

# 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	24APR2013 14:38:11
Data source version	GOMOS/6.01
Start time of products	11-06-2011 (11JUN2011 00:00:00)
Stop time of products	12-06-2011 (12JUN2011 00:00:00)
Store outputs in DB	Yes
Nb of level 2 prods	289
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__2PRFIN20110611_000128_000000473103_00232_48522_3134.N1	11-JUN-2011 00:01:28	Dark	47.000	31	Alp Gru	1.7340	15200.	94	48522	No
2	GOM_NL__2PRFIN20110611_000300_000000583103_00232_48522_3135.N1	11-JUN-2011 00:03:00	Straylight	57.500	172	Gam Gru	3.0030	13100.	115	48522	No
3	GOM_NL__2PRFIN20110611_000539_000000423103_00232_48522_3136.N1	11-JUN-2011 00:05:39	Straylight	42.000	45	Alp Pav	1.9400	26000.	84	48522	No
4	GOM_NL__2PRFIN20110611_001548_000000453103_00232_48522_3137.N1	11-JUN-2011 00:15:48	Twilight_stray	45.000	25	35Lam Sco	1.6200	28000.	90	48522	No
5	GOM_NL__2PRFIN20110611_001727_000000583103_00232_48522_3138.N1	11-JUN-2011 00:17:27	Bright	58.000	57	34Sig Sgr	2.0660	26000.	116	48522	No
6	GOM_NL__2PRFIN20110611_002233_000000413103_00232_48522_3139.N1	11-JUN-2011 00:22:33	Bright	41.000	86	35Eta Oph	2.4300	10200.	82	48522	No
7	GOM_NL__2PRFIN20110611_002419_000000393103_00232_48522_3140.N1	11-JUN-2011 00:24:19	Bright	39.000	98	13Zet Oph	2.5710	30000.	78	48522	No
8	GOM_NL__2PRFIN20110611_002928_000000473103_00232_48522_3141.N1	11-JUN-2011 00:29:28	Bright	47.000	126	60Bet Oph	2.7700	4250.0	94	48522	No
9	GOM_NL__2PRFIN20110611_003203_000000463103_00232_48522_3142.N1	11-JUN-2011 00:32:03	Bright	45.500	59	55Alp Oph	2.0800	8900.0	91	48522	No
10	GOM_NL__2PRFIN20110611_003348_000000383103_00232_48522_3143.N1	11-JUN-2011 00:33:48	Bright	38.000	127	27Bet Her	2.7810	4700.0	76	48522	No
11	GOM_NL__2PRFIN20110611_003655_000000393103_00232_48522_3144.N1	11-JUN-2011 00:36:55	Bright	38.500	133	40Zet Her	2.8070	6000.0	77	48522	No
12	GOM_NL__2PRFIN20110611_004354_000000423103_00232_48522_3145.N1	11-JUN-2011 00:43:54	Bright	41.500	130	23Bet Dra	2.7990	5800.0	83	48522	No
13	GOM_NL__2PRFIN20110611_005429_000000493103_00232_48522_3146.N1	11-JUN-2011 00:54:29	Bright	49.000	89	5Alp Cep	2.4510	8000.0	98	48522	No
14	GOM_NL__2PRFIN20110611_010045_000000593103_00232_48522_3147.N1	11-JUN-2011 01:00:45	Bright	59.000	76	27Gam Cas	2.3000	30000.	118	48522	No
15	GOM_NL__2PRFIN20110611_010644_000000363103_00232_48522_3148.N1	11-JUN-2011 01:06:44	Bright	36.000	73	57Gam1And	2.2600	13100.	72	48522	No
16	GOM_NL__2PRFIN20110611_010902_000000633103_00232_48522_3149.N1	11-JUN-2011 01:09:02	Twilight_stray	63.000	53	43Bet And	2.0480	3300.0	126	48522	No
17	GOM_NL__2PRFIN20110611_011223_000000463103_00232_48522_3150.N1	11-JUN-2011 01:12:23	Twilight	46.000	50	13Alp Ari	2.0070	4250.0	92	48522	No
18	GOM_NL__2PRFIN20110611_012717_000000583103_00232_48522_3151.N1	11-JUN-2011 01:27:17	Dark	57.500	52	16Bet Cet	2.0370	4500.0	115	48522	No
19	GOM_NL__2PRFIN20110611_013342_000000413103_00232_48522_3152.N1	11-JUN-2011 01:33:42	Dark	41.000	84	Alp Phe	2.3970	4500.0	82	48522	No
20	GOM_NL__2PRFIN20110611_013941_000000583103_00233_48523_2818.N1	11-JUN-2011 01:39:41	Dark	58.000	63	Bet Gru	2.1500	2800.0	116	48523	No
21	GOM_NL__2PRFIN20110611_014143_000000473103_00233_48523_2819.N1	11-JUN-2011 01:41:43	Dark	47.000	31	Alp Gru	1.7340	15200.	94	48523	No
22	GOM_NL__2PRFIN20110611_014315_000000583103_00233_48523_2820.N1	11-JUN-2011 01:43:15	Straylight	57.500	172	Gam Gru	3.0030	13100.	115	48523	No
23	GOM_NL__2PRFIN20110611_014554_000000433103_00233_48523_2821.N1	11-JUN-2011 01:45:54	Straylight	43.000	45	Alp Pav	1.9400	26000.	86	48523	No
24	GOM_NL__2PRFIN20110611_015603_000000443103_00233_48523_2822.N1	11-JUN-2011 01:56:03	Twilight_stray	44.000	25	35Lam Sco	1.6200	28000.	88	48523	No
25	GOM_NL__2PRFIN20110611_015742_000000763103_00233_48523_2823.N1	11-JUN-2011 01:57:42	Bright	76.000	57	34Sig Sgr	2.0660	26000.	152	48523	No
26	GOM_NL__2PRFIN20110611_020247_000000423103_00233_48523_2824.N1	11-JUN-2011 02:02:47	Bright	41.500	86	35Eta Oph	2.4300	10200.	83	48523	No
27	GOM_NL__2PRFIN20110611_020433_000000373103_00233_48523_2825.N1	11-JUN-2011 02:04:33	Bright	37.000	98	13Zet Oph	2.5710	30000.	74	48523	No
28	GOM_NL__2PRFIN20110611_020942_000000493103_00233_48523_2826.N1	11-JUN-2011 02:09:42	Bright	49.000	126	60Bet Oph	2.7700	4250.0	98	48523	No
29	GOM_NL__2PRFIN20110611_021216_000000483103_00233_48523_2827.N1	11-JUN-2011 02:12:16	Bright	47.500	59	55Alp Oph	2.0800	8900.0	95	48523	No
30	GOM_NL__2PRFIN20110611_021401_000000403103_00233_48523_2828.N1	11-JUN-2011 02:14:01	Bright	39.500	127	27Bet Her	2.7810	4700.0	79	48523	No
31	GOM_NL__2PRFIN20110611_021708_000000423103_00233_48523_2829.N1	11-JUN-2011 02:17:08	Bright	42.000	133	40Zet Her	2.8070	6000.0	84	48523	No
32	GOM_NL__2PRFIN20110611_022407_000000393103_00233_48523_2830.N1	11-JUN-2011 02:24:07	Bright	39.000	130	23Bet Dra	2.7990	5800.0	78	48523	No
33	GOM_NL__2PRFIN20110611_023443_000000483103_00233_48523_2831.N1	11-JUN-2011 02:34:43	Bright	48.000	89	5Alp Cep	2.4510	8000.0	96	48523	No
34	GOM_NL__2PRFIN20110611_024059_000000403103_00233_48523_2832.N1	11-JUN-2011 02:40:59	Bright	40.000	76	27Gam Cas	2.3000	30000.	80	48523	No
35	GOM_NL__2PRFIN20110611_024657_000000403103_00233_48523_2833.N1	11-JUN-2011 02:46:57	Bright	39.500	73	57Gam1And	2.2600	13100.	79	48523	No
36	GOM_NL__2PRFIN20110611_024916_000000523103_00233_48523_2834.N1	11-JUN-2011 02:49:16	Twilight_stray	52.000	53	43Bet And	2.0480	3300.0	104	48523	No
37	GOM_NL__2PRFIN20110611_025237_000000453103_00233_48523_2835.N1	11-JUN-2011 02:52:37	Twilight	44.500	50	13Alp Ari	2.0070	4250.0	89	48523	No
38	GOM_NL__2PRFIN20110611_030732_000000553103_00233_48523_2836.N1	11-JUN-2011 03:07:32	Dark	54.500	52	16Bet Cet	2.0370	4500.0	109	48523	No
39	GOM_NL__2PRFIN20110611_031357_000000473103_00233_48523_2837.N1	11-JUN-2011 03:13:57	Dark	47.000	84	Alp Phe	2.3970	4500.0	94	48523	No
40	GOM_NL__2PRFIN20110611_031956_000000513103_00234_48524_2834.N1	11-JUN-2011 03:19:56	Dark	51.000	63	Bet Gru	2.1500	2800.0	102	48524	No
41	GOM_NL__2PRFIN20110611_032158_000000523103_00234_48524_2835.N1	11-JUN-2011 03:21:58	Dark	51.500	31	Alp Gru	1.7340	15200.	103	48524	No
42	GOM_NL__2PRFIN20110611_032331_000000563103_00234_48524_2836.N1	11-JUN-2011 03:23:31	Straylight	55.500	172	Gam Gru	3.0030	13100.	111	48524	No







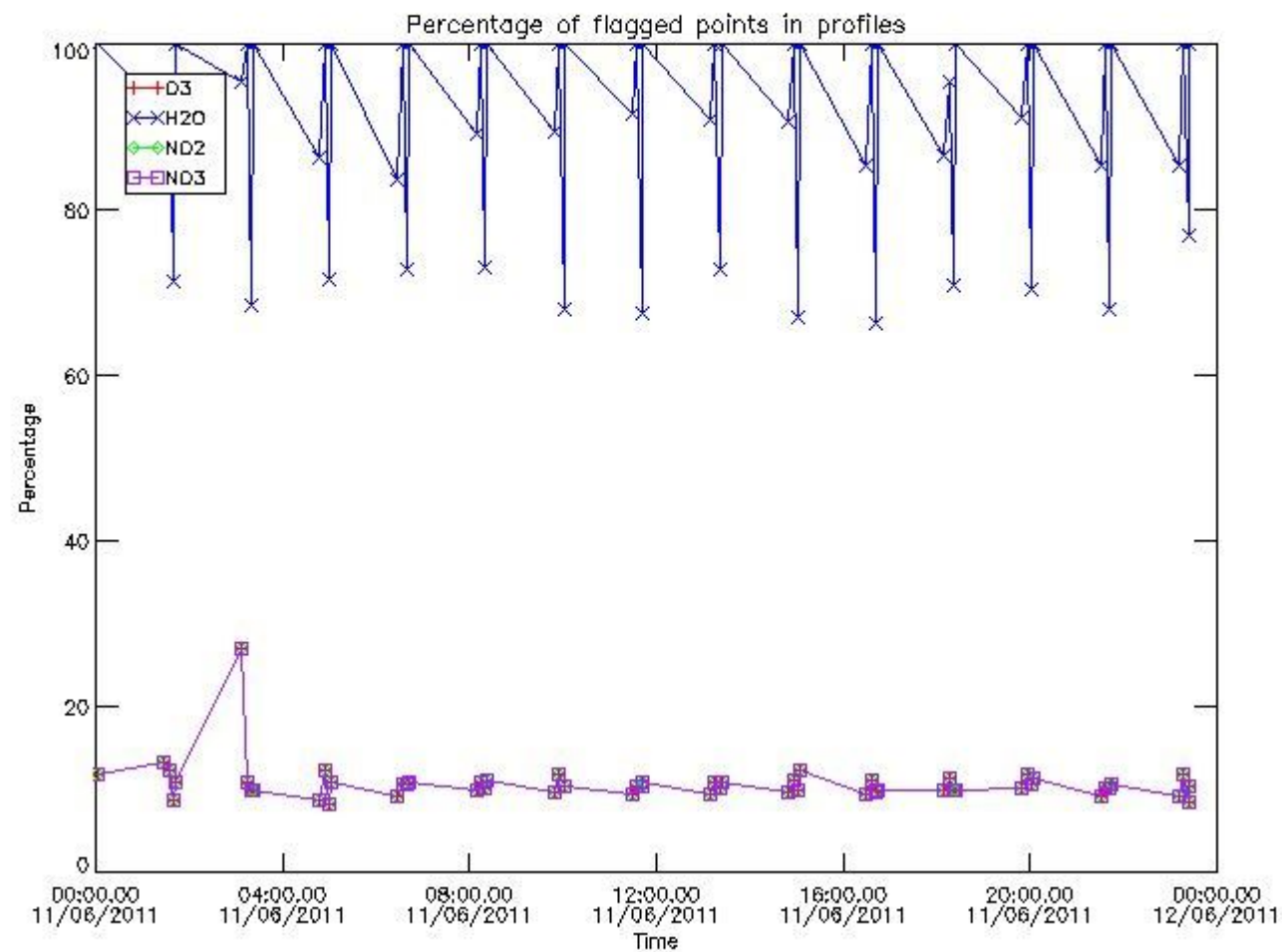


279	GOM_NL__2PRFIN20110611_232255_000000663103_00246_48536_3167.N1	11-JUN-2011 23:22:55	Dark	65.500	63	Bet Gru	2.1500	2800.0	131	48536	No
280	GOM_NL__2PRFIN20110611_232457_000000503103_00246_48536_3168.N1	11-JUN-2011 23:24:57	Dark	49.500	31	Alp Gru	1.7340	15200.	99	48536	No
281	GOM_NL__2PRFIN20110611_232635_000000593103_00246_48536_3169.N1	11-JUN-2011 23:26:35	Straylight	58.500	172	Gam Gru	3.0030	13100.	117	48536	No
282	GOM_NL__2PRFIN20110611_232904_000000433103_00246_48536_3170.N1	11-JUN-2011 23:29:04	Straylight	42.500	45	Alp Pav	1.9400	26000.	85	48536	No
283	GOM_NL__2PRFIN20110611_233908_000000463103_00246_48536_3171.N1	11-JUN-2011 23:39:08	Twilight_stray	46.000	25	35Lam Sco	1.6200	28000.	92	48536	No
284	GOM_NL__2PRFIN20110611_234049_000000653103_00246_48536_3172.N1	11-JUN-2011 23:40:49	Bright	64.500	57	34Sig Sgr	2.0660	26000.	129	48536	No
285	GOM_NL__2PRFIN20110611_234551_000000413103_00246_48536_3173.N1	11-JUN-2011 23:45:51	Bright	41.000	86	35Eta Oph	2.4300	10200.	82	48536	No
286	GOM_NL__2PRFIN20110611_234735_000000373103_00246_48536_3174.N1	11-JUN-2011 23:47:35	Bright	37.000	98	13Zet Oph	2.5710	30000.	74	48536	No
287	GOM_NL__2PRFIN20110611_235239_000000463103_00246_48536_3175.N1	11-JUN-2011 23:52:39	Bright	45.500	126	60Bet Oph	2.7700	4250.0	91	48536	No
288	GOM_NL__2PRFIN20110611_235513_000000463103_00246_48536_3176.N1	11-JUN-2011 23:55:13	Bright	45.500	59	55Alp Oph	2.0800	8900.0	91	48536	No
289	GOM_NL__2PRFIN20110611_235701_000000403103_00246_48536_3177.N1	11-JUN-2011 23:57:01	Bright	40.000	127	27Bet Her	2.7810	4700.0	80	48536	No

### 3. Quality information per product

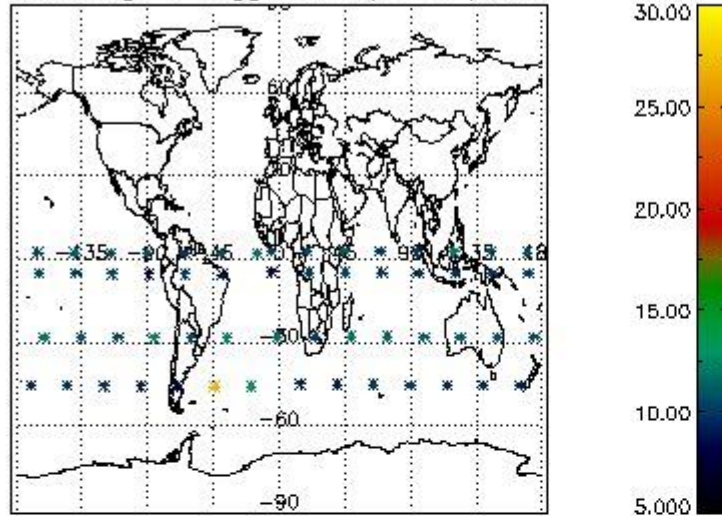
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

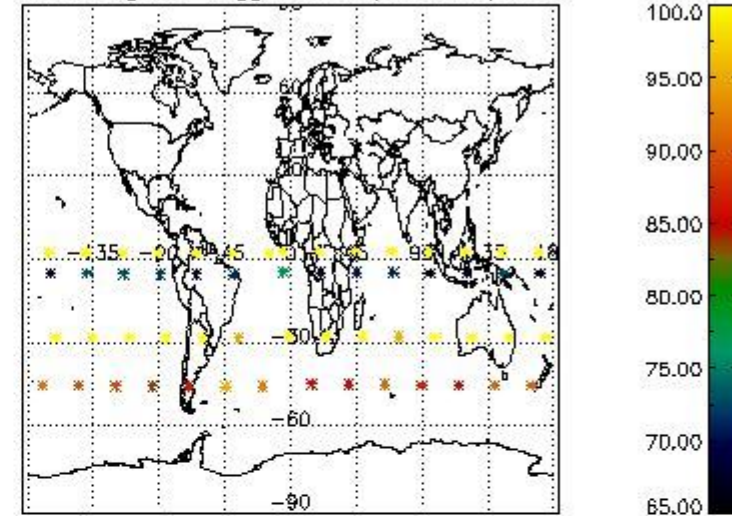


#### 3.2 Plot quality information per product (world map)

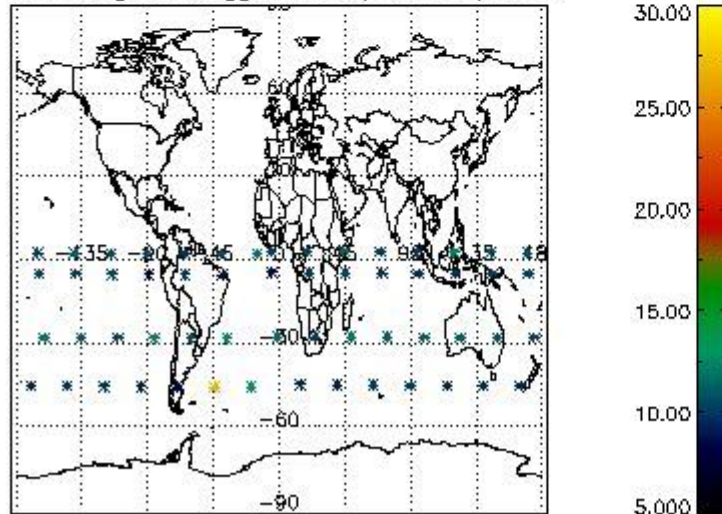
Percentage of flagged data per O3 profile



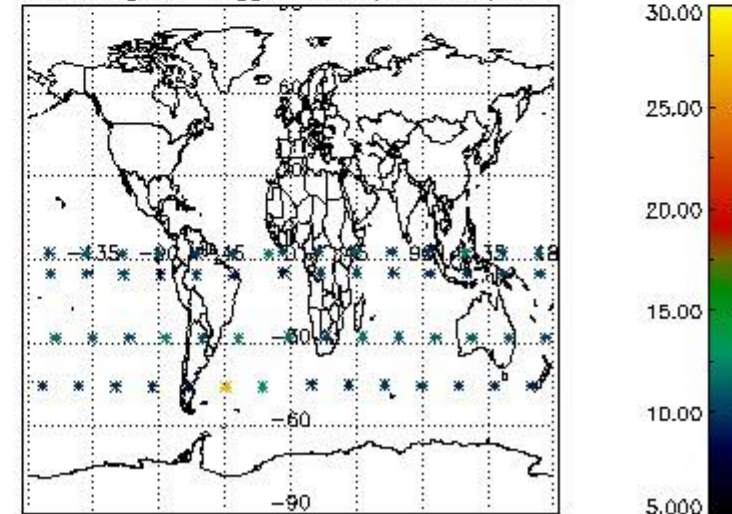
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile



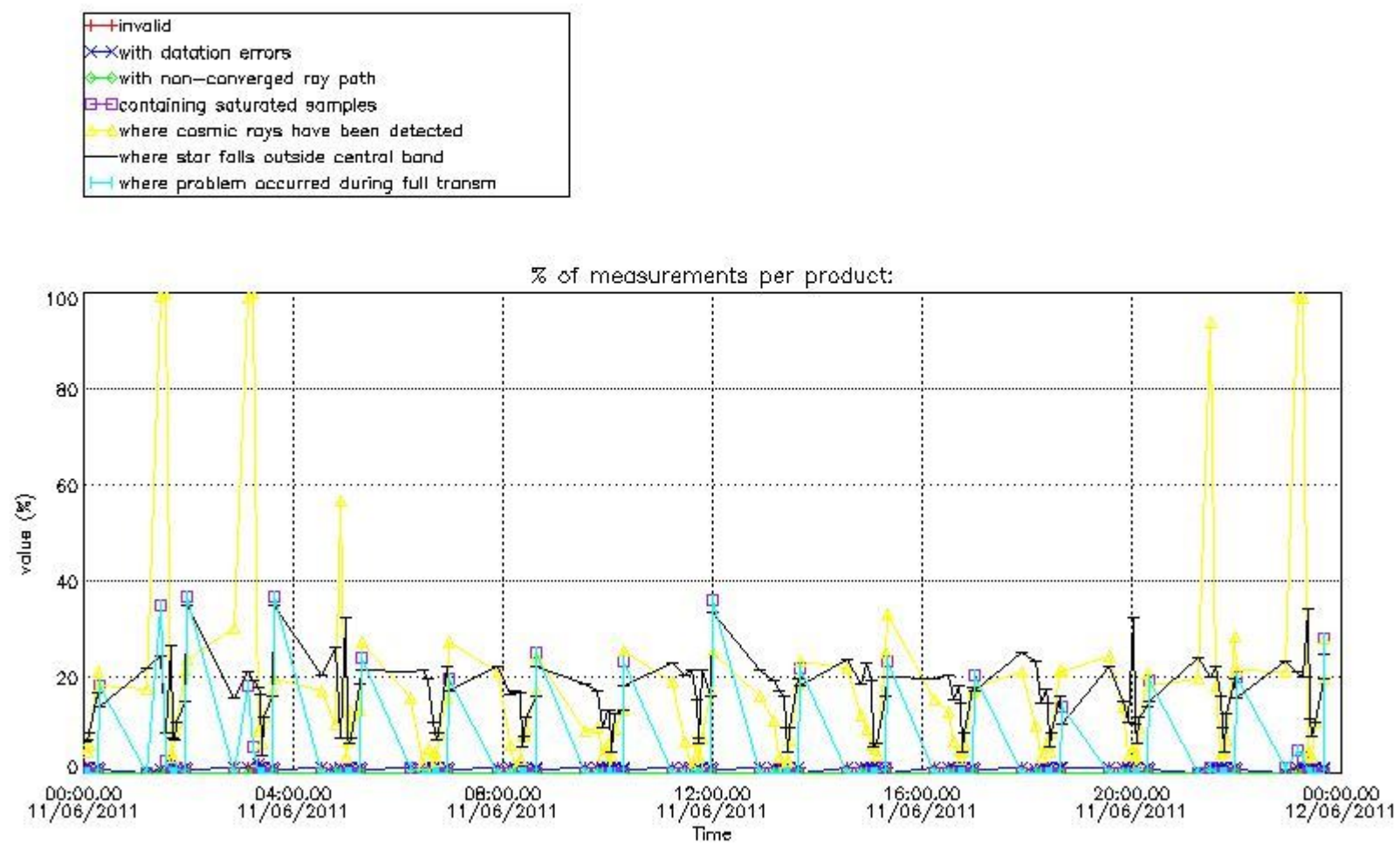
#### 4. Level 1 quality information per product

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.

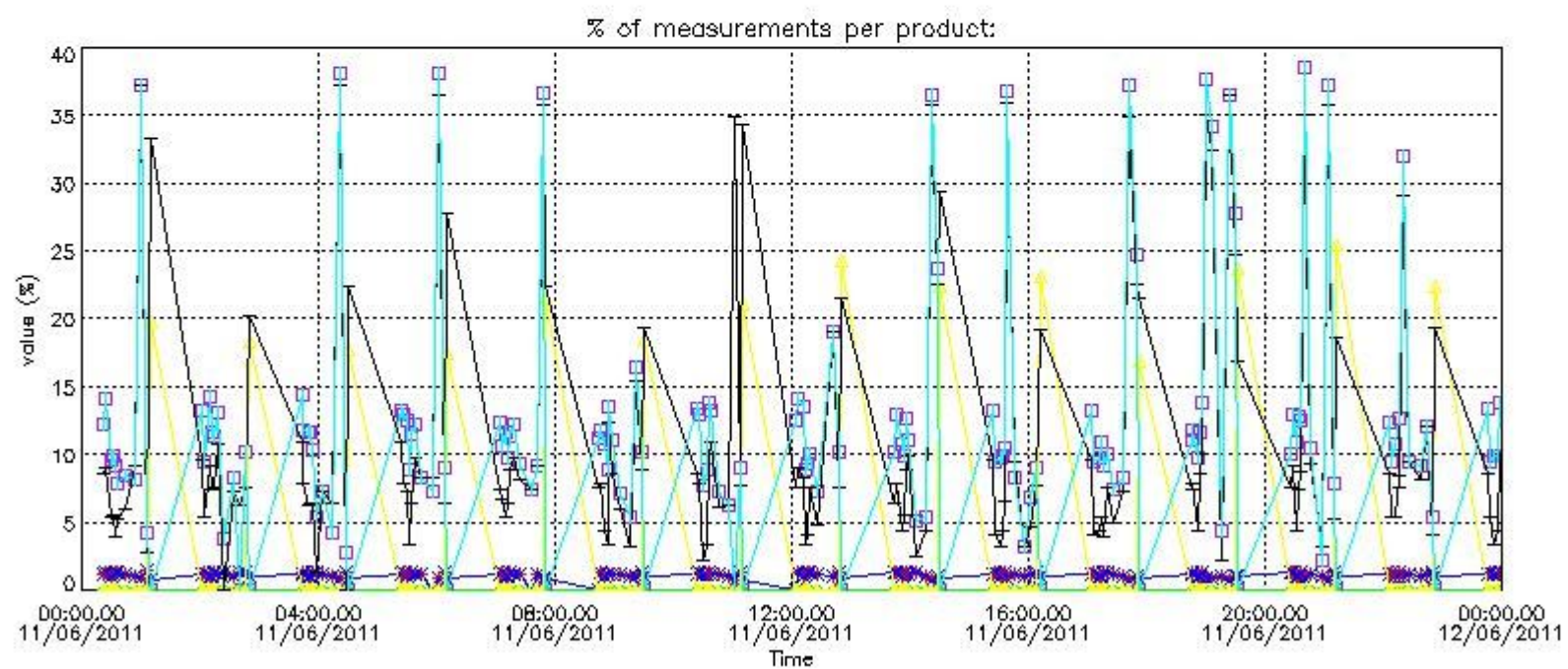
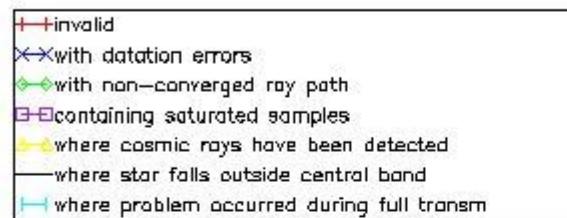
##### 4.1 Plot quality information per product (time dependant) coming from level 1b processing

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





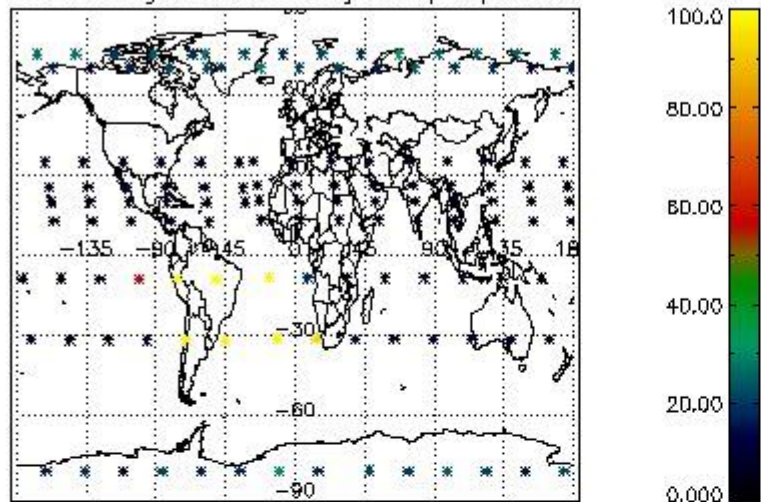
4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes



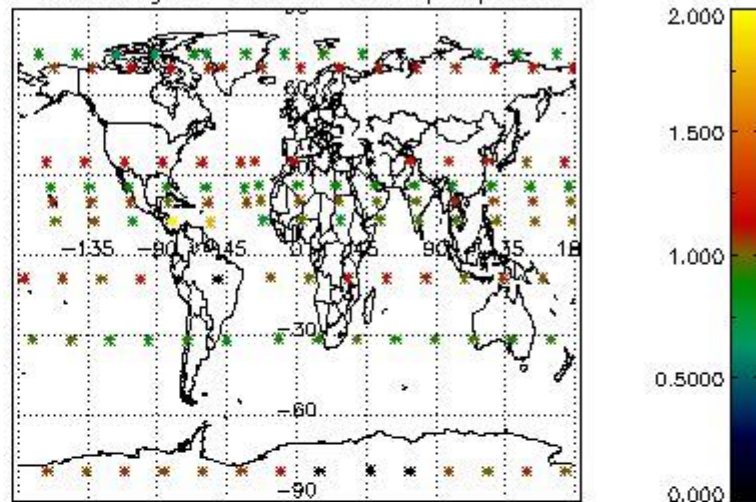
*4.2 Plot quality information per product coming from level 1b processing (world map)*

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

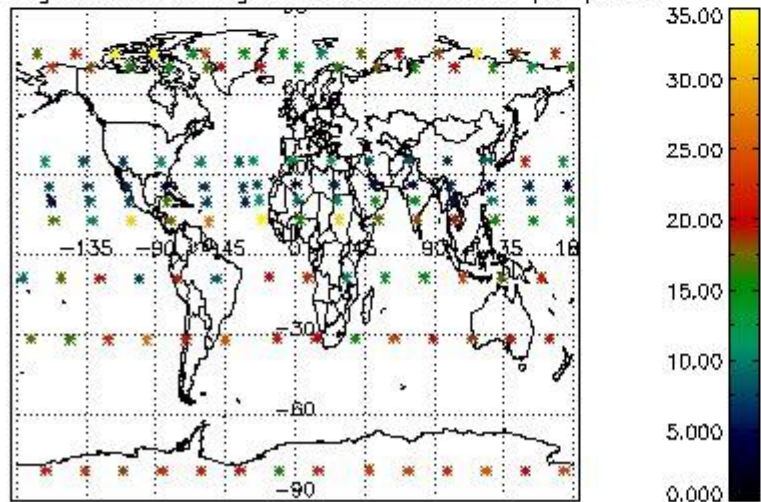
Percentage of cosmic ray hits per profile



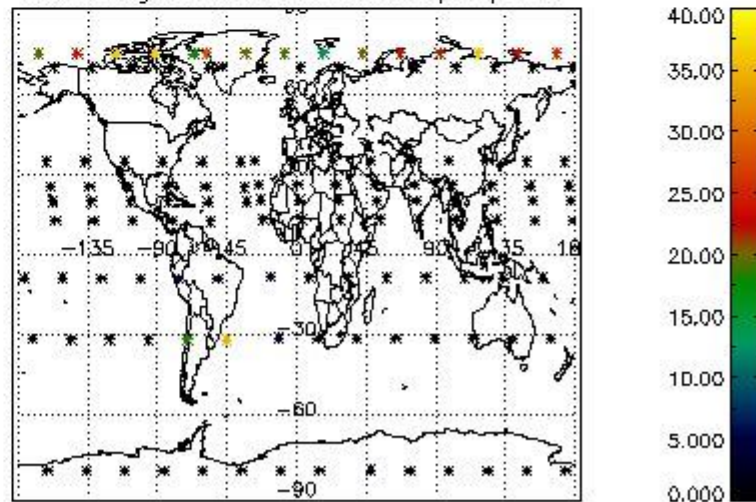
Percentage of datation errors per profile



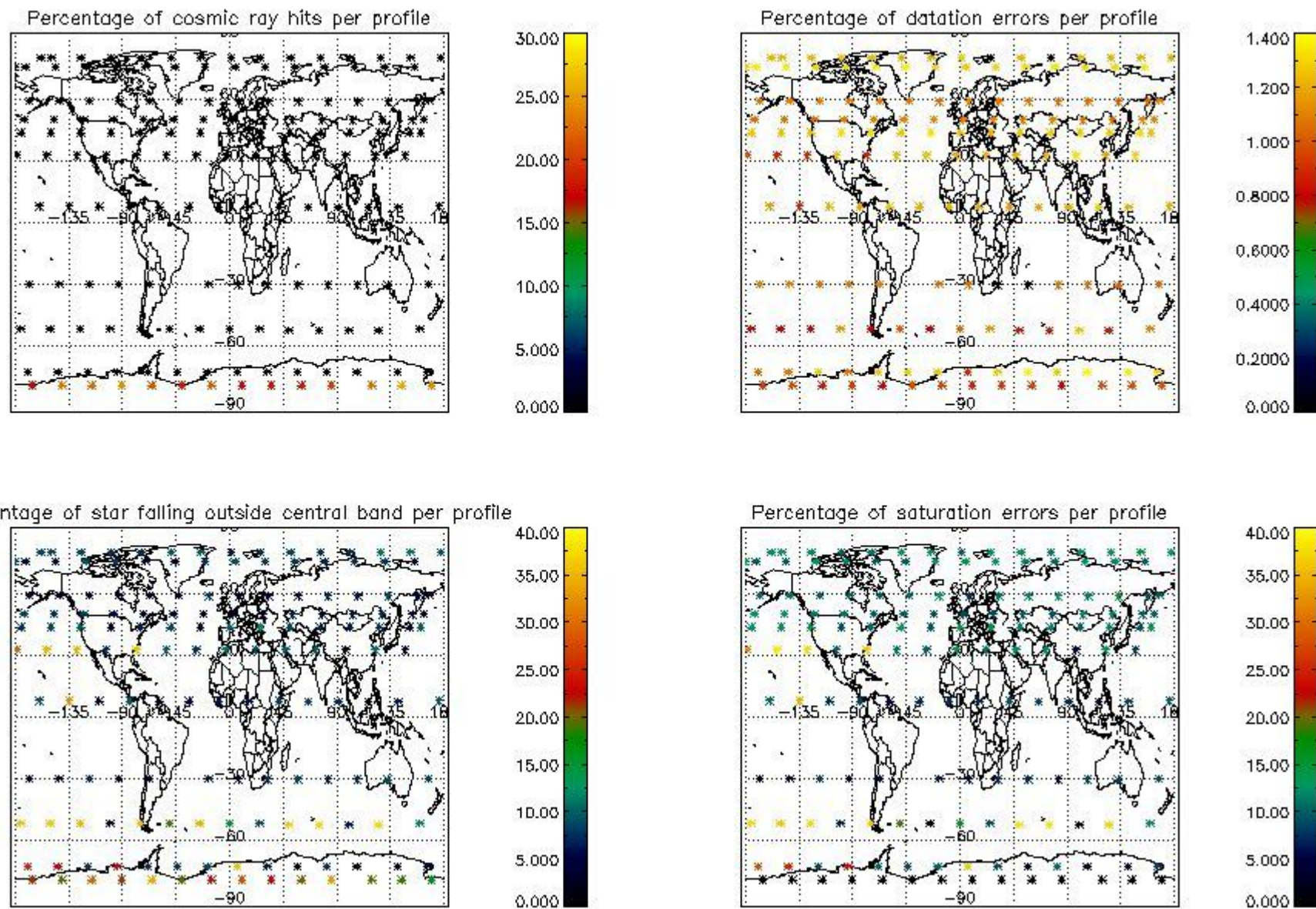
Percentage of star falling outside central band per profile



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

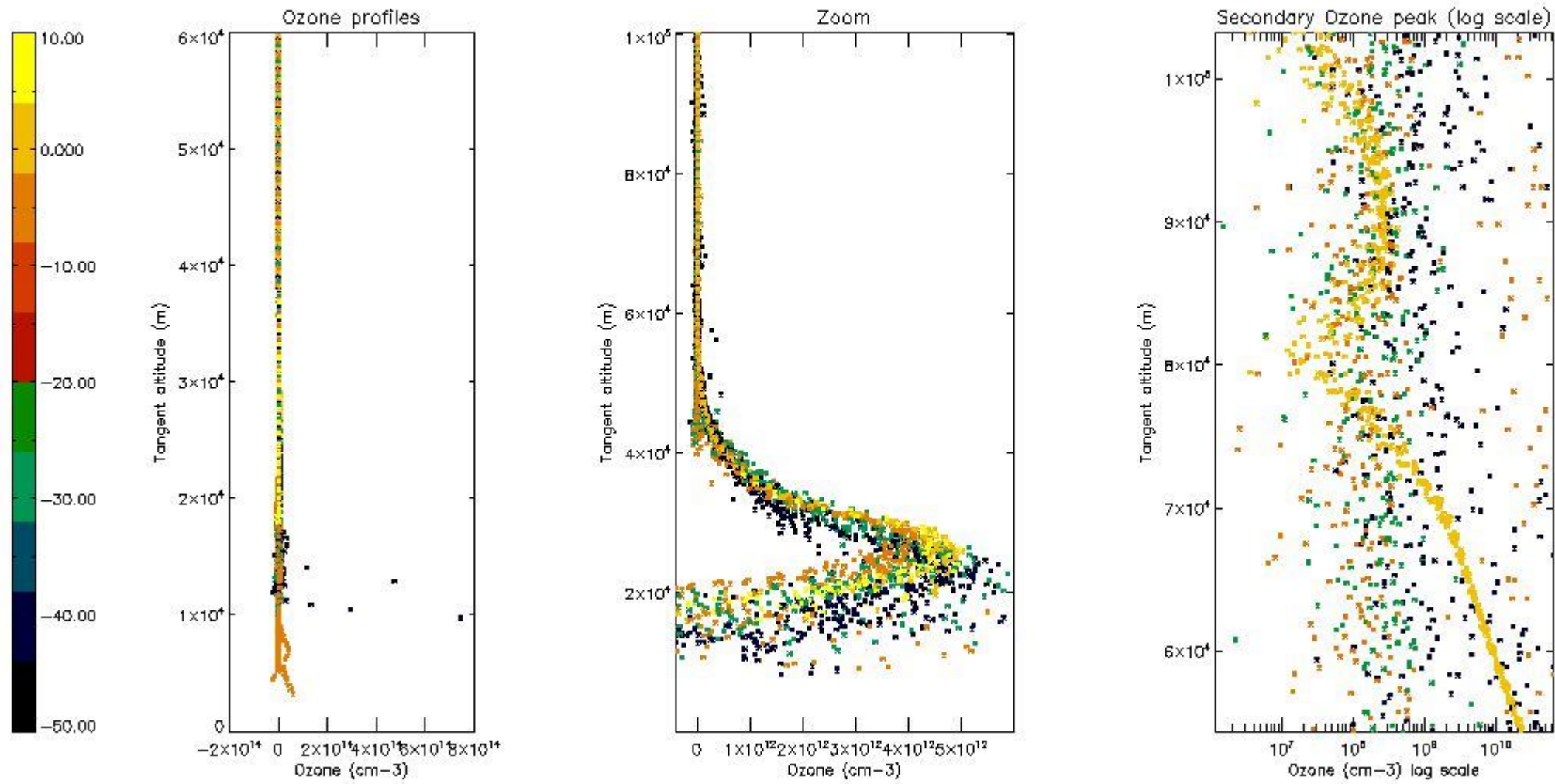
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	22
STD < 20	7

STD < 10	4
STD < 5	3

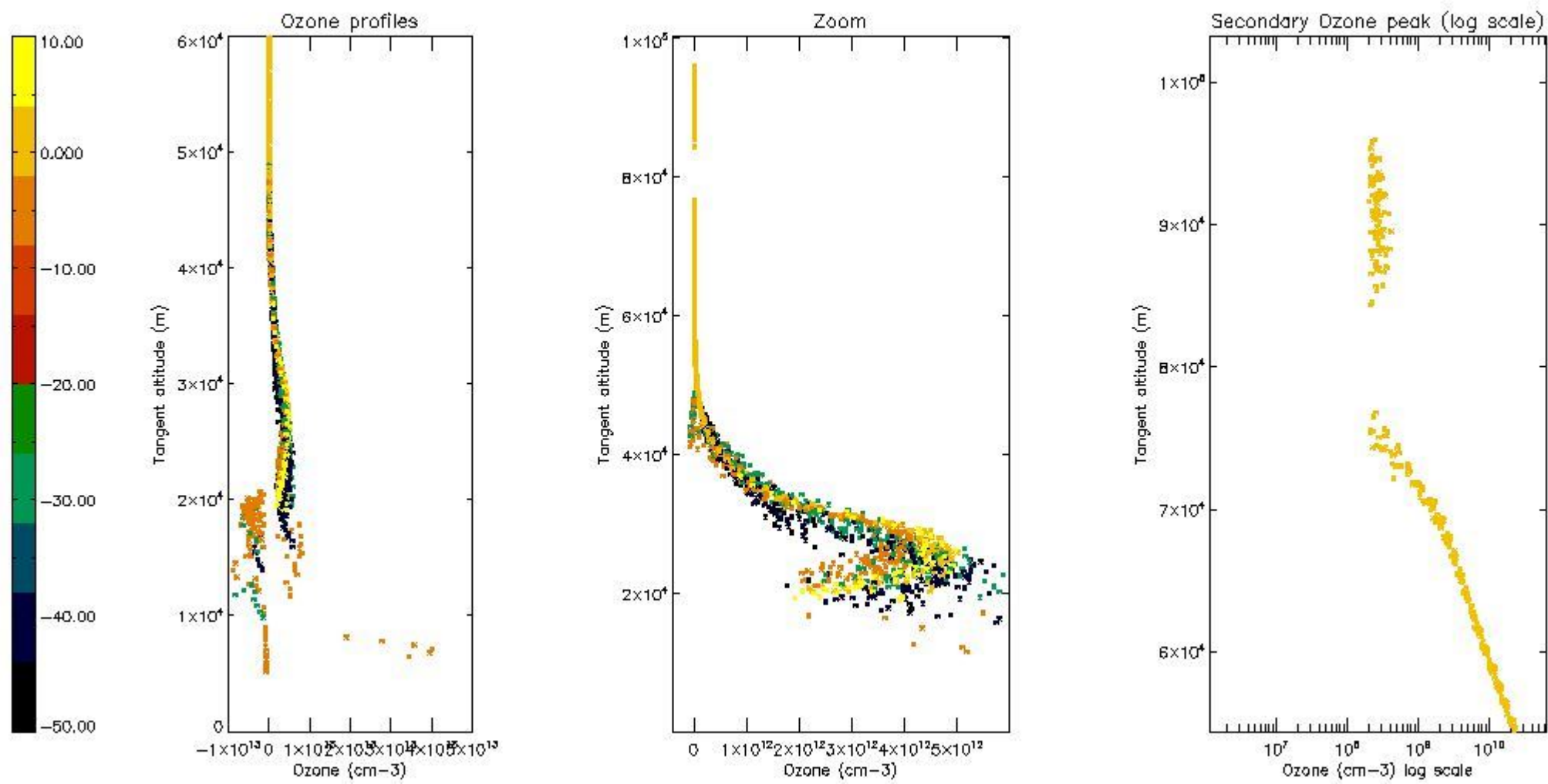
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



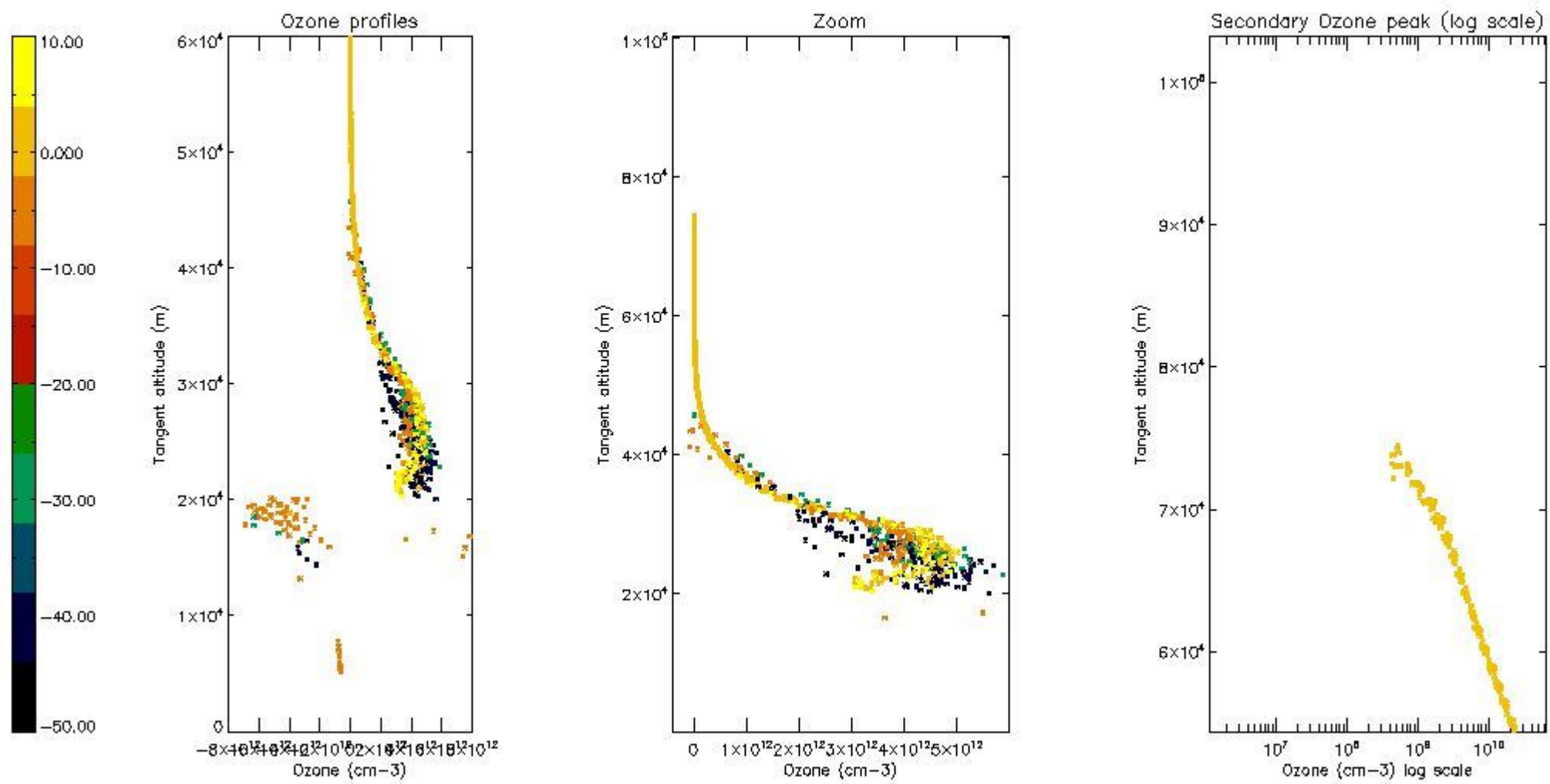
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



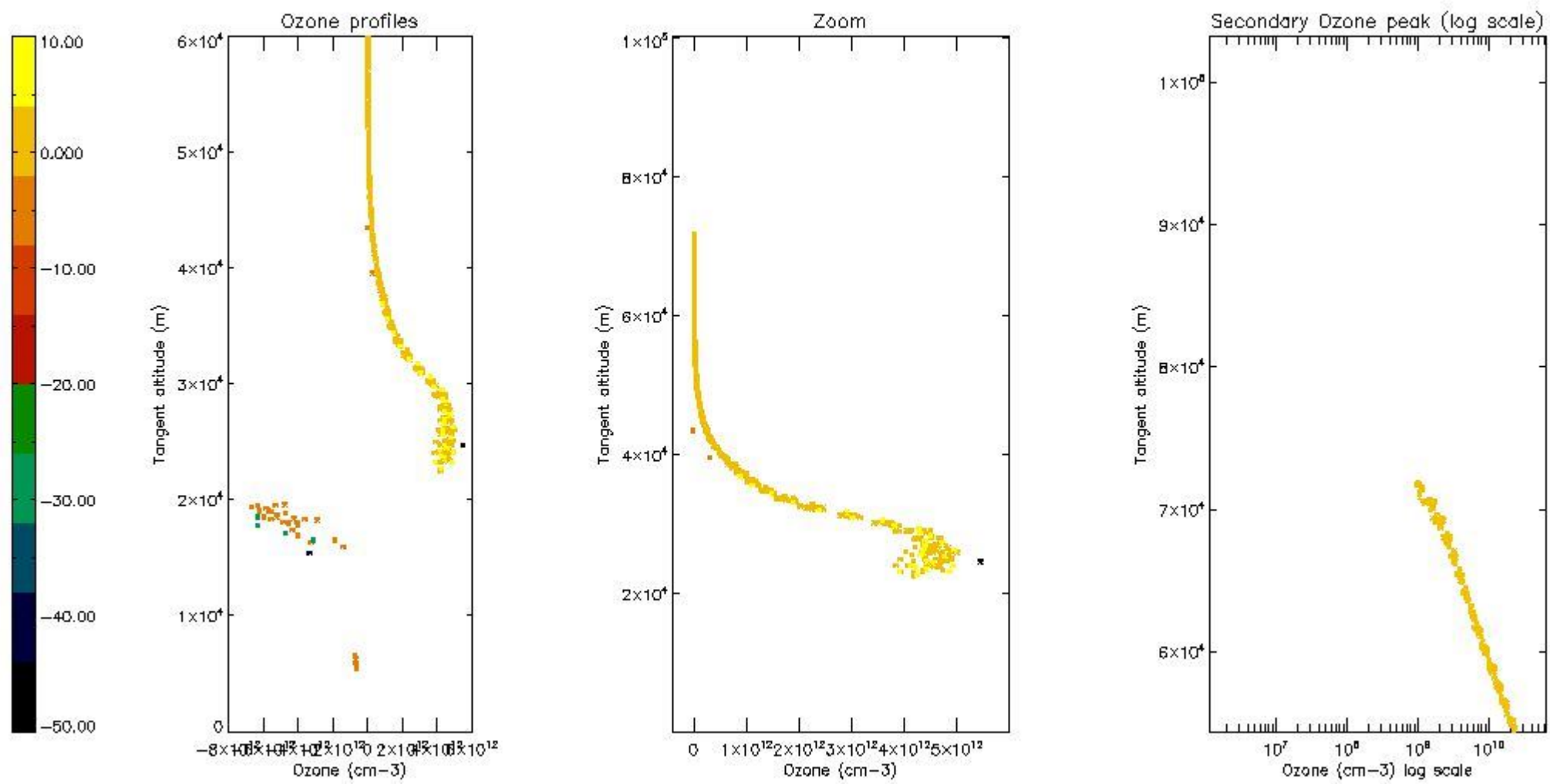
5.4 Plot ozone profiles where  $STD < 10\%$  (dark without errors)

The colorbar represents the latitude.



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

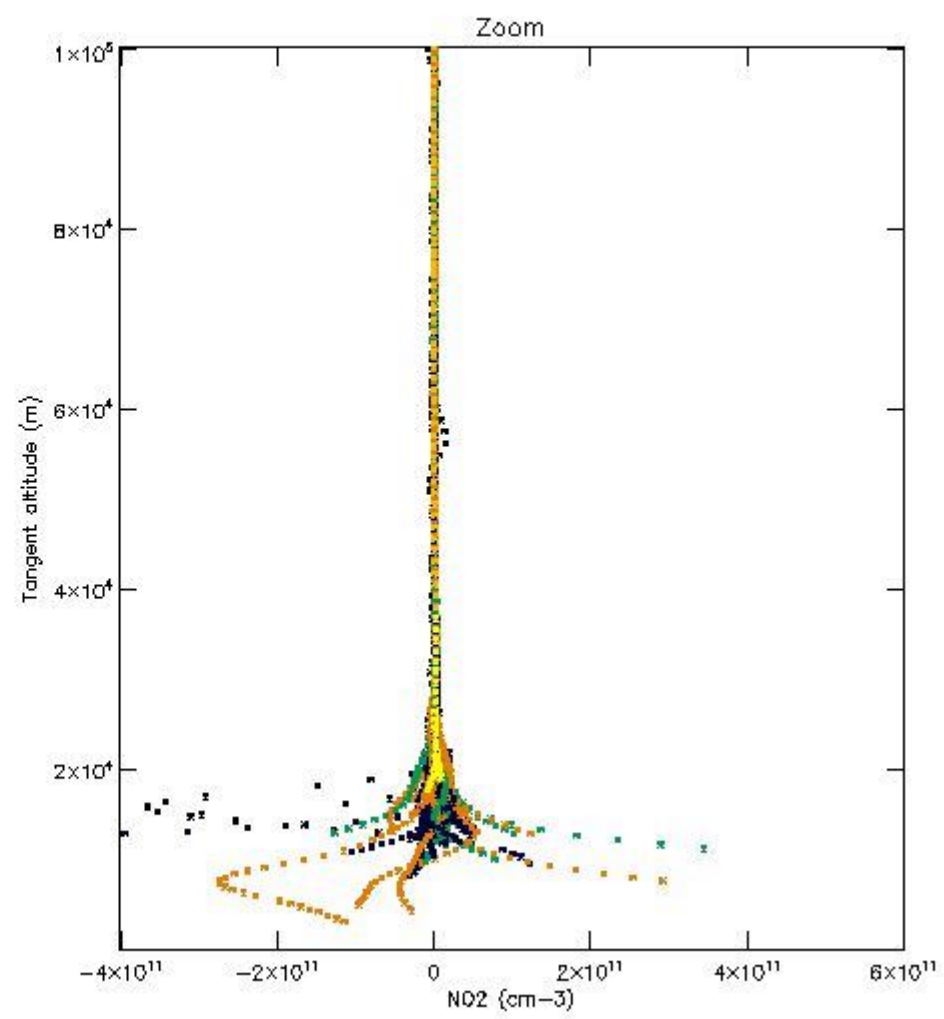
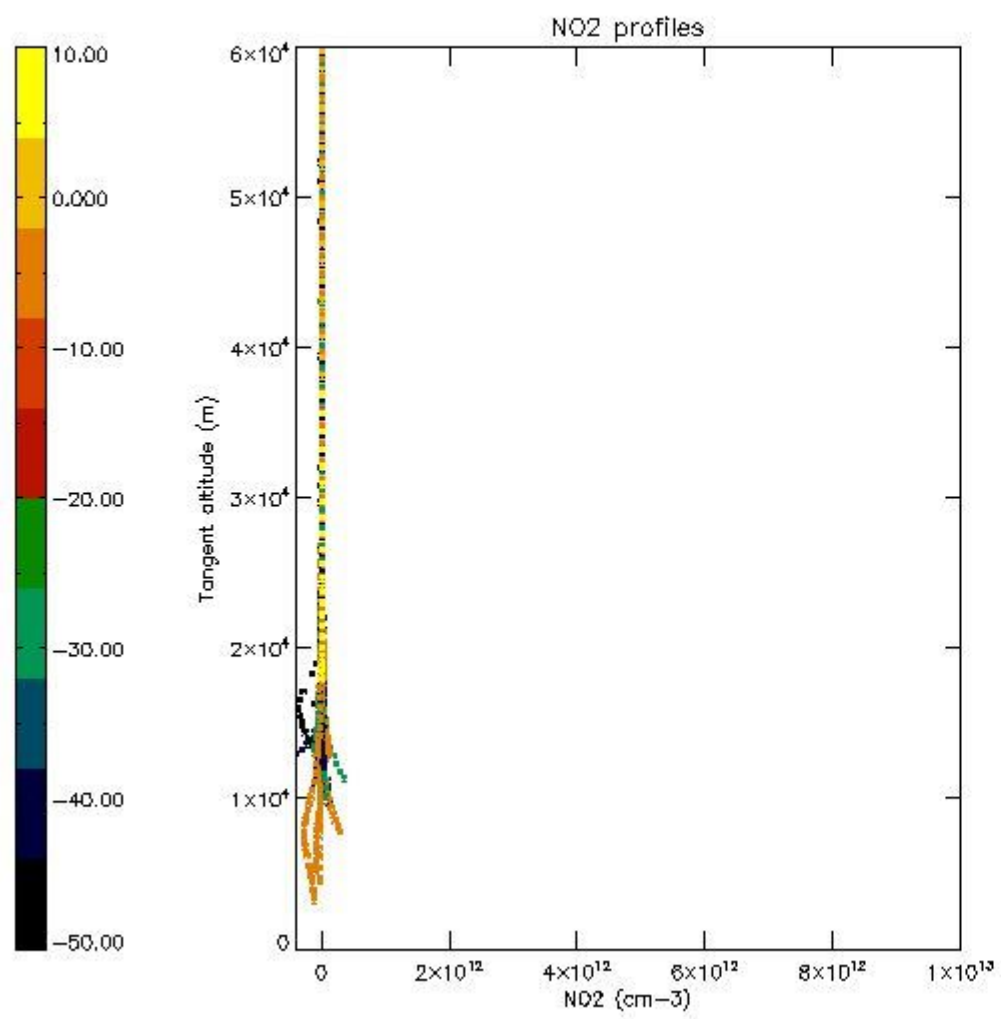
The colorbar represents the latitude.



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

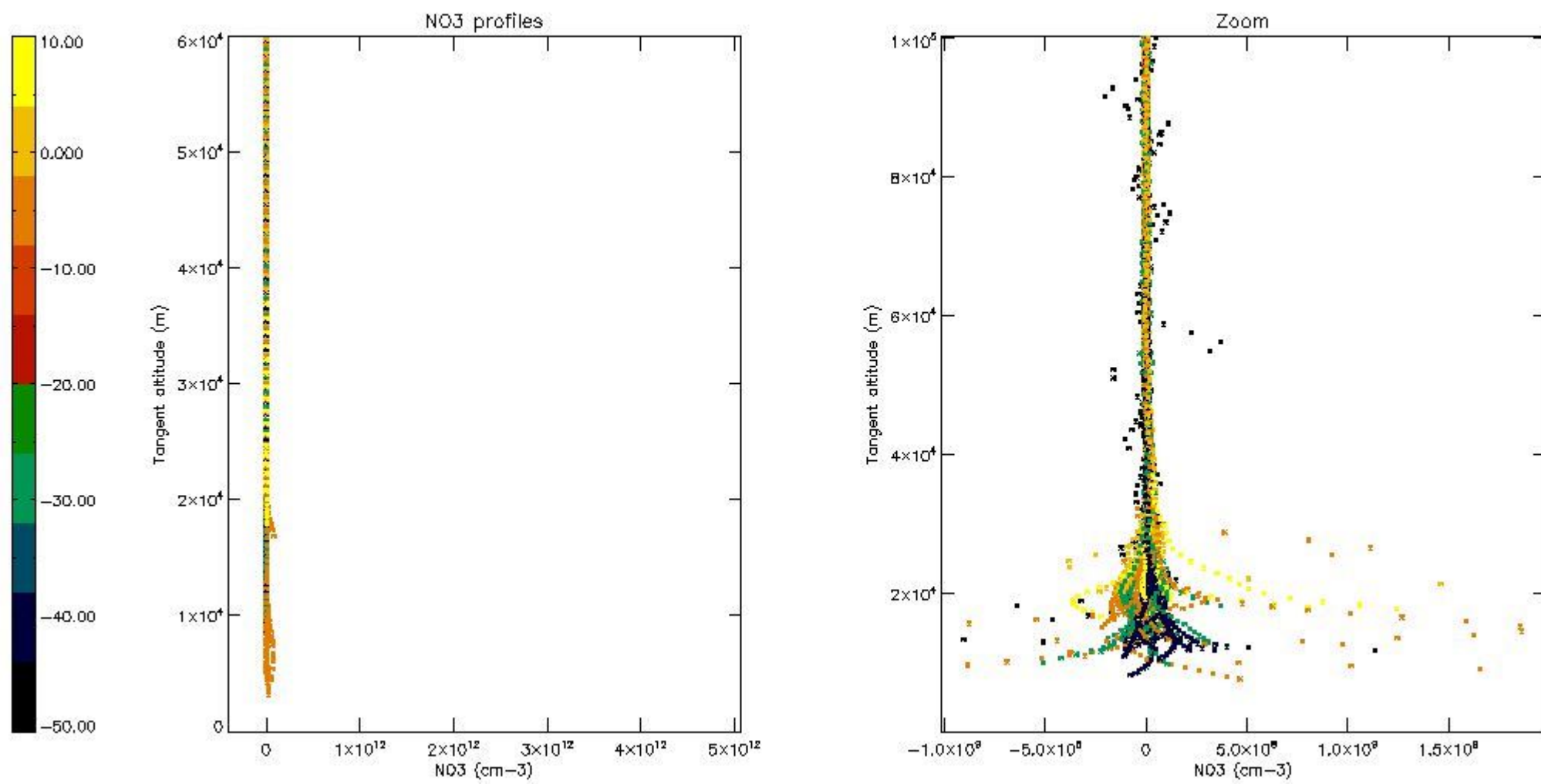
The colorbar represents the latitude.





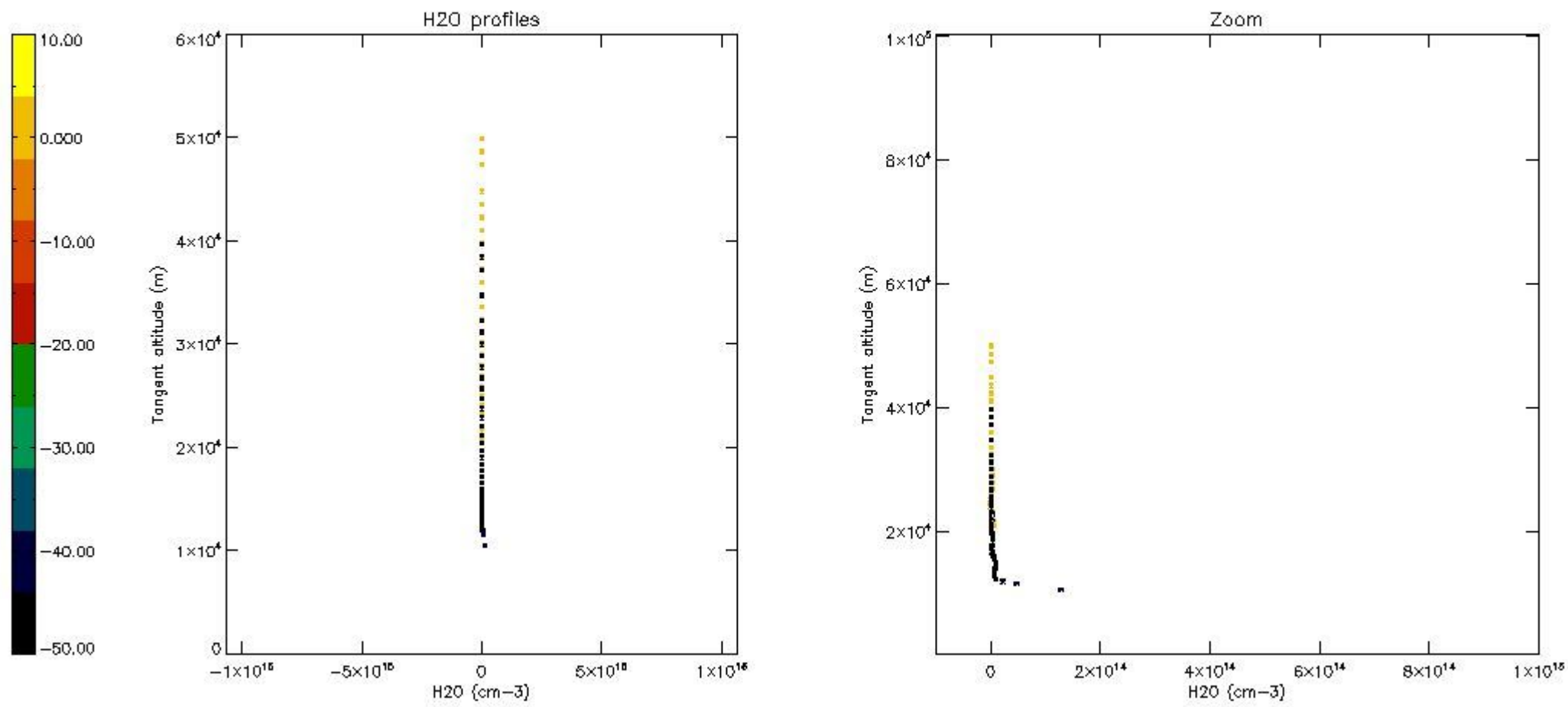
*5.7 Plot NO3 profiles for all STD (dark without errors)*

The colorbar represents the latitude.



5.8 Plot 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	11-JUN-2011 00:01:28
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	11-JUN-2011 00:01:28
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	11-JUN-2011 00:01:28

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### [3. Level 2 Quality information per product](#)

#### [3.1 Plot of level 2 quality information per product \(time dependant\)](#)

#### [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	24APR2013 14:38:11
Data source version	GOMOS/6.01
Start time of products	11-06-2011 (11JUN2011 00:00:00)
Stop time of products	12-06-2011 (12JUN2011 00:00:00)
Store outputs in DB	Yes
Nb of level 2 prods	289
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__2PRFIN20110611_000128_000000473103_00232_48522_3134.N1	11-JUN-2011 00:01:28	Dark	47.000	31	Alp Gru	1.7340	15200.	94	48522	No
2	GOM_NL__2PRFIN20110611_000300_000000583103_00232_48522_3135.N1	11-JUN-2011 00:03:00	Straylight	57.500	172	Gam Gru	3.0030	13100.	115	48522	No
3	GOM_NL__2PRFIN20110611_000539_000000423103_00232_48522_3136.N1	11-JUN-2011 00:05:39	Straylight	42.000	45	Alp Pav	1.9400	26000.	84	48522	No
4	GOM_NL__2PRFIN20110611_001548_000000453103_00232_48522_3137.N1	11-JUN-2011 00:15:48	Twilight	45.000	25	35Lam Sco	1.6200	28000.	90	48522	No
5	GOM_NL__2PRFIN20110611_001727_000000583103_00232_48522_3138.N1	11-JUN-2011 00:17:27	Bright	58.000	57	34Sig Sgr	2.0660	26000.	116	48522	No
6	GOM_NL__2PRFIN20110611_002233_000000413103_00232_48522_3139.N1	11-JUN-2011 00:22:33	Bright	41.000	86	35Eta Oph	2.4300	10200.	82	48522	No
7	GOM_NL__2PRFIN20110611_002419_000000393103_00232_48522_3140.N1	11-JUN-2011 00:24:19	Bright	39.000	98	13Zet Oph	2.5710	30000.	78	48522	No
8	GOM_NL__2PRFIN20110611_002928_000000473103_00232_48522_3141.N1	11-JUN-2011 00:29:28	Bright	47.000	126	60Bet Oph	2.7700	4250.0	94	48522	No
9	GOM_NL__2PRFIN20110611_003203_000000463103_00232_48522_3142.N1	11-JUN-2011 00:32:03	Bright	45.500	59	55Alp Oph	2.0800	8900.0	91	48522	No
10	GOM_NL__2PRFIN20110611_003348_000000383103_00232_48522_3143.N1	11-JUN-2011 00:33:48	Bright	38.000	127	27Bet Her	2.7810	4700.0	76	48522	No
11	GOM_NL__2PRFIN20110611_003655_000000393103_00232_48522_3144.N1	11-JUN-2011 00:36:55	Bright	38.500	133	40Zet Her	2.8070	6000.0	77	48522	No
12	GOM_NL__2PRFIN20110611_004354_000000423103_00232_48522_3145.N1	11-JUN-2011 00:43:54	Bright	41.500	130	23Bet Dra	2.7990	5800.0	83	48522	No
13	GOM_NL__2PRFIN20110611_005429_000000493103_00232_48522_3146.N1	11-JUN-2011 00:54:29	Bright	49.000	89	5Alp Cep	2.4510	8000.0	98	48522	No
14	GOM_NL__2PRFIN20110611_010045_000000593103_00232_48522_3147.N1	11-JUN-2011 01:00:45	Bright	59.000	76	27Gam Cas	2.3000	30000.	118	48522	No
15	GOM_NL__2PRFIN20110611_010644_000000363103_00232_48522_3148.N1	11-JUN-2011 01:06:44	Bright	36.000	73	57Gam1And	2.2600	13100.	72	48522	No
16	GOM_NL__2PRFIN20110611_010902_000000633103_00232_48522_3149.N1	11-JUN-2011 01:09:02	Twilight	63.000	53	43Bet And	2.0480	3300.0	126	48522	No
17	GOM_NL__2PRFIN20110611_011223_000000463103_00232_48522_3150.N1	11-JUN-2011 01:12:23	Twilight	46.000	50	13Alp Ari	2.0070	4250.0	92	48522	No
18	GOM_NL__2PRFIN20110611_012717_000000583103_00232_48522_3151.N1	11-JUN-2011 01:27:17	Dark	57.500	52	16Bet Cet	2.0370	4500.0	115	48522	No
19	GOM_NL__2PRFIN20110611_013342_000000413103_00232_48522_3152.N1	11-JUN-2011 01:33:42	Dark	41.000	84	Alp Phe	2.3970	4500.0	82	48522	No
20	GOM_NL__2PRFIN20110611_013941_000000583103_00233_48523_2818.N1	11-JUN-2011 01:39:41	Dark	58.000	63	Bet Gru	2.1500	2800.0	116	48523	No
21	GOM_NL__2PRFIN20110611_014143_000000473103_00233_48523_2819.N1	11-JUN-2011 01:41:43	Dark	47.000	31	Alp Gru	1.7340	15200.	94	48523	No
22	GOM_NL__2PRFIN20110611_014315_000000583103_00233_48523_2820.N1	11-JUN-2011 01:43:15	Straylight	57.500	172	Gam Gru	3.0030	13100.	115	48523	No
23	GOM_NL__2PRFIN20110611_014554_000000433103_00233_48523_2821.N1	11-JUN-2011 01:45:54	Straylight	43.000	45	Alp Pav	1.9400	26000.	86	48523	No
24	GOM_NL__2PRFIN20110611_015603_000000443103_00233_48523_2822.N1	11-JUN-2011 01:56:03	Twilight	44.000	25	35Lam Sco	1.6200	28000.	88	48523	No
25	GOM_NL__2PRFIN20110611_015742_000000763103_00233_48523_2823.N1	11-JUN-2011 01:57:42	Bright	76.000	57	34Sig Sgr	2.0660	26000.	152	48523	No
26	GOM_NL__2PRFIN20110611_020247_000000423103_00233_48523_2824.N1	11-JUN-2011 02:02:47	Bright	41.500	86	35Eta Oph	2.4300	10200.	83	48523	No
27	GOM_NL__2PRFIN20110611_020433_000000373103_00233_48523_2825.N1	11-JUN-2011 02:04:33	Bright	37.000	98	13Zet Oph	2.5710	30000.	74	48523	No
28	GOM_NL__2PRFIN20110611_020942_000000493103_00233_48523_2826.N1	11-JUN-2011 02:09:42	Bright	49.000	126	60Bet Oph	2.7700	4250.0	98	48523	No
29	GOM_NL__2PRFIN20110611_021216_000000483103_00233_48523_2827.N1	11-JUN-2011 02:12:16	Bright	47.500	59	55Alp Oph	2.0800	8900.0	95	48523	No
30	GOM_NL__2PRFIN20110611_021401_000000403103_00233_48523_2828.N1	11-JUN-2011 02:14:01	Bright	39.500	127	27Bet Her	2.7810	4700.0	79	48523	No
31	GOM_NL__2PRFIN20110611_021708_000000423103_00233_48523_2829.N1	11-JUN-2011 02:17:08	Bright	42.000	133	40Zet Her	2.8070	6000.0	84	48523	No
32	GOM_NL__2PRFIN20110611_022407_000000393103_00233_48523_2830.N1	11-JUN-2011 02:24:07	Bright	39.000	130	23Bet Dra	2.7990	5800.0	78	48523	No
33	GOM_NL__2PRFIN20110611_023443_000000483103_00233_48523_2831.N1	11-JUN-2011 02:34:43	Bright	48.000	89	5Alp Cep	2.4510	8000.0	96	48523	No
34	GOM_NL__2PRFIN20110611_024059_000000403103_00233_48523_2832.N1	11-JUN-2011 02:40:59	Bright	40.000	76	27Gam Cas	2.3000	30000.	80	48523	No
35	GOM_NL__2PRFIN20110611_024657_000000403103_00233_48523_2833.N1	11-JUN-2011 02:46:57	Bright	39.500	73	57Gam1And	2.2600	13100.	79	48523	No
36	GOM_NL__2PRFIN20110611_024916_000000523103_00233_48523_2834.N1	11-JUN-2011 02:49:16	Twilight	52.000	53	43Bet And	2.0480	3300.0	104	48523	No
37	GOM_NL__2PRFIN20110611_025237_000000453103_00233_48523_2835.N1	11-JUN-2011 02:52:37	Twilight	44.500	50	13Alp Ari	2.0070	4250.0	89	48523	No
38	GOM_NL__2PRFIN20110611_030732_000000553103_00233_48523_2836.N1	11-JUN-2011 03:07:32	Dark	54.500	52	16Bet Cet	2.0370	4500.0	109	48523	No
39	GOM_NL__2PRFIN20110611_031357_000000473103_00233_48523_2837.N1	11-JUN-2011 03:13:57	Dark	47.000	84	Alp Phe	2.3970	4500.0	94	48523	No
40	GOM_NL__2PRFIN20110611_031956_000000513103_00234_48524_2834.N1	11-JUN-2011 03:19:56	Dark	51.000	63	Bet Gru	2.1500	2800.0	102	48524	No
41	GOM_NL__2PRFIN20110611_032158_000000523103_00234_48524_2835.N1	11-JUN-2011 03:21:58	Dark	51.500	31	Alp Gru	1.7340	15200.	103	48524	No
42	GOM_NL__2PRFIN20110611_032331_000000563103_00234_48524_2836.N1	11-JUN-2011 03:23:31	Straylight	55.500	172	Gam Gru	3.0030	13100.	111	48524	No









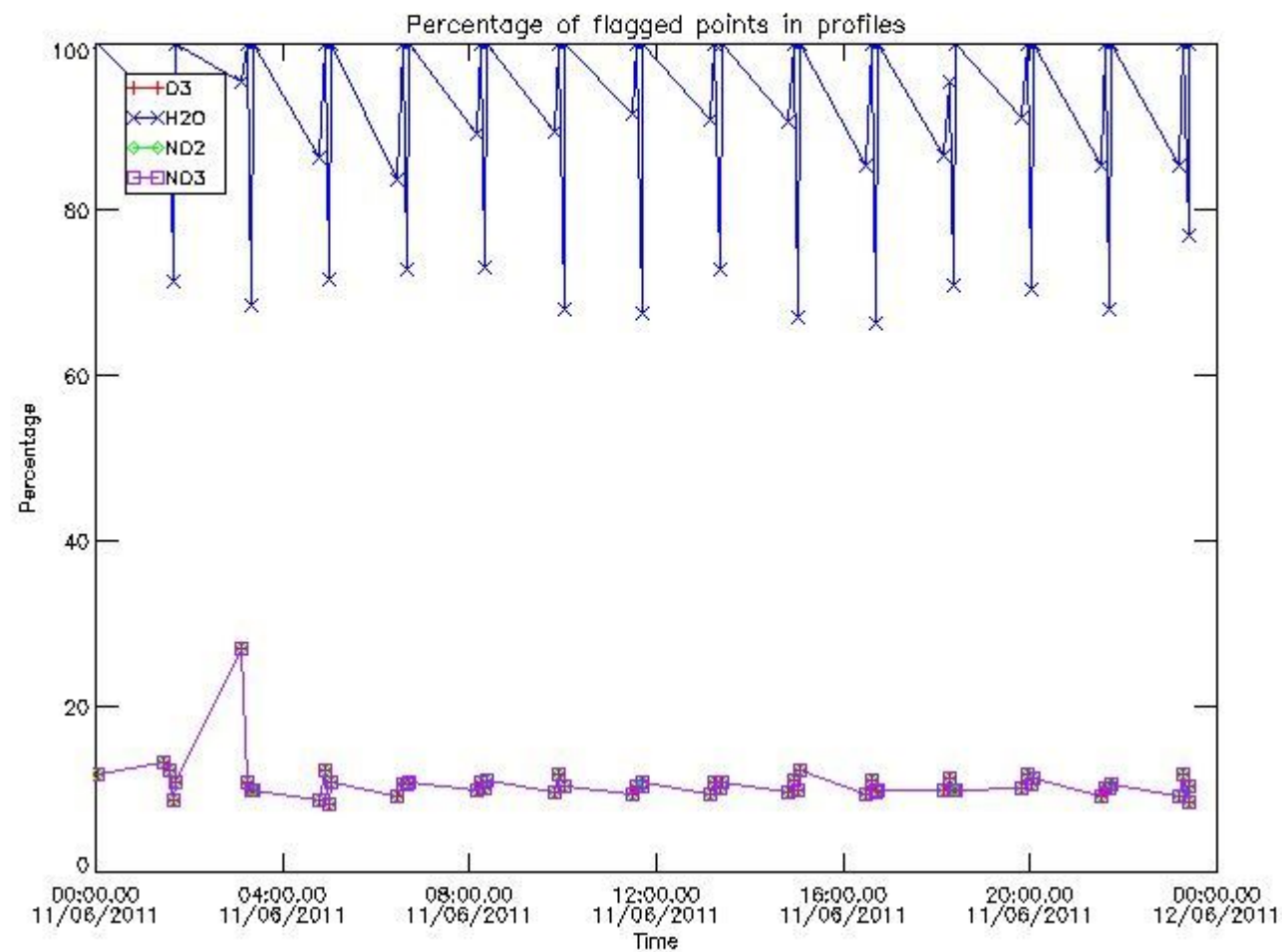


279	GOM_NL__2PRFIN20110611_232255_000000663103_00246_48536_3167.N1	11-JUN-2011 23:22:55	Dark	65.500	63	Bet Gru	2.1500	2800.0	131	48536	No
280	GOM_NL__2PRFIN20110611_232457_000000503103_00246_48536_3168.N1	11-JUN-2011 23:24:57	Dark	49.500	31	Alp Gru	1.7340	15200.	99	48536	No
281	GOM_NL__2PRFIN20110611_232635_000000593103_00246_48536_3169.N1	11-JUN-2011 23:26:35	Straylight	58.500	172	Gam Gru	3.0030	13100.	117	48536	No
282	GOM_NL__2PRFIN20110611_232904_000000433103_00246_48536_3170.N1	11-JUN-2011 23:29:04	Straylight	42.500	45	Alp Pav	1.9400	26000.	85	48536	No
283	GOM_NL__2PRFIN20110611_233908_000000463103_00246_48536_3171.N1	11-JUN-2011 23:39:08	Twilight_stray	46.000	25	35Lam Sco	1.6200	28000.	92	48536	No
284	GOM_NL__2PRFIN20110611_234049_000000653103_00246_48536_3172.N1	11-JUN-2011 23:40:49	Bright	64.500	57	34Sig Sgr	2.0660	26000.	129	48536	No
285	GOM_NL__2PRFIN20110611_234551_000000413103_00246_48536_3173.N1	11-JUN-2011 23:45:51	Bright	41.000	86	35Eta Oph	2.4300	10200.	82	48536	No
286	GOM_NL__2PRFIN20110611_234735_000000373103_00246_48536_3174.N1	11-JUN-2011 23:47:35	Bright	37.000	98	13Zet Oph	2.5710	30000.	74	48536	No
287	GOM_NL__2PRFIN20110611_235239_000000463103_00246_48536_3175.N1	11-JUN-2011 23:52:39	Bright	45.500	126	60Bet Oph	2.7700	4250.0	91	48536	No
288	GOM_NL__2PRFIN20110611_235513_000000463103_00246_48536_3176.N1	11-JUN-2011 23:55:13	Bright	45.500	59	55Alp Oph	2.0800	8900.0	91	48536	No
289	GOM_NL__2PRFIN20110611_235701_000000403103_00246_48536_3177.N1	11-JUN-2011 23:57:01	Bright	40.000	127	27Bet Her	2.7810	4700.0	80	48536	No

### 3. Quality information per product

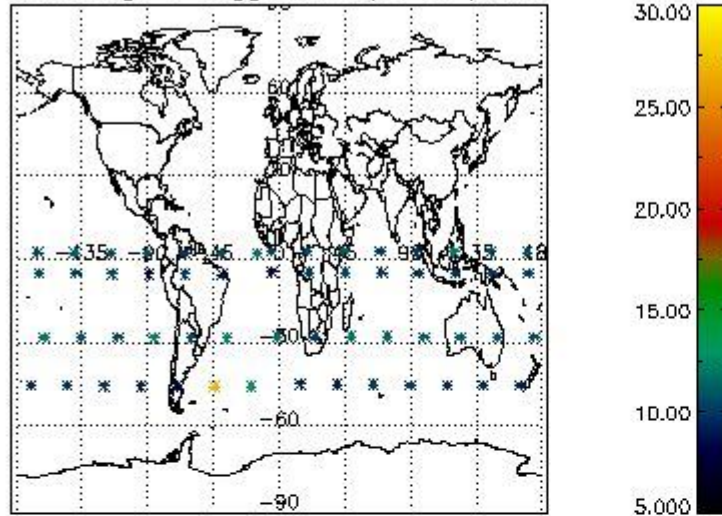
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

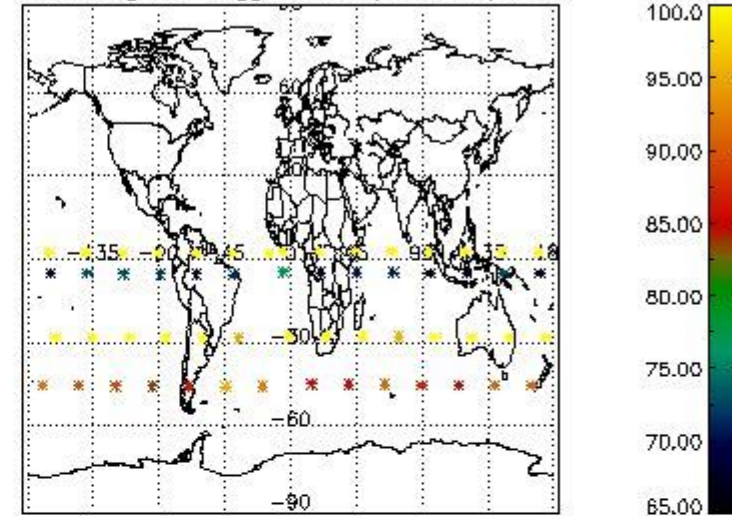


#### 3.2 Plot quality information per product (world map)

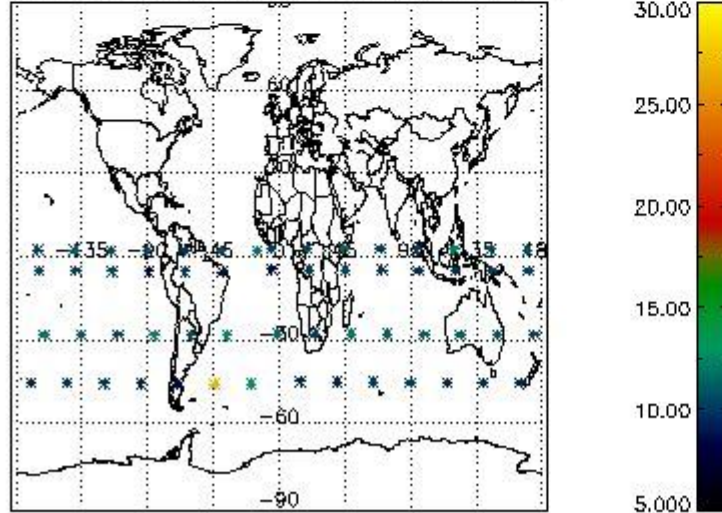
Percentage of flagged data per O3 profile



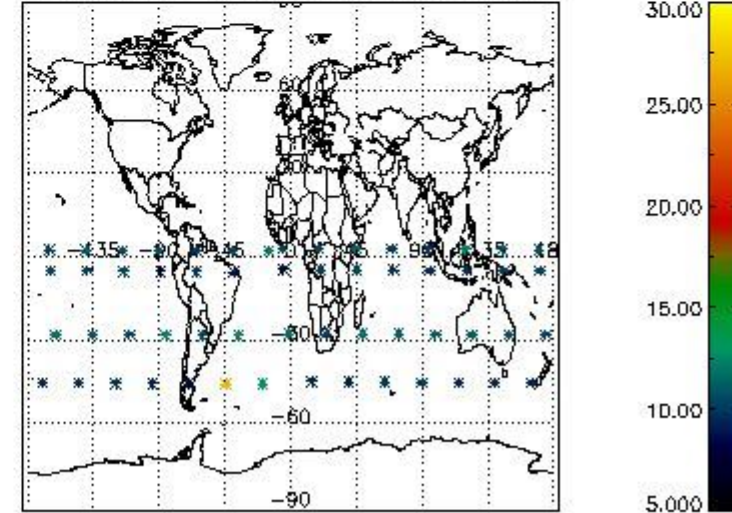
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

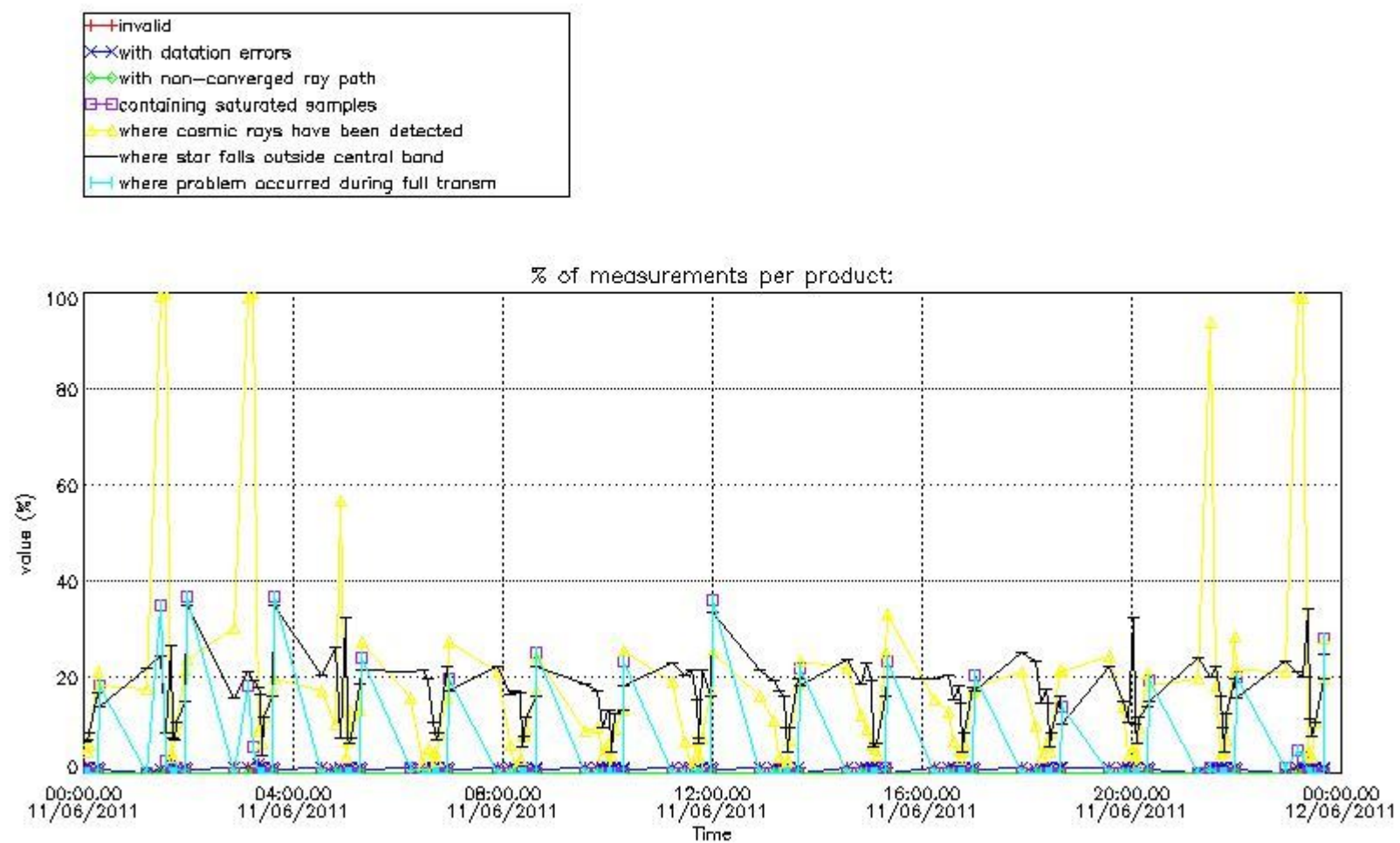


#### 4. Level 1 quality information per product

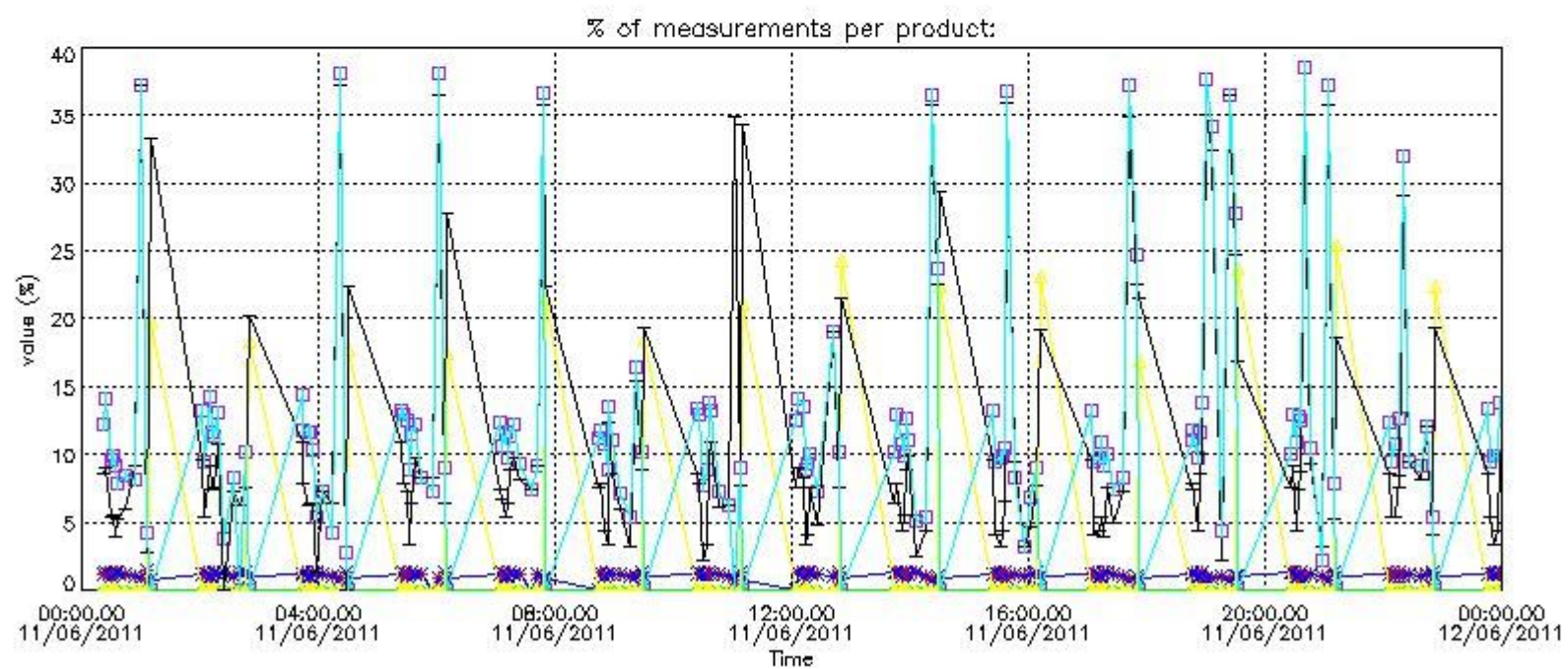
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

##### 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



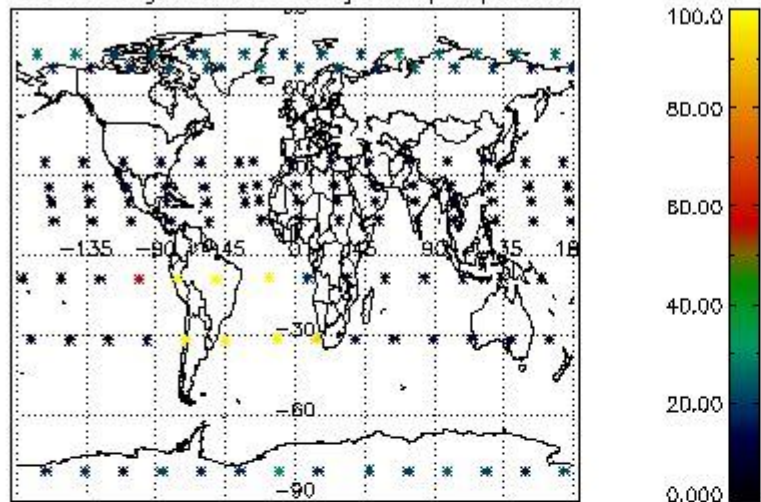
4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes



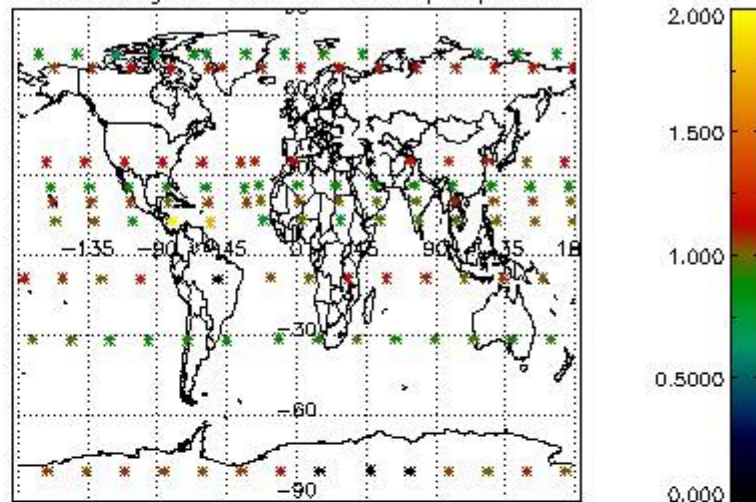
*4.2 Plot quality information per product coming from level 1b processing (world map)*

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

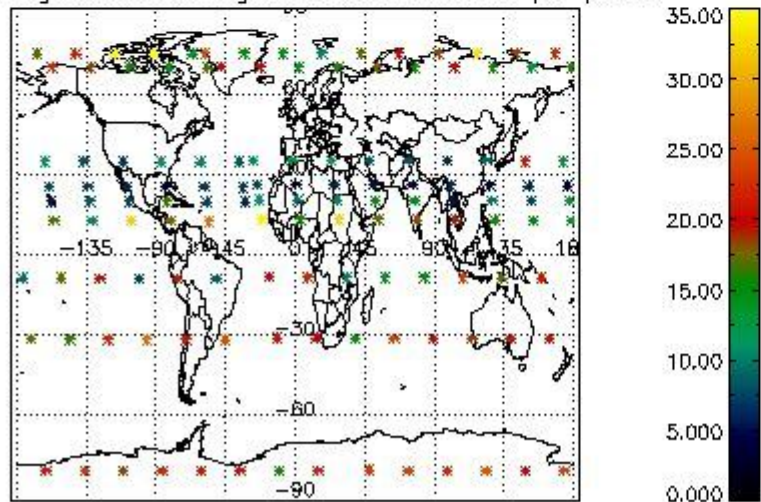
Percentage of cosmic ray hits per profile



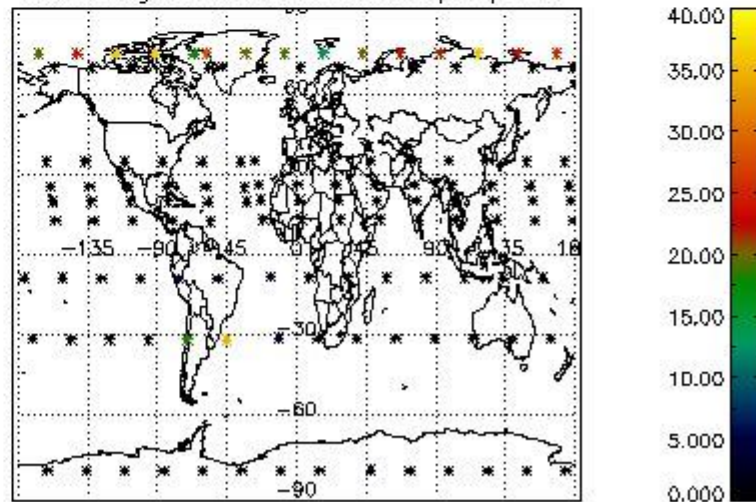
Percentage of datation errors per profile



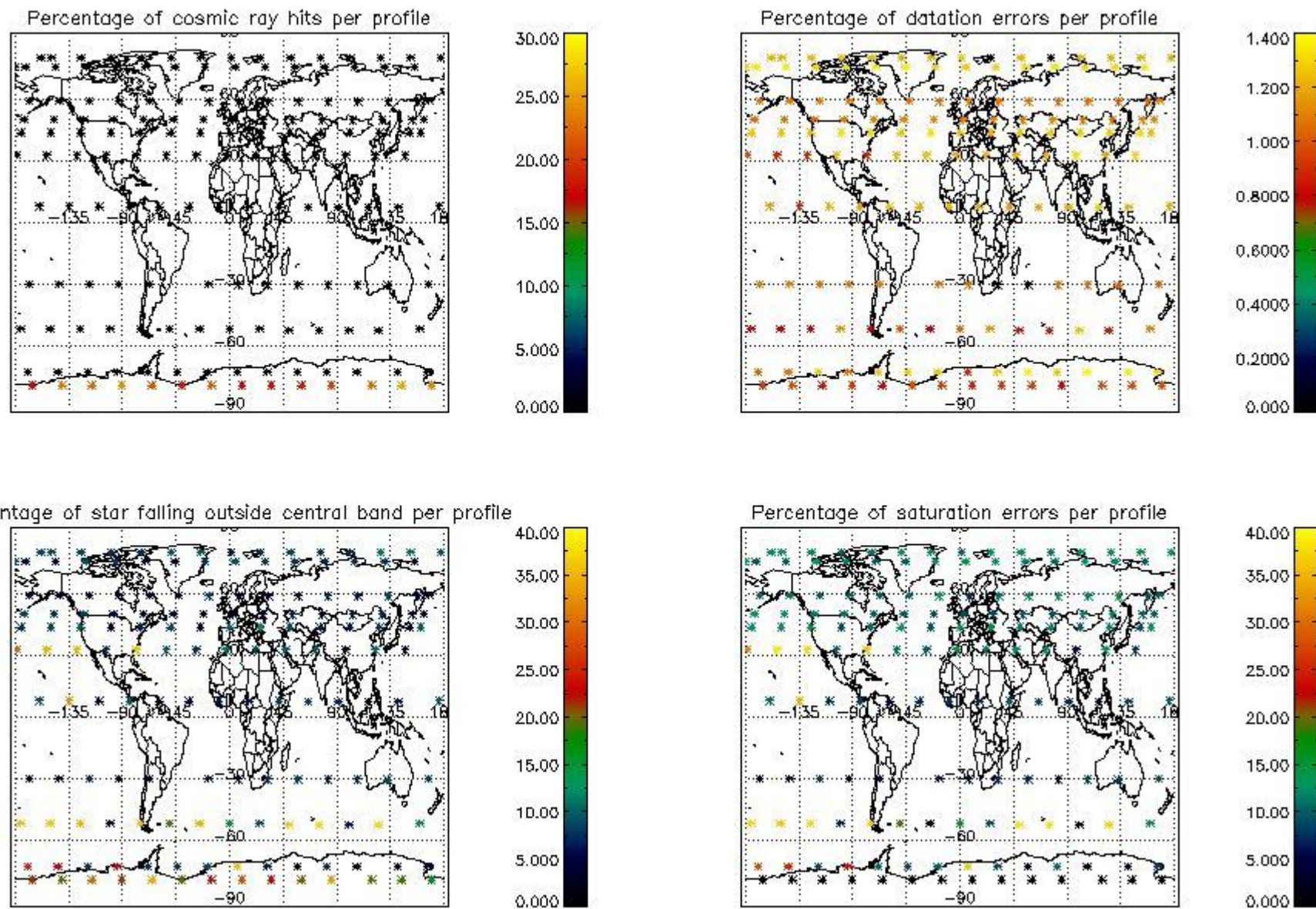
Percentage of star falling outside central band per profile



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

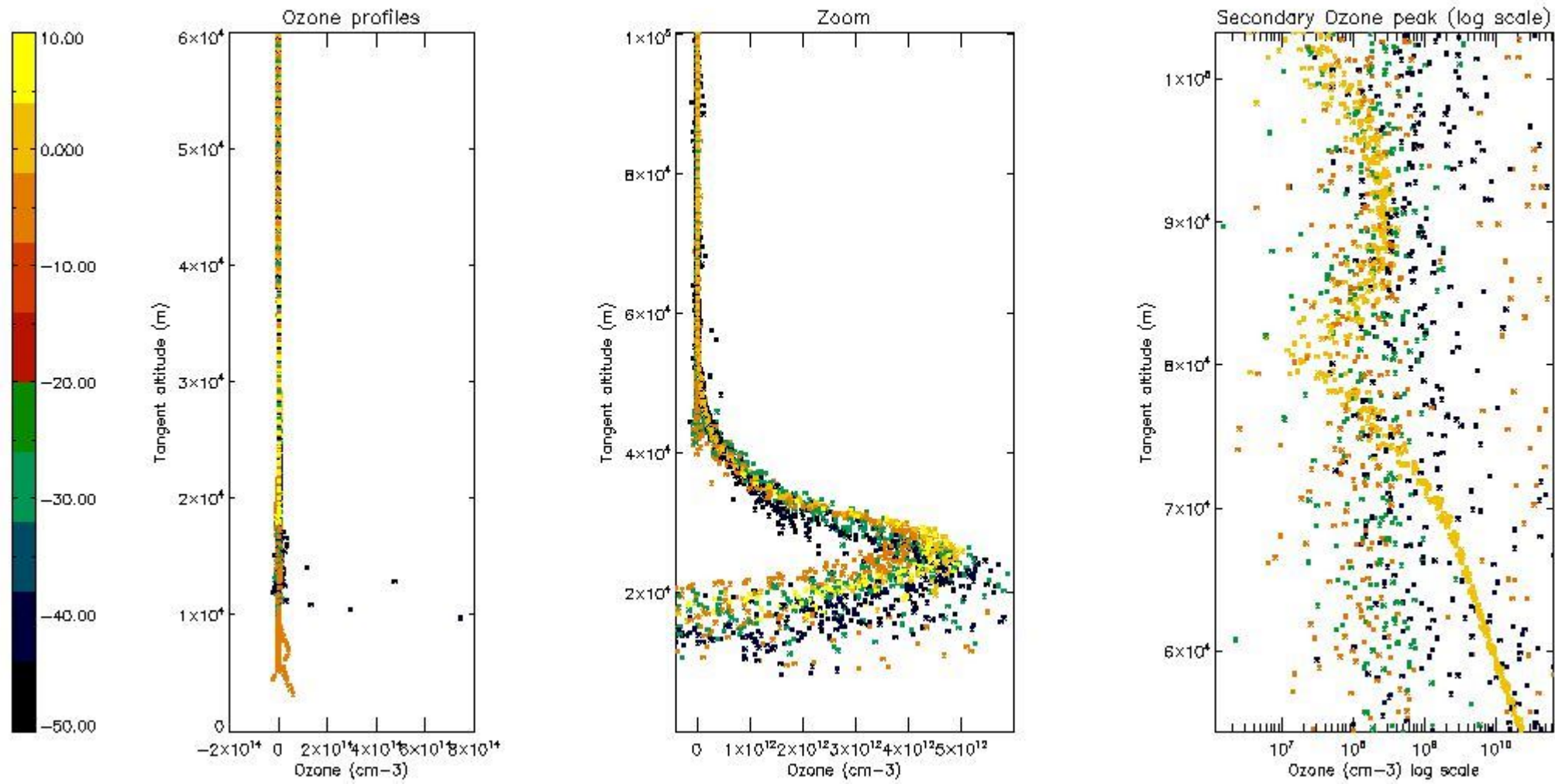
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	22
STD < 20	7

STD < 10	4
STD < 5	3

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

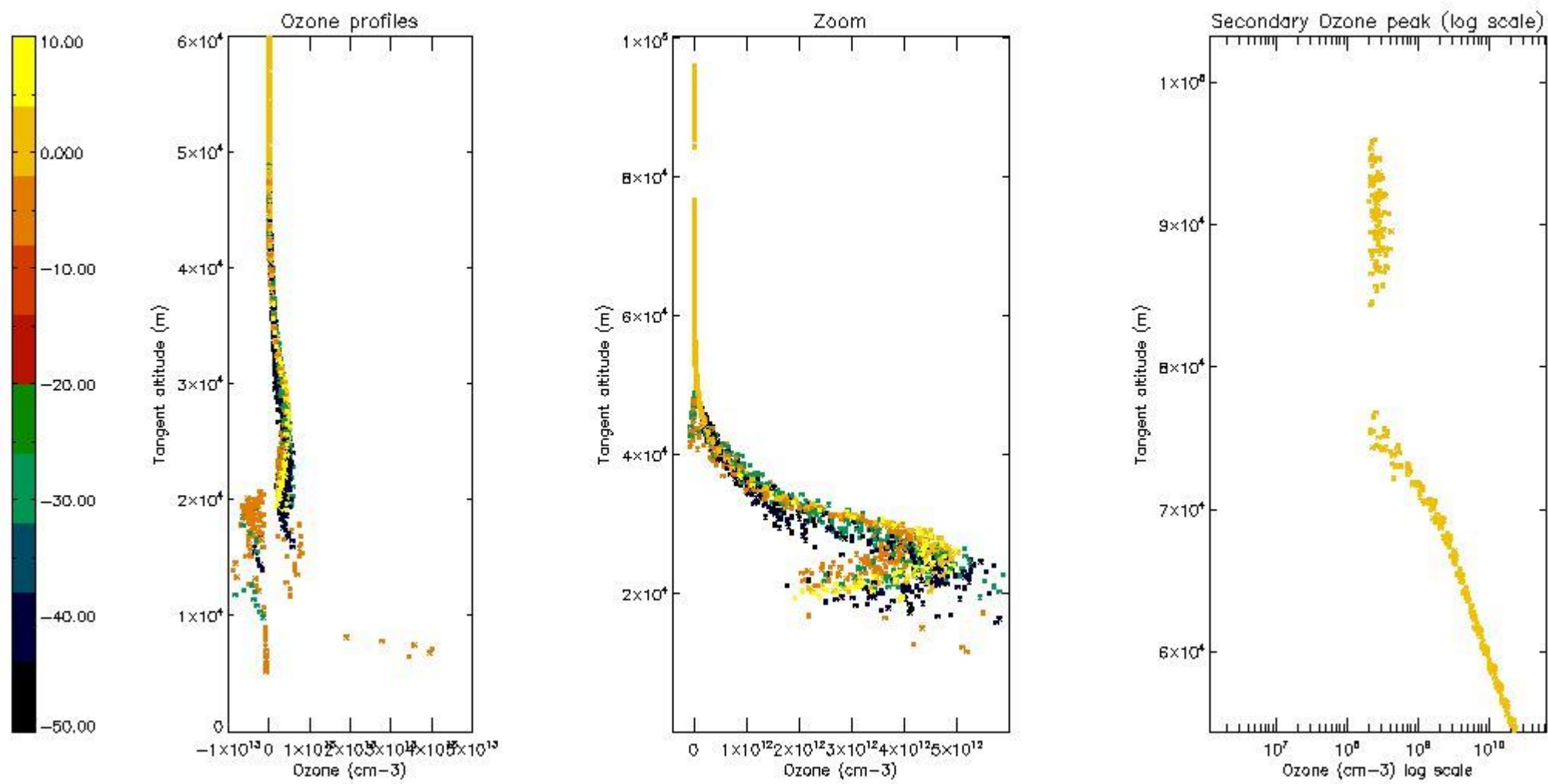
The colorbar represents the latitude.



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

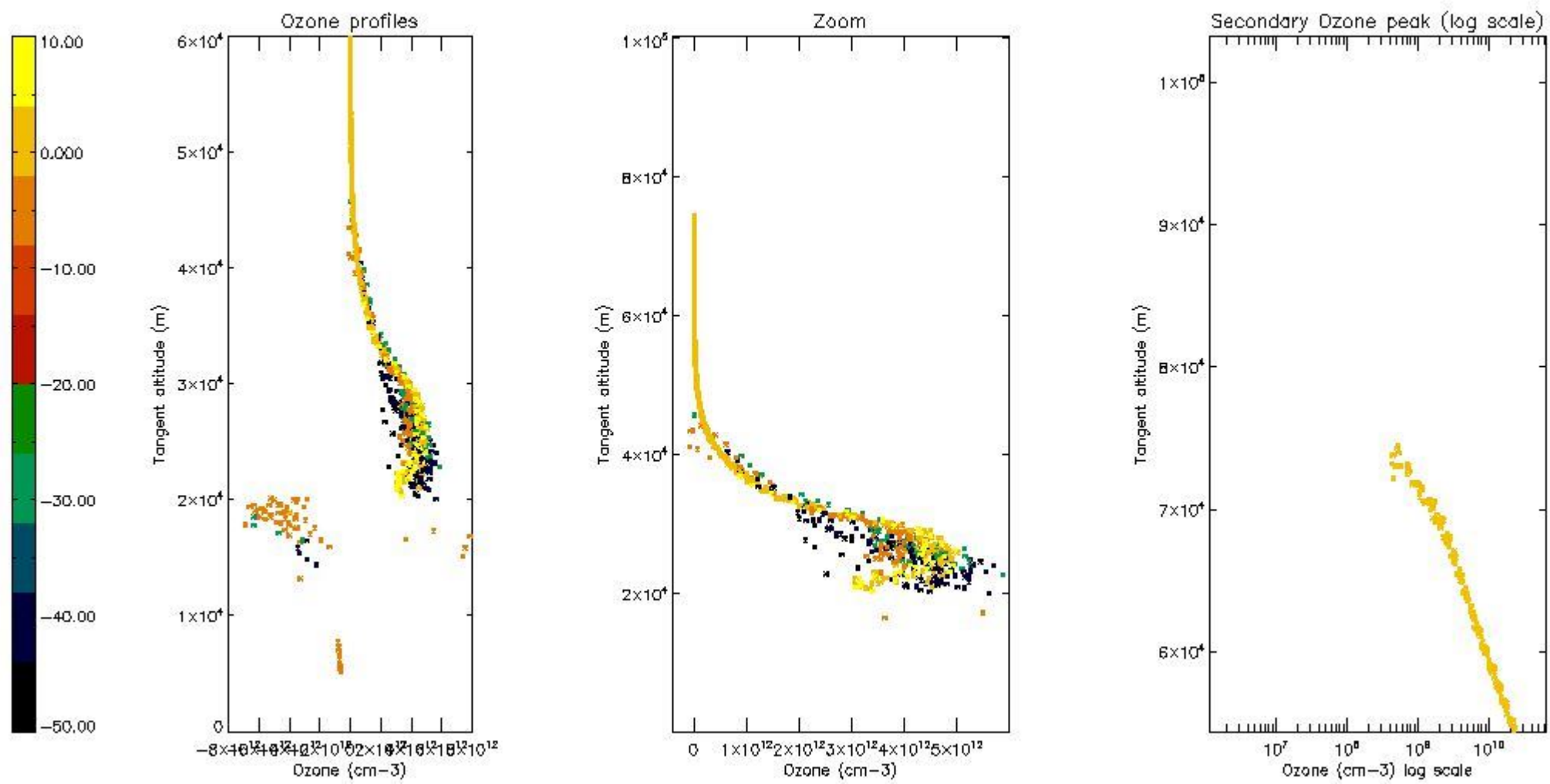
The colorbar represents the latitude.





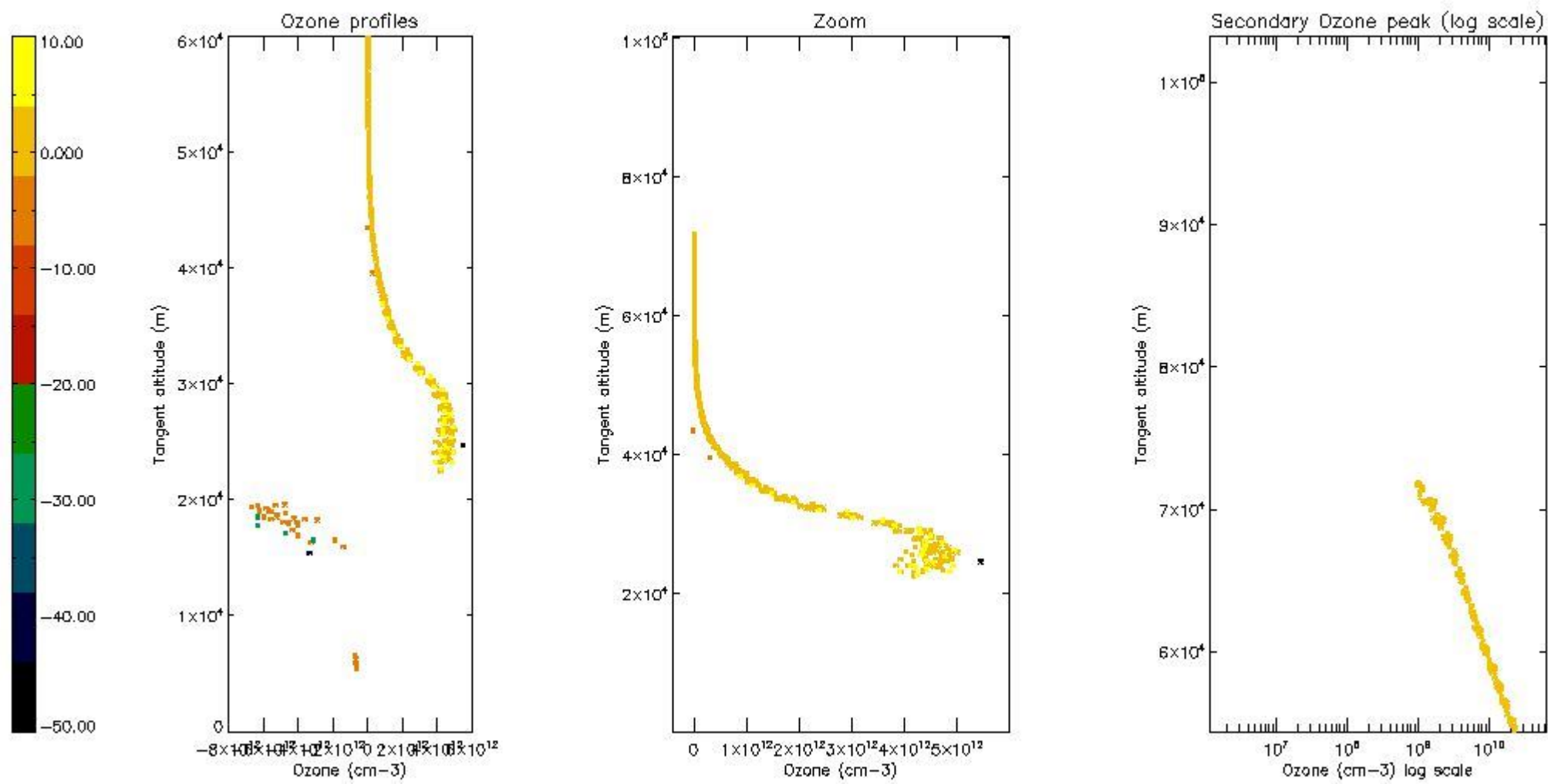
5.4 Plot ozone profiles where  $STD < 10\%$  (dark without errors)

The colorbar represents the latitude.



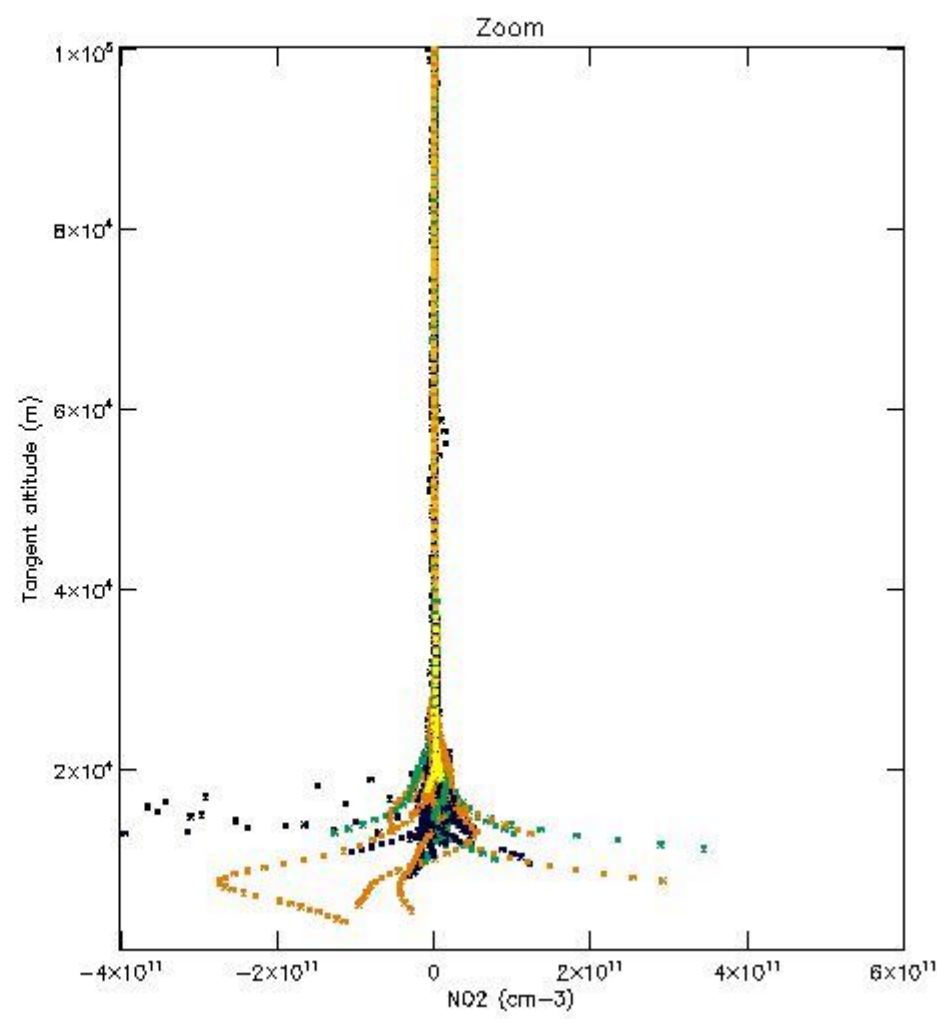
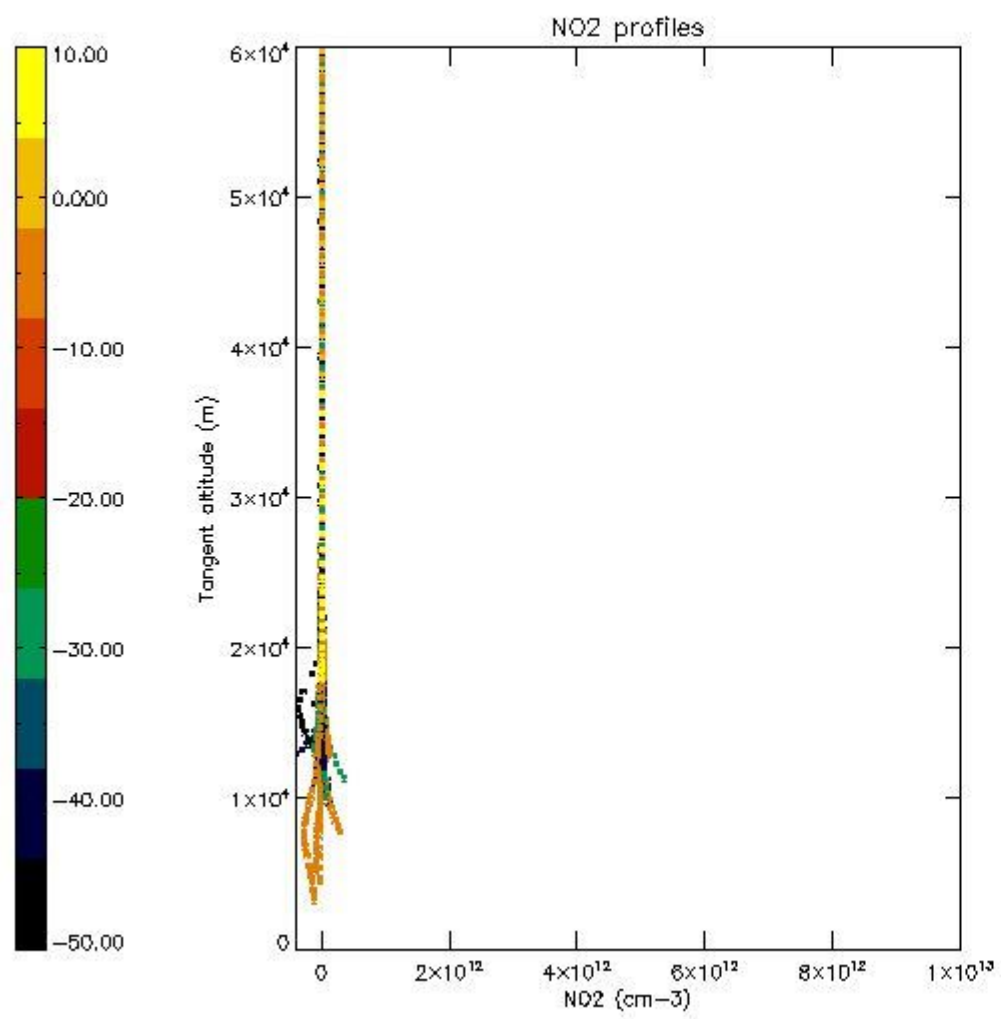
*5.5 Plot ozone profiles where STD < 5% (dark without errors)*

The colorbar represents the latitude.



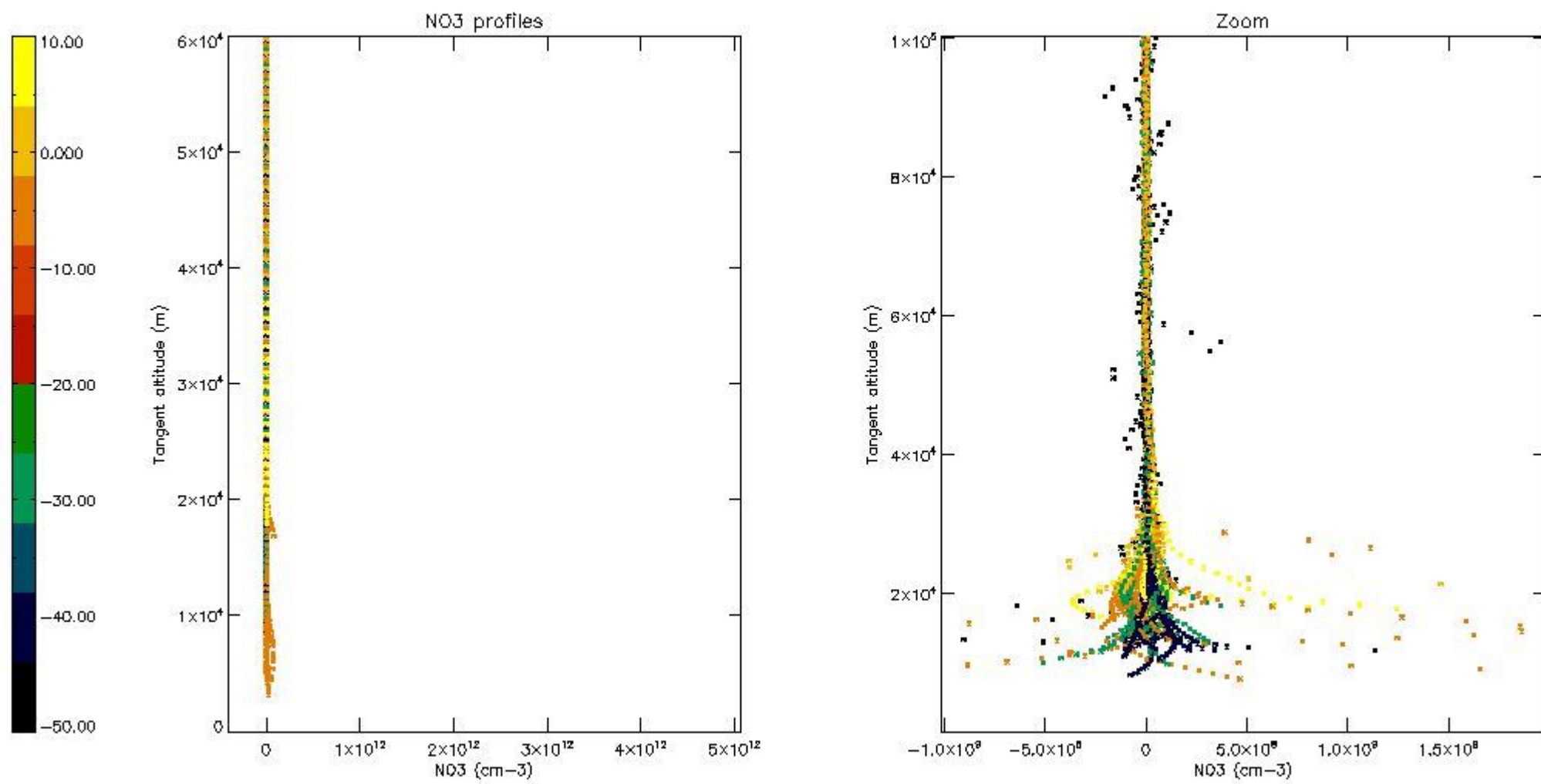
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

The colorbar represents the latitude.



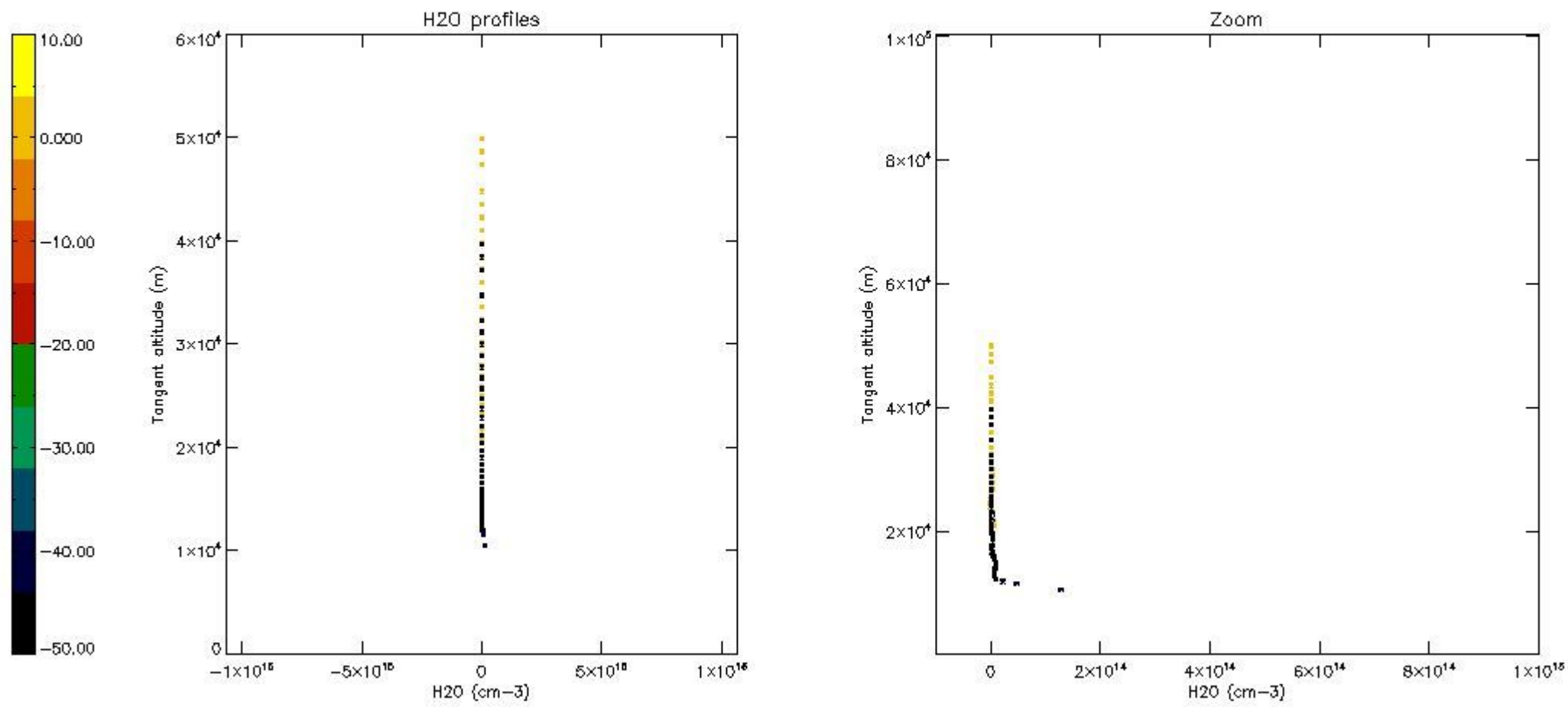
*5.7 Plot NO3 profiles for all STD (dark without errors)*

The colorbar represents the latitude.



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

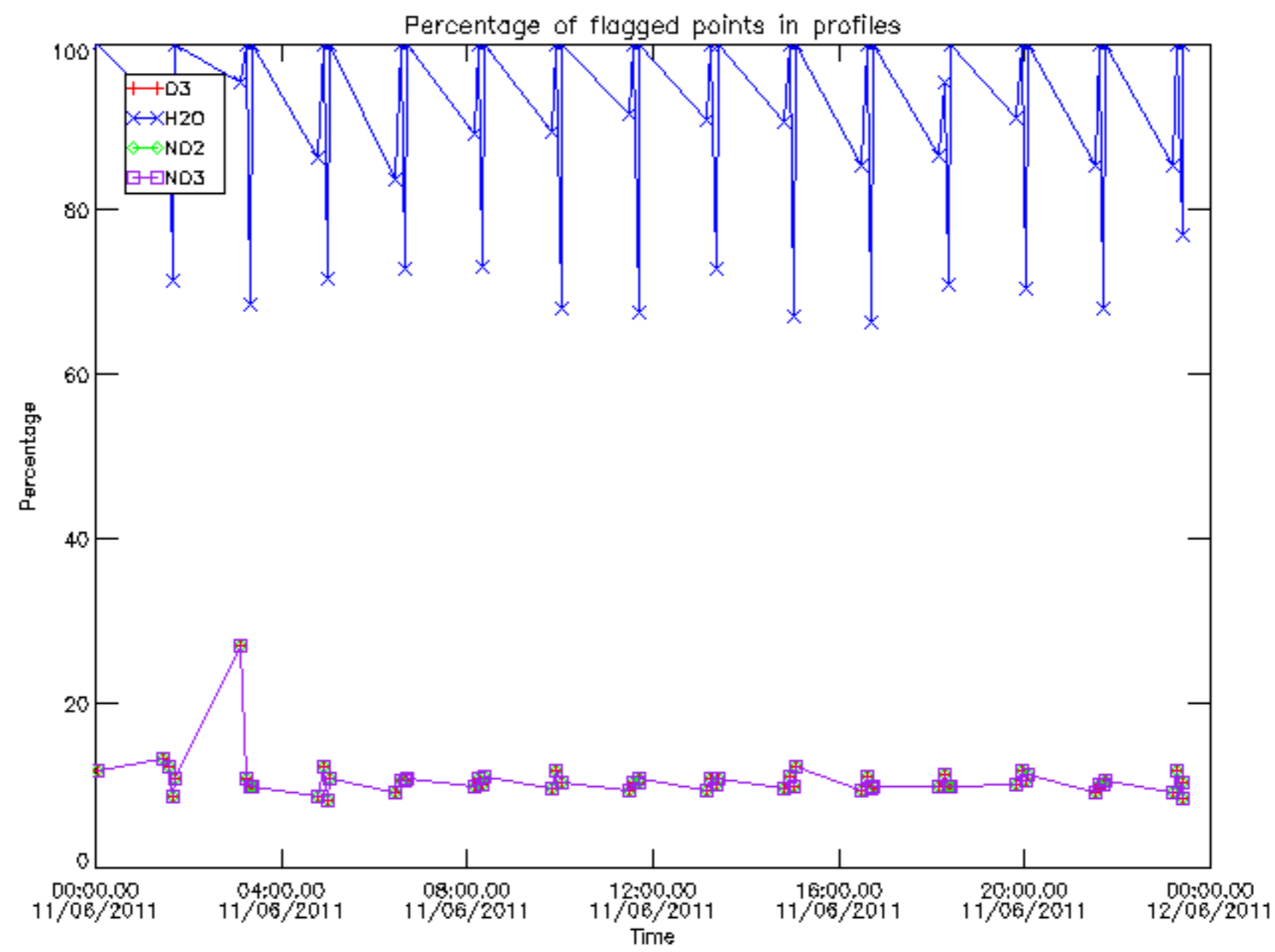
The colorbar represents the latitude.



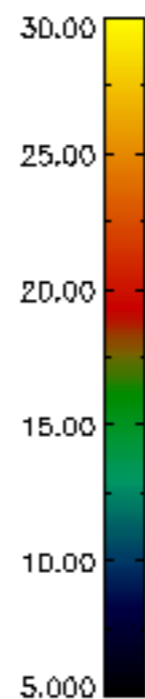
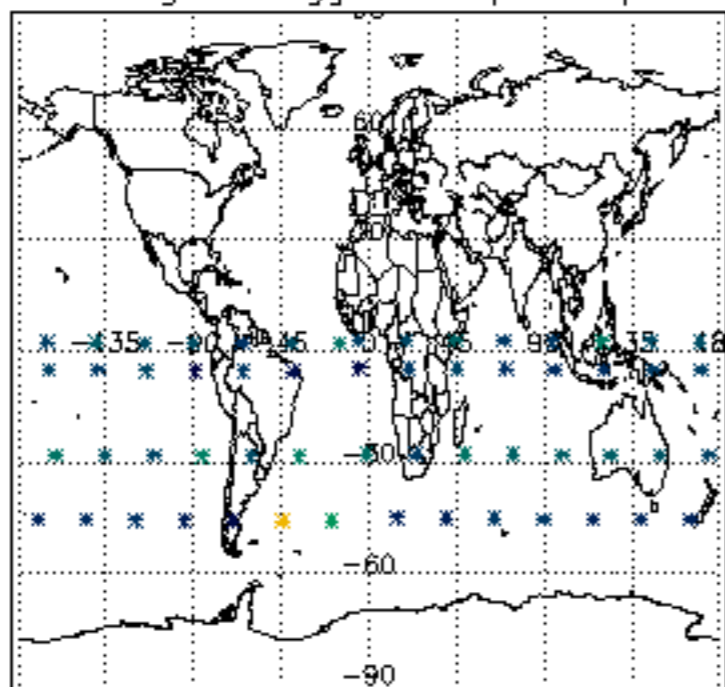
## 6. Auxiliary Data Files used for the production reported in section 2

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.

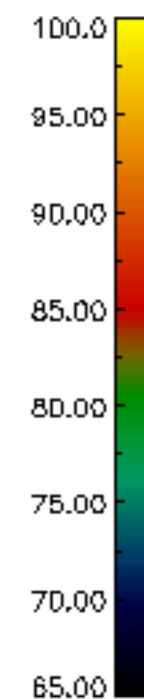
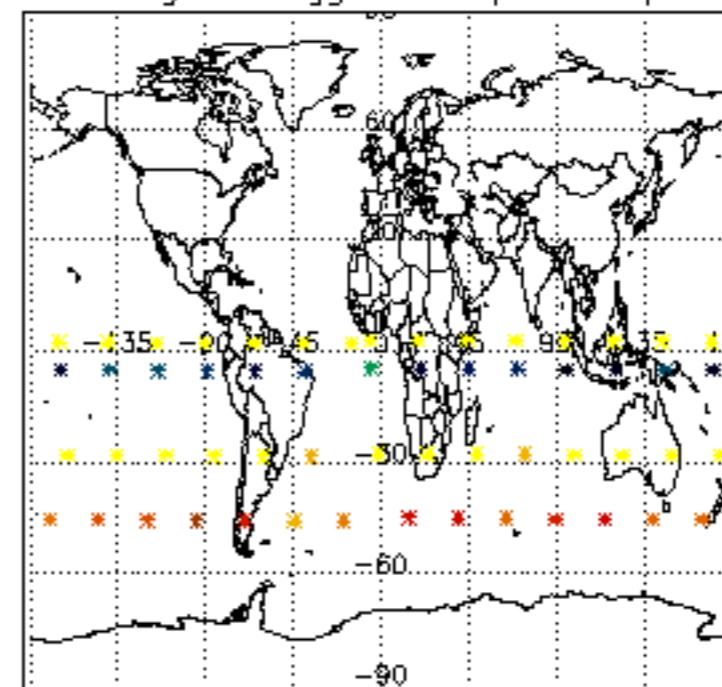
Type	Auxiliary Filename	Used since product	Used since product date
INST_PHYS_CHARACTERISTICS	GOM_INS_AXVIEC20091111_143220_20030716_120000_20500101_000000	1	11-JUN-2011 00:01:28
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	11-JUN-2011 00:01:28
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	11-JUN-2011 00:01:28



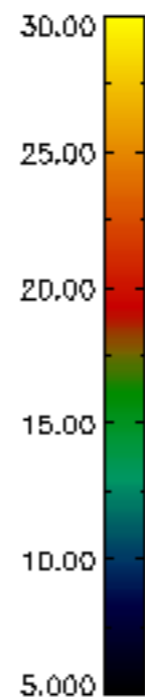
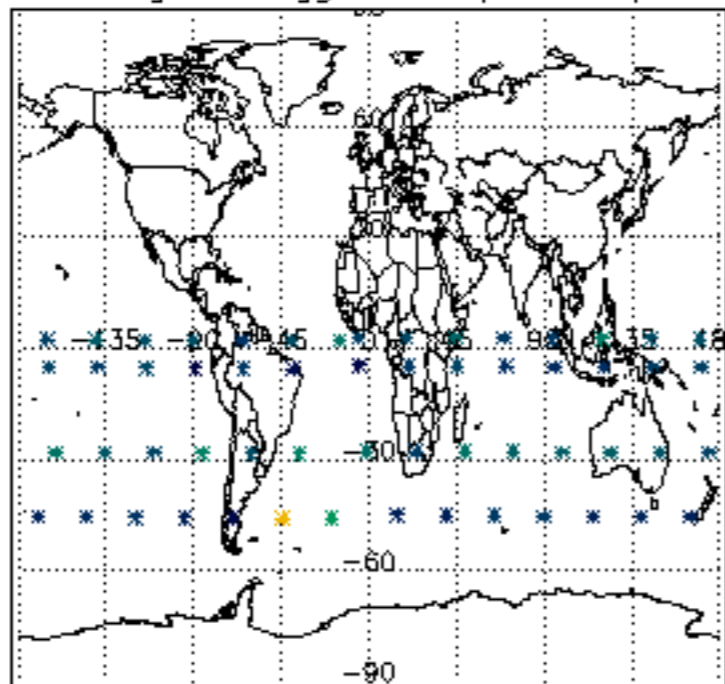
Percentage of flagged data per D3 profile



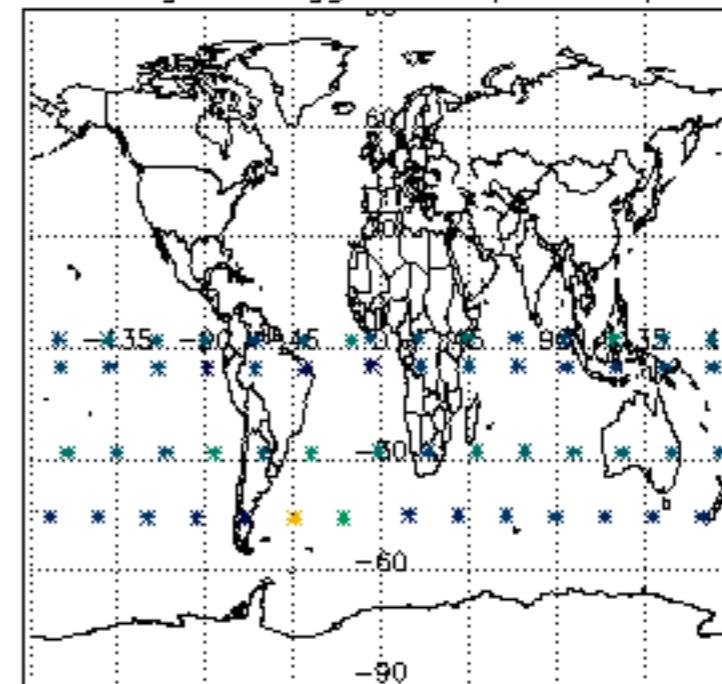
Percentage of flagged data per H2O profile



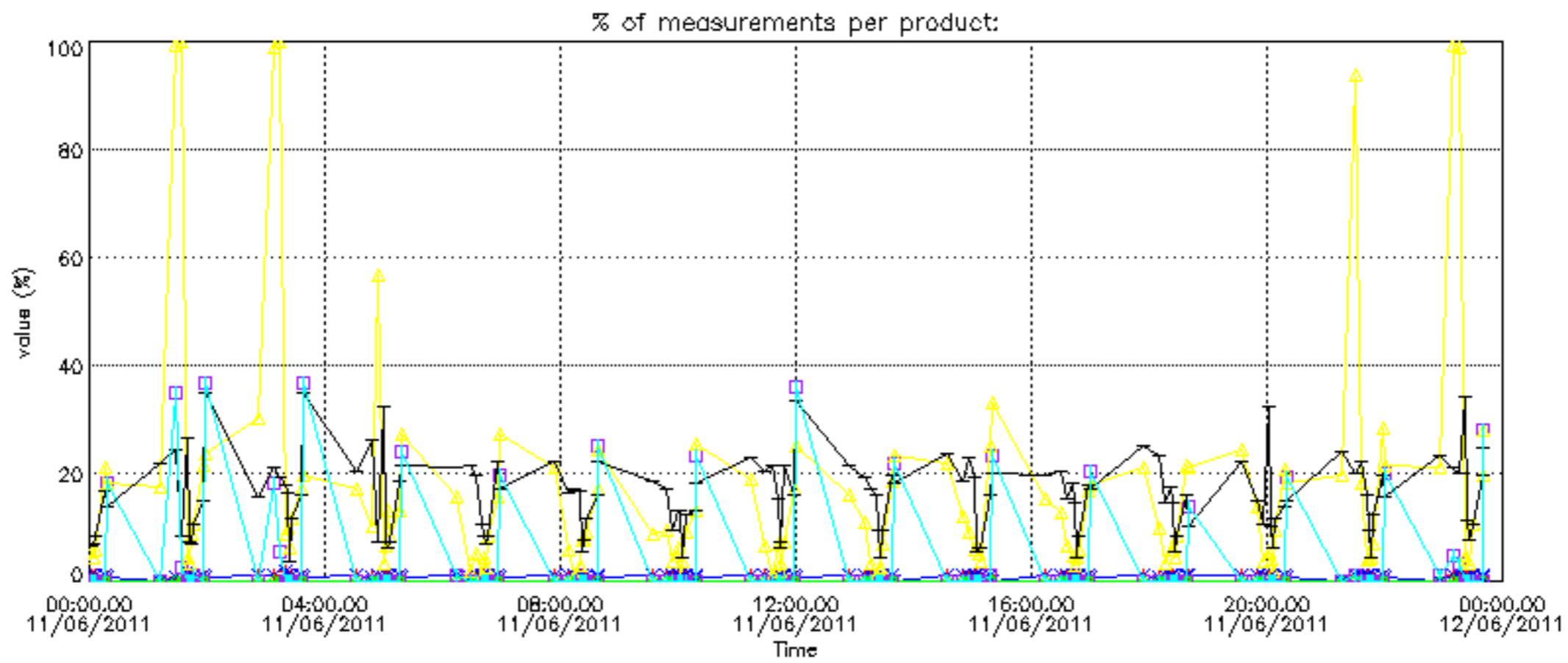
Percentage of flagged data per NO2 profile

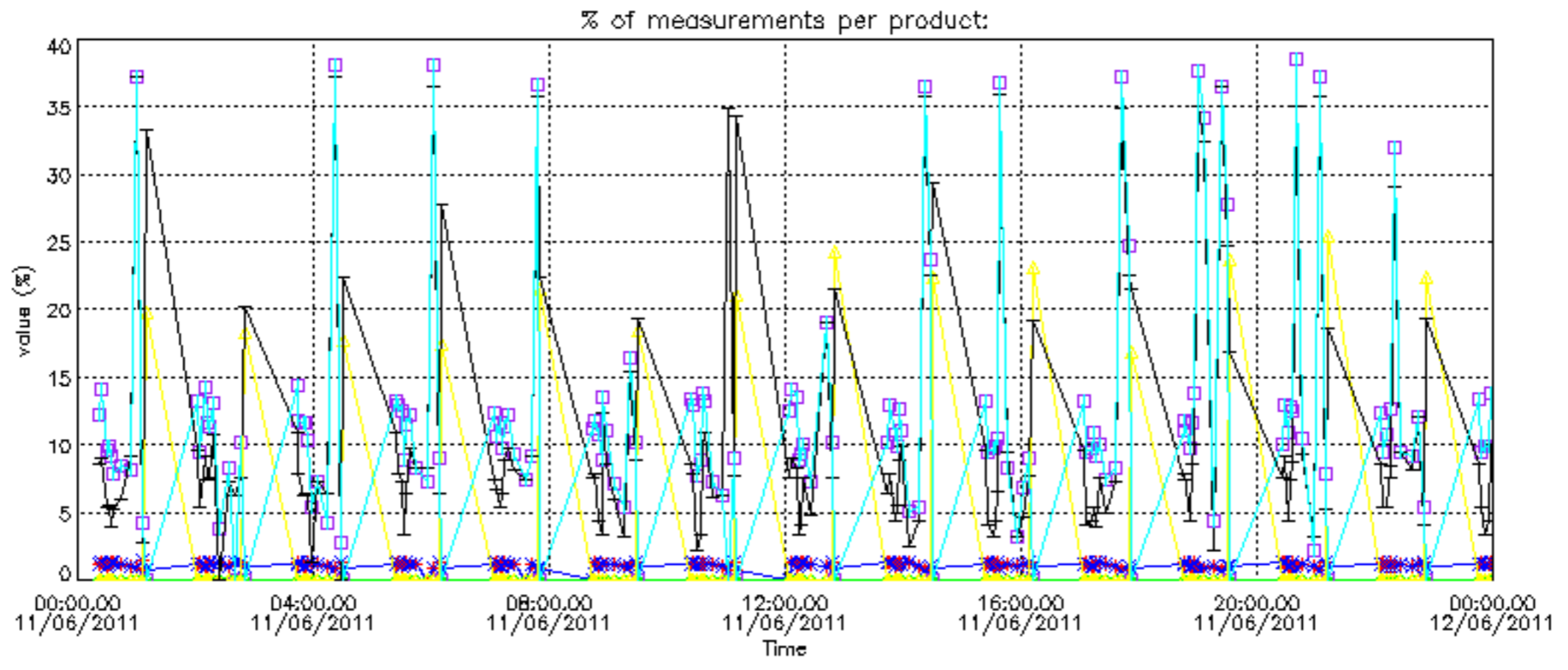


Percentage of flagged data per NO3 profile

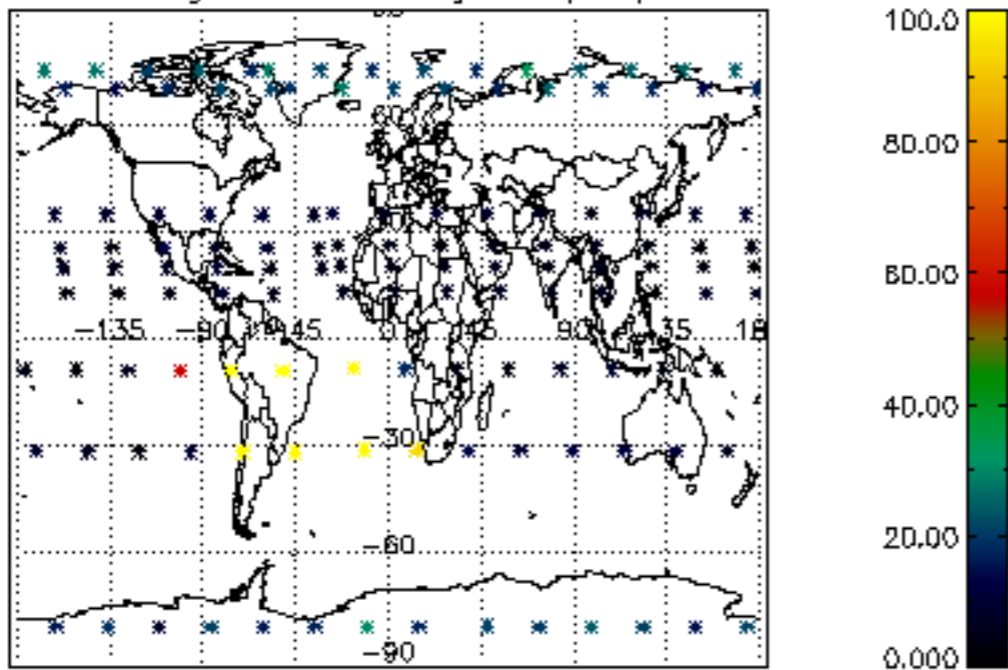




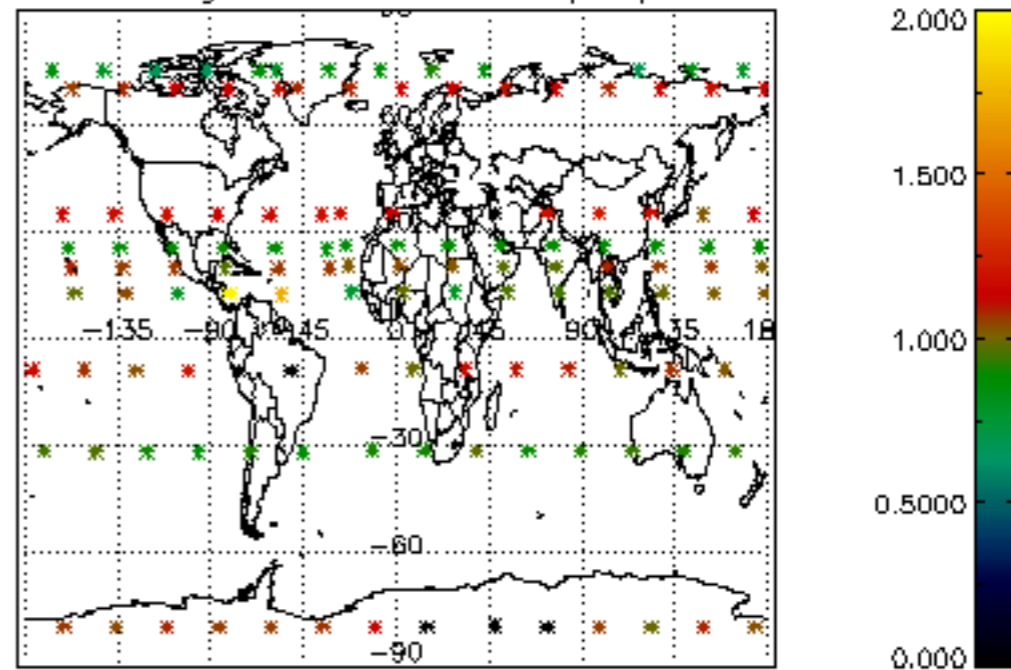




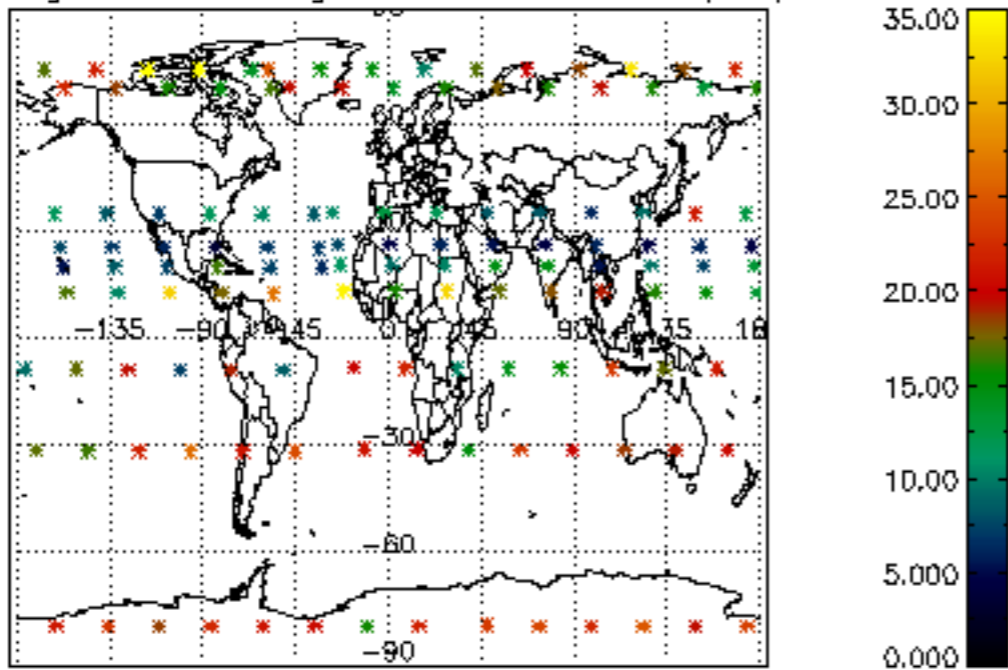
Percentage of cosmic ray hits per profile



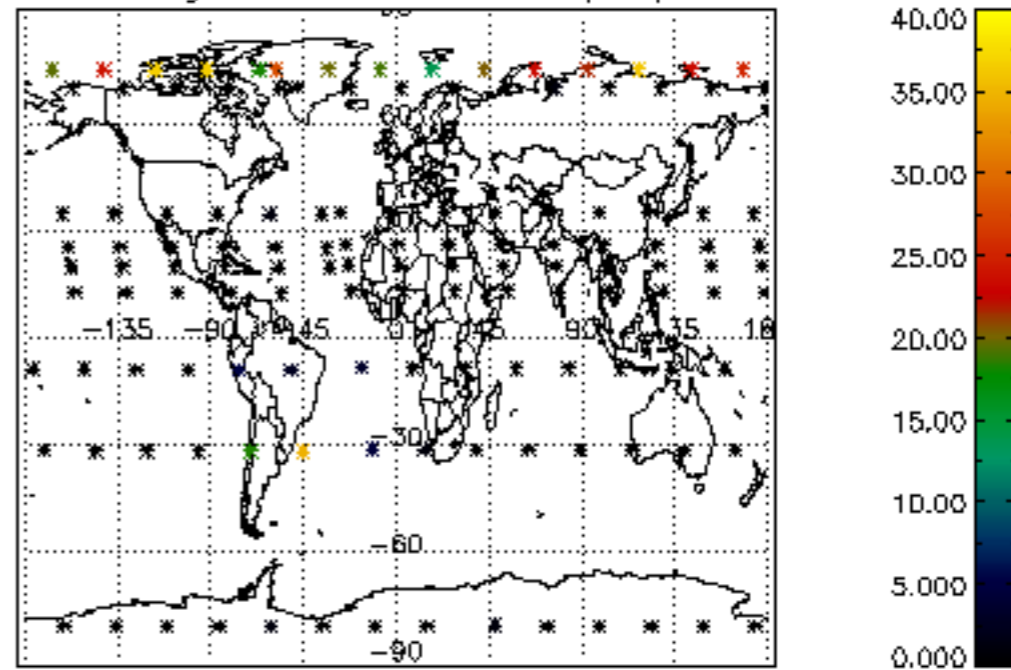
Percentage of datation errors per profile



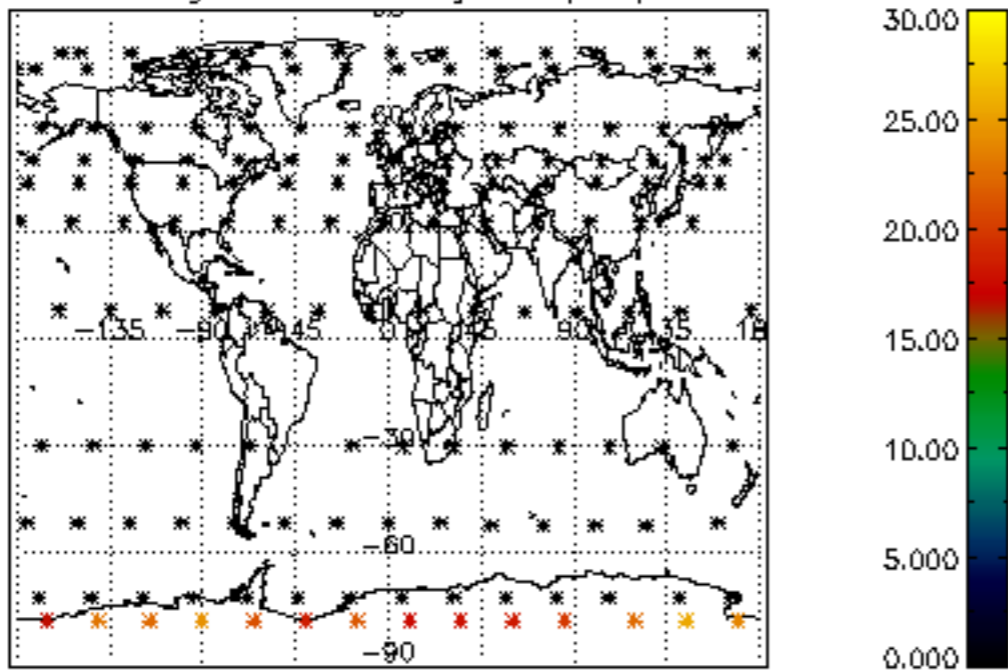
Percentage of star falling outside central band per profile



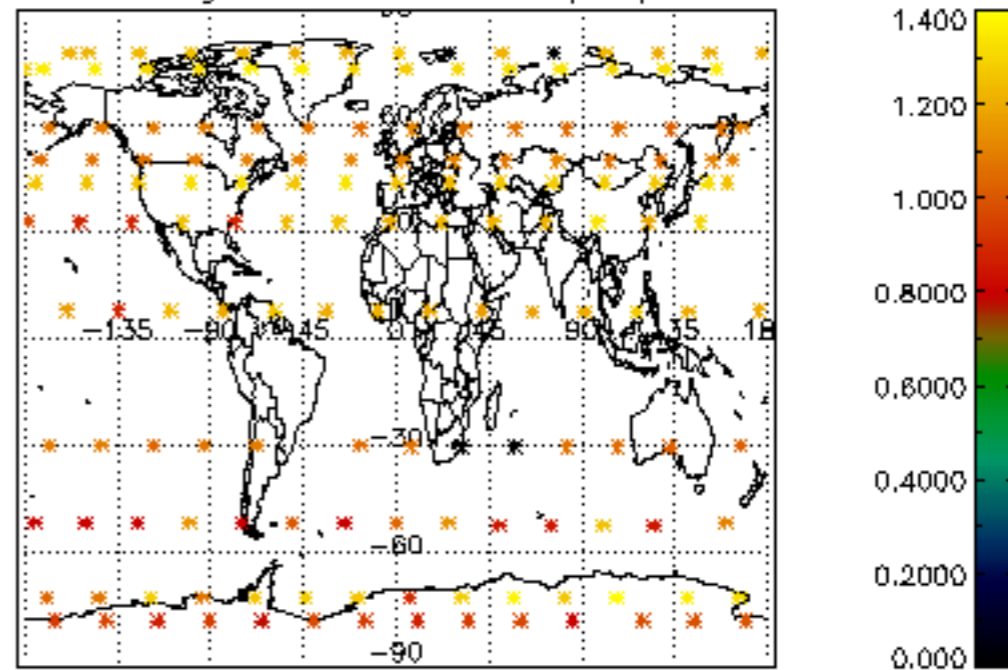
Percentage of saturation errors per profile



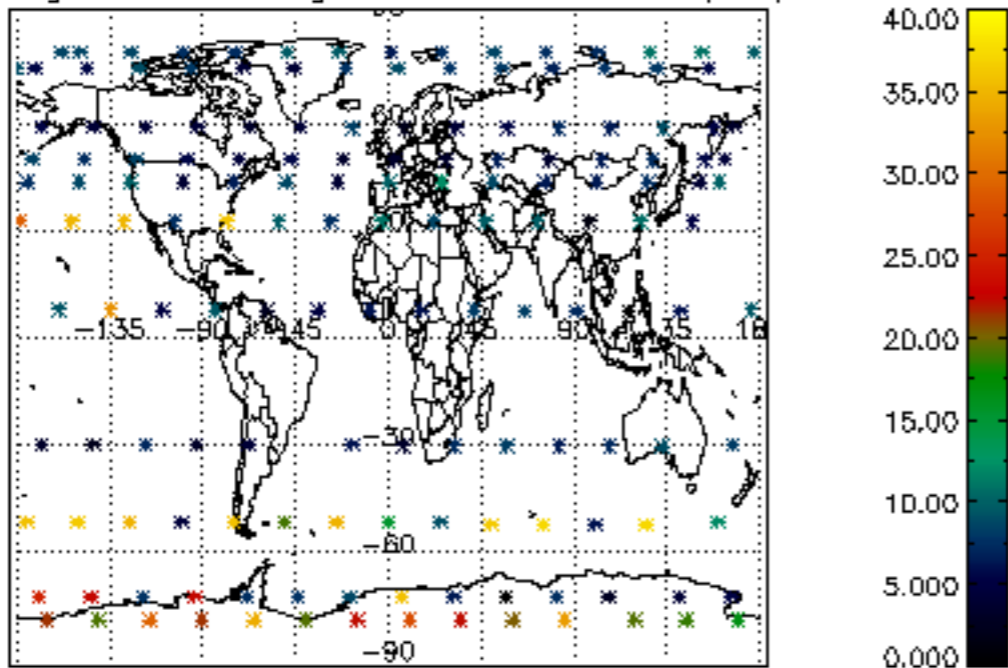
Percentage of cosmic ray hits per profile



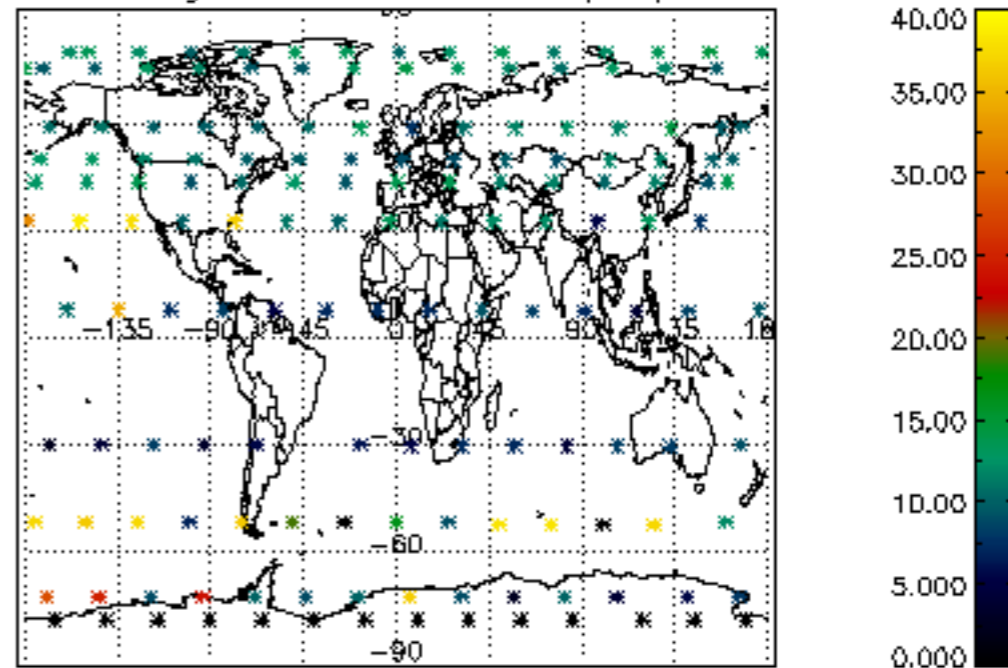
Percentage of datation errors per profile

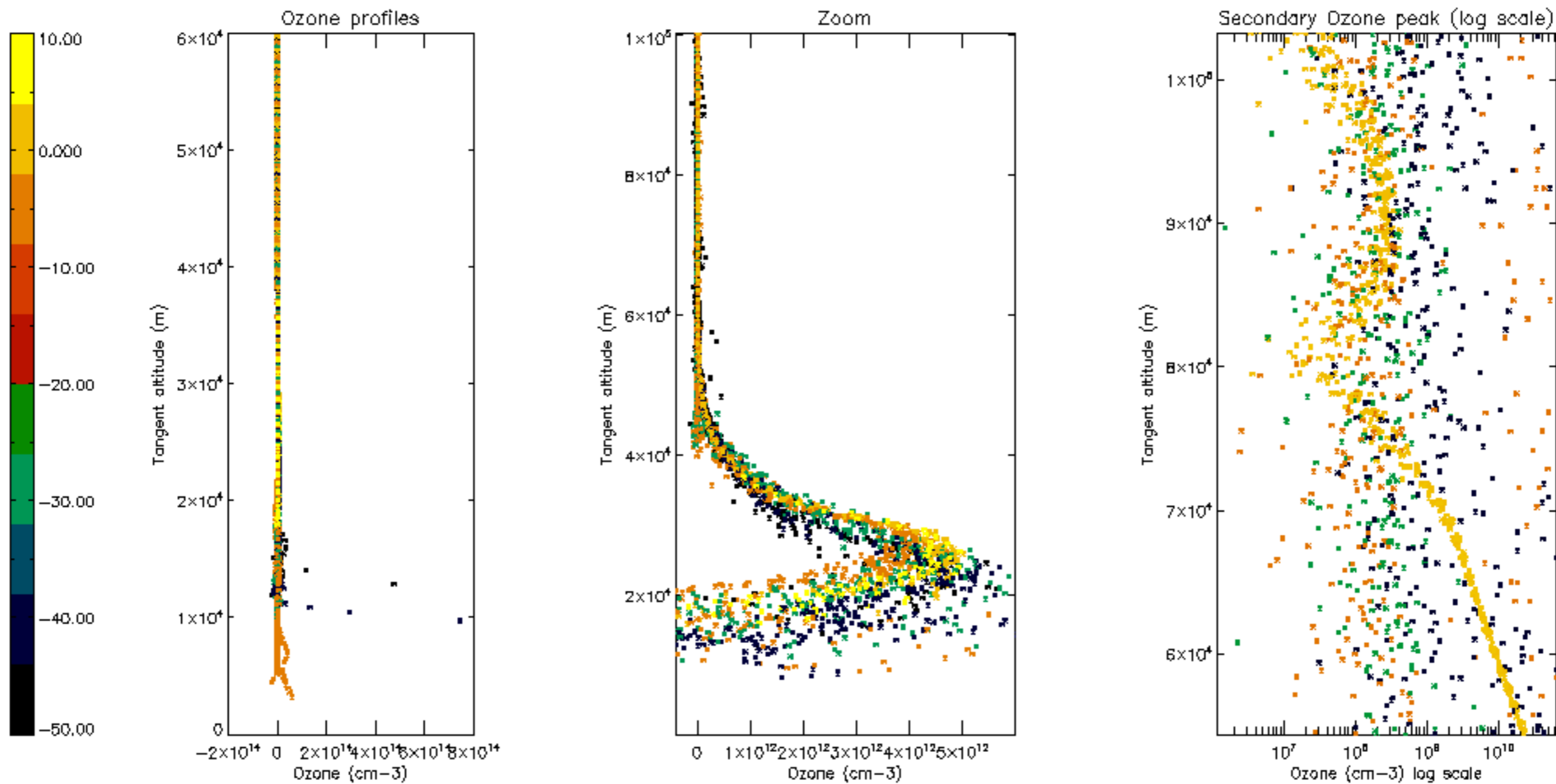


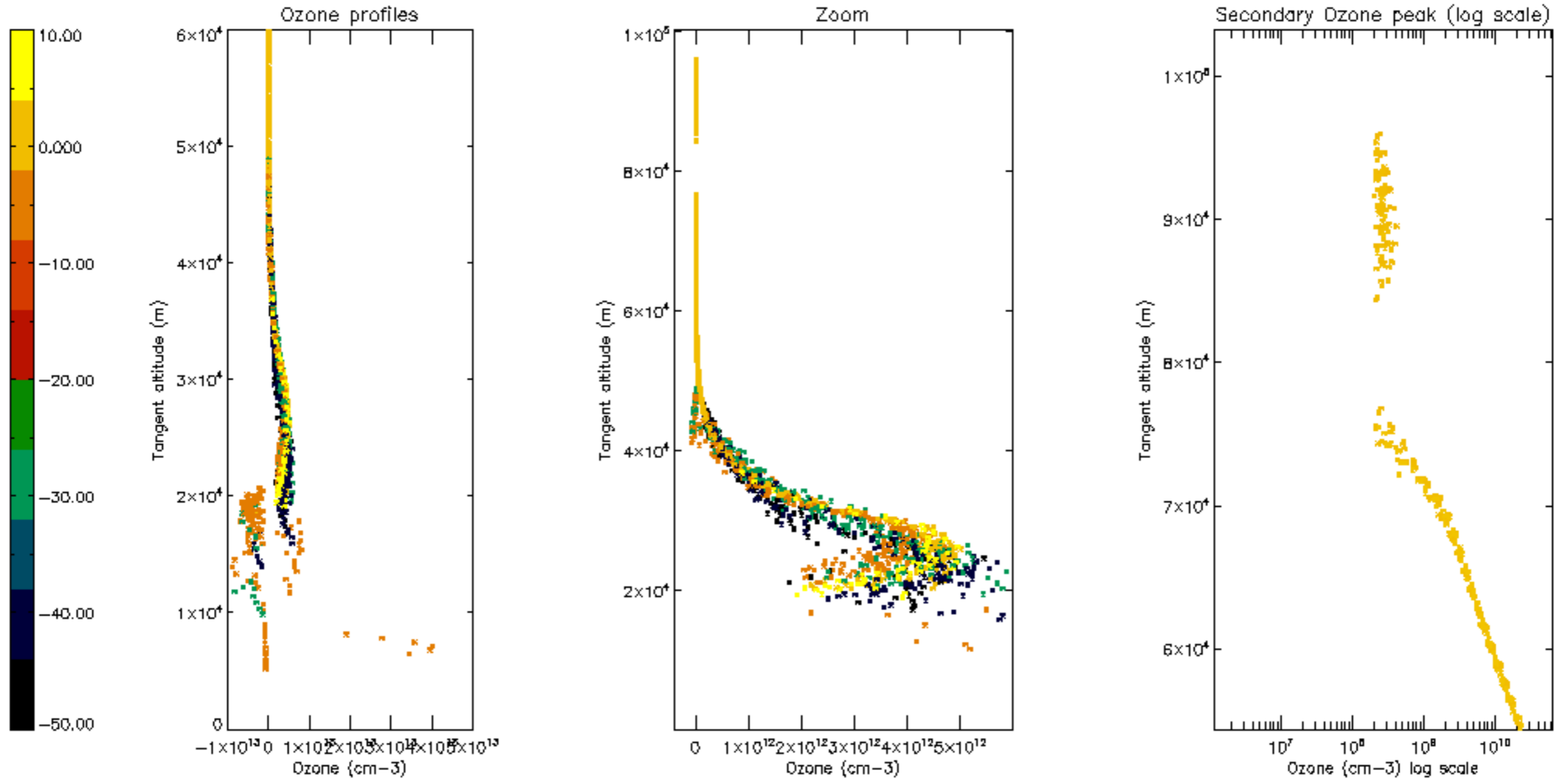
Percentage of star falling outside central band per profile

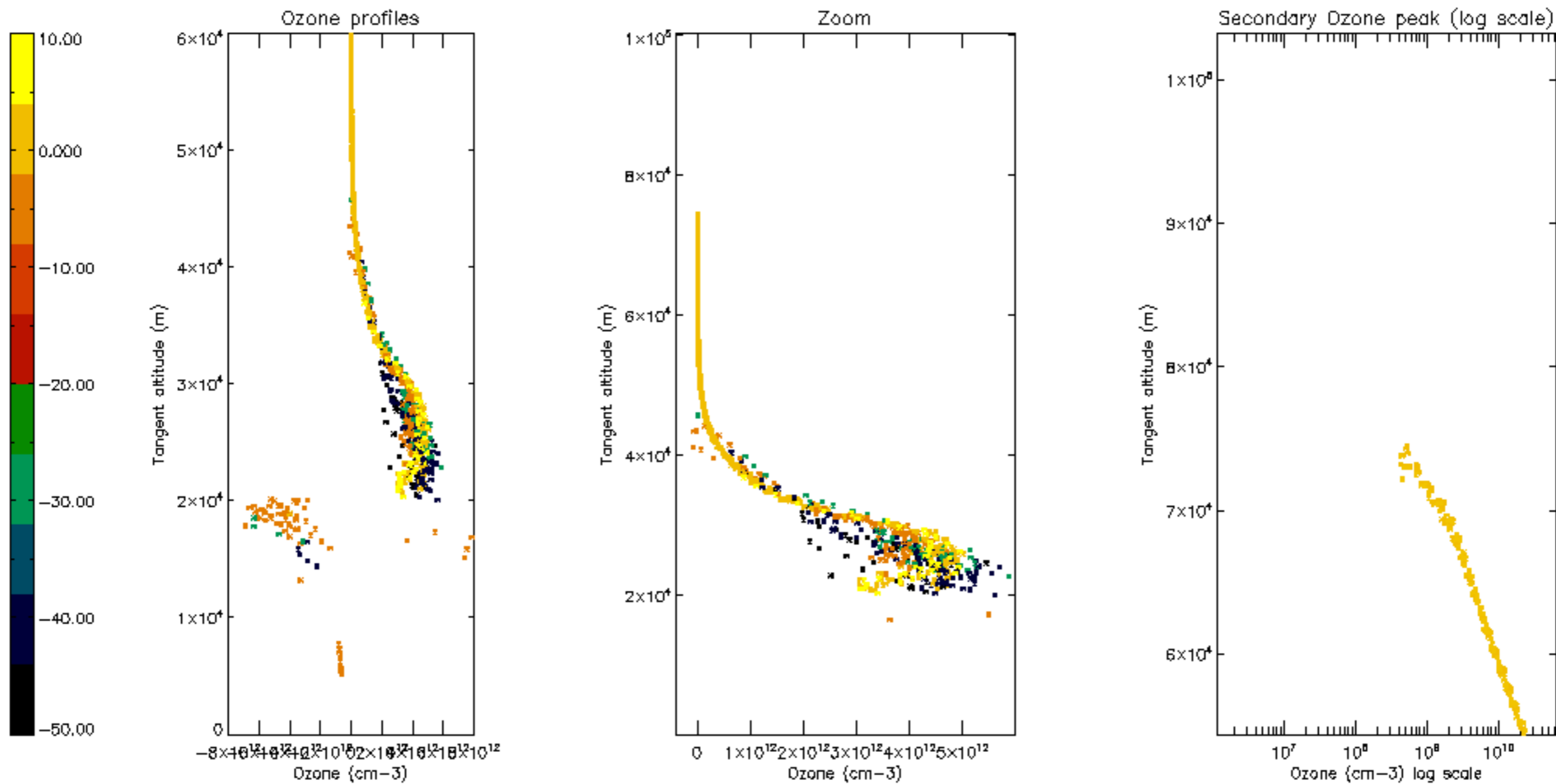


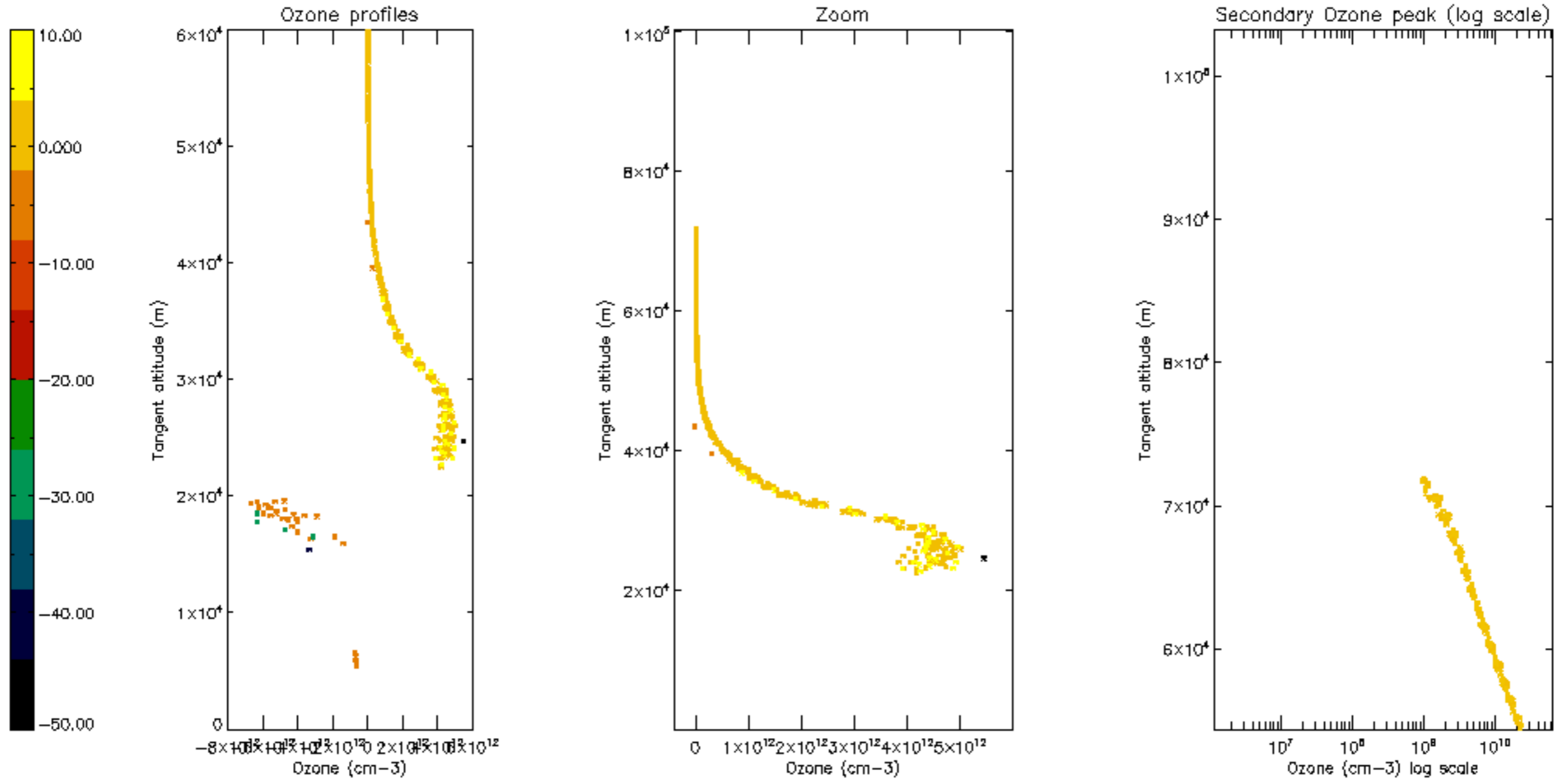
Percentage of saturation errors per profile



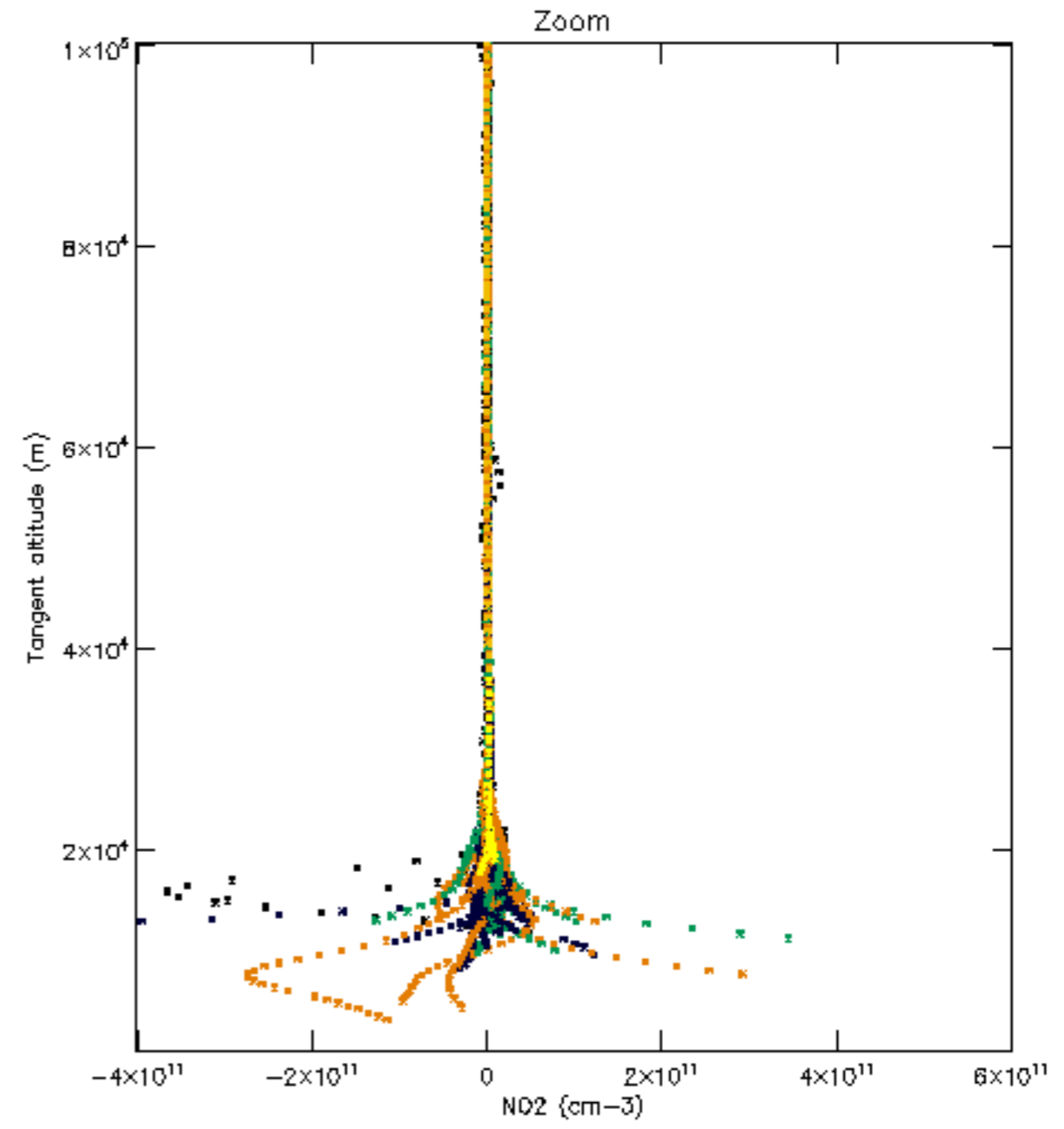
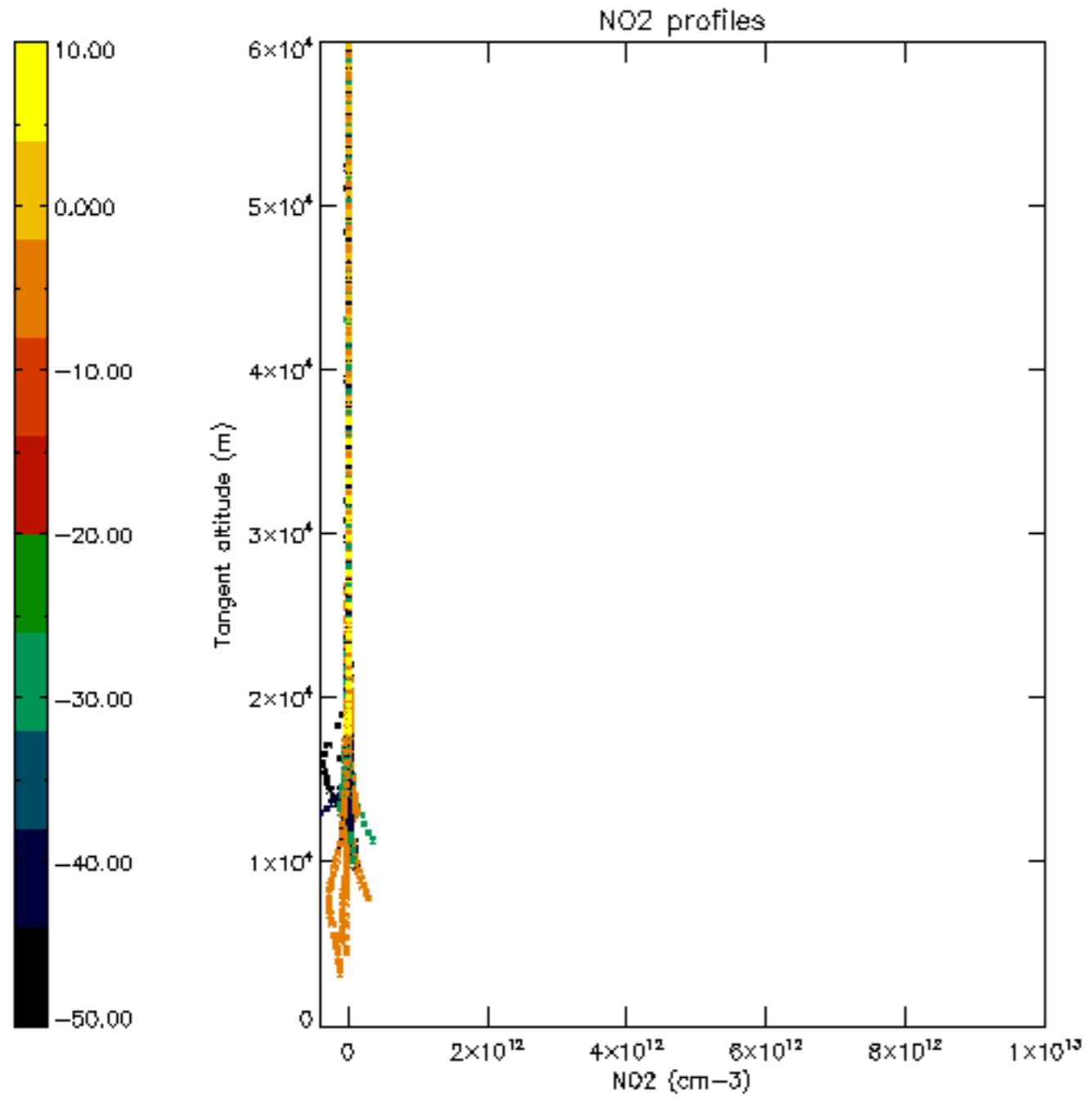


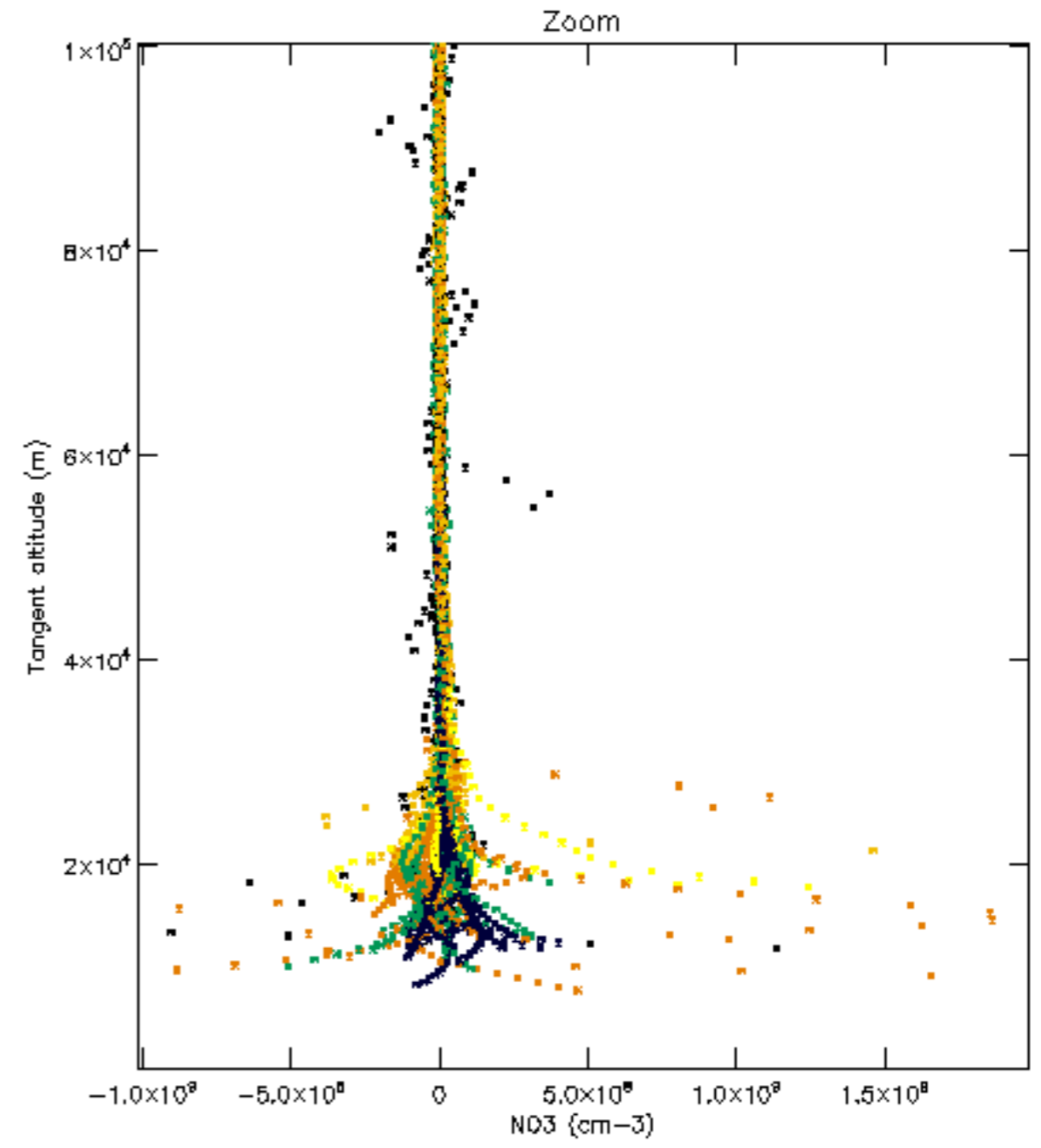
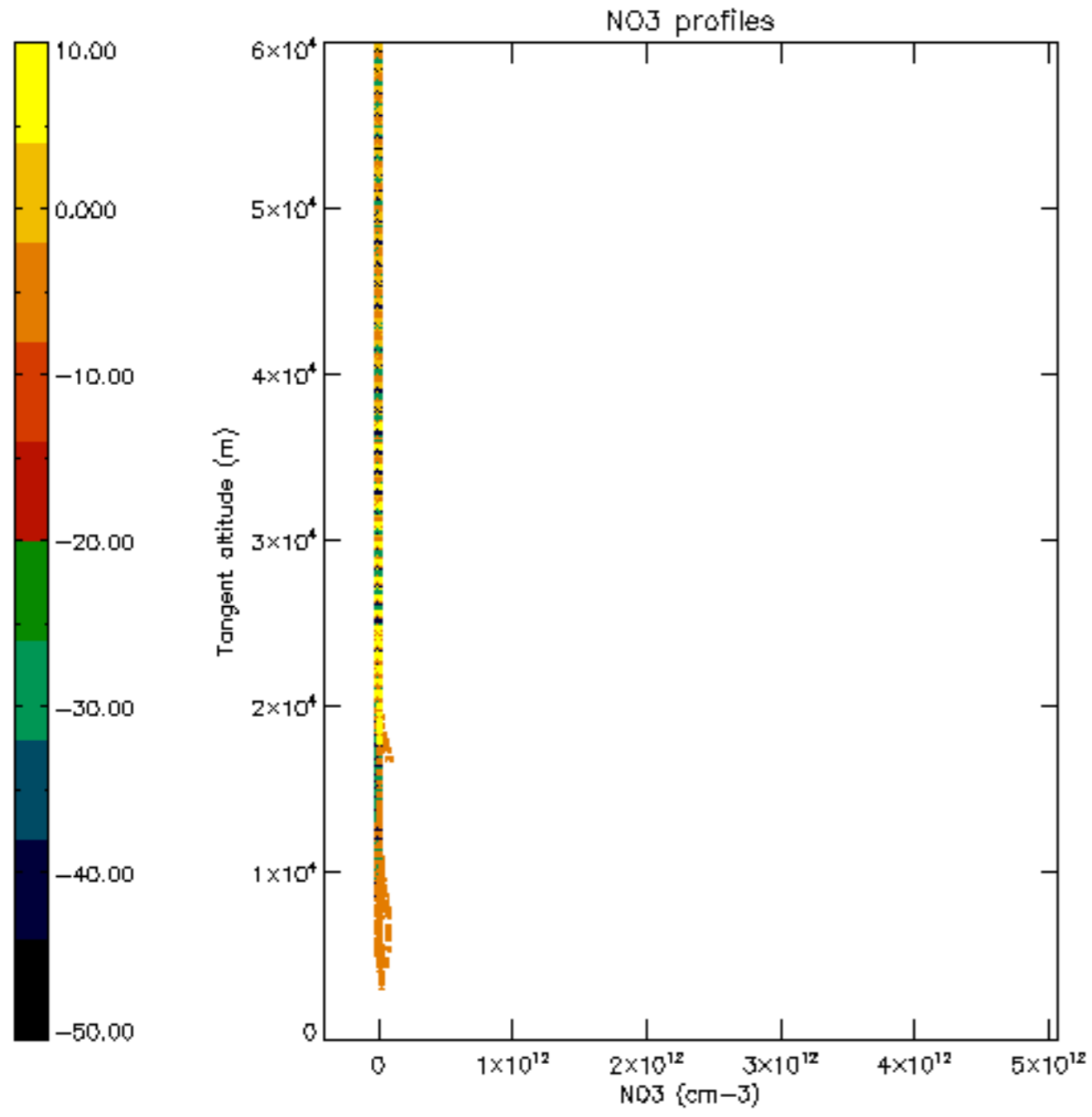


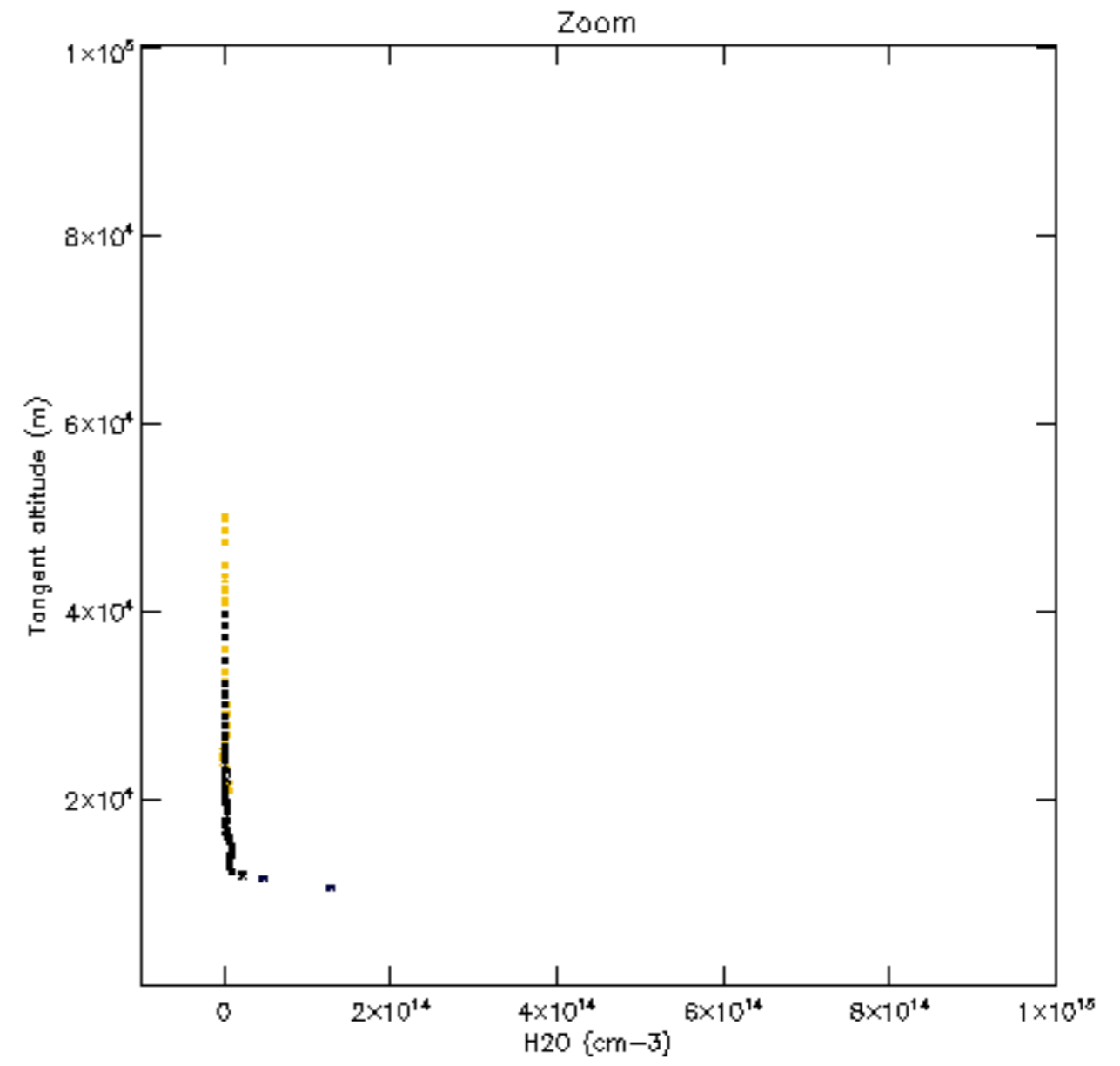
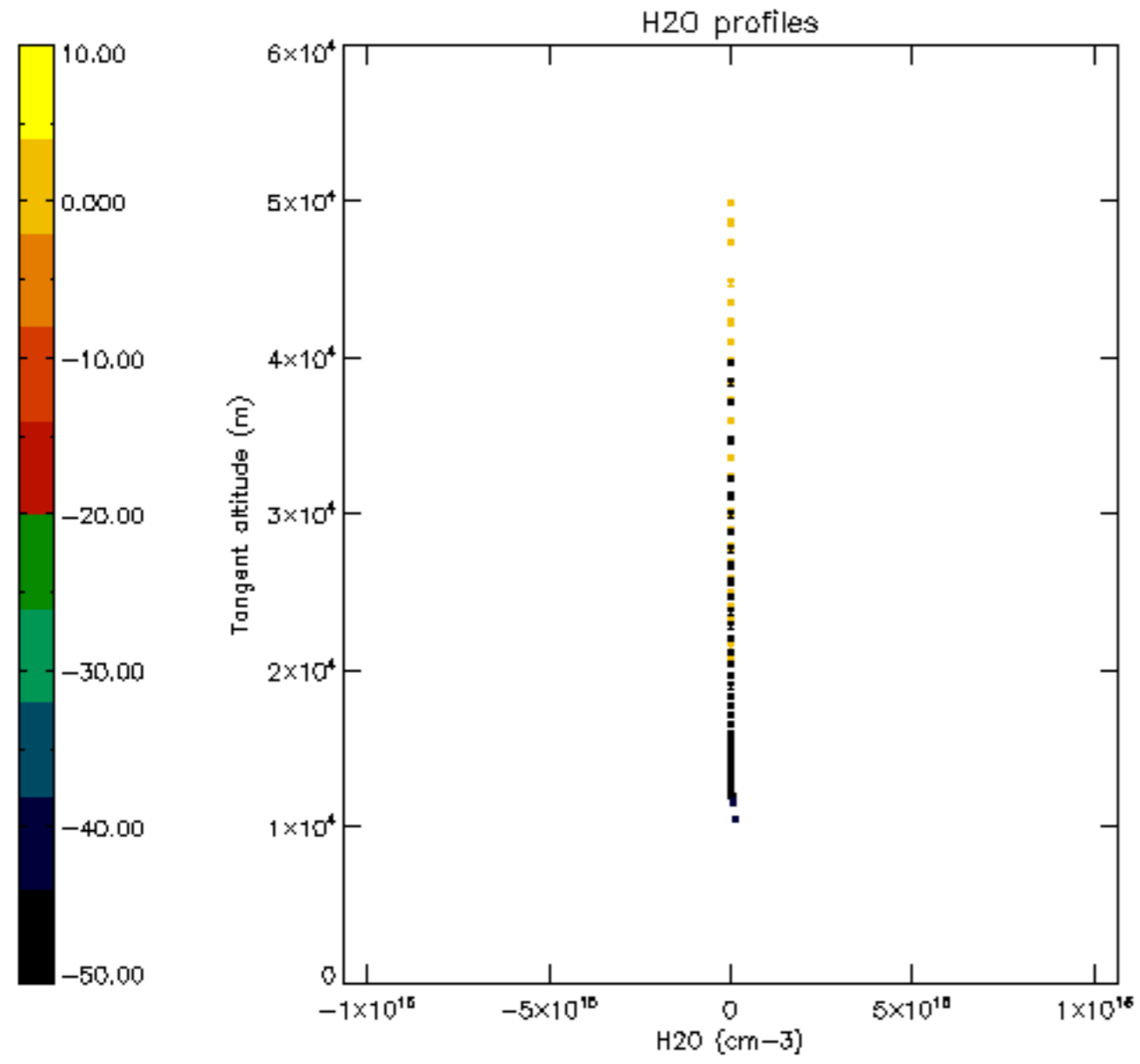


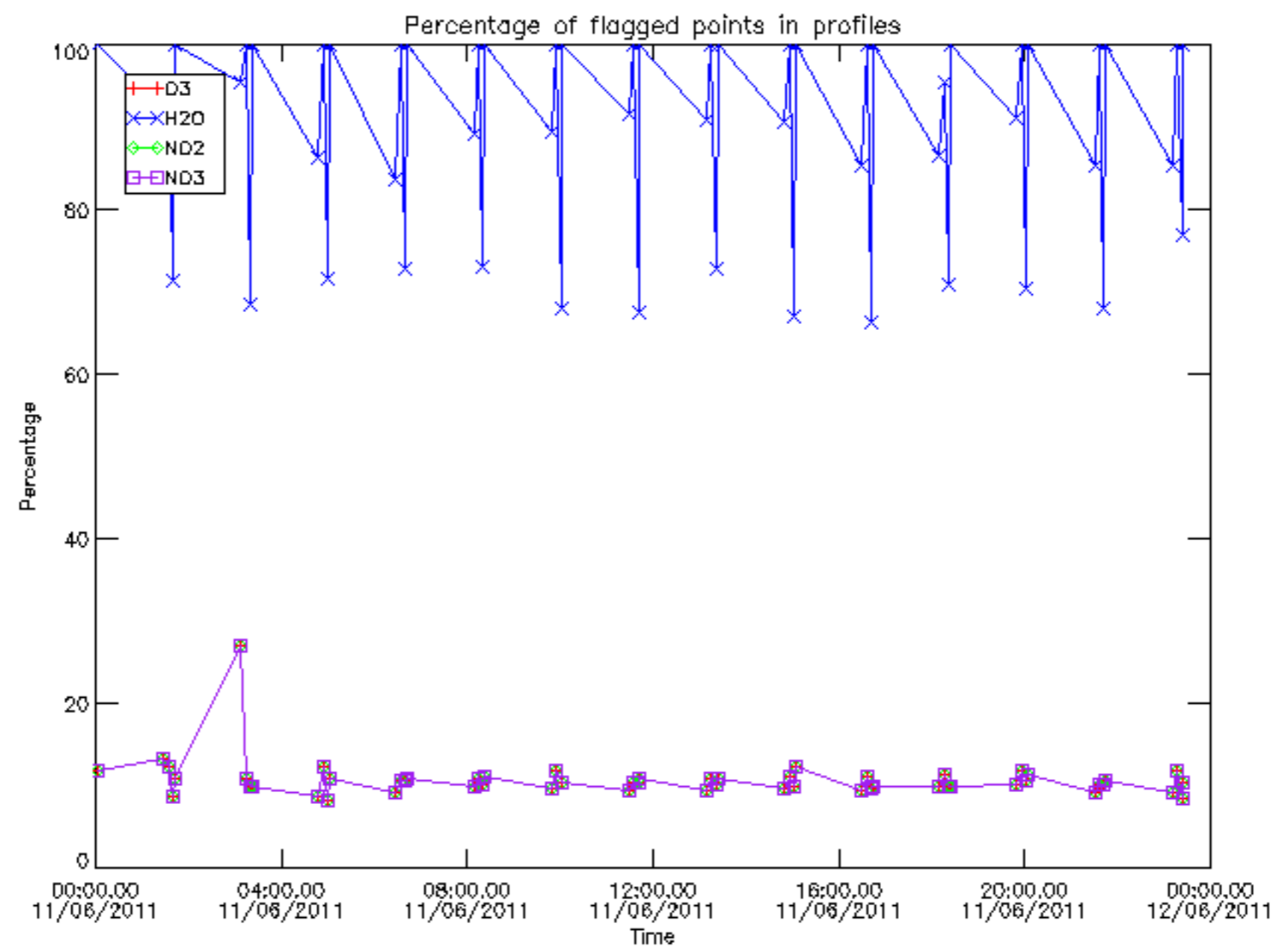




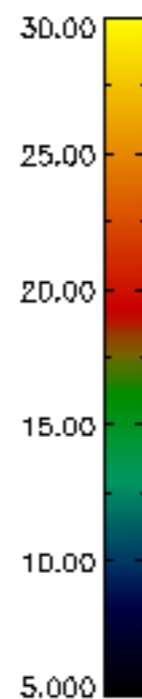
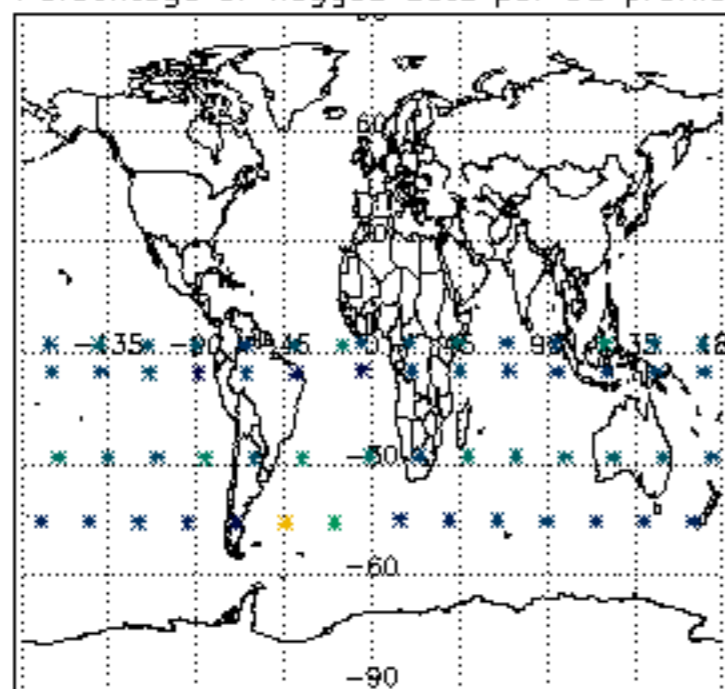




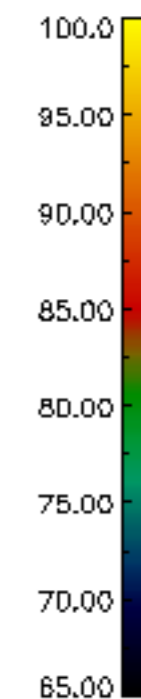
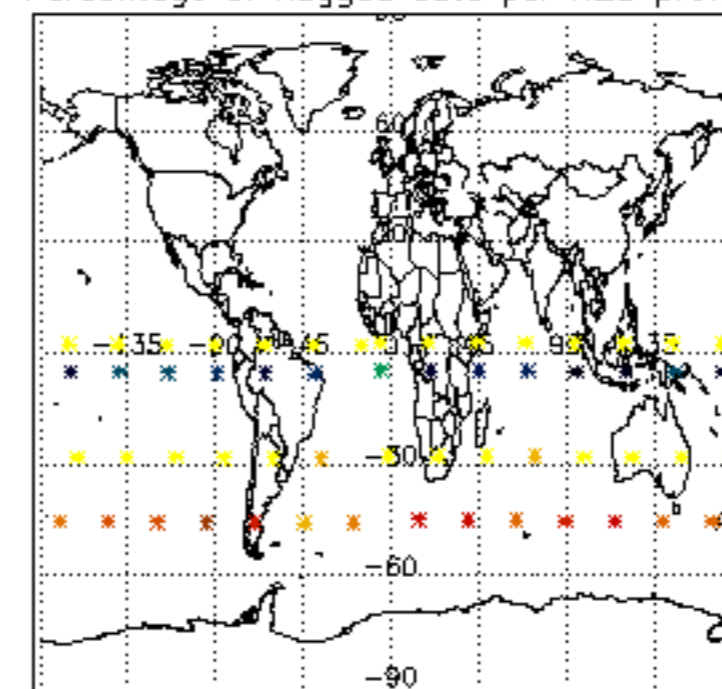




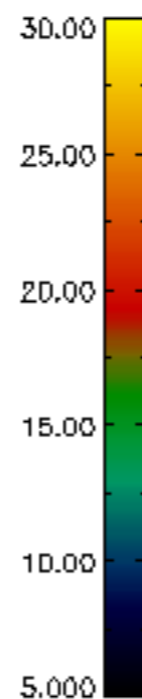
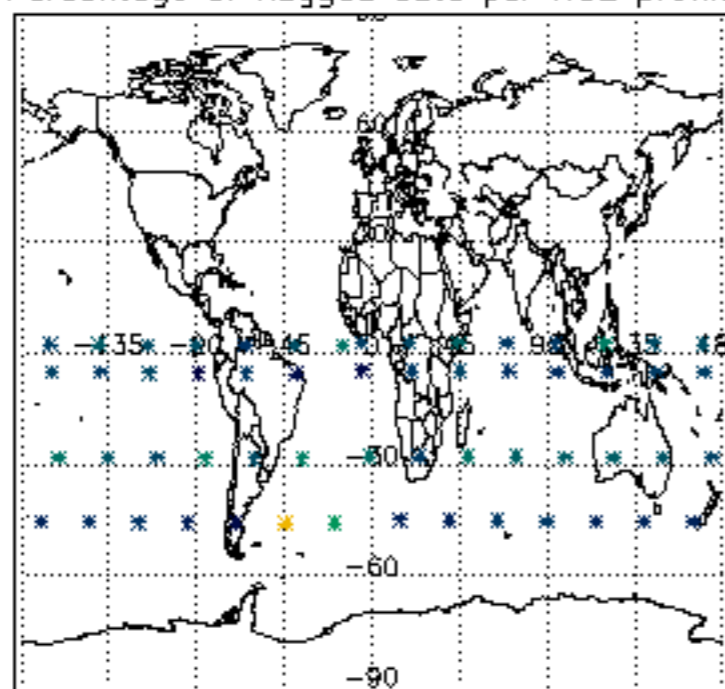
Percentage of flagged data per D3 profile



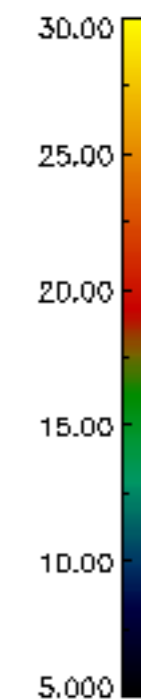
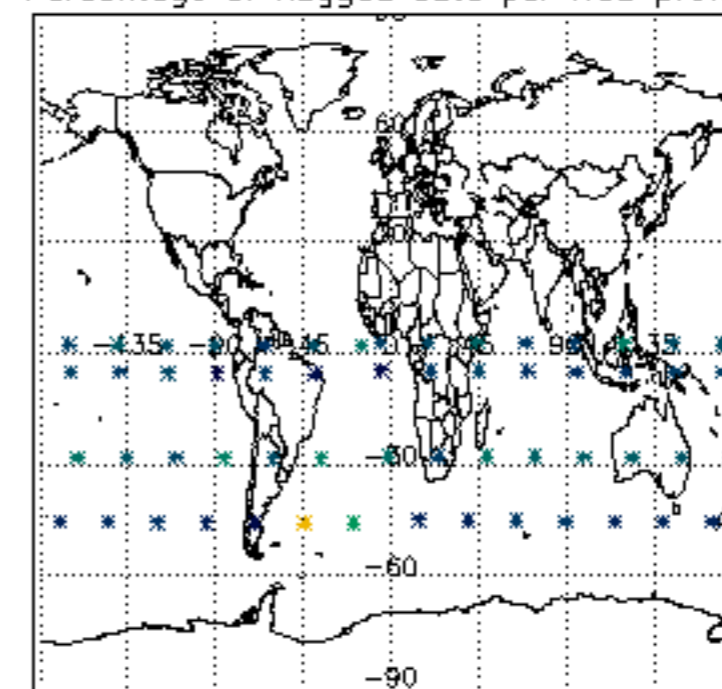
Percentage of flagged data per H2O profile

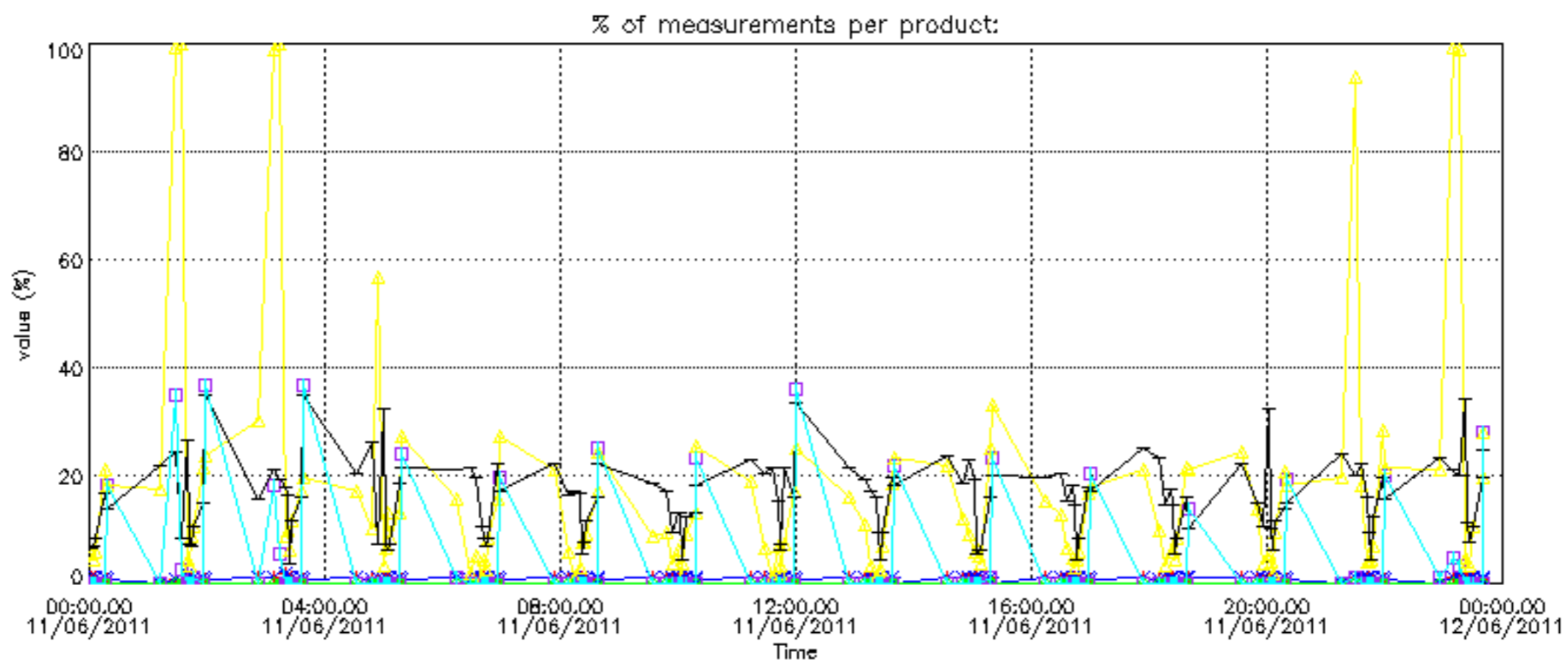


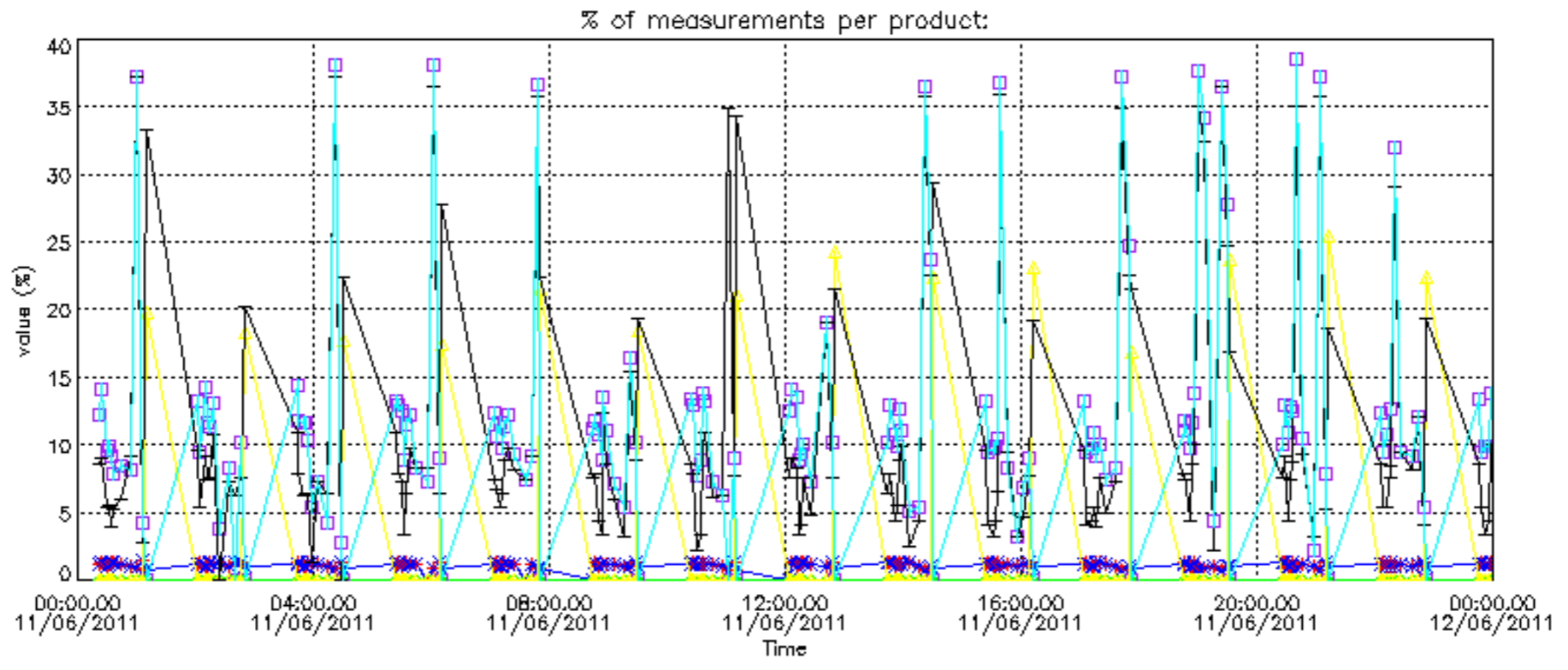
Percentage of flagged data per NO2 profile



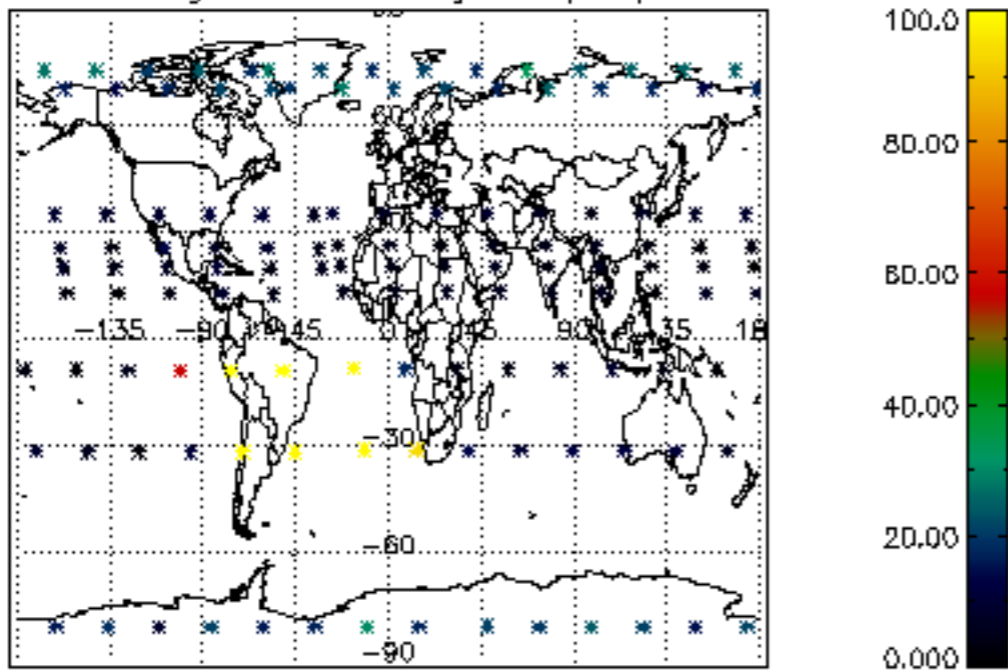
Percentage of flagged data per NO3 profile



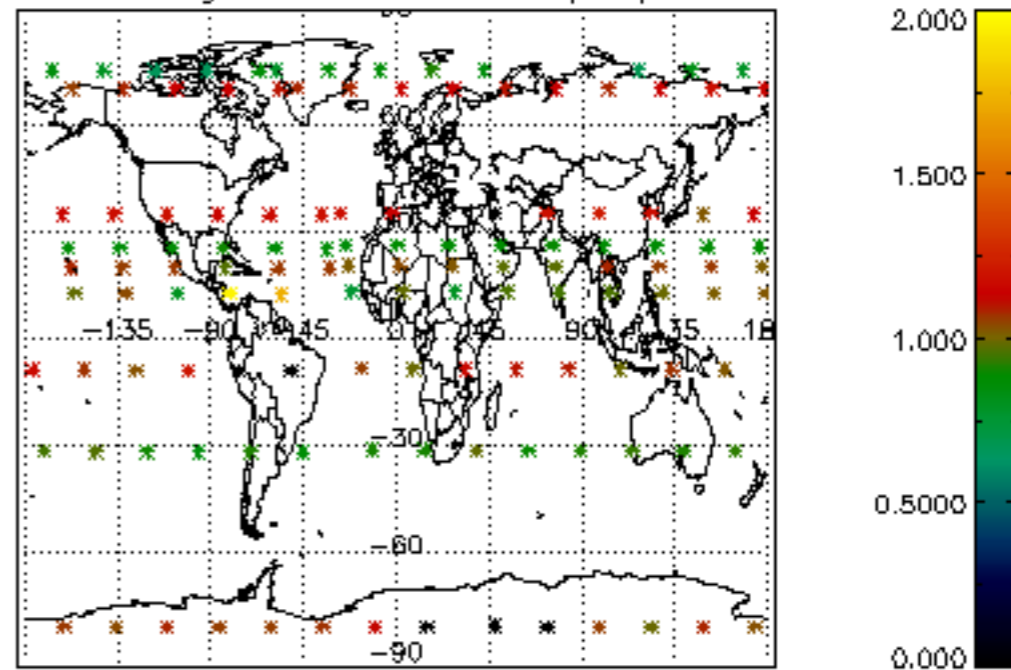




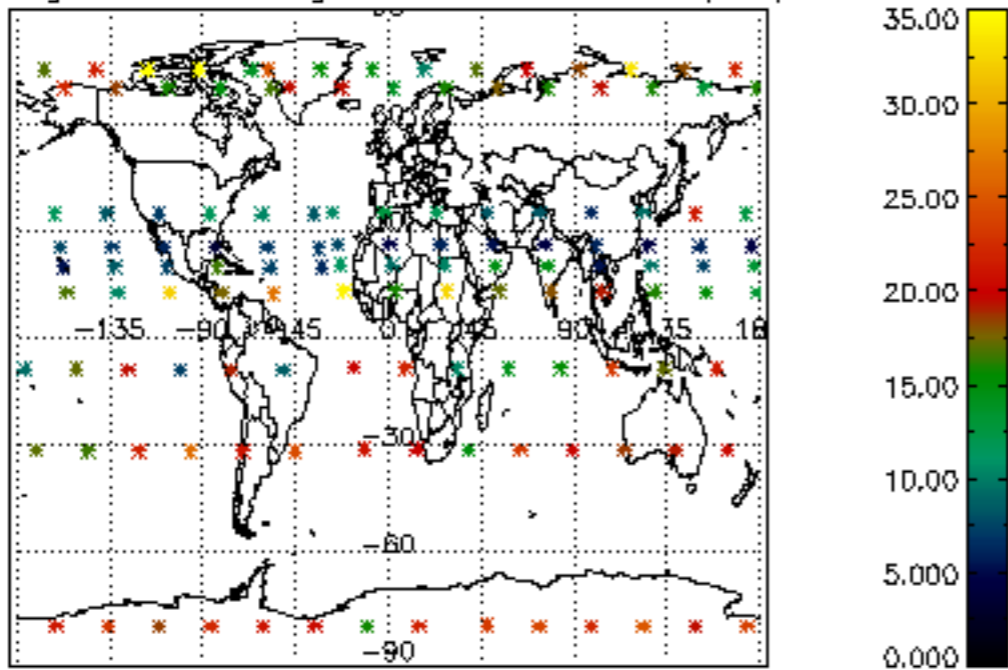
Percentage of cosmic ray hits per profile



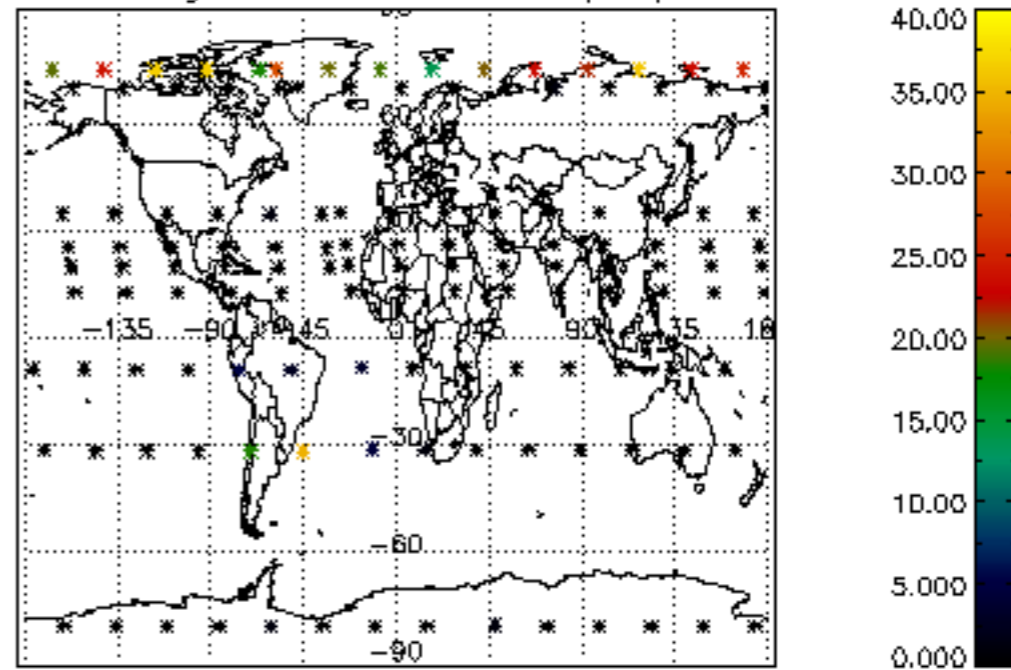
Percentage of datation errors per profile



Percentage of star falling outside central band per profile

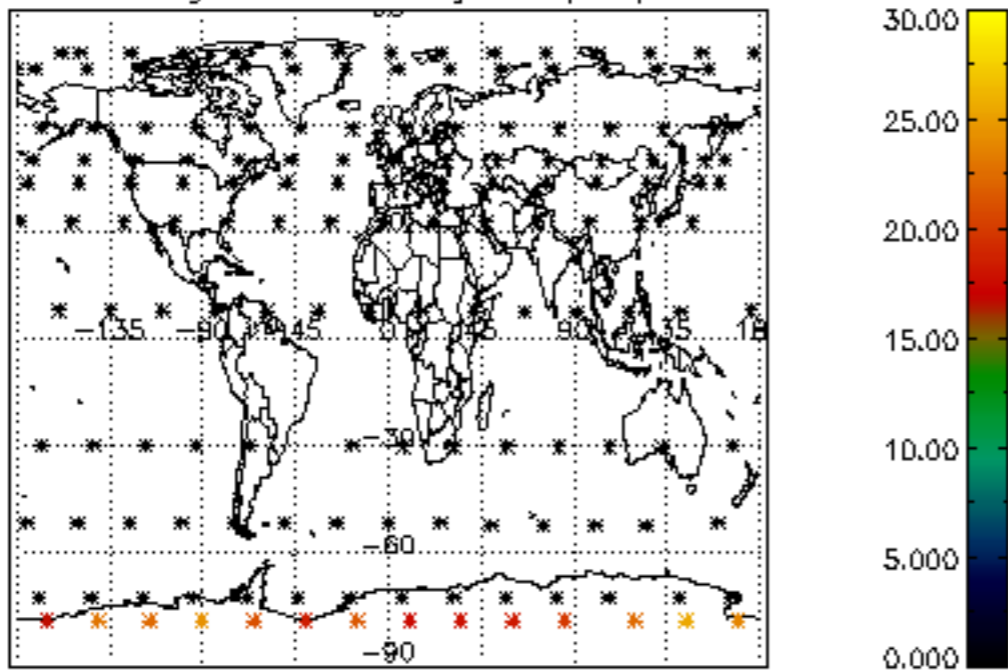


Percentage of saturation errors per profile

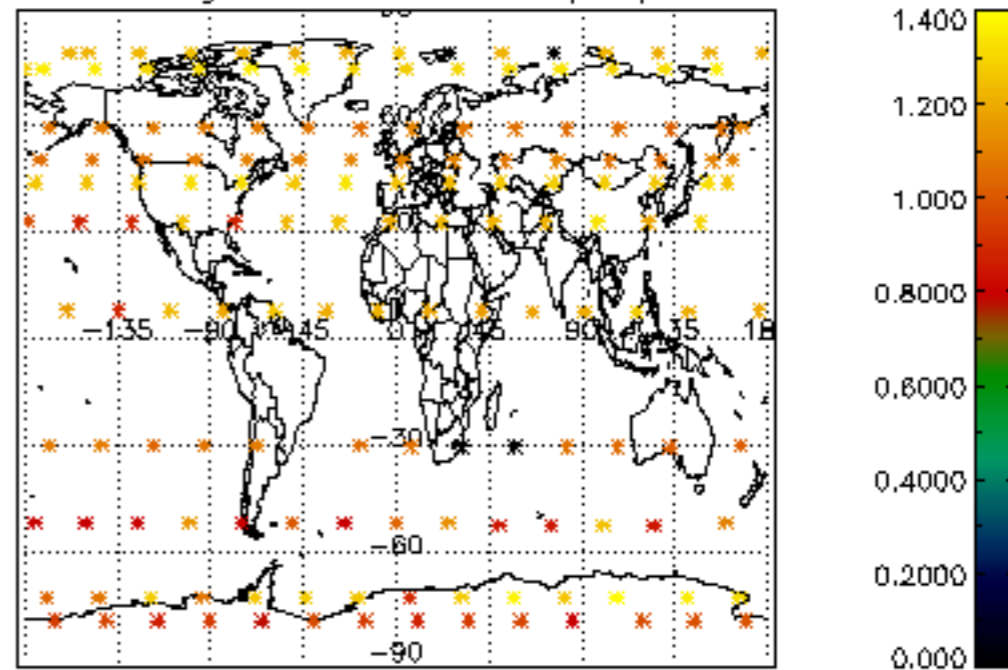




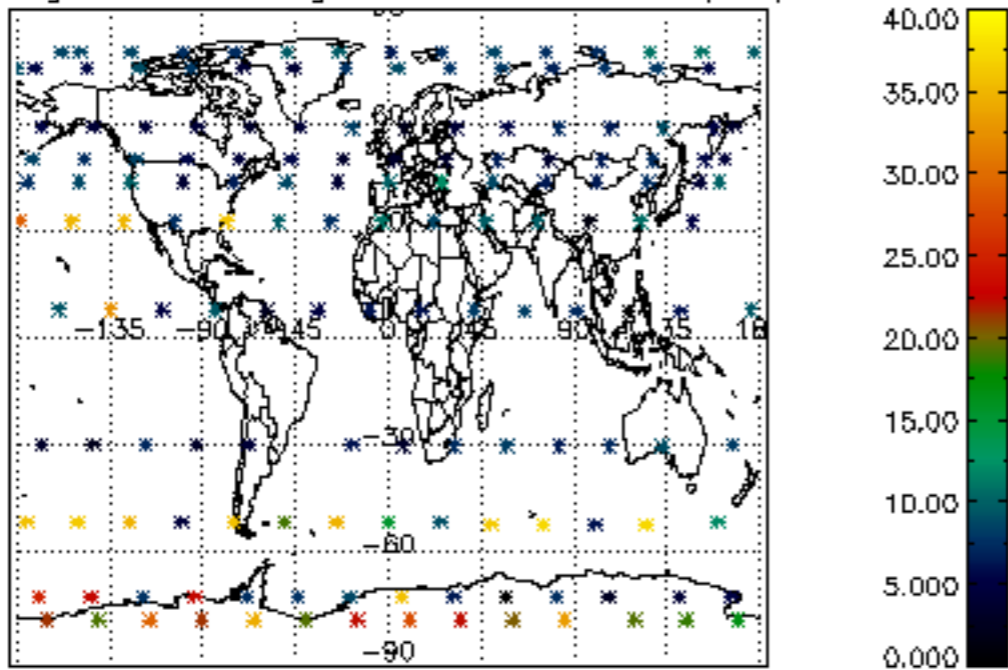
Percentage of cosmic ray hits per profile



Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile

