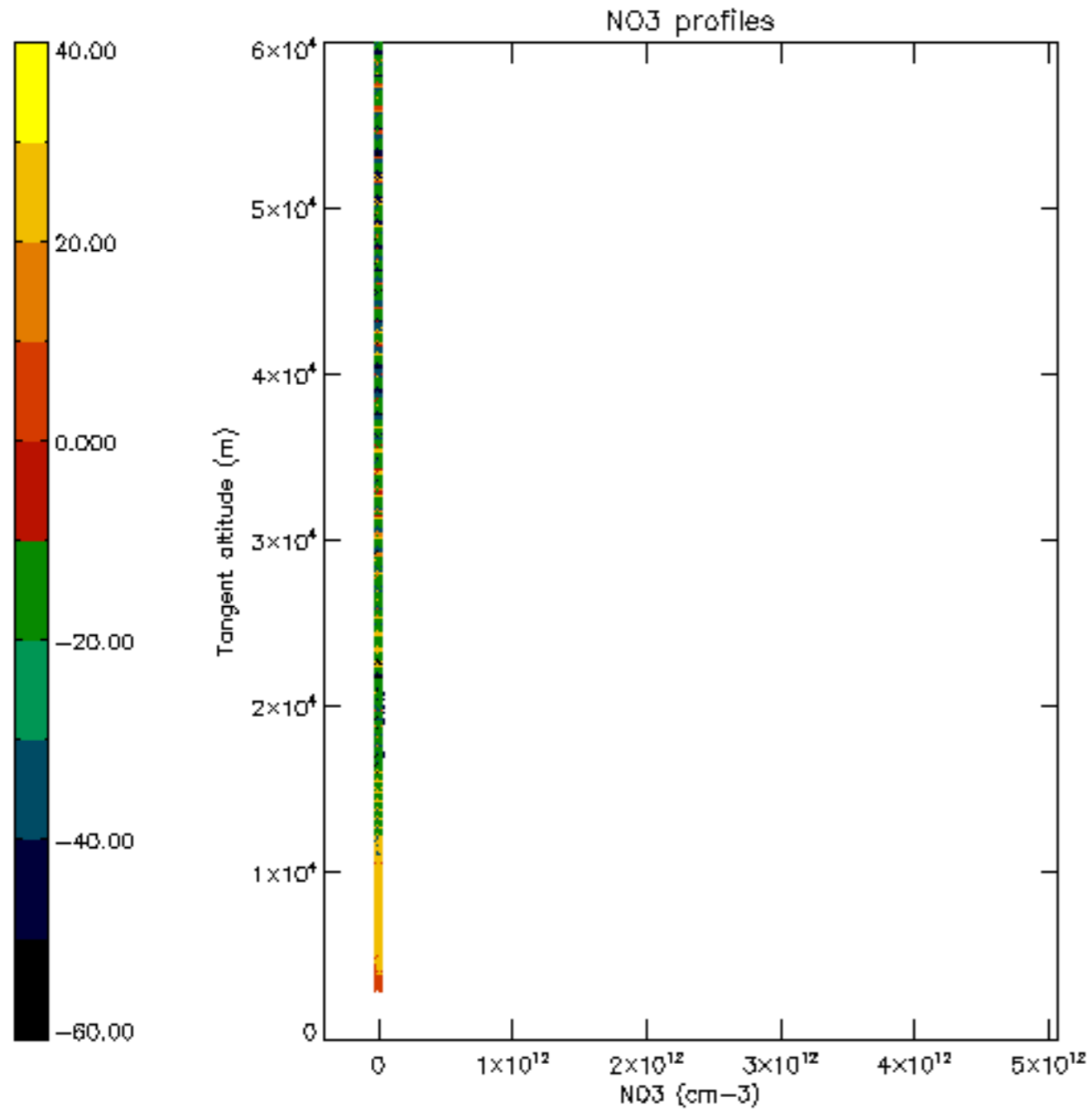




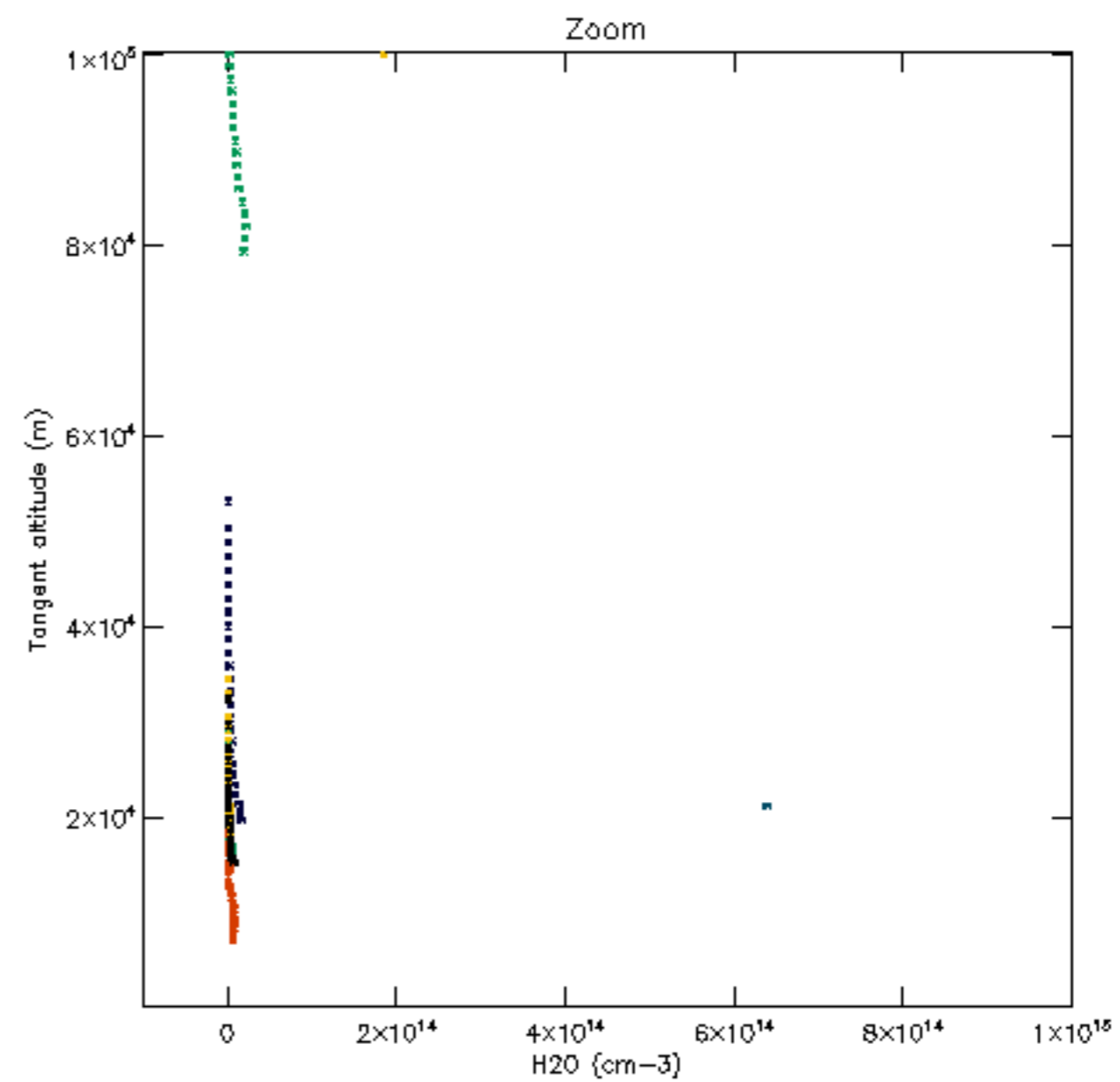
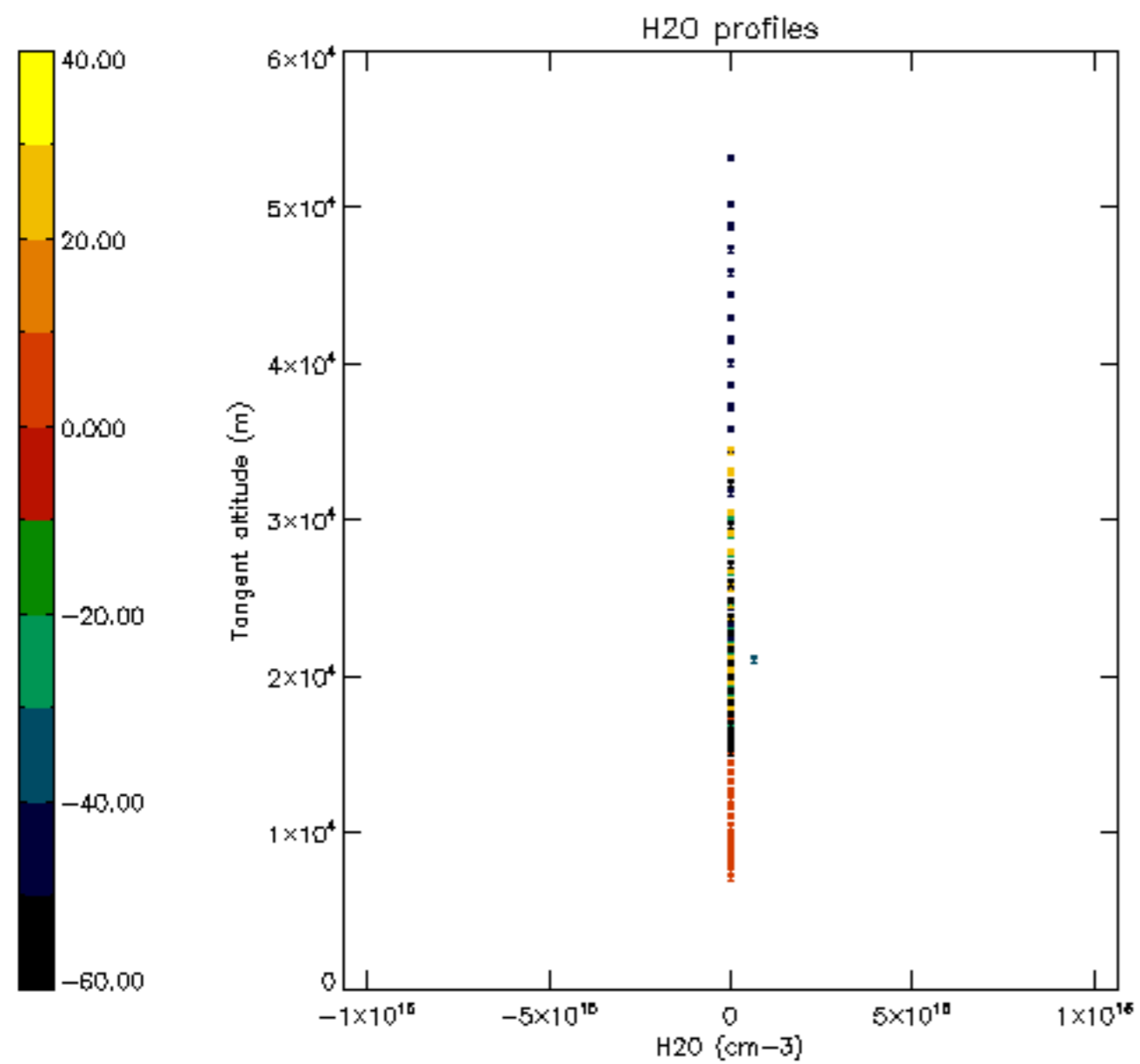


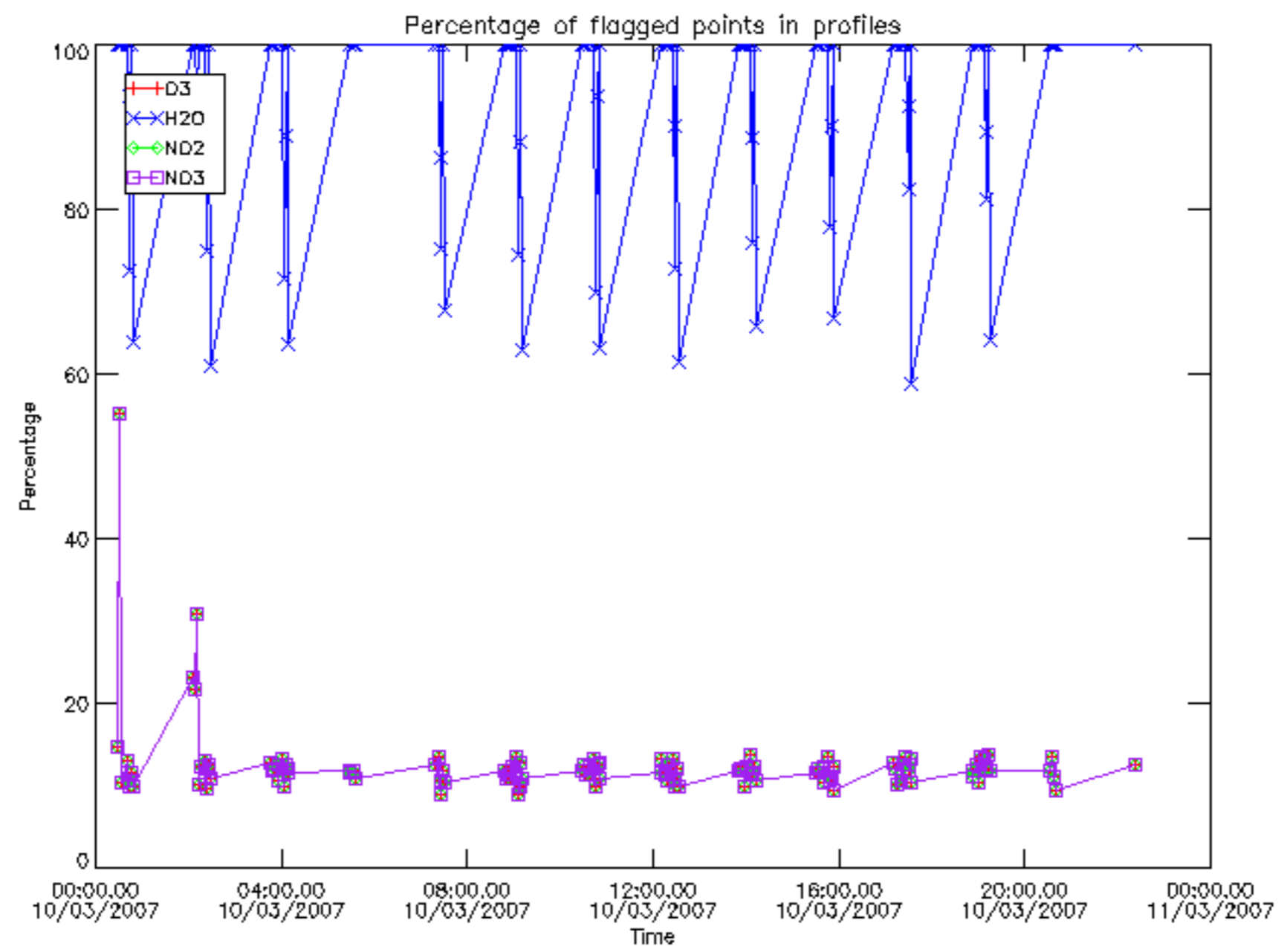




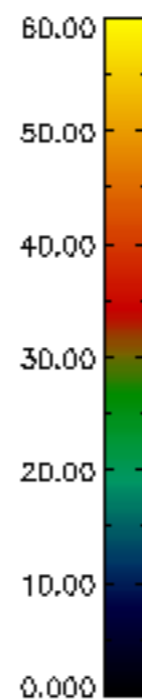
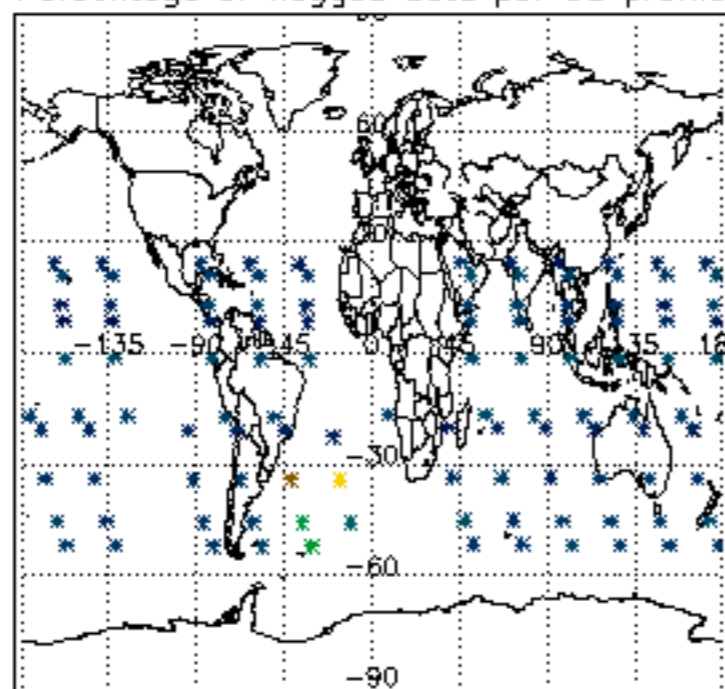




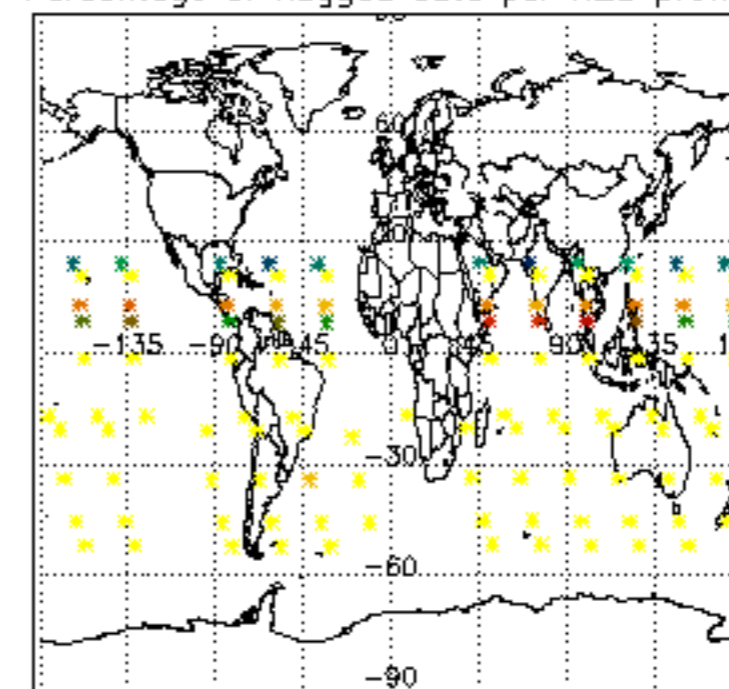




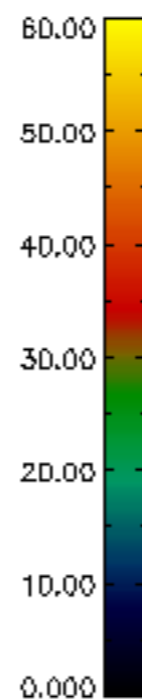
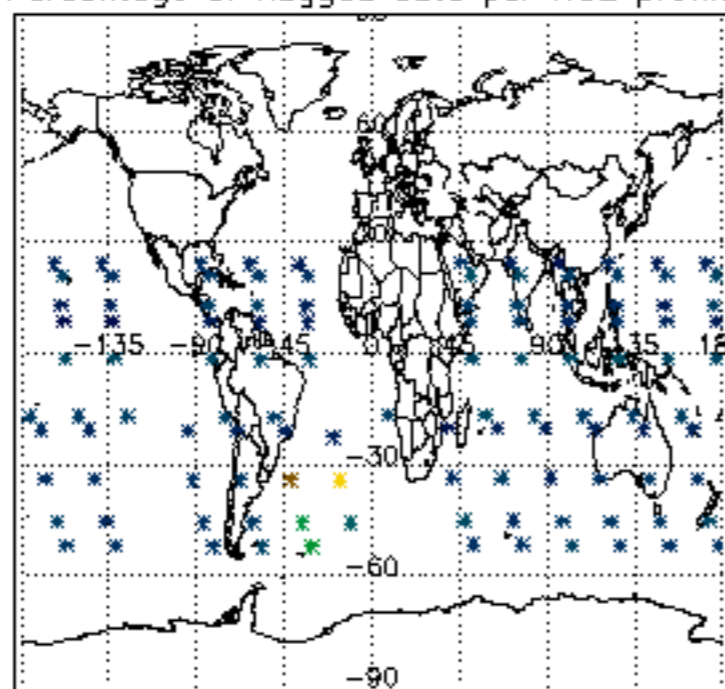
Percentage of flagged data per D3 profile



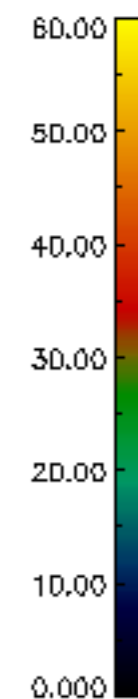
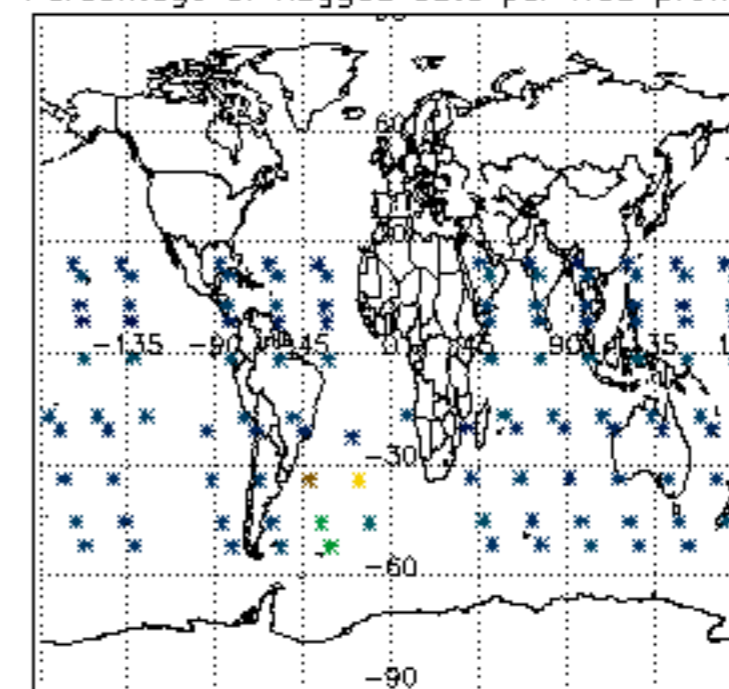
Percentage of flagged data per H2O profile

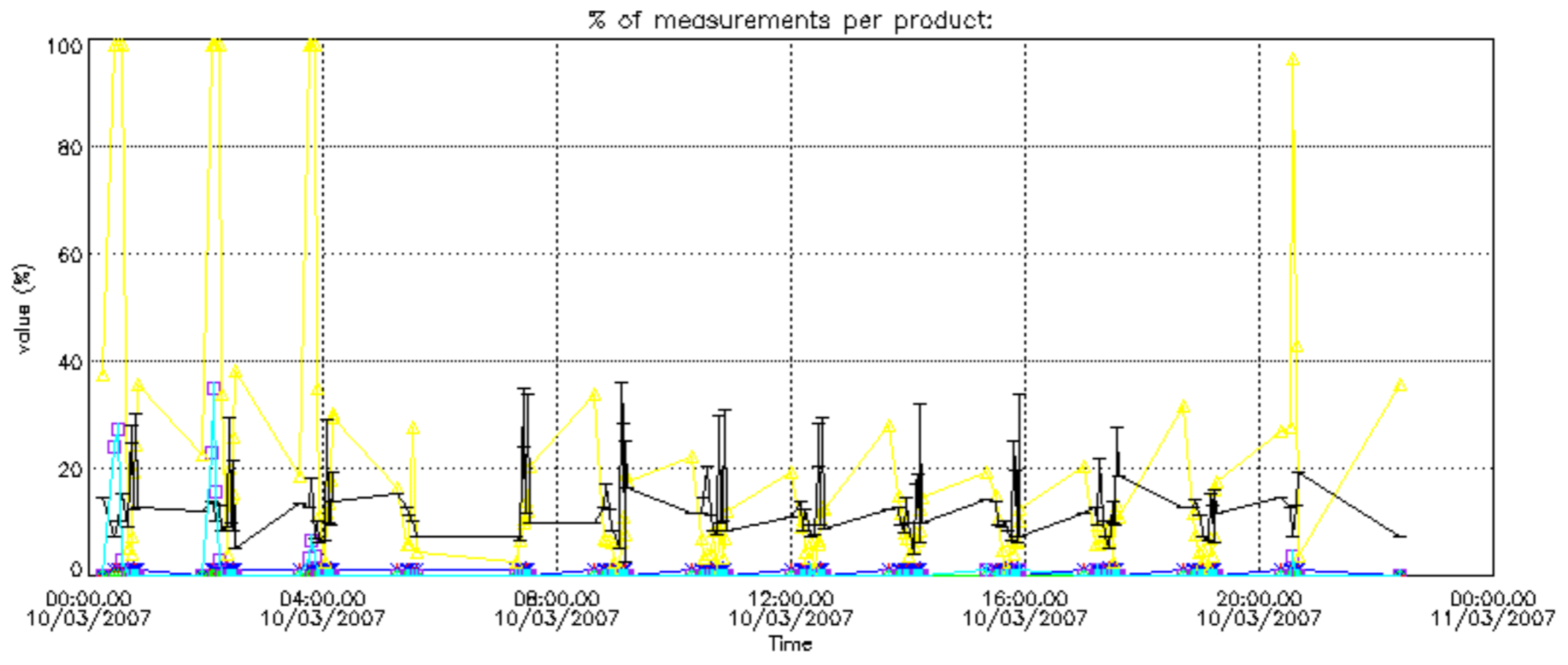


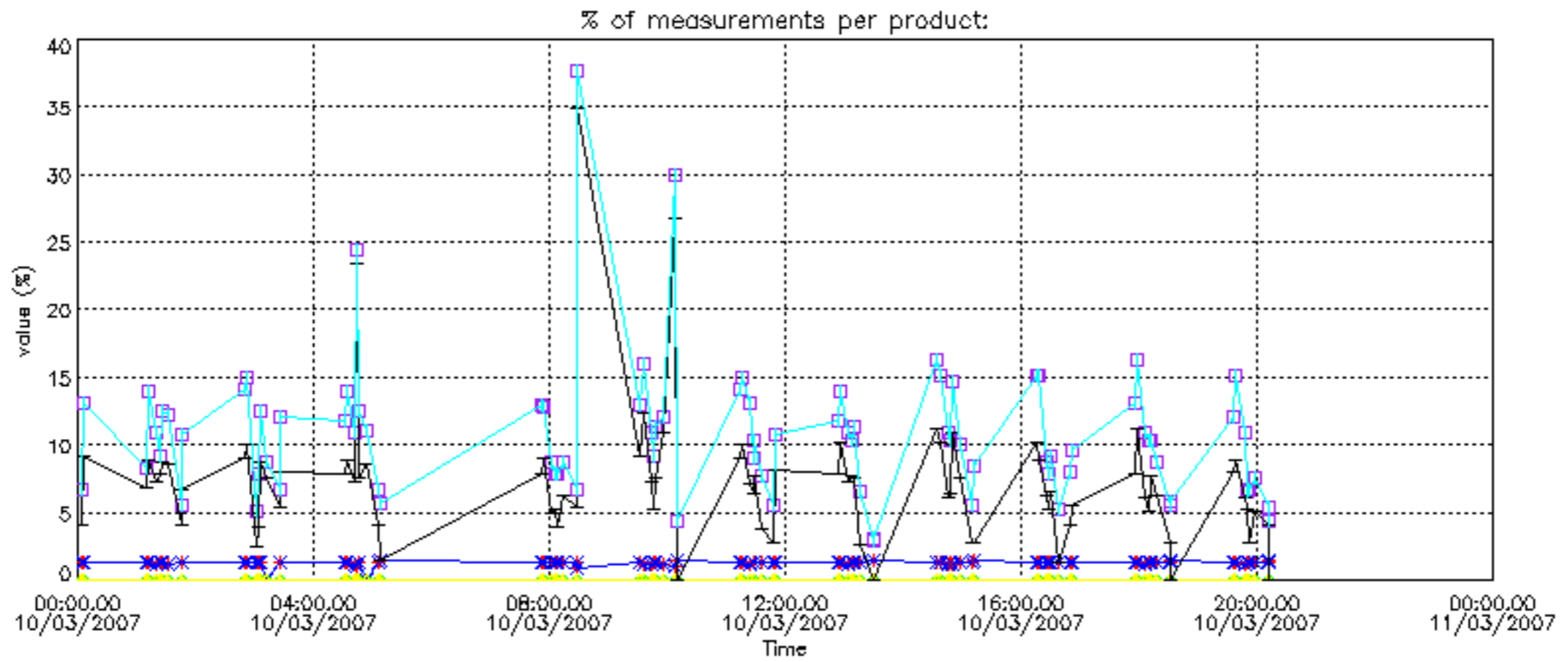
Percentage of flagged data per NO2 profile



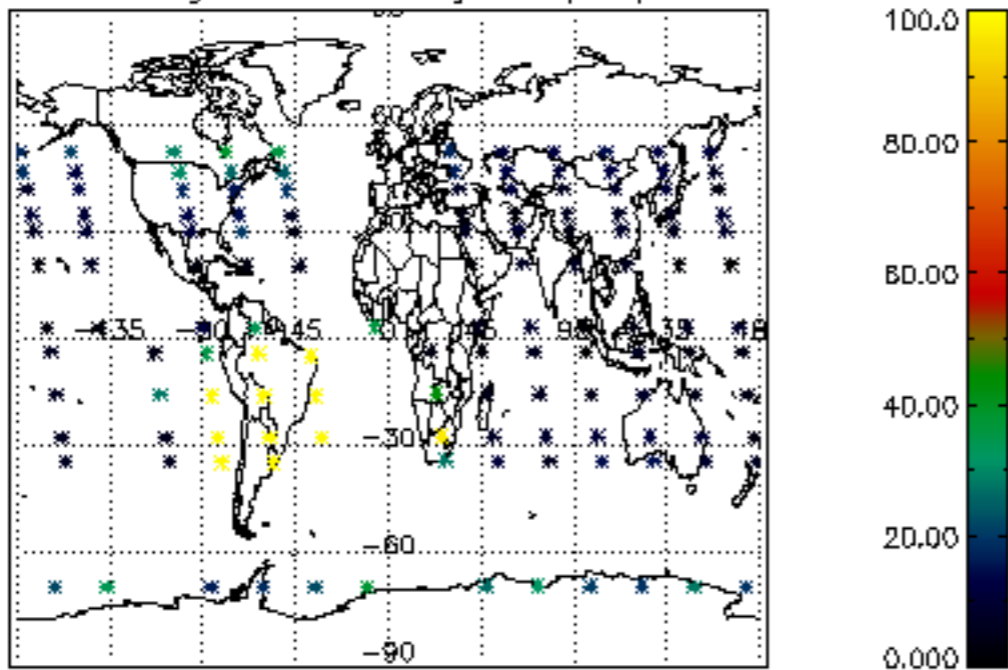
Percentage of flagged data per NO3 profile



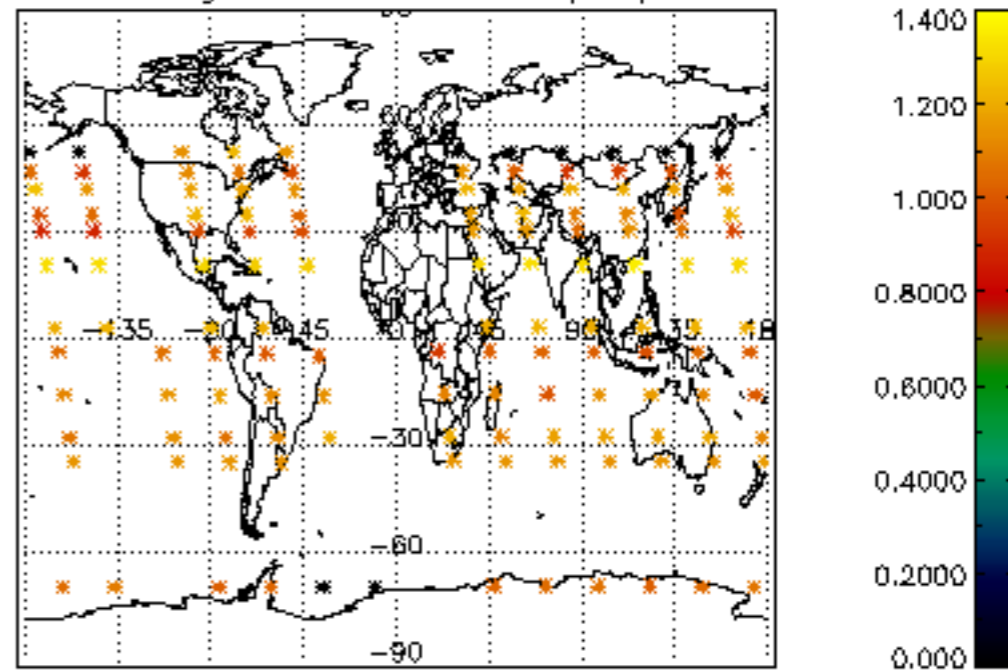




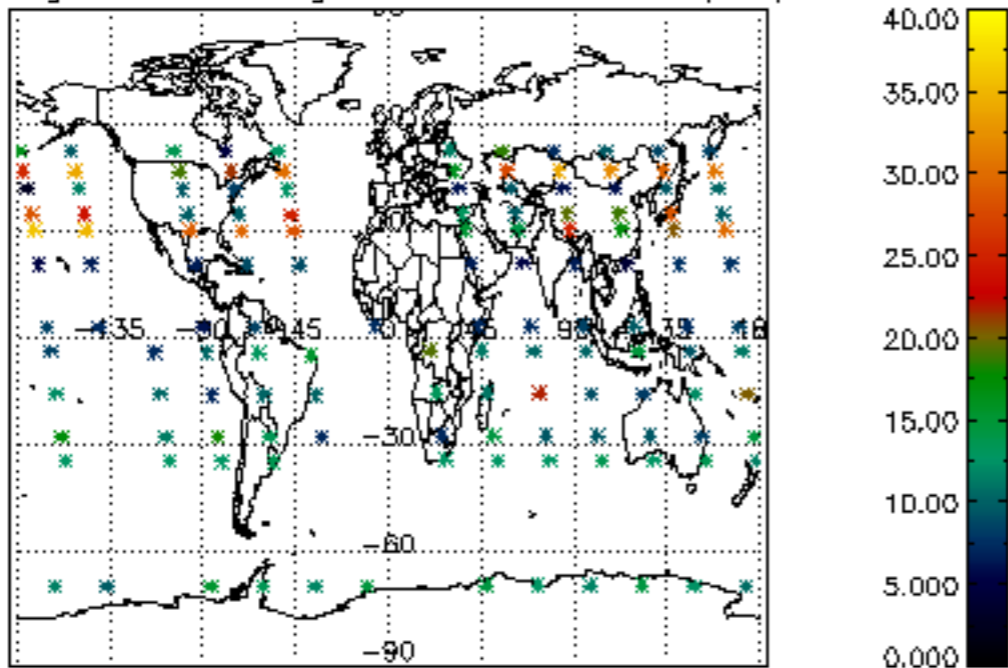
Percentage of cosmic ray hits per profile



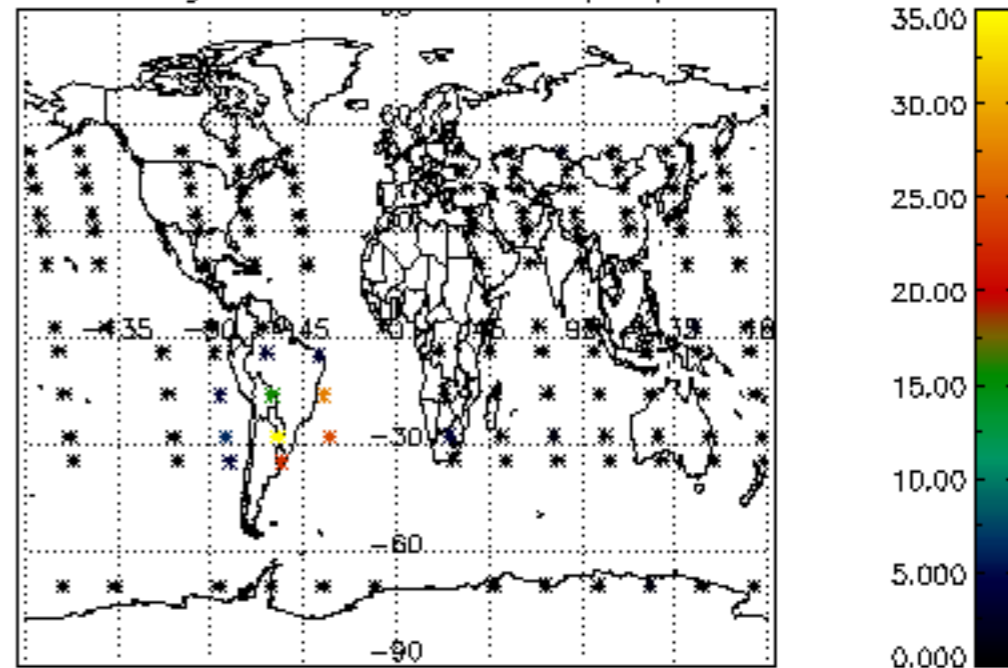
Percentage of datation errors per profile



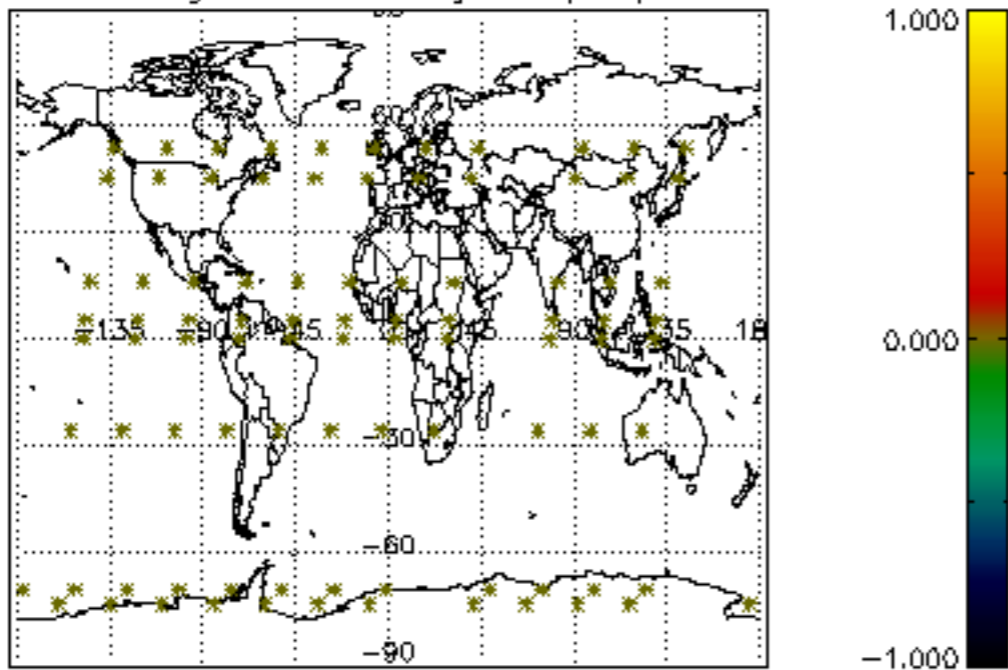
Percentage of star falling outside central band per profile



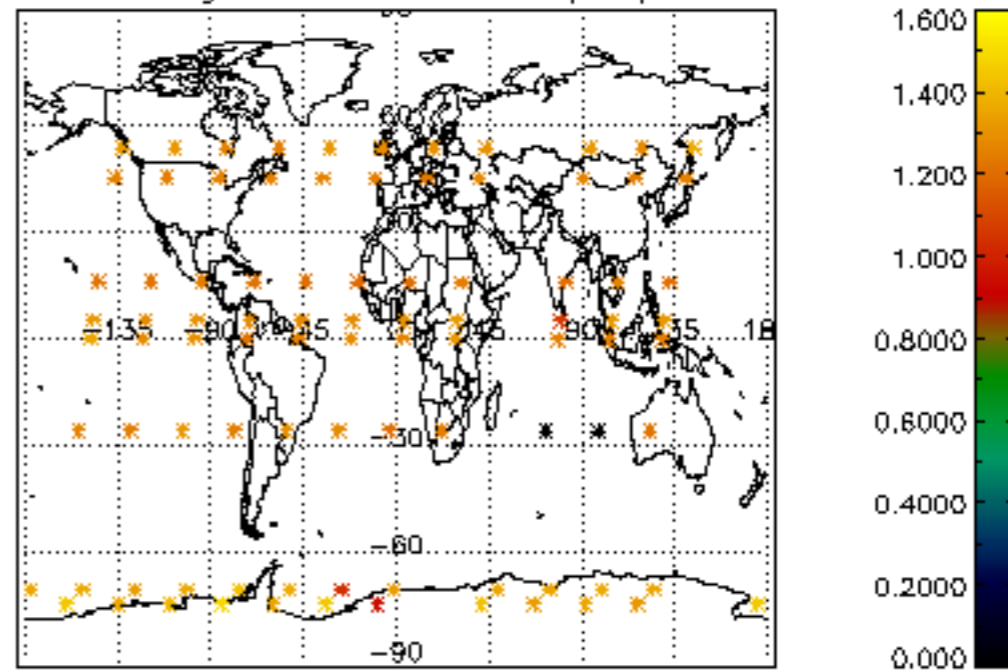
Percentage of saturation errors per profile



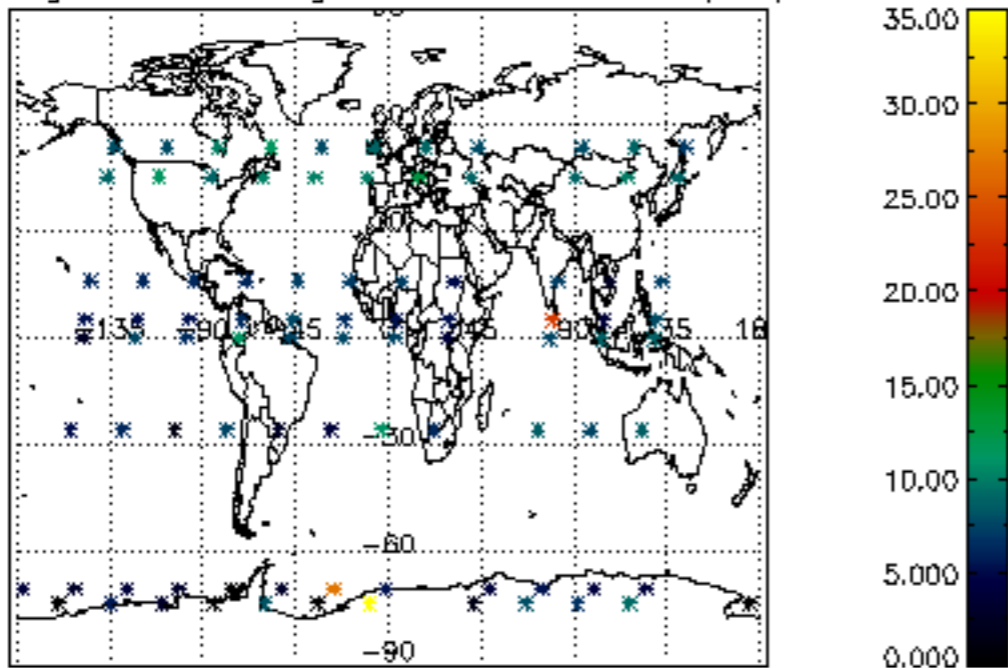
Percentage of cosmic ray hits per profile



Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile

