

# GOMOS Level 2 Daily Report

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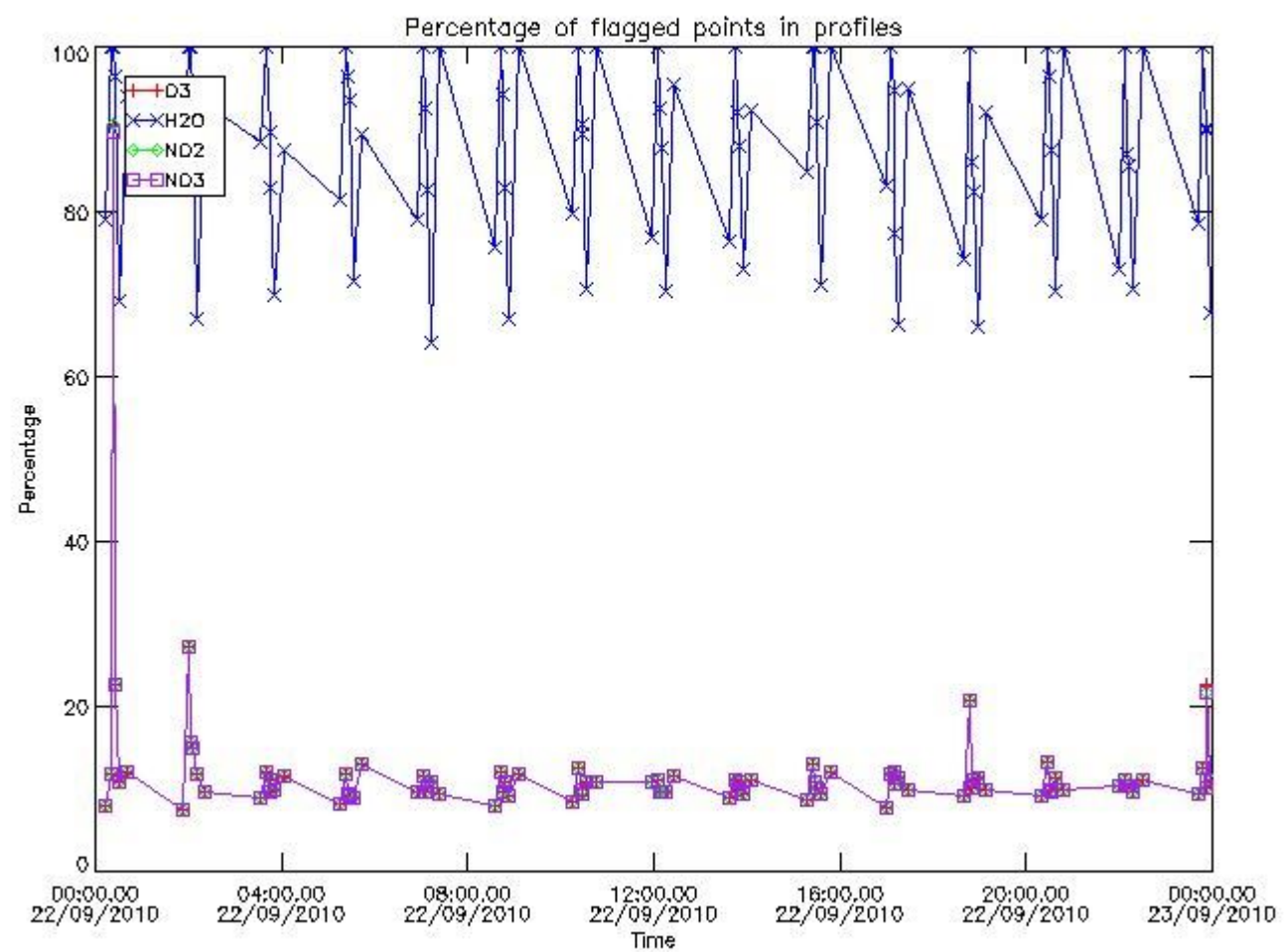


161	GOM_NL__2PRFIN20100922_185647_000000542093_00128_44771_9318.N1	22-SEP-2010 18:56:47	Dark	53.500	2	Alp Car	-0.73600	7000.0	107	44771	No
162	GOM_NL__2PRFIN20100922_190811_000000512093_00128_44771_9319.N1	22-SEP-2010 19:08:11	Dark	50.500	9	Alp Eri	0.45300	24000.	101	44771	No
163	GOM_NL__2PRFIN20100922_191346_000000462093_00128_44771_9320.N1	22-SEP-2010 19:13:46	Straylight	45.500	84	Alp Phe	2.3970	4500.0	91	44771	No
164	GOM_NL__2PRFIN20100922_192103_000000542093_00128_44771_9321.N1	22-SEP-2010 19:21:03	Tw_i_and_stray	53.500	52	16Bet Cet	2.0370	4500.0	107	44771	No
165	GOM_NL__2PRFIN20100922_193131_000000372093_00128_44771_9322.N1	22-SEP-2010 19:31:31	Bright	37.000	90	54Alp Peg	2.4870	11000.	74	44771	No
166	GOM_NL__2PRFIN20100922_193516_000000402093_00128_44771_9323.N1	22-SEP-2010 19:35:16	Bright	40.000	93	53Bet Peg	2.5200	3100.0	80	44771	No
167	GOM_NL__2PRFIN20100922_193644_000000452093_00128_44771_9324.N1	22-SEP-2010 19:36:44	Bright	44.500	58	21Alp And	2.0730	11000.	89	44771	No
168	GOM_NL__2PRFIN20100922_194512_000000402093_00128_44771_9325.N1	22-SEP-2010 19:45:12	Bright	40.000	74	11Bet Cas	2.2680	6600.0	80	44771	No
169	GOM_NL__2PRFIN20100922_194648_000000442093_00128_44771_9326.N1	22-SEP-2010 19:46:48	Bright	44.000	76	27Gam Cas	2.3000	30000.	88	44771	No
170	GOM_NL__2PRFIN20100922_201017_000000502093_00128_44771_9327.N1	22-SEP-2010 20:10:17	Bright	49.500	24	66Alp Gem	1.5800	10200.	99	44771	No
171	GOM_NL__2PRFIN20100922_201943_000000552093_00128_44771_9328.N1	22-SEP-2010 20:19:43	Dark	55.000	8	10Alp CMi	0.40000	6500.0	110	44771	No
172	GOM_NL__2PRFIN20100922_202703_000000422093_00128_44771_9329.N1	22-SEP-2010 20:27:03	Dark	42.000	132	15Rho Pup	2.8030	6900.0	84	44771	No
173	GOM_NL__2PRFIN20100922_203024_000000572093_00128_44771_9330.N1	22-SEP-2010 20:30:24	Dark	56.500	37	25Del CMa	1.8300	5900.0	113	44771	No
174	GOM_NL__2PRFIN20100922_203216_000000532093_00128_44771_9331.N1	22-SEP-2010 20:32:16	Dark	52.500	117	Pi Pup	2.7060	3800.0	105	44771	No
175	GOM_NL__2PRFIN20100922_203723_000000582093_00129_44772_9352.N1	22-SEP-2010 20:37:23	Dark	58.000	2	Alp Car	-0.73600	7000.0	116	44772	No
176	GOM_NL__2PRFIN20100922_204848_000000512093_00129_44772_9353.N1	22-SEP-2010 20:48:48	Dark	50.500	9	Alp Eri	0.45300	24000.	101	44772	No
177	GOM_NL__2PRFIN20100922_205422_000000462093_00129_44772_9354.N1	22-SEP-2010 20:54:22	Straylight	45.500	84	Alp Phe	2.3970	4500.0	91	44772	No
178	GOM_NL__2PRFIN20100922_210140_000000552093_00129_44772_9355.N1	22-SEP-2010 21:01:40	Tw_i_and_stray	55.000	52	16Bet Cet	2.0370	4500.0	110	44772	No
179	GOM_NL__2PRFIN20100922_211207_000000382093_00129_44772_9356.N1	22-SEP-2010 21:12:07	Bright	38.000	90	54Alp Peg	2.4870	11000.	76	44772	No
180	GOM_NL__2PRFIN20100922_211552_000000382093_00129_44772_9357.N1	22-SEP-2010 21:15:52	Bright	38.000	93	53Bet Peg	2.5200	3100.0	76	44772	No
181	GOM_NL__2PRFIN20100922_211720_000000432093_00129_44772_9358.N1	22-SEP-2010 21:17:20	Bright	43.000	58	21Alp And	2.0730	11000.	86	44772	No
182	GOM_NL__2PRFIN20100922_212547_000000422093_00129_44772_9359.N1	22-SEP-2010 21:25:47	Bright	41.500	74	11Bet Cas	2.2680	6600.0	83	44772	No
183	GOM_NL__2PRFIN20100922_212723_000000442093_00129_44772_9360.N1	22-SEP-2010 21:27:23	Bright	43.500	76	27Gam Cas	2.3000	30000.	87	44772	No
184	GOM_NL__2PRFIN20100922_215054_000000482093_00129_44772_9361.N1	22-SEP-2010 21:50:54	Bright	48.000	24	66Alp Gem	1.5800	10200.	96	44772	No
185	GOM_NL__2PRFIN20100922_220020_000000542093_00129_44772_9362.N1	22-SEP-2010 22:00:20	Dark	53.500	8	10Alp CMi	0.40000	6500.0	107	44772	No
186	GOM_NL__2PRFIN20100922_220740_000000462093_00129_44772_9363.N1	22-SEP-2010 22:07:40	Dark	46.000	132	15Rho Pup	2.8030	6900.0	92	44772	No
187	GOM_NL__2PRFIN20100922_221101_000000552093_00129_44772_9364.N1	22-SEP-2010 22:11:01	Dark	54.500	37	25Del CMa	1.8300	5900.0	109	44772	No
188	GOM_NL__2PRFIN20100922_221252_000000492093_00129_44772_9365.N1	22-SEP-2010 22:12:52	Dark	49.000	117	Pi Pup	2.7060	3800.0	98	44772	No
189	GOM_NL__2PRFIN20100922_221800_000000532093_00130_44773_9365.N1	22-SEP-2010 22:18:00	Dark	53.000	2	Alp Car	-0.73600	7000.0	106	44773	No
190	GOM_NL__2PRFIN20100922_222924_000000512093_00130_44773_9366.N1	22-SEP-2010 22:29:24	Dark	51.000	9	Alp Eri	0.45300	24000.	102	44773	No
191	GOM_NL__2PRFIN20100922_223458_000000462093_00130_44773_9367.N1	22-SEP-2010 22:34:58	Straylight	45.500	84	Alp Phe	2.3970	4500.0	91	44773	No
192	GOM_NL__2PRFIN20100922_224216_000000552093_00130_44773_9368.N1	22-SEP-2010 22:42:16	Tw_i_and_stray	55.000	52	16Bet Cet	2.0370	4500.0	110	44773	No
193	GOM_NL__2PRFIN20100922_225243_000000382093_00130_44773_9369.N1	22-SEP-2010 22:52:43	Bright	38.000	90	54Alp Peg	2.4870	11000.	76	44773	No
194	GOM_NL__2PRFIN20100922_225628_000000382093_00130_44773_9370.N1	22-SEP-2010 22:56:28	Bright	38.000	93	53Bet Peg	2.5200	3100.0	76	44773	No
195	GOM_NL__2PRFIN20100922_225755_000000452093_00130_44773_9371.N1	22-SEP-2010 22:57:55	Bright	44.500	58	21Alp And	2.0730	11000.	89	44773	No
196	GOM_NL__2PRFIN20100922_230623_000000412093_00130_44773_9372.N1	22-SEP-2010 23:06:23	Bright	41.000	74	11Bet Cas	2.2680	6600.0	82	44773	No
197	GOM_NL__2PRFIN20100922_230759_000000392093_00130_44773_9373.N1	22-SEP-2010 23:07:59	Bright	39.000	76	27Gam Cas	2.3000	30000.	78	44773	No
198	GOM_NL__2PRFIN20100922_233129_000000492093_00130_44773_9374.N1	22-SEP-2010 23:31:29	Bright	48.500	24	66Alp Gem	1.5800	10200.	97	44773	No
199	GOM_NL__2PRFIN20100922_234057_000000542093_00130_44773_9375.N1	22-SEP-2010 23:40:57	Dark	53.500	8	10Alp CMi	0.40000	6500.0	107	44773	No
200	GOM_NL__2PRFIN20100922_234816_000000452093_00130_44773_9376.N1	22-SEP-2010 23:48:16	Dark	45.000	132	15Rho Pup	2.8030	6900.0	90	44773	No
201	GOM_NL__2PRFIN20100922_235137_000000502093_00130_44773_9377.N1	22-SEP-2010 23:51:37	Dark	50.000	37	25Del CMa	1.8300	5900.0	100	44773	No
202	GOM_NL__2PRFIN20100922_235329_000000522093_00130_44773_9378.N1	22-SEP-2010 23:53:29	Dark	51.500	117	Pi Pup	2.7060	3800.0	103	44773	No
203	GOM_NL__2PRFIN20100922_235836_000000462093_00131_44774_9379.N1	22-SEP-2010 23:58:36	Dark	45.500	2	Alp Car	-0.73600	7000.0	91	44774	No

### 3. Quality information per product

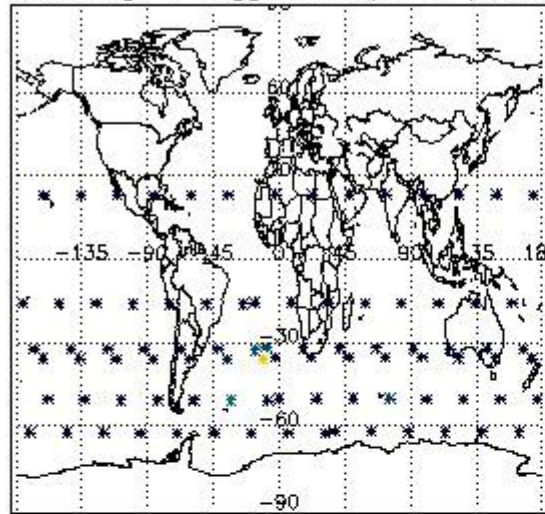
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

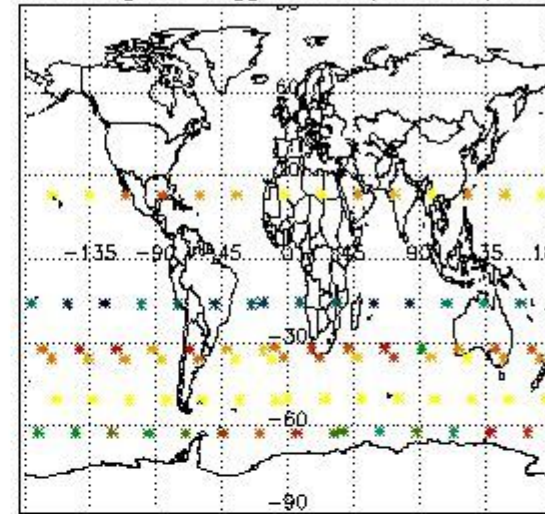


*3.2 Plot quality information per product (world map)*

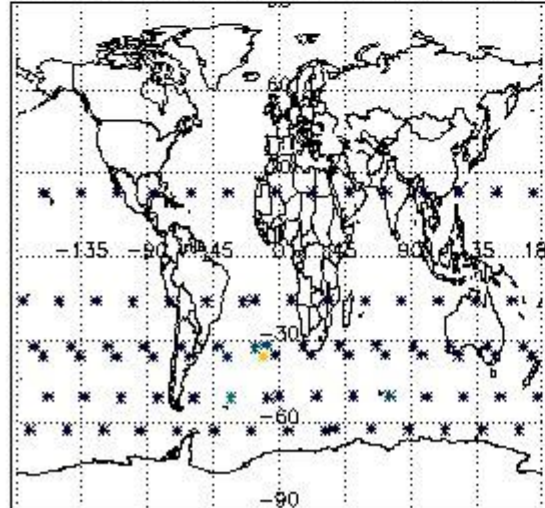
Percentage of flagged data per O3 profile



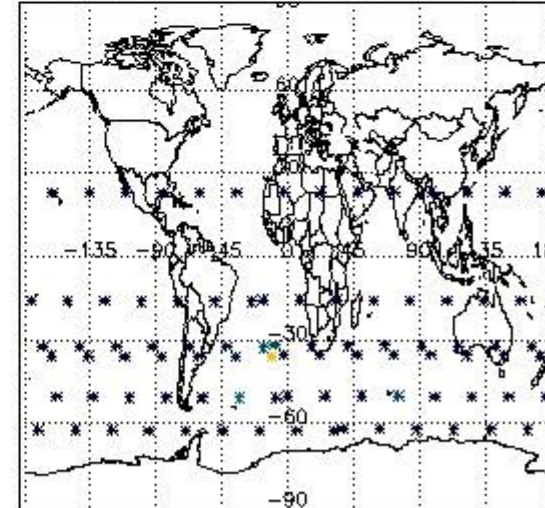
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

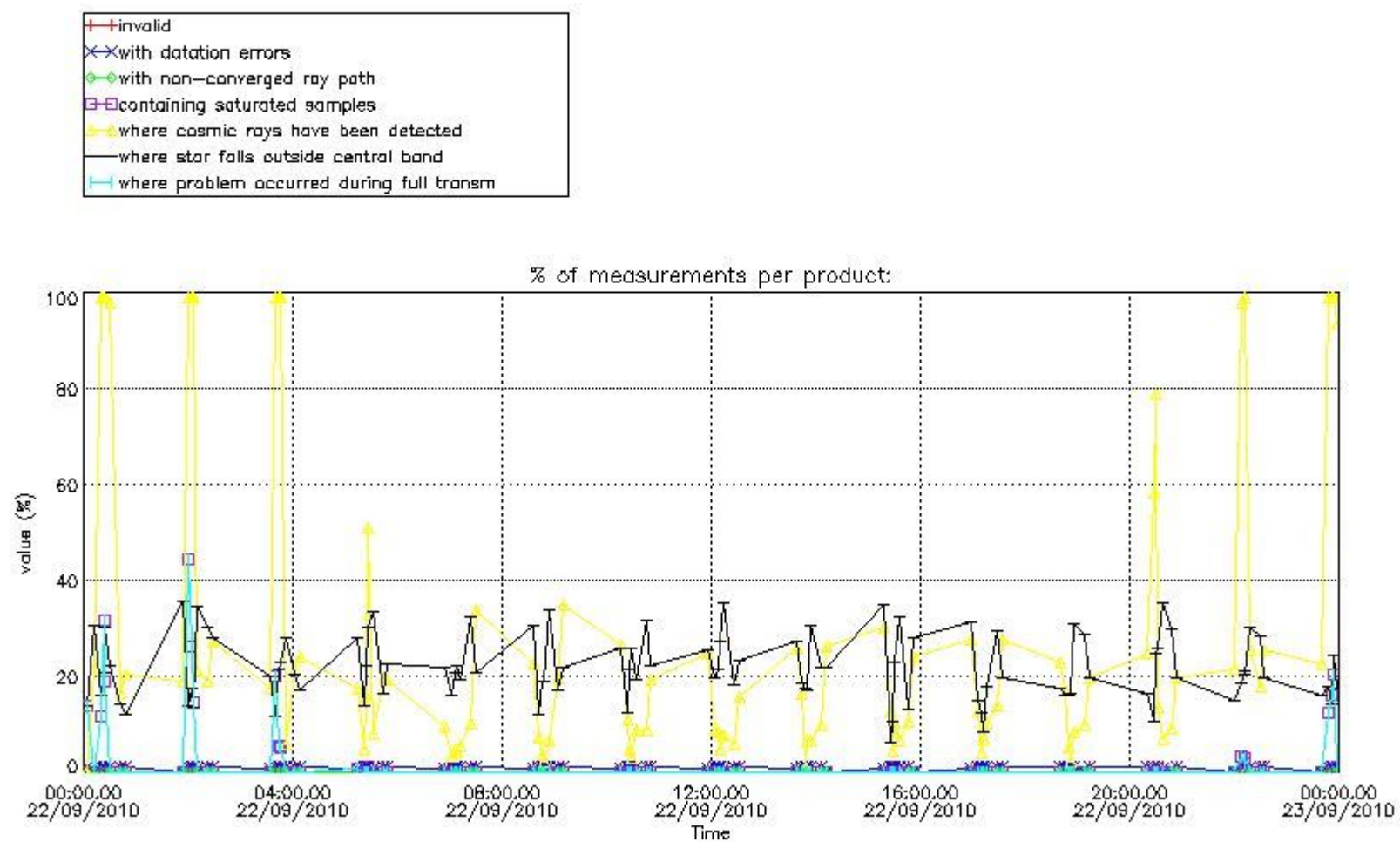


#### 4. Level 1 quality information per product

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.

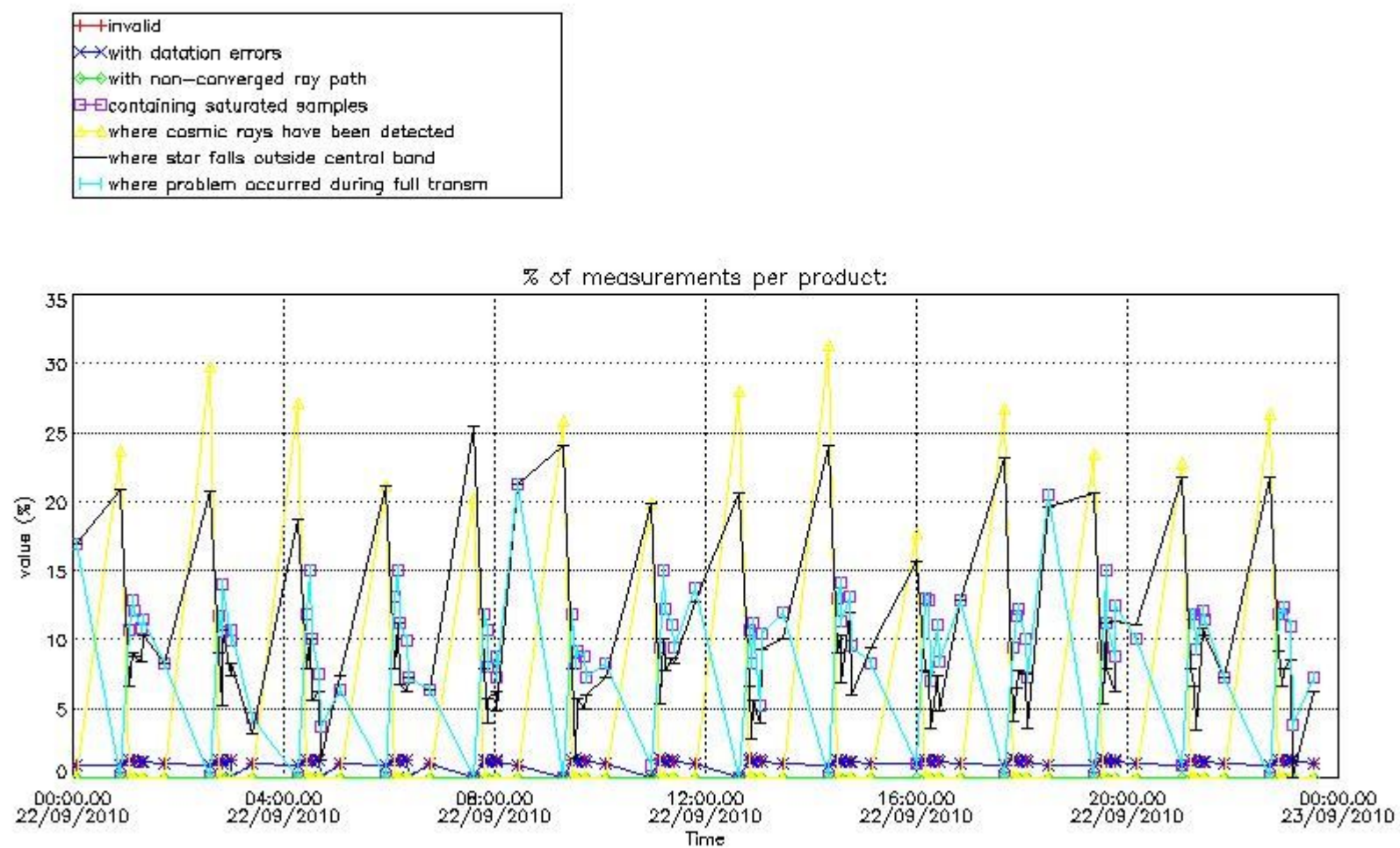
##### 4.1 Plot quality information per product (time dependant) coming from level 1b processing

###### 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

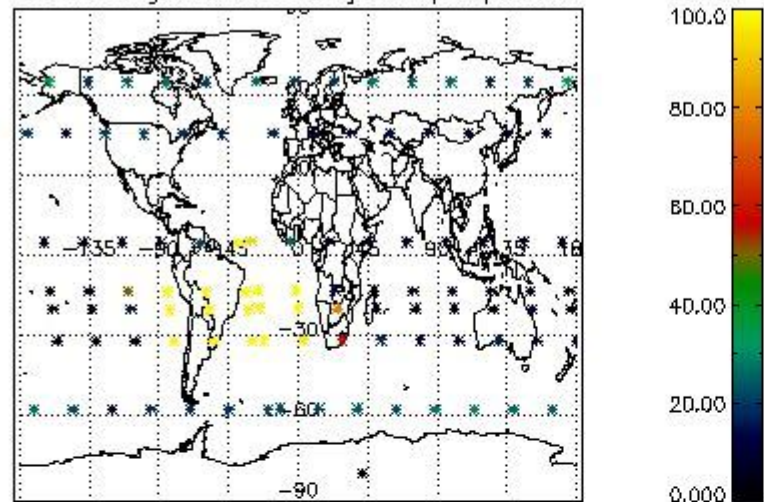




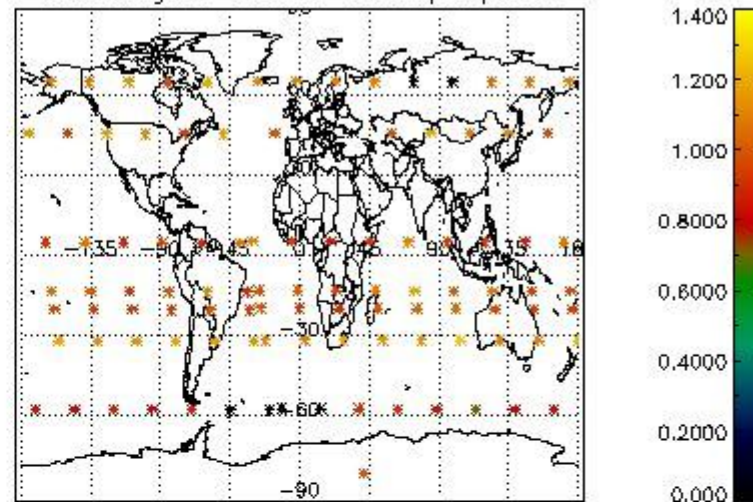
*4.2 Plot quality information per product coming from level 1b processing (world map)*

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

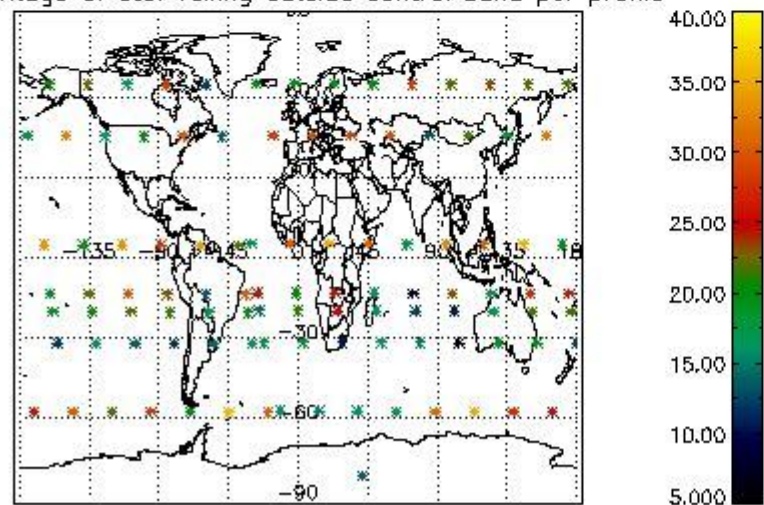
Percentage of cosmic ray hits per profile



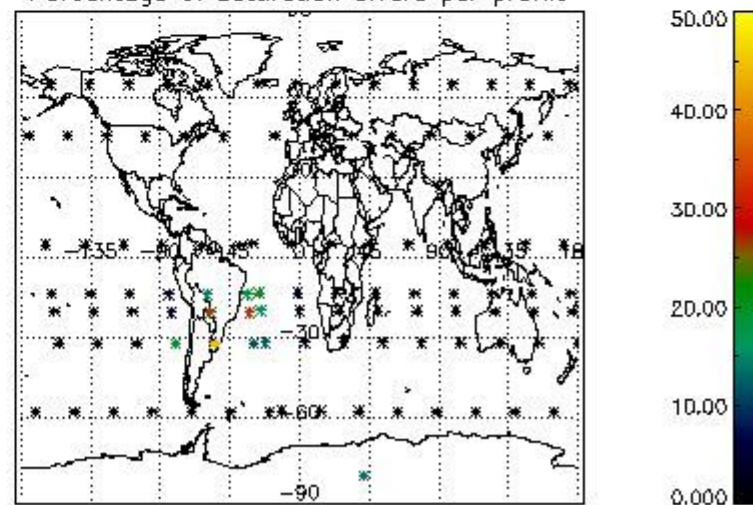
Percentage of datation errors per profile



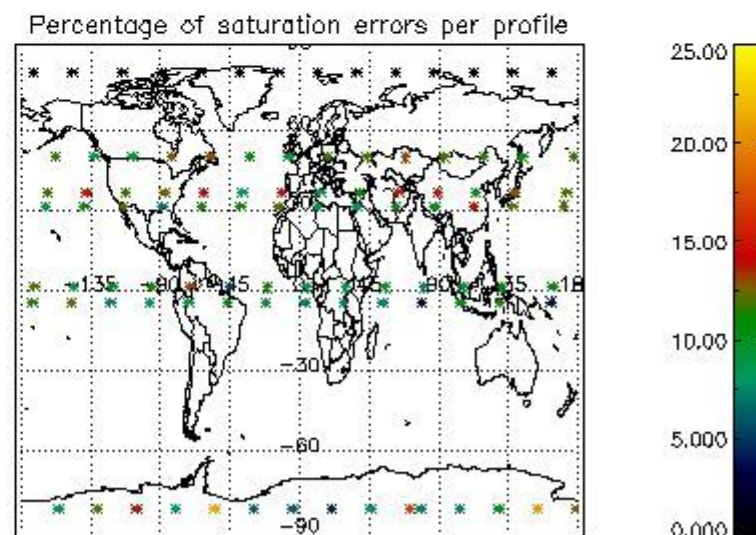
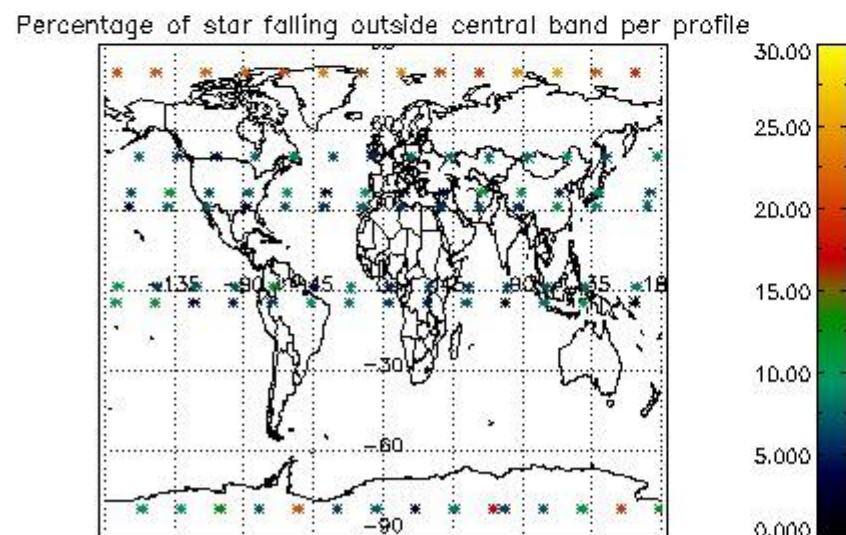
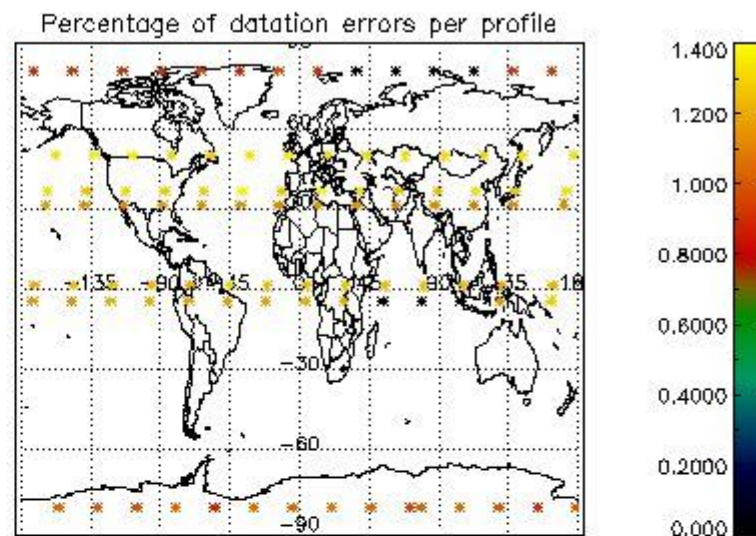
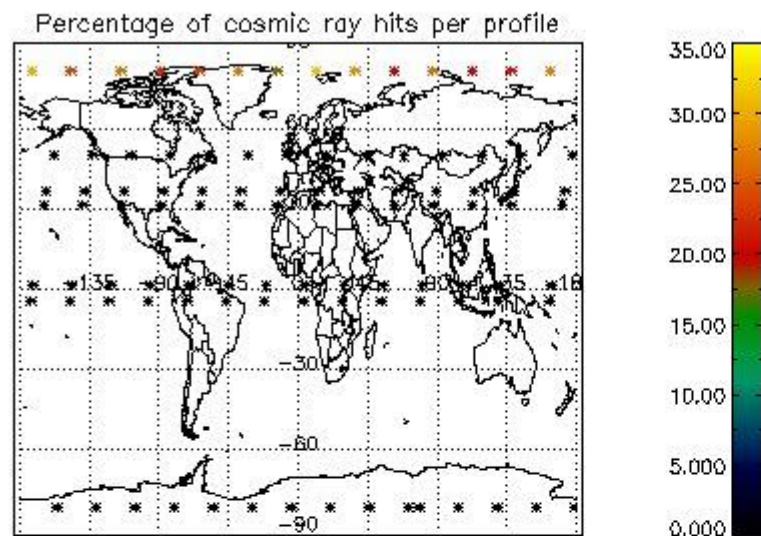
Percentage of star falling outside central band per profile



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

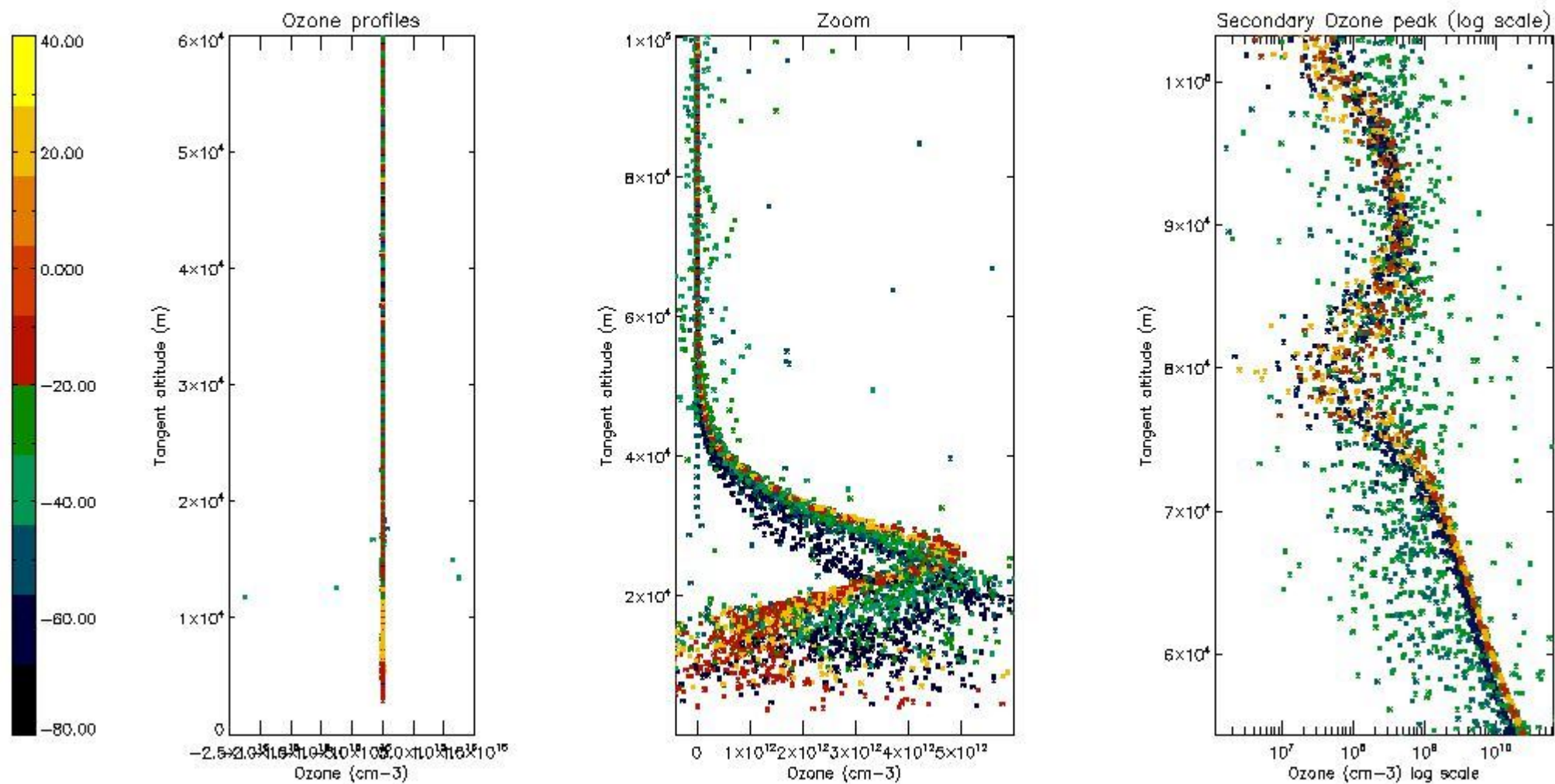
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	48
STD < 20	22

STD < 10	16
STD < 5	12

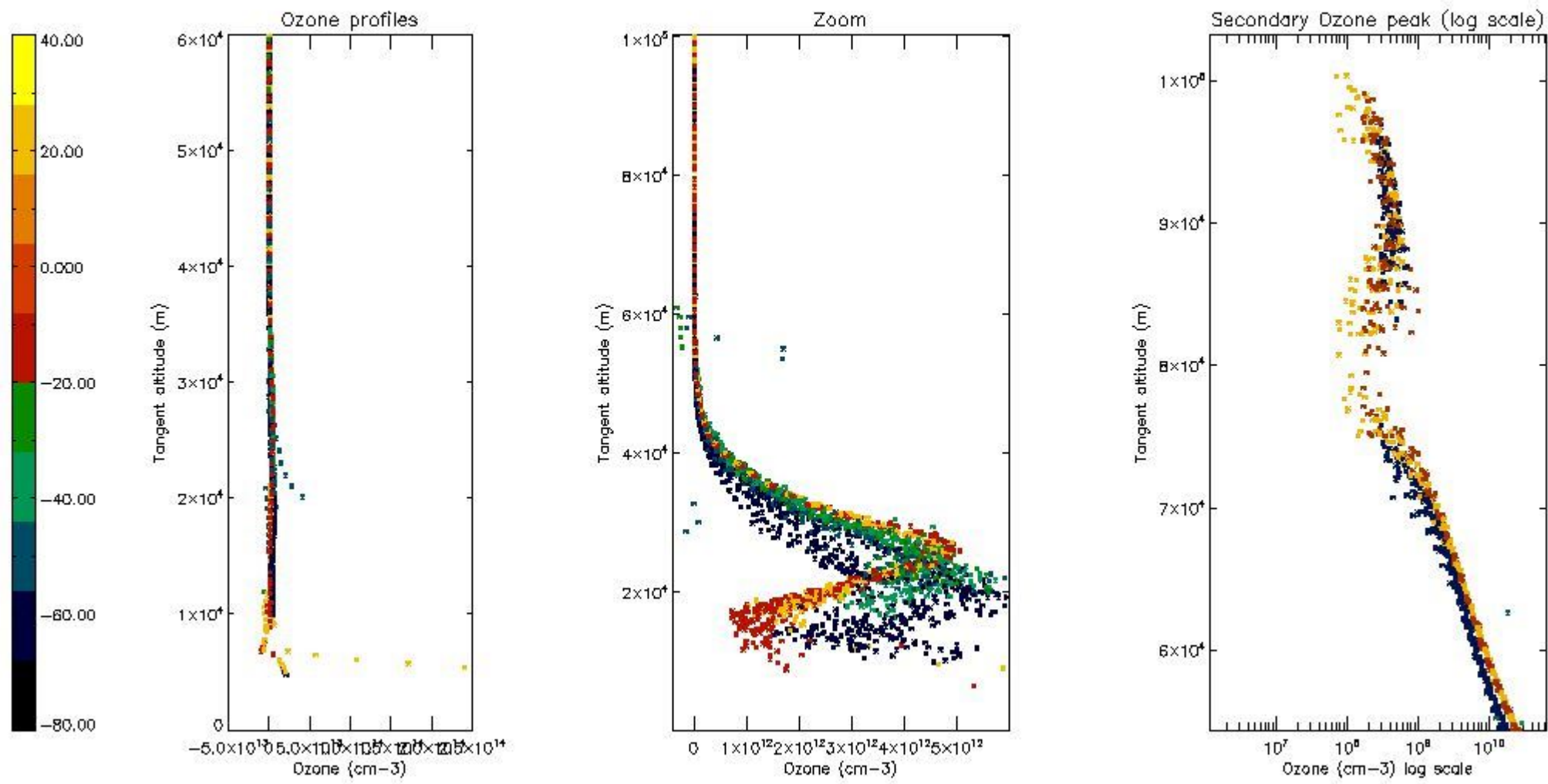
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



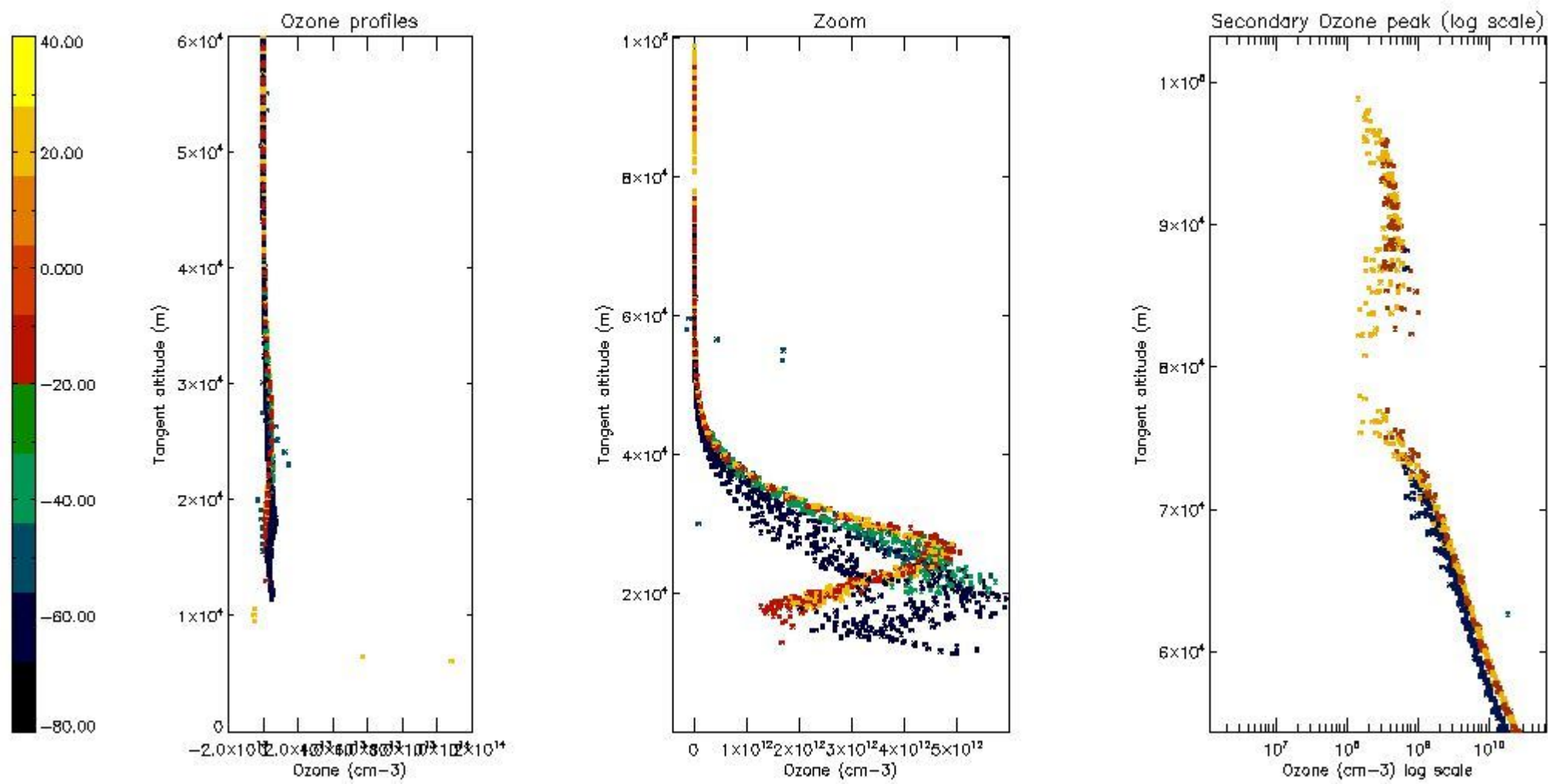
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



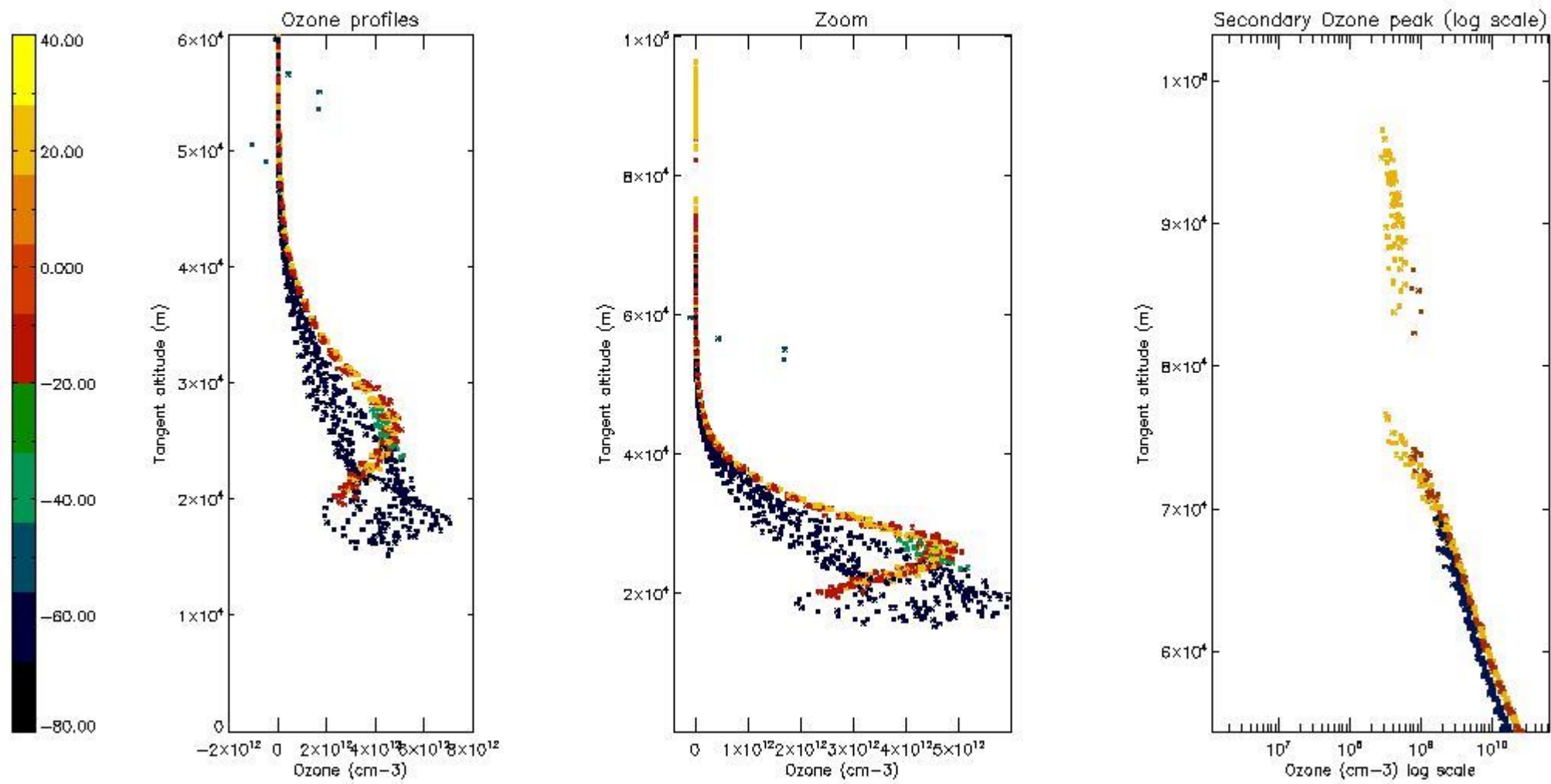
5.4 Plot ozone profiles where  $STD < 10\%$  (dark without errors)

The colorbar represents the latitude.



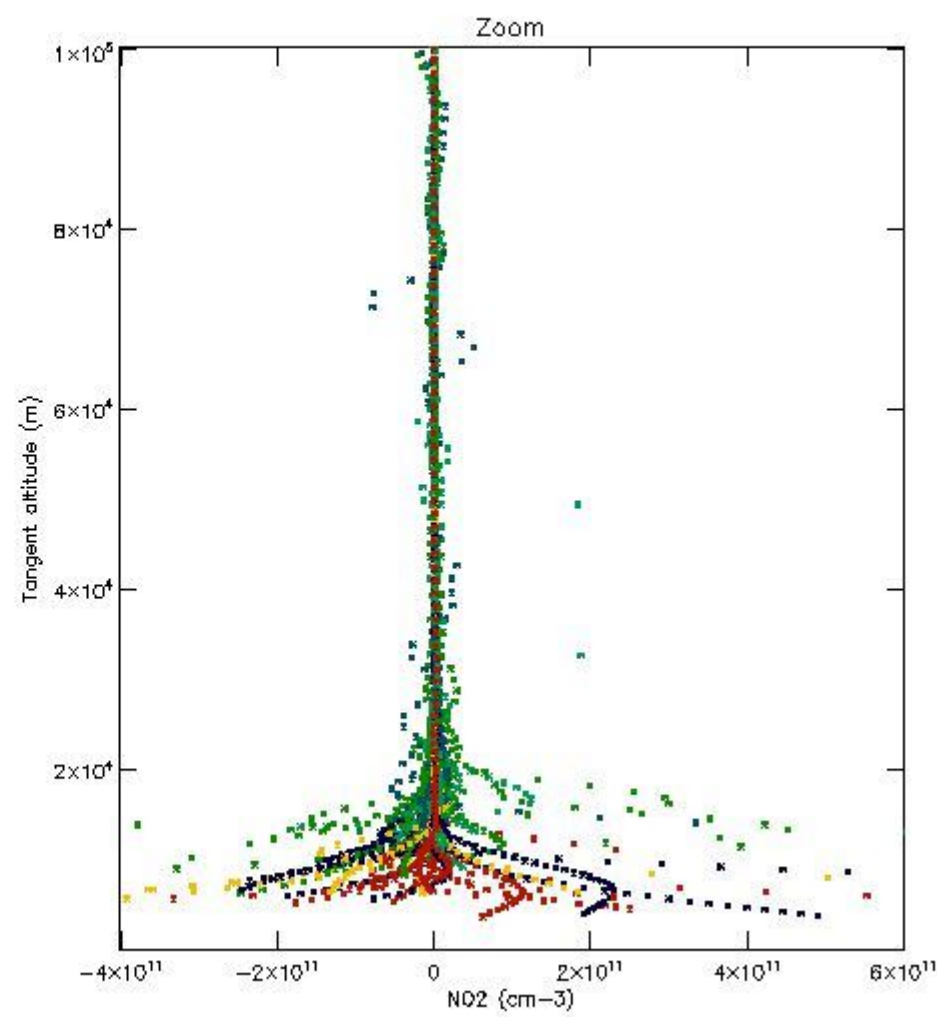
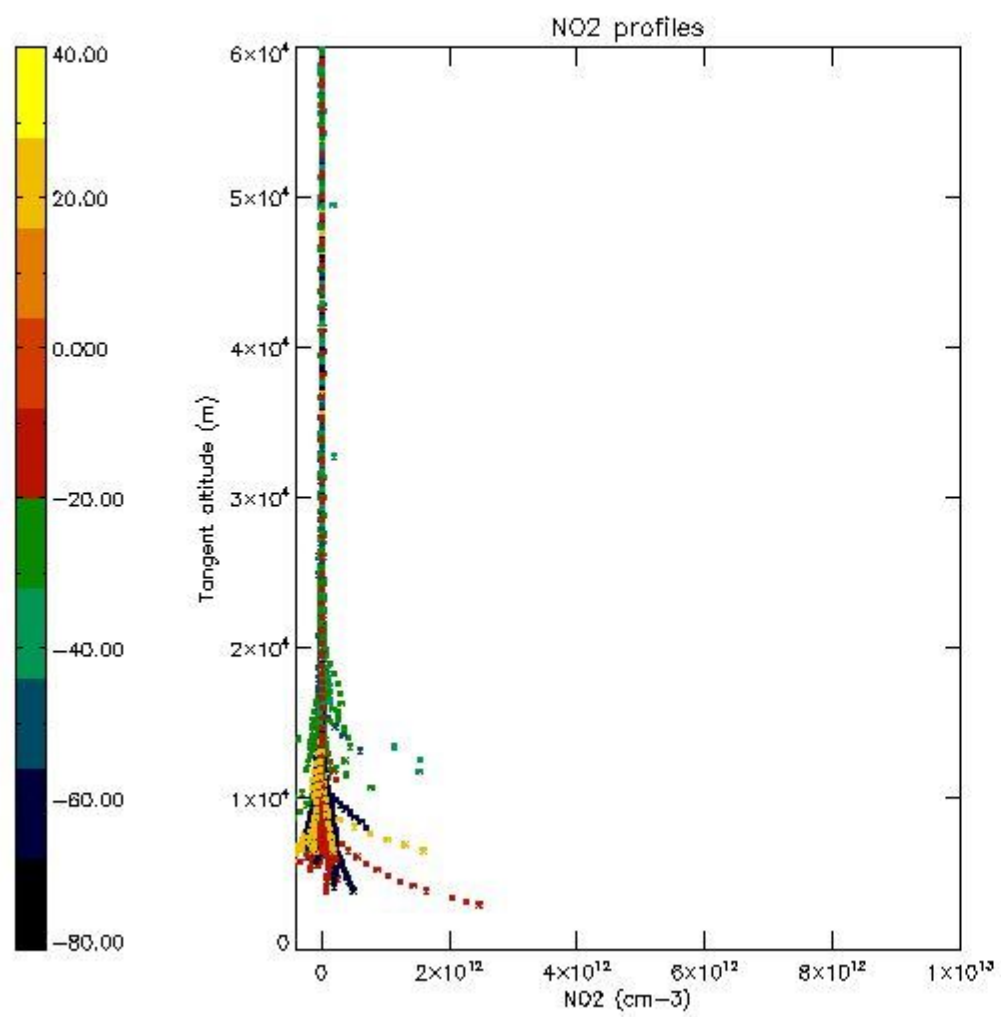
*5.5 Plot ozone profiles where STD < 5% (dark without errors)*

The colorbar represents the latitude.



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

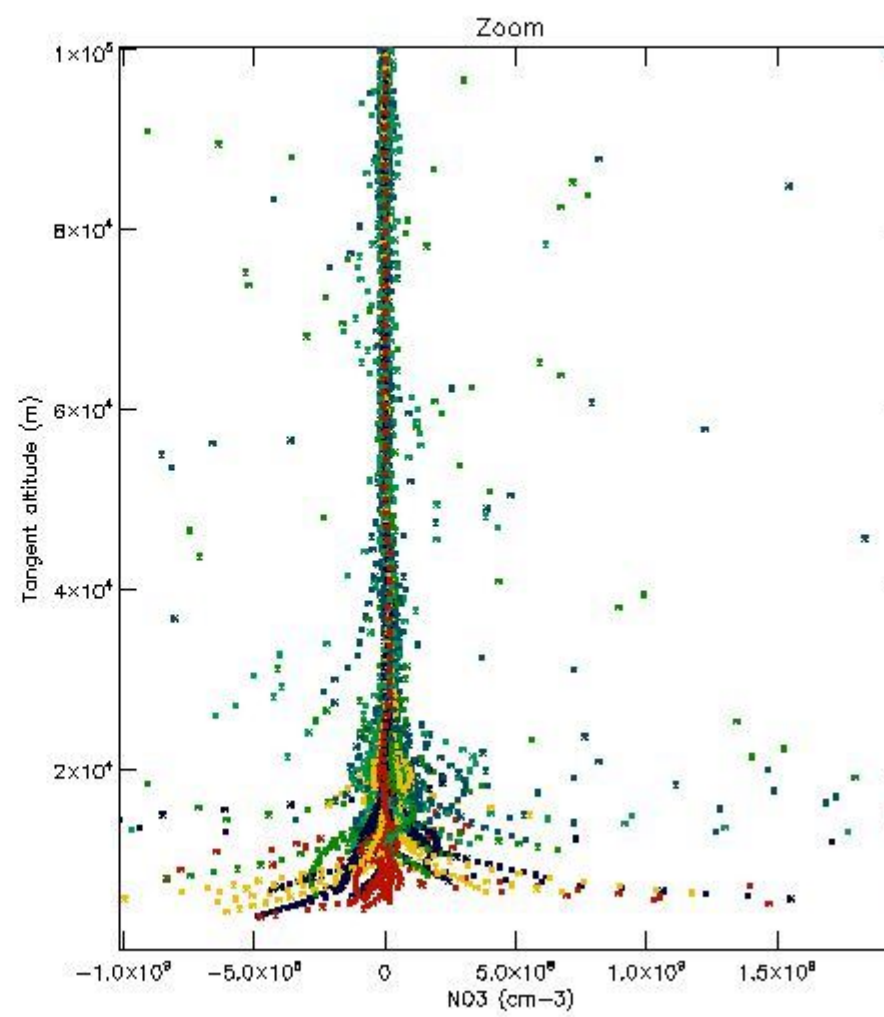
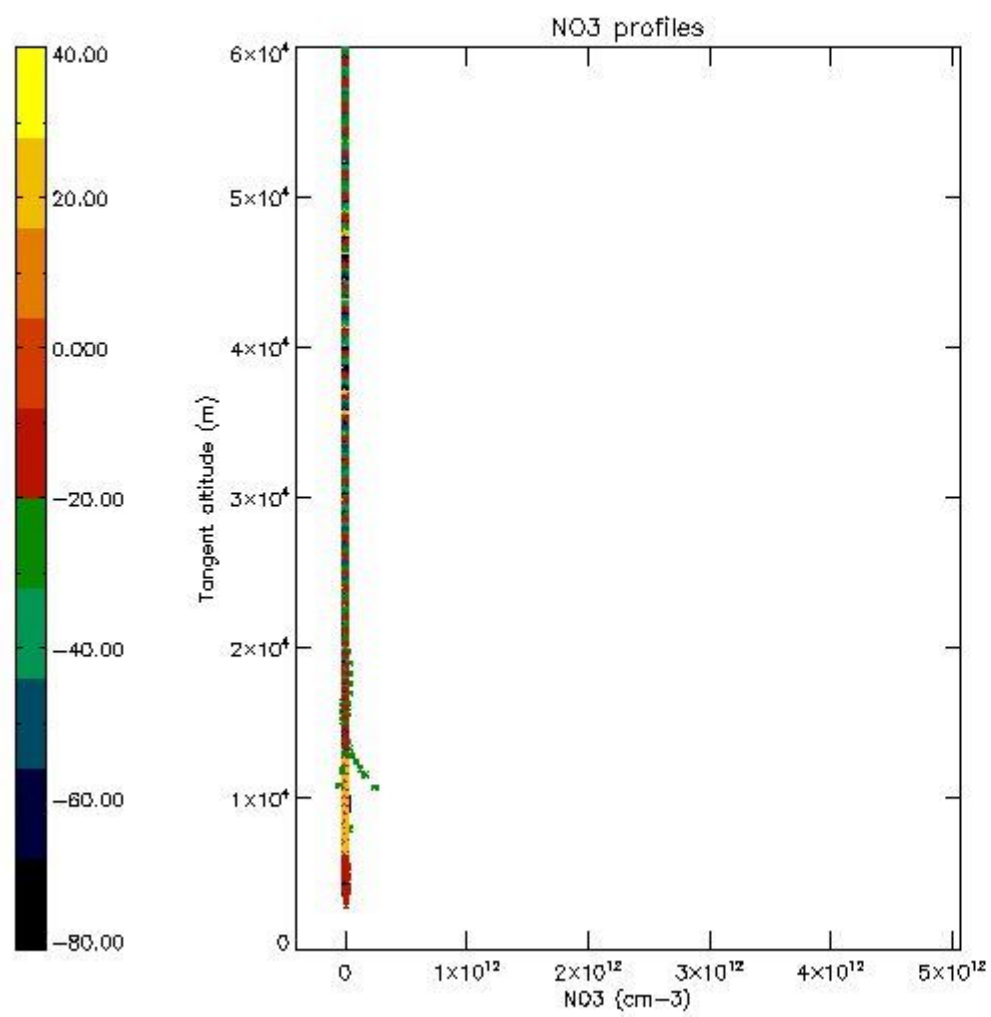
The colorbar represents the latitude.



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

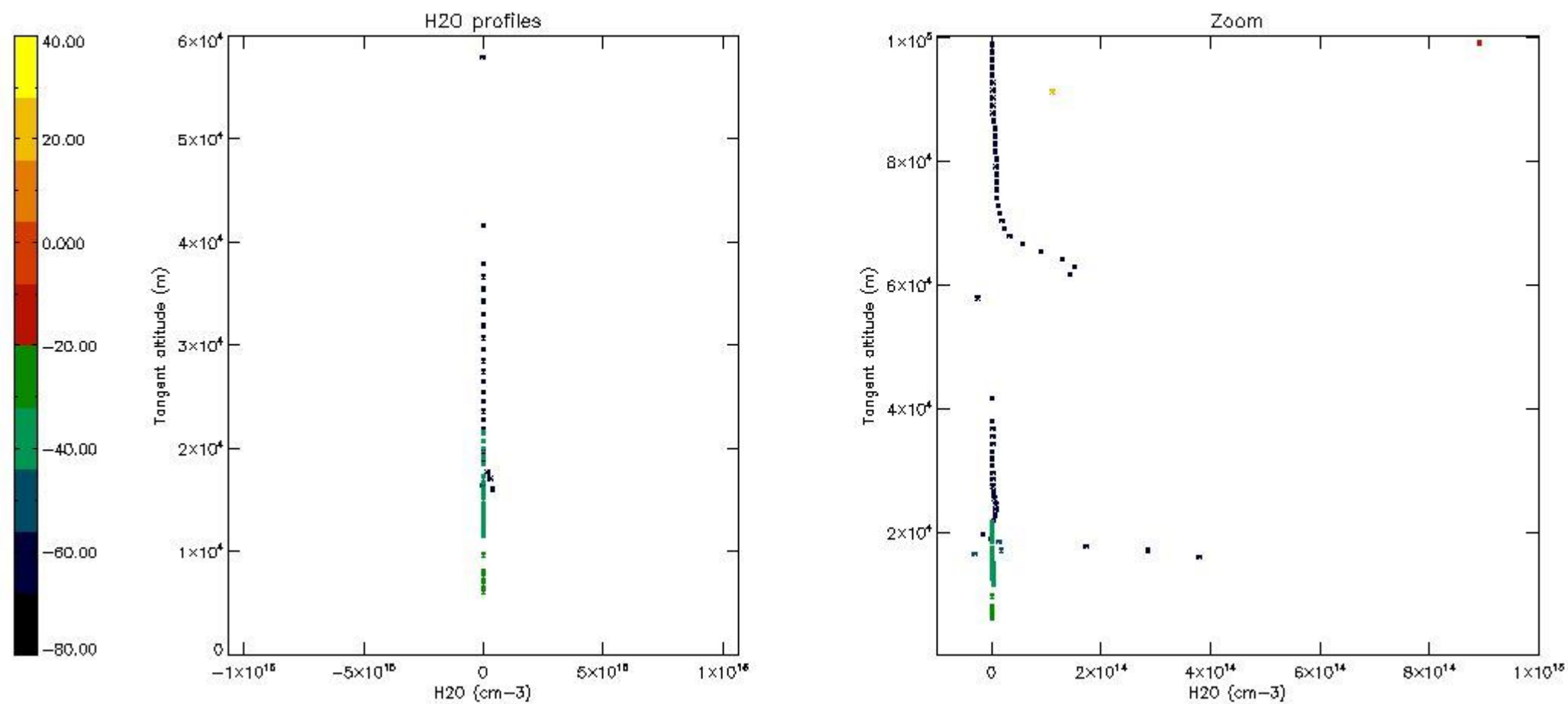
The colorbar represents the latitude.





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	22-SEP-2010 00:03:04
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	22-SEP-2010 00:03:04
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	22-SEP-2010 00:03:04

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

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

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

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

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

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

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

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

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

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

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

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#### [5.5. 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	29APR2013 15:22:17
Data source version	GOMOS/6.01
Start time of products	22-09-2010 (22SEP2010 00:00:00)
Stop time of products	23-09-2010 (23SEP2010 00:00:00)
Store outputs in DB	Yes
Nb of level 2 prods	203
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__2PRFIN20100922_000304_000000532093_00116_44759_9003.N1	22-SEP-2010 00:03:04	Bright	53.000	24	66Alp Gem	1.5800	10200.	106	44759	No
2	GOM_NL__2PRFIN20100922_000421_000000512093_00116_44759_9004.N1	22-SEP-2010 00:04:21	Bright	50.500	17	78Bet Gem	1.1610	4500.0	101	44759	No
3	GOM_NL__2PRFIN20100922_001224_000000642093_00116_44759_9005.N1	22-SEP-2010 00:12:24	Dark	64.000	8	10Alp CMi	0.40000	6500.0	128	44759	No
4	GOM_NL__2PRFIN20100922_001945_000000442093_00116_44759_9006.N1	22-SEP-2010 00:19:45	Dark	43.500	132	15Rho Pup	2.8030	6900.0	87	44759	No
5	GOM_NL__2PRFIN20100922_002301_000000542093_00116_44759_9007.N1	22-SEP-2010 00:23:01	Dark	53.500	37	25Del CMa	1.8300	5900.0	107	44759	No
6	GOM_NL__2PRFIN20100922_002455_000000562093_00116_44759_9008.N1	22-SEP-2010 00:24:55	Dark	56.000	117	Pi Pup	2.7060	3800.0	112	44759	No
7	GOM_NL__2PRFIN20100922_003004_000000482093_00117_44760_9007.N1	22-SEP-2010 00:30:04	Dark	47.500	2	Alp Car	-0.73600	7000.0	95	44760	No
8	GOM_NL__2PRFIN20100922_004131_000000432093_00117_44760_9008.N1	22-SEP-2010 00:41:31	Dark	42.500	9	Alp Eri	0.45300	24000.	85	44760	No
9	GOM_NL__2PRFIN20100922_004707_000000422093_00117_44760_9009.N1	22-SEP-2010 00:47:07	Straylight	42.000	84	Alp Phe	2.3970	4500.0	84	44760	No
10	GOM_NL__2PRFIN20100922_005427_000000552093_00117_44760_9010.N1	22-SEP-2010 00:54:27	Twilight_stray	55.000	52	16Bet Cet	2.0370	4500.0	110	44760	No
11	GOM_NL__2PRFIN20100922_010457_000000382093_00117_44760_9011.N1	22-SEP-2010 01:04:57	Bright	37.500	90	54Alp Peg	2.4870	11000.	75	44760	No
12	GOM_NL__2PRFIN20100922_010843_000000392093_00117_44760_9012.N1	22-SEP-2010 01:08:43	Bright	39.000	93	53Bet Peg	2.5200	3100.0	78	44760	No
13	GOM_NL__2PRFIN20100922_011014_000000462093_00117_44760_9013.N1	22-SEP-2010 01:10:14	Bright	45.500	58	21Alp And	2.0730	11000.	91	44760	No
14	GOM_NL__2PRFIN20100922_011840_000000422093_00117_44760_9014.N1	22-SEP-2010 01:18:40	Bright	41.500	74	11Bet Cas	2.2680	6600.0	83	44760	No
15	GOM_NL__2PRFIN20100922_012018_000000442093_00117_44760_9015.N1	22-SEP-2010 01:20:18	Bright	43.500	76	27Gam Cas	2.3000	30000.	87	44760	No
16	GOM_NL__2PRFIN20100922_014340_000000492093_00117_44760_9016.N1	22-SEP-2010 01:43:40	Bright	48.500	24	66Alp Gem	1.5800	10200.	97	44760	No
17	GOM_NL__2PRFIN20100922_015301_000000692093_00117_44760_9017.N1	22-SEP-2010 01:53:01	Dark	68.500	8	10Alp CMi	0.40000	6500.0	137	44760	No
18	GOM_NL__2PRFIN20100922_020021_000000432093_00117_44760_9018.N1	22-SEP-2010 02:00:21	Dark	43.000	132	15Rho Pup	2.8030	6900.0	86	44760	No
19	GOM_NL__2PRFIN20100922_020338_000000522093_00117_44760_9019.N1	22-SEP-2010 02:03:38	Dark	51.500	37	25Del CMa	1.8300	5900.0	103	44760	No
20	GOM_NL__2PRFIN20100922_020532_000000452093_00117_44760_9020.N1	22-SEP-2010 02:05:32	Dark	44.500	117	Pi Pup	2.7060	3800.0	89	44760	No
21	GOM_NL__2PRFIN20100922_021041_000000572093_00118_44761_9021.N1	22-SEP-2010 02:10:41	Dark	56.500	2	Alp Car	-0.73600	7000.0	113	44761	No
22	GOM_NL__2PRFIN20100922_022207_000000532093_00118_44761_9022.N1	22-SEP-2010 02:22:07	Dark	53.000	9	Alp Eri	0.45300	24000.	106	44761	No
23	GOM_NL__2PRFIN20100922_022743_000000522093_00118_44761_9023.N1	22-SEP-2010 02:27:43	Straylight	51.500	84	Alp Phe	2.3970	4500.0	103	44761	No
24	GOM_NL__2PRFIN20100922_023503_000000562093_00118_44761_9024.N1	22-SEP-2010 02:35:03	Twilight_stray	55.500	52	16Bet Cet	2.0370	4500.0	111	44761	No
25	GOM_NL__2PRFIN20100922_024532_000000392093_00118_44761_9025.N1	22-SEP-2010 02:45:32	Bright	38.500	90	54Alp Peg	2.4870	11000.	77	44761	No
26	GOM_NL__2PRFIN20100922_024918_000000382093_00118_44761_9026.N1	22-SEP-2010 02:49:18	Bright	38.000	93	53Bet Peg	2.5200	3100.0	76	44761	No
27	GOM_NL__2PRFIN20100922_025050_000000472093_00118_44761_9027.N1	22-SEP-2010 02:50:50	Bright	46.500	58	21Alp And	2.0730	11000.	93	44761	No
28	GOM_NL__2PRFIN20100922_025916_000000412093_00118_44761_9028.N1	22-SEP-2010 02:59:16	Bright	40.500	74	11Bet Cas	2.2680	6600.0	81	44761	No
29	GOM_NL__2PRFIN20100922_030053_000000422093_00118_44761_9029.N1	22-SEP-2010 03:00:53	Bright	42.000	76	27Gam Cas	2.3000	30000.	84	44761	No
30	GOM_NL__2PRFIN20100922_032416_000000472093_00118_44761_9030.N1	22-SEP-2010 03:24:16	Bright	46.500	24	66Alp Gem	1.5800	10200.	93	44761	No
31	GOM_NL__2PRFIN20100922_033337_000000572093_00118_44761_9031.N1	22-SEP-2010 03:33:37	Dark	57.000	8	10Alp CMi	0.40000	6500.0	114	44761	No
32	GOM_NL__2PRFIN20100922_034058_000000432093_00118_44761_9032.N1	22-SEP-2010 03:40:58	Dark	42.500	132	15Rho Pup	2.8030	6900.0	85	44761	No
33	GOM_NL__2PRFIN20100922_034415_000000542093_00118_44761_9033.N1	22-SEP-2010 03:44:15	Dark	53.500	37	25Del CMa	1.8300	5900.0	107	44761	No
34	GOM_NL__2PRFIN20100922_034609_000000502093_00118_44761_9034.N1	22-SEP-2010 03:46:09	Dark	50.000	117	Pi Pup	2.7060	3800.0	100	44761	No
35	GOM_NL__2PRFIN20100922_035117_000000522093_00119_44762_9037.N1	22-SEP-2010 03:51:17	Dark	52.000	2	Alp Car	-0.73600	7000.0	104	44762	No
36	GOM_NL__2PRFIN20100922_040244_000000452093_00119_44762_9038.N1	22-SEP-2010 04:02:44	Dark	44.500	9	Alp Eri	0.45300	24000.	89	44762	No
37	GOM_NL__2PRFIN20100922_040819_000000442093_00119_44762_9039.N1	22-SEP-2010 04:08:19	Straylight	44.000	84	Alp Phe	2.3970	4500.0	88	44762	No
38	GOM_NL__2PRFIN20100922_041539_000000542093_00119_44762_9040.N1	22-SEP-2010 04:15:39	Twilight_stray	53.500	52	16Bet Cet	2.0370	4500.0	107	44762	No
39	GOM_NL__2PRFIN20100922_042608_000000382093_00119_44762_9041.N1	22-SEP-2010 04:26:08	Bright	38.000	90	54Alp Peg	2.4870	11000.	76	44762	No
40	GOM_NL__2PRFIN20100922_042954_000000402093_00119_44762_9042.N1	22-SEP-2010 04:29:54	Bright	40.000	93	53Bet Peg	2.5200	3100.0	80	44762	No
41	GOM_NL__2PRFIN20100922_043125_000000452093_00119_44762_9043.N1	22-SEP-2010 04:31:25	Bright	44.500	58	21Alp And	2.0730	11000.	89	44762	No
42	GOM_NL__2PRFIN20100922_043951_000000402093_00119_44762_9044.N1	22-SEP-2010 04:39:51	Bright	40.000	74	11Bet Cas	2.2680	6600.0	80	44762	No



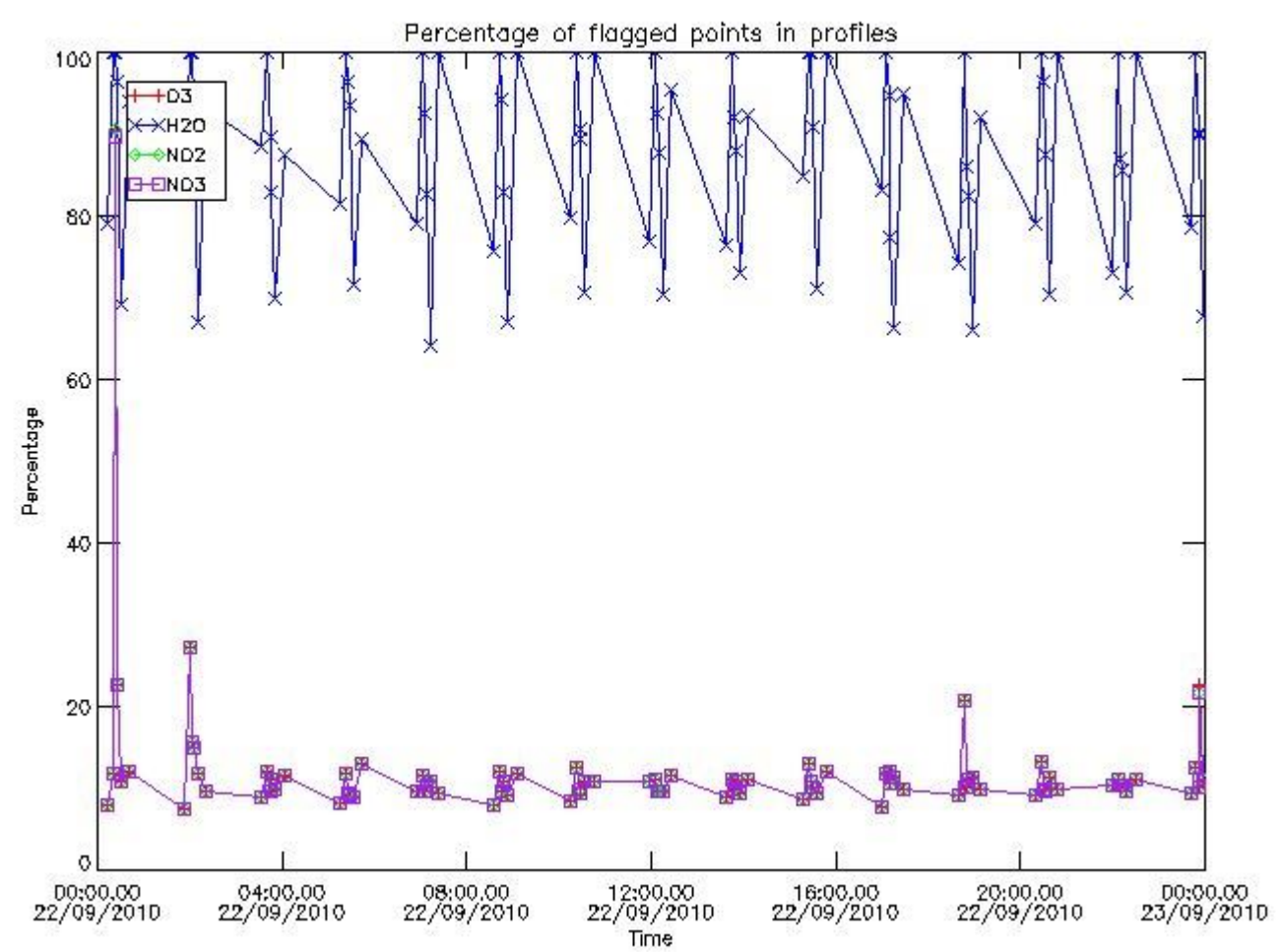


161	GOM_NL__2PRFIN20100922_185647_000000542093_00128_44771_9318.N1	22-SEP-2010 18:56:47	Dark	53.500	2	Alp Car	-0.73600	7000.0	107	44771	No
162	GOM_NL__2PRFIN20100922_190811_000000512093_00128_44771_9319.N1	22-SEP-2010 19:08:11	Dark	50.500	9	Alp Eri	0.45300	24000.	101	44771	No
163	GOM_NL__2PRFIN20100922_191346_000000462093_00128_44771_9320.N1	22-SEP-2010 19:13:46	Straylight	45.500	84	Alp Phe	2.3970	4500.0	91	44771	No
164	GOM_NL__2PRFIN20100922_192103_000000542093_00128_44771_9321.N1	22-SEP-2010 19:21:03	Twl_and_stray	53.500	52	16Bet Cet	2.0370	4500.0	107	44771	No
165	GOM_NL__2PRFIN20100922_193131_000000372093_00128_44771_9322.N1	22-SEP-2010 19:31:31	Bright	37.000	90	54Alp Peg	2.4870	11000.	74	44771	No
166	GOM_NL__2PRFIN20100922_193516_000000402093_00128_44771_9323.N1	22-SEP-2010 19:35:16	Bright	40.000	93	53Bet Peg	2.5200	3100.0	80	44771	No
167	GOM_NL__2PRFIN20100922_193644_000000452093_00128_44771_9324.N1	22-SEP-2010 19:36:44	Bright	44.500	58	21Alp And	2.0730	11000.	89	44771	No
168	GOM_NL__2PRFIN20100922_194512_000000402093_00128_44771_9325.N1	22-SEP-2010 19:45:12	Bright	40.000	74	11Bet Cas	2.2680	6600.0	80	44771	No
169	GOM_NL__2PRFIN20100922_194648_000000442093_00128_44771_9326.N1	22-SEP-2010 19:46:48	Bright	44.000	76	27Gam Cas	2.3000	30000.	88	44771	No
170	GOM_NL__2PRFIN20100922_201017_000000502093_00128_44771_9327.N1	22-SEP-2010 20:10:17	Bright	49.500	24	66Alp Gem	1.5800	10200.	99	44771	No
171	GOM_NL__2PRFIN20100922_201943_000000552093_00128_44771_9328.N1	22-SEP-2010 20:19:43	Dark	55.000	8	10Alp CMi	0.40000	6500.0	110	44771	No
172	GOM_NL__2PRFIN20100922_202703_000000422093_00128_44771_9329.N1	22-SEP-2010 20:27:03	Dark	42.000	132	15Rho Pup	2.8030	6900.0	84	44771	No
173	GOM_NL__2PRFIN20100922_203024_000000572093_00128_44771_9330.N1	22-SEP-2010 20:30:24	Dark	56.500	37	25Del CMa	1.8300	5900.0	113	44771	No
174	GOM_NL__2PRFIN20100922_203216_000000532093_00128_44771_9331.N1	22-SEP-2010 20:32:16	Dark	52.500	117	Pi Pup	2.7060	3800.0	105	44771	No
175	GOM_NL__2PRFIN20100922_203723_000000582093_00129_44772_9352.N1	22-SEP-2010 20:37:23	Dark	58.000	2	Alp Car	-0.73600	7000.0	116	44772	No
176	GOM_NL__2PRFIN20100922_204848_000000512093_00129_44772_9353.N1	22-SEP-2010 20:48:48	Dark	50.500	9	Alp Eri	0.45300	24000.	101	44772	No
177	GOM_NL__2PRFIN20100922_205422_000000462093_00129_44772_9354.N1	22-SEP-2010 20:54:22	Straylight	45.500	84	Alp Phe	2.3970	4500.0	91	44772	No
178	GOM_NL__2PRFIN20100922_210140_000000552093_00129_44772_9355.N1	22-SEP-2010 21:01:40	Twl_and_stray	55.000	52	16Bet Cet	2.0370	4500.0	110	44772	No
179	GOM_NL__2PRFIN20100922_211207_000000382093_00129_44772_9356.N1	22-SEP-2010 21:12:07	Bright	38.000	90	54Alp Peg	2.4870	11000.	76	44772	No
180	GOM_NL__2PRFIN20100922_211552_000000382093_00129_44772_9357.N1	22-SEP-2010 21:15:52	Bright	38.000	93	53Bet Peg	2.5200	3100.0	76	44772	No
181	GOM_NL__2PRFIN20100922_211720_000000432093_00129_44772_9358.N1	22-SEP-2010 21:17:20	Bright	43.000	58	21Alp And	2.0730	11000.	86	44772	No
182	GOM_NL__2PRFIN20100922_212547_000000422093_00129_44772_9359.N1	22-SEP-2010 21:25:47	Bright	41.500	74	11Bet Cas	2.2680	6600.0	83	44772	No
183	GOM_NL__2PRFIN20100922_212723_000000442093_00129_44772_9360.N1	22-SEP-2010 21:27:23	Bright	43.500	76	27Gam Cas	2.3000	30000.	87	44772	No
184	GOM_NL__2PRFIN20100922_215054_000000482093_00129_44772_9361.N1	22-SEP-2010 21:50:54	Bright	48.000	24	66Alp Gem	1.5800	10200.	96	44772	No
185	GOM_NL__2PRFIN20100922_220020_000000542093_00129_44772_9362.N1	22-SEP-2010 22:00:20	Dark	53.500	8	10Alp CMi	0.40000	6500.0	107	44772	No
186	GOM_NL__2PRFIN20100922_220740_000000462093_00129_44772_9363.N1	22-SEP-2010 22:07:40	Dark	46.000	132	15Rho Pup	2.8030	6900.0	92	44772	No
187	GOM_NL__2PRFIN20100922_221101_000000552093_00129_44772_9364.N1	22-SEP-2010 22:11:01	Dark	54.500	37	25Del CMa	1.8300	5900.0	109	44772	No
188	GOM_NL__2PRFIN20100922_221252_000000492093_00129_44772_9365.N1	22-SEP-2010 22:12:52	Dark	49.000	117	Pi Pup	2.7060	3800.0	98	44772	No
189	GOM_NL__2PRFIN20100922_221800_000000532093_00130_44773_9365.N1	22-SEP-2010 22:18:00	Dark	53.000	2	Alp Car	-0.73600	7000.0	106	44773	No
190	GOM_NL__2PRFIN20100922_222924_000000512093_00130_44773_9366.N1	22-SEP-2010 22:29:24	Dark	51.000	9	Alp Eri	0.45300	24000.	102	44773	No
191	GOM_NL__2PRFIN20100922_223458_000000462093_00130_44773_9367.N1	22-SEP-2010 22:34:58	Straylight	45.500	84	Alp Phe	2.3970	4500.0	91	44773	No
192	GOM_NL__2PRFIN20100922_224216_000000552093_00130_44773_9368.N1	22-SEP-2010 22:42:16	Twl_and_stray	55.000	52	16Bet Cet	2.0370	4500.0	110	44773	No
193	GOM_NL__2PRFIN20100922_225243_000000382093_00130_44773_9369.N1	22-SEP-2010 22:52:43	Bright	38.000	90	54Alp Peg	2.4870	11000.	76	44773	No
194	GOM_NL__2PRFIN20100922_225628_000000382093_00130_44773_9370.N1	22-SEP-2010 22:56:28	Bright	38.000	93	53Bet Peg	2.5200	3100.0	76	44773	No
195	GOM_NL__2PRFIN20100922_225755_000000452093_00130_44773_9371.N1	22-SEP-2010 22:57:55	Bright	44.500	58	21Alp And	2.0730	11000.	89	44773	No
196	GOM_NL__2PRFIN20100922_230623_000000412093_00130_44773_9372.N1	22-SEP-2010 23:06:23	Bright	41.000	74	11Bet Cas	2.2680	6600.0	82	44773	No
197	GOM_NL__2PRFIN20100922_230759_000000392093_00130_44773_9373.N1	22-SEP-2010 23:07:59	Bright	39.000	76	27Gam Cas	2.3000	30000.	78	44773	No
198	GOM_NL__2PRFIN20100922_233129_000000492093_00130_44773_9374.N1	22-SEP-2010 23:31:29	Bright	48.500	24	66Alp Gem	1.5800	10200.	97	44773	No
199	GOM_NL__2PRFIN20100922_234057_000000542093_00130_44773_9375.N1	22-SEP-2010 23:40:57	Dark	53.500	8	10Alp CMi	0.40000	6500.0	107	44773	No
200	GOM_NL__2PRFIN20100922_234816_000000452093_00130_44773_9376.N1	22-SEP-2010 23:48:16	Dark	45.000	132	15Rho Pup	2.8030	6900.0	90	44773	No
201	GOM_NL__2PRFIN20100922_235137_000000502093_00130_44773_9377.N1	22-SEP-2010 23:51:37	Dark	50.000	37	25Del CMa	1.8300	5900.0	100	44773	No
202	GOM_NL__2PRFIN20100922_235329_000000522093_00130_44773_9378.N1	22-SEP-2010 23:53:29	Dark	51.500	117	Pi Pup	2.7060	3800.0	103	44773	No
203	GOM_NL__2PRFIN20100922_235836_000000462093_00131_44774_9379.N1	22-SEP-2010 23:58:36	Dark	45.500	2	Alp Car	-0.73600	7000.0	91	44774	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.

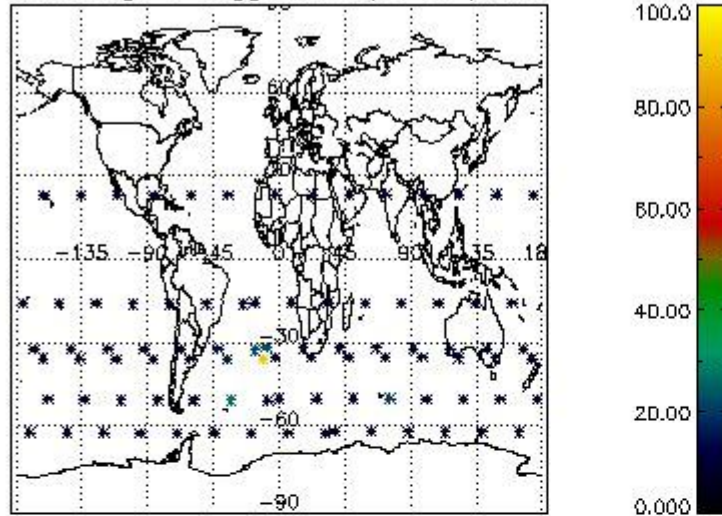
#### 3.1 Plot quality information per product (time dependant)



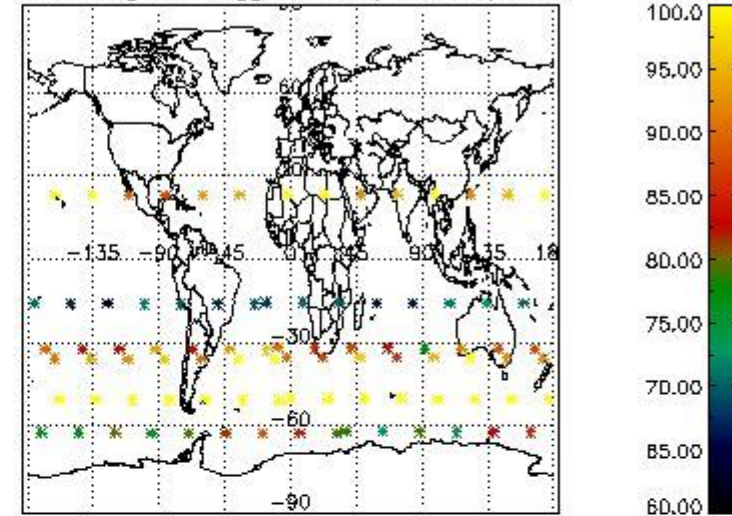
3.2 Plot quality information per product (world map)



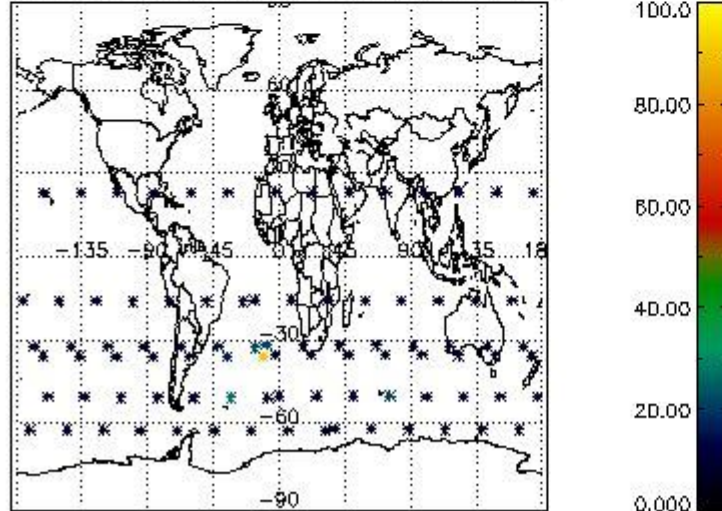
Percentage of flagged data per O3 profile



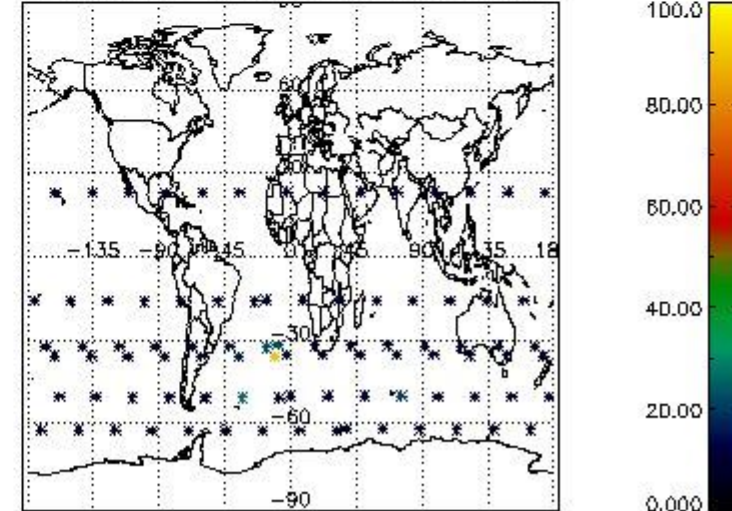
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

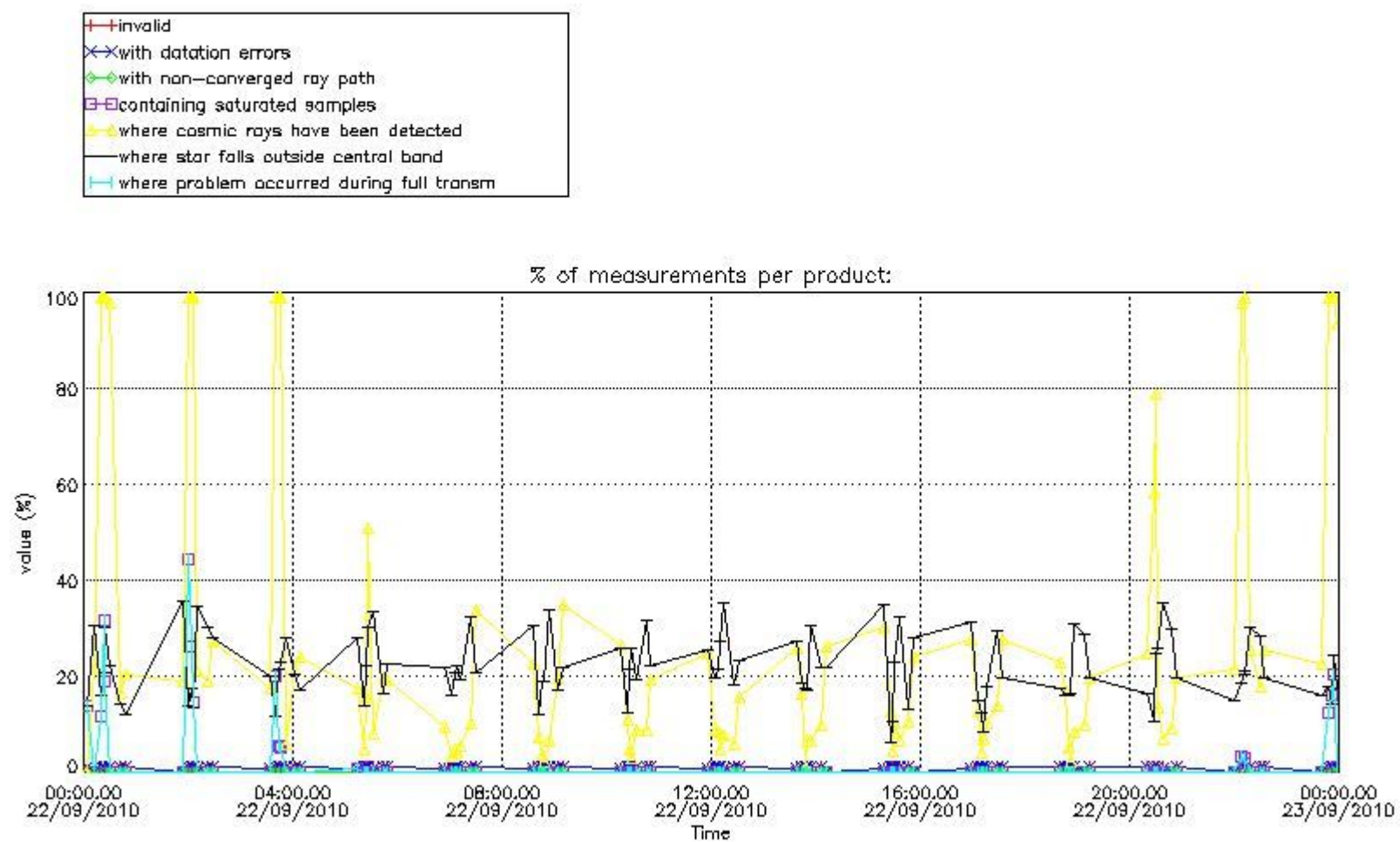


#### 4. Level 1 quality information per product

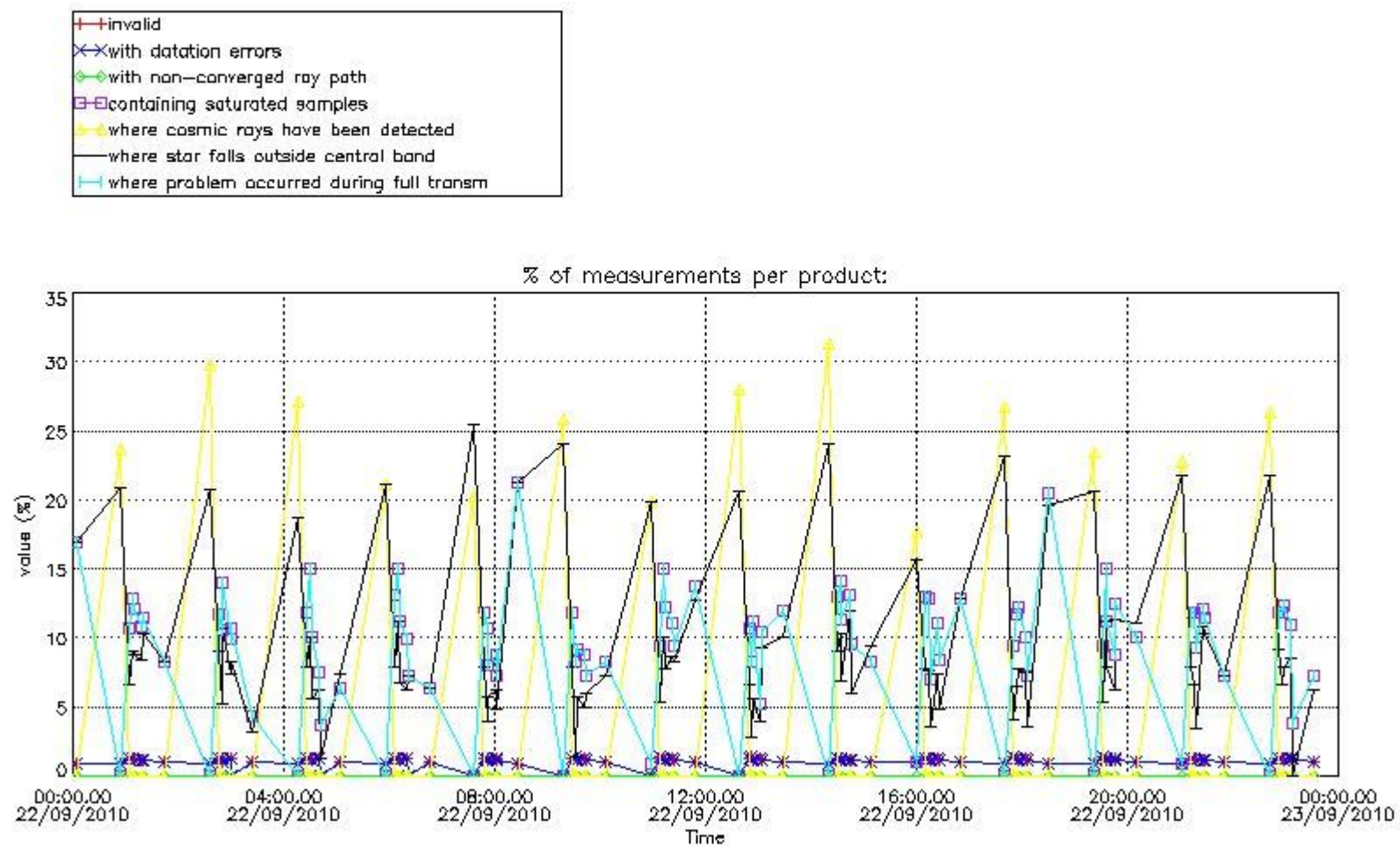
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

##### 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



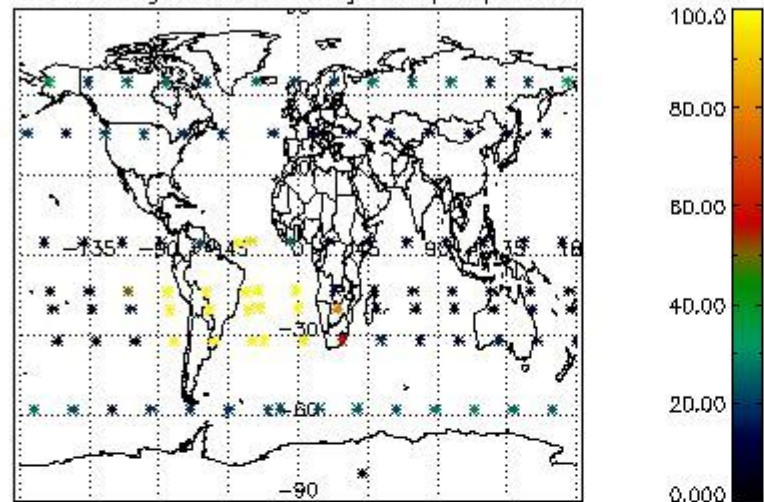
4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes



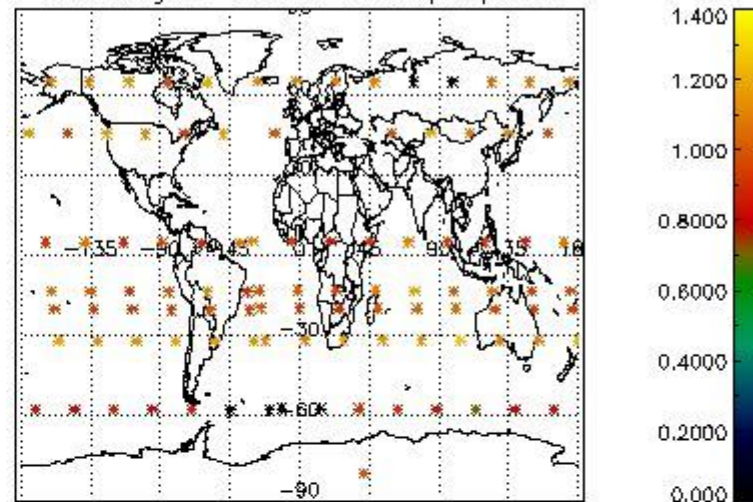
4.2 Plot quality information per product coming from level 1b processing (world map)

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

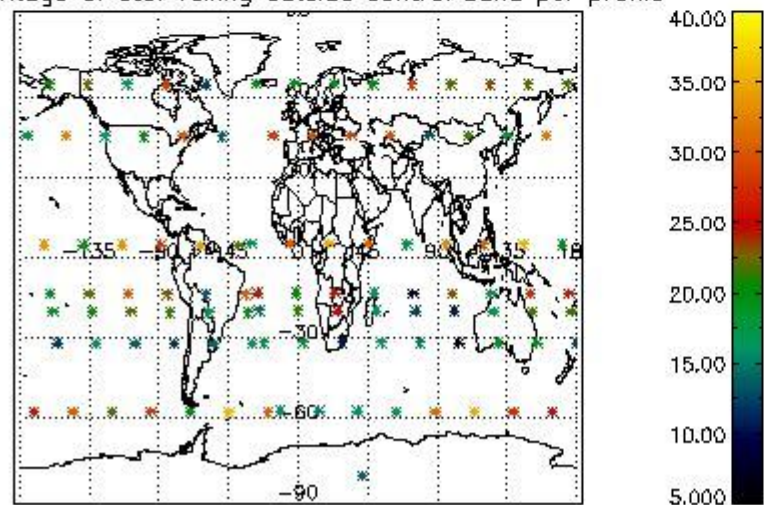
Percentage of cosmic ray hits per profile



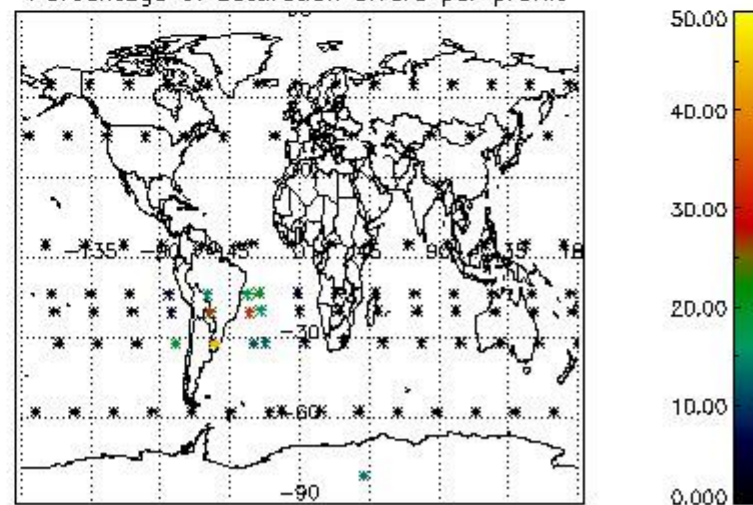
Percentage of datation errors per profile



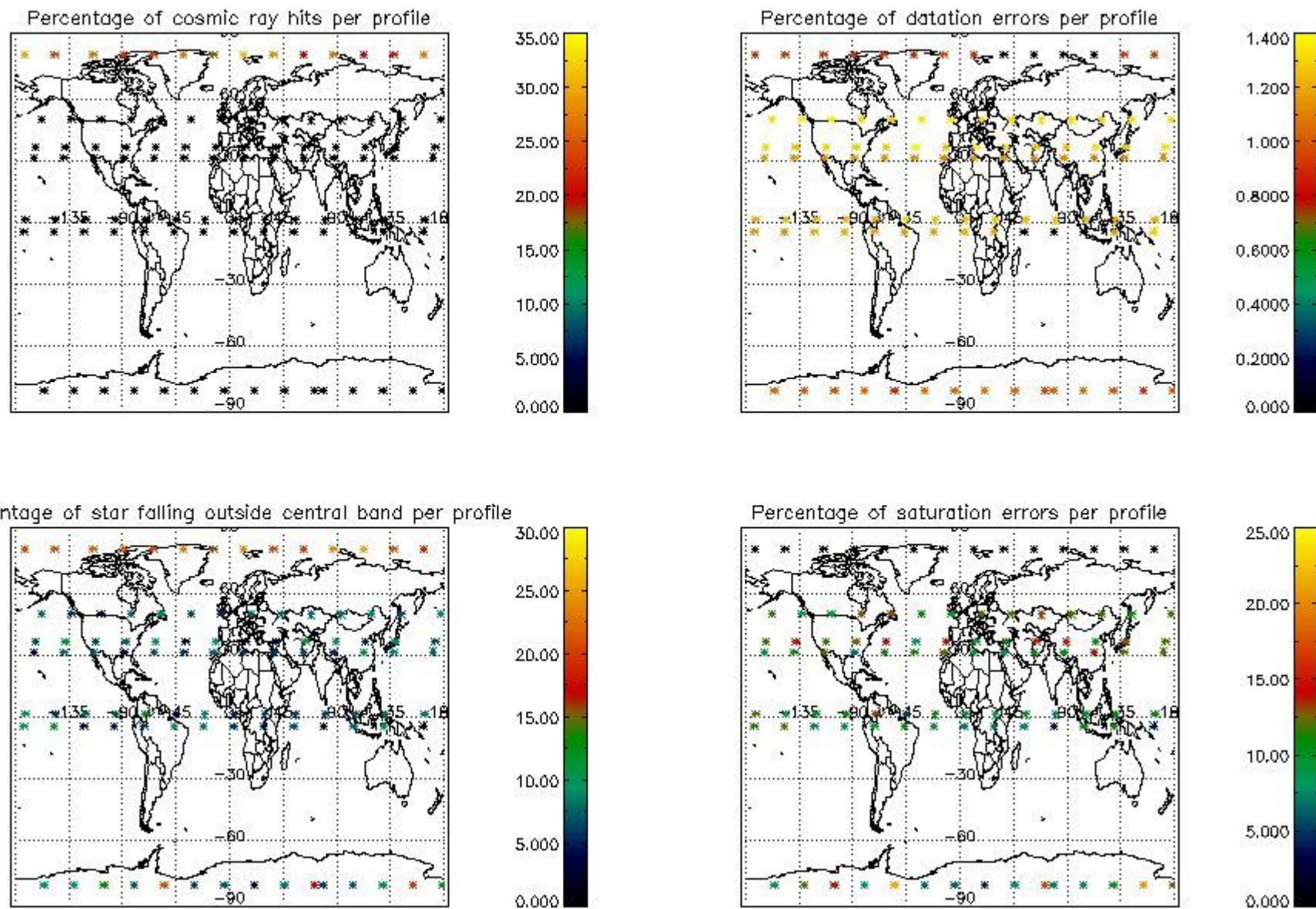
Percentage of star falling outside central band per profile



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

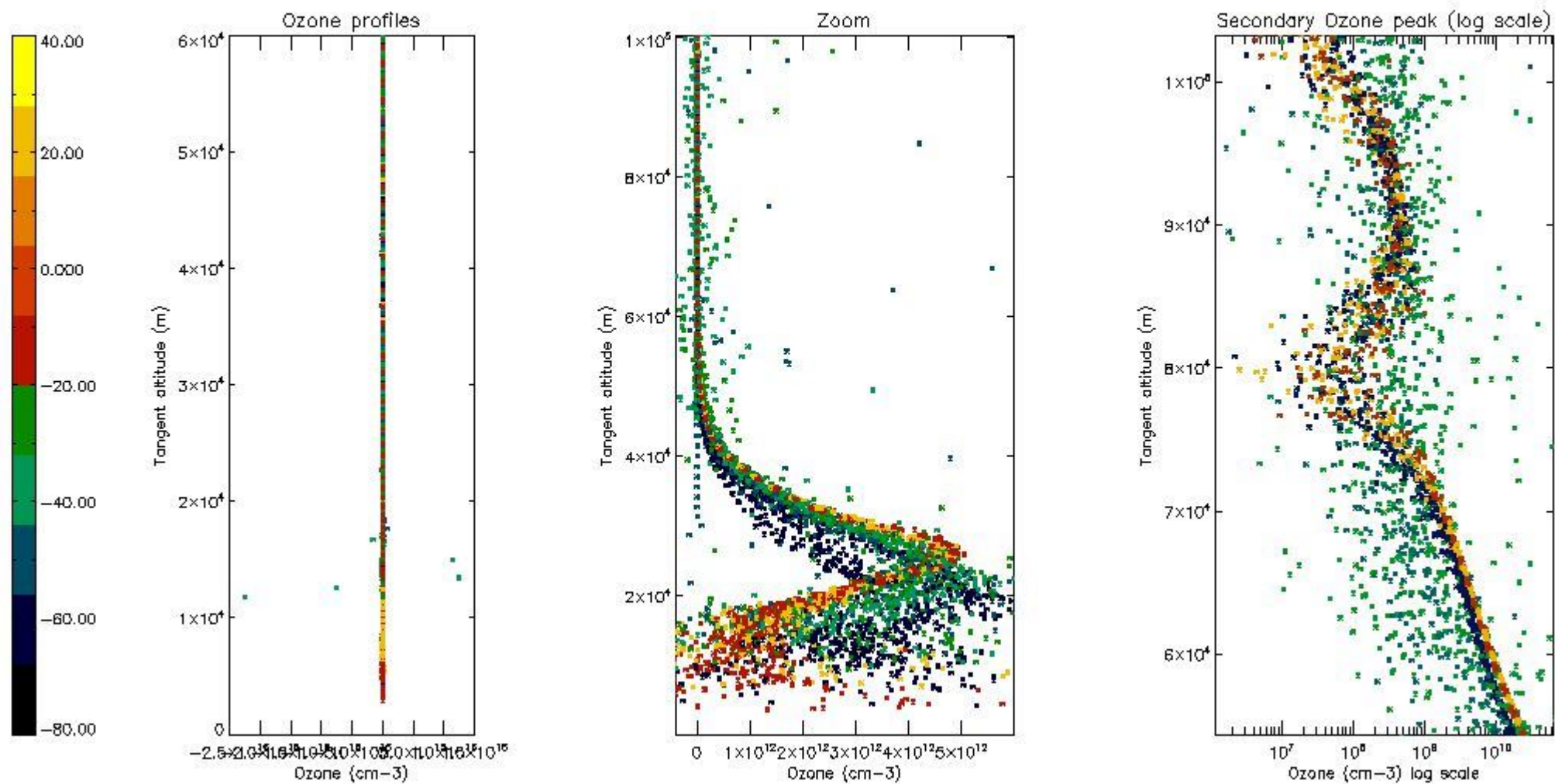
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	48
STD < 20	22

STD < 10	16
STD < 5	12

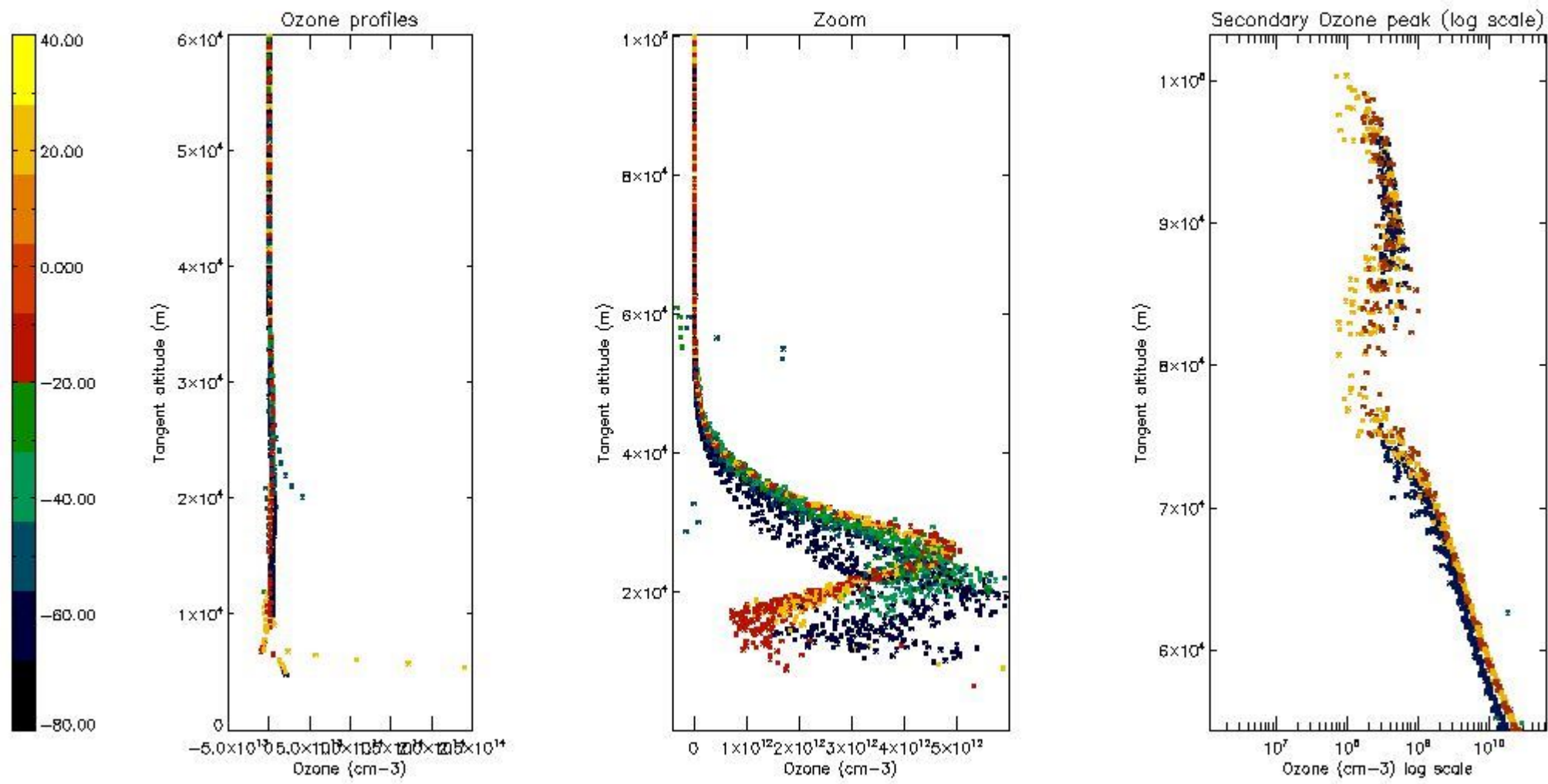
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



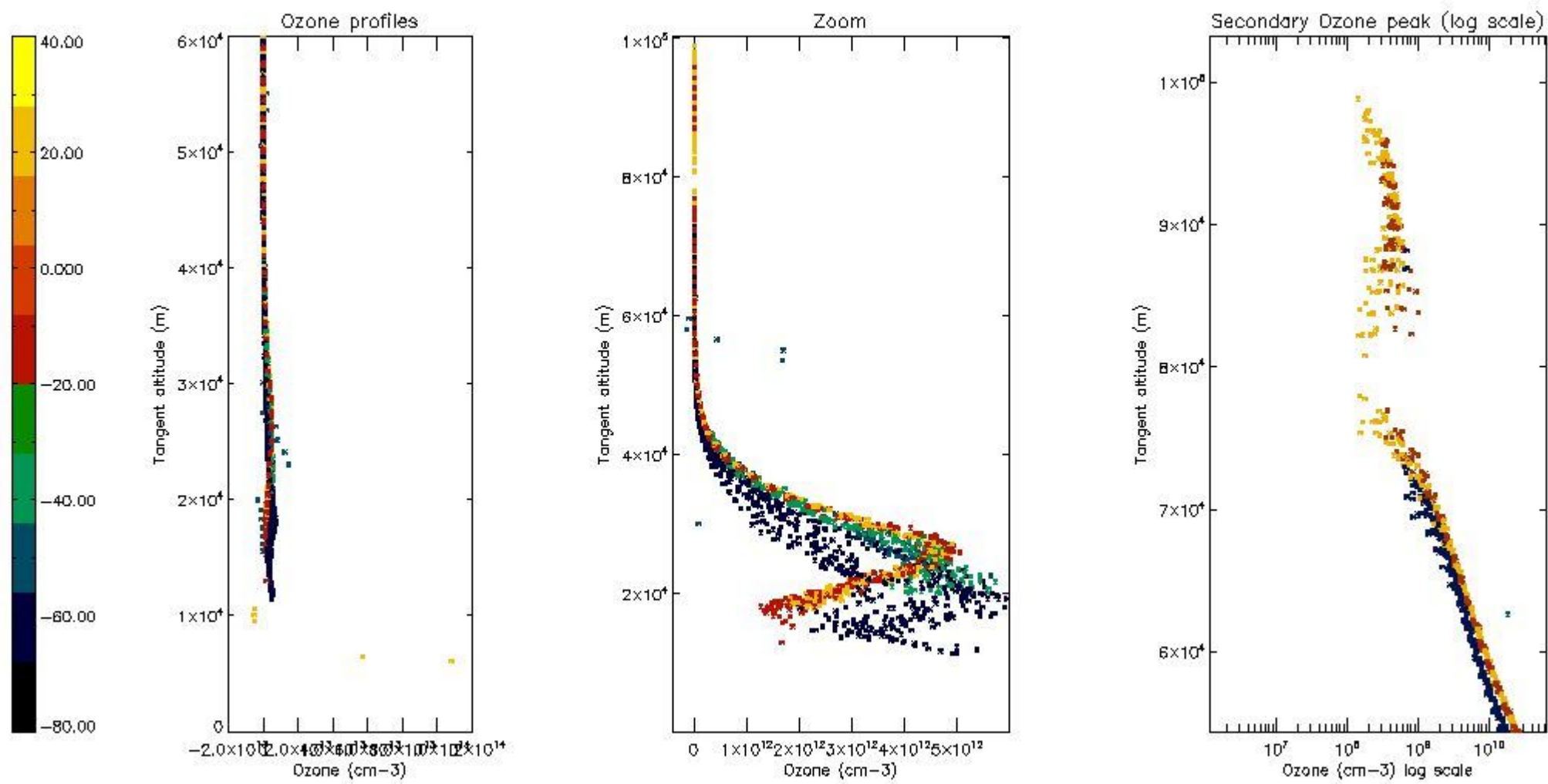
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



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

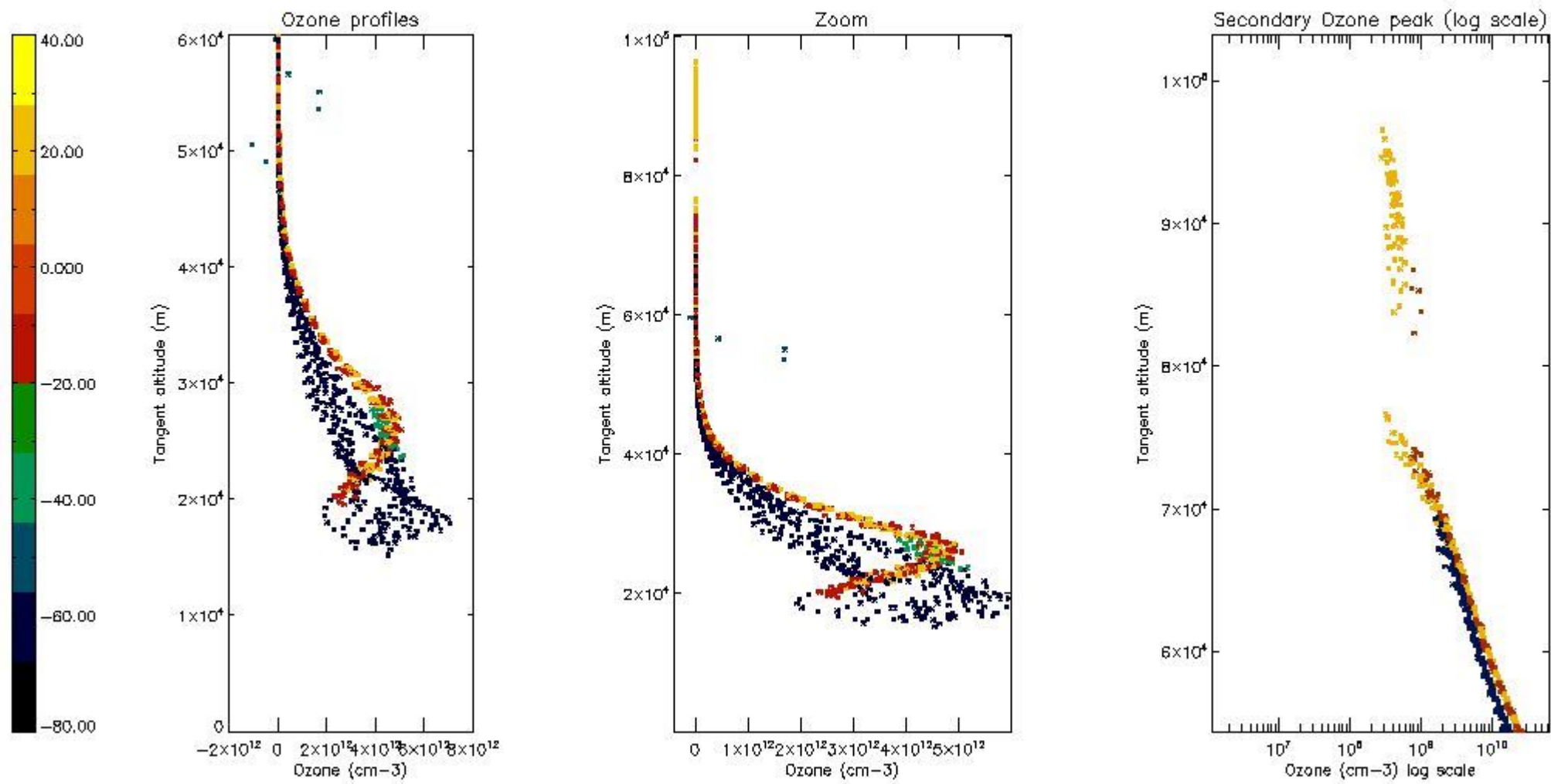
The colorbar represents the latitude.



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

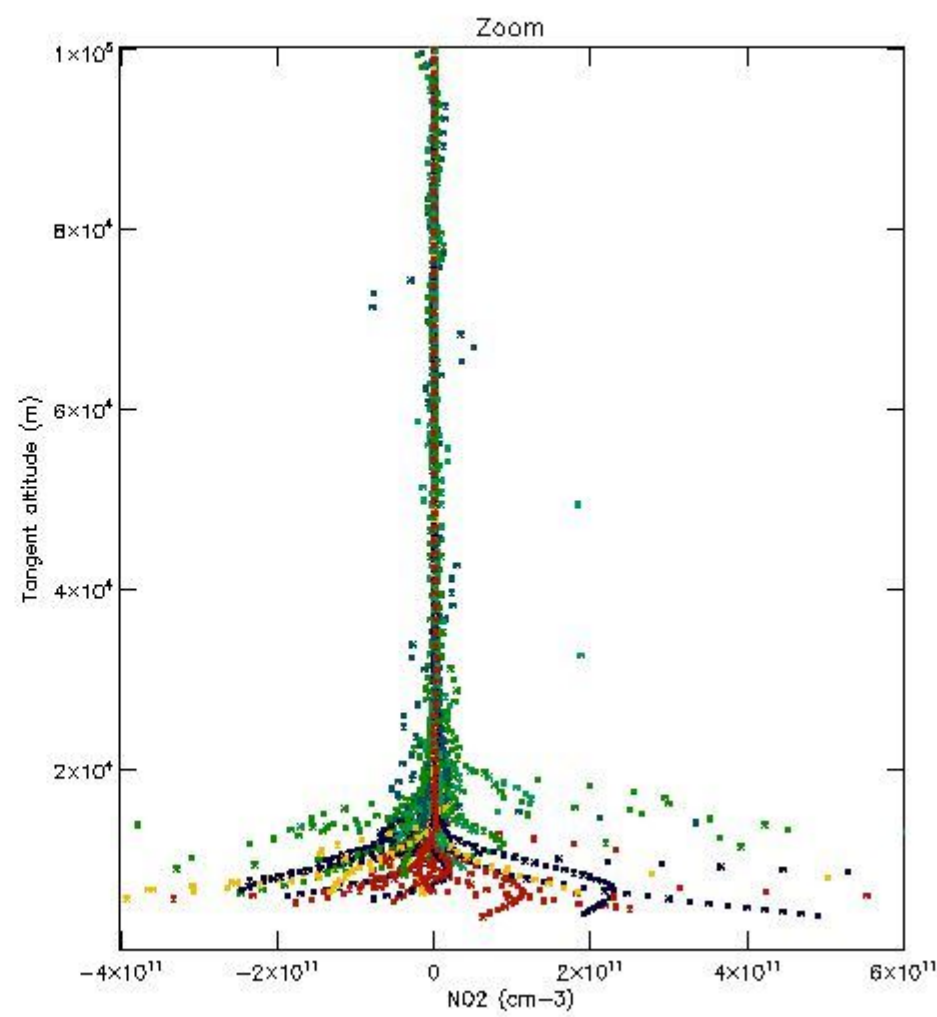
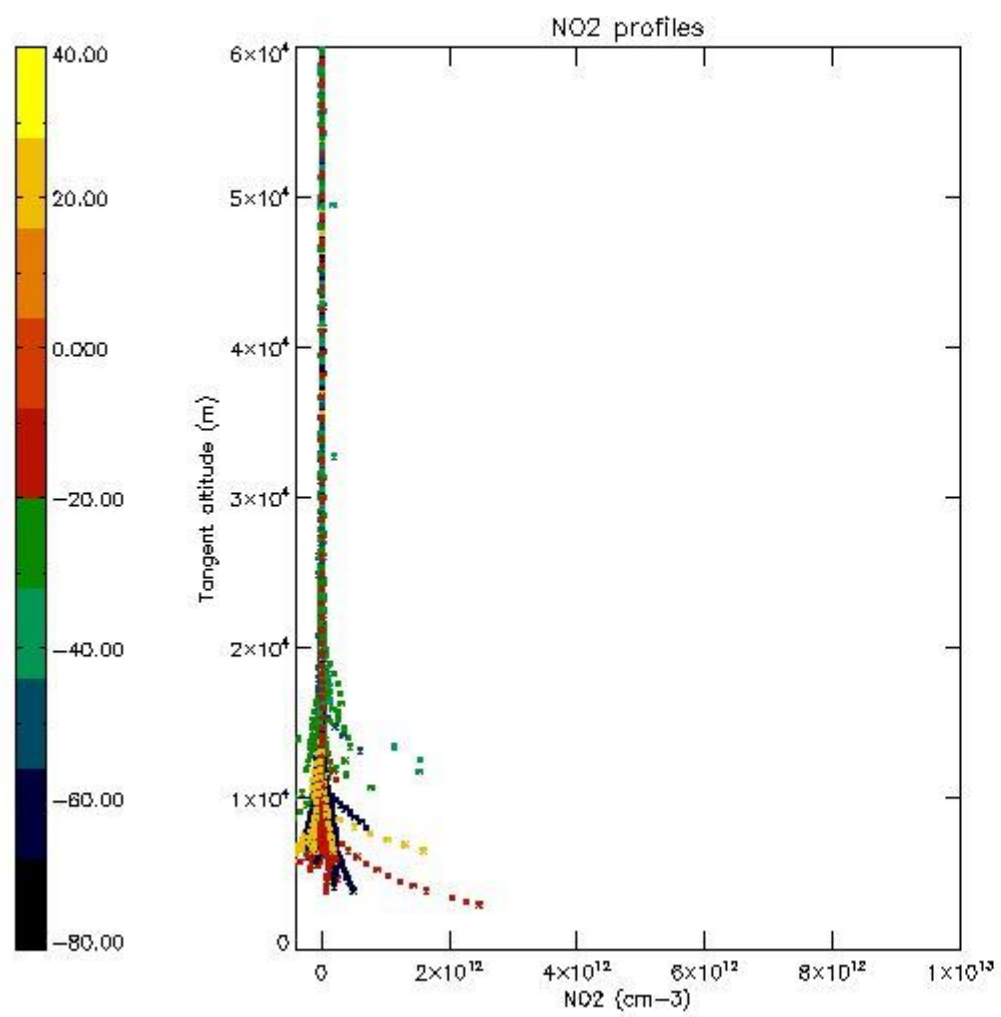
The colorbar represents the latitude.





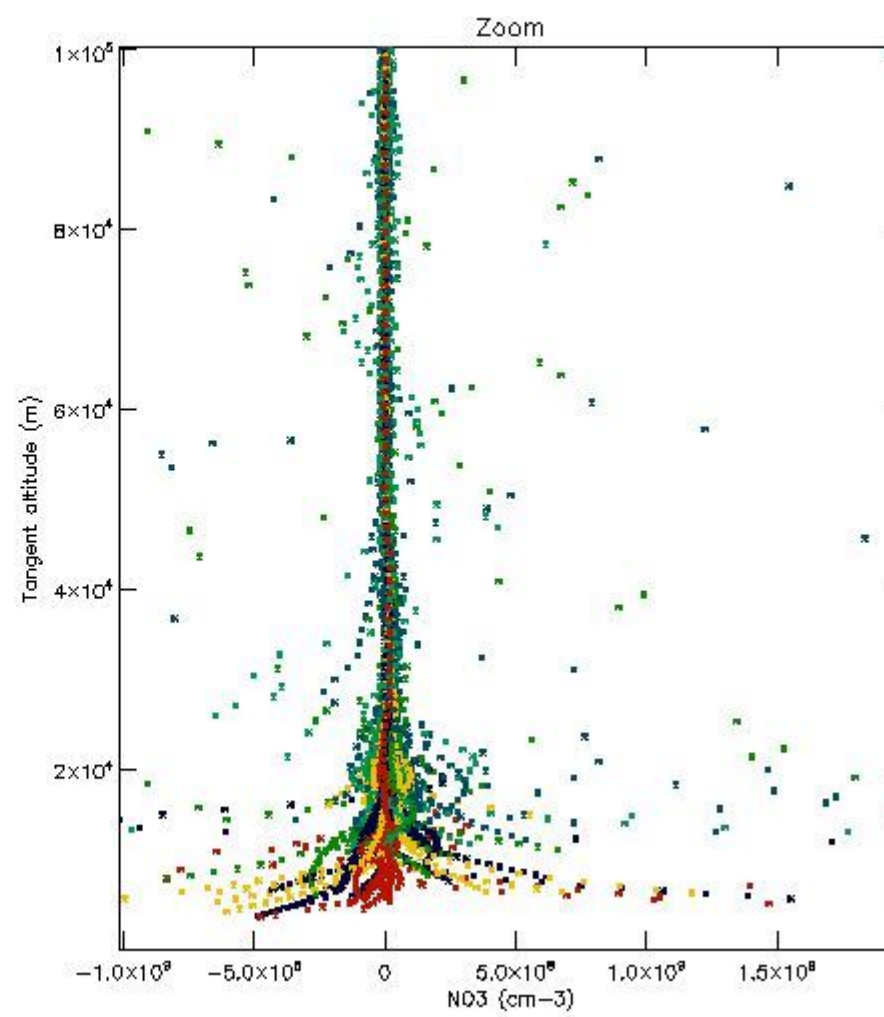
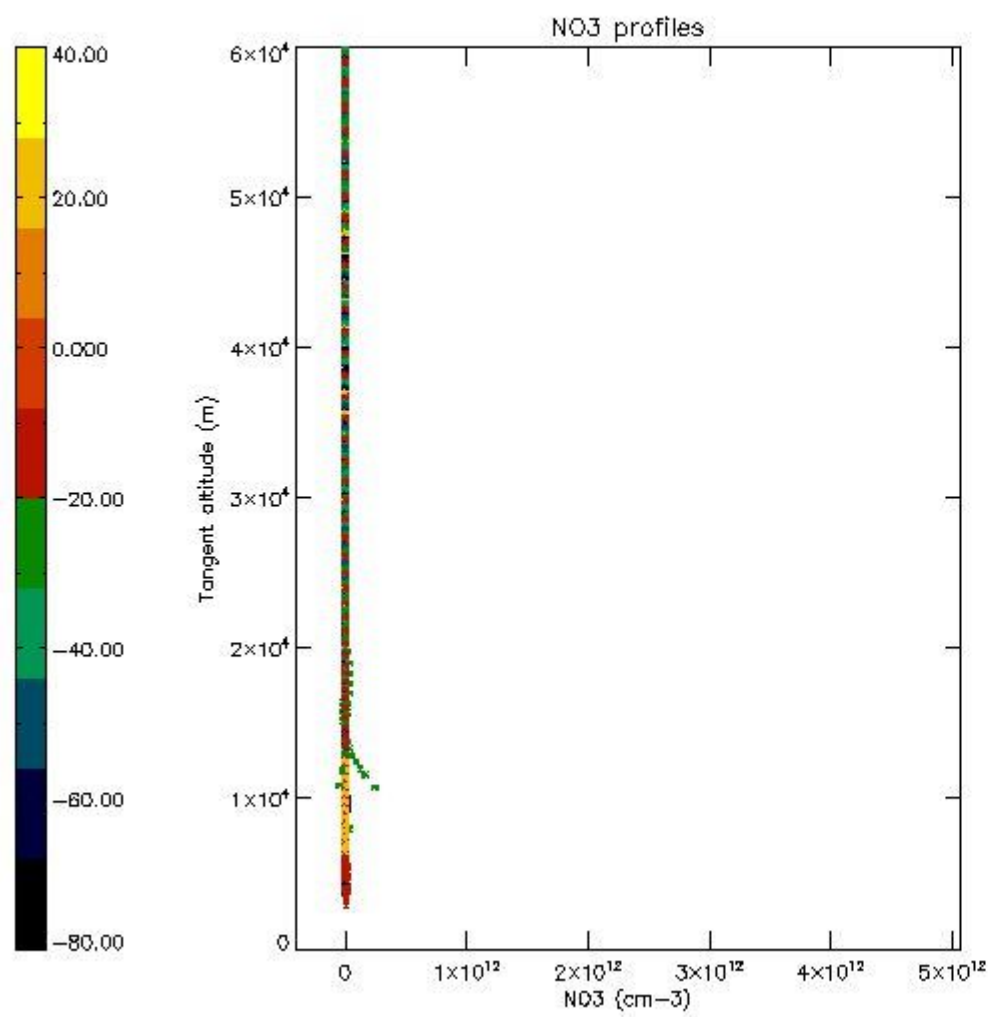
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

The colorbar represents the latitude.



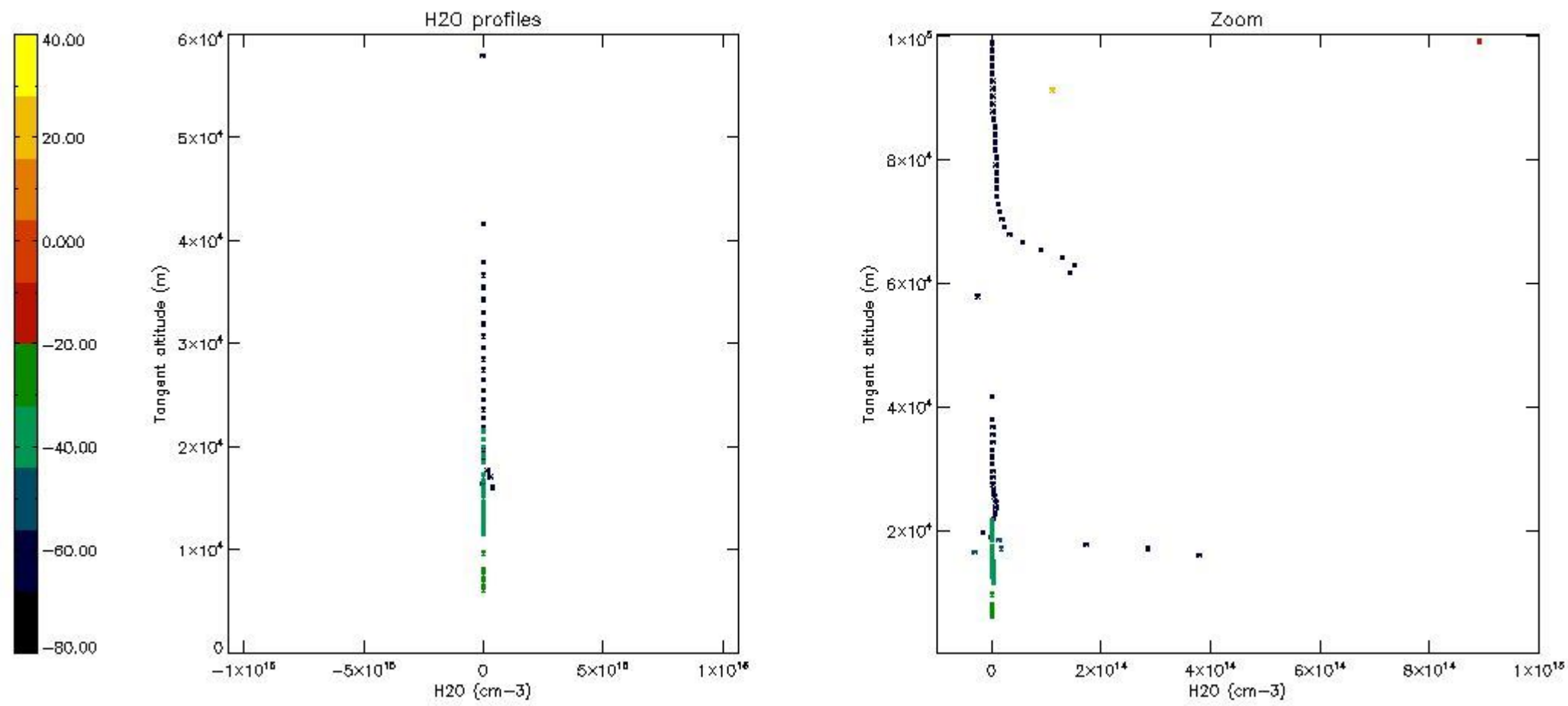
*5.7 Plot NO3 profiles for all STD (dark without errors)*

The colorbar represents the latitude.



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

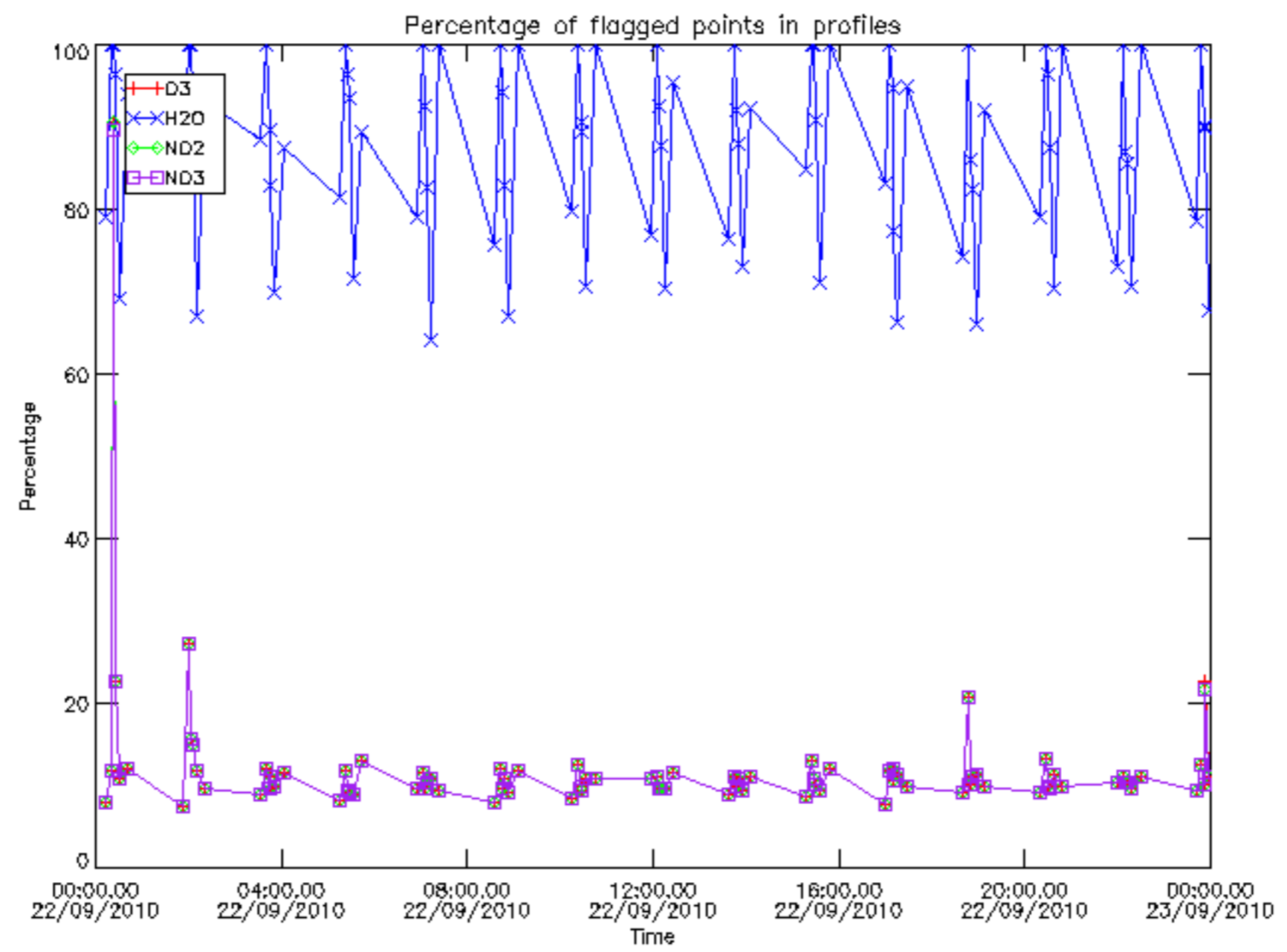
The colorbar represents the latitude.



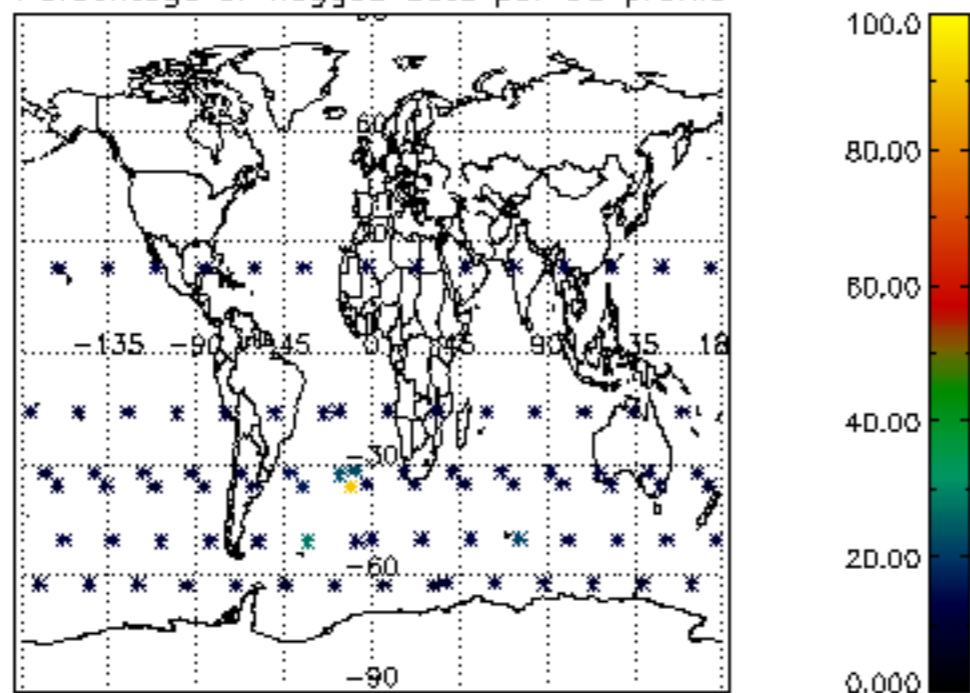
## 6. Auxiliary Data Files used for the production reported in section 2

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

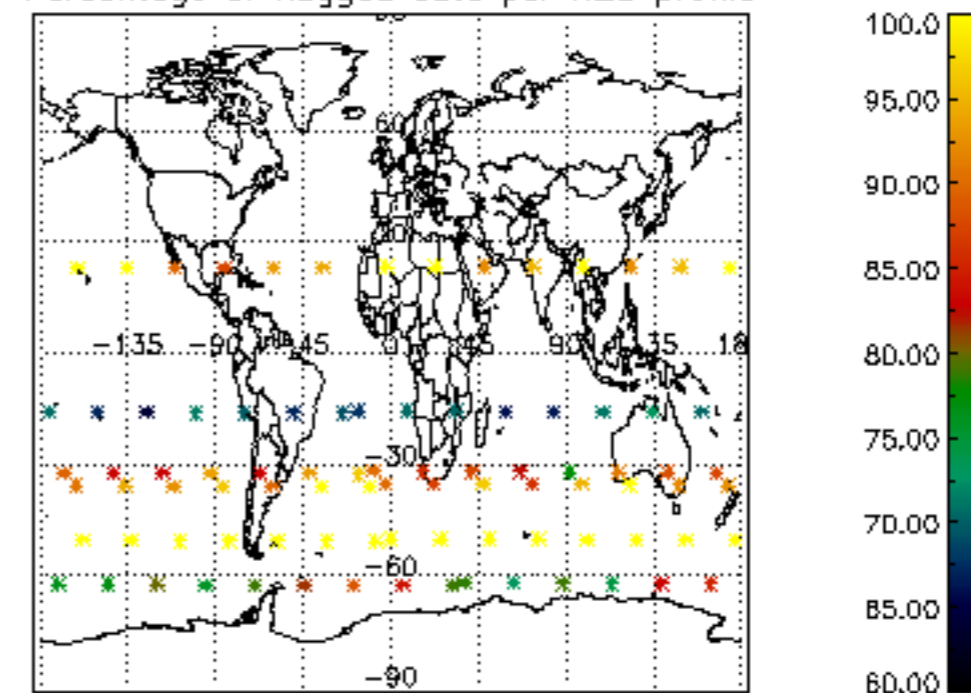
Type	Auxiliary Filename	Used since product	Used since product date
INST_PHYS_CHARACTERISTICS	GOM_INS_AXVIEC20091111_143220_20030716_120000_20500101_000000	1	22-SEP-2010 00:03:04
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	22-SEP-2010 00:03:04
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	22-SEP-2010 00:03:04



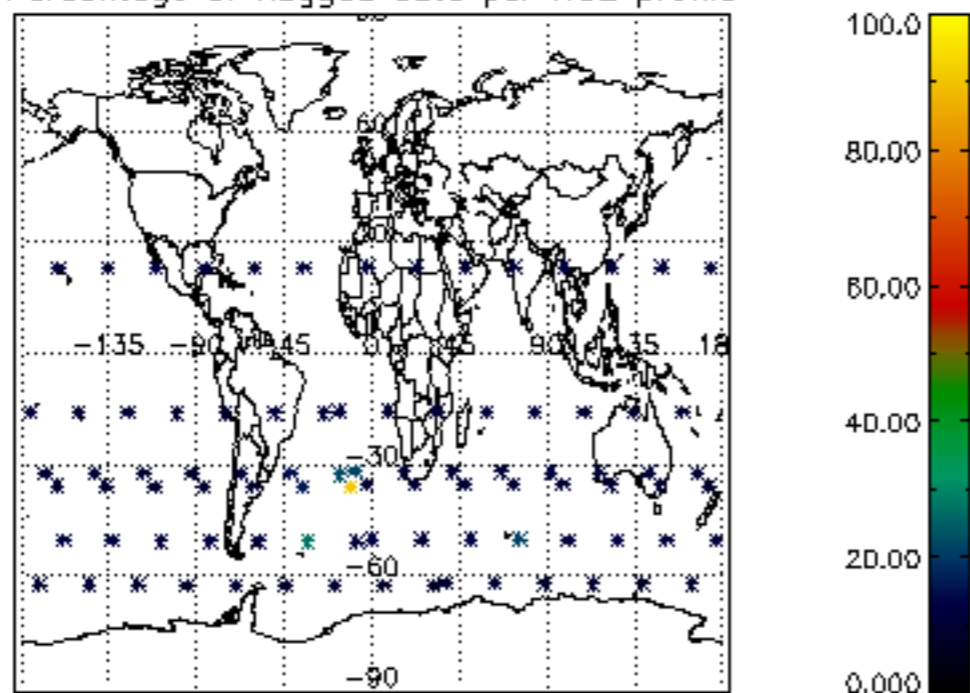
Percentage of flagged data per D3 profile



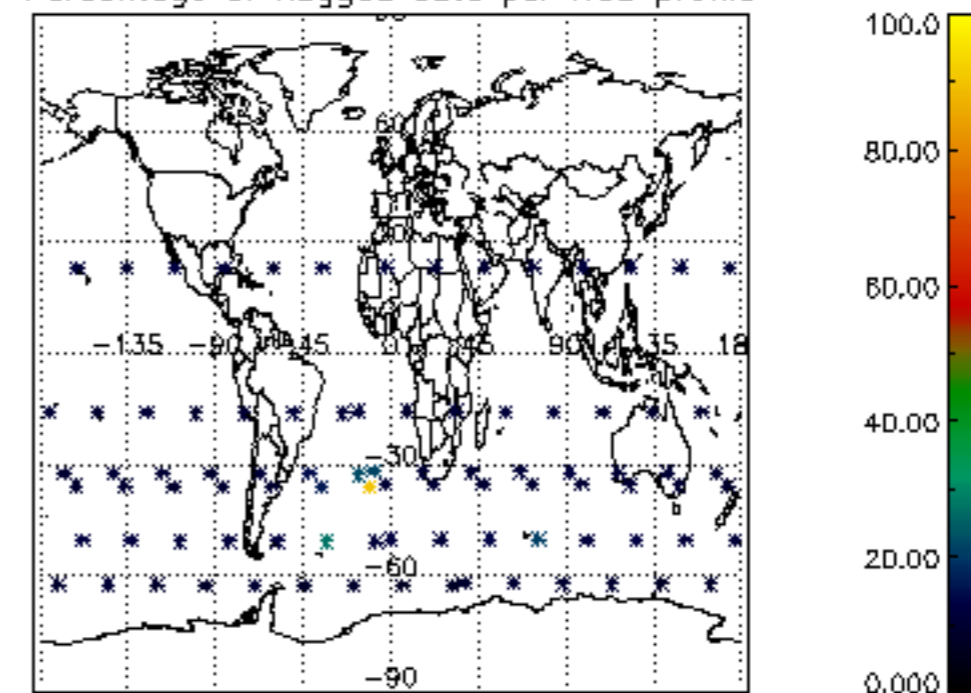
Percentage of flagged data per H2O profile

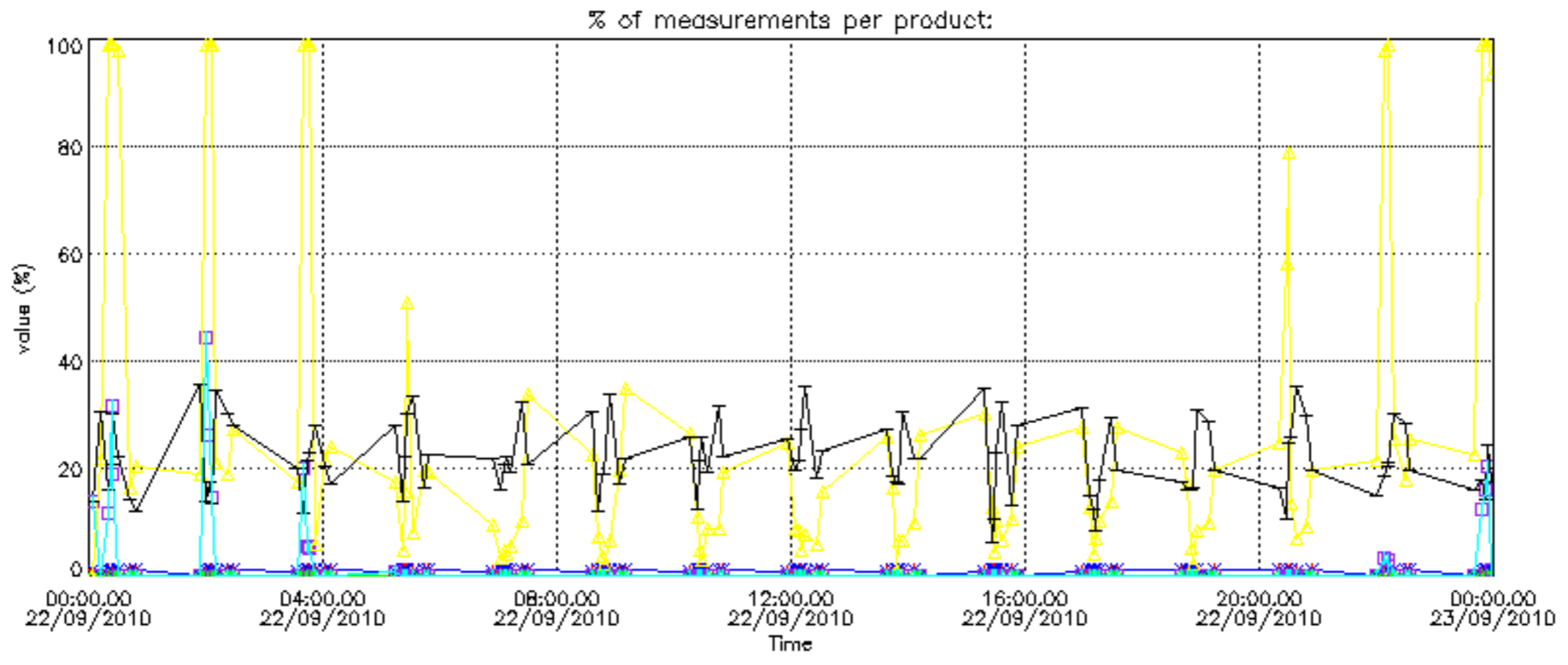


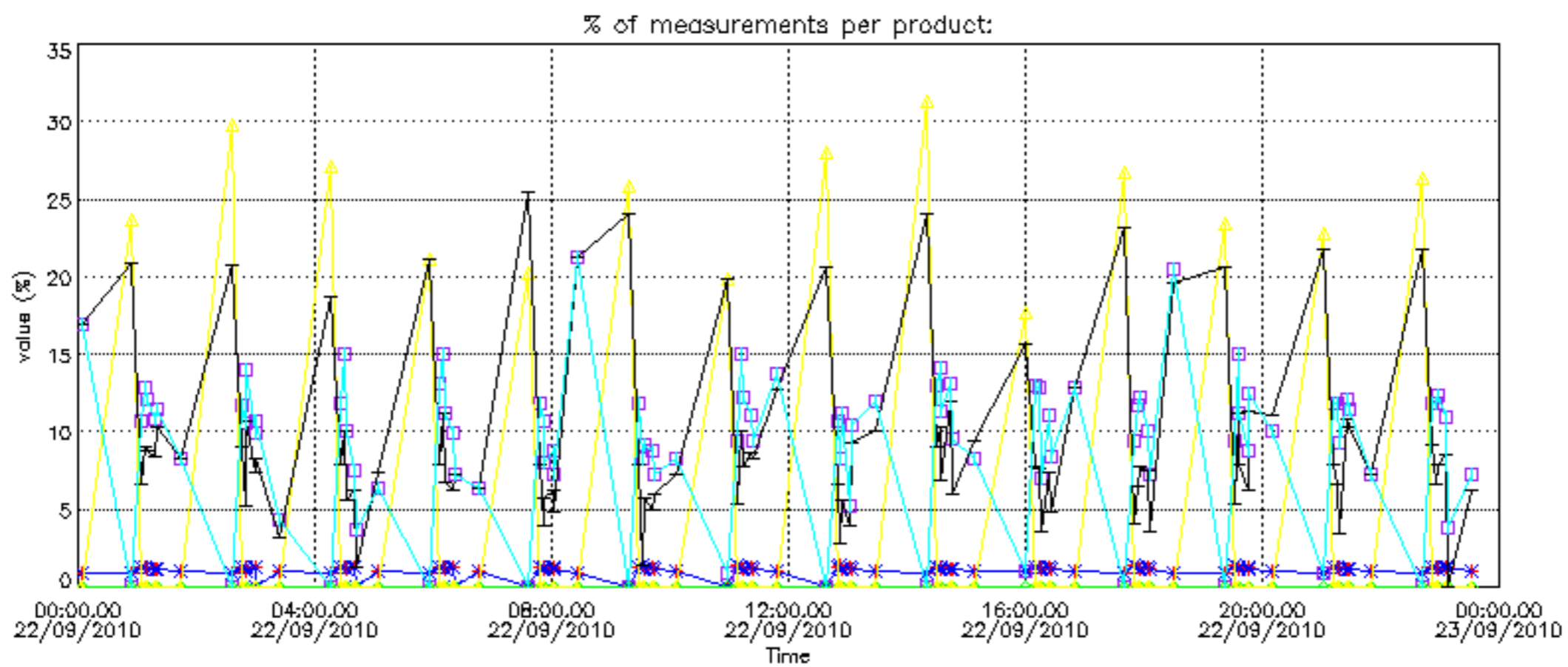
Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

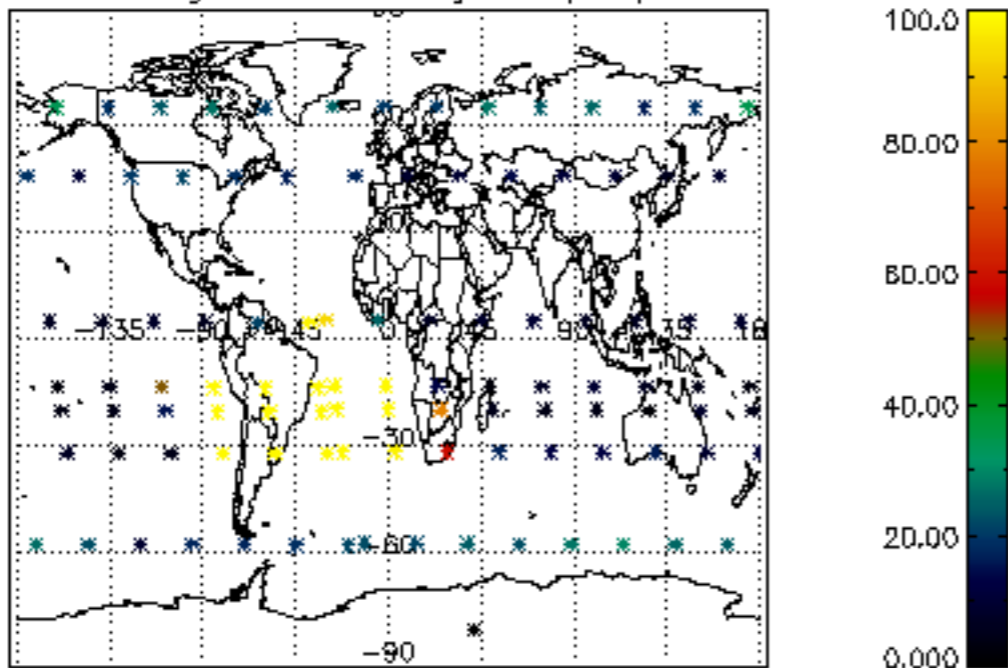




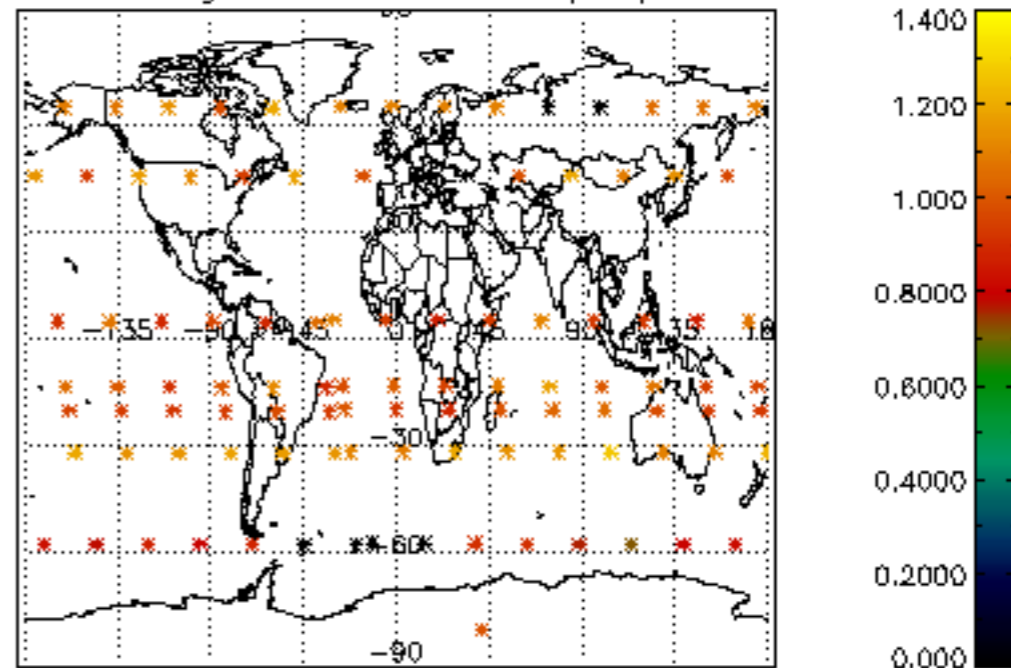




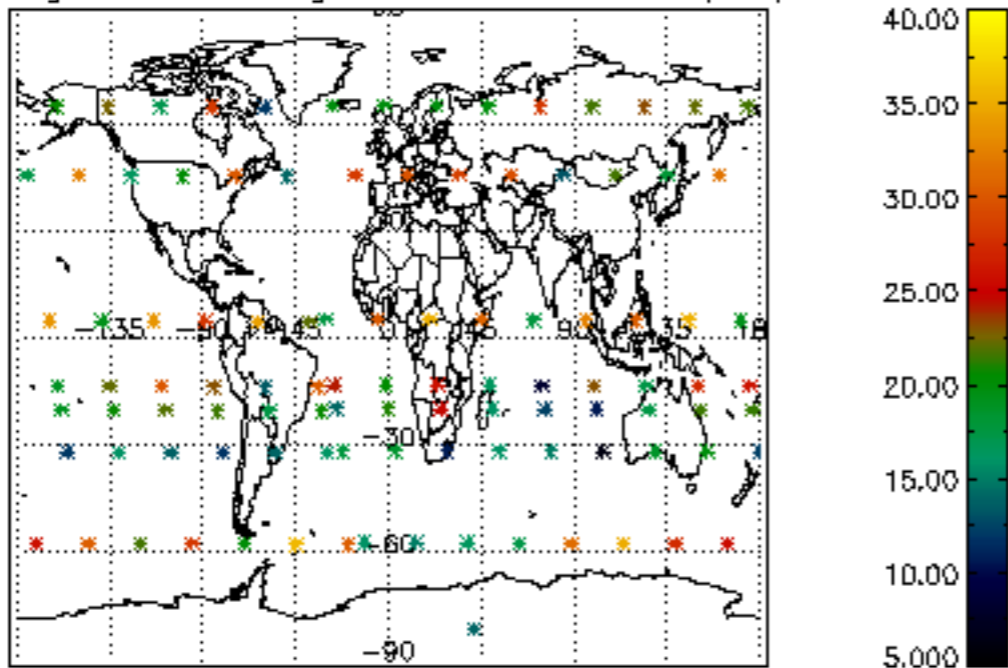
Percentage of cosmic ray hits per profile



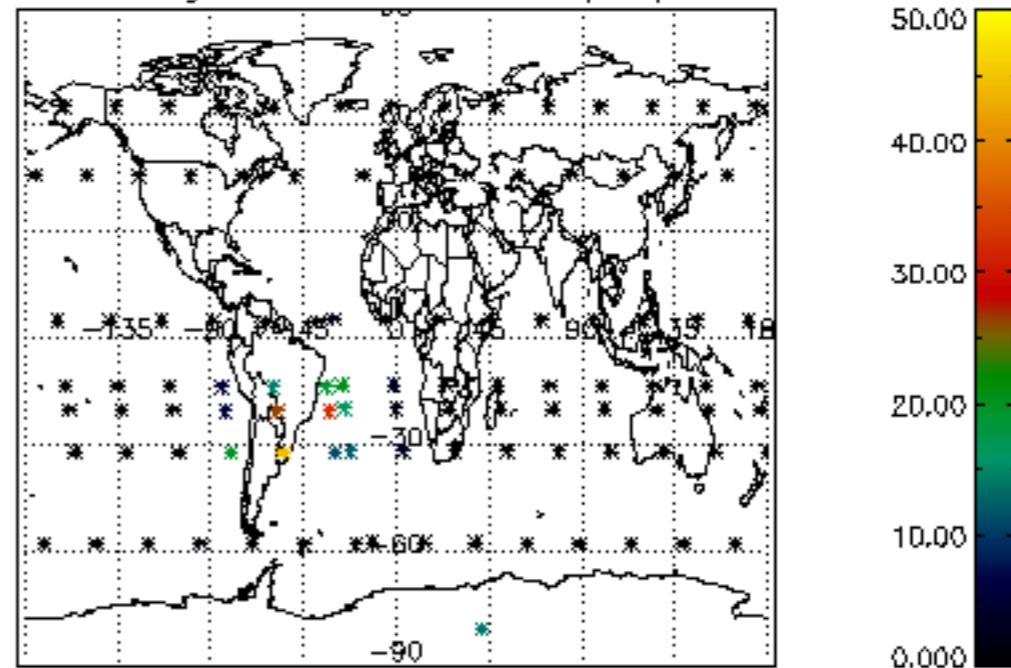
Percentage of datation errors per profile



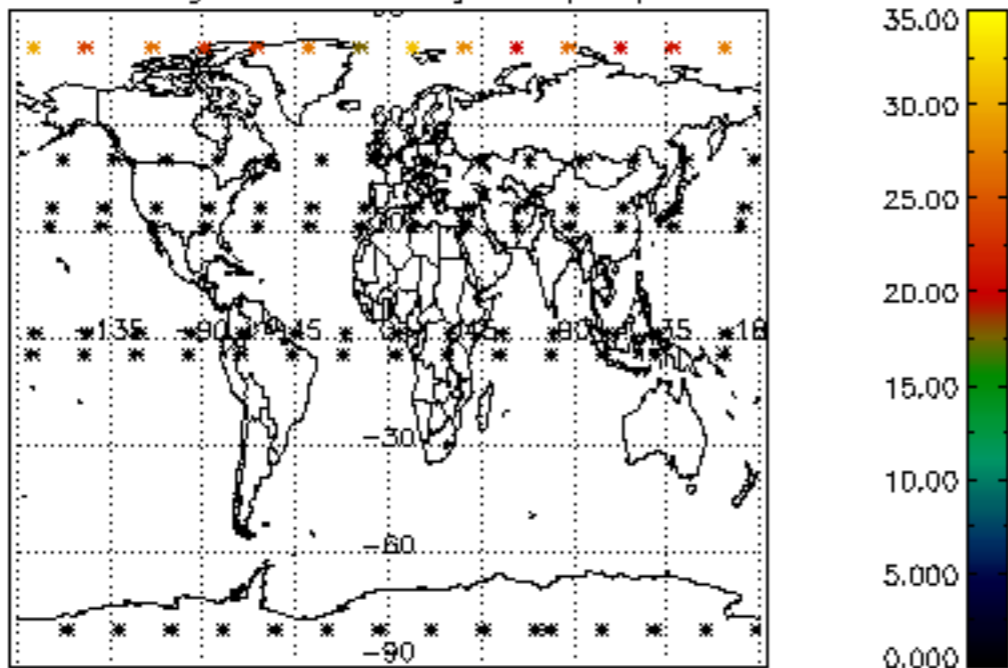
Percentage of star falling outside central band per profile



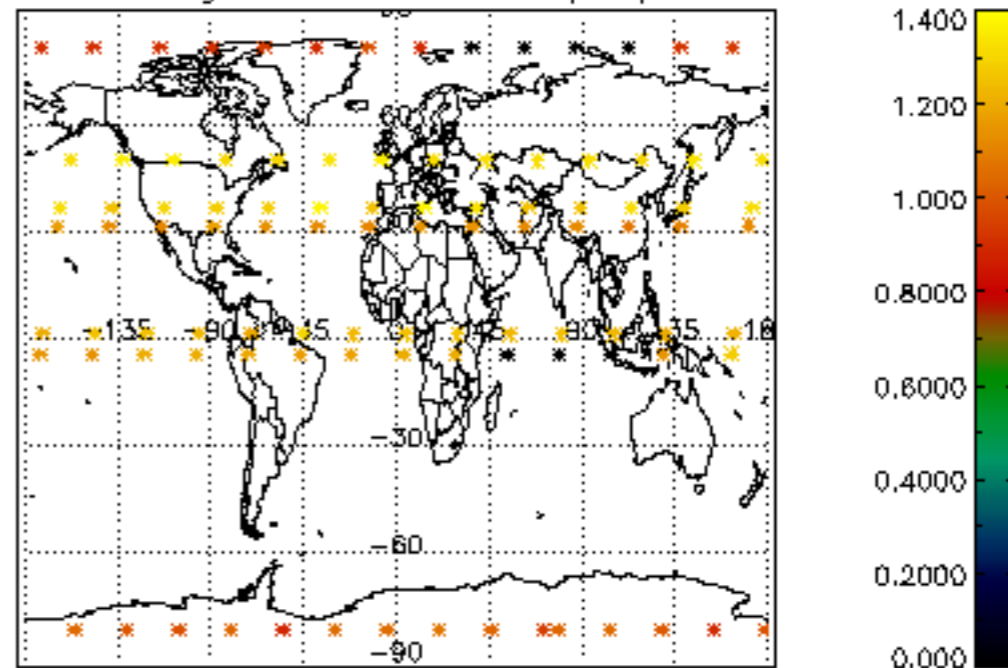
Percentage of saturation errors per profile



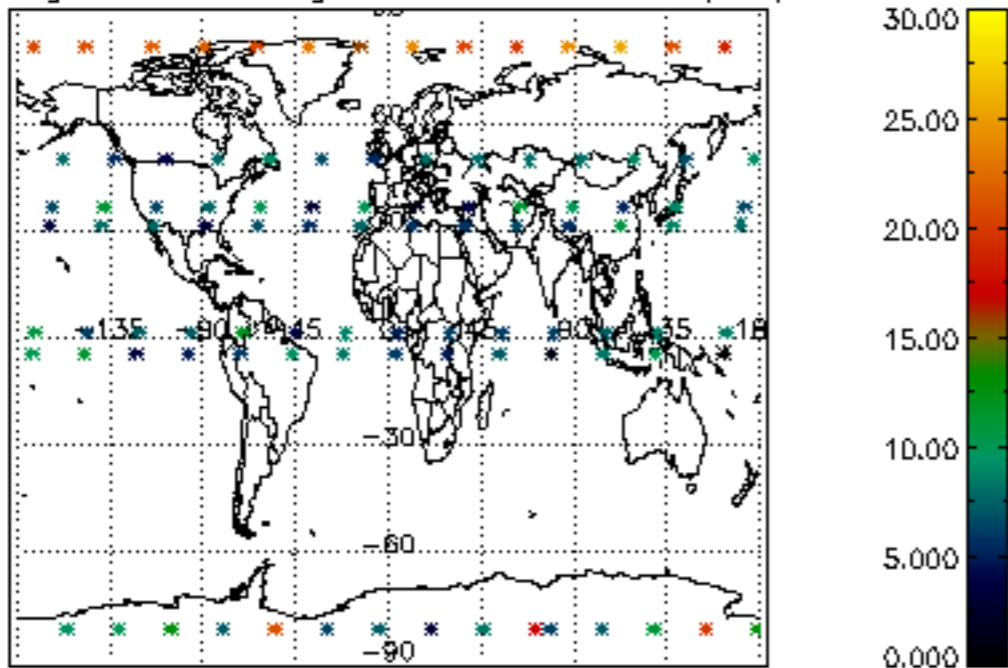
Percentage of cosmic ray hits per profile



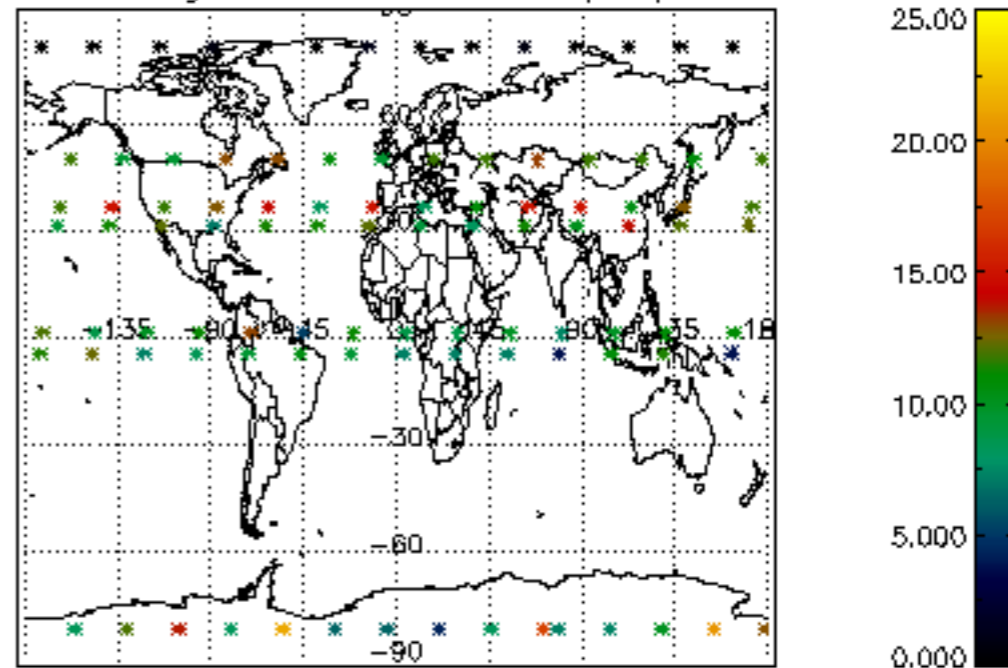
Percentage of datation errors per profile

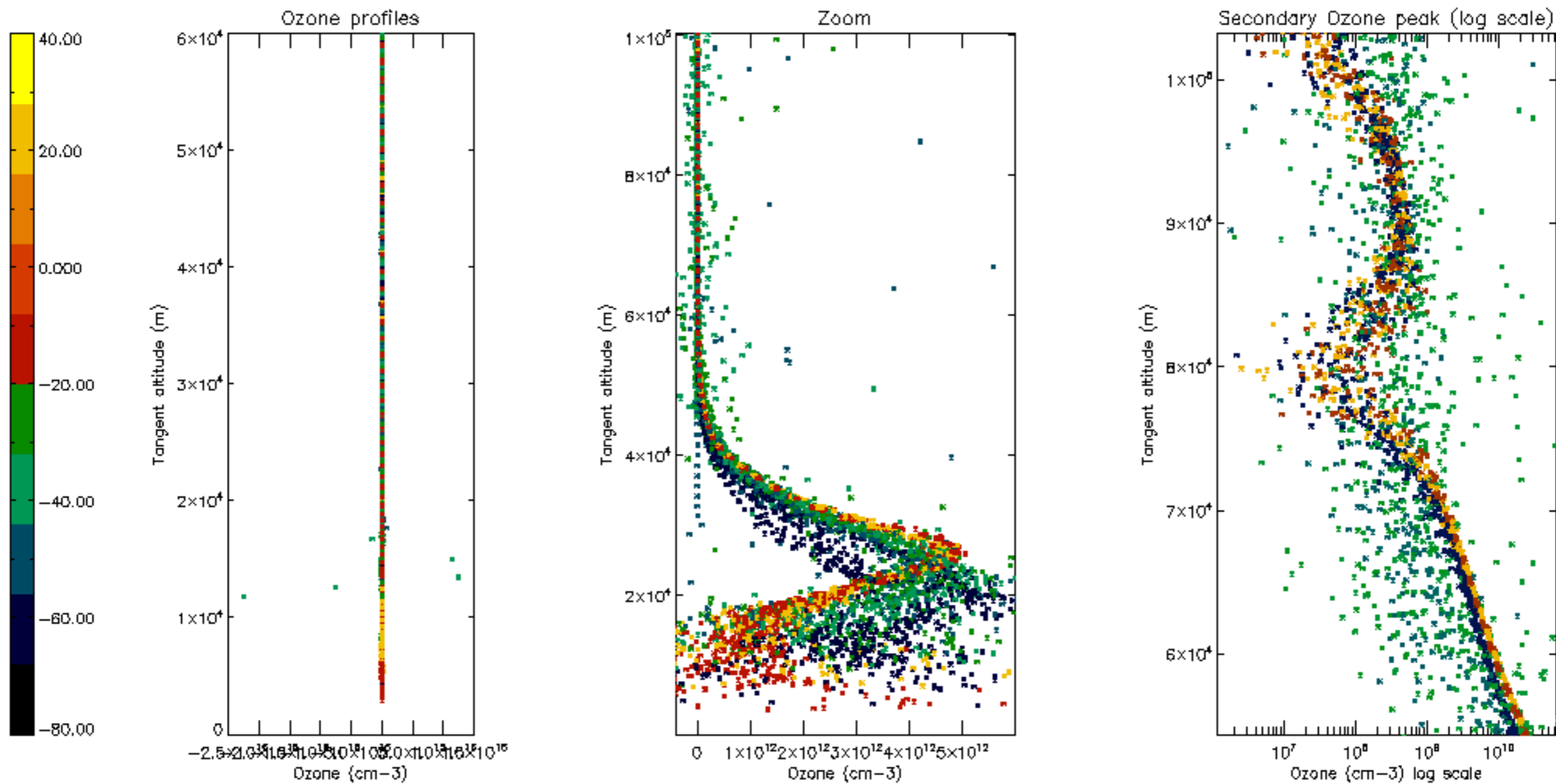


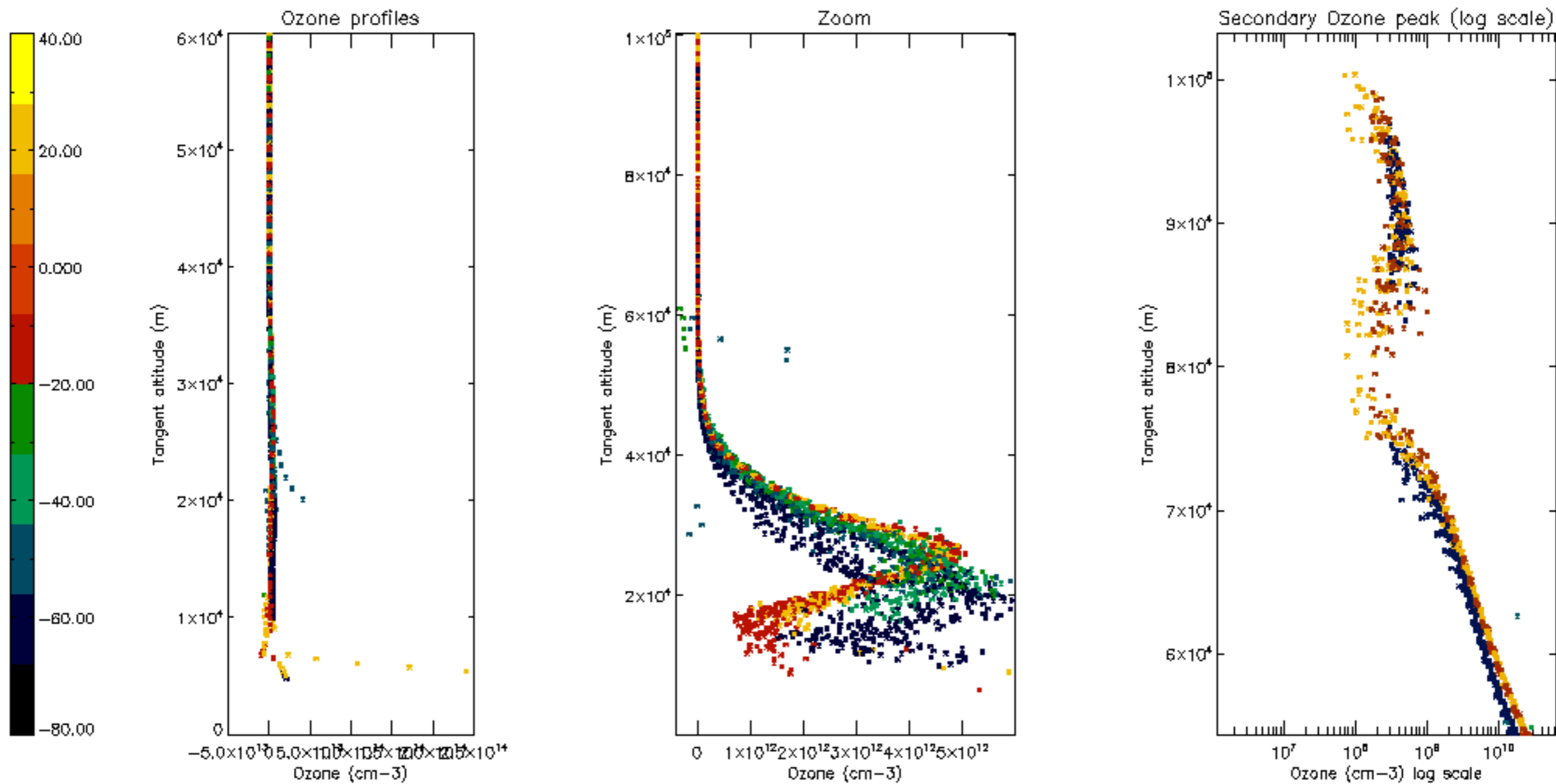
Percentage of star falling outside central band per profile

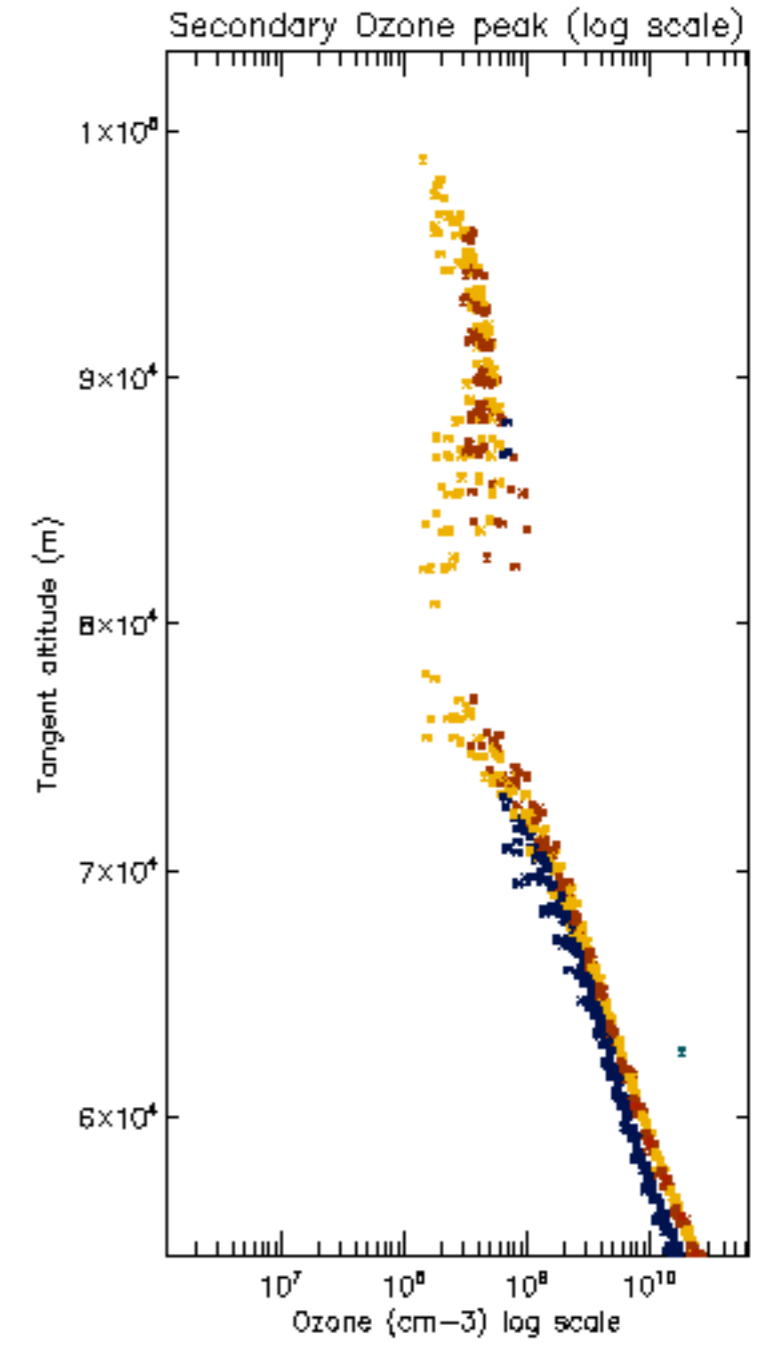
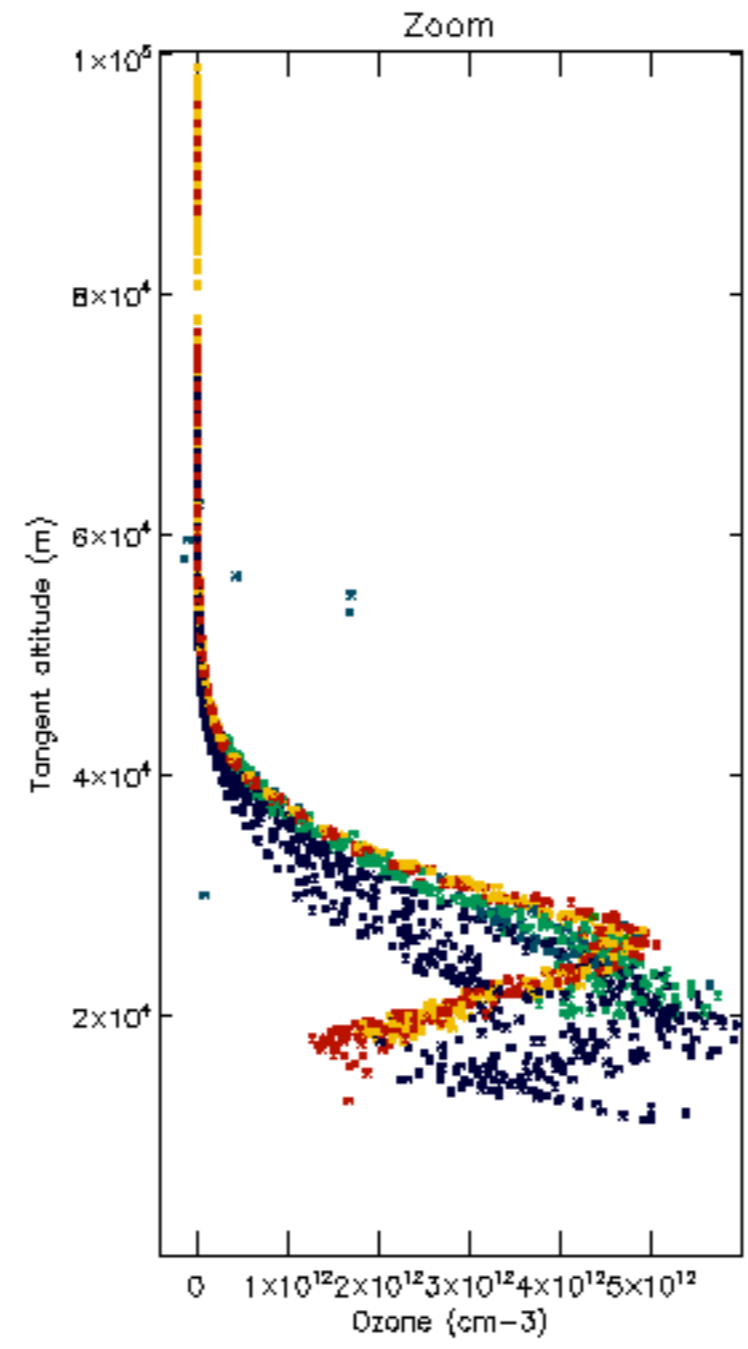
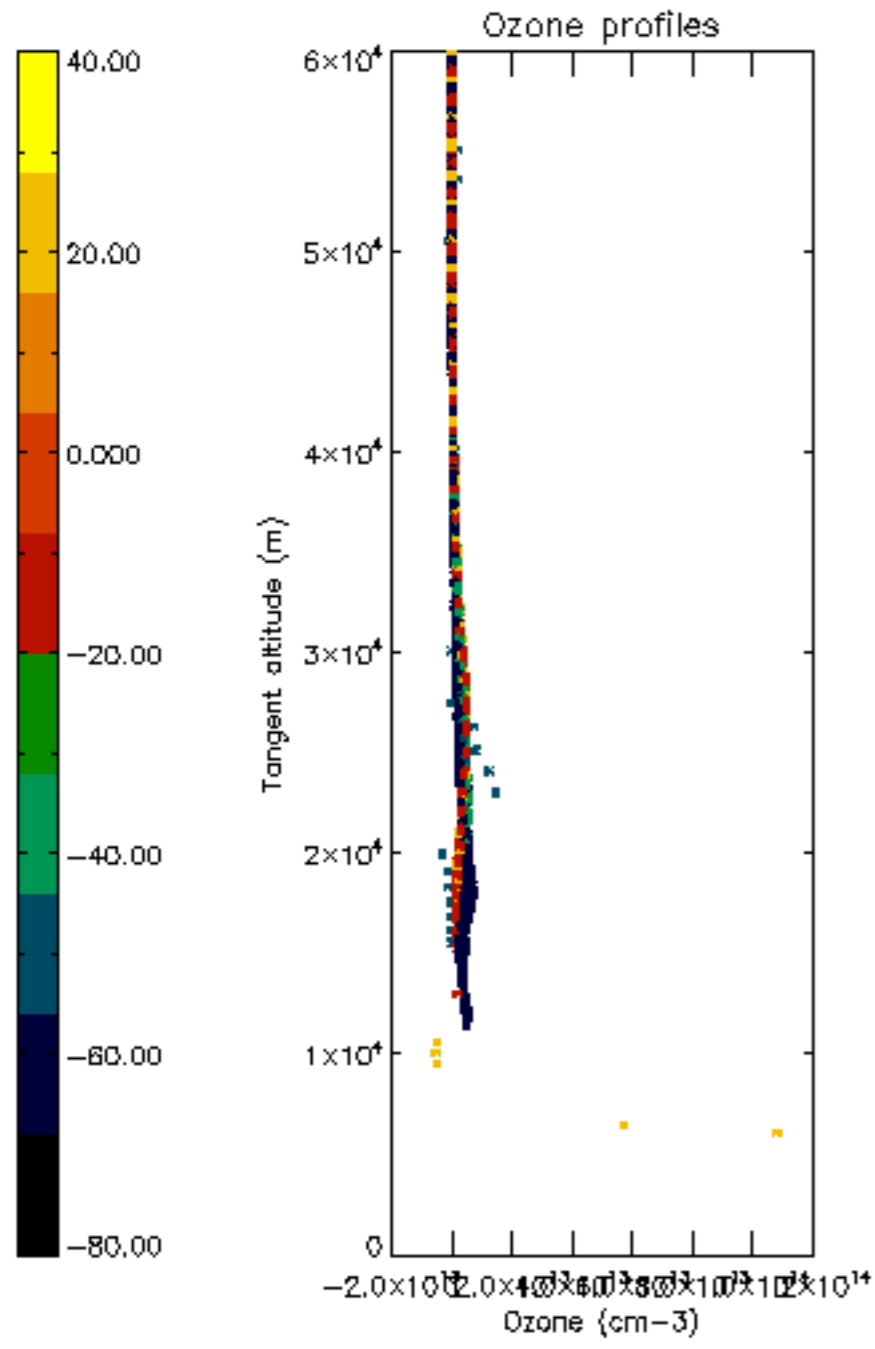


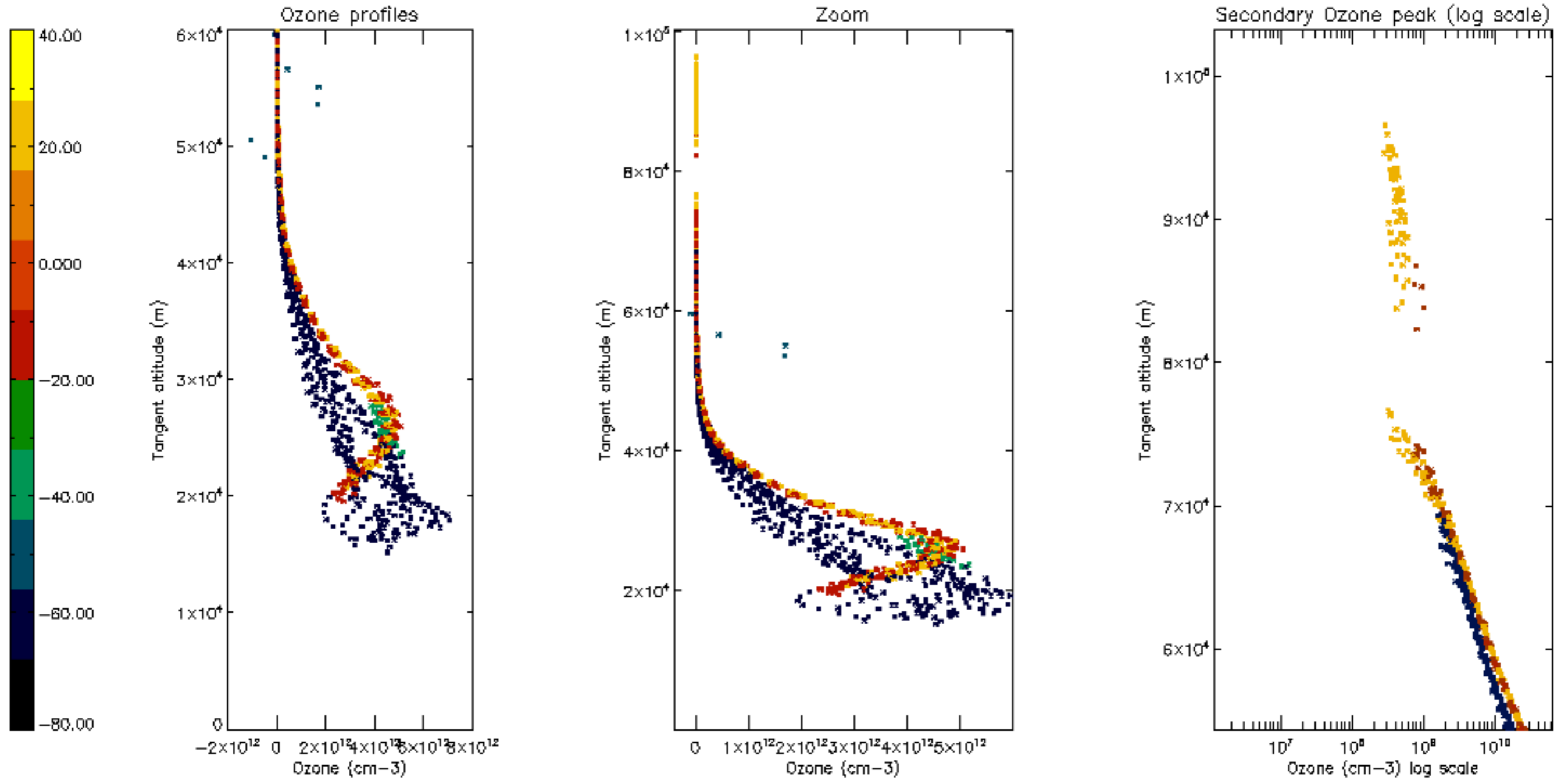
Percentage of saturation errors per profile

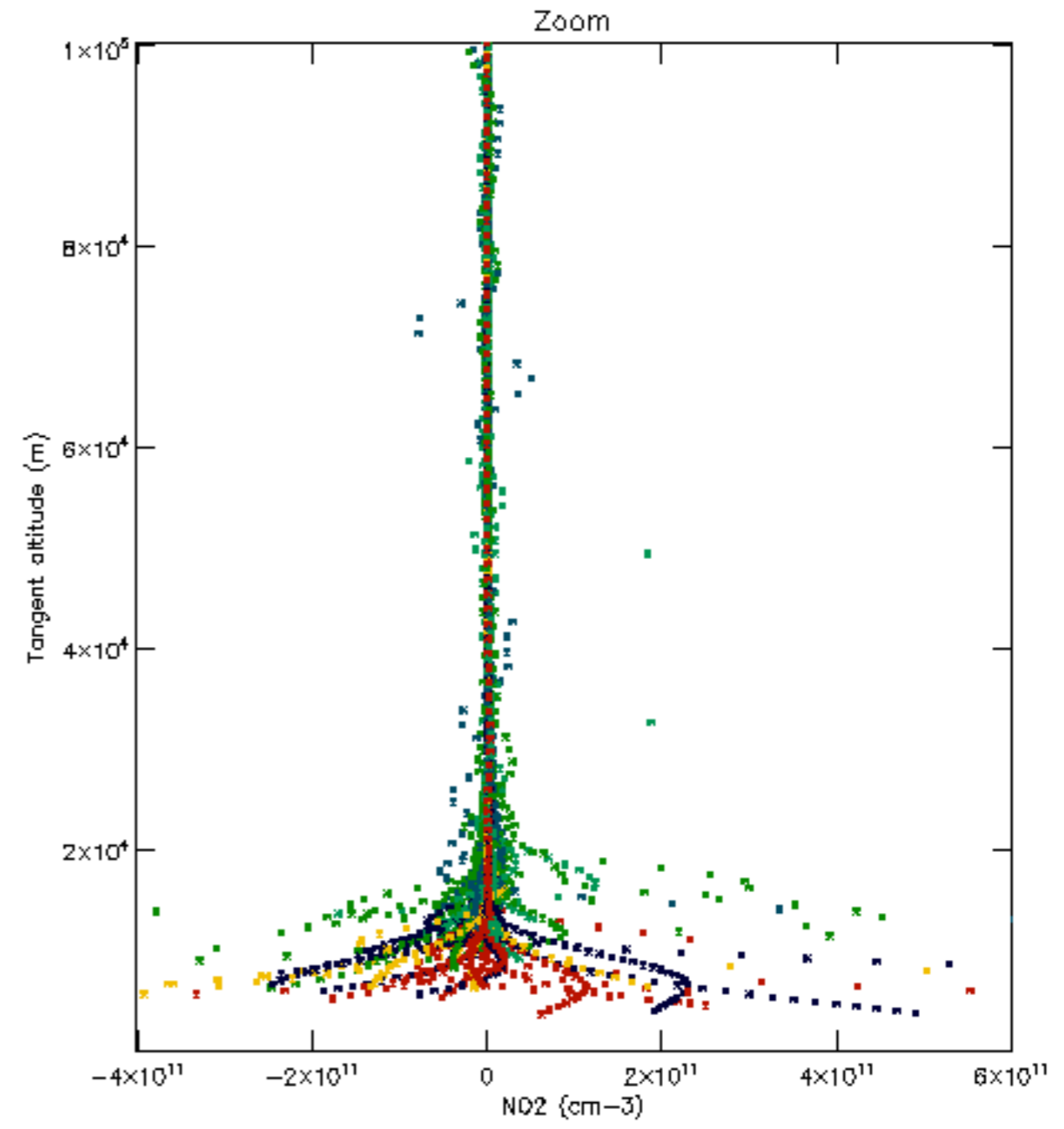
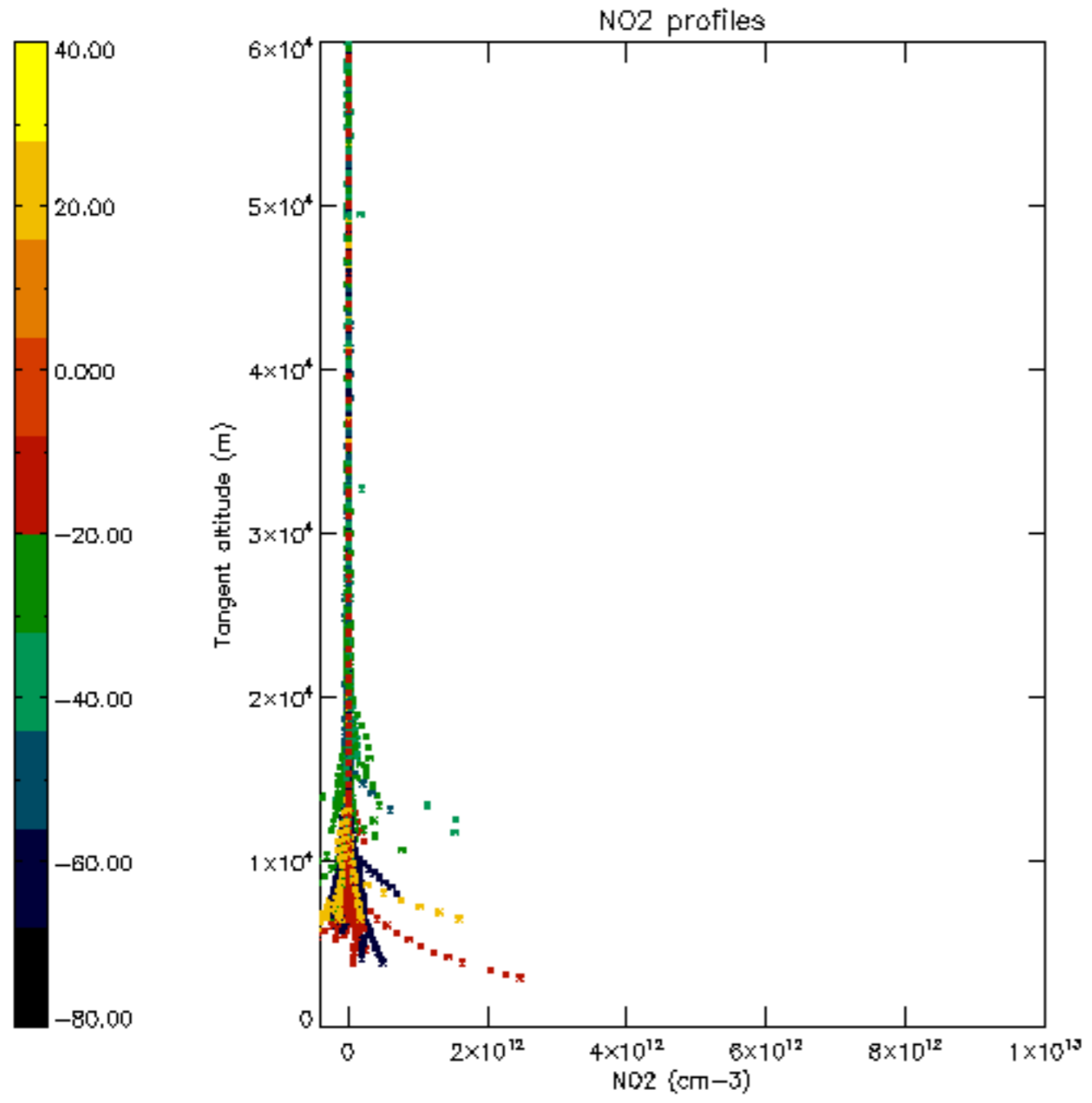


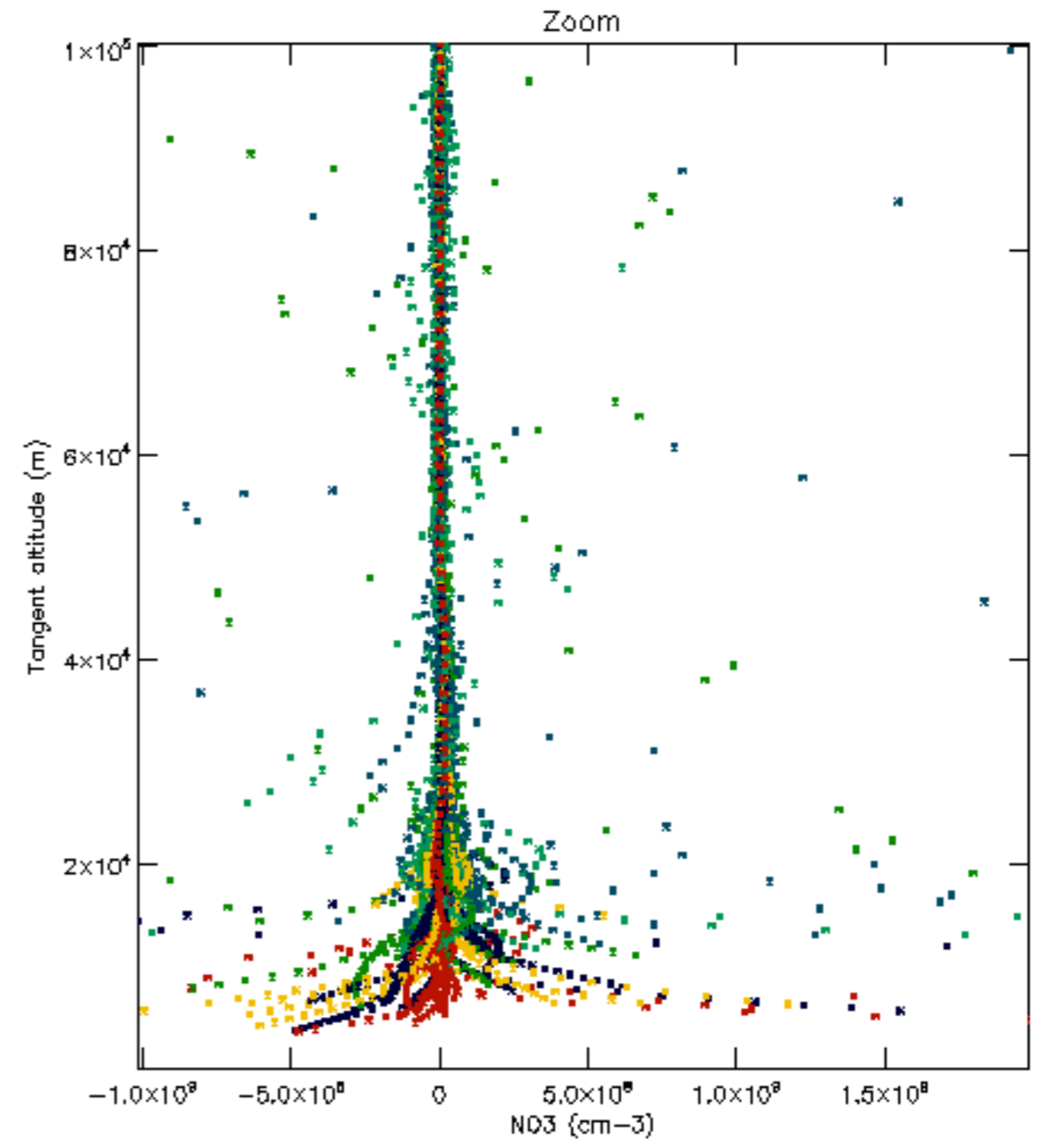
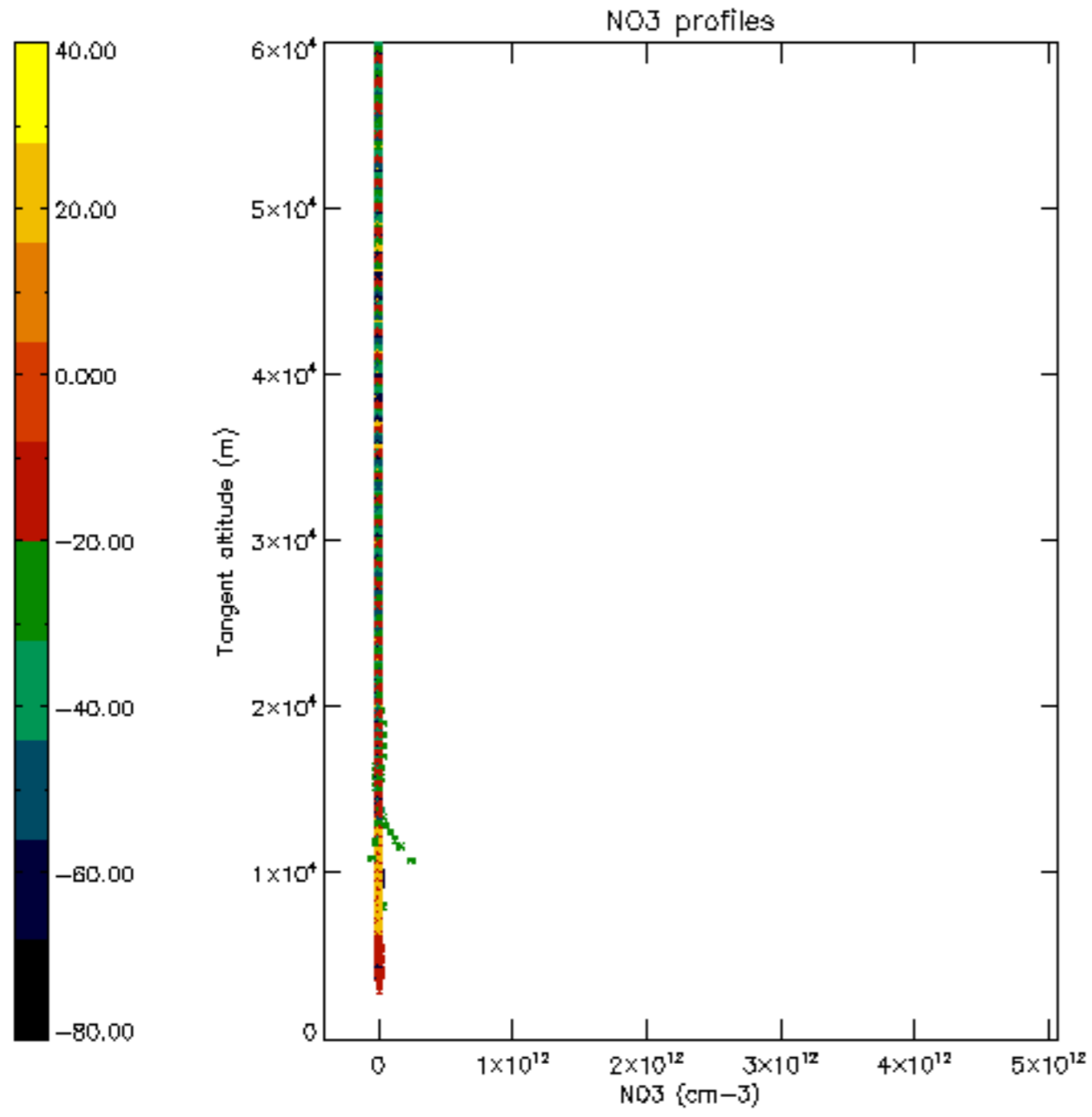




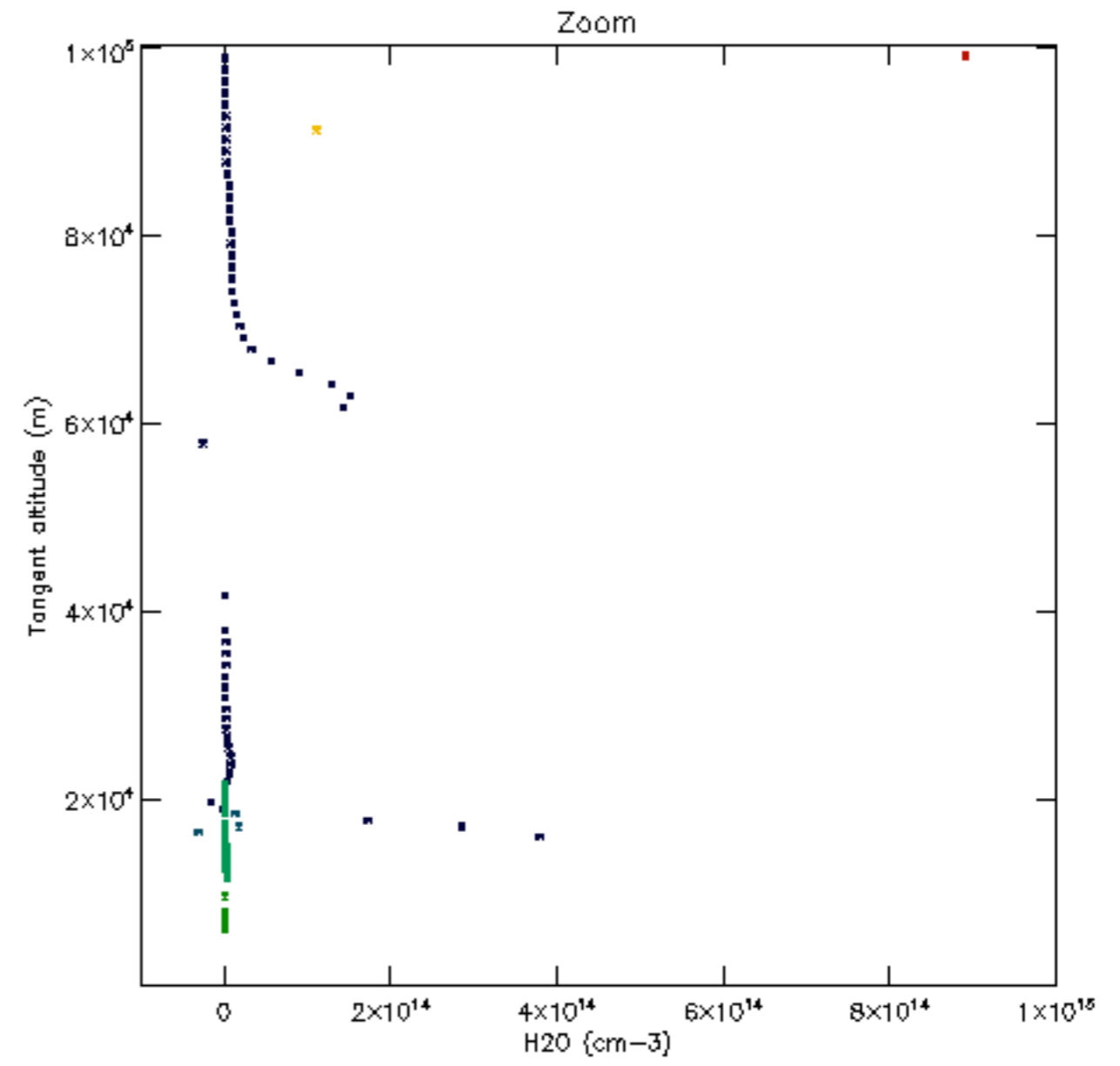
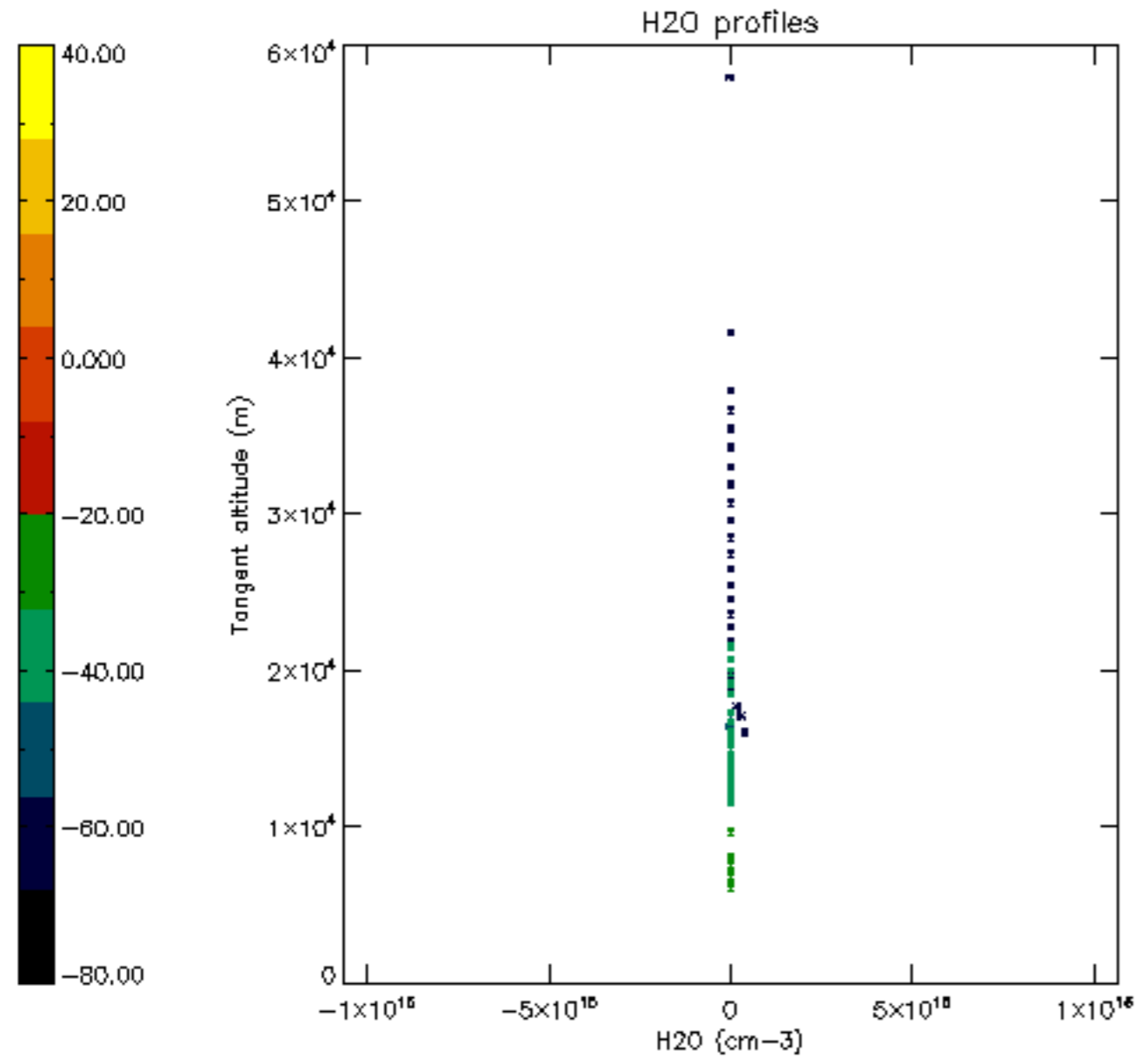


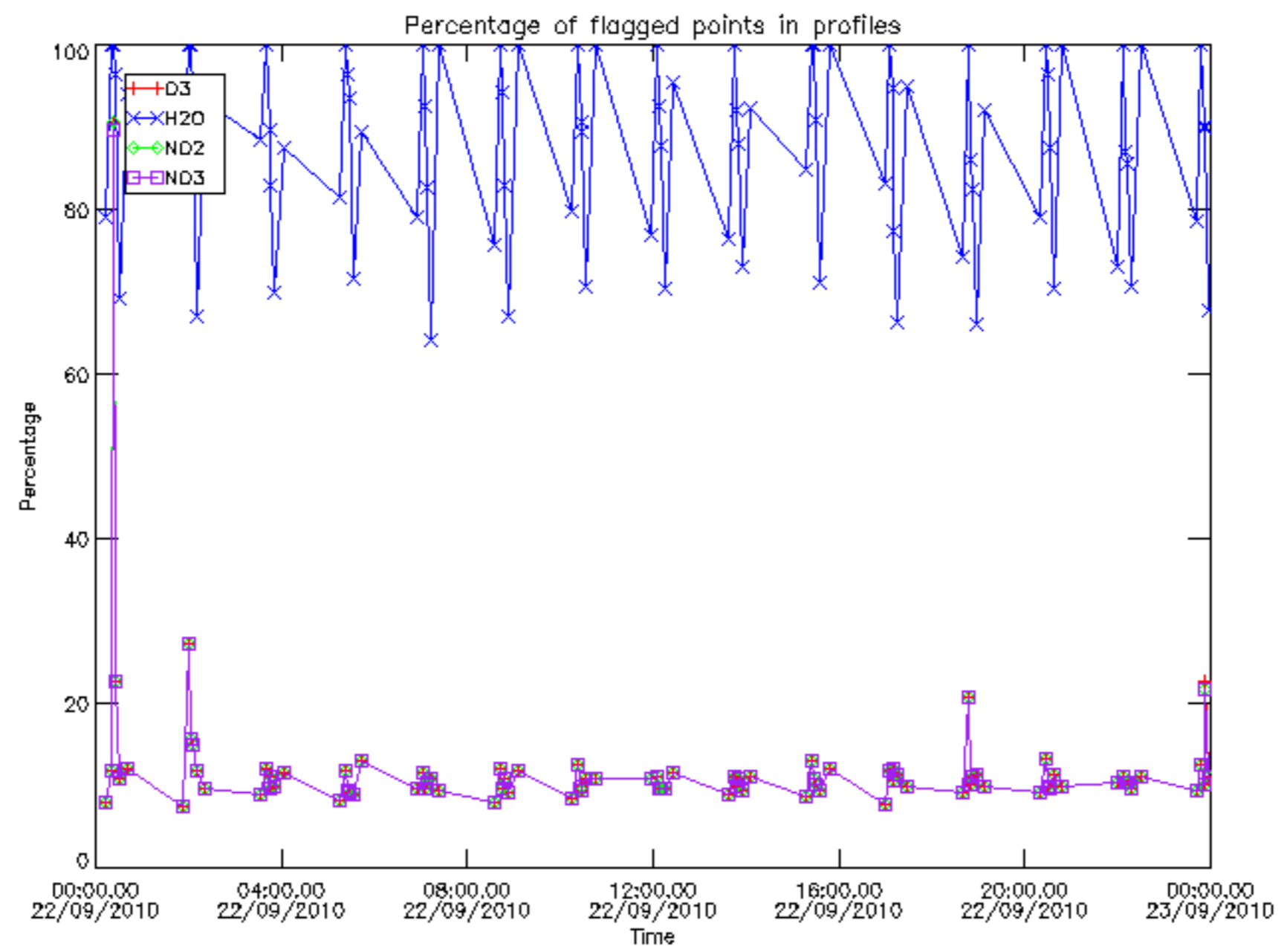




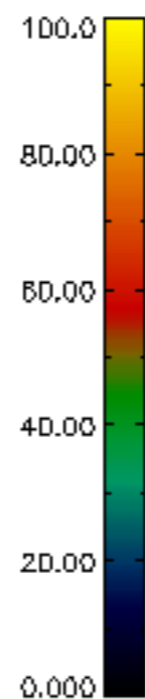
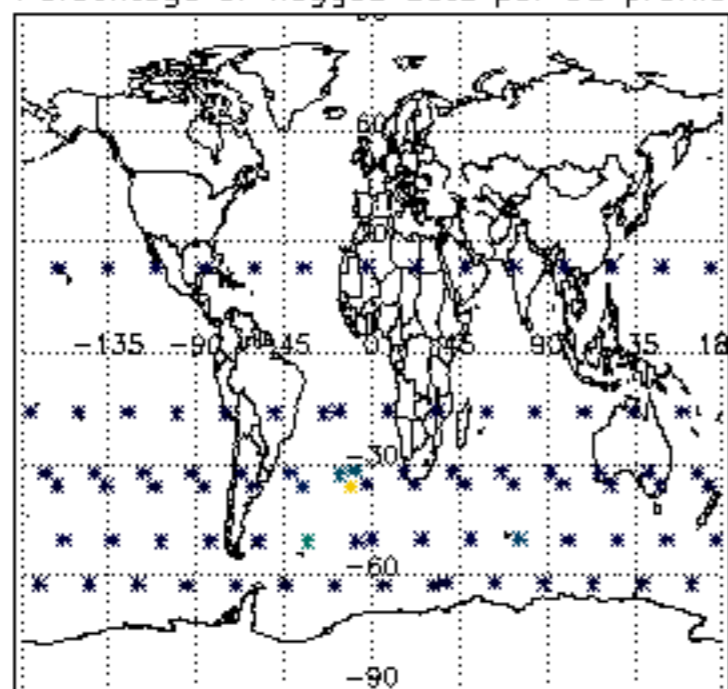




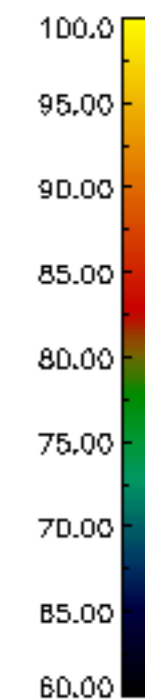
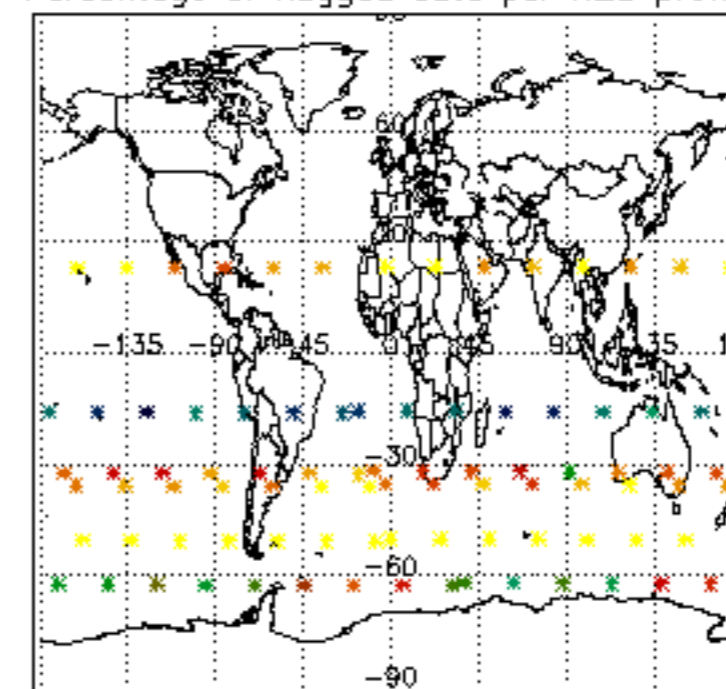




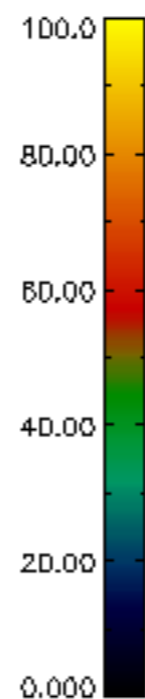
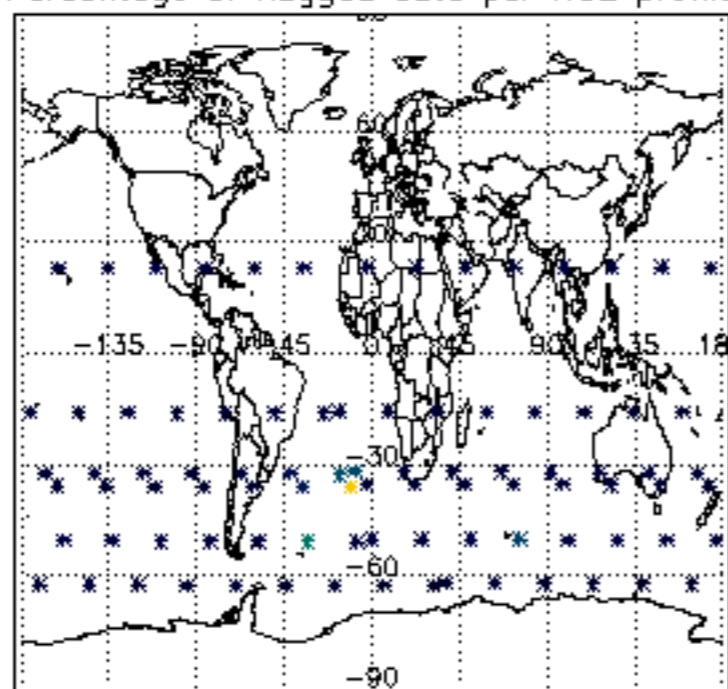
Percentage of flagged data per D3 profile



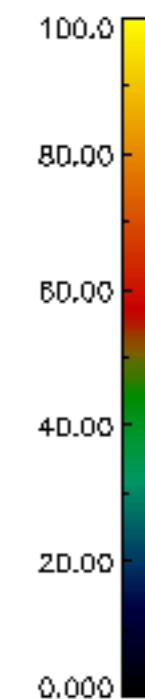
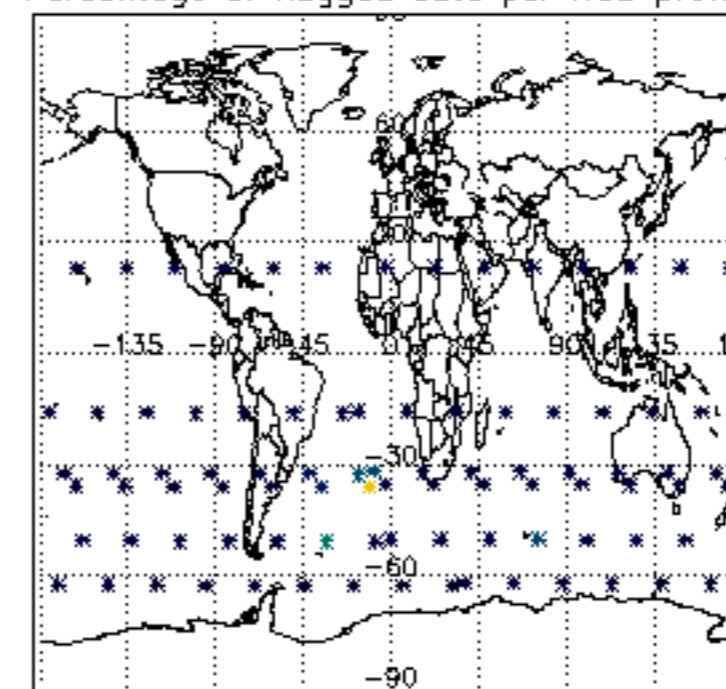
Percentage of flagged data per H2O profile

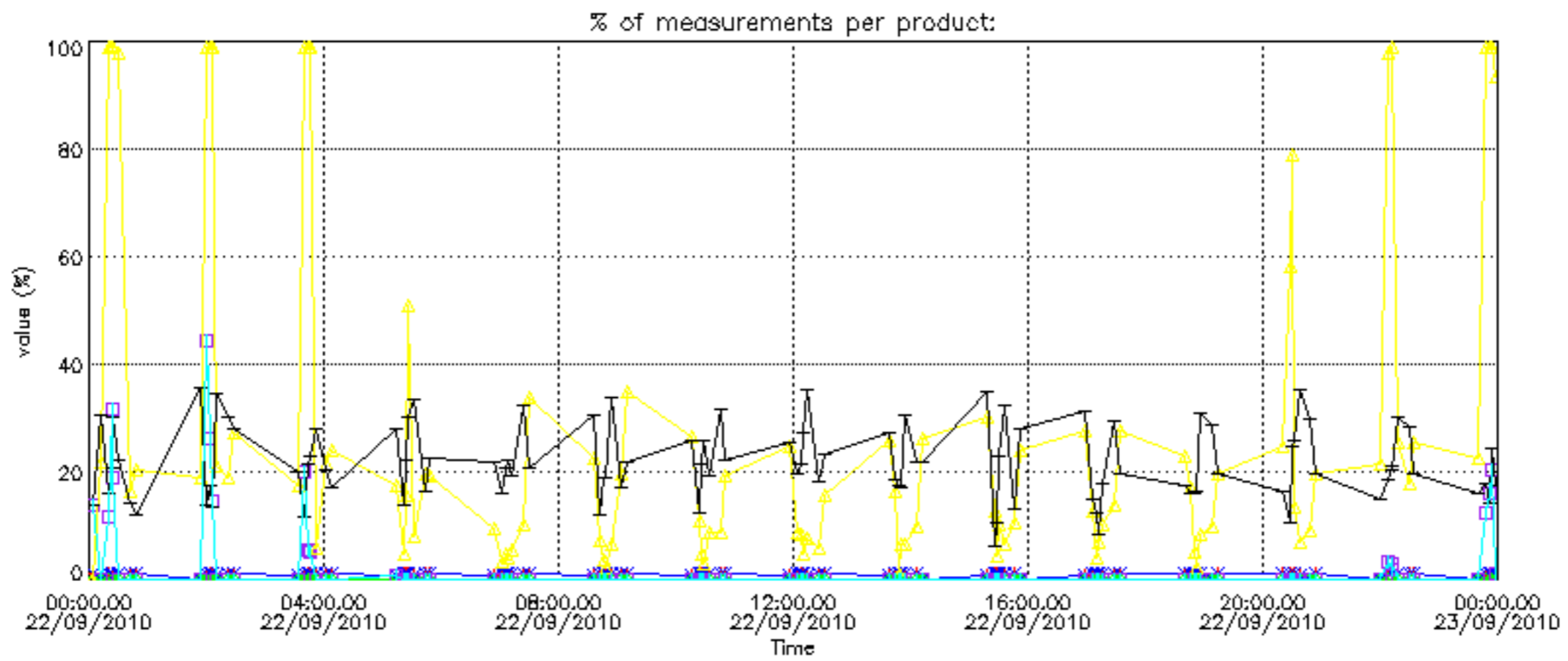


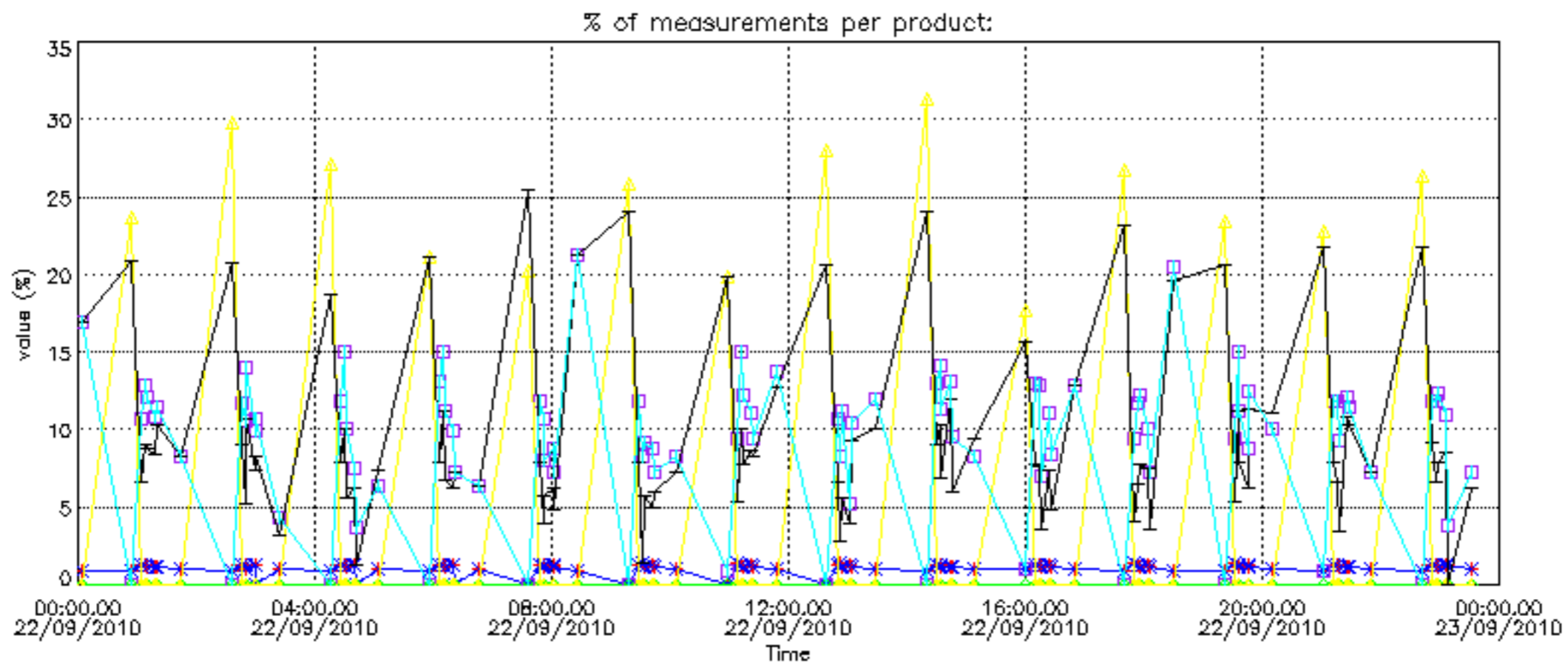
Percentage of flagged data per NO2 profile



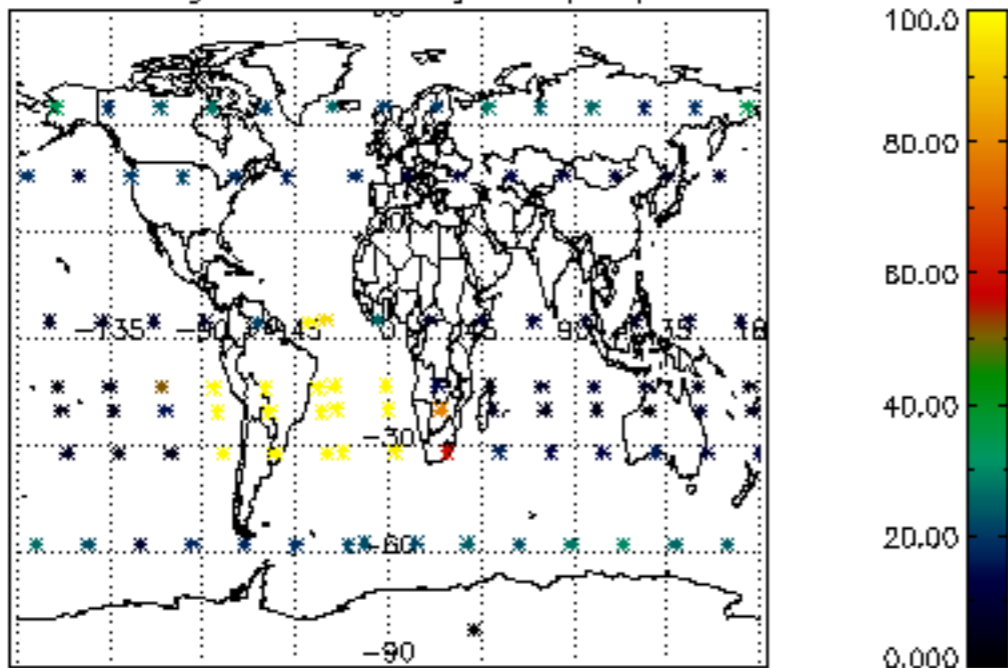
Percentage of flagged data per NO3 profile



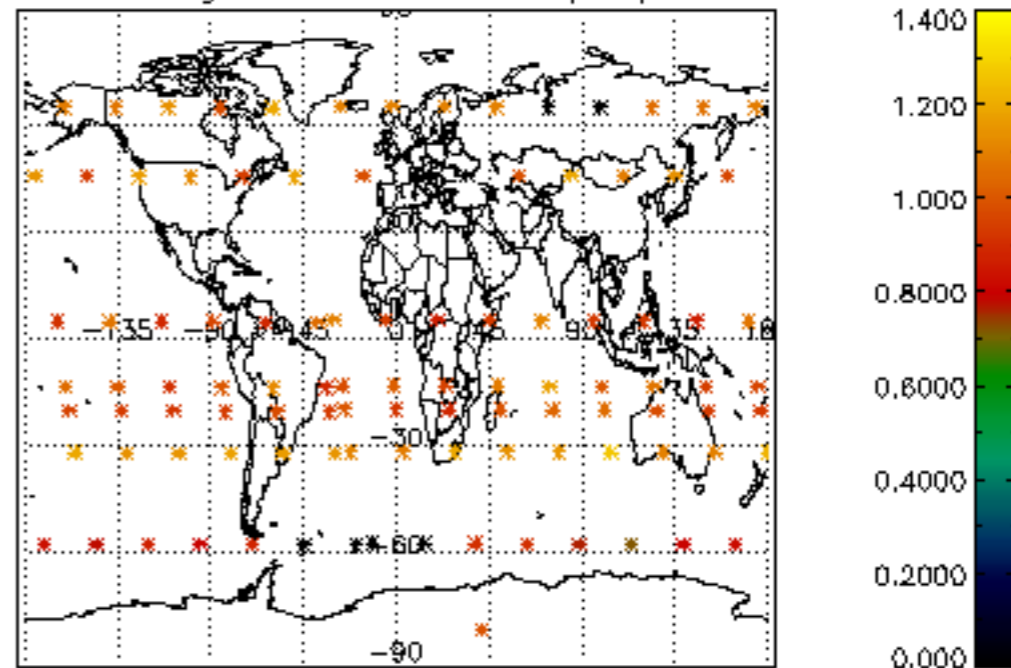




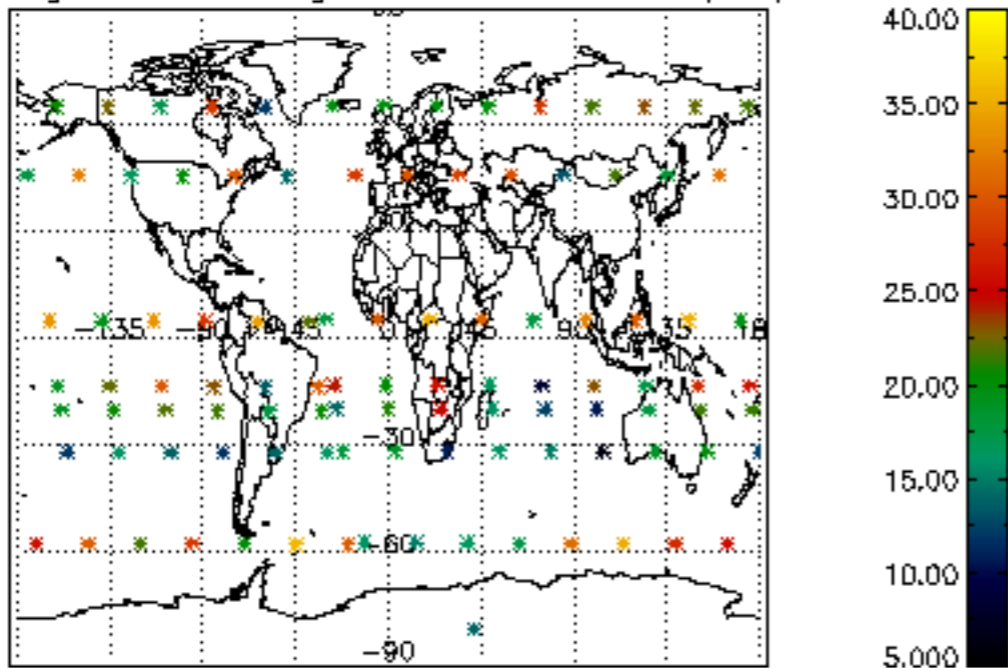
Percentage of cosmic ray hits per profile



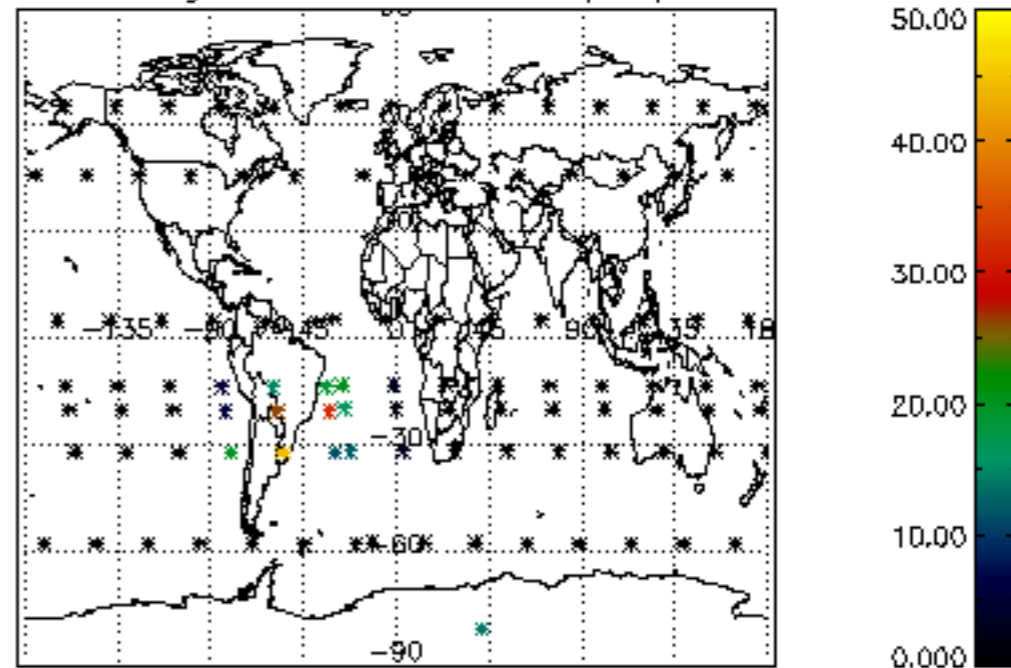
Percentage of datation errors per profile



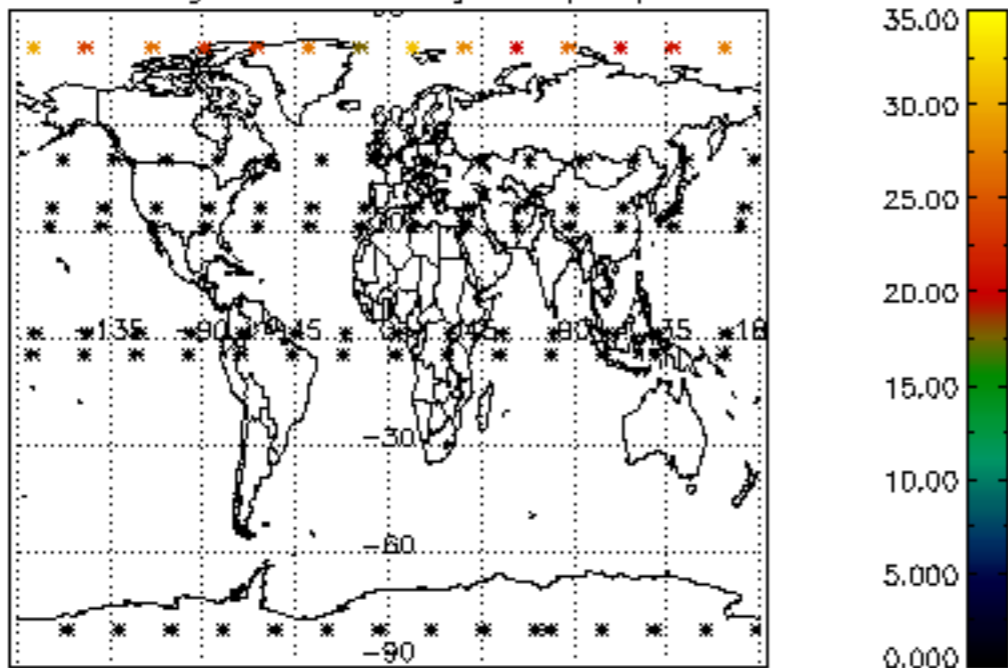
Percentage of star falling outside central band per profile



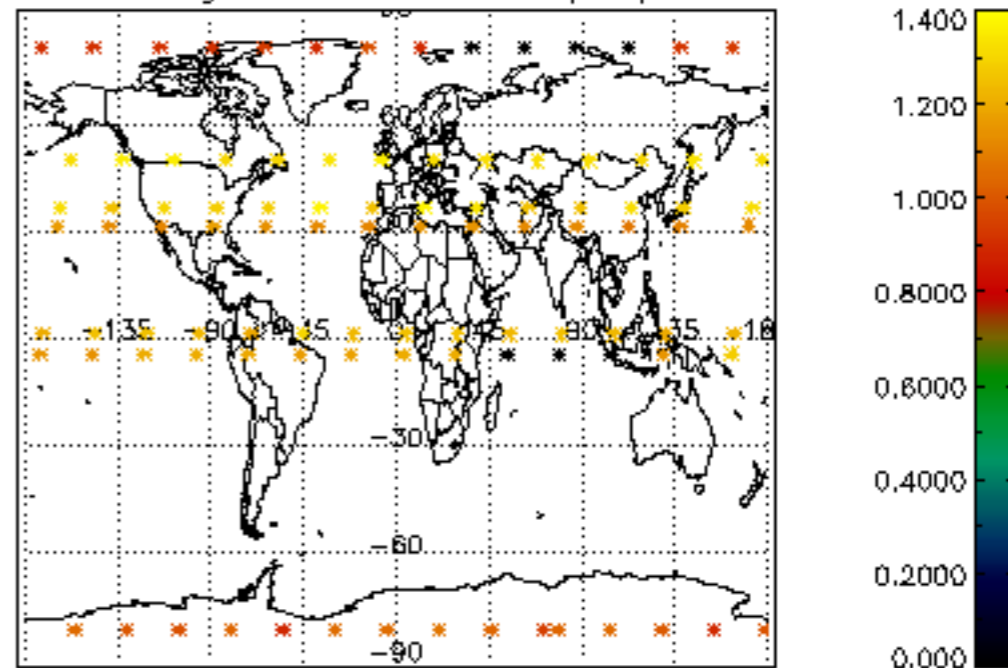
Percentage of saturation errors per profile



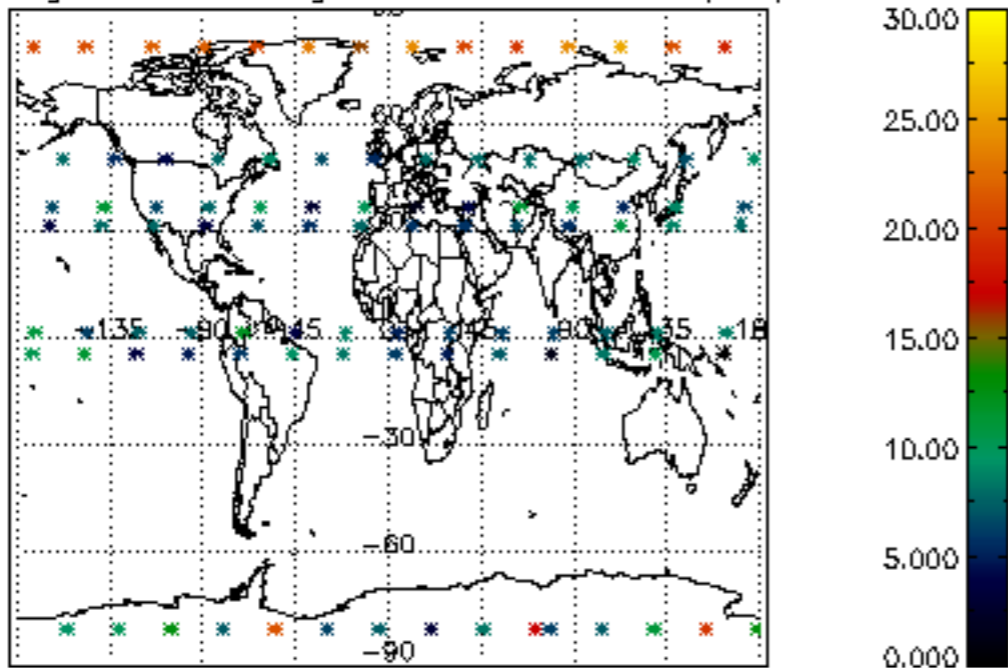
Percentage of cosmic ray hits per profile



Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile

