

# 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	26APR2013 10:21:41
Data source version	GOMOS/6.01
Start time of products	23-06-2009 (23JUN2009 00:00:00)
Stop time of products	24-06-2009 (24JUN2009 00:00:00)
Store outputs in DB	Yes
Nb of level 2 prods	190
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__2PRFIN20090623_000712_000000282080_00102_38232_5222.N1	23-JUN-2009 00:07:12	Bright	28.000	130	23Bet Dra	2.7990	5800.0	56	38232	No
2	GOM_NL__2PRFIN20090623_002430_000000262080_00102_38232_5223.N1	23-JUN-2009 00:24:30	Twilight	25.500	76	27Gam Cas	2.3000	30000.	51	38232	No
3	GOM_NL__2PRFIN20090623_002744_000000212080_00102_38232_5224.N1	23-JUN-2009 00:27:44	Twilight	21.000	160	23Gam Per	2.9300	4700.0	42	38232	No
4	GOM_NL__2PRFIN20090623_003109_000000242080_00102_38232_5225.N1	23-JUN-2009 00:31:09	Twilight	23.500	73	57Gam1And	2.2600	13100.	47	38232	No
5	GOM_NL__2PRFIN20090623_003334_000000242080_00102_38232_5226.N1	23-JUN-2009 00:33:34	Twilight	23.500	173	4Bet Tri	3.0040	8900.0	47	38232	No
6	GOM_NL__2PRFIN20090623_003724_000000242080_00102_38232_5227.N1	23-JUN-2009 00:37:24	Dark	24.000	50	13Alp Ari	2.0070	4250.0	48	38232	No
7	GOM_NL__2PRFIN20090623_010022_000000322080_00102_38232_5228.N1	23-JUN-2009 01:00:22	Dark	32.000	84	Alp Phe	2.3970	4500.0	64	38232	No
8	GOM_NL__2PRFIN20090623_010650_000000352080_00103_38233_5230.N1	23-JUN-2009 01:06:50	Dark	35.000	63	Bet Gru	2.1500	2800.0	70	38233	No
9	GOM_NL__2PRFIN20090623_010852_000000342080_00103_38233_5231.N1	23-JUN-2009 01:08:52	Straylight	34.000	31	Alp Gru	1.7340	15200.	68	38233	No
10	GOM_NL__2PRFIN20090623_011201_000000292080_00103_38233_5232.N1	23-JUN-2009 01:12:01	Straylight	28.500	45	Alp Pav	1.9400	26000.	57	38233	No
11	GOM_NL__2PRFIN20090623_012116_000000282080_00103_38233_5233.N1	23-JUN-2009 01:21:16	Twilight	27.500	38	20Eps Sgr	1.8360	11000.	55	38233	No
12	GOM_NL__2PRFIN20090623_012241_000000282080_00103_38233_5234.N1	23-JUN-2009 01:22:41	Twilight	28.000	116	19Del Sgr	2.7000	4100.0	56	38233	No
13	GOM_NL__2PRFIN20090623_012357_000000292080_00103_38233_5235.N1	23-JUN-2009 01:23:57	Twilight	28.500	137	22Lam Sgr	2.8240	4400.0	57	38233	No
14	GOM_NL__2PRFIN20090623_013344_000000292080_00103_38233_5236.N1	23-JUN-2009 01:33:44	Bright	28.500	126	60Bet Oph	2.7700	4250.0	57	38233	No
15	GOM_NL__2PRFIN20090623_013608_000000292080_00103_38233_5237.N1	23-JUN-2009 01:36:08	Bright	28.500	59	55Alp Oph	2.0800	8900.0	57	38233	No
16	GOM_NL__2PRFIN20090623_014748_000000282080_00103_38233_5238.N1	23-JUN-2009 01:47:48	Bright	27.500	130	23Bet Dra	2.7990	5800.0	55	38233	No
17	GOM_NL__2PRFIN20090623_020505_000000262080_00103_38233_5239.N1	23-JUN-2009 02:05:05	Twilight	25.500	76	27Gam Cas	2.3000	30000.	51	38233	No
18	GOM_NL__2PRFIN20090623_021145_000000242080_00103_38233_5240.N1	23-JUN-2009 02:11:45	Twilight	23.500	73	57Gam1And	2.2600	13100.	47	38233	No
19	GOM_NL__2PRFIN20090623_021410_000000232080_00103_38233_5241.N1	23-JUN-2009 02:14:10	Twilight	23.000	173	4Bet Tri	3.0040	8900.0	46	38233	No
20	GOM_NL__2PRFIN20090623_021800_000000252080_00103_38233_5242.N1	23-JUN-2009 02:18:00	Dark	24.500	50	13Alp Ari	2.0070	4250.0	49	38233	No
21	GOM_NL__2PRFIN20090623_022250_000000222080_00103_38233_5243.N1	23-JUN-2009 02:22:50	Dark	21.500	94	92Alp Cet	2.5260	3100.0	43	38233	No
22	GOM_NL__2PRFIN20090623_024059_000000322080_00103_38233_5244.N1	23-JUN-2009 02:40:59	Dark	32.000	84	Alp Phe	2.3970	4500.0	64	38233	No
23	GOM_NL__2PRFIN20090623_024726_000000352080_00104_38234_5245.N1	23-JUN-2009 02:47:26	Dark	35.000	63	Bet Gru	2.1500	2800.0	70	38234	No
24	GOM_NL__2PRFIN20090623_024928_000000352080_00104_38234_5246.N1	23-JUN-2009 02:49:28	Straylight	34.500	31	Alp Gru	1.7340	15200.	69	38234	No
25	GOM_NL__2PRFIN20090623_025237_000000292080_00104_38234_5247.N1	23-JUN-2009 02:52:37	Straylight	28.500	45	Alp Pav	1.9400	26000.	57	38234	No
26	GOM_NL__2PRFIN20090623_030152_000000282080_00104_38234_5248.N1	23-JUN-2009 03:01:52	Twilight	27.500	38	20Eps Sgr	1.8360	11000.	55	38234	No
27	GOM_NL__2PRFIN20090623_030317_000000282080_00104_38234_5249.N1	23-JUN-2009 03:03:17	Twilight	28.000	116	19Del Sgr	2.7000	4100.0	56	38234	No
28	GOM_NL__2PRFIN20090623_030433_000000292080_00104_38234_5250.N1	23-JUN-2009 03:04:33	Twilight	28.500	137	22Lam Sgr	2.8240	4400.0	57	38234	No
29	GOM_NL__2PRFIN20090623_031420_000000292080_00104_38234_5251.N1	23-JUN-2009 03:14:20	Bright	28.500	126	60Bet Oph	2.7700	4250.0	57	38234	No
30	GOM_NL__2PRFIN20090623_031644_000000292080_00104_38234_5252.N1	23-JUN-2009 03:16:44	Bright	28.500	59	55Alp Oph	2.0800	8900.0	57	38234	No
31	GOM_NL__2PRFIN20090623_032824_000000272080_00104_38234_5253.N1	23-JUN-2009 03:28:24	Twilight	27.000	130	23Bet Dra	2.7990	5800.0	54	38234	No
32	GOM_NL__2PRFIN20090623_034541_000000252080_00104_38234_5254.N1	23-JUN-2009 03:45:41	Twilight	25.000	76	27Gam Cas	2.3000	30000.	50	38234	No
33	GOM_NL__2PRFIN20090623_035221_000000232080_00104_38234_5255.N1	23-JUN-2009 03:52:21	Twilight	23.000	73	57Gam1And	2.2600	13100.	46	38234	No
34	GOM_NL__2PRFIN20090623_035446_000000242080_00104_38234_5256.N1	23-JUN-2009 03:54:46	Twilight	23.500	173	4Bet Tri	3.0040	8900.0	47	38234	No
35	GOM_NL__2PRFIN20090623_035837_000000252080_00104_38234_5257.N1	23-JUN-2009 03:58:37	Dark	24.500	50	13Alp Ari	2.0070	4250.0	49	38234	No
36	GOM_NL__2PRFIN20090623_042136_000000322080_00104_38234_5258.N1	23-JUN-2009 04:21:36	Dark	32.000	84	Alp Phe	2.3970	4500.0	64	38234	No
37	GOM_NL__2PRFIN20090623_042803_000000362080_00105_38235_5259.N1	23-JUN-2009 04:28:03	Dark	35.500	63	Bet Gru	2.1500	2800.0	71	38235	No
38	GOM_NL__2PRFIN20090623_043005_000000352080_00105_38235_5260.N1	23-JUN-2009 04:30:05	Straylight	35.000	31	Alp Gru	1.7340	15200.	70	38235	No
39	GOM_NL__2PRFIN20090623_044228_000000282080_00105_38235_5261.N1	23-JUN-2009 04:42:28	Twilight	27.500	38	20Eps Sgr	1.8360	11000.	55	38235	No
40	GOM_NL__2PRFIN20090623_044354_000000282080_00105_38235_5262.N1	23-JUN-2009 04:43:54	Twilight	27.500	116	19Del Sgr	2.7000	4100.0	55	38235	No
41	GOM_NL__2PRFIN20090623_044509_000000292080_00105_38235_5263.N1	23-JUN-2009 04:45:09	Twilight	28.500	137	22Lam Sgr	2.8240	4400.0	57	38235	No
42	GOM_NL__2PRFIN20090623_045456_000000282080_00105_38235_5264.N1	23-JUN-2009 04:54:56	Bright	28.000	126	60Bet Oph	2.7700	4250.0	56	38235	No



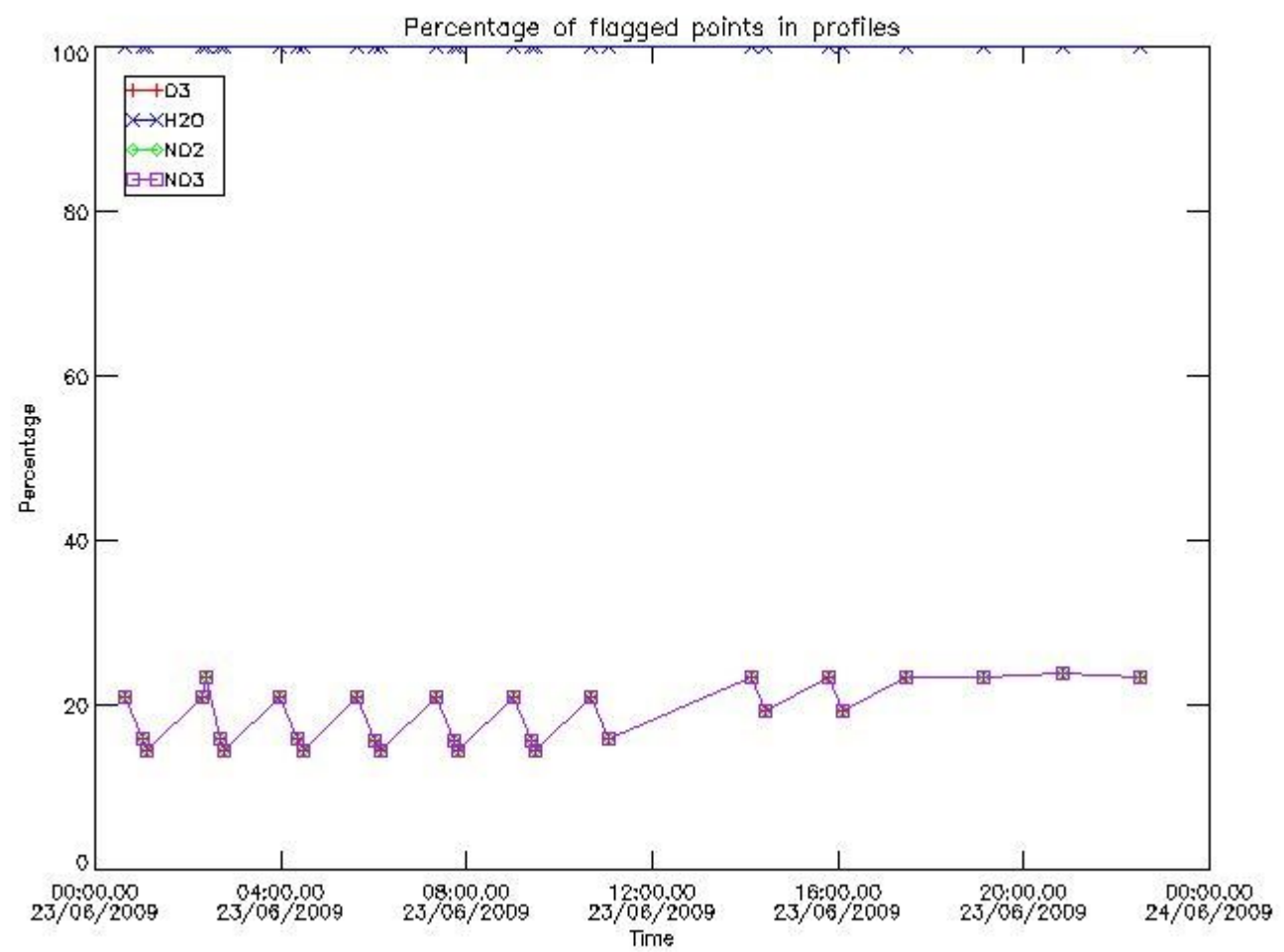


161	GOM_NL__2PRFIN20090623_211448_000000292080_00115_38245_5426.N1	23-JUN-2009 21:14:48	Straylight	28.500	148	Alp Tuc	2.8780	4100.0	57	38245	No
162	GOM_NL__2PRFIN20090623_211919_000000282080_00115_38245_5427.N1	23-JUN-2009 21:19:19	Straylight	27.500	45	Alp Pav	1.9400	26000.	55	38245	No
163	GOM_NL__2PRFIN20090623_212654_000000252080_00115_38245_5428.N1	23-JUN-2009 21:26:54	Twilight_stray	24.500	40	The Sco	1.8590	7100.0	49	38245	No
164	GOM_NL__2PRFIN20090623_212835_000000252080_00115_38245_5429.N1	23-JUN-2009 21:28:35	Twilight_stray	25.000	25	35Lam Sco	1.6200	28000.	50	38245	No
165	GOM_NL__2PRFIN20090623_212956_000000272080_00115_38245_5430.N1	23-JUN-2009 21:29:56	Twilight_stray	27.000	116	19Del Sgr	2.7000	4100.0	54	38245	No
166	GOM_NL__2PRFIN20090623_213454_000000252080_00115_38245_5431.N1	23-JUN-2009 21:34:54	Twilight_stray	25.000	86	35Eta Oph	2.4300	10200.	50	38245	No
167	GOM_NL__2PRFIN20090623_213638_000000242080_00115_38245_5432.N1	23-JUN-2009 21:36:38	Twilight_stray	24.000	98	13Zet Oph	2.5710	30000.	48	38245	No
168	GOM_NL__2PRFIN20090623_214054_000000282080_00115_38245_5433.N1	23-JUN-2009 21:40:54	Twilight_stray	28.000	126	60Bet Oph	2.7700	4250.0	56	38245	No
169	GOM_NL__2PRFIN20090623_214318_000000282080_00115_38245_5434.N1	23-JUN-2009 21:43:18	Bright	28.000	59	55Alp Oph	2.0800	8900.0	56	38245	No
170	GOM_NL__2PRFIN20090623_214833_000000262080_00115_38245_5435.N1	23-JUN-2009 21:48:33	Bright	25.500	133	40Zet Her	2.8070	6000.0	51	38245	No
171	GOM_NL__2PRFIN20090623_215456_000000272080_00115_38245_5436.N1	23-JUN-2009 21:54:56	Bright	27.000	130	23Bet Dra	2.7990	5800.0	54	38245	No
172	GOM_NL__2PRFIN20090623_215658_000000252080_00115_38245_5437.N1	23-JUN-2009 21:56:58	Twilight_stray	25.000	119	14Eta Dra	2.7270	4700.0	50	38245	No
173	GOM_NL__2PRFIN20090623_220512_000000242080_00115_38245_5438.N1	23-JUN-2009 22:05:12	Twilight_stray	23.500	49	1Alp UMi	1.9900	6300.0	47	38245	No
174	GOM_NL__2PRFIN20090623_221531_000000212080_00115_38245_5439.N1	23-JUN-2009 22:15:31	Twilight_stray	21.000	160	23Gam Per	2.9300	4700.0	42	38245	No
175	GOM_NL__2PRFIN20090623_221914_000000212080_00115_38245_5440.N1	23-JUN-2009 22:19:14	Twilight_stray	20.500	79	26Bet Per	2.3100	13100.	41	38245	No
176	GOM_NL__2PRFIN20090623_223006_000000222080_00115_38245_5441.N1	23-JUN-2009 22:30:06	Dark	21.500	94	92Alp Cet	2.5260	3100.0	43	38245	No
177	GOM_NL__2PRFIN20090623_225955_000000292080_00116_38246_5445.N1	23-JUN-2009 22:59:55	Straylight	28.500	45	Alp Pav	1.9400	26000.	57	38246	No
178	GOM_NL__2PRFIN20090623_230543_000000252080_00116_38246_5446.N1	23-JUN-2009 23:05:43	Straylight	24.500	147	Alp Ara	2.8770	26000.	49	38246	No
179	GOM_NL__2PRFIN20090623_230730_000000252080_00116_38246_5447.N1	23-JUN-2009 23:07:30	Twilight_stray	24.500	40	The Sco	1.8590	7100.0	49	38246	No
180	GOM_NL__2PRFIN20090623_230911_000000252080_00116_38246_5448.N1	23-JUN-2009 23:09:11	Twilight_stray	25.000	25	35Lam Sco	1.6200	28000.	50	38246	No
181	GOM_NL__2PRFIN20090623_231032_000000282080_00116_38246_5449.N1	23-JUN-2009 23:10:32	Twilight_stray	27.500	116	19Del Sgr	2.7000	4100.0	55	38246	No
182	GOM_NL__2PRFIN20090623_231530_000000252080_00116_38246_5450.N1	23-JUN-2009 23:15:30	Twilight_stray	25.000	86	35Eta Oph	2.4300	10200.	50	38246	No
183	GOM_NL__2PRFIN20090623_232130_000000282080_00116_38246_5451.N1	23-JUN-2009 23:21:30	Bright	28.000	126	60Bet Oph	2.7700	4250.0	56	38246	No
184	GOM_NL__2PRFIN20090623_232354_000000282080_00116_38246_5452.N1	23-JUN-2009 23:23:54	Bright	27.500	59	55Alp Oph	2.0800	8900.0	55	38246	No
185	GOM_NL__2PRFIN20090623_232908_000000262080_00116_38246_5453.N1	23-JUN-2009 23:29:08	Bright	26.000	133	40Zet Her	2.8070	6000.0	52	38246	No
186	GOM_NL__2PRFIN20090623_233532_000000282080_00116_38246_5454.N1	23-JUN-2009 23:35:32	Bright	27.500	130	23Bet Dra	2.7990	5800.0	55	38246	No
187	GOM_NL__2PRFIN20090623_233734_000000252080_00116_38246_5455.N1	23-JUN-2009 23:37:34	Twilight_stray	25.000	119	14Eta Dra	2.7270	4700.0	50	38246	No
188	GOM_NL__2PRFIN20090623_234547_000000242080_00116_38246_5456.N1	23-JUN-2009 23:45:47	Twilight_stray	23.500	49	1Alp UMi	1.9900	6300.0	47	38246	No
189	GOM_NL__2PRFIN20090623_235607_000000212080_00116_38246_5457.N1	23-JUN-2009 23:56:07	Twilight_stray	21.000	160	23Gam Per	2.9300	4700.0	42	38246	No
190	GOM_NL__2PRFIN20090623_235950_000000212080_00116_38246_5458.N1	23-JUN-2009 23:59:50	Twilight_stray	21.000	79	26Bet Per	2.3100	13100.	42	38246	No

### 3. Quality information per product

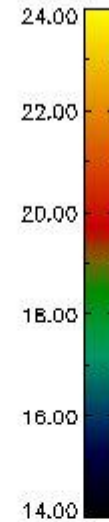
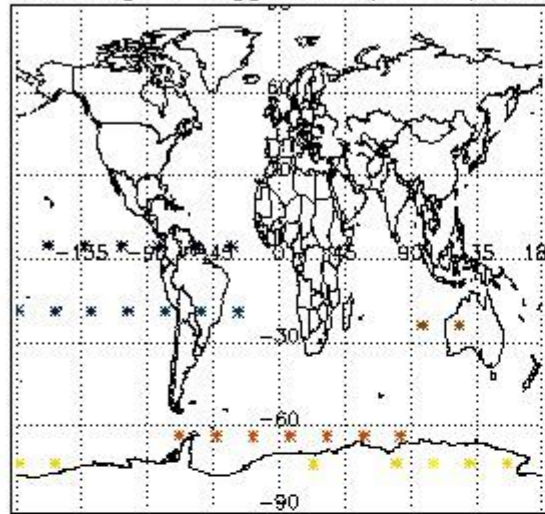
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

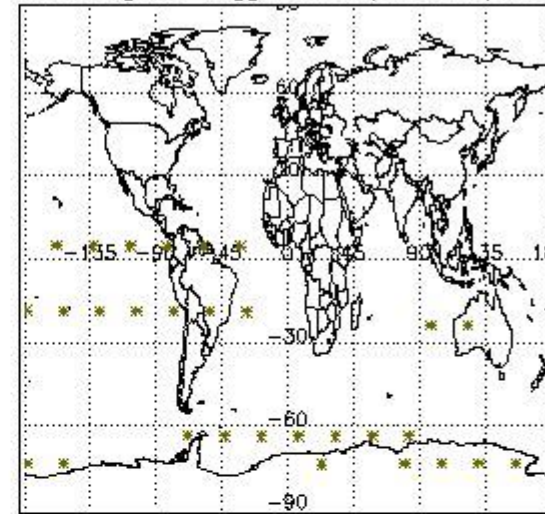


*3.2 Plot quality information per product (world map)*

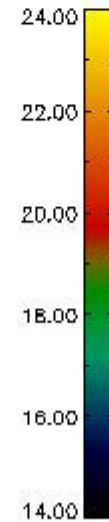
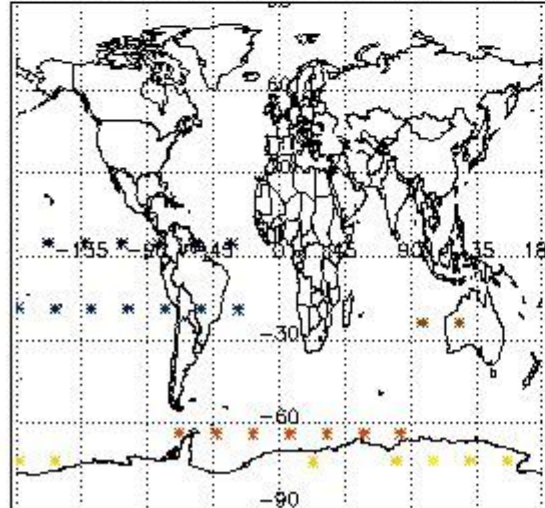
Percentage of flagged data per O3 profile



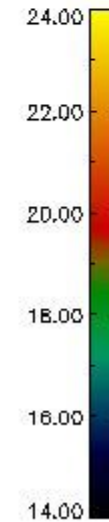
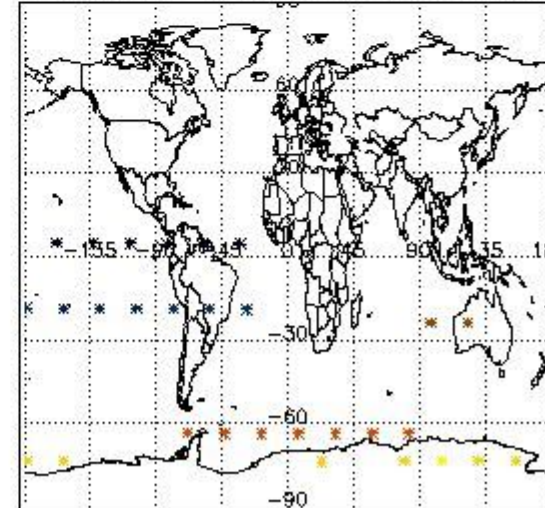
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

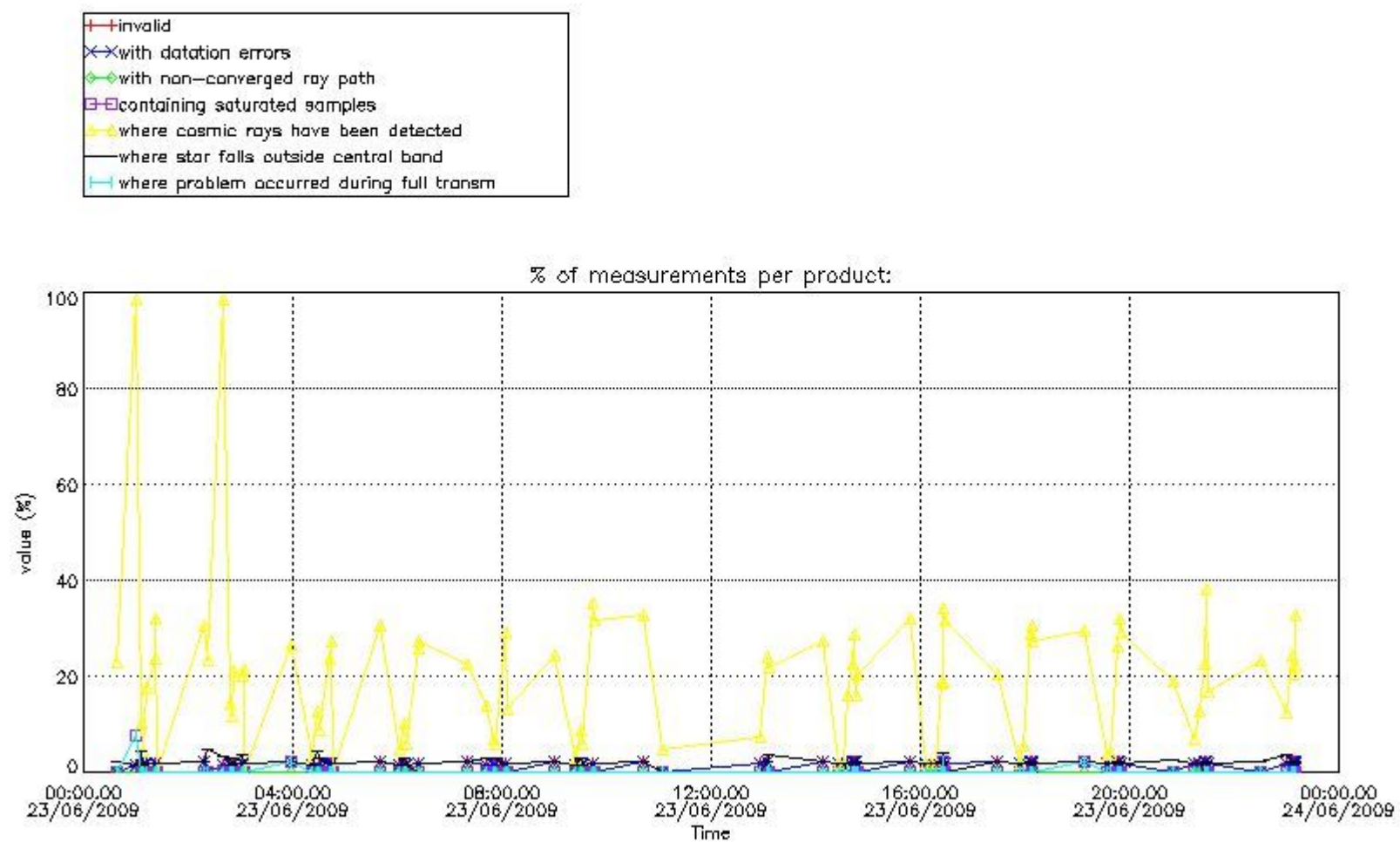


#### 4. Level 1 quality information per product

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.

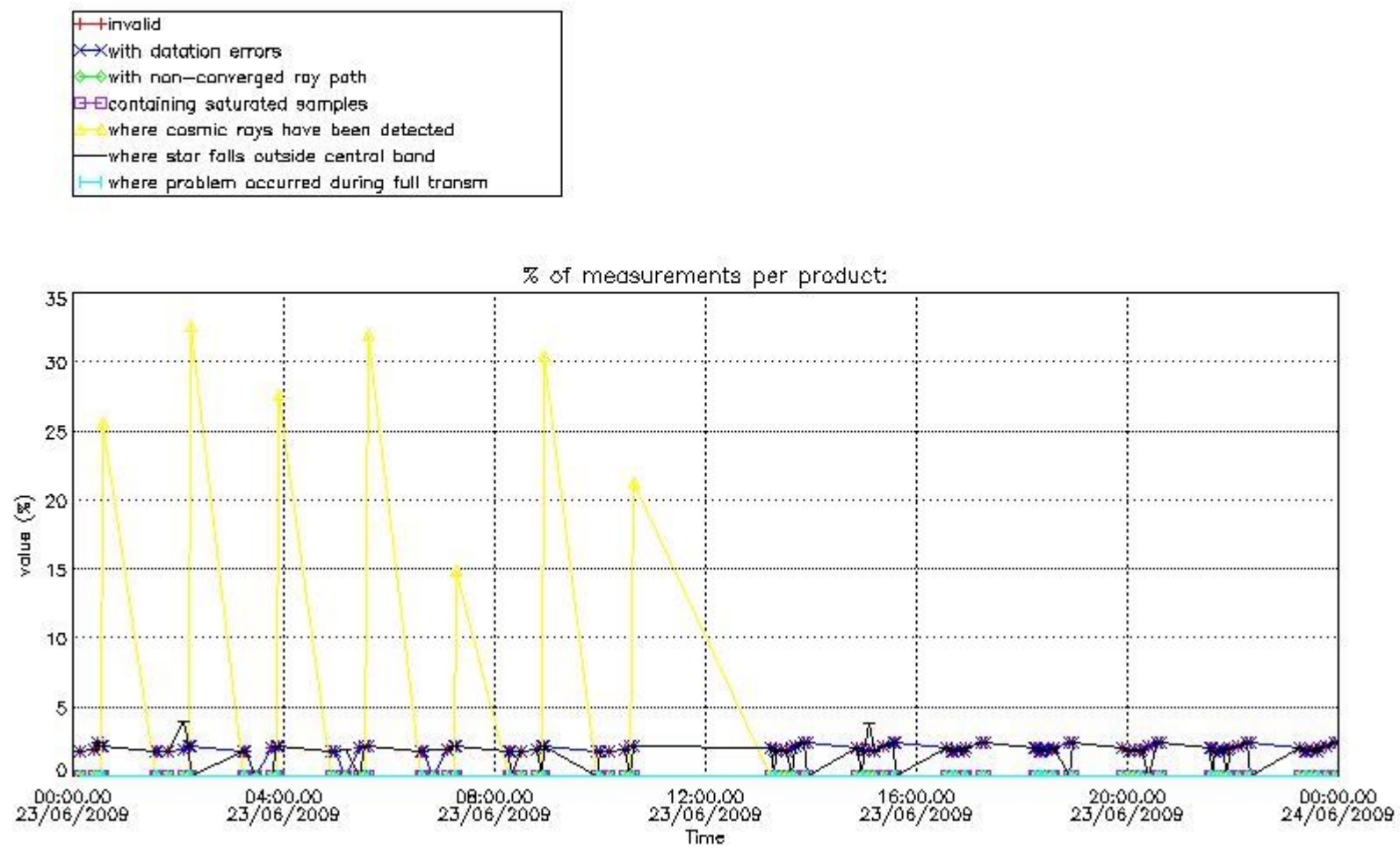
##### 4.1 Plot quality information per product (time dependant) coming from level 1b processing

###### 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

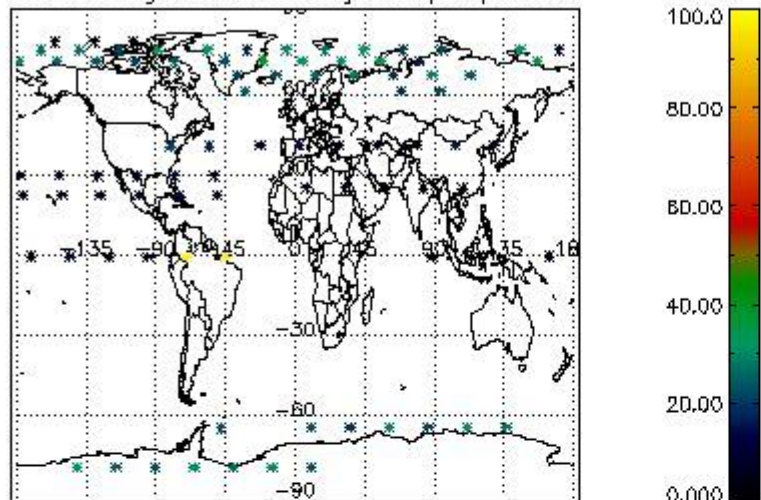




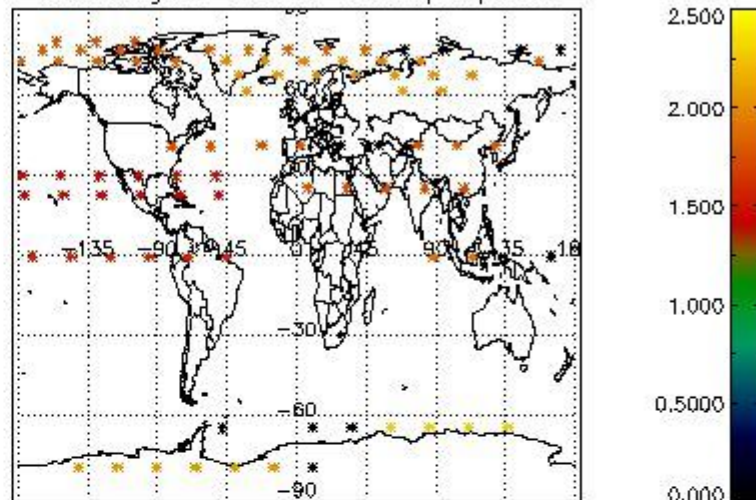
4.2 Plot quality information per product coming from level 1b processing (world map)

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

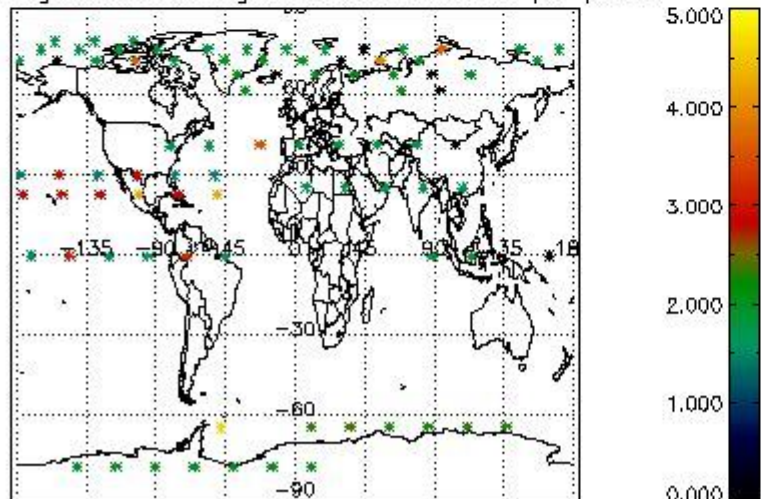
Percentage of cosmic ray hits per profile



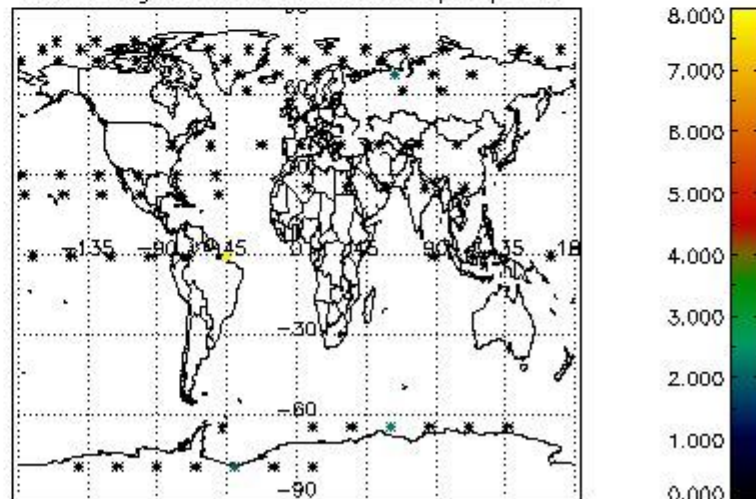
Percentage of datation errors per profile



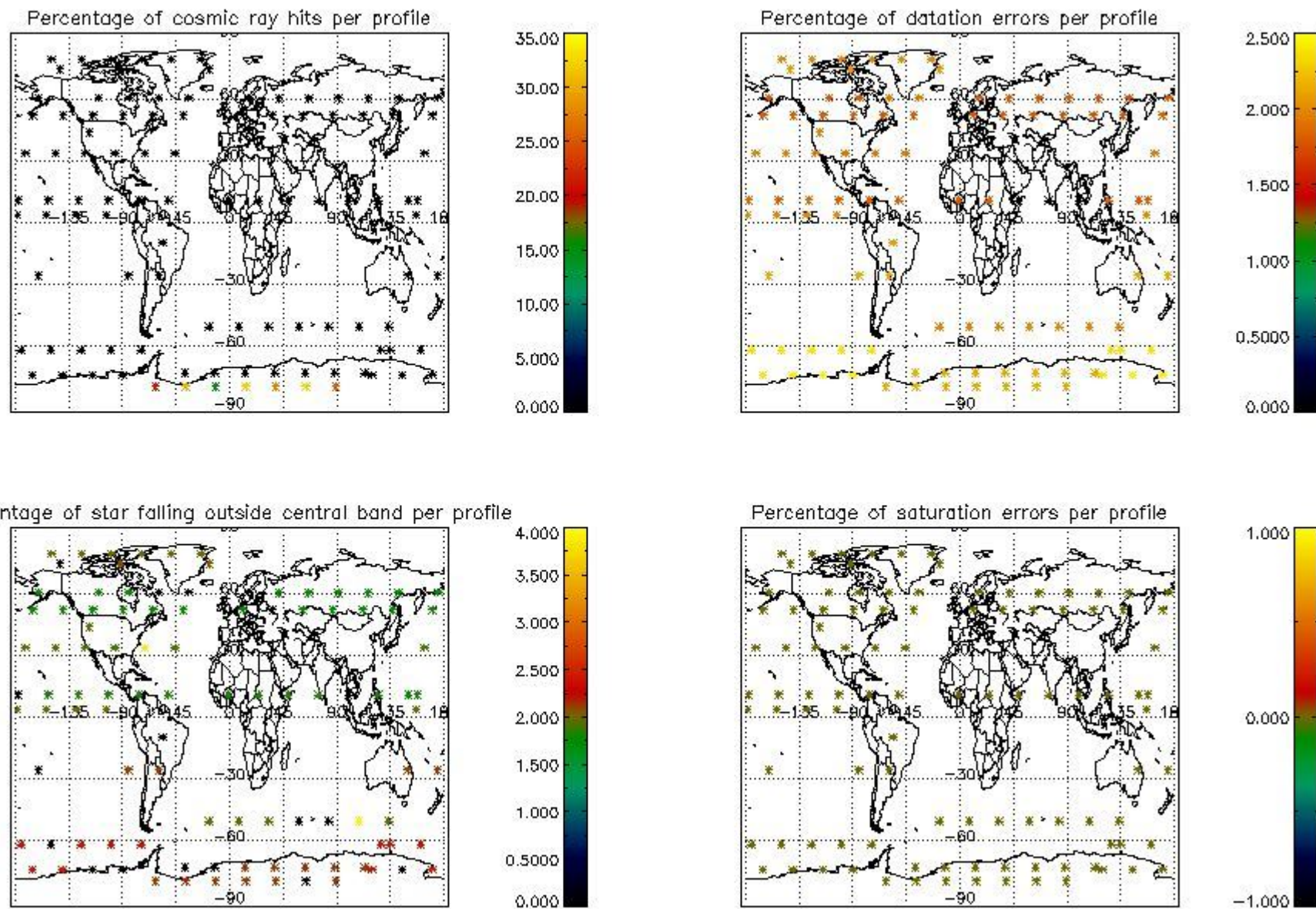
Percentage of star falling outside central band per profile



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

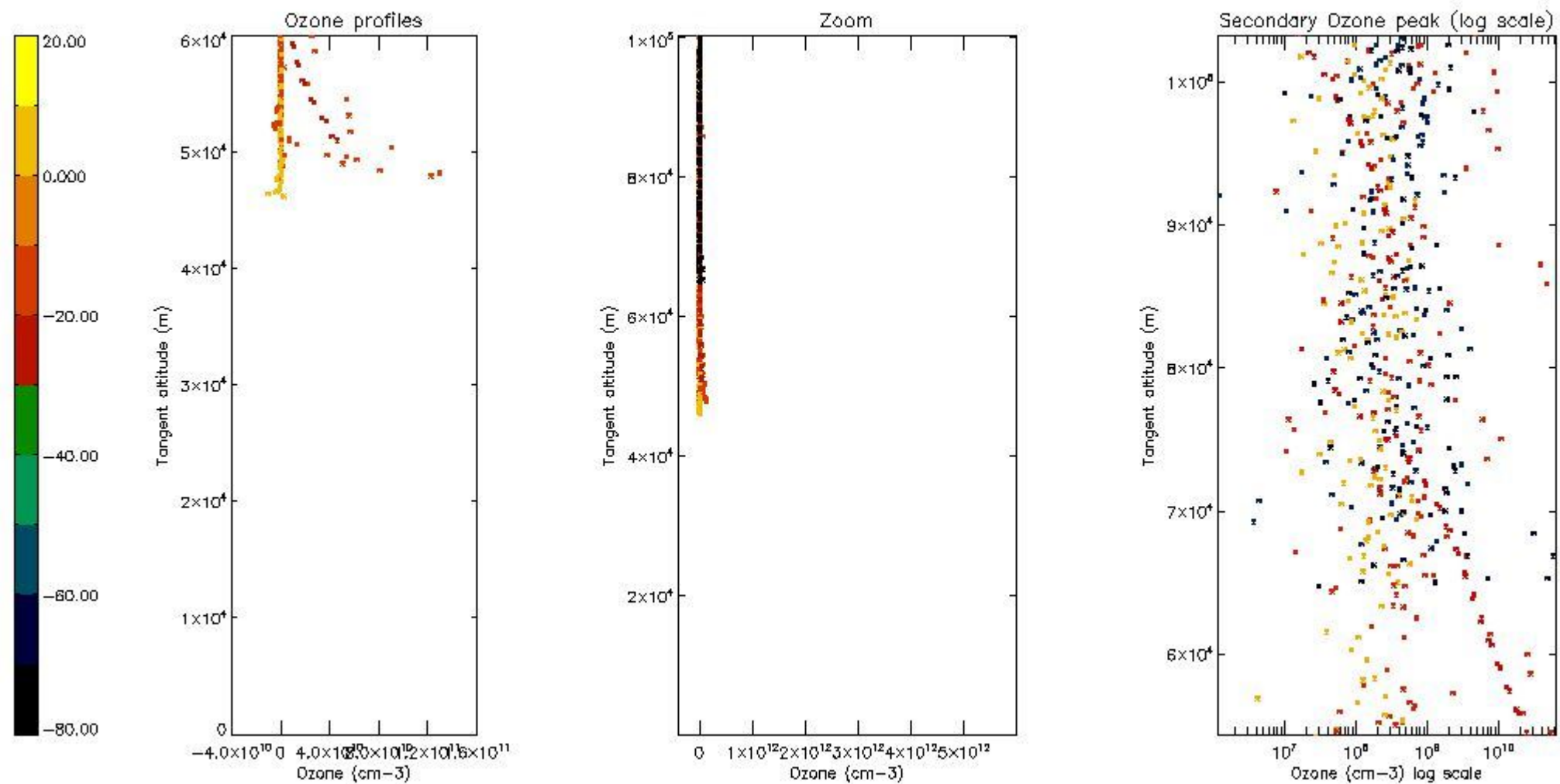
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	17
STD < 20	1

STD < 10	1
STD < 5	0

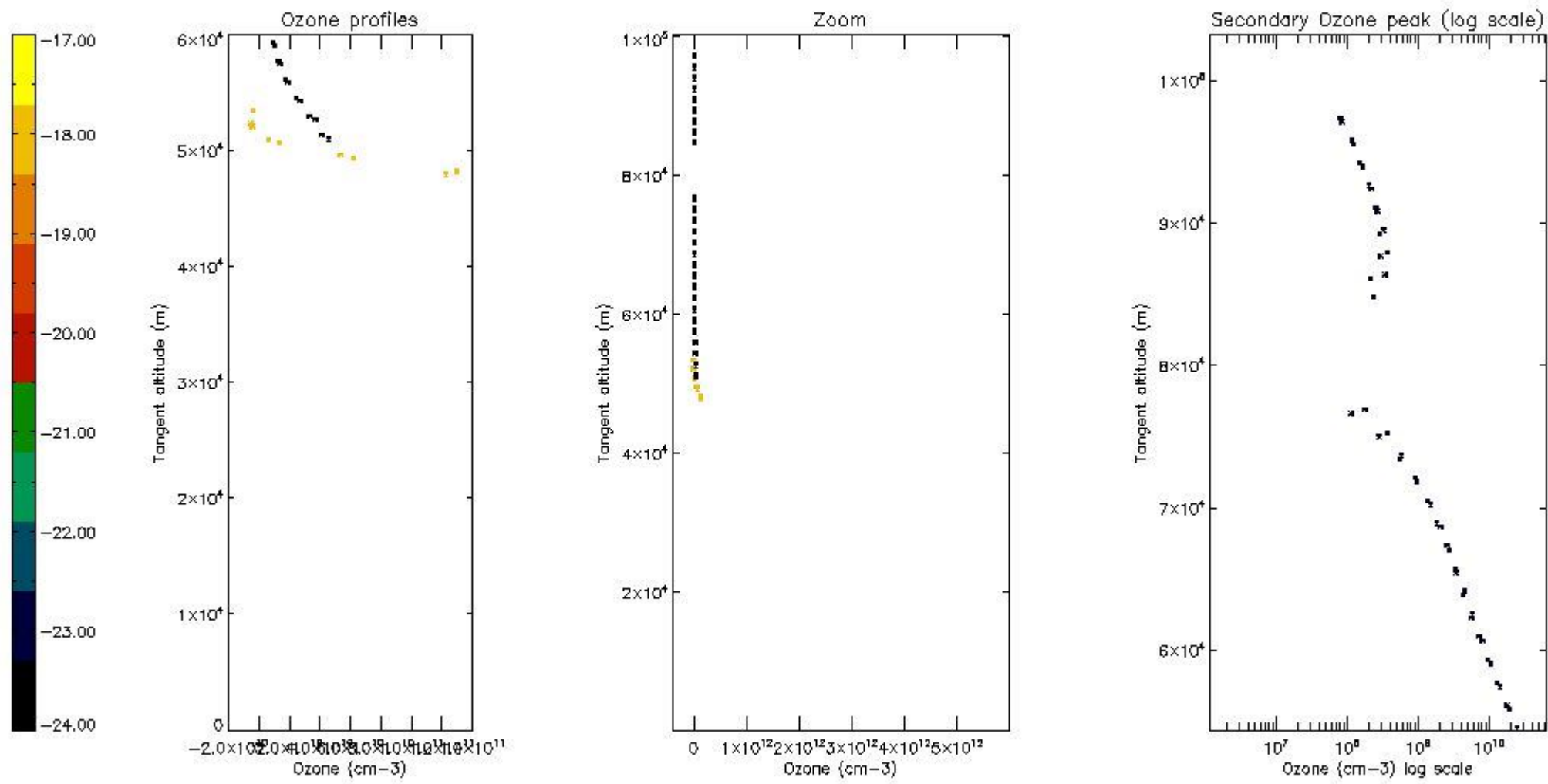
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



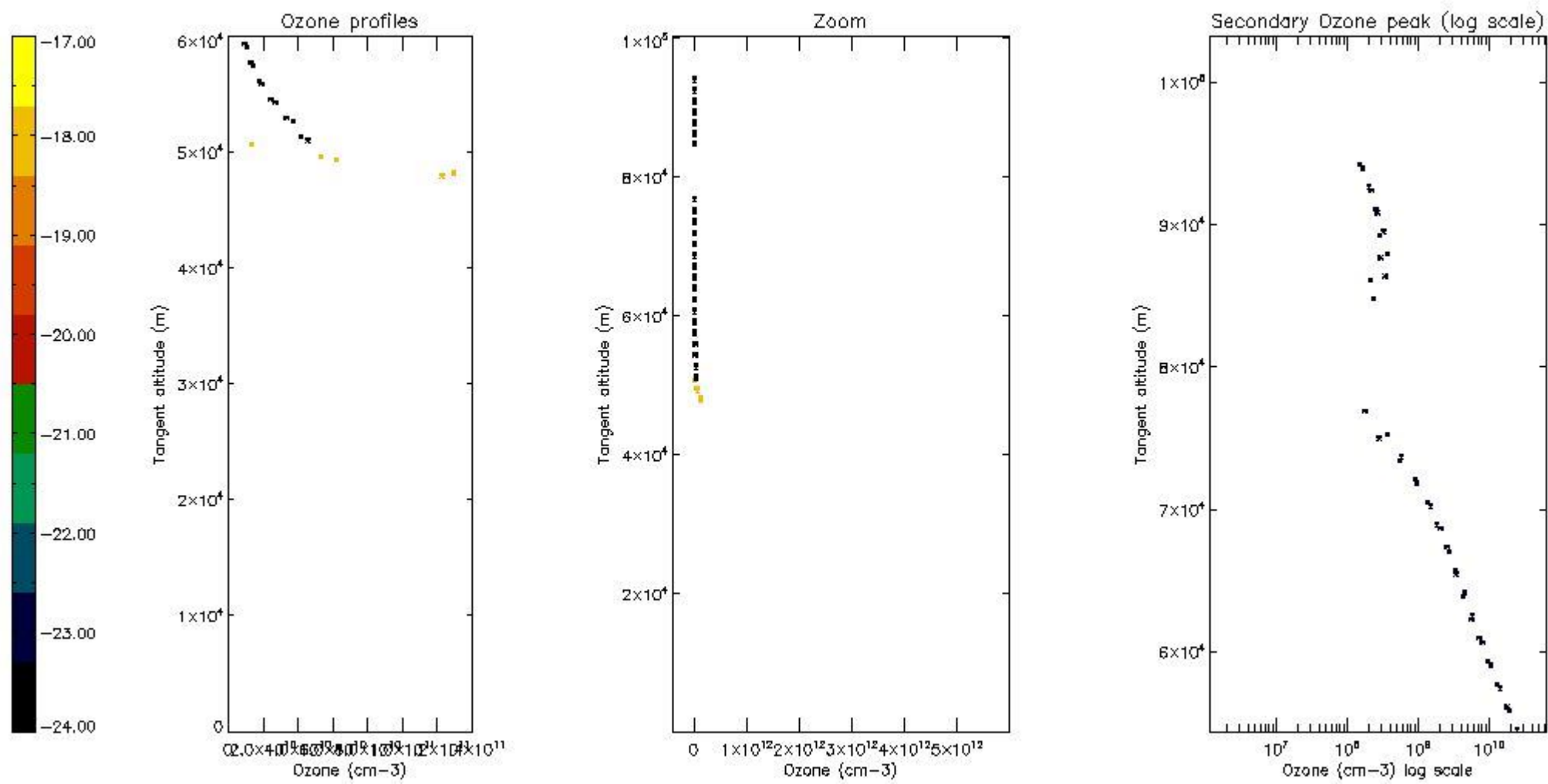
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



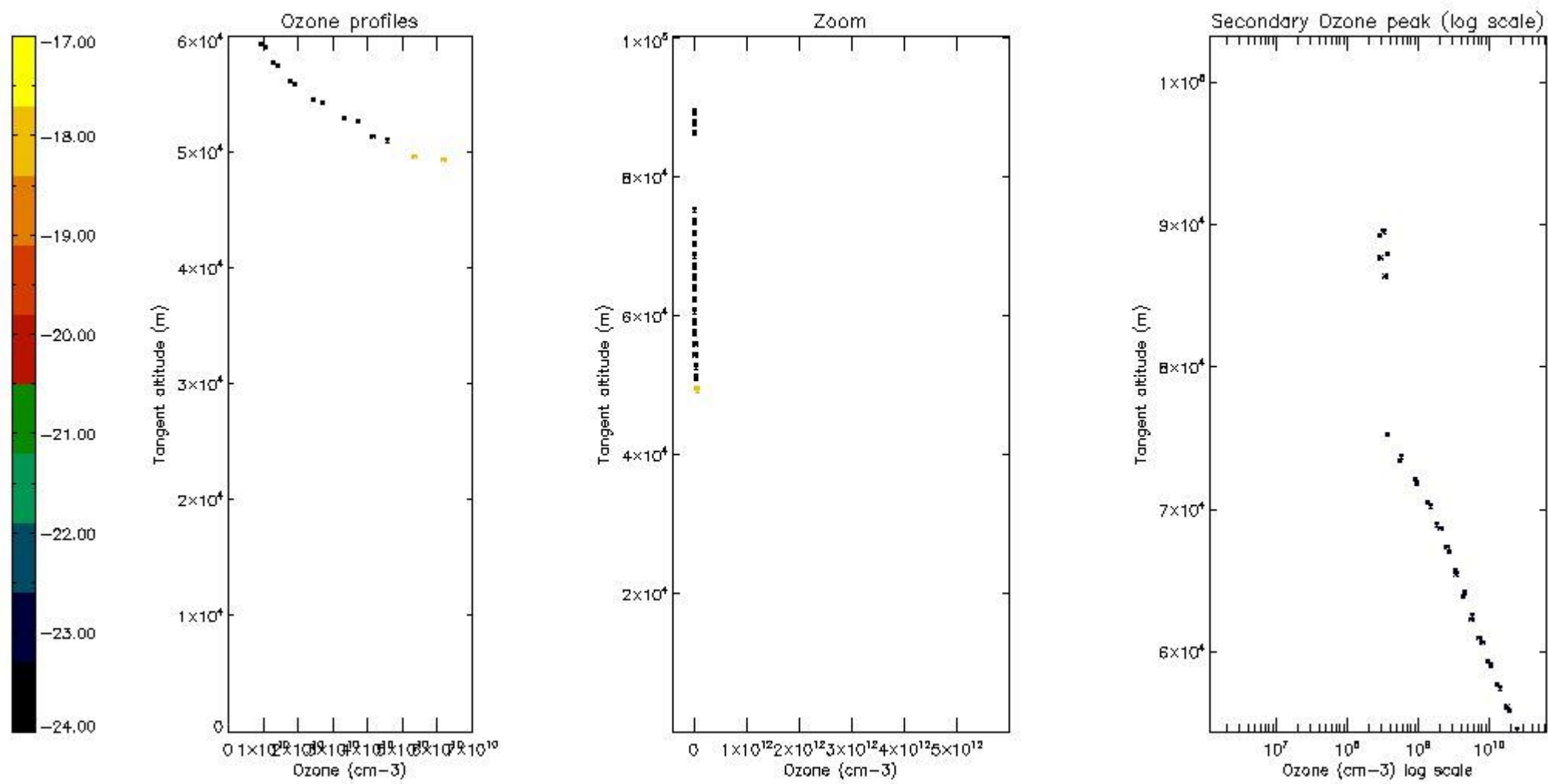
5.4 Plot ozone profiles where  $STD < 10\%$  (dark without errors)

The colorbar represents the latitude.



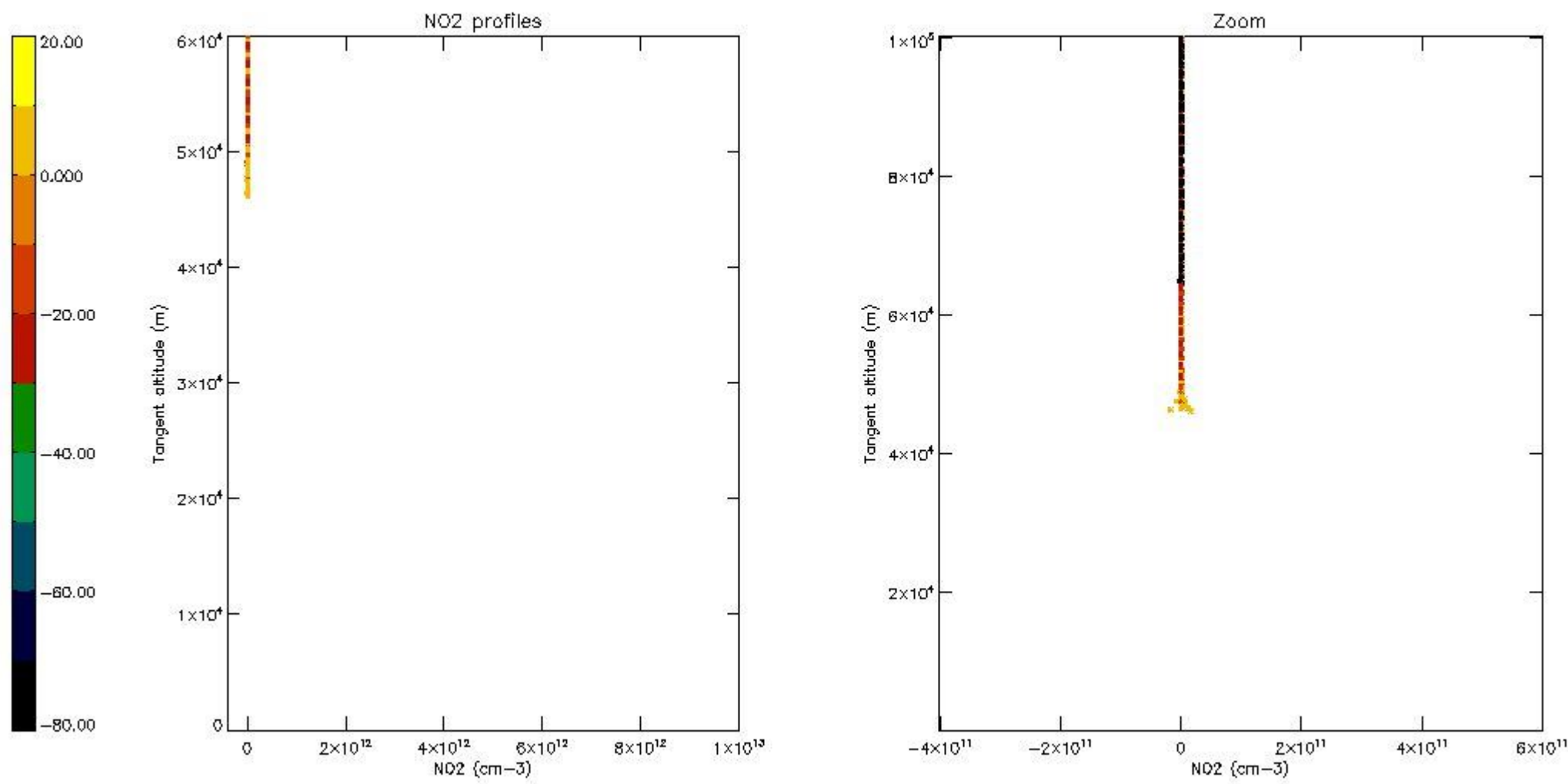
*5.5 Plot ozone profiles where  $STD < 5\%$  (dark without errors)*

The colorbar represents the latitude.



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

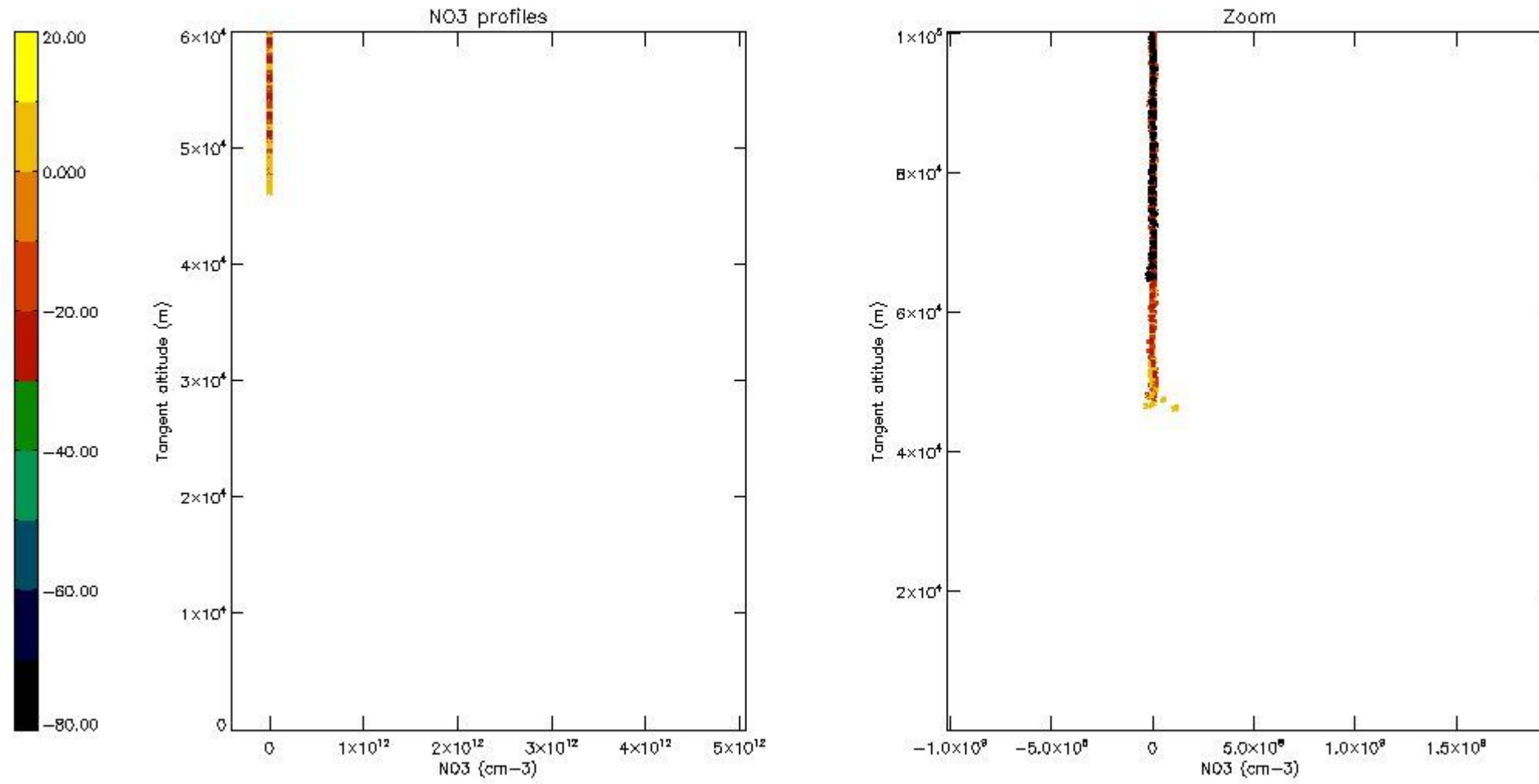
The colorbar represents the latitude.



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

The colorbar represents the latitude.





## 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	23-JUN-2009 00:07:12
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	23-JUN-2009 00:07:12
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	23-JUN-2009 00:07:12

# GOMOS Level 2 Daily Report

## SUMMARY

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### [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](#)

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##### [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	26APR2013 10:21:41
Data source version	GOMOS/6.01
Start time of products	23-06-2009 (23JUN2009 00:00:00)
Stop time of products	24-06-2009 (24JUN2009 00:00:00)
Store outputs in DB	Yes
Nb of level 2 prods	190
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__2PRFIN20090623_000712_000000282080_00102_38232_5222.N1	23-JUN-2009 00:07:12	Bright	28.000	130	23Bet Dra	2.7990	5800.0	56	38232	No
2	GOM_NL__2PRFIN20090623_002430_000000262080_00102_38232_5223.N1	23-JUN-2009 00:24:30	Twilight	25.500	76	27Gam Cas	2.3000	30000.	51	38232	No
3	GOM_NL__2PRFIN20090623_002744_000000212080_00102_38232_5224.N1	23-JUN-2009 00:27:44	Twilight	21.000	160	23Gam Per	2.9300	4700.0	42	38232	No
4	GOM_NL__2PRFIN20090623_003109_000000242080_00102_38232_5225.N1	23-JUN-2009 00:31:09	Twilight	23.500	73	57Gam1And	2.2600	13100.	47	38232	No
5	GOM_NL__2PRFIN20090623_003334_000000242080_00102_38232_5226.N1	23-JUN-2009 00:33:34	Twilight	23.500	173	4Bet Tri	3.0040	8900.0	47	38232	No
6	GOM_NL__2PRFIN20090623_003724_000000242080_00102_38232_5227.N1	23-JUN-2009 00:37:24	Dark	24.000	50	13Alp Ari	2.0070	4250.0	48	38232	No
7	GOM_NL__2PRFIN20090623_010022_000000322080_00102_38232_5228.N1	23-JUN-2009 01:00:22	Dark	32.000	84	Alp Phe	2.3970	4500.0	64	38232	No
8	GOM_NL__2PRFIN20090623_010650_000000352080_00103_38233_5230.N1	23-JUN-2009 01:06:50	Dark	35.000	63	Bet Gru	2.1500	2800.0	70	38233	No
9	GOM_NL__2PRFIN20090623_010852_000000342080_00103_38233_5231.N1	23-JUN-2009 01:08:52	Straylight	34.000	31	Alp Gru	1.7340	15200.	68	38233	No
10	GOM_NL__2PRFIN20090623_011201_000000292080_00103_38233_5232.N1	23-JUN-2009 01:12:01	Straylight	28.500	45	Alp Pav	1.9400	26000.	57	38233	No
11	GOM_NL__2PRFIN20090623_012116_000000282080_00103_38233_5233.N1	23-JUN-2009 01:21:16	Twilight	27.500	38	20Eps Sgr	1.8360	11000.	55	38233	No
12	GOM_NL__2PRFIN20090623_012241_000000282080_00103_38233_5234.N1	23-JUN-2009 01:22:41	Twilight	28.000	116	19Del Sgr	2.7000	4100.0	56	38233	No
13	GOM_NL__2PRFIN20090623_012357_000000292080_00103_38233_5235.N1	23-JUN-2009 01:23:57	Twilight	28.500	137	22Lam Sgr	2.8240	4400.0	57	38233	No
14	GOM_NL__2PRFIN20090623_013344_000000292080_00103_38233_5236.N1	23-JUN-2009 01:33:44	Bright	28.500	126	60Bet Oph	2.7700	4250.0	57	38233	No
15	GOM_NL__2PRFIN20090623_013608_000000292080_00103_38233_5237.N1	23-JUN-2009 01:36:08	Bright	28.500	59	55Alp Oph	2.0800	8900.0	57	38233	No
16	GOM_NL__2PRFIN20090623_014748_000000282080_00103_38233_5238.N1	23-JUN-2009 01:47:48	Bright	27.500	130	23Bet Dra	2.7990	5800.0	55	38233	No
17	GOM_NL__2PRFIN20090623_020505_000000262080_00103_38233_5239.N1	23-JUN-2009 02:05:05	Twilight	25.500	76	27Gam Cas	2.3000	30000.	51	38233	No
18	GOM_NL__2PRFIN20090623_021145_000000242080_00103_38233_5240.N1	23-JUN-2009 02:11:45	Twilight	23.500	73	57Gam1And	2.2600	13100.	47	38233	No
19	GOM_NL__2PRFIN20090623_021410_000000232080_00103_38233_5241.N1	23-JUN-2009 02:14:10	Twilight	23.000	173	4Bet Tri	3.0040	8900.0	46	38233	No
20	GOM_NL__2PRFIN20090623_021800_000000252080_00103_38233_5242.N1	23-JUN-2009 02:18:00	Dark	24.500	50	13Alp Ari	2.0070	4250.0	49	38233	No
21	GOM_NL__2PRFIN20090623_022250_000000222080_00103_38233_5243.N1	23-JUN-2009 02:22:50	Dark	21.500	94	92Alp Cet	2.5260	3100.0	43	38233	No
22	GOM_NL__2PRFIN20090623_024059_000000322080_00103_38233_5244.N1	23-JUN-2009 02:40:59	Dark	32.000	84	Alp Phe	2.3970	4500.0	64	38233	No
23	GOM_NL__2PRFIN20090623_024726_000000352080_00104_38234_5245.N1	23-JUN-2009 02:47:26	Dark	35.000	63	Bet Gru	2.1500	2800.0	70	38234	No
24	GOM_NL__2PRFIN20090623_024928_000000352080_00104_38234_5246.N1	23-JUN-2009 02:49:28	Straylight	34.500	31	Alp Gru	1.7340	15200.	69	38234	No
25	GOM_NL__2PRFIN20090623_025237_000000292080_00104_38234_5247.N1	23-JUN-2009 02:52:37	Straylight	28.500	45	Alp Pav	1.9400	26000.	57	38234	No
26	GOM_NL__2PRFIN20090623_030152_000000282080_00104_38234_5248.N1	23-JUN-2009 03:01:52	Twilight	27.500	38	20Eps Sgr	1.8360	11000.	55	38234	No
27	GOM_NL__2PRFIN20090623_030317_000000282080_00104_38234_5249.N1	23-JUN-2009 03:03:17	Twilight	28.000	116	19Del Sgr	2.7000	4100.0	56	38234	No
28	GOM_NL__2PRFIN20090623_030433_000000292080_00104_38234_5250.N1	23-JUN-2009 03:04:33	Twilight	28.500	137	22Lam Sgr	2.8240	4400.0	57	38234	No
29	GOM_NL__2PRFIN20090623_031420_000000292080_00104_38234_5251.N1	23-JUN-2009 03:14:20	Bright	28.500	126	60Bet Oph	2.7700	4250.0	57	38234	No
30	GOM_NL__2PRFIN20090623_031644_000000292080_00104_38234_5252.N1	23-JUN-2009 03:16:44	Bright	28.500	59	55Alp Oph	2.0800	8900.0	57	38234	No
31	GOM_NL__2PRFIN20090623_032824_000000272080_00104_38234_5253.N1	23-JUN-2009 03:28:24	Twilight	27.000	130	23Bet Dra	2.7990	5800.0	54	38234	No
32	GOM_NL__2PRFIN20090623_034541_000000252080_00104_38234_5254.N1	23-JUN-2009 03:45:41	Twilight	25.000	76	27Gam Cas	2.3000	30000.	50	38234	No
33	GOM_NL__2PRFIN20090623_035221_000000232080_00104_38234_5255.N1	23-JUN-2009 03:52:21	Twilight	23.000	73	57Gam1And	2.2600	13100.	46	38234	No
34	GOM_NL__2PRFIN20090623_035446_000000242080_00104_38234_5256.N1	23-JUN-2009 03:54:46	Twilight	23.500	173	4Bet Tri	3.0040	8900.0	47	38234	No
35	GOM_NL__2PRFIN20090623_035837_000000252080_00104_38234_5257.N1	23-JUN-2009 03:58:37	Dark	24.500	50	13Alp Ari	2.0070	4250.0	49	38234	No
36	GOM_NL__2PRFIN20090623_042136_000000322080_00104_38234_5258.N1	23-JUN-2009 04:21:36	Dark	32.000	84	Alp Phe	2.3970	4500.0	64	38234	No
37	GOM_NL__2PRFIN20090623_042803_000000362080_00105_38235_5259.N1	23-JUN-2009 04:28:03	Dark	35.500	63	Bet Gru	2.1500	2800.0	71	38235	No
38	GOM_NL__2PRFIN20090623_043005_000000352080_00105_38235_5260.N1	23-JUN-2009 04:30:05	Straylight	35.000	31	Alp Gru	1.7340	15200.	70	38235	No
39	GOM_NL__2PRFIN20090623_044228_000000282080_00105_38235_5261.N1	23-JUN-2009 04:42:28	Twilight	27.500	38	20Eps Sgr	1.8360	11000.	55	38235	No
40	GOM_NL__2PRFIN20090623_044354_000000282080_00105_38235_5262.N1	23-JUN-2009 04:43:54	Twilight	27.500	116	19Del Sgr	2.7000	4100.0	55	38235	No
41	GOM_NL__2PRFIN20090623_044509_000000292080_00105_38235_5263.N1	23-JUN-2009 04:45:09	Twilight	28.500	137	22Lam Sgr	2.8240	4400.0	57	38235	No
42	GOM_NL__2PRFIN20090623_045456_000000282080_00105_38235_5264.N1	23-JUN-2009 04:54:56	Bright	28.000	126	60Bet Oph	2.7700	4250.0	56	38235	No



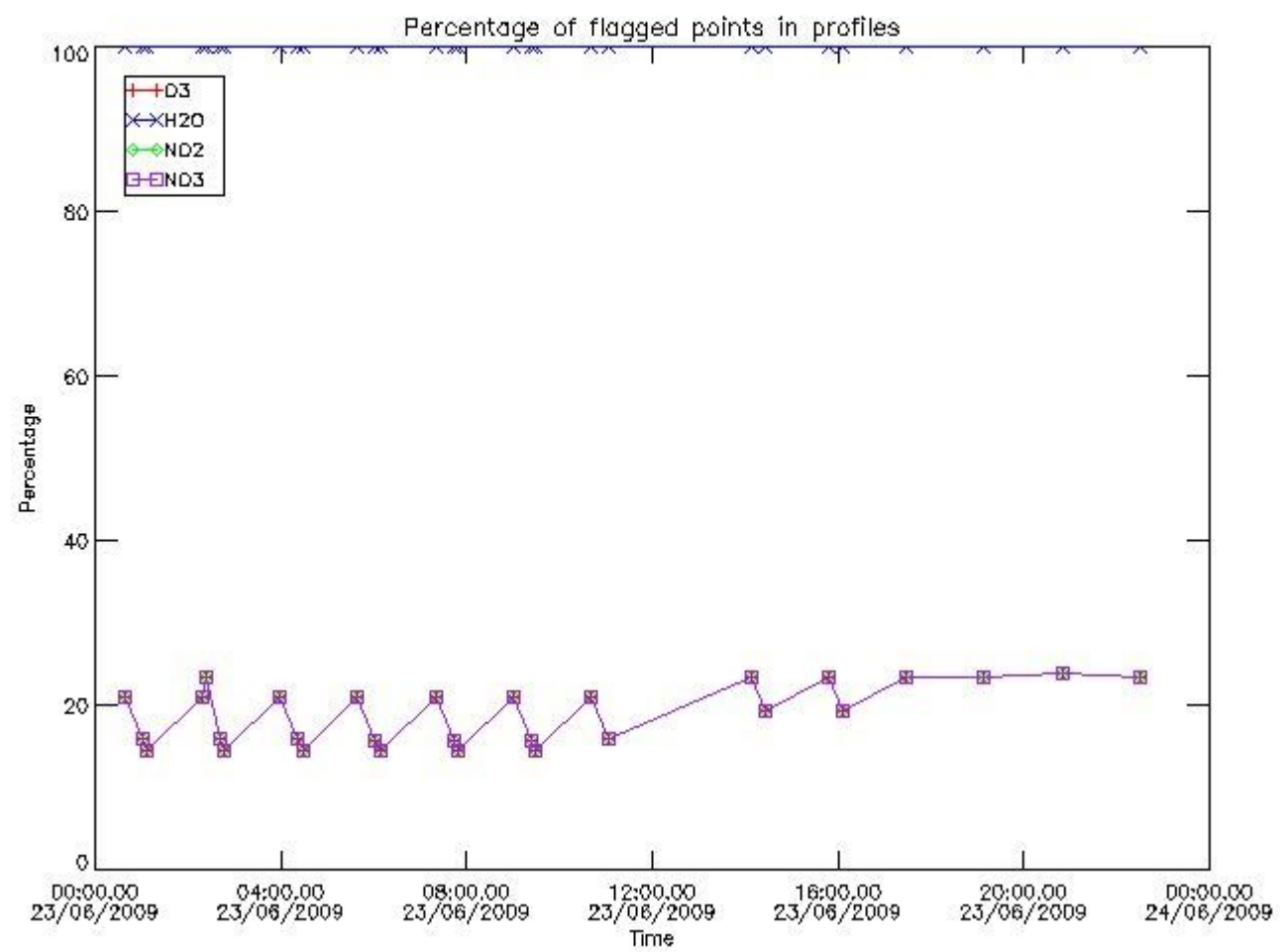


161	GOM_NL__2PRFIN20090623_211448_000000292080_00115_38245_5426.N1	23-JUN-2009 21:14:48	Straylight	28.500	148	Alp Tuc	2.8780	4100.0	57	38245	No
162	GOM_NL__2PRFIN20090623_211919_000000282080_00115_38245_5427.N1	23-JUN-2009 21:19:19	Straylight	27.500	45	Alp Pav	1.9400	26000.	55	38245	No
163	GOM_NL__2PRFIN20090623_212654_000000252080_00115_38245_5428.N1	23-JUN-2009 21:26:54	Twilight_stray	24.500	40	The Sco	1.8590	7100.0	49	38245	No
164	GOM_NL__2PRFIN20090623_212835_000000252080_00115_38245_5429.N1	23-JUN-2009 21:28:35	Twilight_stray	25.000	25	35Lam Sco	1.6200	28000.	50	38245	No
165	GOM_NL__2PRFIN20090623_212956_000000272080_00115_38245_5430.N1	23-JUN-2009 21:29:56	Twilight_stray	27.000	116	19Del Sgr	2.7000	4100.0	54	38245	No
166	GOM_NL__2PRFIN20090623_213454_000000252080_00115_38245_5431.N1	23-JUN-2009 21:34:54	Twilight_stray	25.000	86	35Eta Oph	2.4300	10200.	50	38245	No
167	GOM_NL__2PRFIN20090623_213638_000000242080_00115_38245_5432.N1	23-JUN-2009 21:36:38	Twilight_stray	24.000	98	13Zet Oph	2.5710	30000.	48	38245	No
168	GOM_NL__2PRFIN20090623_214054_000000282080_00115_38245_5433.N1	23-JUN-2009 21:40:54	Twilight_stray	28.000	126	60Bet Oph	2.7700	4250.0	56	38245	No
169	GOM_NL__2PRFIN20090623_214318_000000282080_00115_38245_5434.N1	23-JUN-2009 21:43:18	Bright	28.000	59	55Alp Oph	2.0800	8900.0	56	38245	No
170	GOM_NL__2PRFIN20090623_214833_000000262080_00115_38245_5435.N1	23-JUN-2009 21:48:33	Bright	25.500	133	40Zet Her	2.8070	6000.0	51	38245	No
171	GOM_NL__2PRFIN20090623_215456_000000272080_00115_38245_5436.N1	23-JUN-2009 21:54:56	Bright	27.000	130	23Bet Dra	2.7990	5800.0	54	38245	No
172	GOM_NL__2PRFIN20090623_215658_000000252080_00115_38245_5437.N1	23-JUN-2009 21:56:58	Twilight_stray	25.000	119	14Eta Dra	2.7270	4700.0	50	38245	No
173	GOM_NL__2PRFIN20090623_220512_000000242080_00115_38245_5438.N1	23-JUN-2009 22:05:12	Twilight_stray	23.500	49	1Alp UMi	1.9900	6300.0	47	38245	No
174	GOM_NL__2PRFIN20090623_221531_000000212080_00115_38245_5439.N1	23-JUN-2009 22:15:31	Twilight_stray	21.000	160	23Gam Per	2.9300	4700.0	42	38245	No
175	GOM_NL__2PRFIN20090623_221914_000000212080_00115_38245_5440.N1	23-JUN-2009 22:19:14	Twilight_stray	20.500	79	26Bet Per	2.3100	13100.	41	38245	No
176	GOM_NL__2PRFIN20090623_223006_000000222080_00115_38245_5441.N1	23-JUN-2009 22:30:06	Dark	21.500	94	92Alp Cet	2.5260	3100.0	43	38245	No
177	GOM_NL__2PRFIN20090623_225955_000000292080_00116_38246_5445.N1	23-JUN-2009 22:59:55	Straylight	28.500	45	Alp Pav	1.9400	26000.	57	38246	No
178	GOM_NL__2PRFIN20090623_230543_000000252080_00116_38246_5446.N1	23-JUN-2009 23:05:43	Straylight	24.500	147	Alp Ara	2.8770	26000.	49	38246	No
179	GOM_NL__2PRFIN20090623_230730_000000252080_00116_38246_5447.N1	23-JUN-2009 23:07:30	Twilight_stray	24.500	40	The Sco	1.8590	7100.0	49	38246	No
180	GOM_NL__2PRFIN20090623_230911_000000252080_00116_38246_5448.N1	23-JUN-2009 23:09:11	Twilight_stray	25.000	25	35Lam Sco	1.6200	28000.	50	38246	No
181	GOM_NL__2PRFIN20090623_231032_000000282080_00116_38246_5449.N1	23-JUN-2009 23:10:32	Twilight_stray	27.500	116	19Del Sgr	2.7000	4100.0	55	38246	No
182	GOM_NL__2PRFIN20090623_231530_000000252080_00116_38246_5450.N1	23-JUN-2009 23:15:30	Twilight_stray	25.000	86	35Eta Oph	2.4300	10200.	50	38246	No
183	GOM_NL__2PRFIN20090623_232130_000000282080_00116_38246_5451.N1	23-JUN-2009 23:21:30	Bright	28.000	126	60Bet Oph	2.7700	4250.0	56	38246	No
184	GOM_NL__2PRFIN20090623_232354_000000282080_00116_38246_5452.N1	23-JUN-2009 23:23:54	Bright	27.500	59	55Alp Oph	2.0800	8900.0	55	38246	No
185	GOM_NL__2PRFIN20090623_232908_000000262080_00116_38246_5453.N1	23-JUN-2009 23:29:08	Bright	26.000	133	40Zet Her	2.8070	6000.0	52	38246	No
186	GOM_NL__2PRFIN20090623_233532_000000282080_00116_38246_5454.N1	23-JUN-2009 23:35:32	Bright	27.500	130	23Bet Dra	2.7990	5800.0	55	38246	No
187	GOM_NL__2PRFIN20090623_233734_000000252080_00116_38246_5455.N1	23-JUN-2009 23:37:34	Twilight_stray	25.000	119	14Eta Dra	2.7270	4700.0	50	38246	No
188	GOM_NL__2PRFIN20090623_234547_000000242080_00116_38246_5456.N1	23-JUN-2009 23:45:47	Twilight_stray	23.500	49	1Alp UMi	1.9900	6300.0	47	38246	No
189	GOM_NL__2PRFIN20090623_235607_000000212080_00116_38246_5457.N1	23-JUN-2009 23:56:07	Twilight_stray	21.000	160	23Gam Per	2.9300	4700.0	42	38246	No
190	GOM_NL__2PRFIN20090623_235950_000000212080_00116_38246_5458.N1	23-JUN-2009 23:59:50	Twilight_stray	21.000	79	26Bet Per	2.3100	13100.	42	38246	No

### 3. Quality information per product

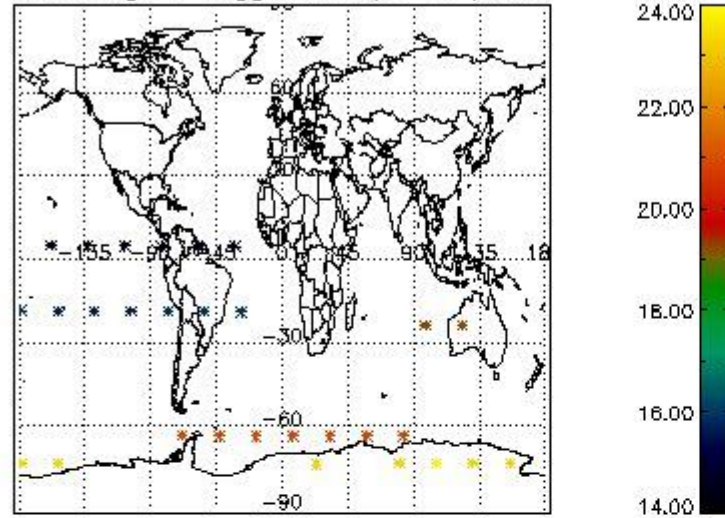
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

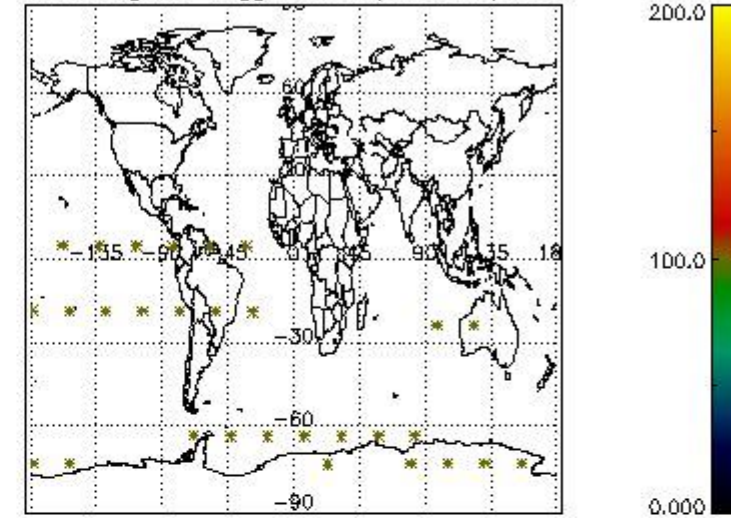


*3.2 Plot quality information per product (world map)*

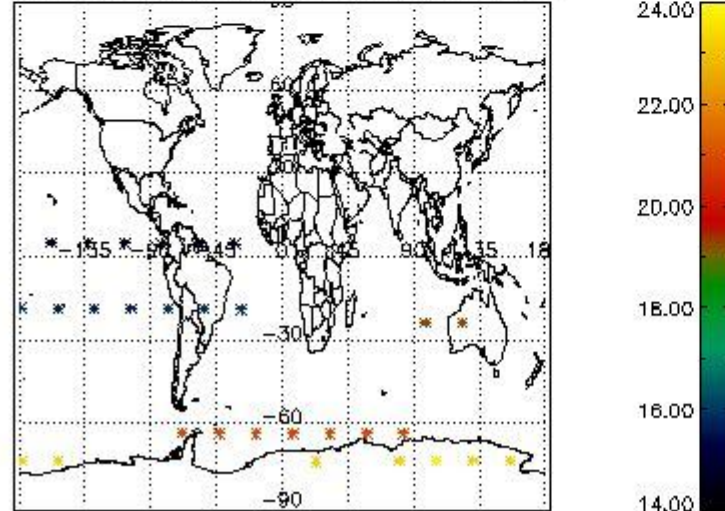
Percentage of flagged data per O3 profile



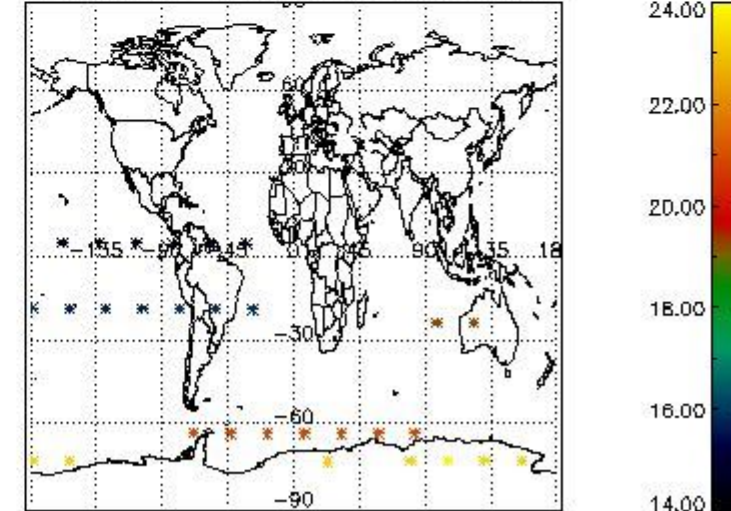
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile



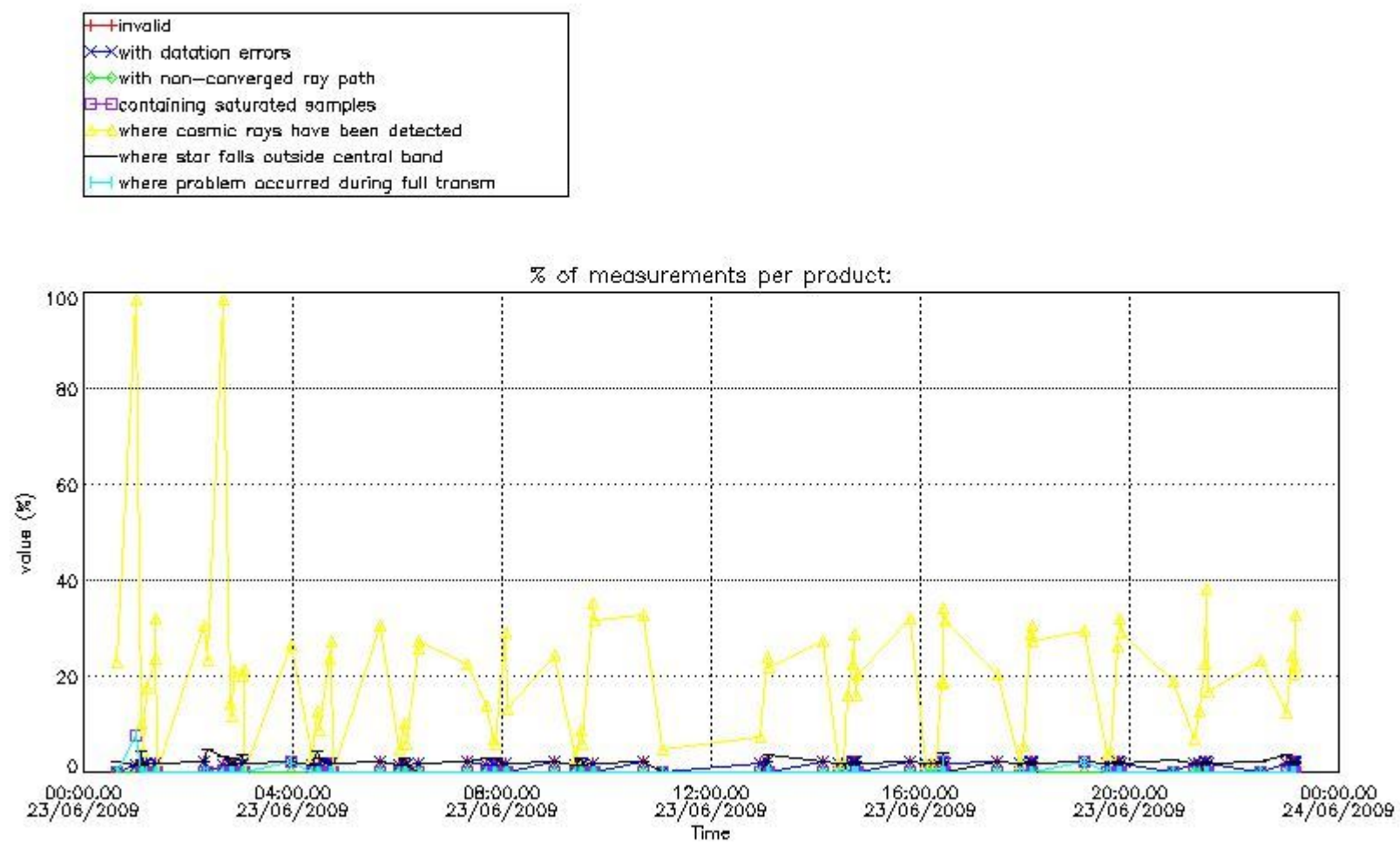
#### 4. Level 1 quality information per product

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.

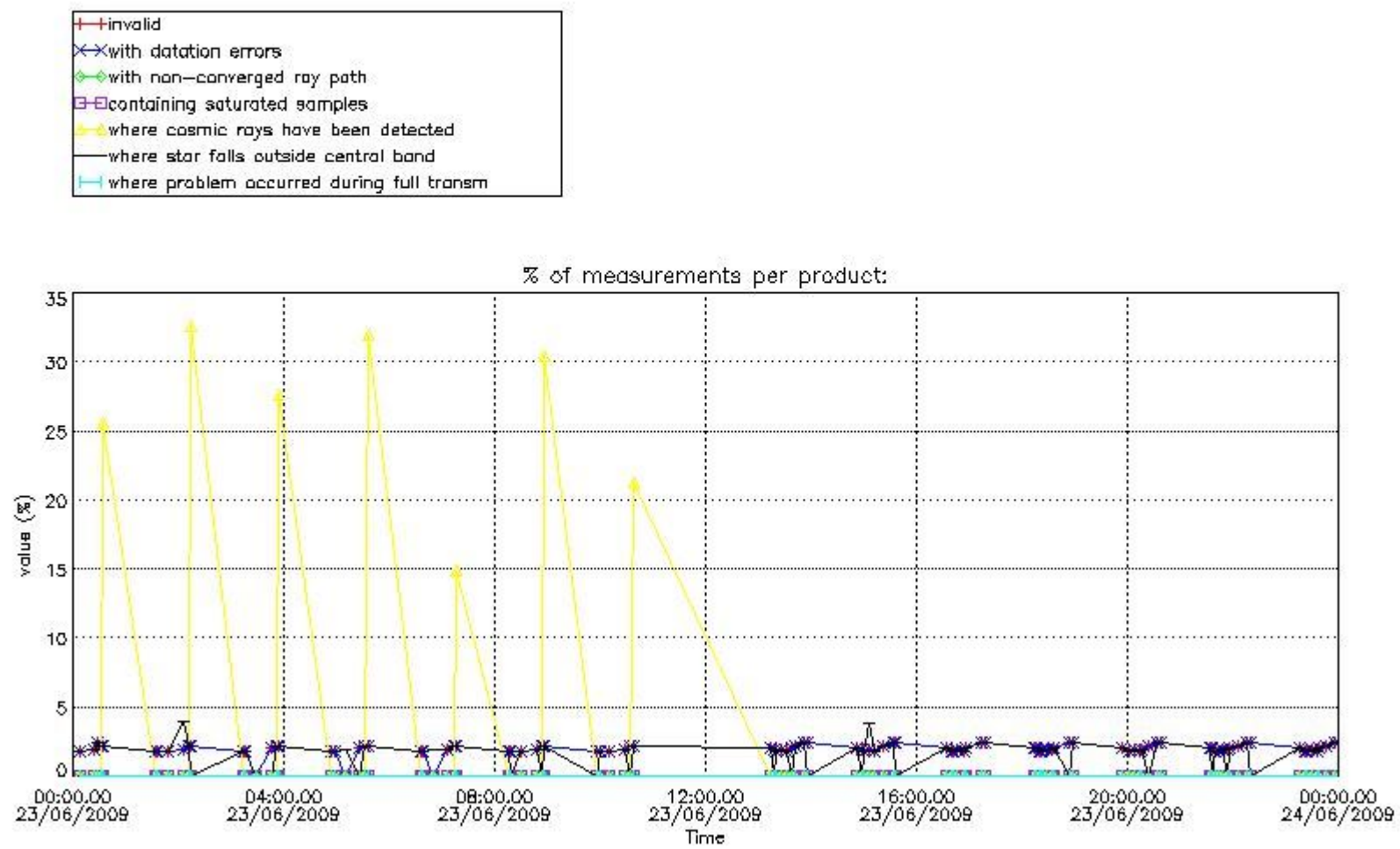
##### 4.1 Plot quality information per product (time dependant) coming from level 1b processing

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





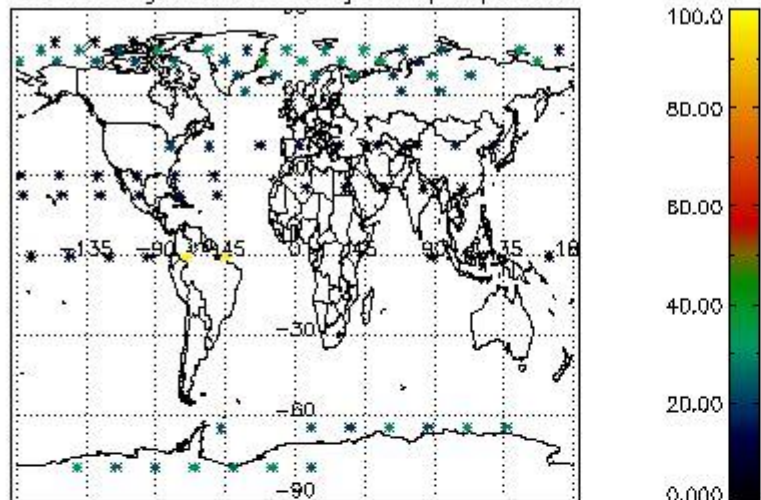
4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes



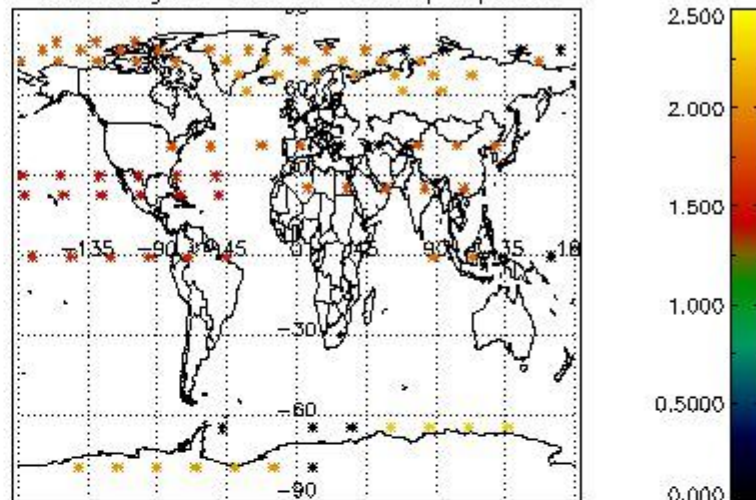
4.2 Plot quality information per product coming from level 1b processing (world map)

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

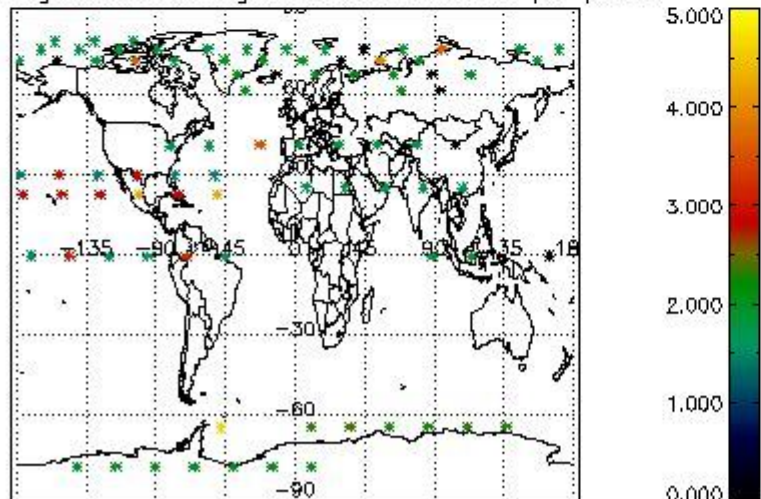
Percentage of cosmic ray hits per profile



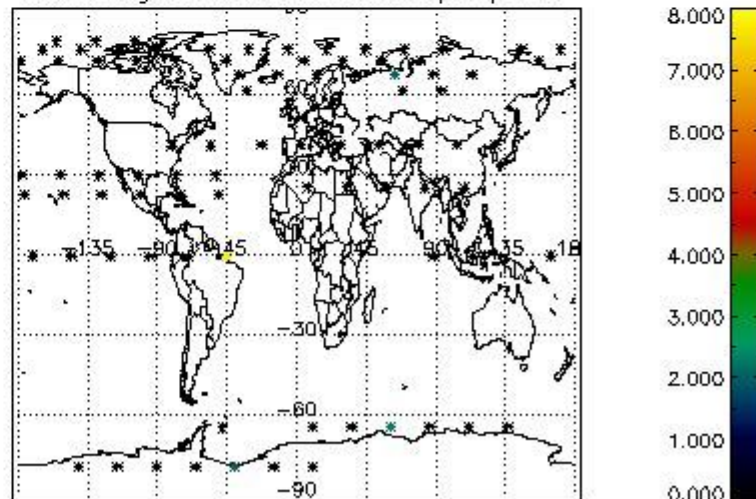
Percentage of datation errors per profile



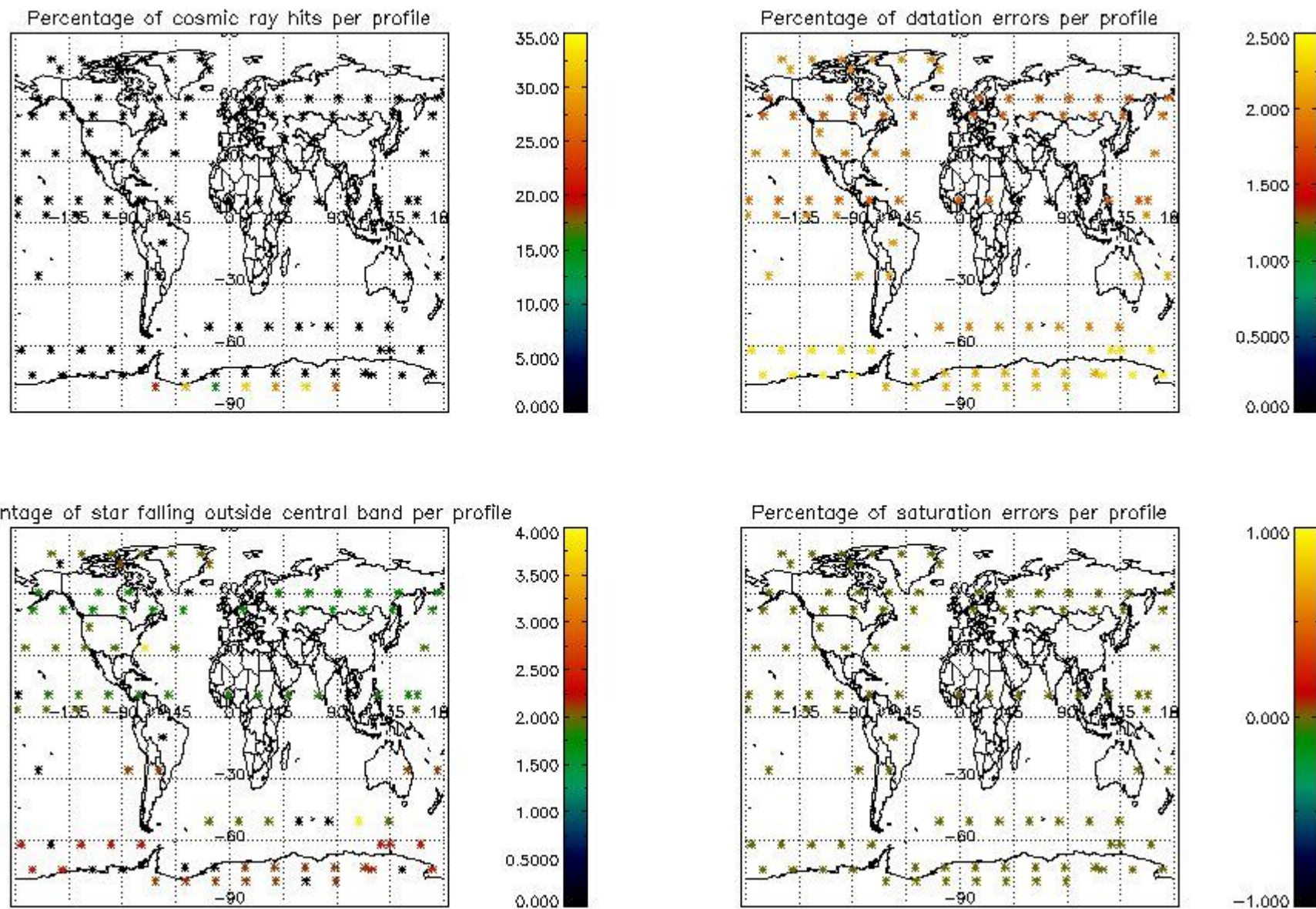
Percentage of star falling outside central band per profile



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

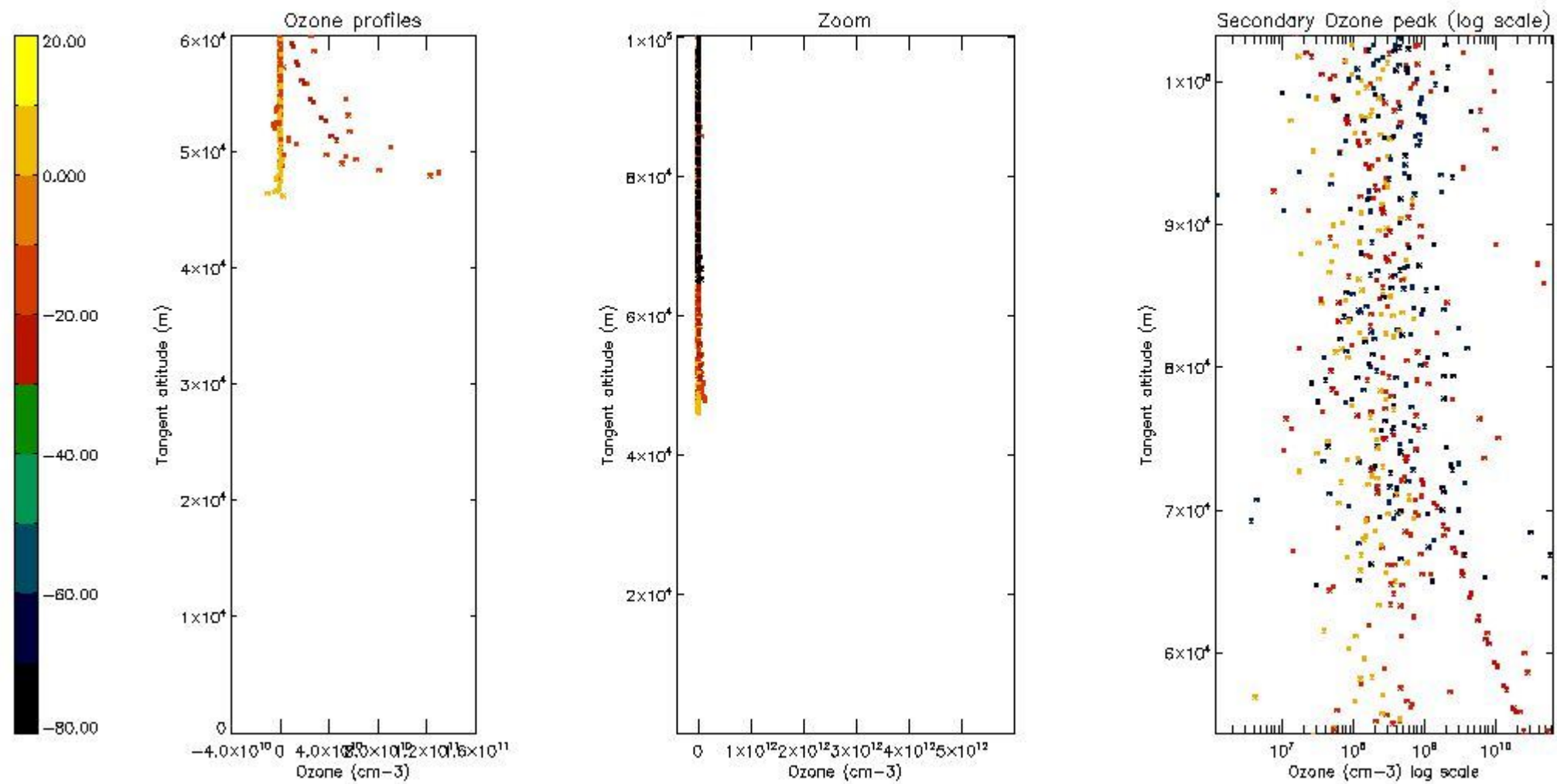
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	17
STD < 20	1

STD < 10	1
STD < 5	0

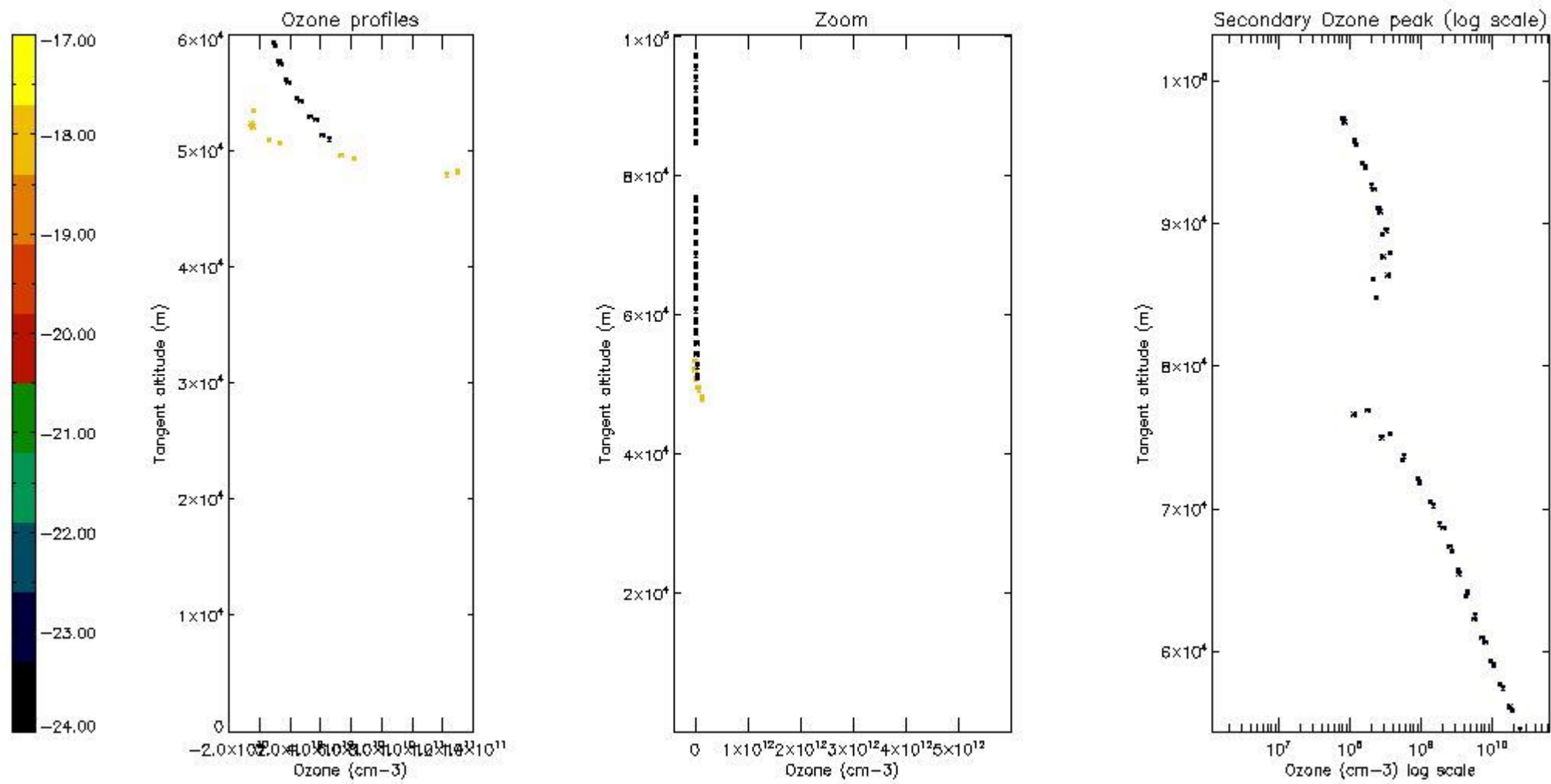
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



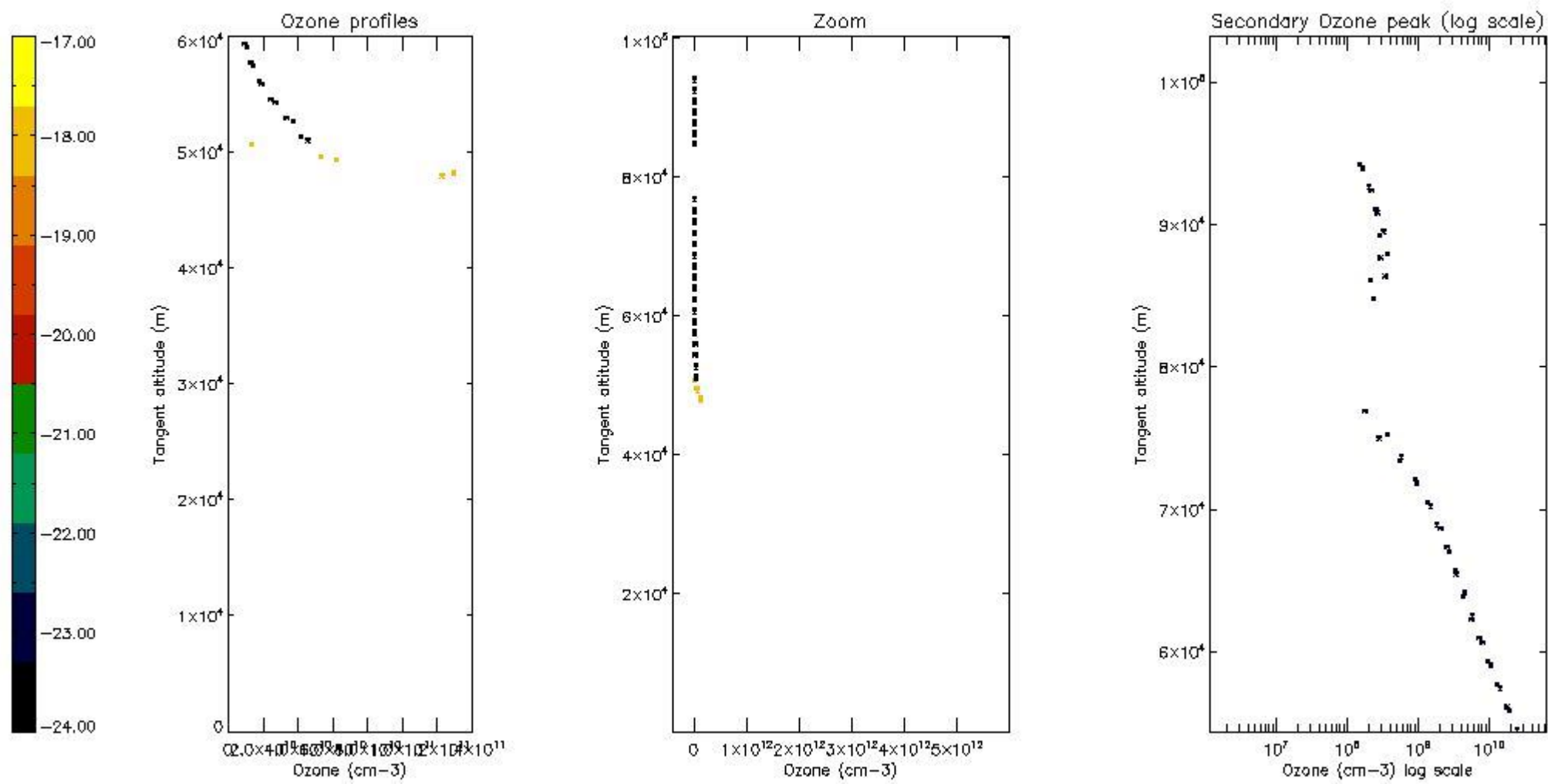
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



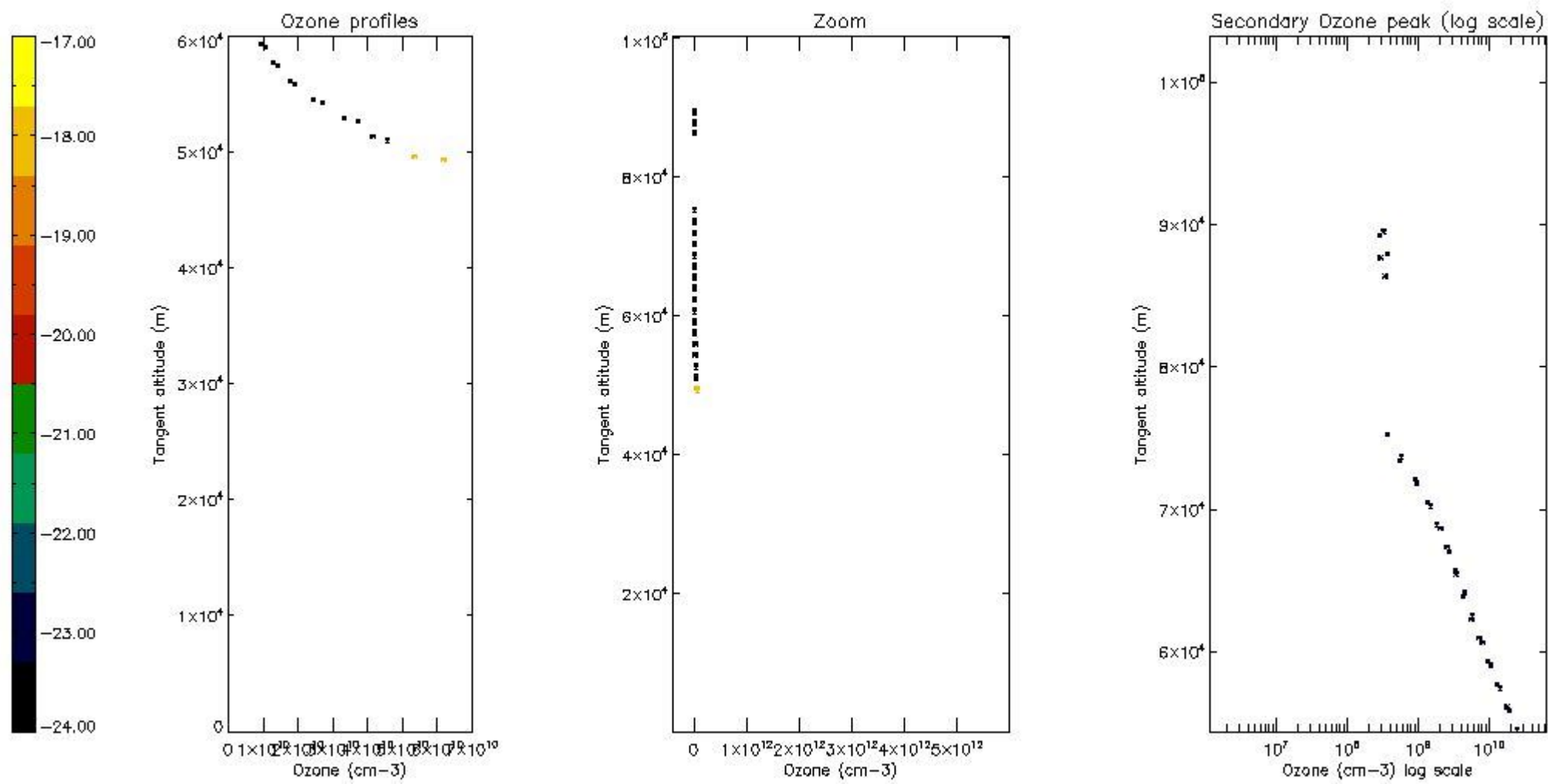
5.4 Plot ozone profiles where  $STD < 10\%$  (dark without errors)

The colorbar represents the latitude.



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

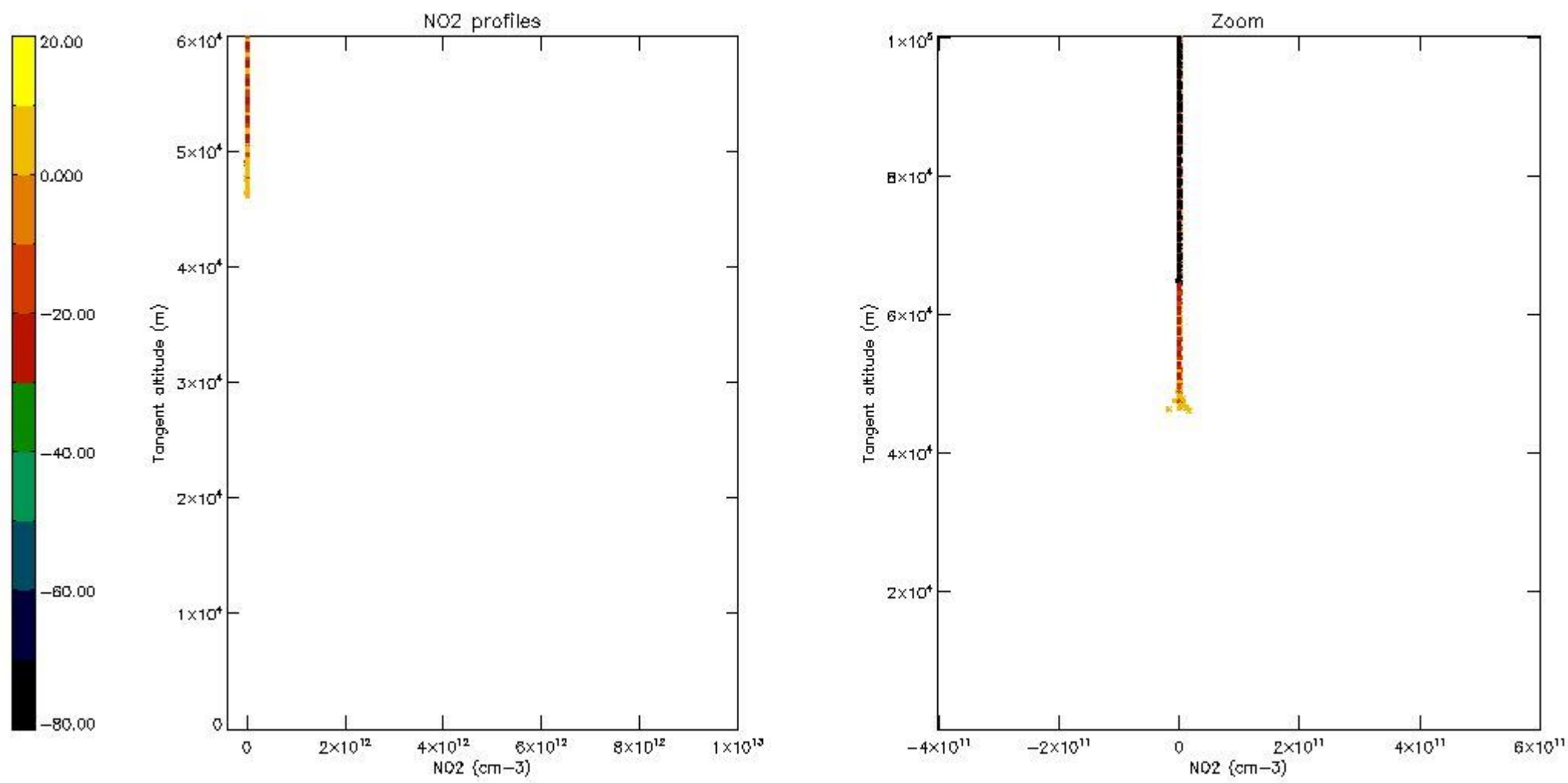
The colorbar represents the latitude.



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

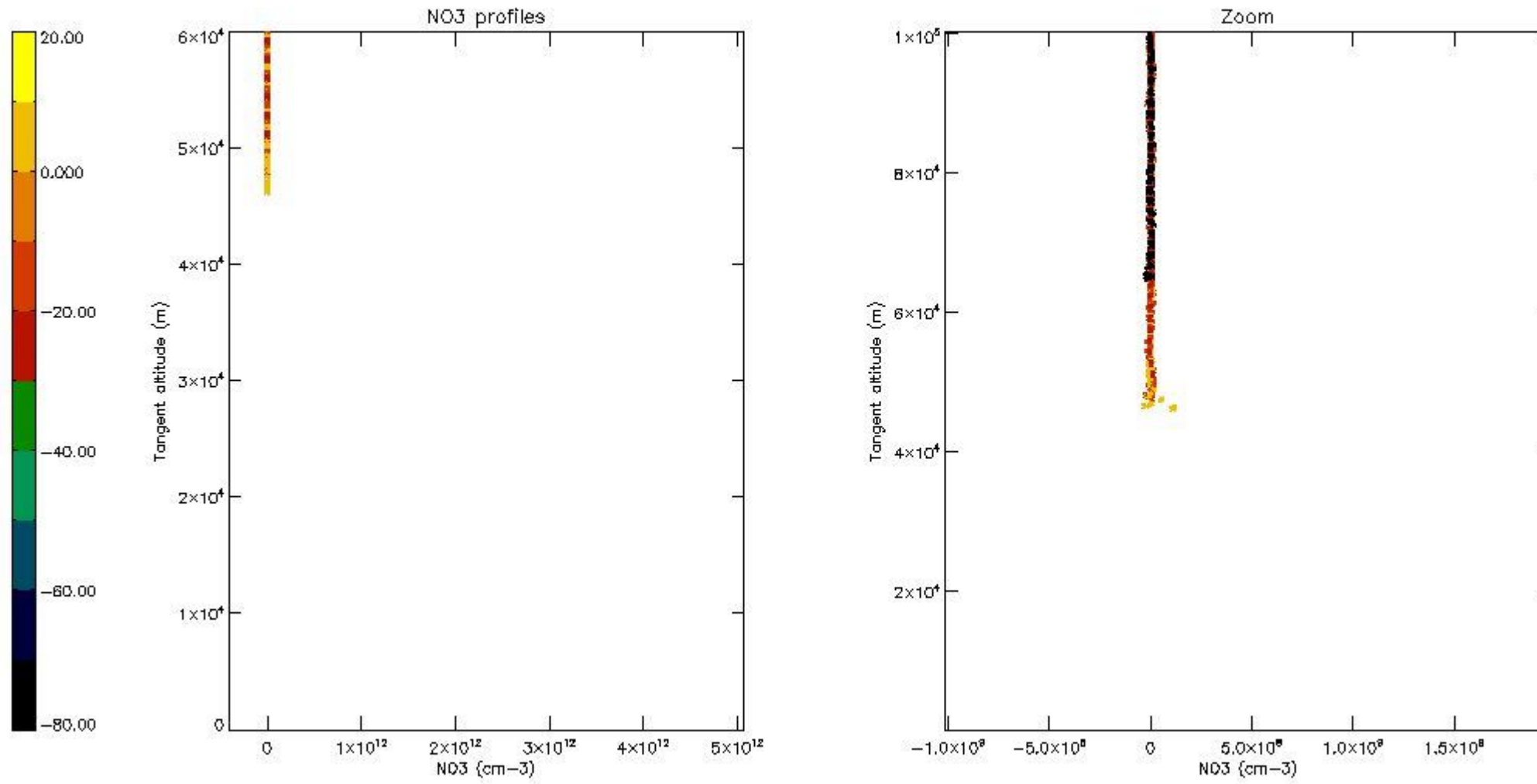
The colorbar represents the latitude.





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

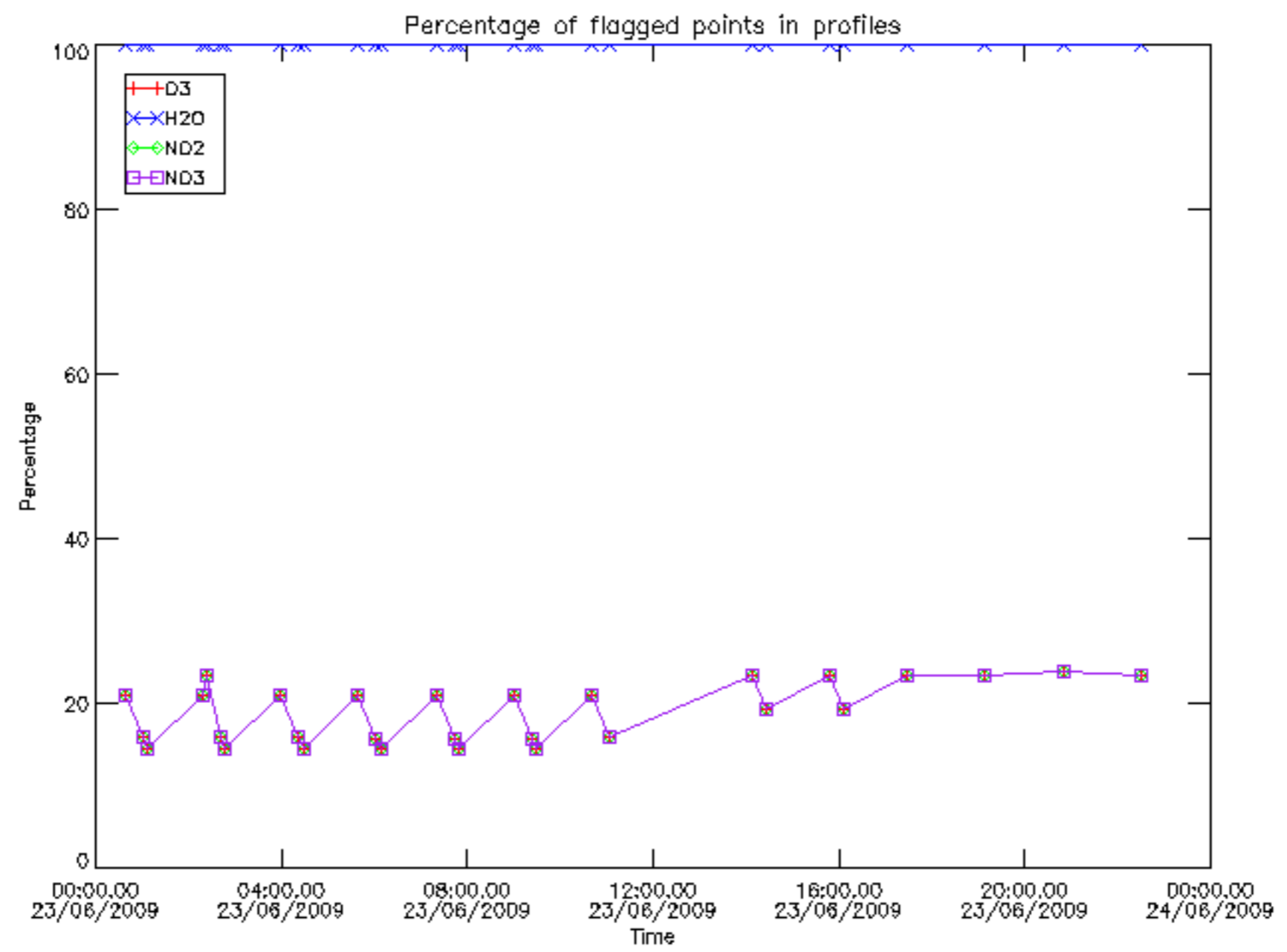
The colorbar represents the latitude.



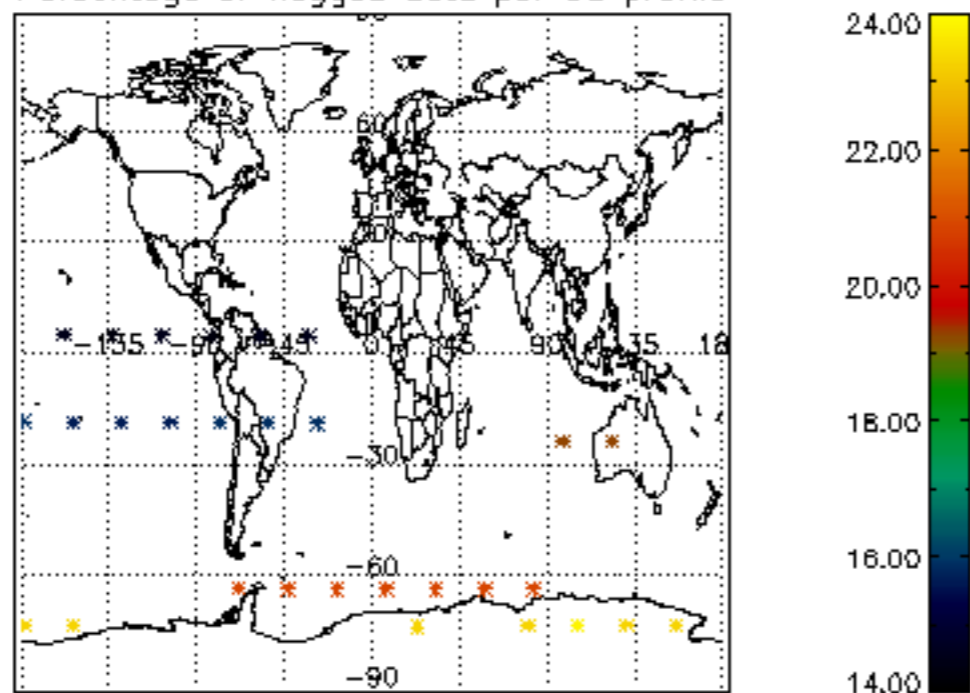
## 6. Auxiliary Data Files used for the production reported in section 2

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.

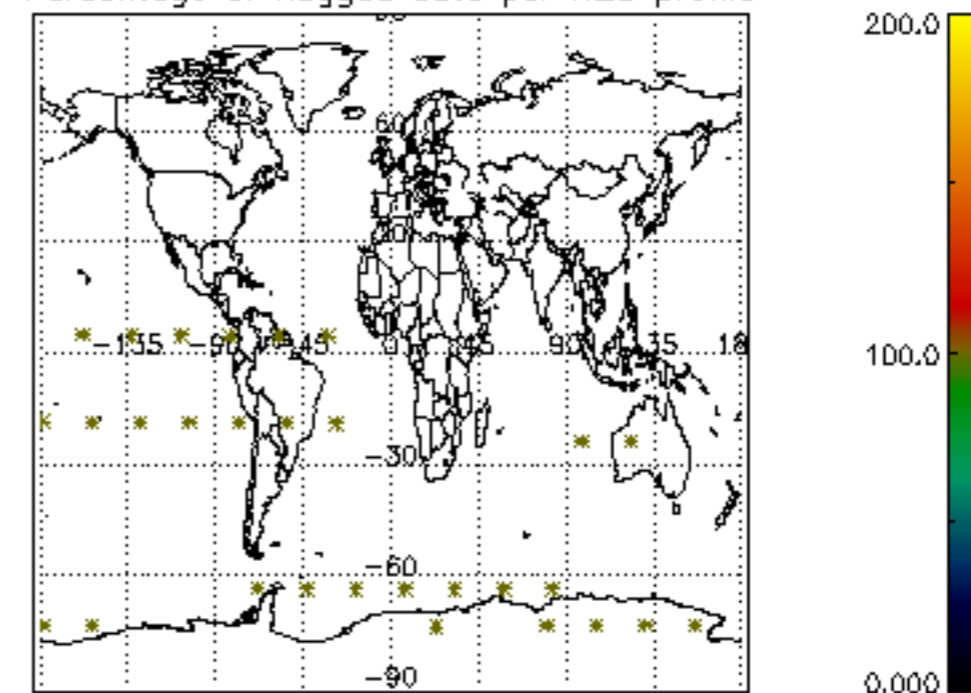
Type	Auxiliary Filename	Used since product	Used since product date
INST_PHYS_CHARACTERISTICS	GOM_INS_AXVIEC20091111_143220_20030716_120000_20500101_000000	1	23-JUN-2009 00:07:12
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	23-JUN-2009 00:07:12
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	23-JUN-2009 00:07:12



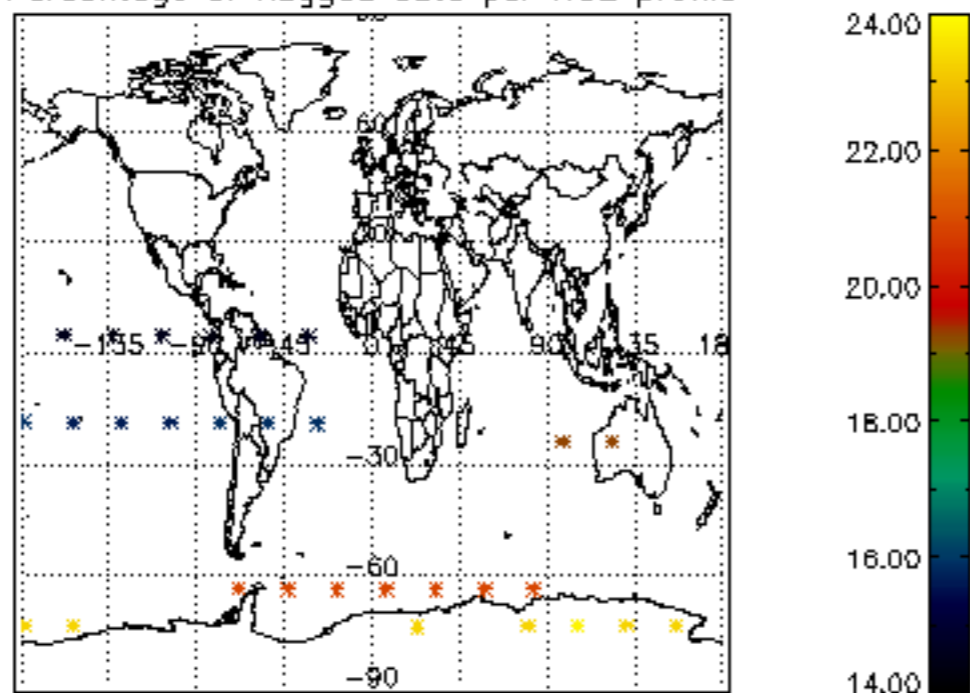
Percentage of flagged data per D3 profile



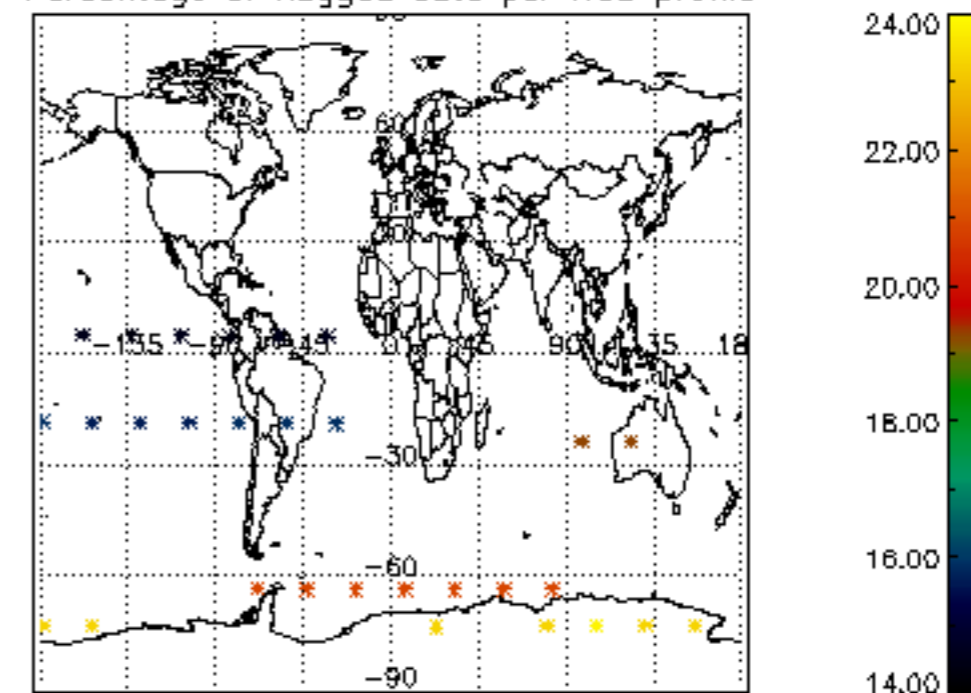
Percentage of flagged data per H2O profile

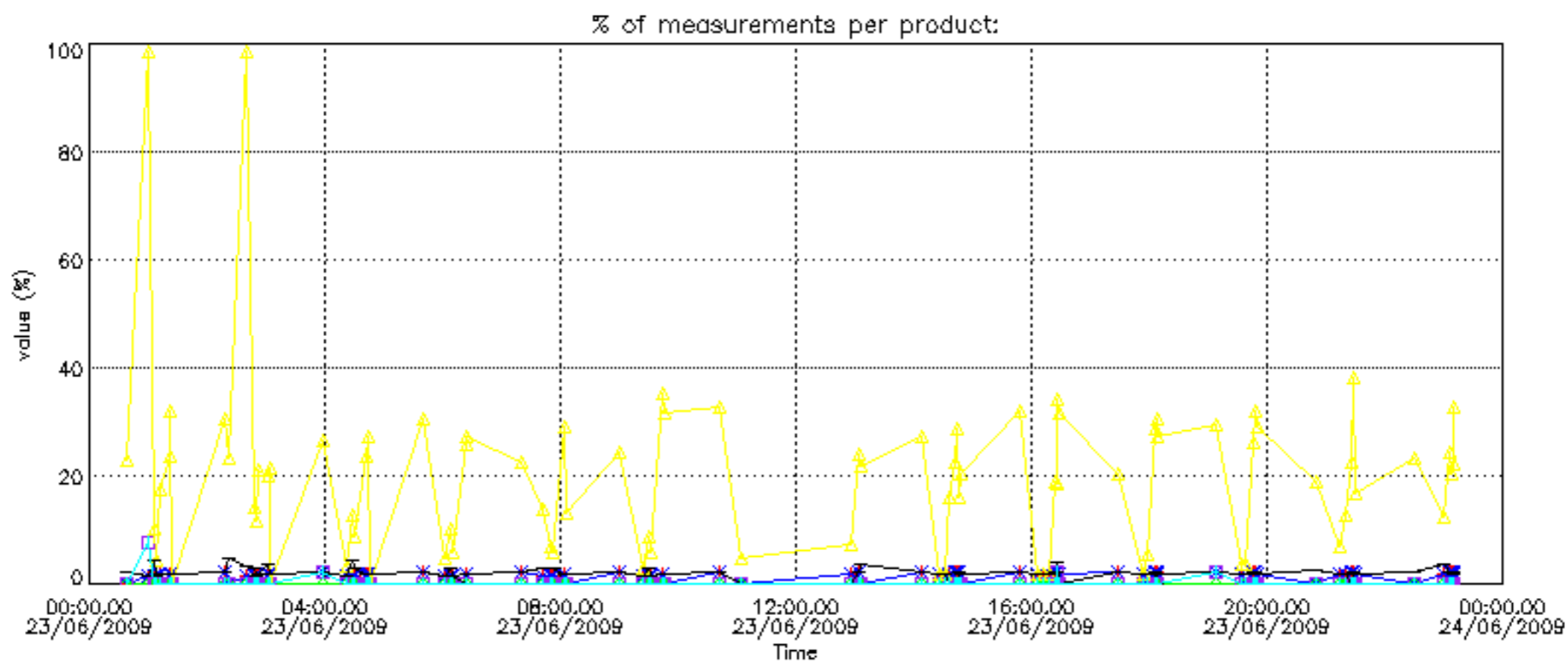


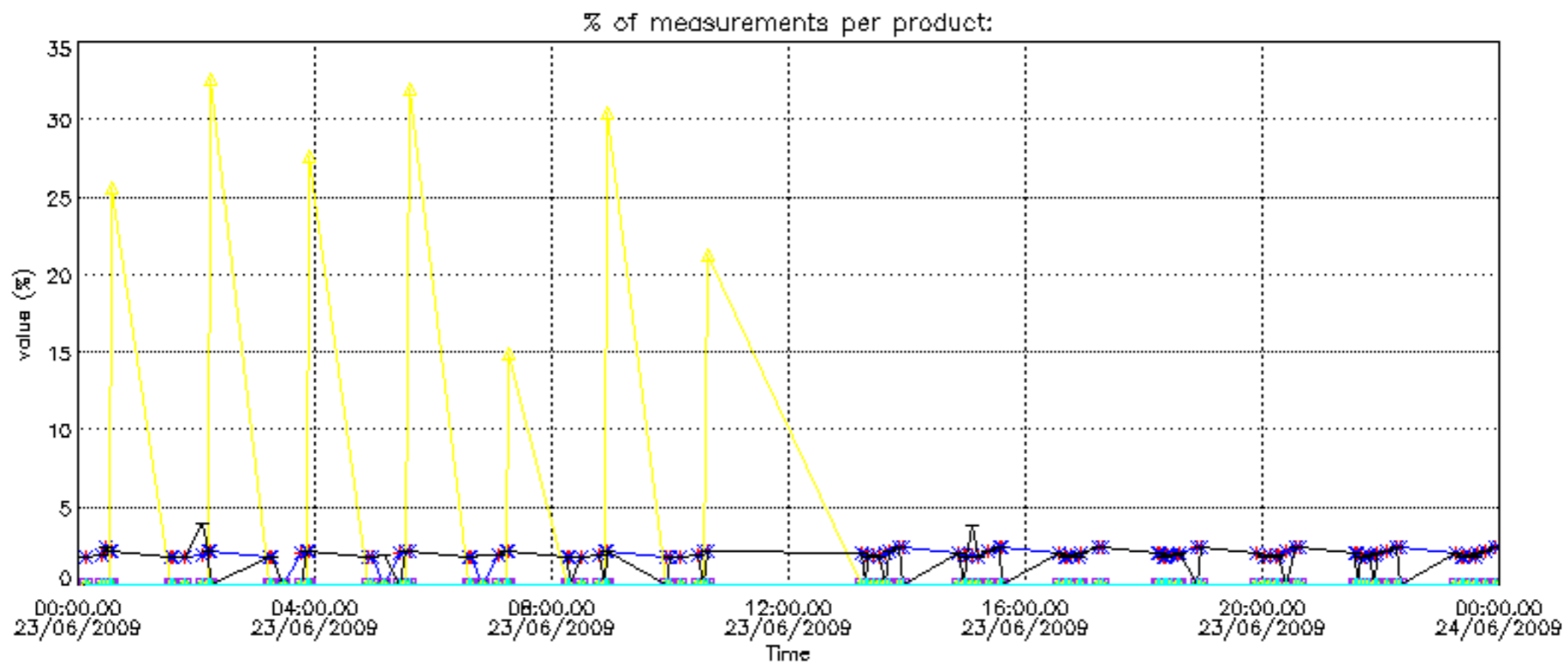
Percentage of flagged data per NO2 profile



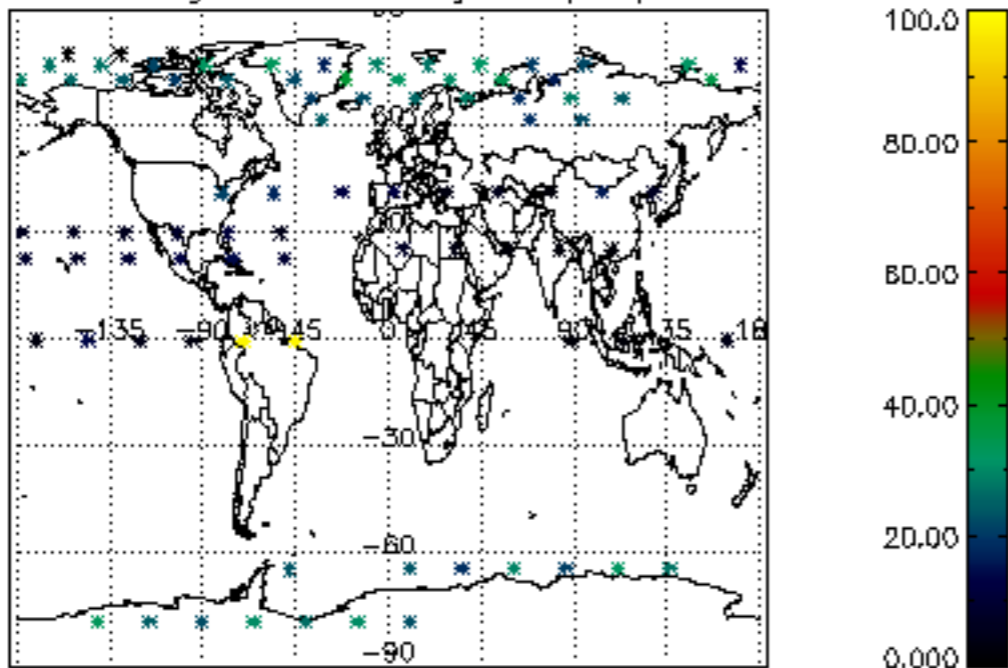
Percentage of flagged data per NO3 profile



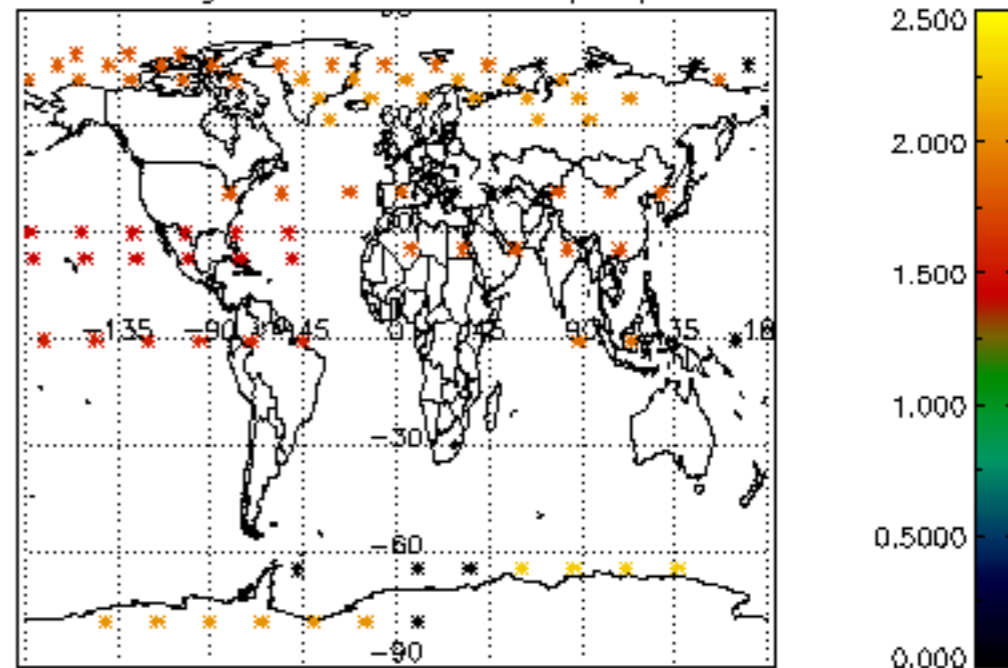




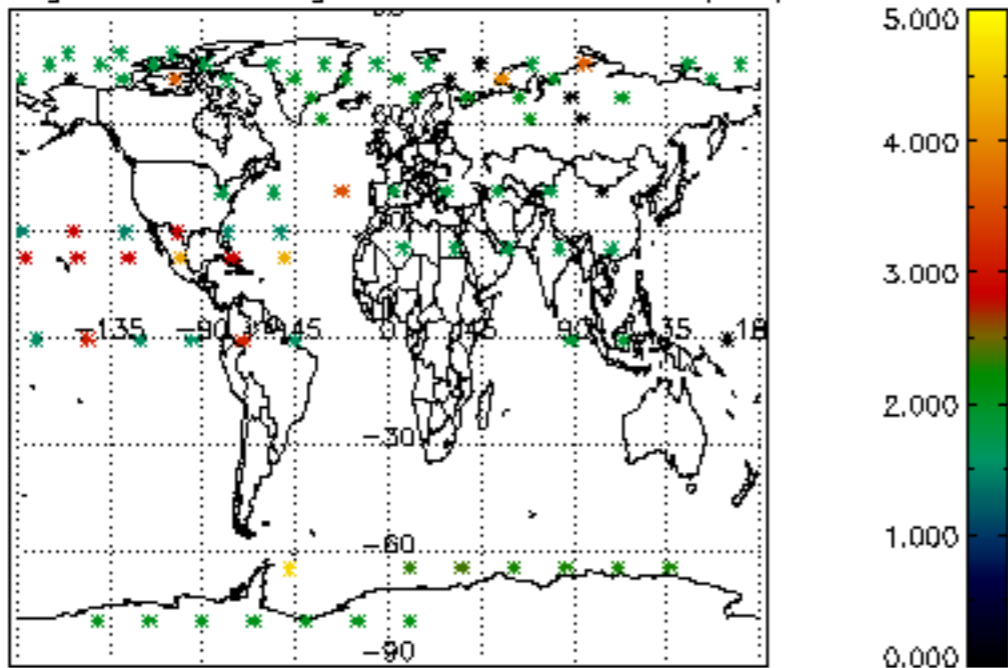
Percentage of cosmic ray hits per profile



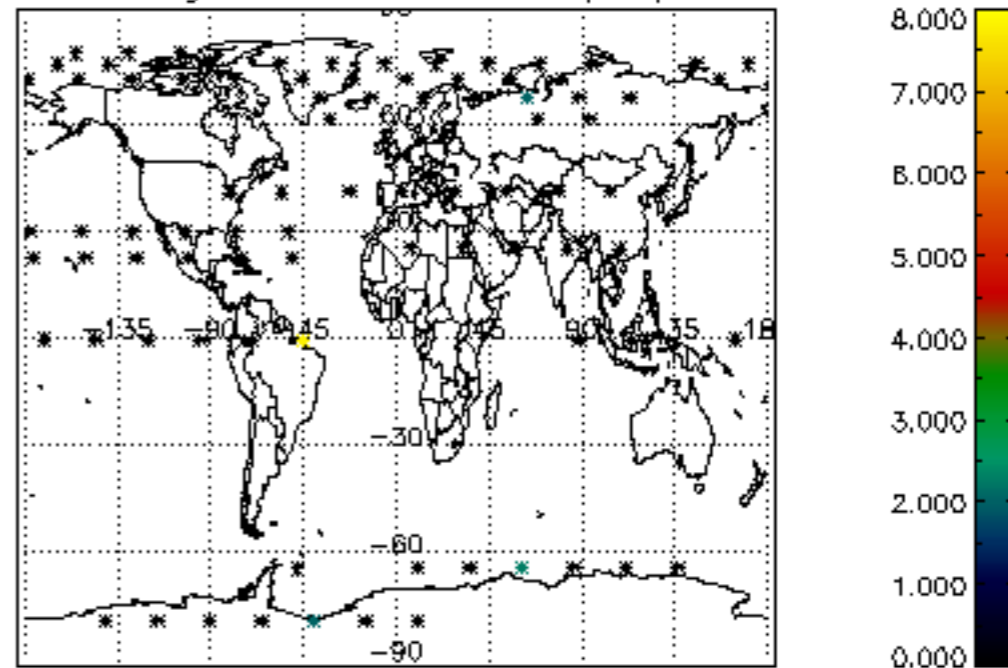
Percentage of datation errors per profile



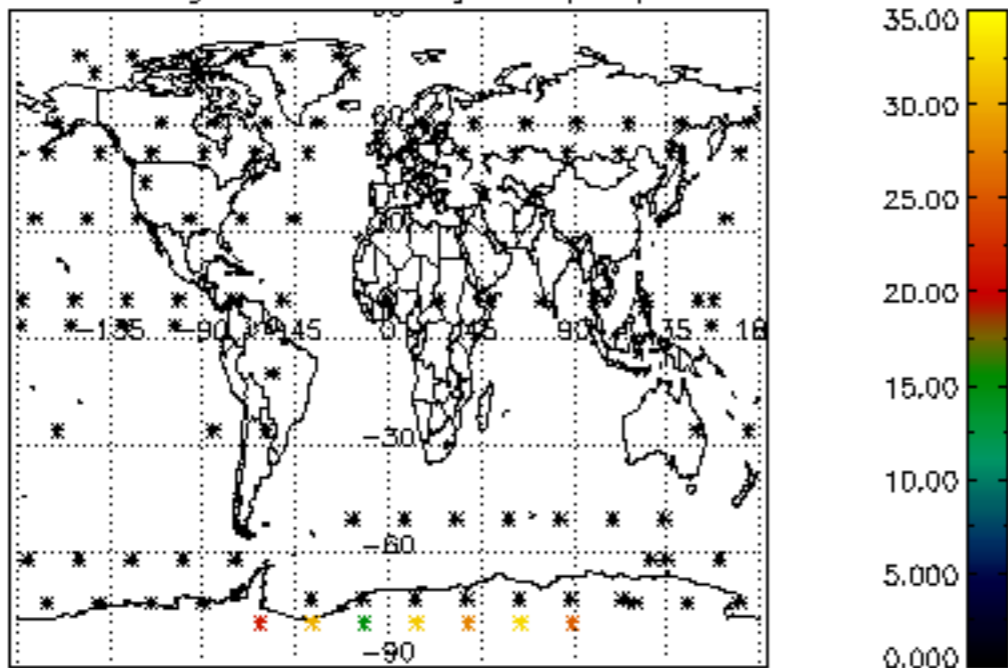
Percentage of star falling outside central band per profile



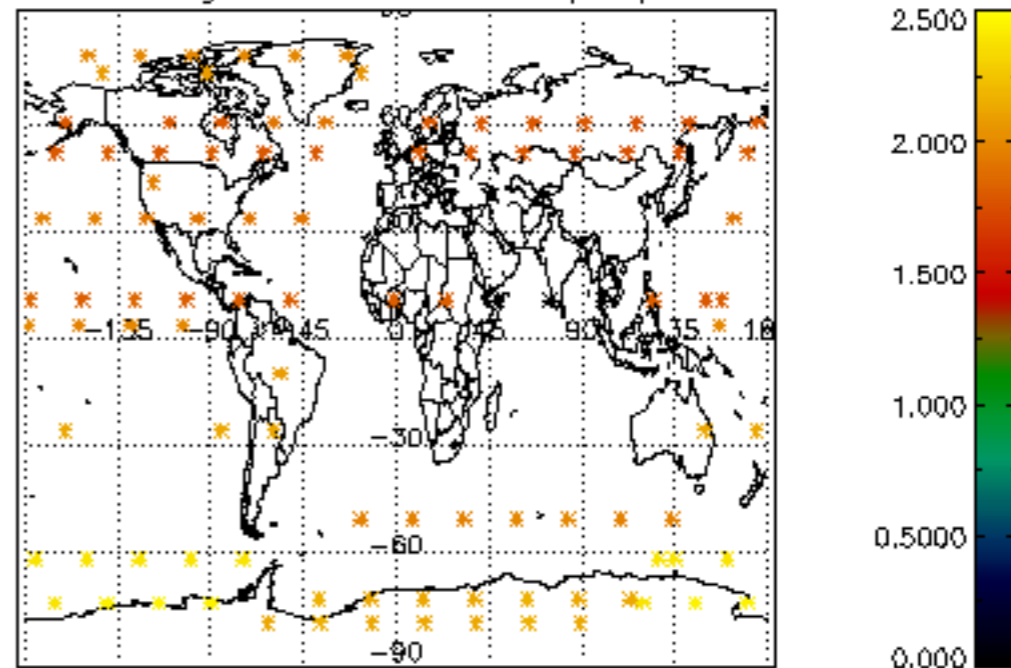
Percentage of saturation errors per profile



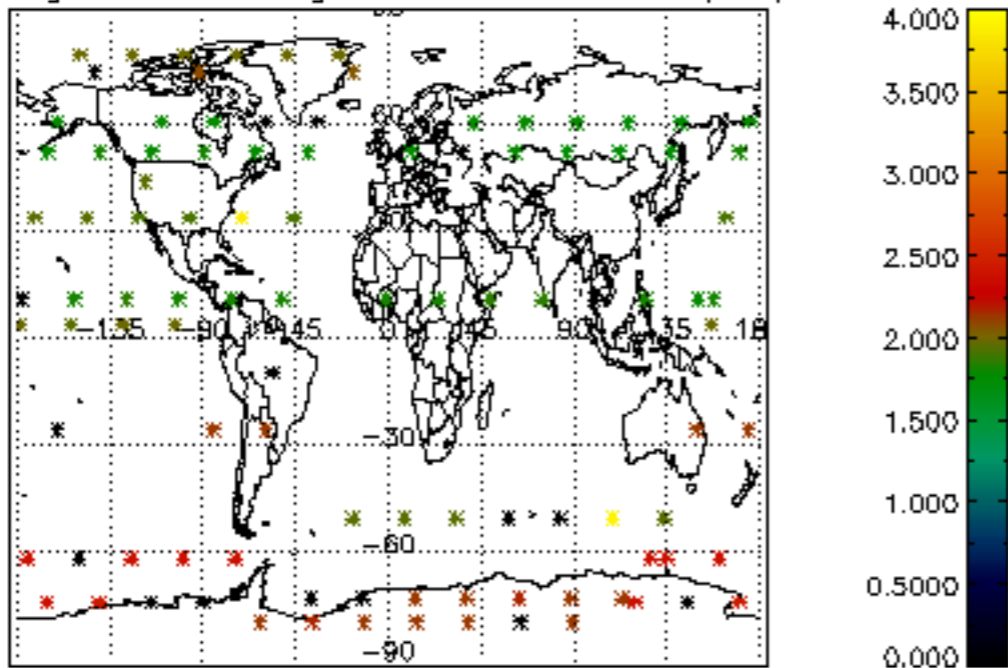
Percentage of cosmic ray hits per profile



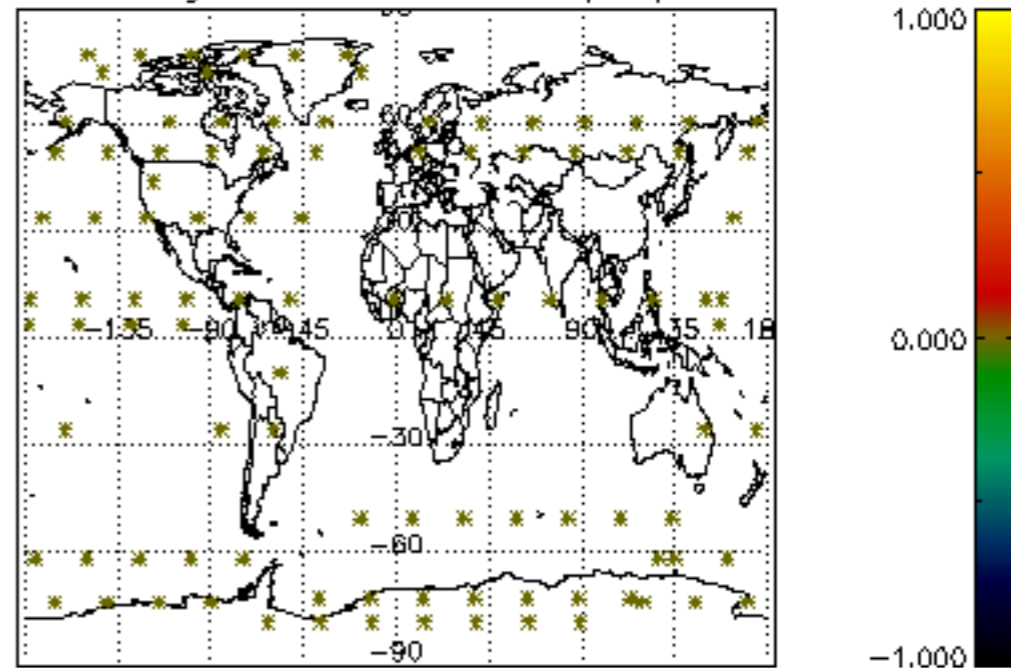
Percentage of datation errors per profile



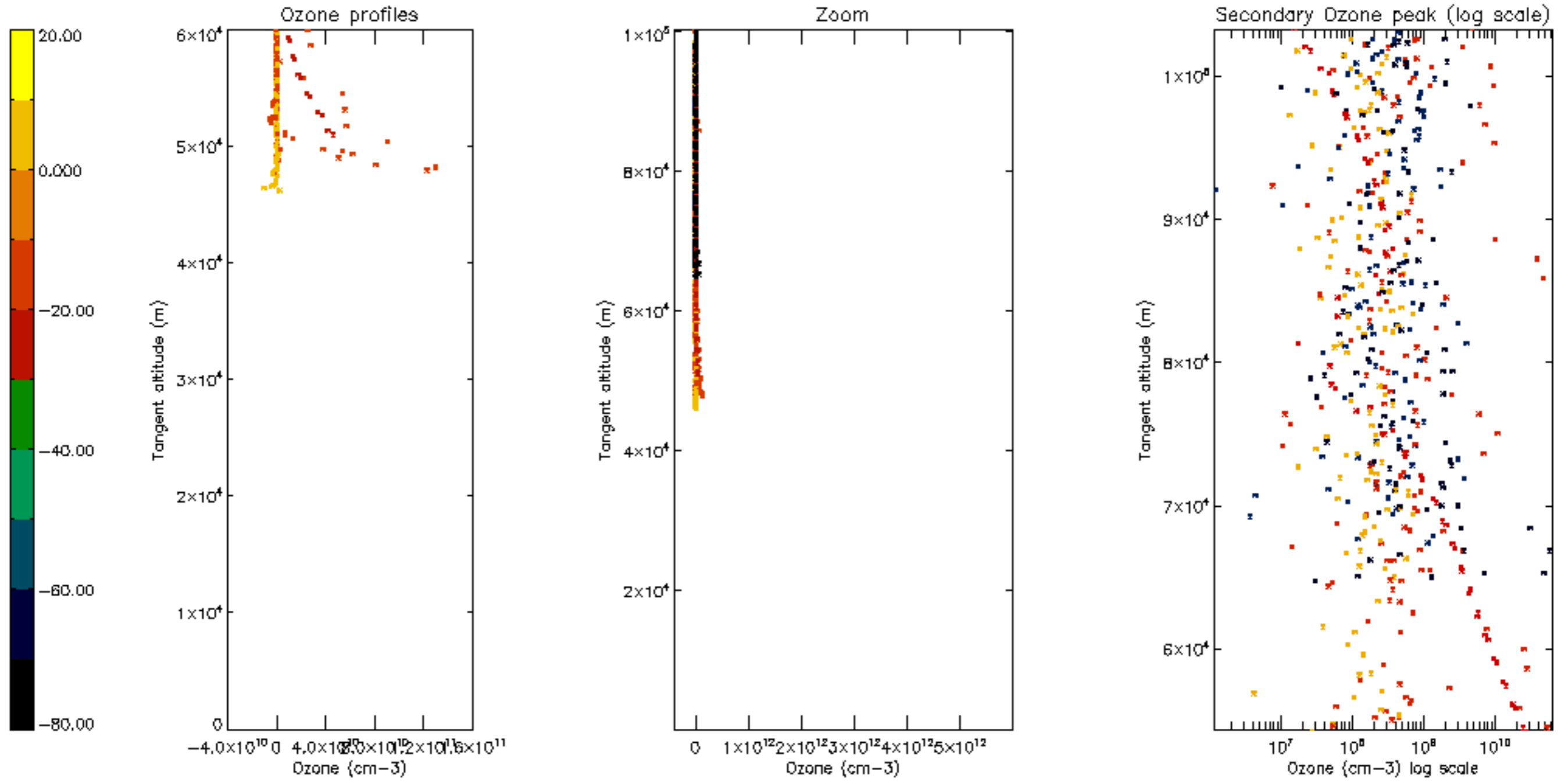
Percentage of star falling outside central band per profile

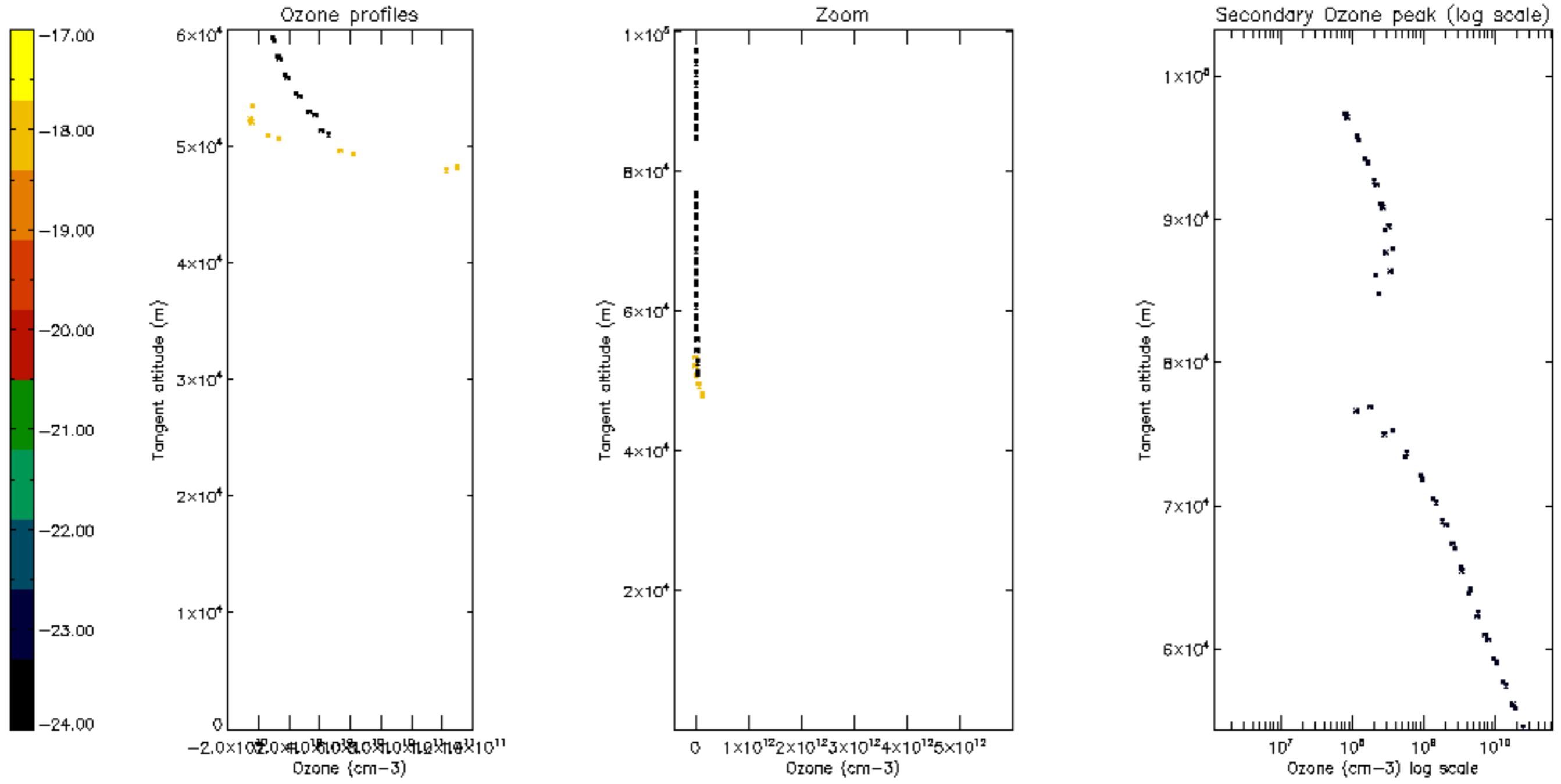


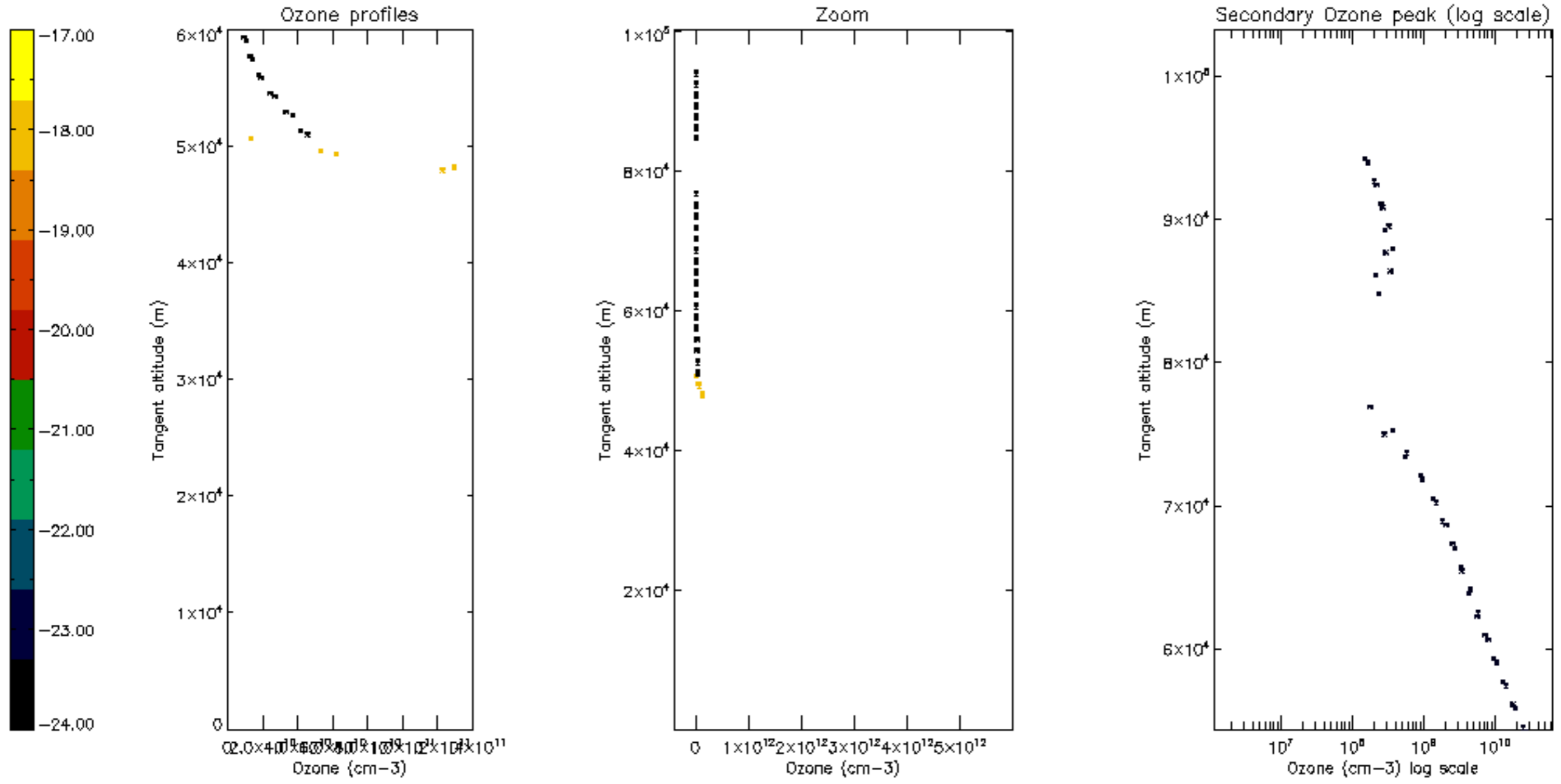
Percentage of saturation errors per profile

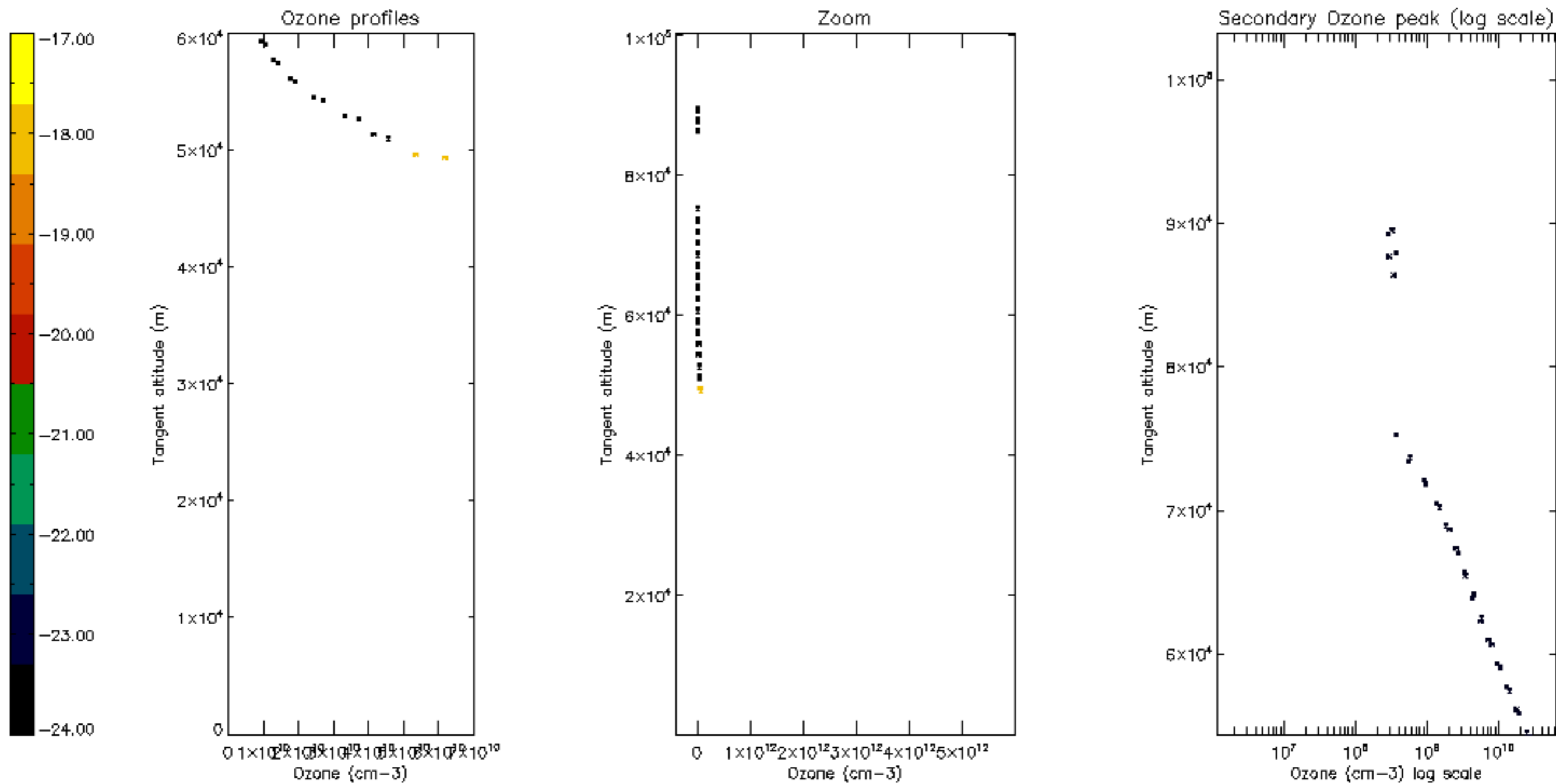


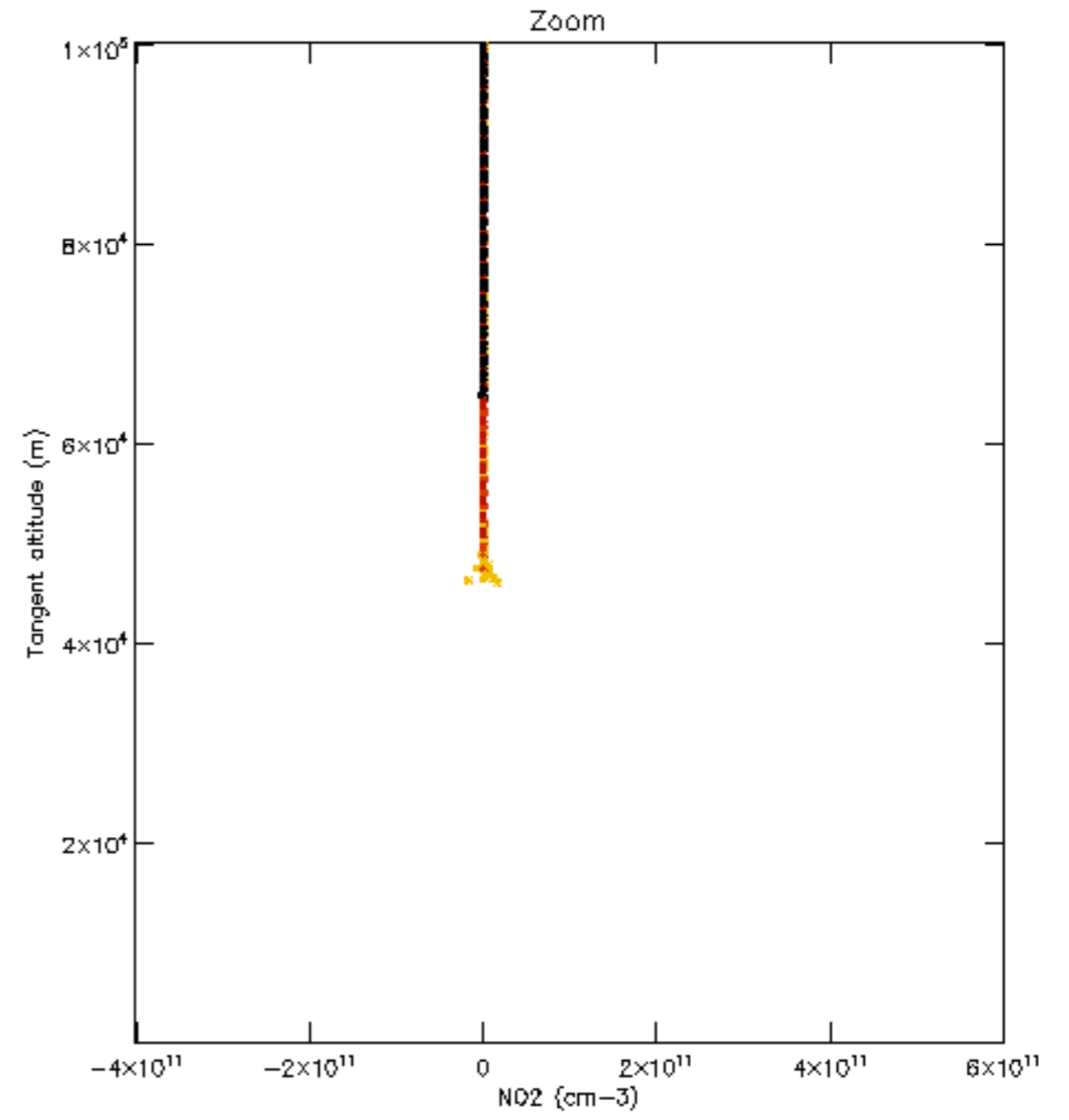
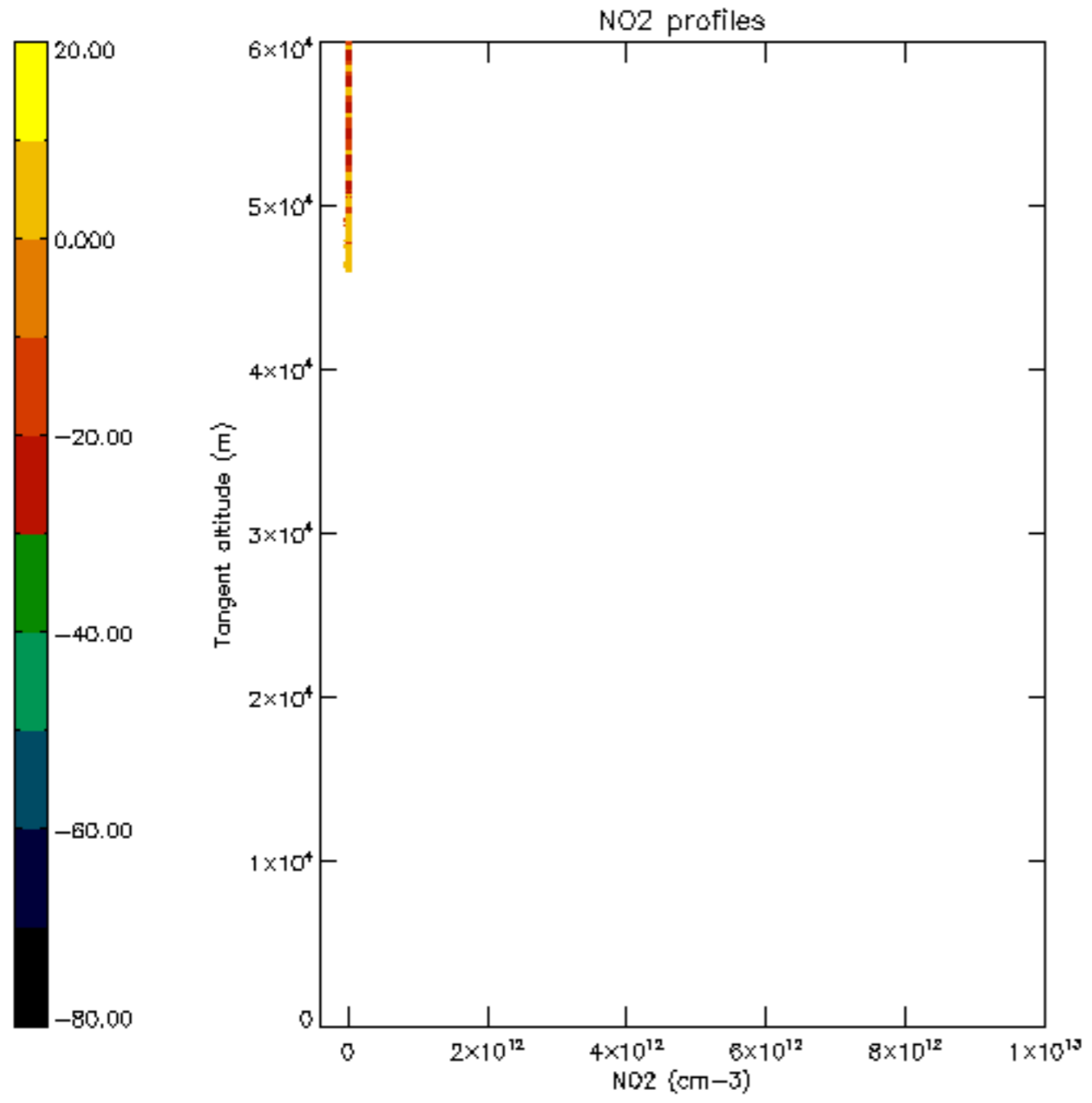


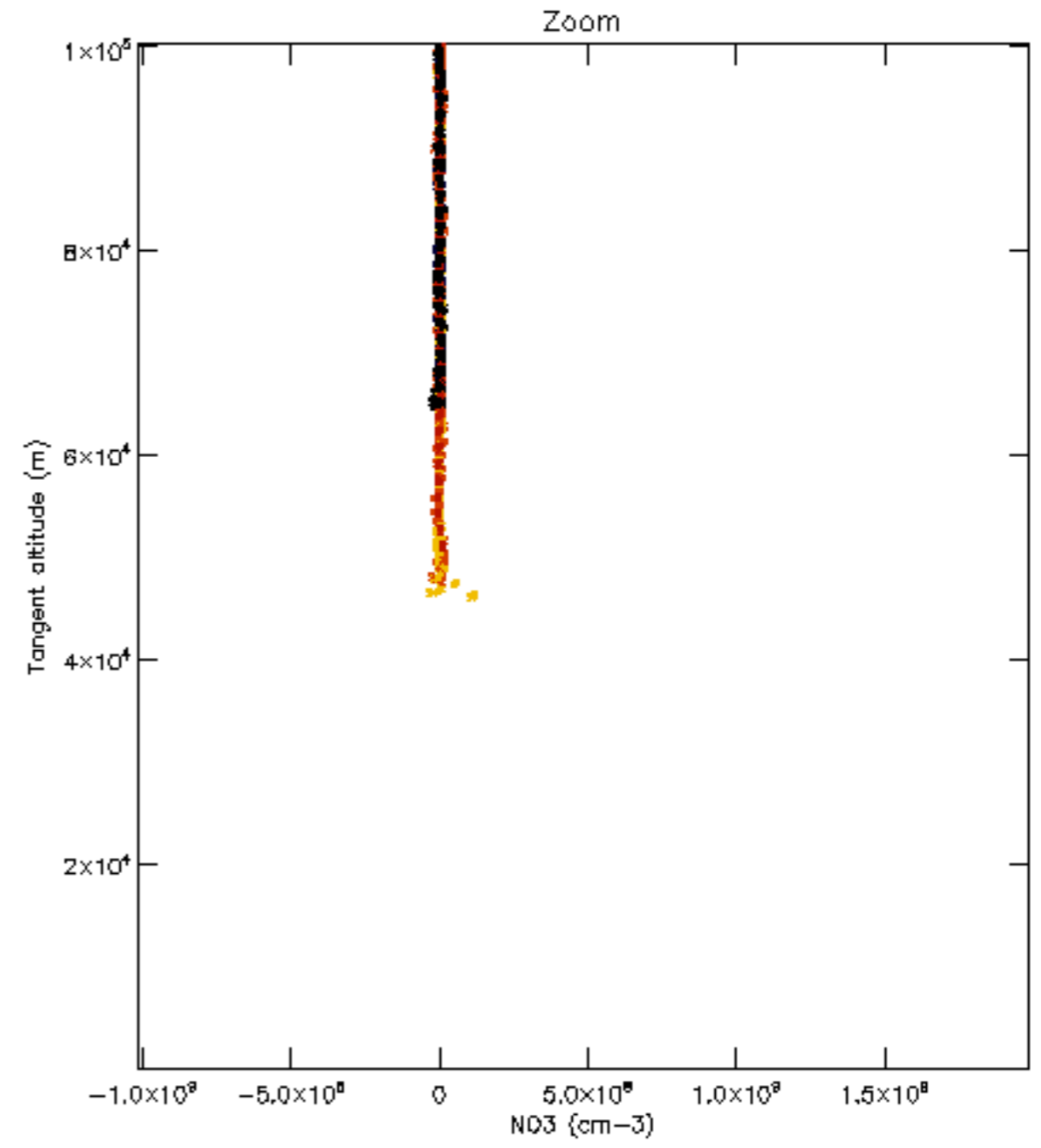
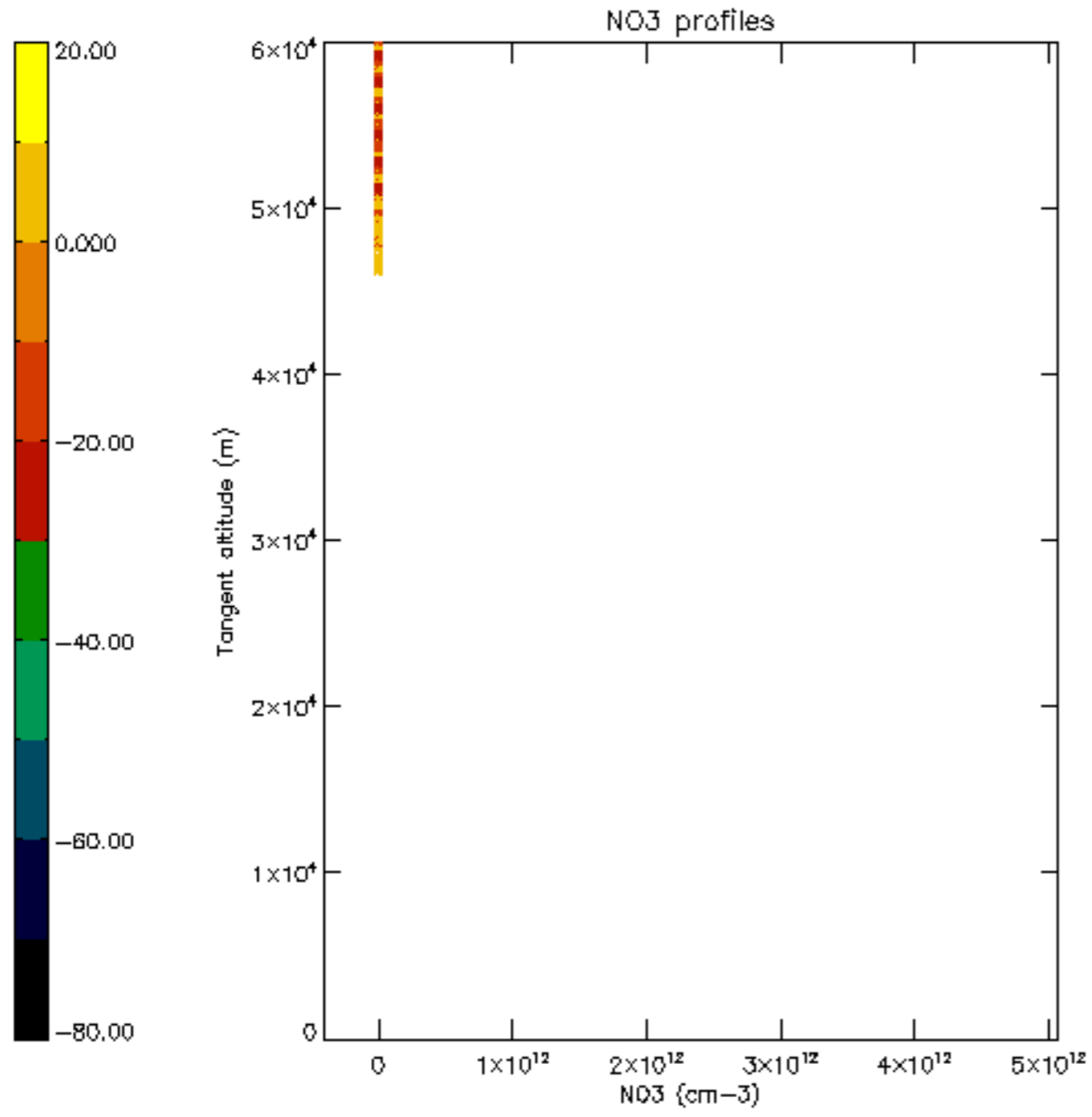


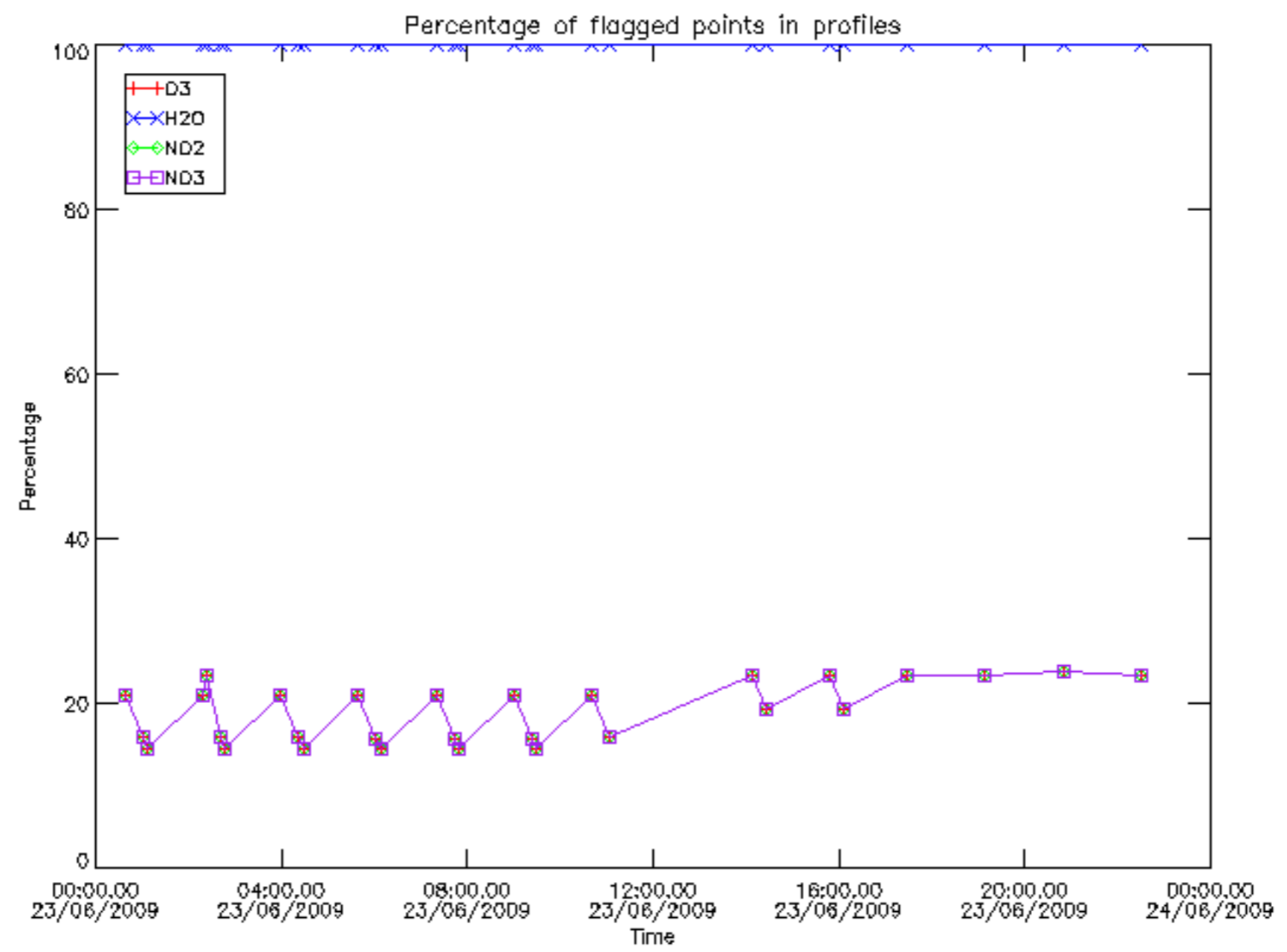




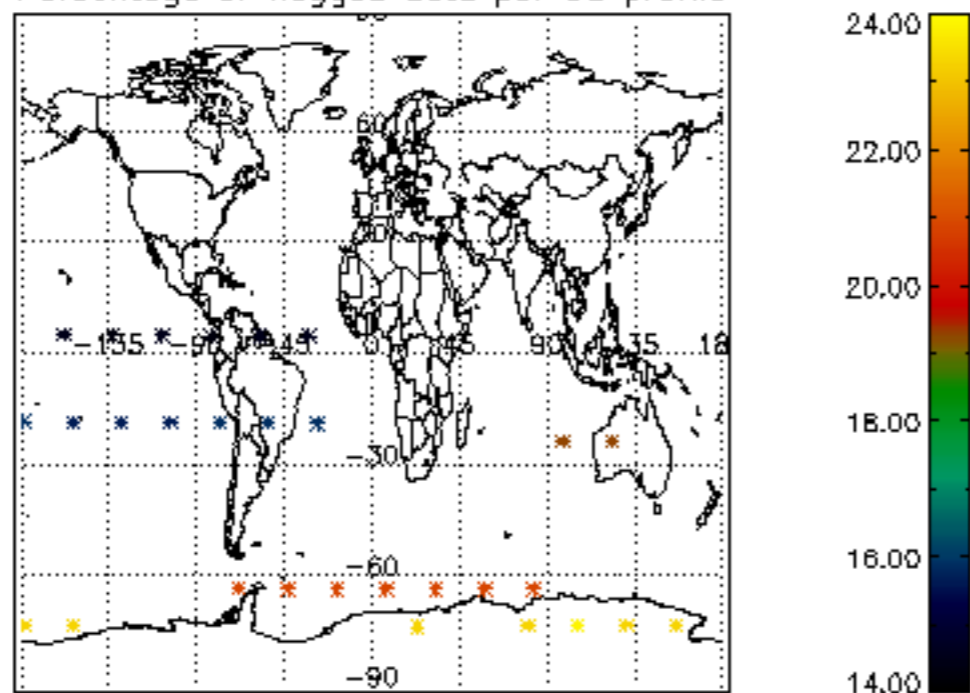




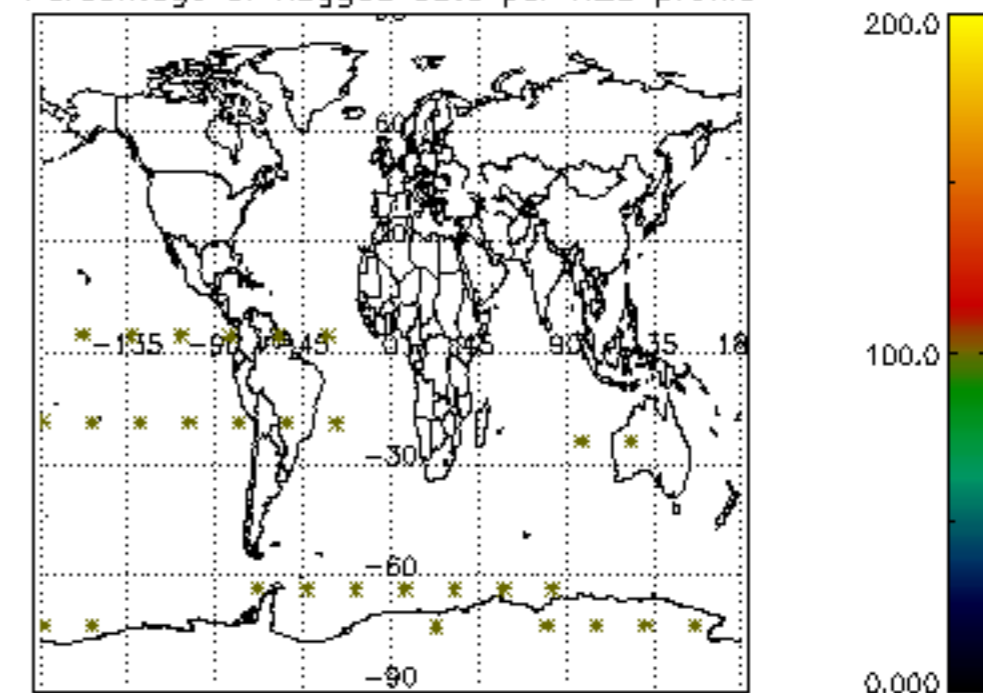




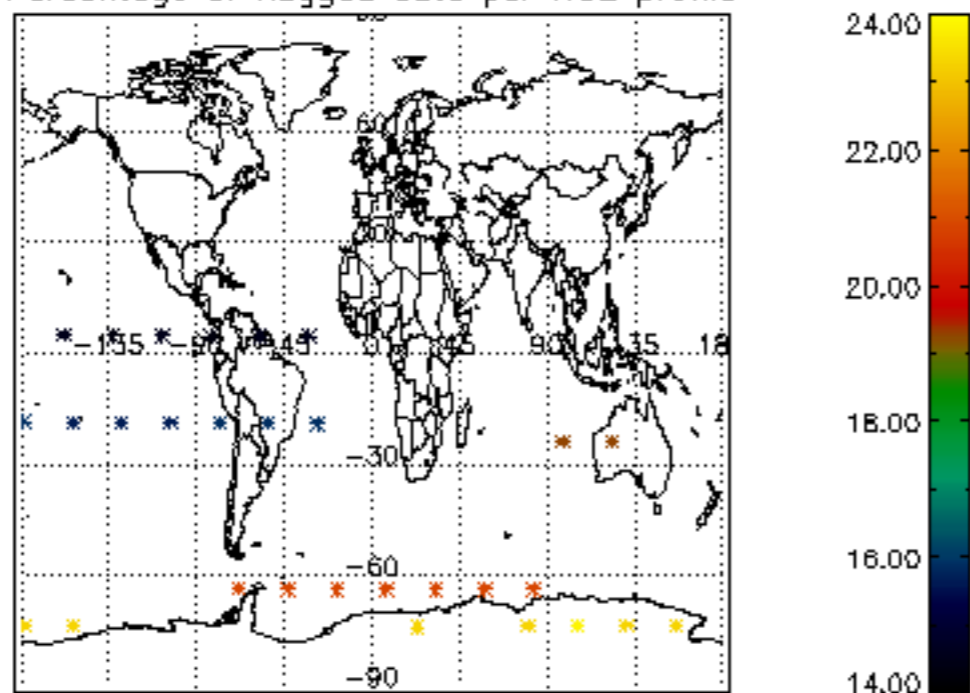
Percentage of flagged data per D3 profile



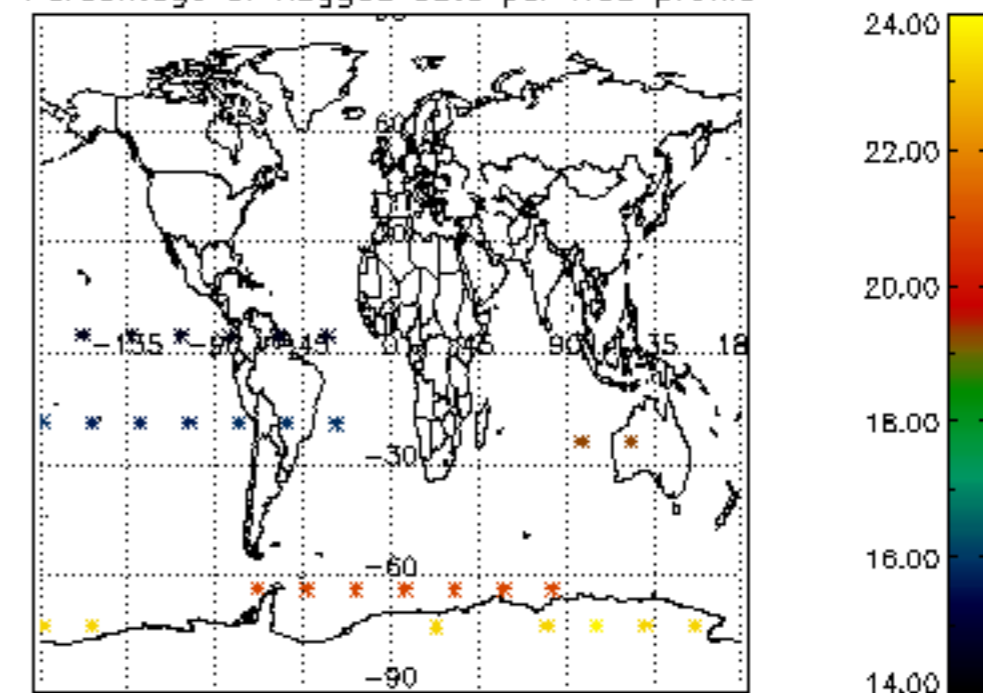
Percentage of flagged data per H2O profile



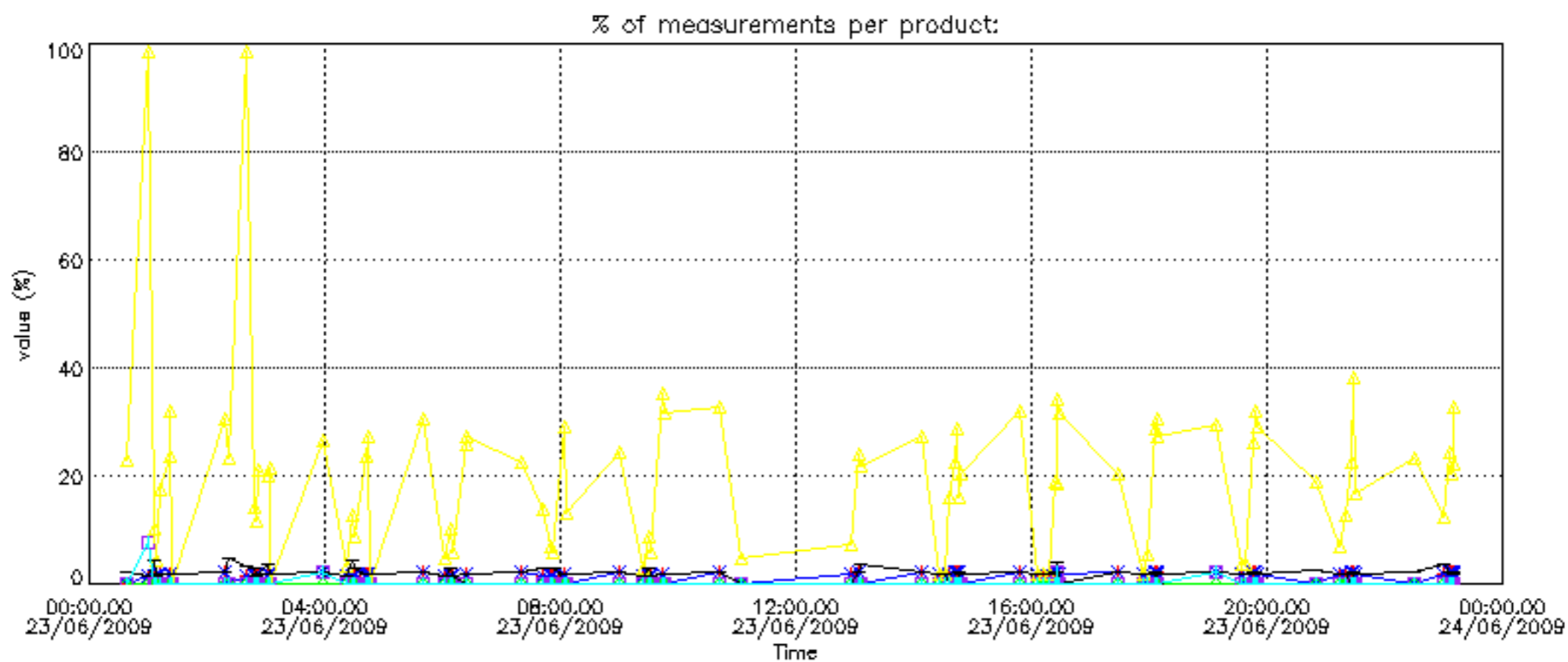
Percentage of flagged data per NO2 profile

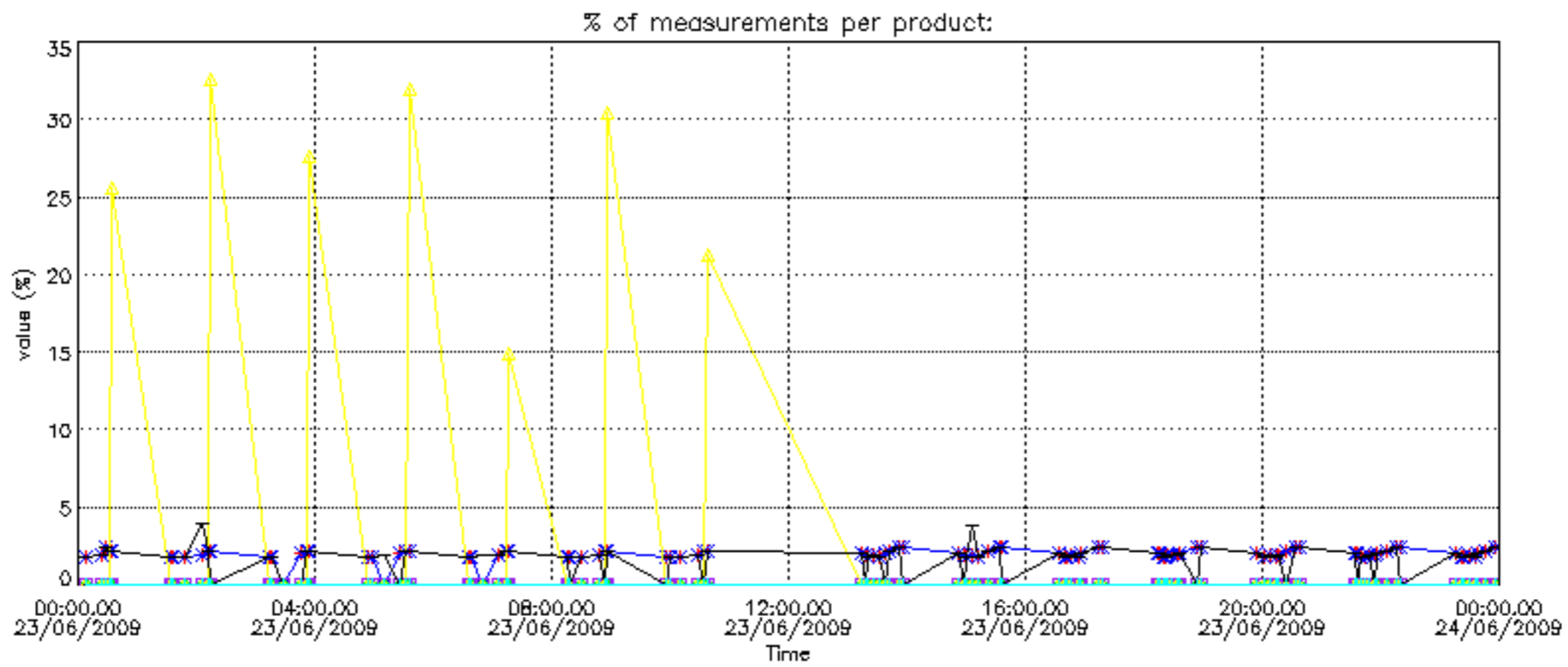


Percentage of flagged data per NO3 profile

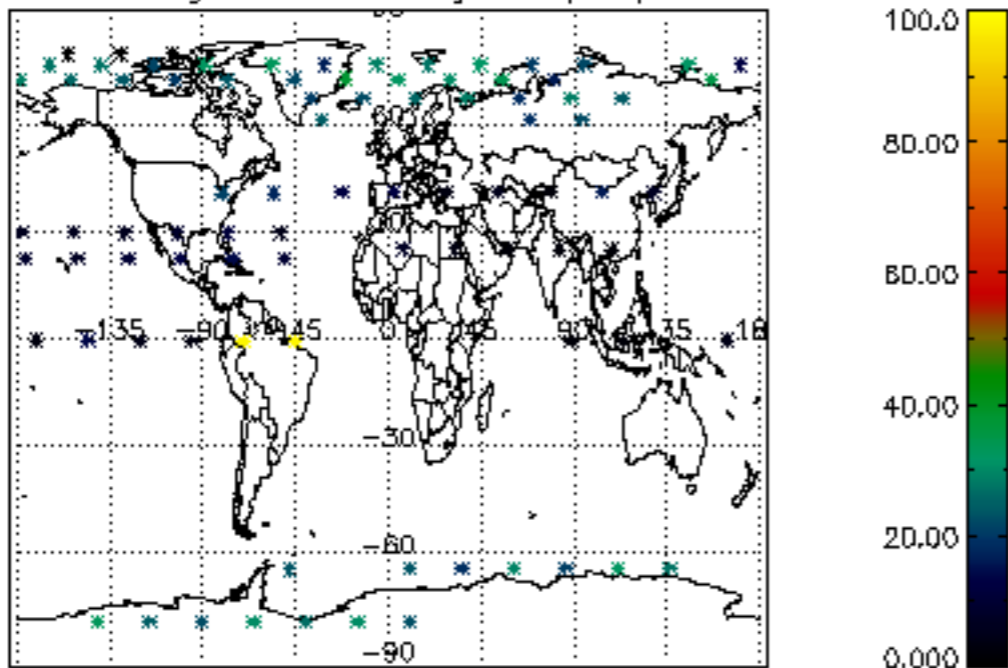




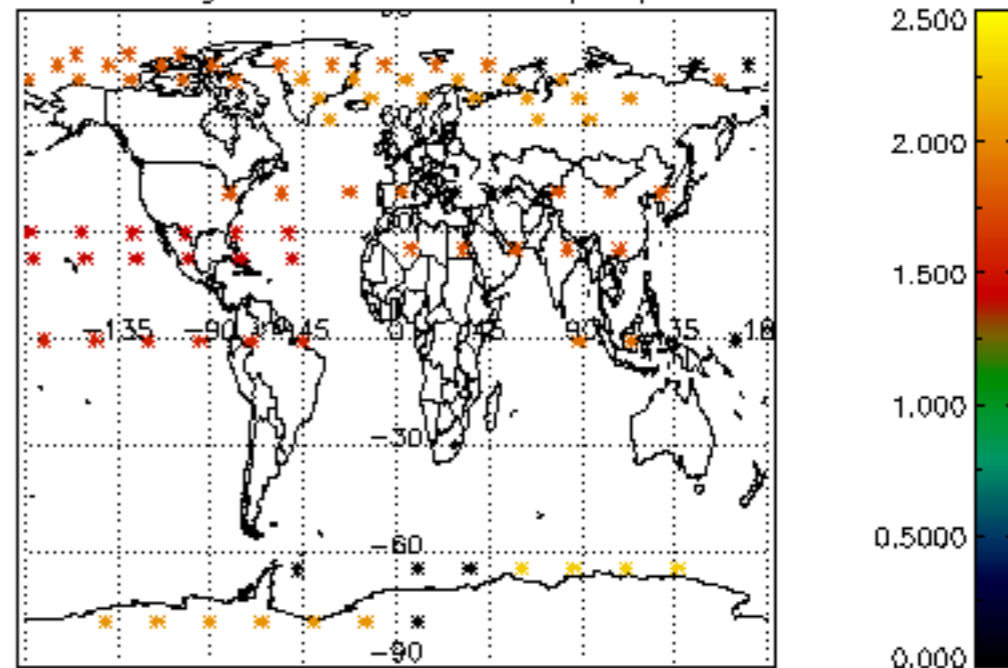




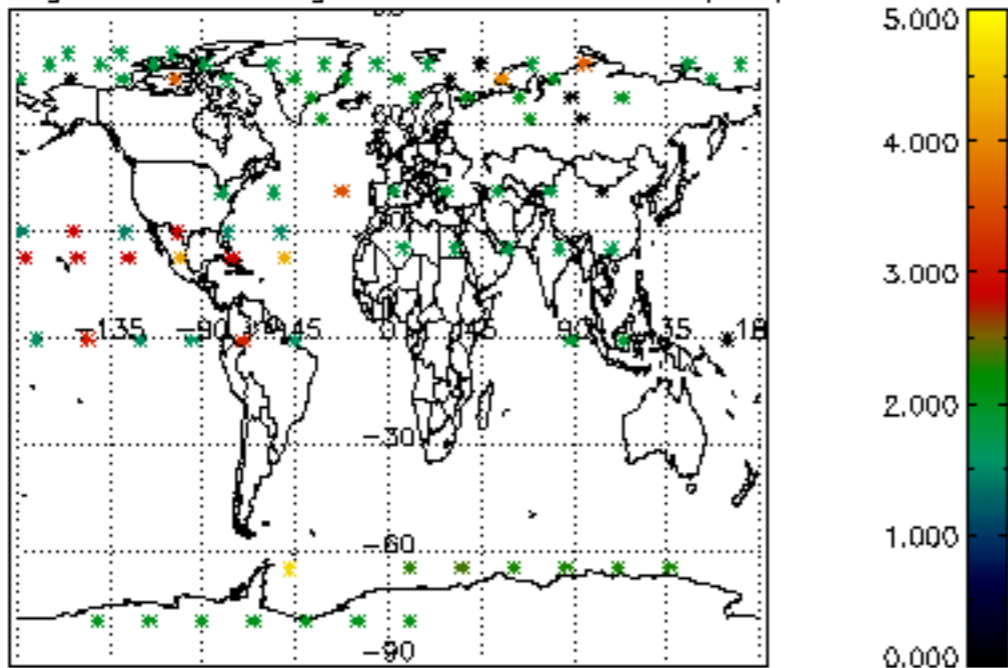
Percentage of cosmic ray hits per profile



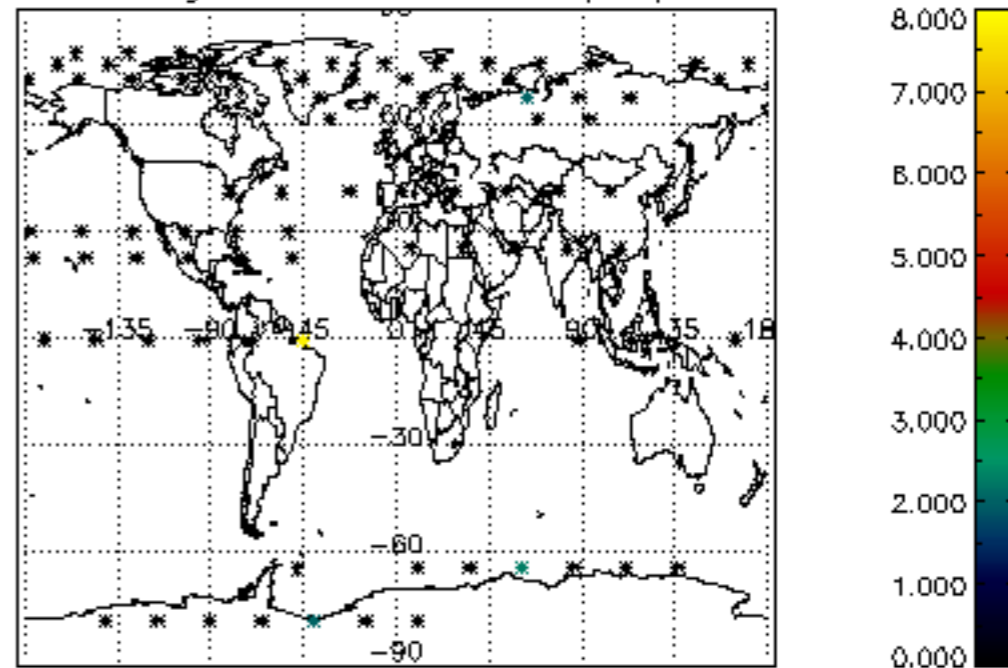
Percentage of datation errors per profile



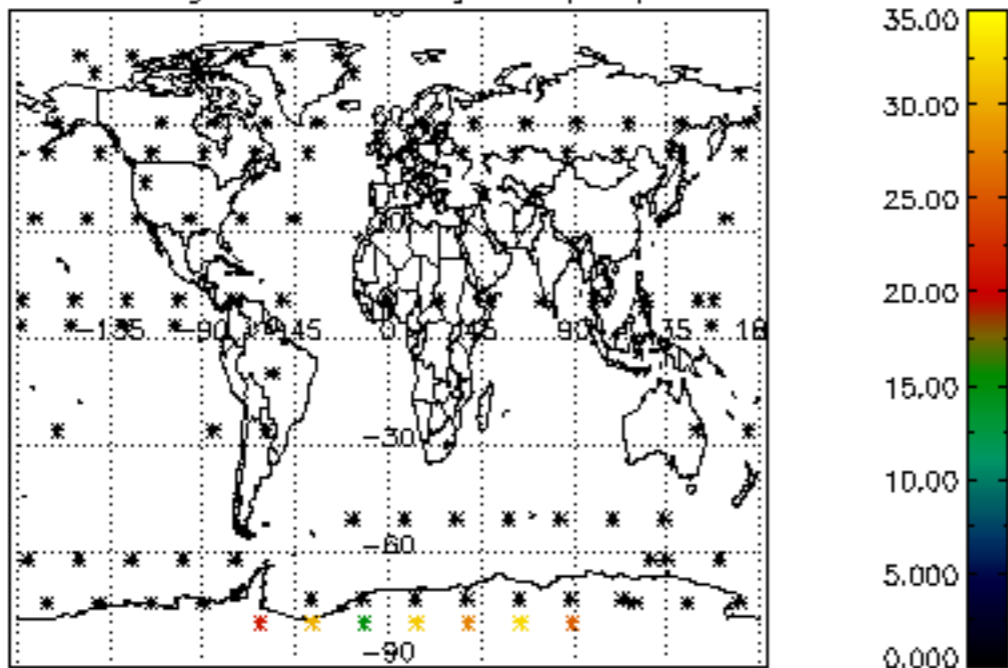
Percentage of star falling outside central band per profile



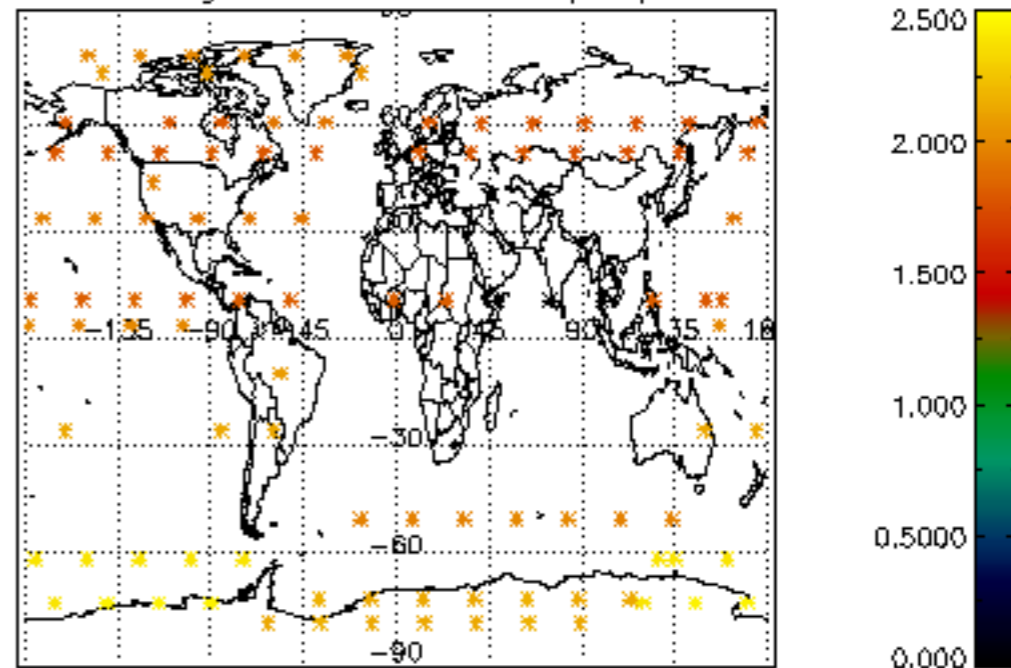
Percentage of saturation errors per profile



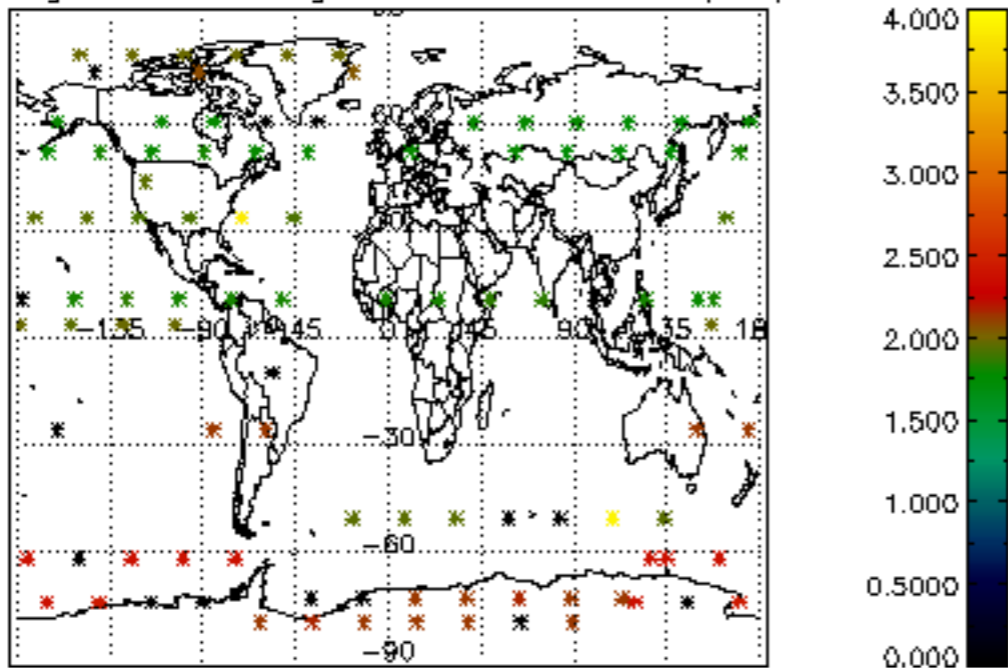
Percentage of cosmic ray hits per profile



Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile

