

# 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	17APR2013 19:53:59
Data source version	GOMOS/6.01
Start time of products	02-11-2002 (02NOV2002 00:00:00)
Stop time of products	03-11-2002 (03NOV2002 00:00:00)
Store outputs in DB	Yes
Nb of level 2 prods	126
Nb of prods with errors	1

## 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__2PRFIN20021102_000125_000000512010_00460_03520_2330.N1	02-NOV-2002 00:01:25	Straylight	50.500	52	16Bet Cet	2.0370	4500.0	101	3520	No
2	GOM_NL__2PRFIN20021102_000744_000000642010_00460_03520_2331.N1	02-NOV-2002 00:07:44	Twilight_stray	64.000	94	92Alp Cet	2.5260	3100.0	128	3520	No
3	GOM_NL__2PRFIN20021102_001057_000000432010_00460_03520_2332.N1	02-NOV-2002 00:10:57	Bright	43.000	140	88Gam Peg	2.8340	26000.	86	3520	No
4	GOM_NL__2PRFIN20021102_001305_000000512010_00460_03520_2333.N1	02-NOV-2002 00:13:05	Bright	51.000	50	13Alp Ari	2.0070	4250.0	102	3520	No
5	GOM_NL__2PRFIN20021102_001448_000000432010_00460_03520_2334.N1	02-NOV-2002 00:14:48	Bright	43.000	58	21Alp And	2.0730	11000.	86	3520	No
6	GOM_NL__2PRFIN20021102_001612_000000452010_00460_03520_2335.N1	02-NOV-2002 00:16:12	Bright	44.500	53	43Bet And	2.0480	3300.0	89	3520	No
7	GOM_NL__2PRFIN20021102_001835_000000482010_00460_03520_2336.N1	02-NOV-2002 00:18:35	Bright	48.000	73	57Gam1And	2.2600	13100.	96	3520	No
8	GOM_NL__2PRFIN20021102_002206_000000452010_00460_03520_2337.N1	02-NOV-2002 00:22:06	Bright	45.000	68	18Alp Cas	2.2250	4500.0	90	3520	No
9	GOM_NL__2PRFIN20021102_002557_000001032010_00460_03520_2338.N1	02-NOV-2002 00:25:57	Bright	103.00	114	31ot Aur	2.6930	4600.0	206	3520	No
10	GOM_NL__2PRFIN20021102_003514_000000452010_00460_03520_2339.N1	02-NOV-2002 00:35:14	Bright	44.500	60	7Bet UMi	2.0810	3950.0	89	3520	No
11	GOM_NL__2PRFIN20021102_003927_000000492010_00460_03520_2340.N1	02-NOV-2002 00:39:27	Bright	48.500	36	50Alp UMa	1.8000	6300.0	97	3520	No
12	GOM_NL__2PRFIN20021102_004102_000000502010_00460_03520_2341.N1	02-NOV-2002 00:41:02	Bright	49.500	82	48Bet UMa	2.3650	10600.	99	3520	No
13	GOM_NL__2PRFIN20021102_004446_000000502010_00460_03520_2342.N1	02-NOV-2002 00:44:46	Bright	49.500	174	52Psi UMa	3.0040	4400.0	99	3520	No
14	GOM_NL__2PRFIN20021102_005145_000002552010_00460_03520_2343.N1	02-NOV-2002 00:51:45	Twilight_stray	255.00	24	66Alp Gem	1.5800	10200.	510	3520	No
15	GOM_NL__2PRFIN20021102_005641_000000702010_00460_03520_2344.N1	02-NOV-2002 00:56:41	Bright	70.000	22	32Alp Leo	1.3600	15200.	140	3520	No
16	GOM_NL__2PRFIN20021102_010612_000000832010_00460_03520_2345.N1	02-NOV-2002 01:06:12	Dark	82.500	48	30Alp Hya	1.9770	4100.0	165	3520	No
17	GOM_NL__2PRFIN20021102_011104_000000442010_00460_03520_2346.N1	02-NOV-2002 01:11:04	Dark	44.000	99	Del Cen	2.5750	26000.	88	3520	No
18	GOM_NL__2PRFIN20021102_011241_000000532010_00460_03520_2347.N1	02-NOV-2002 01:12:41	Dark	52.500	26	Gam Cru	1.6240	2900.0	105	3520	No
19	GOM_NL__2PRFIN20021102_011444_000000562010_00460_03520_2348.N1	02-NOV-2002 01:14:44	Dark	55.500	65	Lam Vel	2.2040	4400.0	111	3520	No
20	GOM_NL__2PRFIN20021102_011828_000000462010_00461_03521_2317.N1	02-NOV-2002 01:18:28	Dark	46.000	29	Bet Car	1.6720	10200.	92	3521	No
21	GOM_NL__2PRFIN20021102_012347_000000592010_00461_03521_2318.N1	02-NOV-2002 01:23:47	Dark	59.000	2	Alp Car	-0.73600	7000.0	118	3521	No
22	GOM_NL__2PRFIN20021102_012917_000000452010_00461_03521_2319.N1	02-NOV-2002 01:29:17	Dark	44.500	143	Alp Hyi	2.8570	7200.0	89	3521	No
23	GOM_NL__2PRFIN20021102_013040_000000502010_00461_03521_2320.N1	02-NOV-2002 01:30:40	Dark	49.500	9	Alp Eri	0.45300	24000.	99	3521	No
24	GOM_NL__2PRFIN20021102_013359_000000492010_00461_03521_2321.N1	02-NOV-2002 01:33:59	Straylight	49.000	157	The1Eri	2.9060	9300.0	98	3521	No
25	GOM_NL__2PRFIN20021102_013633_000002162010_00461_03521_2322.N1	02-NOV-2002 01:36:33	Straylight	216.00	47	2Bet CMa	1.9760	28000.	432	3521	No
26	GOM_NL__2PRFIN20021102_014201_000000532010_00461_03521_2323.N1	02-NOV-2002 01:42:01	Straylight	52.500	52	16Bet Cet	2.0370	4500.0	105	3521	No
27	GOM_NL__2PRFIN20021102_014820_000000642010_00461_03521_2324.N1	02-NOV-2002 01:48:20	Twilight_stray	64.000	94	92Alp Cet	2.5260	3100.0	128	3521	No
28	GOM_NL__2PRFIN20021102_015133_000000422010_00461_03521_2325.N1	02-NOV-2002 01:51:33	Bright	42.000	140	88Gam Peg	2.8340	26000.	84	3521	No
29	GOM_NL__2PRFIN20021102_015341_000000512010_00461_03521_2326.N1	02-NOV-2002 01:53:41	Bright	51.000	50	13Alp Ari	2.0070	4250.0	102	3521	No
30	GOM_NL__2PRFIN20021102_015524_000000432010_00461_03521_2327.N1	02-NOV-2002 01:55:24	Bright	43.000	58	21Alp And	2.0730	11000.	86	3521	No
31	GOM_NL__2PRFIN20021102_015649_000000472010_00461_03521_2328.N1	02-NOV-2002 01:56:49	Bright	47.000	53	43Bet And	2.0480	3300.0	94	3521	No
32	GOM_NL__2PRFIN20021102_015912_000000472010_00461_03521_2329.N1	02-NOV-2002 01:59:12	Bright	46.500	73	57Gam1And	2.2600	13100.	93	3521	No
33	GOM_NL__2PRFIN20021102_020243_000000442010_00461_03521_2330.N1	02-NOV-2002 02:02:43	Bright	44.000	68	18Alp Cas	2.2250	4500.0	88	3521	No
34	GOM_NL__2PRFIN20021102_020631_000001022010_00461_03521_2331.N1	02-NOV-2002 02:06:31	Bright	101.50	114	31ot Aur	2.6930	4600.0	203	3521	No
35	GOM_NL__2PRFIN20021102_021549_000000462010_00461_03521_2332.N1	02-NOV-2002 02:15:49	Bright	46.000	60	7Bet UMi	2.0810	3950.0	92	3521	No
36	GOM_NL__2PRFIN20021102_022003_000000502010_00461_03521_2333.N1	02-NOV-2002 02:20:03	Bright	49.500	36	50Alp UMa	1.8000	6300.0	99	3521	No
37	GOM_NL__2PRFIN20021102_022140_000000492010_00461_03521_2334.N1	02-NOV-2002 02:21:40	Bright	48.500	82	48Bet UMa	2.3650	10600.	97	3521	No
38	GOM_NL__2PRFIN20021102_022522_000000472010_00461_03521_2335.N1	02-NOV-2002 02:25:22	Bright	46.500	174	52Psi UMa	3.0040	4400.0	93	3521	No
39	GOM_NL__2PRFIN20021102_023222_000002552010_00461_03521_2336.N1	02-NOV-2002 02:32:22	Twilight_stray	255.00	24	66Alp Gem	1.5800	10200.	510	3521	No
40	GOM_NL__2PRFIN20021102_023717_000000702010_00461_03521_2337.N1	02-NOV-2002 02:37:17	Bright	70.000	22	32Alp Leo	1.3600	15200.	140	3521	No
41	GOM_NL__2PRFIN20021102_024650_000000812010_00461_03521_2338.N1	02-NOV-2002 02:46:50	Dark	80.500	48	30Alp Hya	1.9770	4100.0	161	3521	No
42	GOM_NL__2PRFIN20021102_025139_000000432010_00461_03521_2339.N1	02-NOV-2002 02:51:39	Dark	43.000	99	Del Cen	2.5750	26000.	86	3521	No

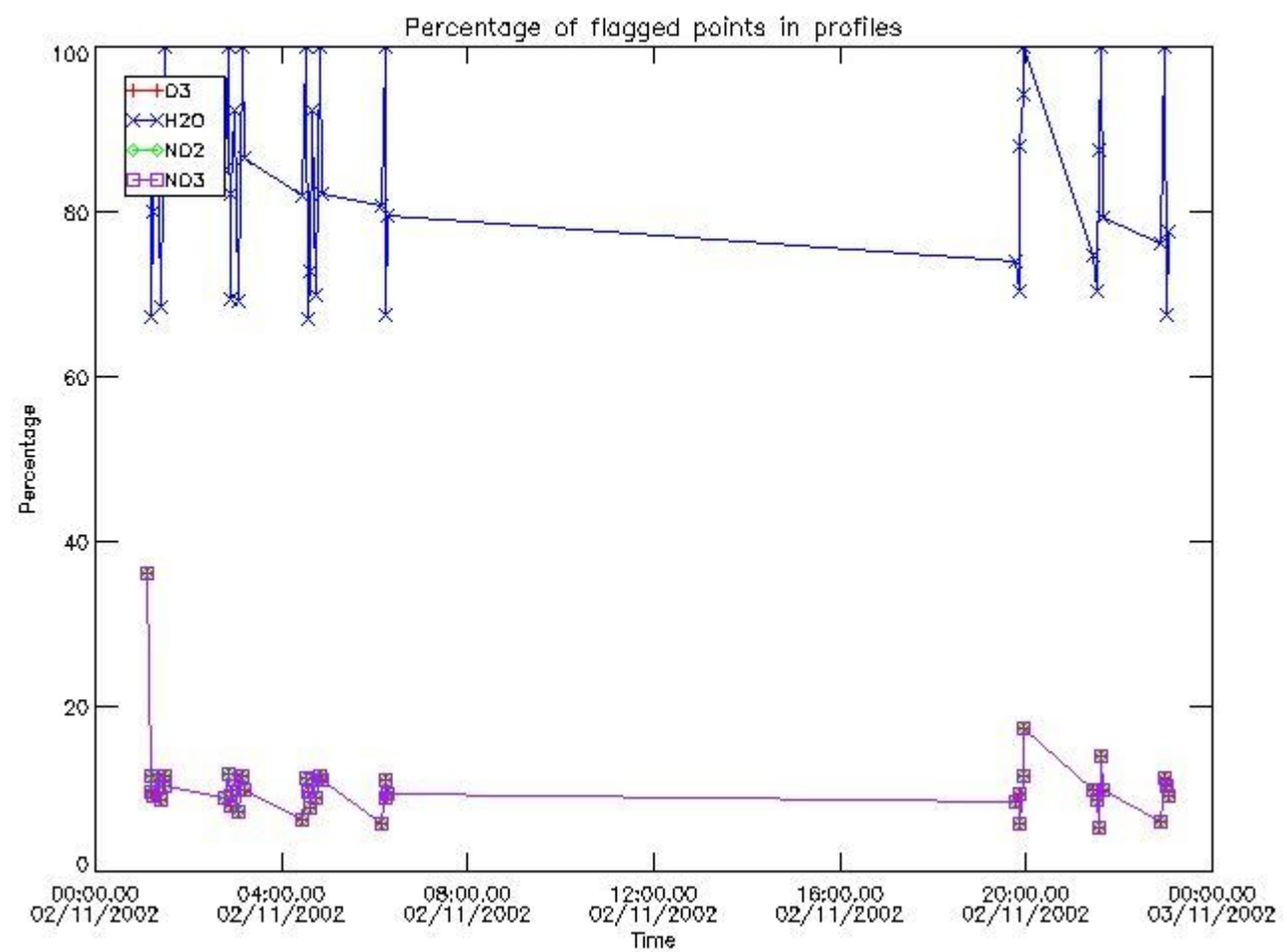


102	GOM_NL__2PRFIN20021102_213255_000000952010_00473_03533_7276.N1	02-NOV-2002 21:32:55	Dark	95.000	23	21Eps CMa	1.5020	26000.	190	3533	No
103	GOM_NL__2PRFIN20021102_213630_000000442010_00473_03533_7277.N1	02-NOV-2002 21:36:30	Dark	44.000	143	Alp Hyl	2.8570	7200.0	88	3533	No
104	GOM_NL__2PRFIN20021102_213753_000000512010_00473_03533_7278.N1	02-NOV-2002 21:37:53	Dark	51.000	9	Alp Eri	0.45300	24000.	102	3533	No
105	GOM_NL__2PRFIN20021102_214113_000000522010_00473_03533_7279.N1	02-NOV-2002 21:41:13	Straylight	52.000	157	The1Eri	2.9060	9300.0	104	3533	No
106	GOM_NL__2PRFIN20021102_214352_000002202010_00473_03533_7280.N1	02-NOV-2002 21:43:52	Straylight	220.00	1	9Alp CMa	-1.4400	11000.	440	3533	No
107	GOM_NL__2PRFIN20021102_214914_000000522010_00473_03533_7281.N1	02-NOV-2002 21:49:14	Straylight	52.000	52	16Bet Cet	2.0370	4500.0	104	3533	No
108	GOM_NL__2PRFIN20021102_215527_000000642010_00473_03533_7282.N1	02-NOV-2002 21:55:27	Twl_and_stray	64.000	94	92Alp Cet	2.5260	3100.0	128	3533	No
109	GOM_NL__2PRFIN20021102_215847_000000442010_00473_03533_7283.N1	02-NOV-2002 21:58:47	Bright	44.000	140	88Gam Peg	2.8340	26000.	88	3533	No
110	GOM_NL__2PRFIN20021102_220048_000000512010_00473_03533_7284.N1	02-NOV-2002 22:00:48	Bright	51.000	50	13Alp Ari	2.0070	4250.0	102	3533	No
111	GOM_NL__2PRFIN20021102_220237_000000452010_00473_03533_7285.N1	02-NOV-2002 22:02:37	Bright	44.500	58	21Alp And	2.0730	11000.	89	3533	No
112	GOM_NL__2PRFIN20021102_220415_000000482010_00473_03533_7286.N1	02-NOV-2002 22:04:15	Bright	48.000	173	4Bet Tri	3.0040	8900.0	96	3533	No
113	GOM_NL__2PRFIN20021102_220618_000000492010_00473_03533_7287.N1	02-NOV-2002 22:06:18	Bright	48.500	73	57Gam1And	2.2600	13100.	97	3533	No
114	GOM_NL__2PRFIN20021102_220953_000000452010_00473_03533_7288.N1	02-NOV-2002 22:09:53	Bright	45.000	68	18Alp Cas	2.2250	4500.0	90	3533	No
115	GOM_NL__2PRFIN20021102_221316_000001002010_00473_03533_7289.N1	02-NOV-2002 22:13:16	Bright	99.500	114	3lot Aur	2.6930	4600.0	199	3533	No
116	GOM_NL__2PRFIN20021102_221623_000000772010_00473_03533_7290.N1	02-NOV-2002 22:16:23	Bright	77.000	6	13Alp Aur	0.080000	3400.0	154	3533	No
117	GOM_NL__2PRFIN20021102_221907_000000462010_00473_03533_7291.N1	02-NOV-2002 22:19:07	Bright	46.000	49	1Alp UMi	1.9900	6300.0	92	3533	No
118	GOM_NL__2PRFIN20021102_222303_000000452010_00473_03533_7292.N1	02-NOV-2002 22:23:03	Bright	44.500	60	7Bet UMi	2.0810	3950.0	89	3533	No
119	GOM_NL__2PRFIN20021102_222713_000000502010_00473_03533_7293.N1	02-NOV-2002 22:27:13	Bright	50.000	36	50Alp UMa	1.8000	6300.0	100	3533	No
120	GOM_NL__2PRFIN20021102_222848_000000512010_00473_03533_7294.N1	02-NOV-2002 22:28:48	Bright	50.500	82	48Bet UMa	2.3650	10600.	101	3533	No
121	GOM_NL__2PRFIN20021102_223233_000000472010_00473_03533_7295.N1	02-NOV-2002 22:32:33	Bright	47.000	174	52Psi UMa	3.0040	4400.0	94	3533	No
122	GOM_NL__2PRFIN20021102_223947_000002552010_00473_03533_7296.N1	02-NOV-2002 22:39:47	Twl_and_stray	255.00	24	66Alp Gem	1.5800	10200.	510	3533	No
123	GOM_NL__2PRFIN20021102_225418_000000842010_00473_03533_7297.N1	02-NOV-2002 22:54:18	Dark	84.000	48	30Alp Hya	1.9770	4100.0	168	3533	No
124	GOM_NL__2PRFIN20021102_225810_000000452010_00473_03533_7298.N1	02-NOV-2002 22:58:10	Dark	45.000	64	Gam Cen	2.2000	10600.	90	3533	No
125	GOM_NL__2PRFIN20021102_230028_000000502010_00473_03533_7299.N1	02-NOV-2002 23:00:28	Dark	49.500	26	Gam Cru	1.6240	2900.0	99	3533	No
126	GOM_NL__2PRFIN20021102_230241_000000562010_00473_03533_7300.N1	02-NOV-2002 23:02:41	Dark	56.000	65	Lam Vel	2.2040	4400.0	112	3533	No

### 3. Quality information per product

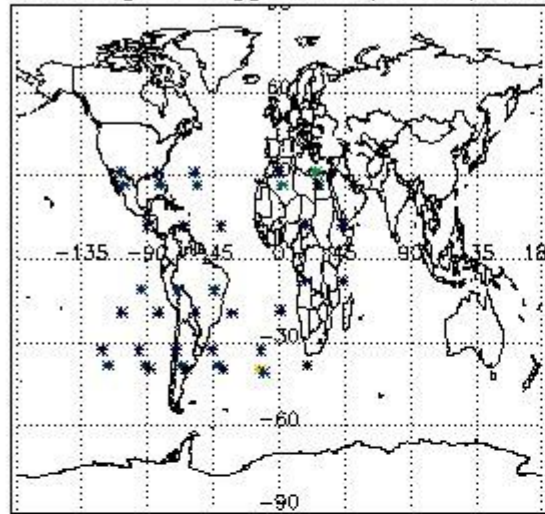
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

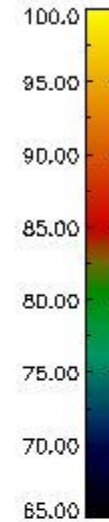
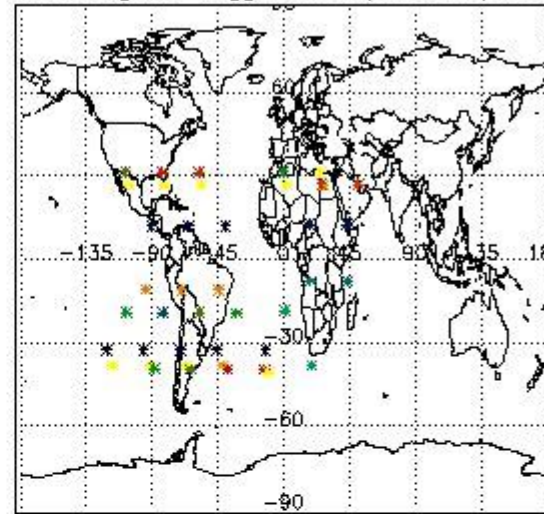


3.2 Plot quality information per product (world map)

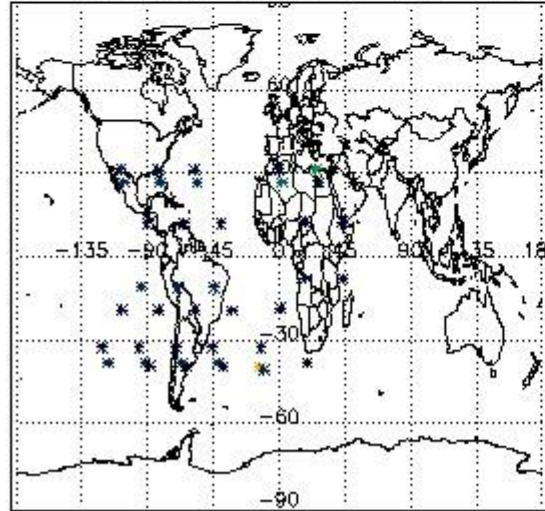
Percentage of flagged data per O3 profile



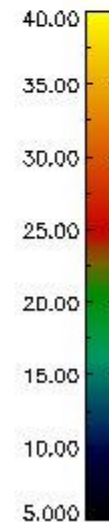
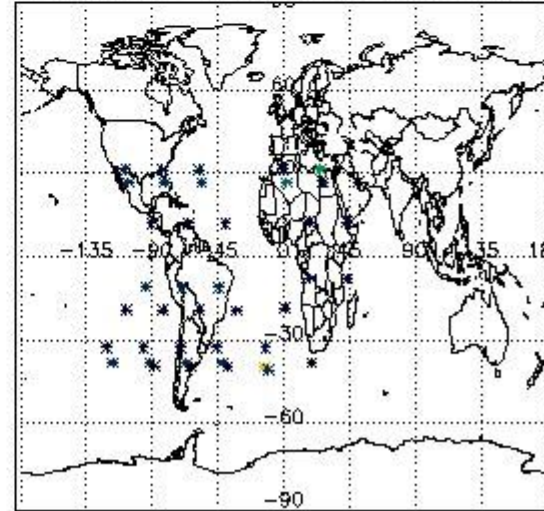
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

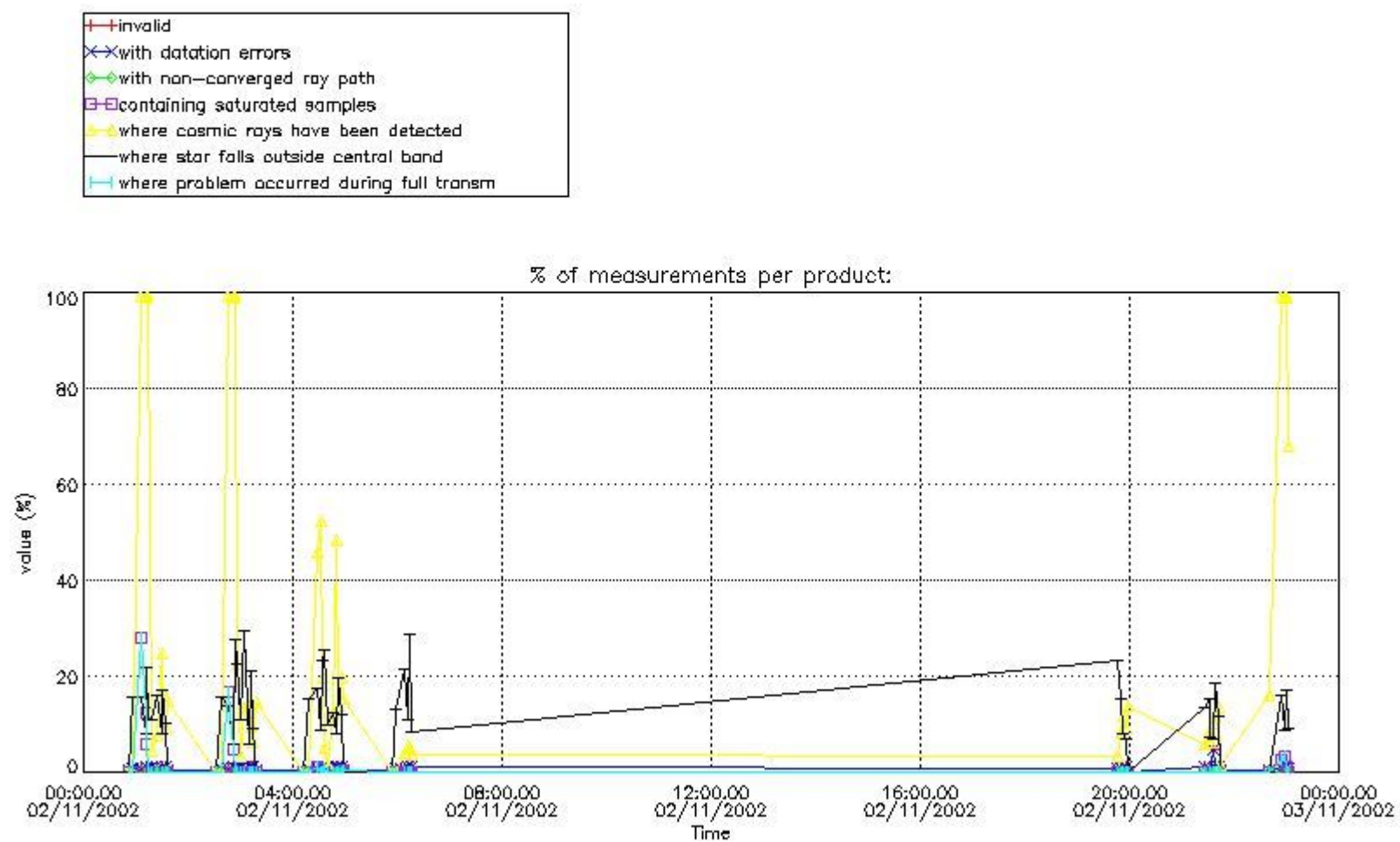


#### 4. Level 1 quality information per product

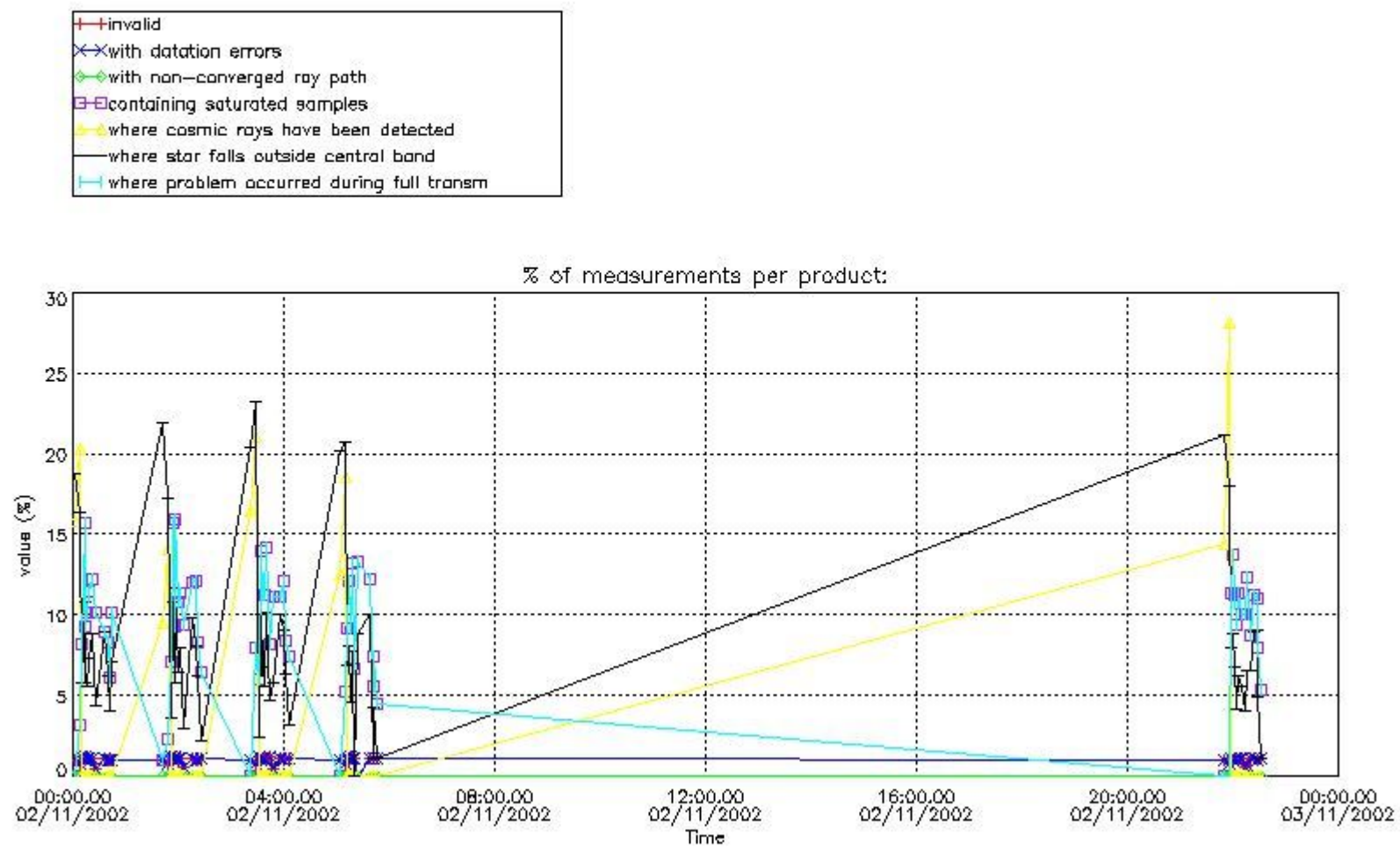
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

##### 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

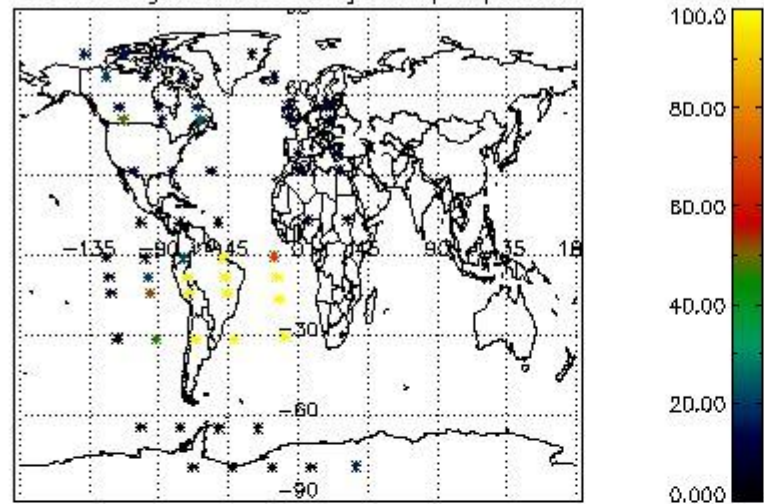


4.2 Plot quality information per product coming from level 1b processing (world map)

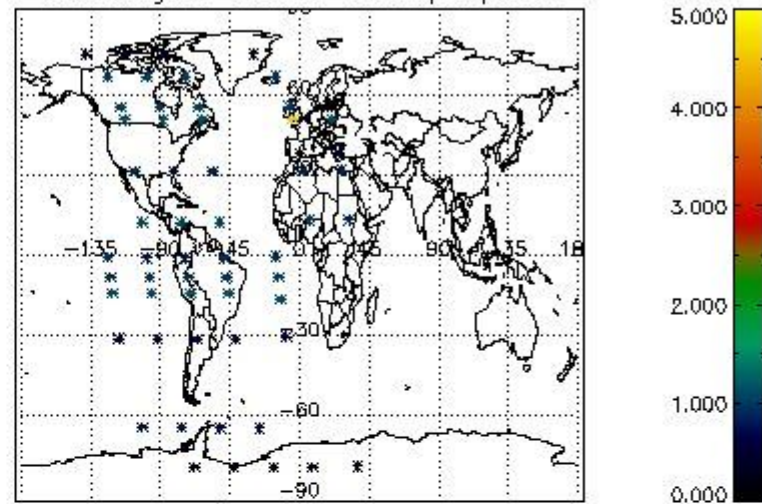
4.2.1 Plot level 1 quality information per product (world map): ENVISAT ASCENDING passes



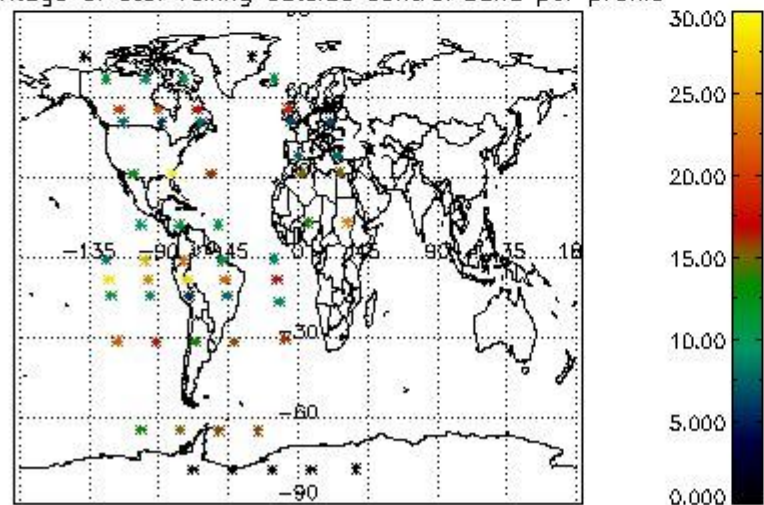
Percentage of cosmic ray hits per profile



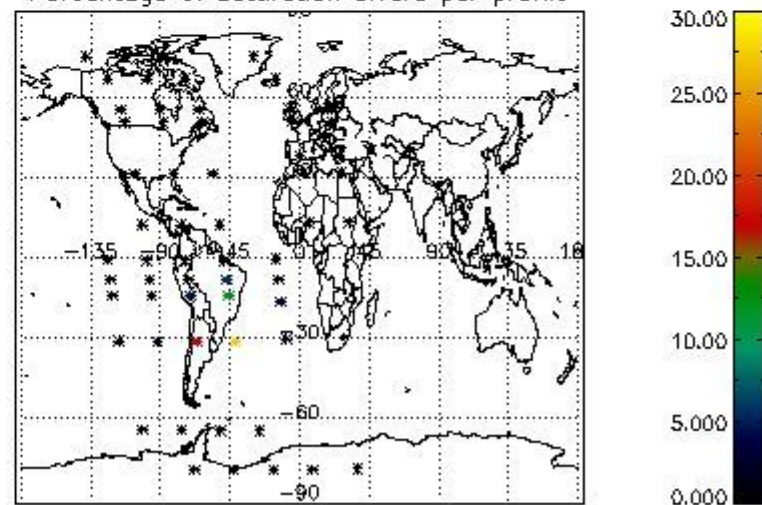
Percentage of datation errors per profile



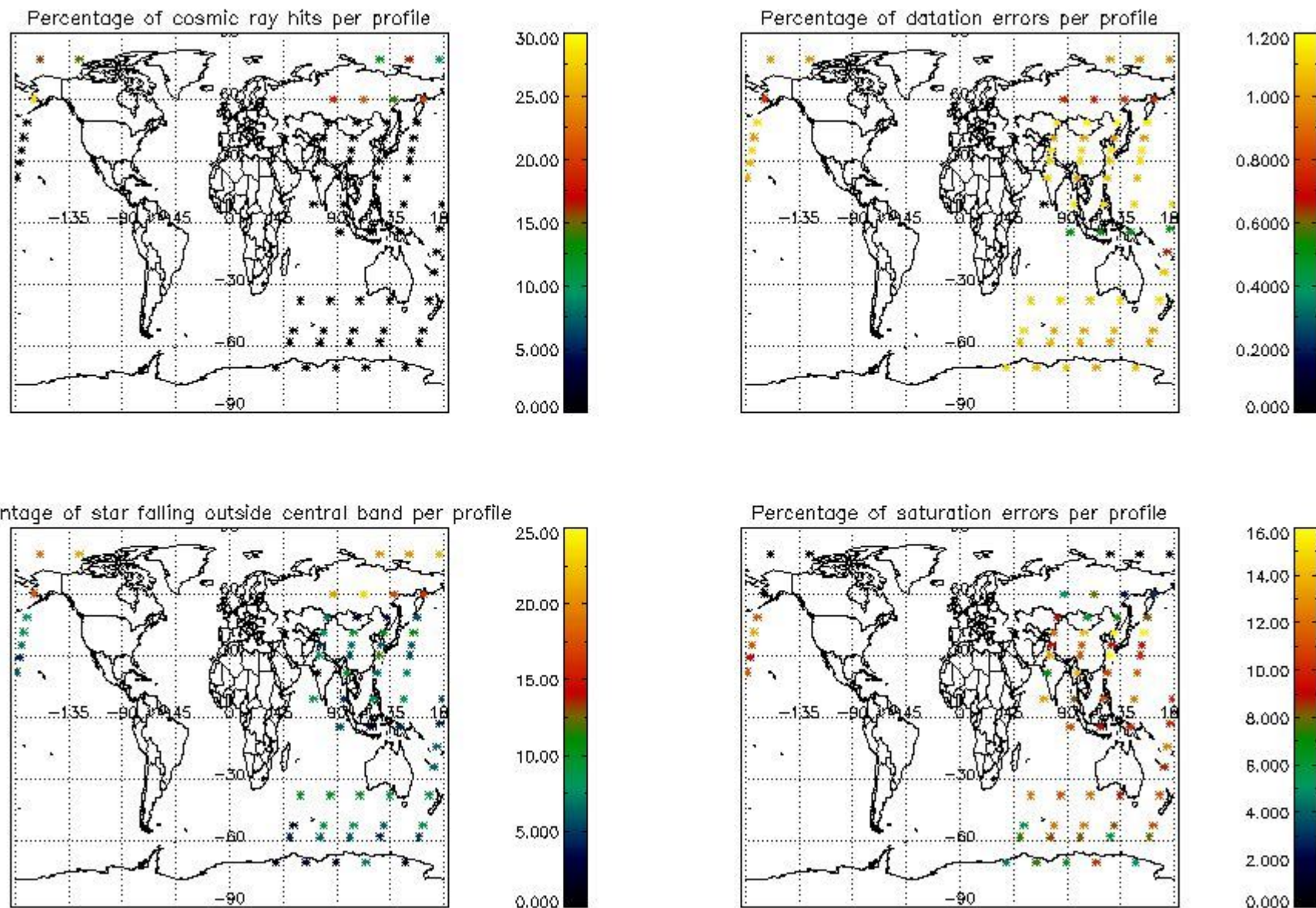
Percentage of star falling outside central band per profile



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

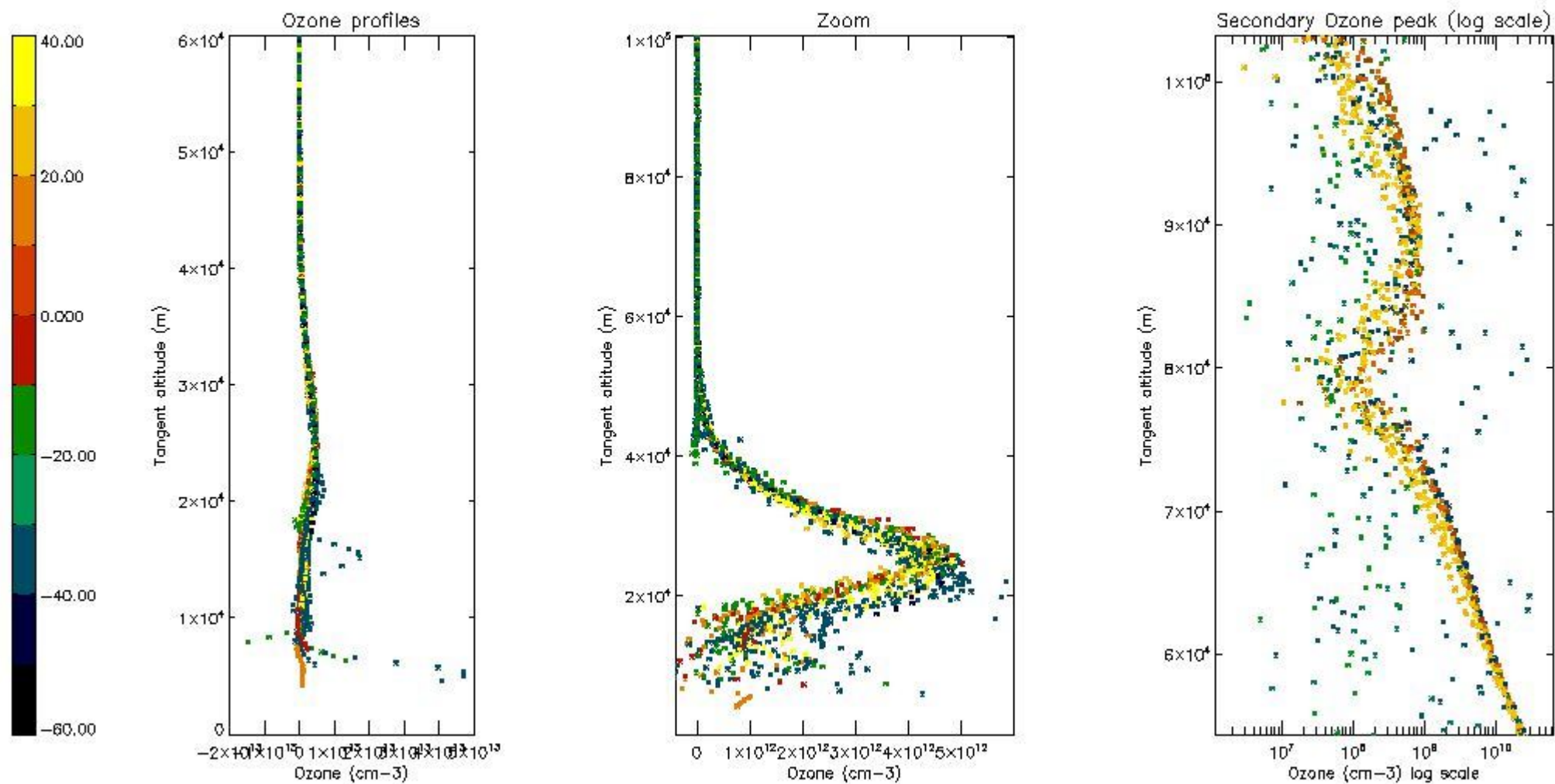
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	28
STD < 20	13

STD < 10	11
STD < 5	7

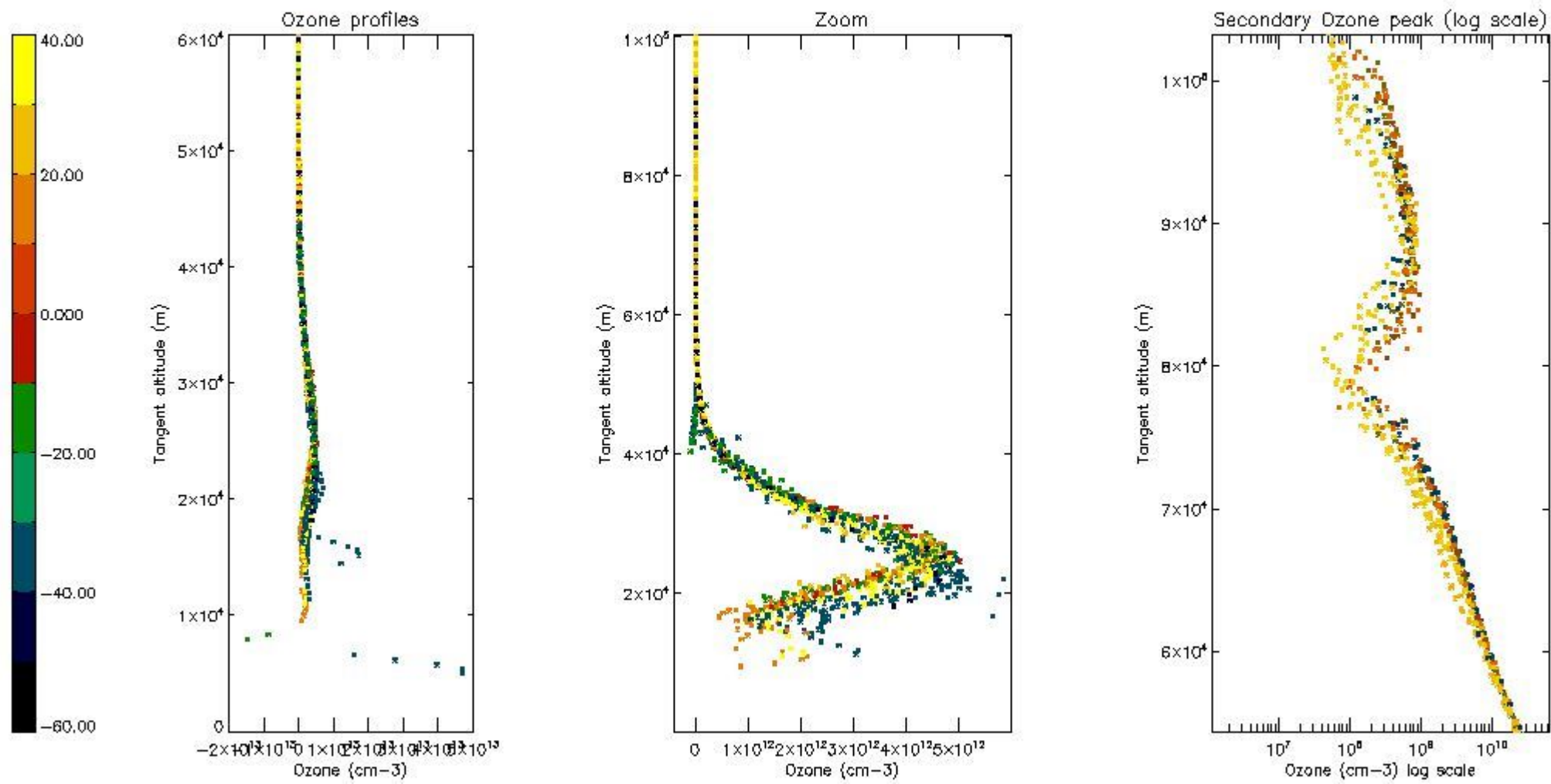
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



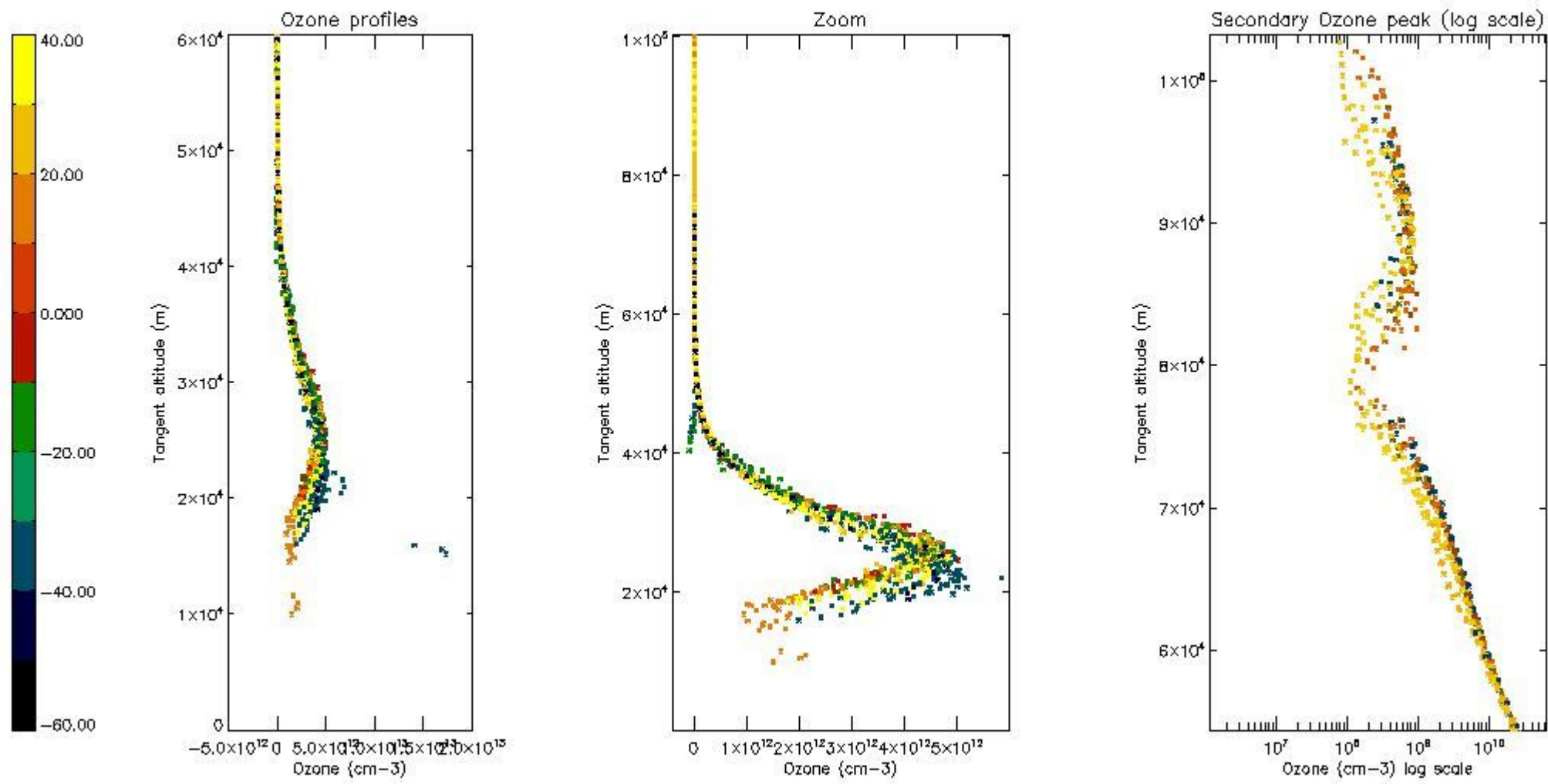
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



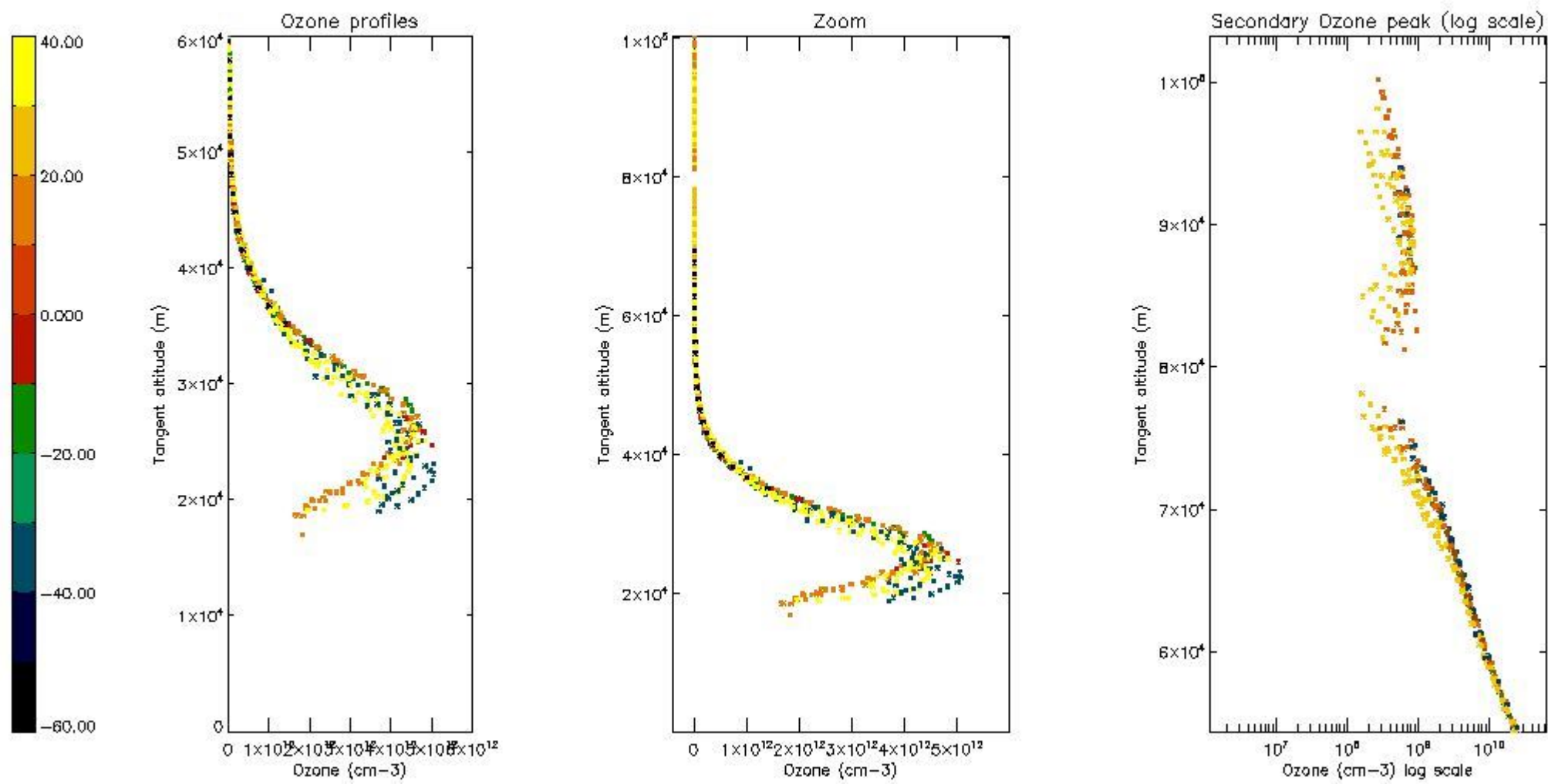
5.4 Plot ozone profiles where  $STD < 10\%$  (dark without errors)

The colorbar represents the latitude.



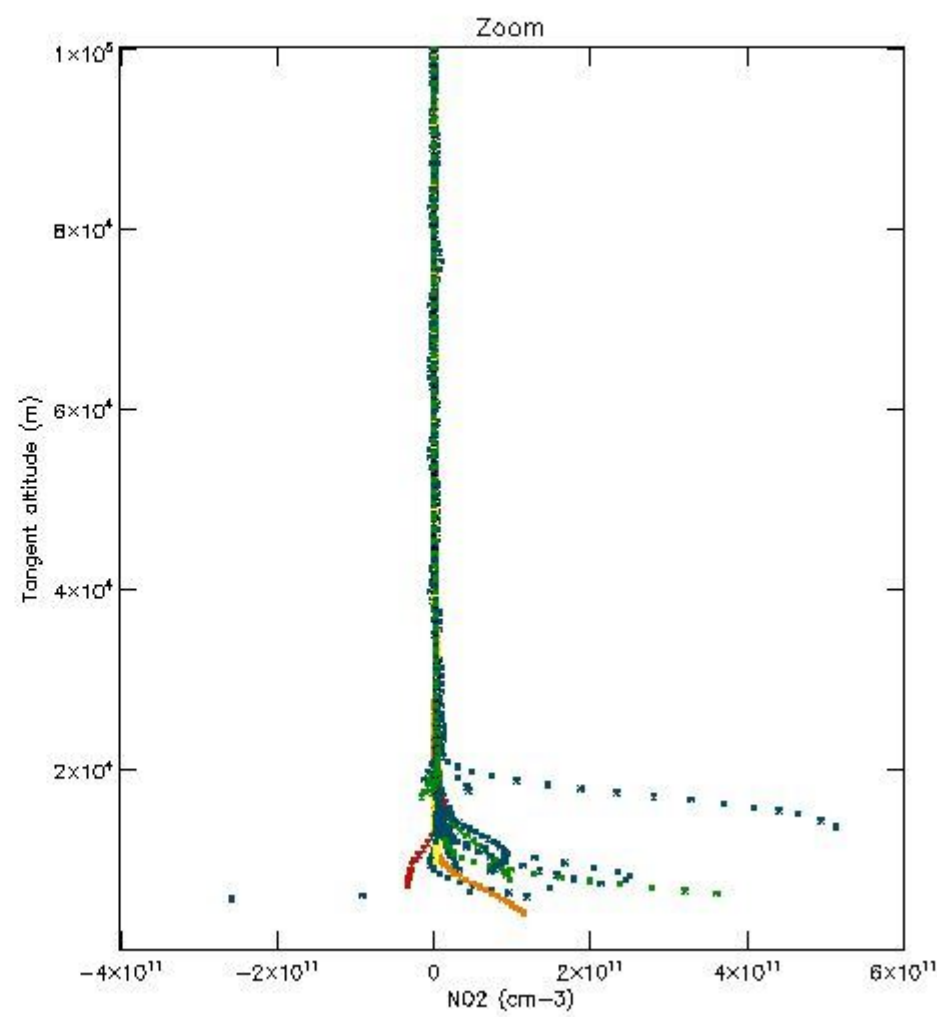
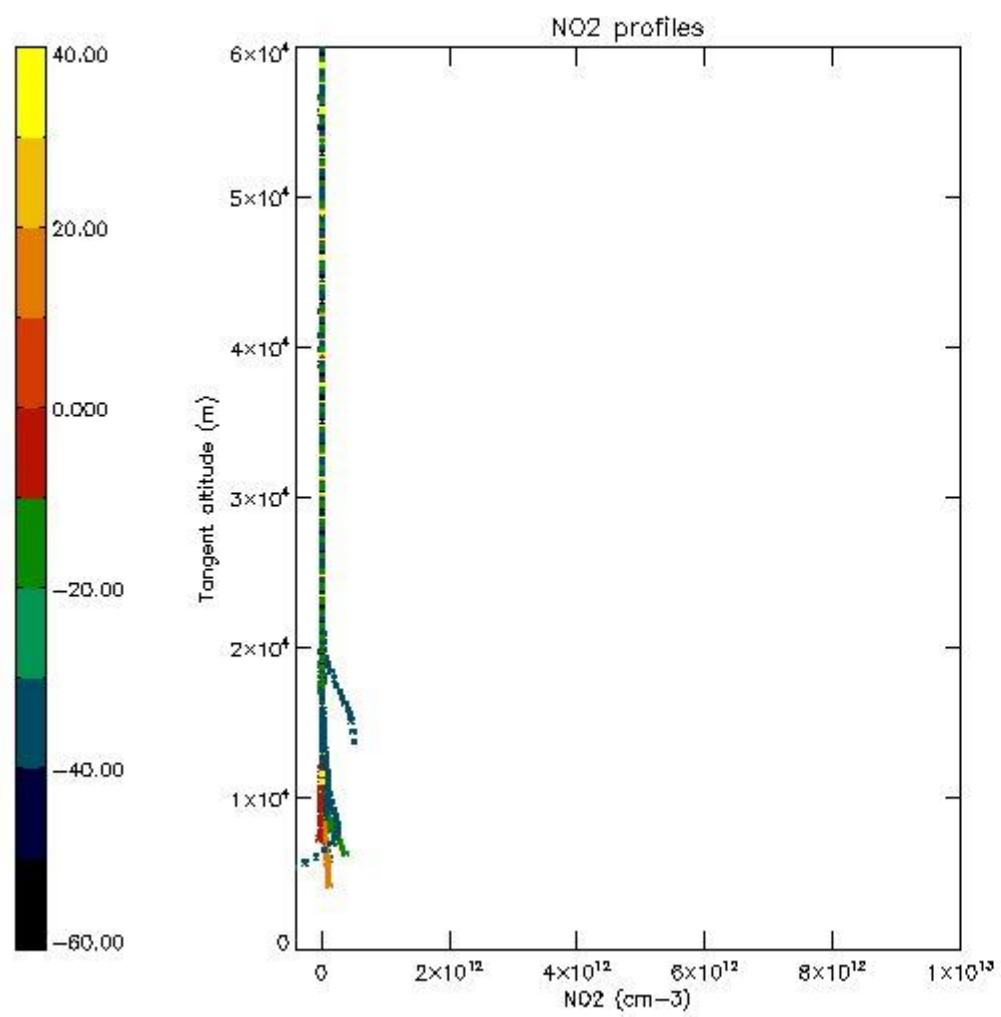
*5.5 Plot ozone profiles where STD < 5% (dark without errors)*

The colorbar represents the latitude.



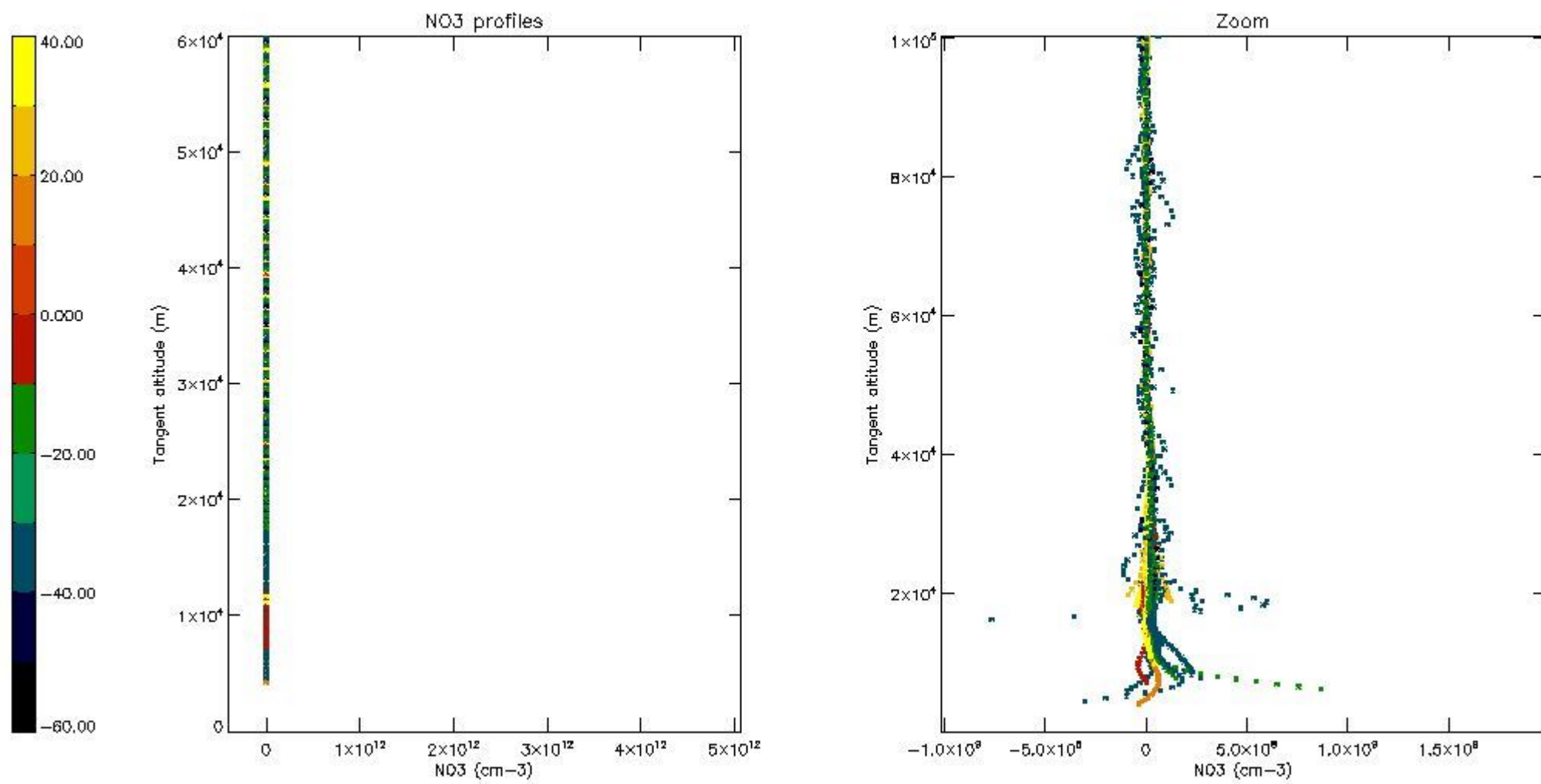
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

The colorbar represents the latitude.



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

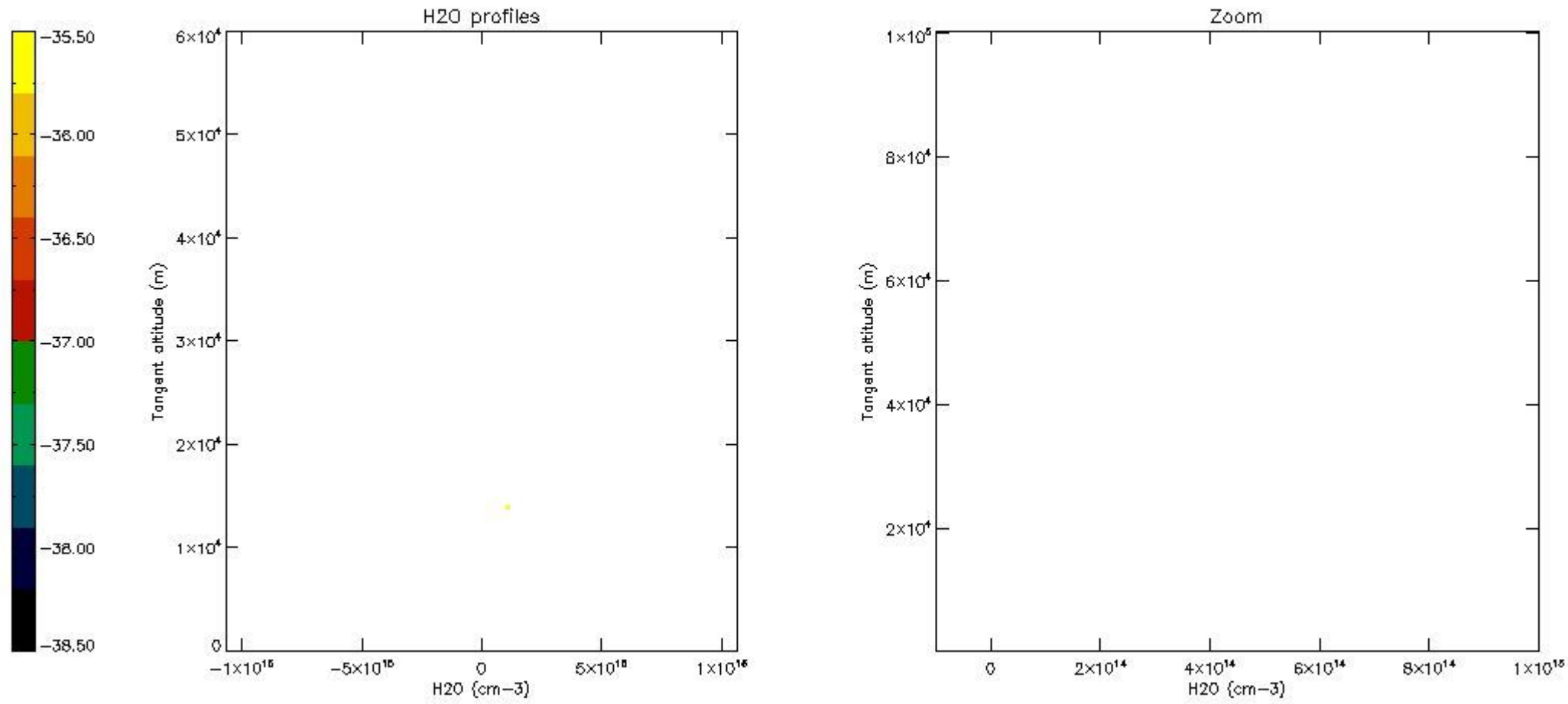
The colorbar represents the latitude.



*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_AXNIEC20050627_150440_20020301_000000_20100101_000000	1	02-NOV-2002 00:01:25
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	02-NOV-2002 00:01:25
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	02-NOV-2002 00:01:25

# GOMOS Level 2 Daily Report

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### [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	17APR2013 19:53:59
Data source version	GOMOS/6.01
Start time of products	02-11-2002 (02NOV2002 00:00:00)
Stop time of products	03-11-2002 (03NOV2002 00:00:00)
Store outputs in DB	Yes
Nb of level 2 prods	126
Nb of prods with errors	1

## 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__2PRFIN20021102_000125_000000512010_00460_03520_2330.N1	02-NOV-2002 00:01:25	Straylight	50.500	52	16Bet Cet	2.0370	4500.0	101	3520	No
2	GOM_NL__2PRFIN20021102_000744_000000642010_00460_03520_2331.N1	02-NOV-2002 00:07:44	Twilight_stray	64.000	94	92Alp Cet	2.5260	3100.0	128	3520	No
3	GOM_NL__2PRFIN20021102_001057_000000432010_00460_03520_2332.N1	02-NOV-2002 00:10:57	Bright	43.000	140	88Gam Peg	2.8340	26000.	86	3520	No
4	GOM_NL__2PRFIN20021102_001305_000000512010_00460_03520_2333.N1	02-NOV-2002 00:13:05	Bright	51.000	50	13Alp Ari	2.0070	4250.0	102	3520	No
5	GOM_NL__2PRFIN20021102_001448_000000432010_00460_03520_2334.N1	02-NOV-2002 00:14:48	Bright	43.000	58	21Alp And	2.0730	11000.	86	3520	No
6	GOM_NL__2PRFIN20021102_001612_000000452010_00460_03520_2335.N1	02-NOV-2002 00:16:12	Bright	44.500	53	43Bet And	2.0480	3300.0	89	3520	No
7	GOM_NL__2PRFIN20021102_001835_000000482010_00460_03520_2336.N1	02-NOV-2002 00:18:35	Bright	48.000	73	57Gam1And	2.2600	13100.	96	3520	No
8	GOM_NL__2PRFIN20021102_002206_000000452010_00460_03520_2337.N1	02-NOV-2002 00:22:06	Bright	45.000	68	18Alp Cas	2.2250	4500.0	90	3520	No
9	GOM_NL__2PRFIN20021102_002557_000001032010_00460_03520_2338.N1	02-NOV-2002 00:25:57	Bright	103.00	114	3Iot Aur	2.6930	4600.0	206	3520	No
10	GOM_NL__2PRFIN20021102_003514_000000452010_00460_03520_2339.N1	02-NOV-2002 00:35:14	Bright	44.500	60	7Bet UMi	2.0810	3950.0	89	3520	No
11	GOM_NL__2PRFIN20021102_003927_000000492010_00460_03520_2340.N1	02-NOV-2002 00:39:27	Bright	48.500	36	50Alp UMa	1.8000	6300.0	97	3520	No
12	GOM_NL__2PRFIN20021102_004102_000000502010_00460_03520_2341.N1	02-NOV-2002 00:41:02	Bright	49.500	82	48Bet UMa	2.3650	10600.	99	3520	No
13	GOM_NL__2PRFIN20021102_004446_000000502010_00460_03520_2342.N1	02-NOV-2002 00:44:46	Bright	49.500	174	52Psi UMa	3.0040	4400.0	99	3520	No
14	GOM_NL__2PRFIN20021102_005145_000002552010_00460_03520_2343.N1	02-NOV-2002 00:51:45	Twilight_stray	255.00	24	66Alp Gem	1.5800	10200.	510	3520	No
15	GOM_NL__2PRFIN20021102_005641_000000702010_00460_03520_2344.N1	02-NOV-2002 00:56:41	Bright	70.000	22	32Alp Leo	1.3600	15200.	140	3520	No
16	GOM_NL__2PRFIN20021102_010612_000000832010_00460_03520_2345.N1	02-NOV-2002 01:06:12	Dark	82.500	48	30Alp Hya	1.9770	4100.0	165	3520	No
17	GOM_NL__2PRFIN20021102_011104_000000442010_00460_03520_2346.N1	02-NOV-2002 01:11:04	Dark	44.000	99	Del Cen	2.5750	26000.	88	3520	No
18	GOM_NL__2PRFIN20021102_011241_000000532010_00460_03520_2347.N1	02-NOV-2002 01:12:41	Dark	52.500	26	Gam Cru	1.6240	2900.0	105	3520	No
19	GOM_NL__2PRFIN20021102_011444_000000562010_00460_03520_2348.N1	02-NOV-2002 01:14:44	Dark	55.500	65	Lam Vel	2.2040	4400.0	111	3520	No
20	GOM_NL__2PRFIN20021102_011828_000000462010_00461_03521_2317.N1	02-NOV-2002 01:18:28	Dark	46.000	29	Bet Car	1.6720	10200.	92	3521	No
21	GOM_NL__2PRFIN20021102_012347_000000592010_00461_03521_2318.N1	02-NOV-2002 01:23:47	Dark	59.000	2	Alp Car	-0.73600	7000.0	118	3521	No
22	GOM_NL__2PRFIN20021102_012917_000000452010_00461_03521_2319.N1	02-NOV-2002 01:29:17	Dark	44.500	143	Alp Hyi	2.8570	7200.0	89	3521	No
23	GOM_NL__2PRFIN20021102_013040_000000502010_00461_03521_2320.N1	02-NOV-2002 01:30:40	Dark	49.500	9	Alp Eri	0.45300	24000.	99	3521	No
24	GOM_NL__2PRFIN20021102_013359_000000492010_00461_03521_2321.N1	02-NOV-2002 01:33:59	Straylight	49.000	157	The1Eri	2.9060	9300.0	98	3521	No
25	GOM_NL__2PRFIN20021102_013633_000002162010_00461_03521_2322.N1	02-NOV-2002 01:36:33	Straylight	216.00	47	2Bet CMa	1.9760	28000.	432	3521	No
26	GOM_NL__2PRFIN20021102_014201_000000532010_00461_03521_2323.N1	02-NOV-2002 01:42:01	Straylight	52.500	52	16Bet Cet	2.0370	4500.0	105	3521	No
27	GOM_NL__2PRFIN20021102_014820_000000642010_00461_03521_2324.N1	02-NOV-2002 01:48:20	Twilight_stray	64.000	94	92Alp Cet	2.5260	3100.0	128	3521	No
28	GOM_NL__2PRFIN20021102_015133_000000422010_00461_03521_2325.N1	02-NOV-2002 01:51:33	Bright	42.000	140	88Gam Peg	2.8340	26000.	84	3521	No
29	GOM_NL__2PRFIN20021102_015341_000000512010_00461_03521_2326.N1	02-NOV-2002 01:53:41	Bright	51.000	50	13Alp Ari	2.0070	4250.0	102	3521	No
30	GOM_NL__2PRFIN20021102_015524_000000432010_00461_03521_2327.N1	02-NOV-2002 01:55:24	Bright	43.000	58	21Alp And	2.0730	11000.	86	3521	No
31	GOM_NL__2PRFIN20021102_015649_000000472010_00461_03521_2328.N1	02-NOV-2002 01:56:49	Bright	47.000	53	43Bet And	2.0480	3300.0	94	3521	No
32	GOM_NL__2PRFIN20021102_015912_000000472010_00461_03521_2329.N1	02-NOV-2002 01:59:12	Bright	46.500	73	57Gam1And	2.2600	13100.	93	3521	No
33	GOM_NL__2PRFIN20021102_020243_000000442010_00461_03521_2330.N1	02-NOV-2002 02:02:43	Bright	44.000	68	18Alp Cas	2.2250	4500.0	88	3521	No
34	GOM_NL__2PRFIN20021102_020631_000001022010_00461_03521_2331.N1	02-NOV-2002 02:06:31	Bright	101.50	114	3Iot Aur	2.6930	4600.0	203	3521	No
35	GOM_NL__2PRFIN20021102_021549_000000462010_00461_03521_2332.N1	02-NOV-2002 02:15:49	Bright	46.000	60	7Bet UMi	2.0810	3950.0	92	3521	No
36	GOM_NL__2PRFIN20021102_022003_000000502010_00461_03521_2333.N1	02-NOV-2002 02:20:03	Bright	49.500	36	50Alp UMa	1.8000	6300.0	99	3521	No
37	GOM_NL__2PRFIN20021102_022140_000000492010_00461_03521_2334.N1	02-NOV-2002 02:21:40	Bright	48.500	82	48Bet UMa	2.3650	10600.	97	3521	No
38	GOM_NL__2PRFIN20021102_022522_000000472010_00461_03521_2335.N1	02-NOV-2002 02:25:22	Bright	46.500	174	52Psi UMa	3.0040	4400.0	93	3521	No
39	GOM_NL__2PRFIN20021102_023222_000002552010_00461_03521_2336.N1	02-NOV-2002 02:32:22	Twilight_stray	255.00	24	66Alp Gem	1.5800	10200.	510	3521	No
40	GOM_NL__2PRFIN20021102_023717_000000702010_00461_03521_2337.N1	02-NOV-2002 02:37:17	Bright	70.000	22	32Alp Leo	1.3600	15200.	140	3521	No
41	GOM_NL__2PRFIN20021102_024650_000000812010_00461_03521_2338.N1	02-NOV-2002 02:46:50	Dark	80.500	48	30Alp Hya	1.9770	4100.0	161	3521	No
42	GOM_NL__2PRFIN20021102_025139_000000432010_00461_03521_2339.N1	02-NOV-2002 02:51:39	Dark	43.000	99	Del Cen	2.5750	26000.	86	3521	No

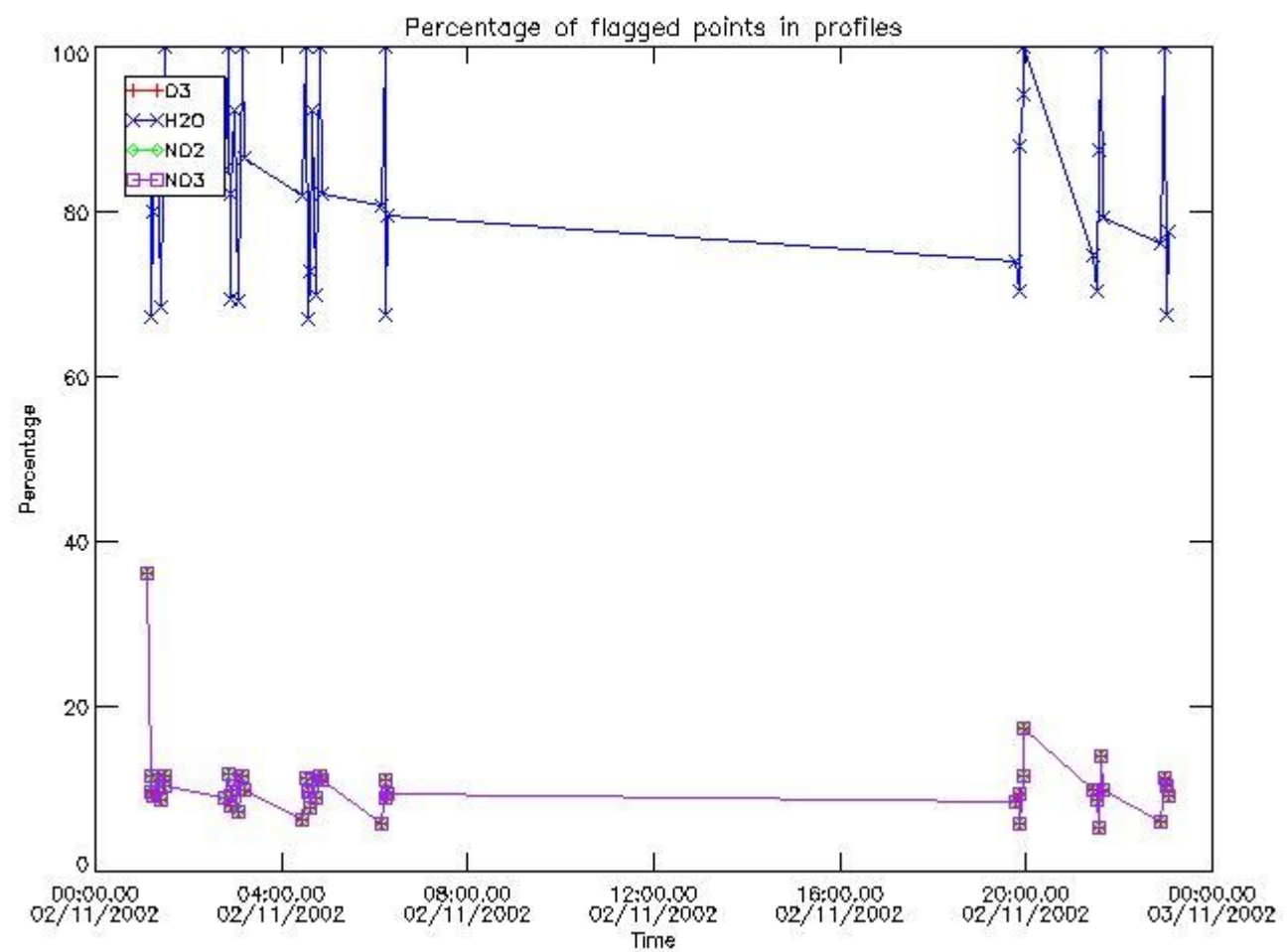


102	GOM_NL__2PRFIN20021102_213255_000000952010_00473_03533_7276.N1	02-NOV-2002 21:32:55	Dark	95.000	23	21Eps CMa	1.5020	26000.	190	3533	No
103	GOM_NL__2PRFIN20021102_213630_000000442010_00473_03533_7277.N1	02-NOV-2002 21:36:30	Dark	44.000	143	Alp Hyl	2.8570	7200.0	88	3533	No
104	GOM_NL__2PRFIN20021102_213753_000000512010_00473_03533_7278.N1	02-NOV-2002 21:37:53	Dark	51.000	9	Alp Eri	0.45300	24000.	102	3533	No
105	GOM_NL__2PRFIN20021102_214113_000000522010_00473_03533_7279.N1	02-NOV-2002 21:41:13	Straylight	52.000	157	The1Eri	2.9060	9300.0	104	3533	No
106	GOM_NL__2PRFIN20021102_214352_000002202010_00473_03533_7280.N1	02-NOV-2002 21:43:52	Straylight	220.00	1	9Alp CMa	-1.4400	11000.	440	3533	No
107	GOM_NL__2PRFIN20021102_214914_000000522010_00473_03533_7281.N1	02-NOV-2002 21:49:14	Straylight	52.000	52	16Bet Cet	2.0370	4500.0	104	3533	No
108	GOM_NL__2PRFIN20021102_215527_000000642010_00473_03533_7282.N1	02-NOV-2002 21:55:27	Twl_and_stray	64.000	94	92Alp Cet	2.5260	3100.0	128	3533	No
109	GOM_NL__2PRFIN20021102_215847_000000442010_00473_03533_7283.N1	02-NOV-2002 21:58:47	Bright	44.000	140	88Gam Peg	2.8340	26000.	88	3533	No
110	GOM_NL__2PRFIN20021102_220048_000000512010_00473_03533_7284.N1	02-NOV-2002 22:00:48	Bright	51.000	50	13Alp Ari	2.0070	4250.0	102	3533	No
111	GOM_NL__2PRFIN20021102_220237_000000452010_00473_03533_7285.N1	02-NOV-2002 22:02:37	Bright	44.500	58	21Alp And	2.0730	11000.	89	3533	No
112	GOM_NL__2PRFIN20021102_220415_000000482010_00473_03533_7286.N1	02-NOV-2002 22:04:15	Bright	48.000	173	4Bet Tri	3.0040	8900.0	96	3533	No
113	GOM_NL__2PRFIN20021102_220618_000000492010_00473_03533_7287.N1	02-NOV-2002 22:06:18	Bright	48.500	73	57Gam1And	2.2600	13100.	97	3533	No
114	GOM_NL__2PRFIN20021102_220953_000000452010_00473_03533_7288.N1	02-NOV-2002 22:09:53	Bright	45.000	68	18Alp Cas	2.2250	4500.0	90	3533	No
115	GOM_NL__2PRFIN20021102_221316_000001002010_00473_03533_7289.N1	02-NOV-2002 22:13:16	Bright	99.500	114	3lot Aur	2.6930	4600.0	199	3533	No
116	GOM_NL__2PRFIN20021102_221623_000000772010_00473_03533_7290.N1	02-NOV-2002 22:16:23	Bright	77.000	6	13Alp Aur	0.080000	3400.0	154	3533	No
117	GOM_NL__2PRFIN20021102_221907_000000462010_00473_03533_7291.N1	02-NOV-2002 22:19:07	Bright	46.000	49	1Alp UMi	1.9900	6300.0	92	3533	No
118	GOM_NL__2PRFIN20021102_222303_000000452010_00473_03533_7292.N1	02-NOV-2002 22:23:03	Bright	44.500	60	7Bet UMi	2.0810	3950.0	89	3533	No
119	GOM_NL__2PRFIN20021102_222713_000000502010_00473_03533_7293.N1	02-NOV-2002 22:27:13	Bright	50.000	36	50Alp UMa	1.8000	6300.0	100	3533	No
120	GOM_NL__2PRFIN20021102_222848_000000512010_00473_03533_7294.N1	02-NOV-2002 22:28:48	Bright	50.500	82	48Bet UMa	2.3650	10600.	101	3533	No
121	GOM_NL__2PRFIN20021102_223233_000000472010_00473_03533_7295.N1	02-NOV-2002 22:32:33	Bright	47.000	174	52Psi UMa	3.0040	4400.0	94	3533	No
122	GOM_NL__2PRFIN20021102_223947_000002552010_00473_03533_7296.N1	02-NOV-2002 22:39:47	Twl_and_stray	255.00	24	66Alp Gem	1.5800	10200.	510	3533	No
123	GOM_NL__2PRFIN20021102_225418_000000842010_00473_03533_7297.N1	02-NOV-2002 22:54:18	Dark	84.000	48	30Alp Hya	1.9770	4100.0	168	3533	No
124	GOM_NL__2PRFIN20021102_225810_000000452010_00473_03533_7298.N1	02-NOV-2002 22:58:10	Dark	45.000	64	Gam Cen	2.2000	10600.	90	3533	No
125	GOM_NL__2PRFIN20021102_230028_000000502010_00473_03533_7299.N1	02-NOV-2002 23:00:28	Dark	49.500	26	Gam Cru	1.6240	2900.0	99	3533	No
126	GOM_NL__2PRFIN20021102_230241_000000562010_00473_03533_7300.N1	02-NOV-2002 23:02:41	Dark	56.000	65	Lam Vel	2.2040	4400.0	112	3533	No

### 3. Quality information per product

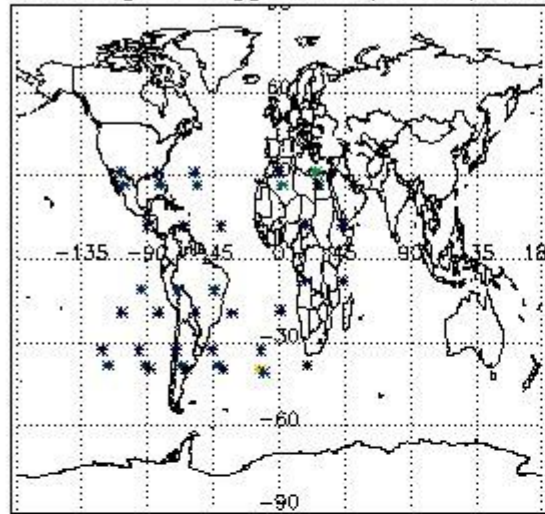
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

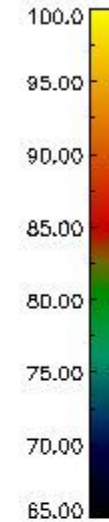
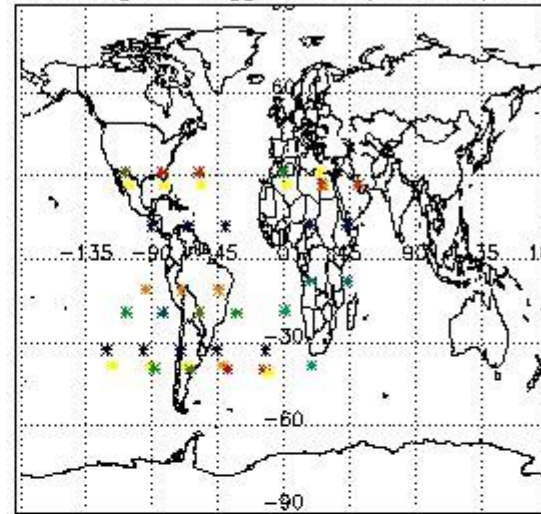


3.2 Plot quality information per product (world map)

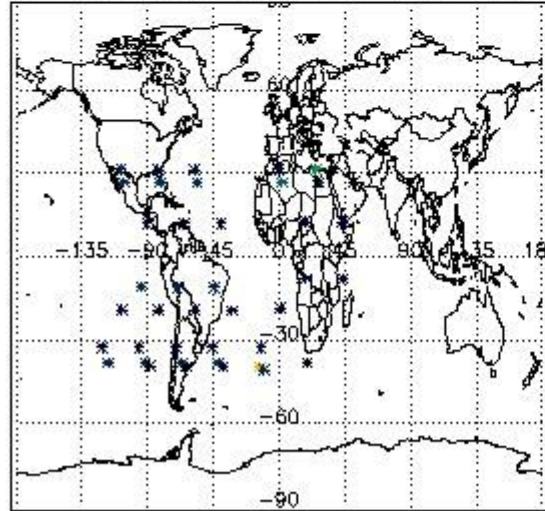
Percentage of flagged data per O3 profile



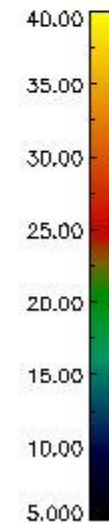
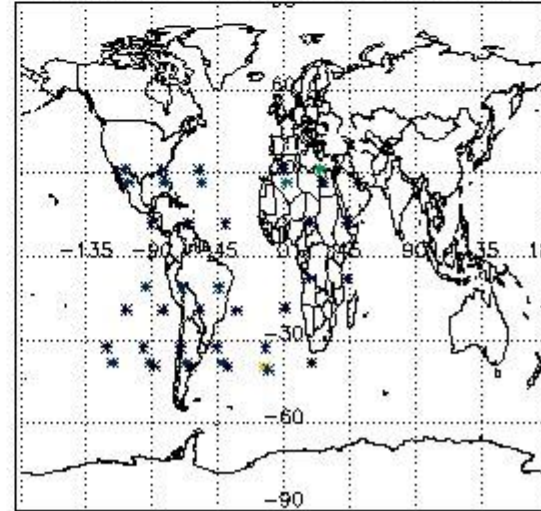
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

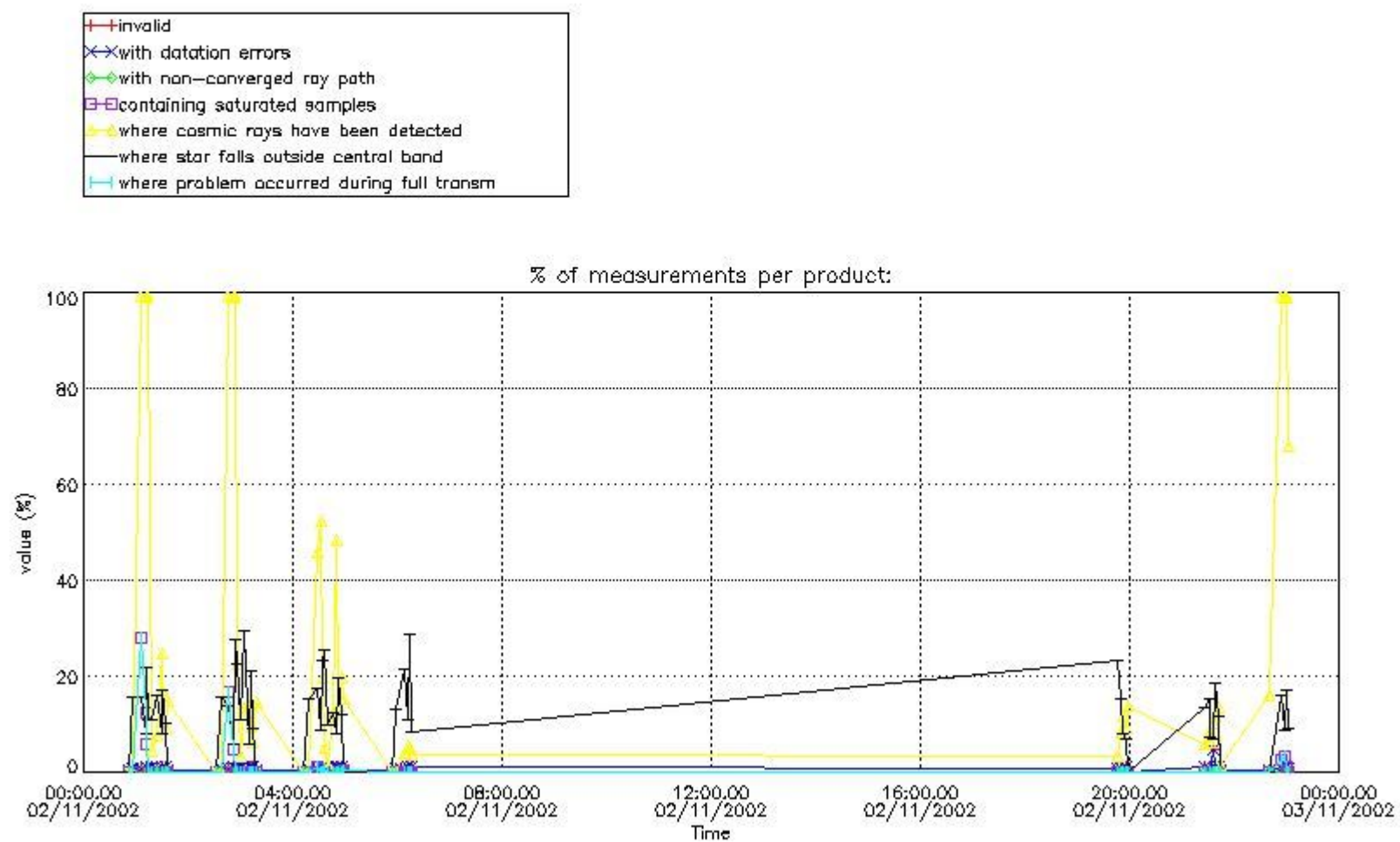


#### 4. Level 1 quality information per product

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

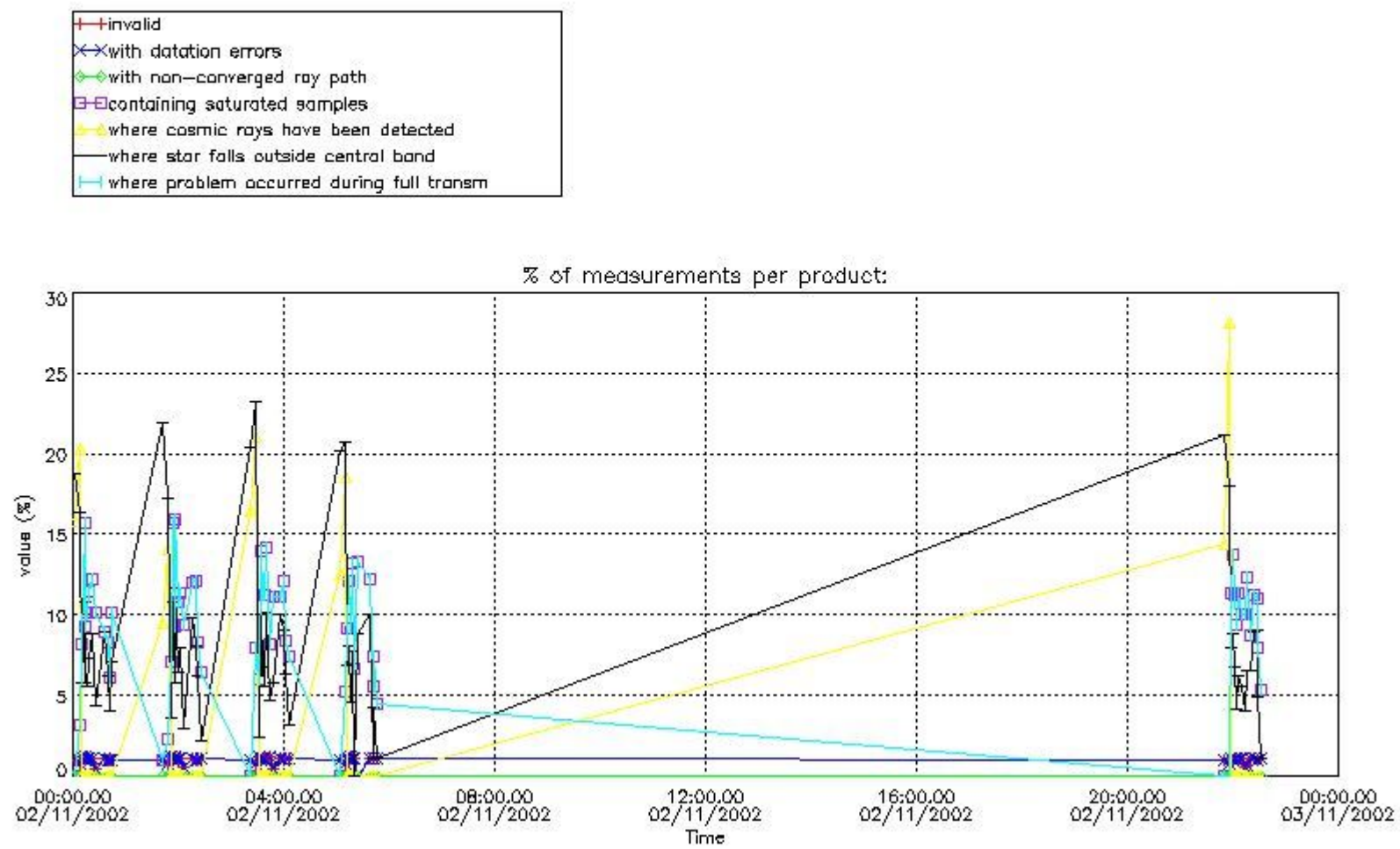
##### 4.1 Plot quality information per product (time dependant) coming from level 1b processing

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



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

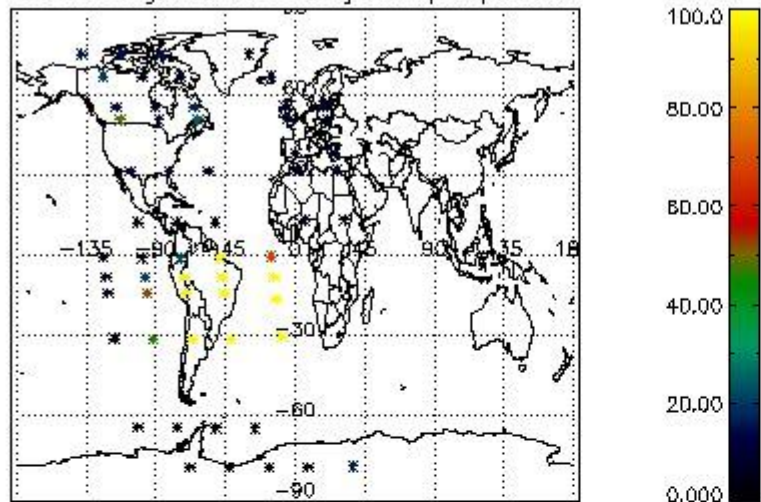




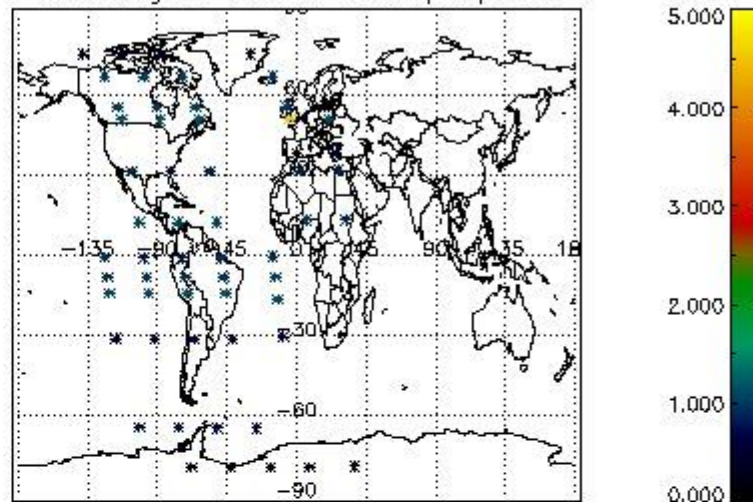
4.2 Plot quality information per product coming from level 1b processing (world map)

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

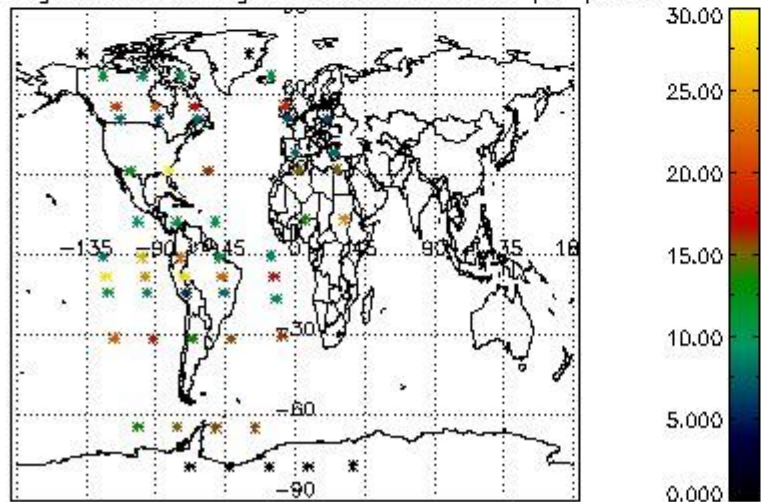
Percentage of cosmic ray hits per profile



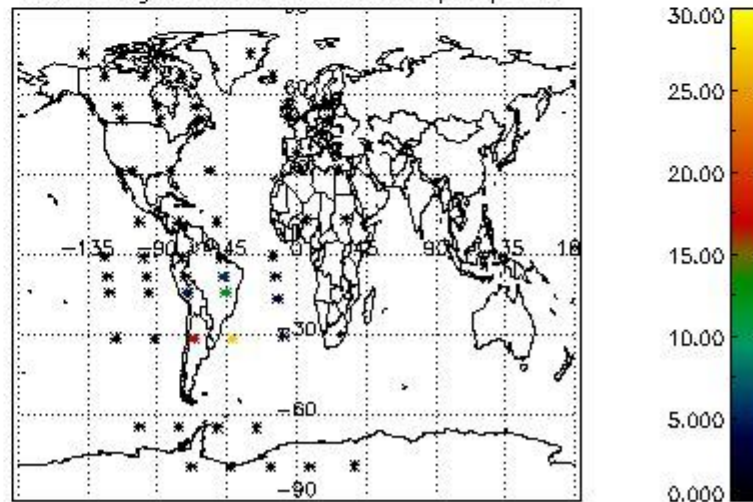
Percentage of datation errors per profile



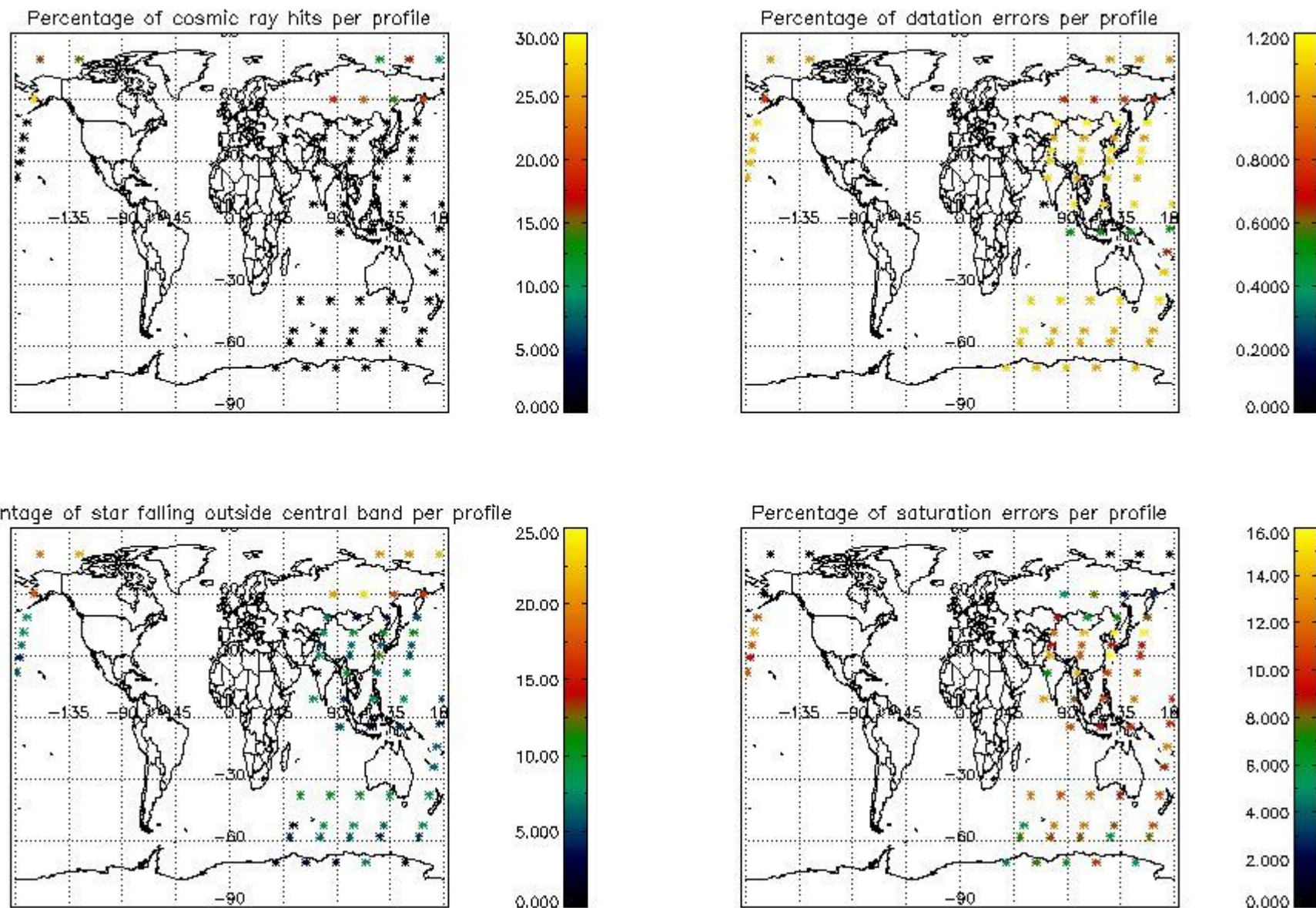
Percentage of star falling outside central band per profile



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

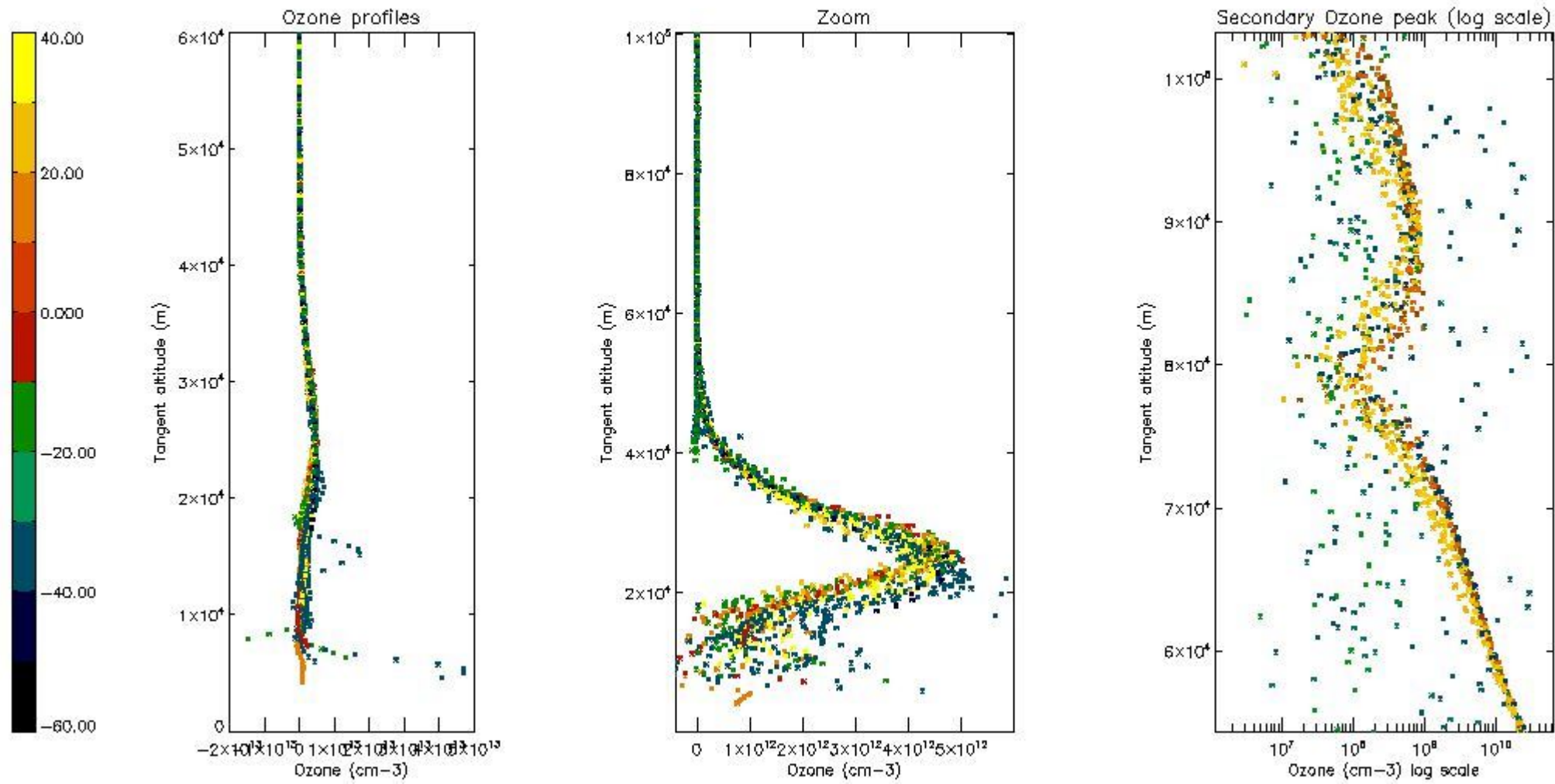
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	28
STD < 20	13

STD < 10	11
STD < 5	7

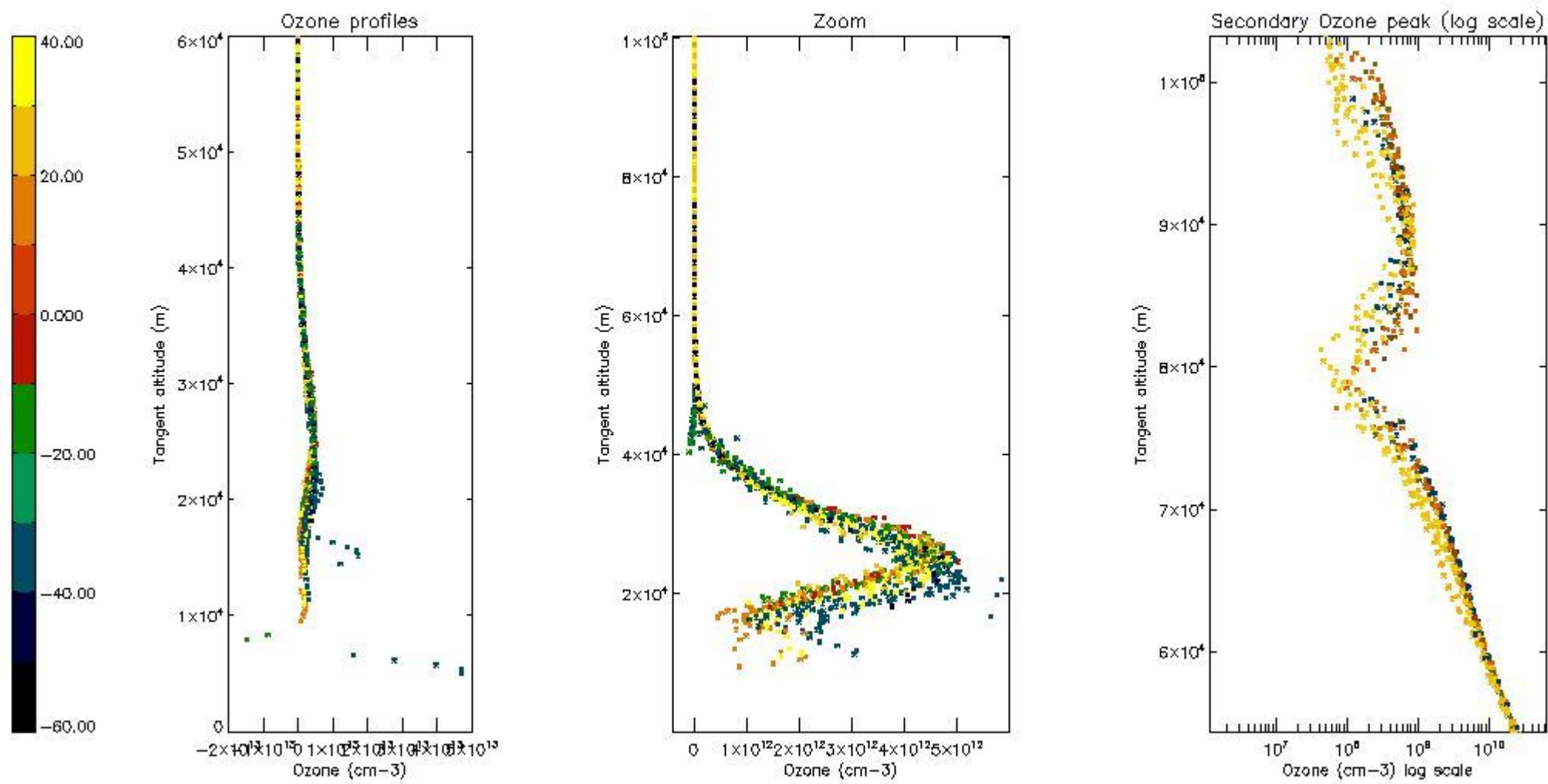
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



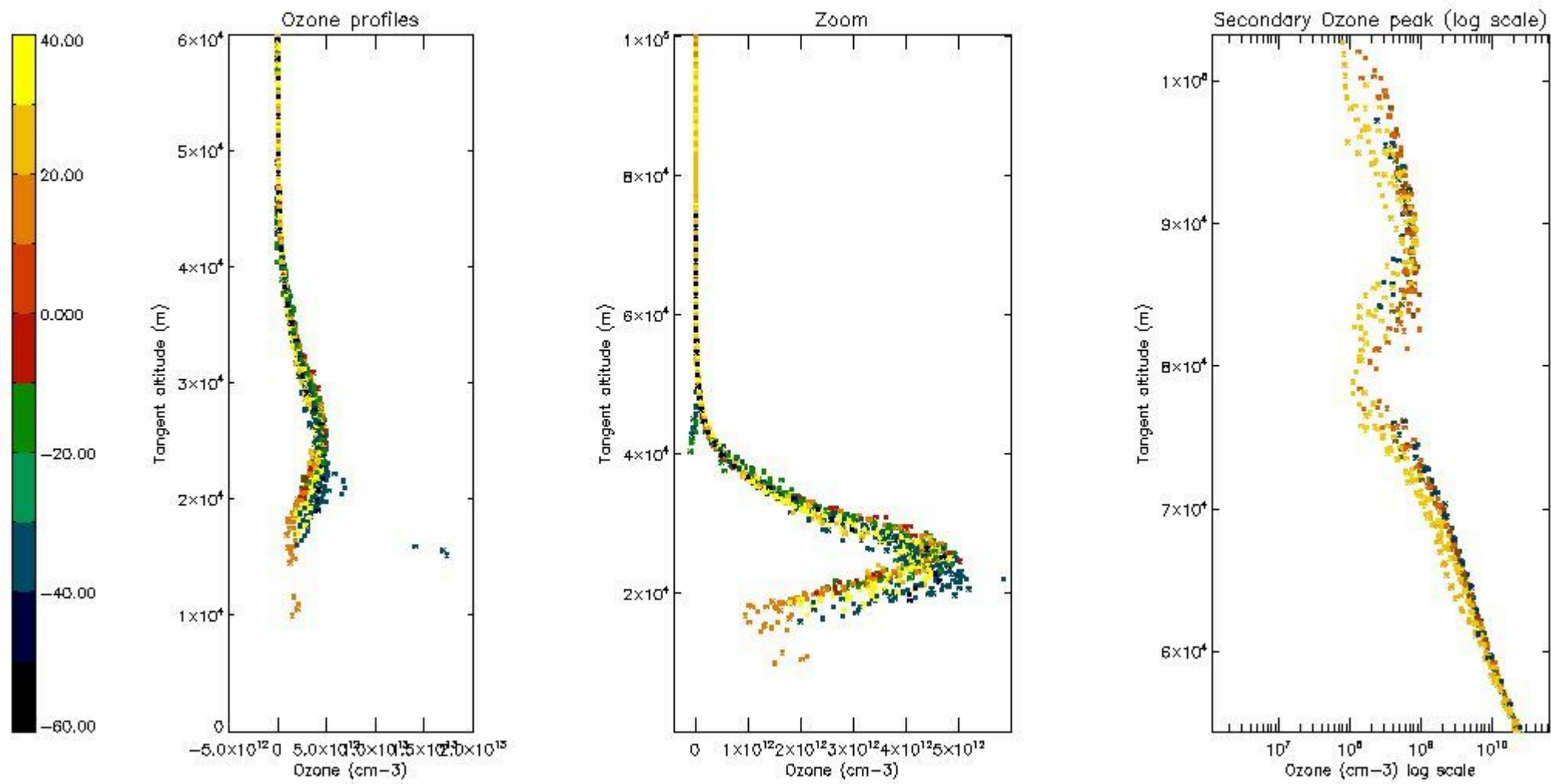
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



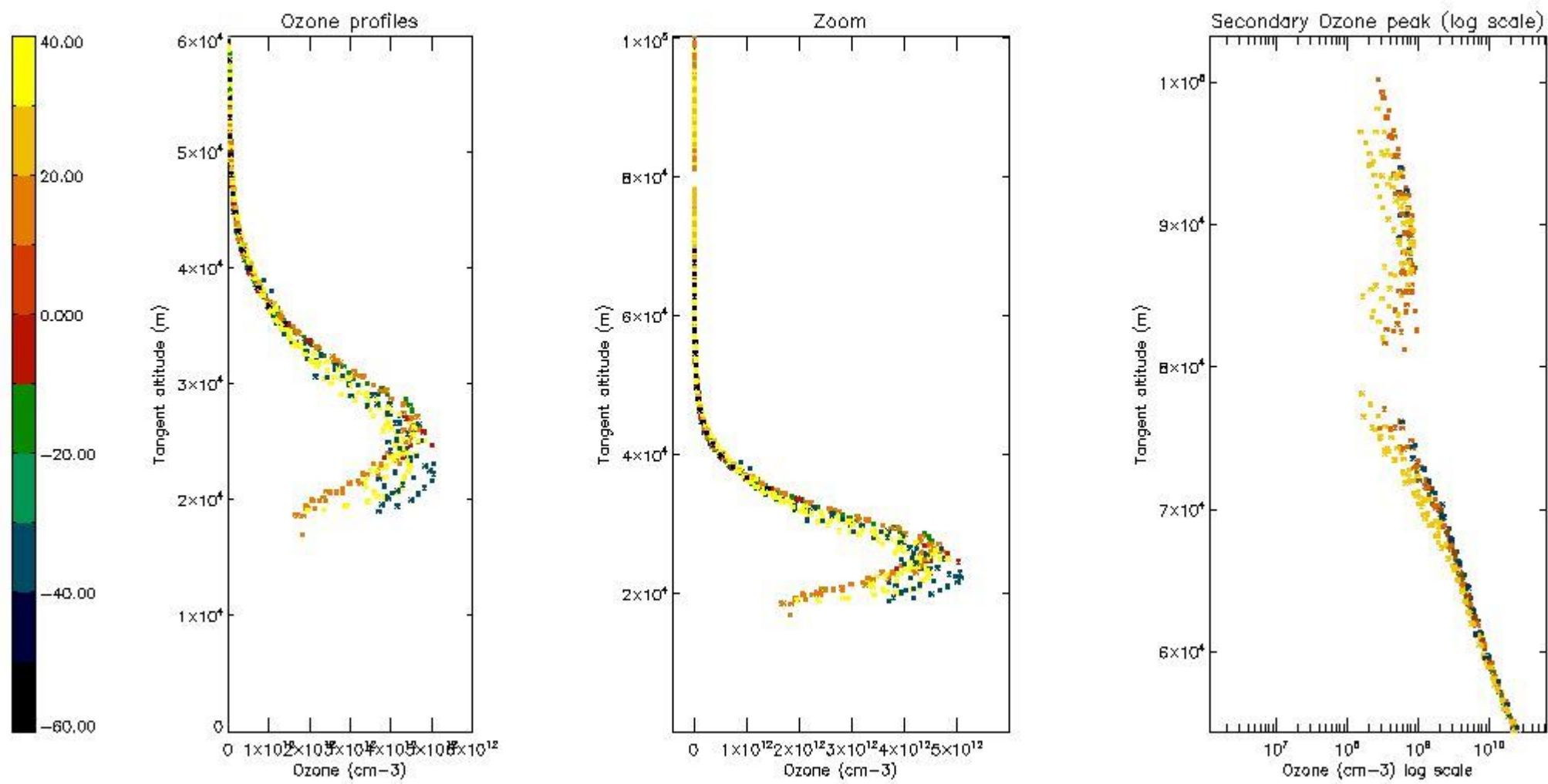
5.4 Plot ozone profiles where  $STD < 10\%$  (dark without errors)

The colorbar represents the latitude.



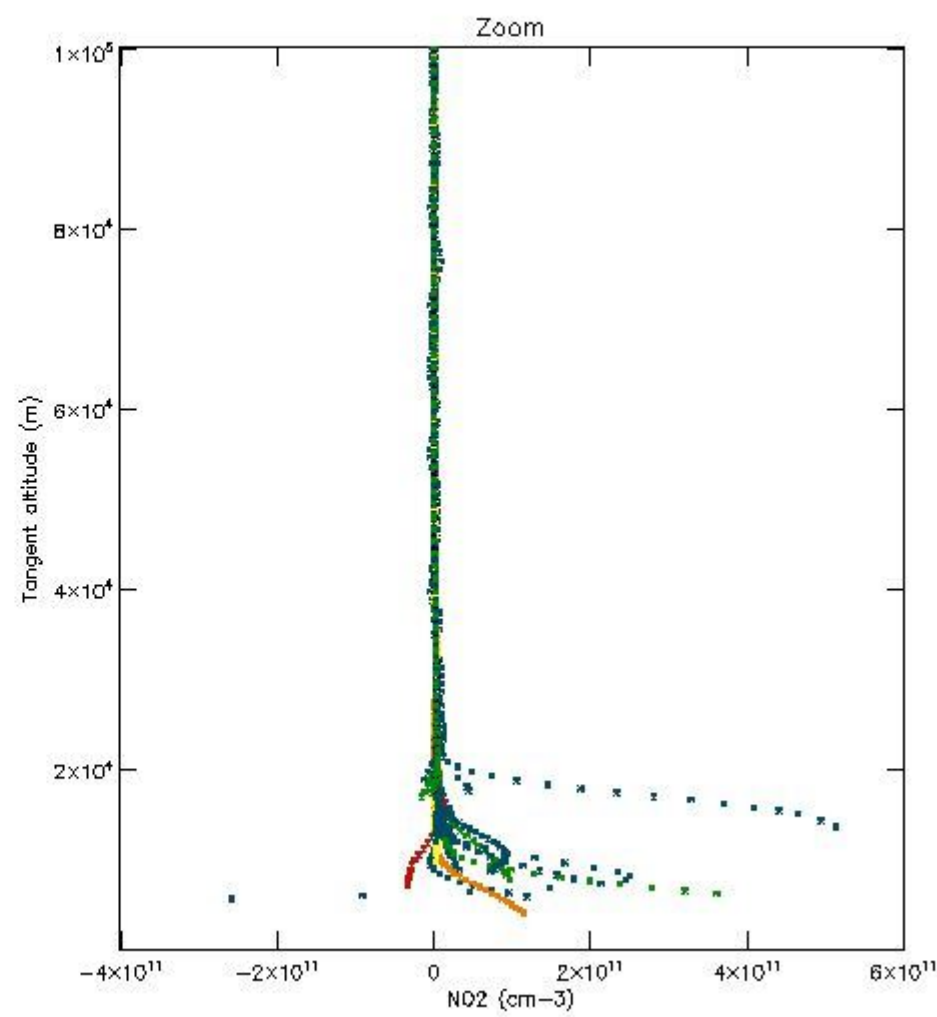
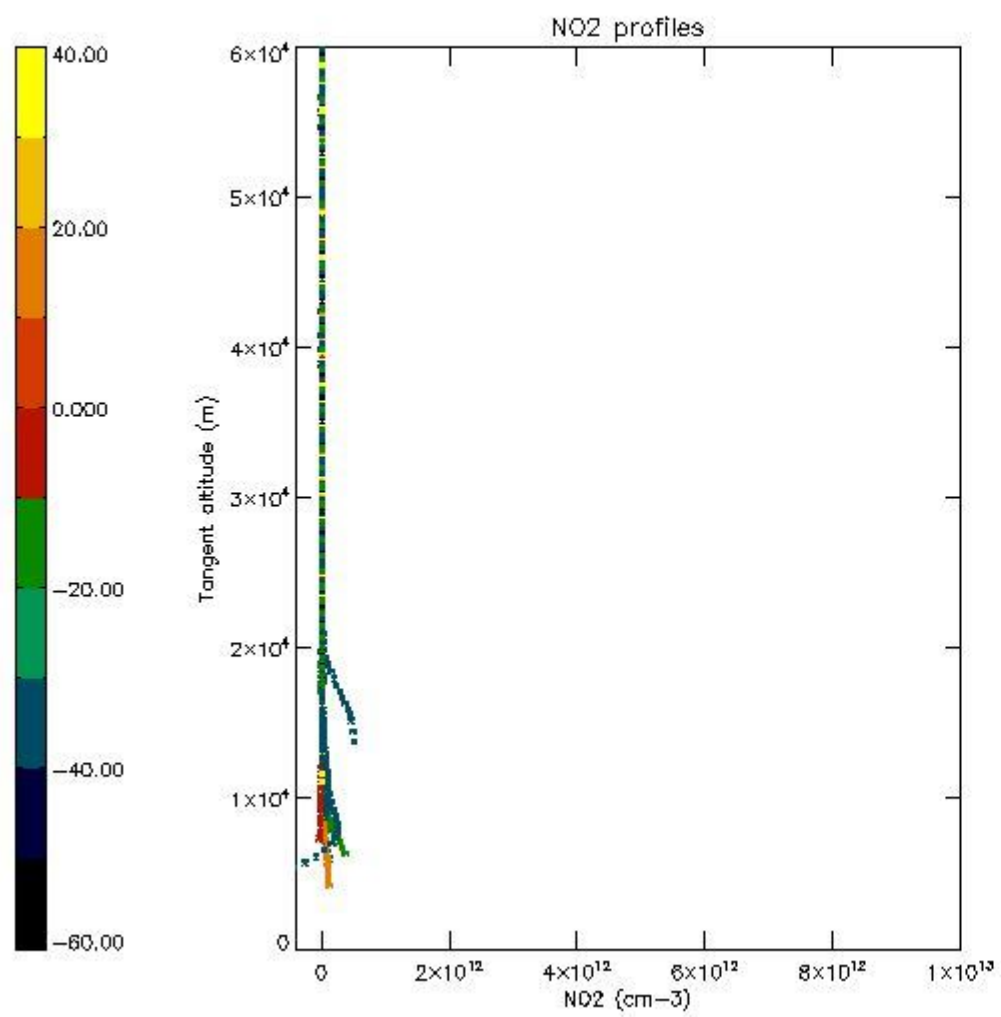
*5.5 Plot ozone profiles where STD < 5% (dark without errors)*

The colorbar represents the latitude.



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

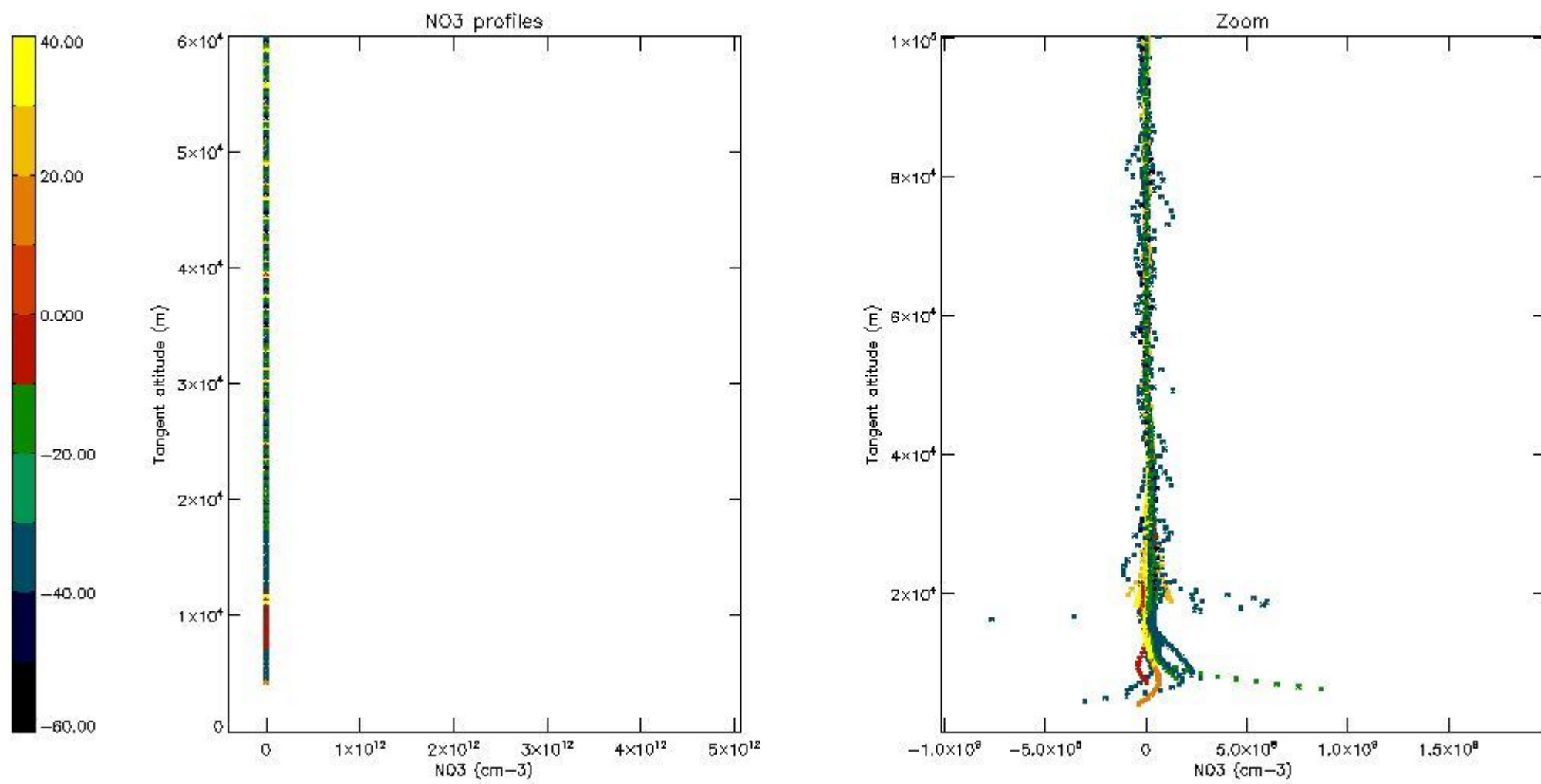
The colorbar represents the latitude.



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

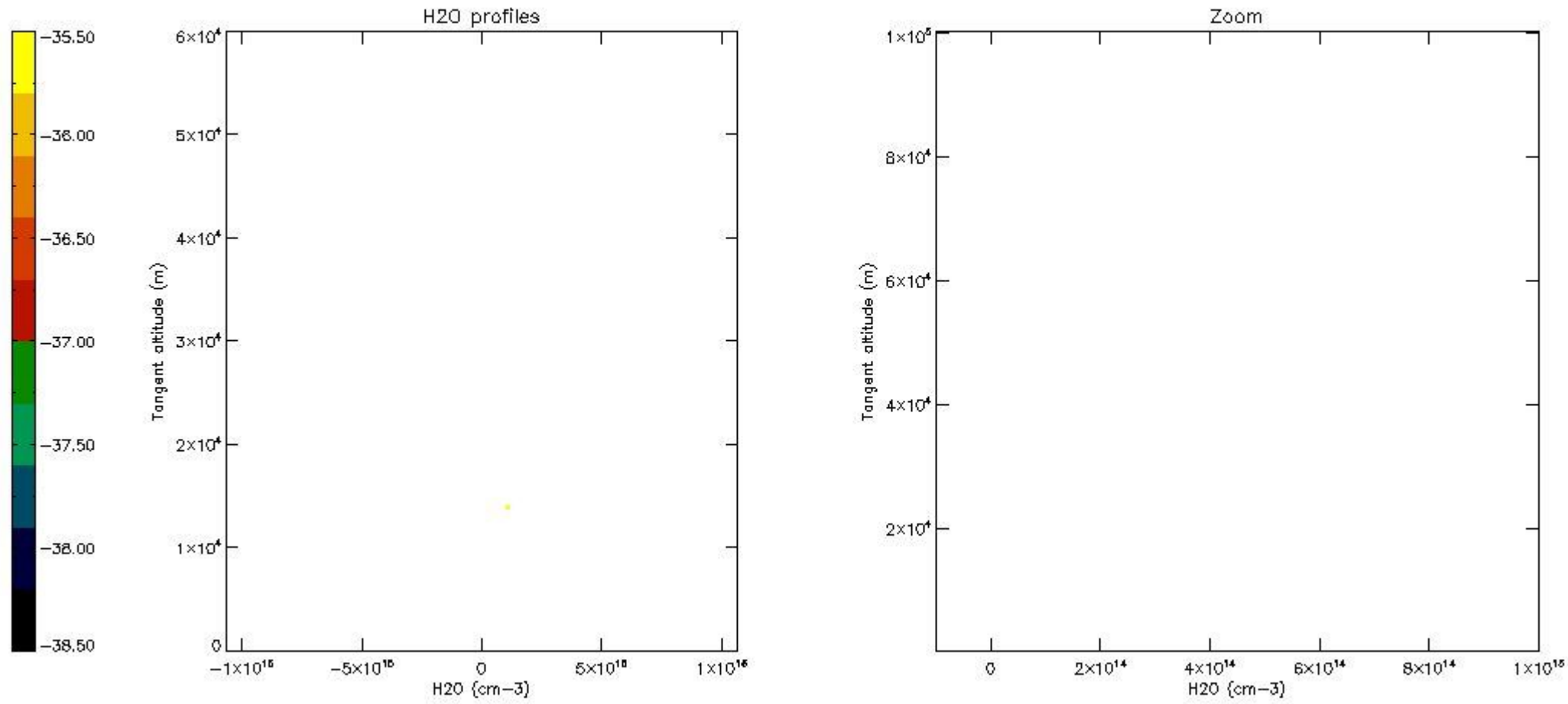
The colorbar represents the latitude.





*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)*

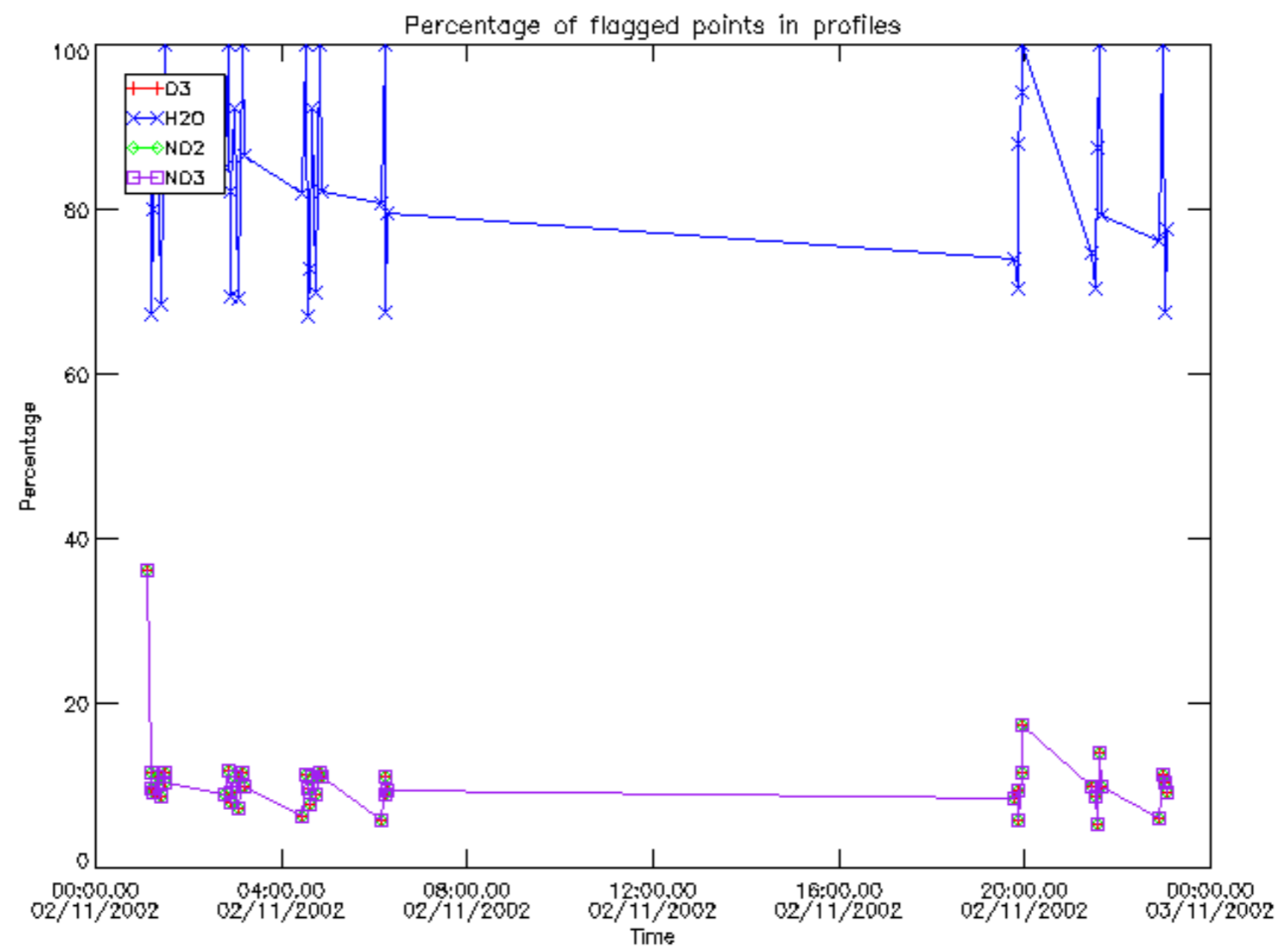
The colorbar represents the latitude.



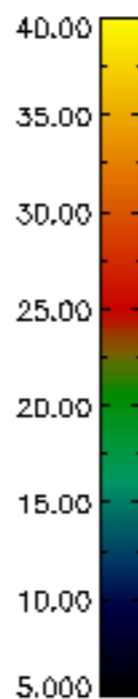
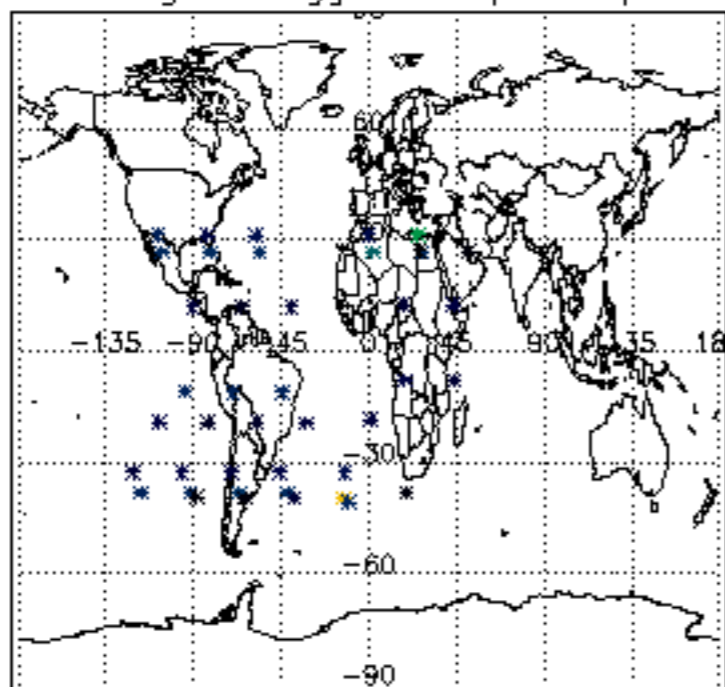
## 6. Auxiliary Data Files used for the production reported in section 2

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.

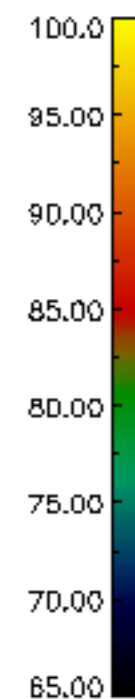
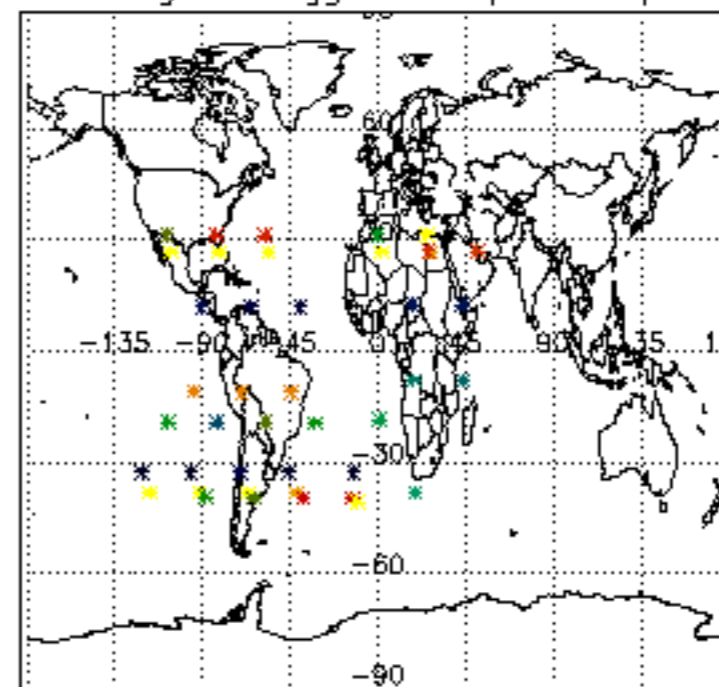
Type	Auxiliary Filename	Used since product	Used since product date
INST_PHYS_CHARACTERISTICS	GOM_INS_AXNIEC20050627_150440_20020301_000000_20100101_000000	1	02-NOV-2002 00:01:25
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	02-NOV-2002 00:01:25
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	02-NOV-2002 00:01:25



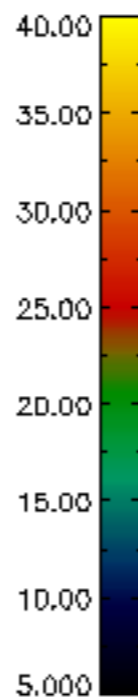
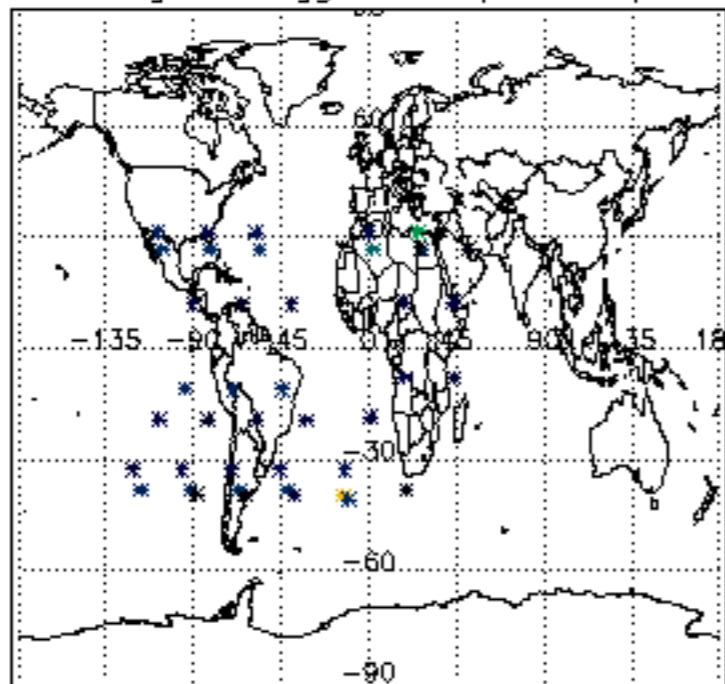
Percentage of flagged data per D3 profile



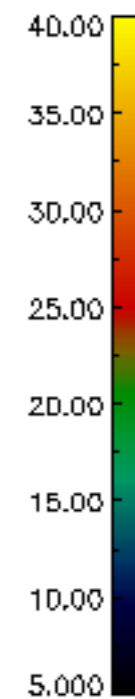
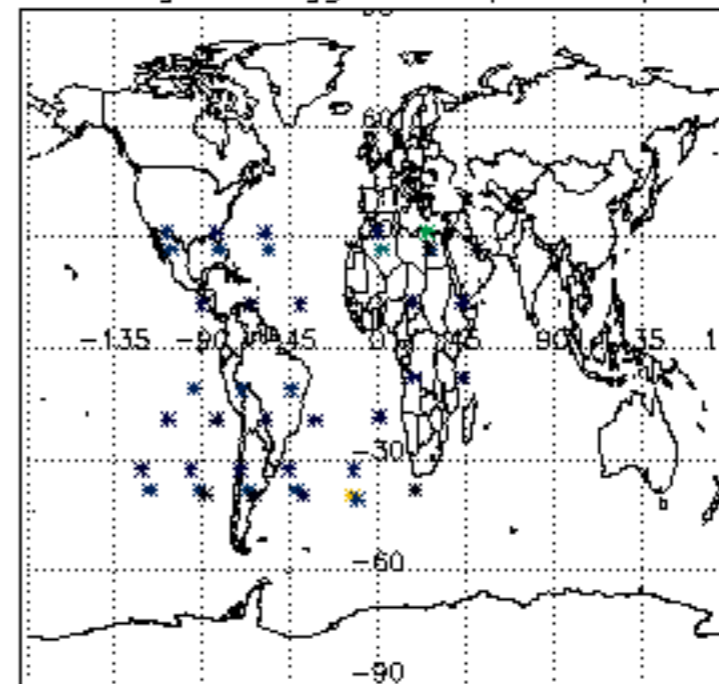
Percentage of flagged data per H2O profile

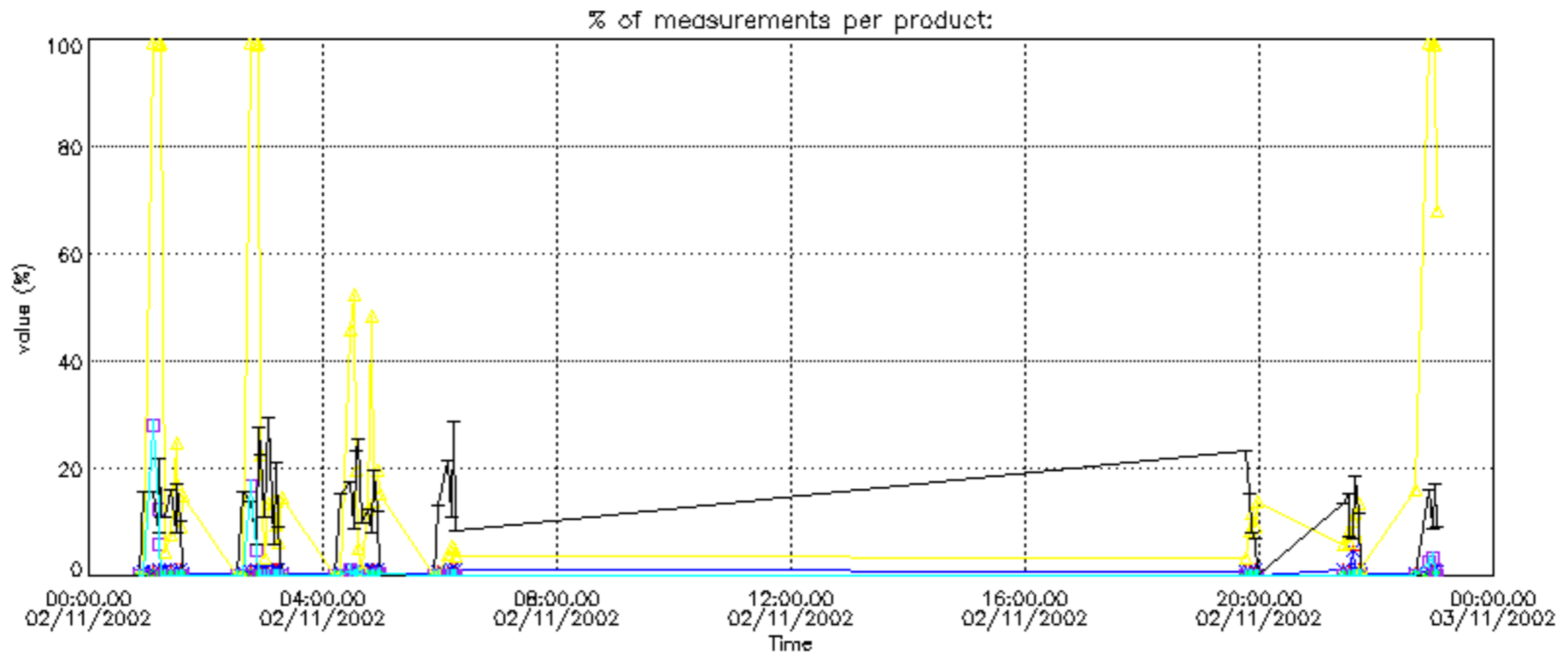


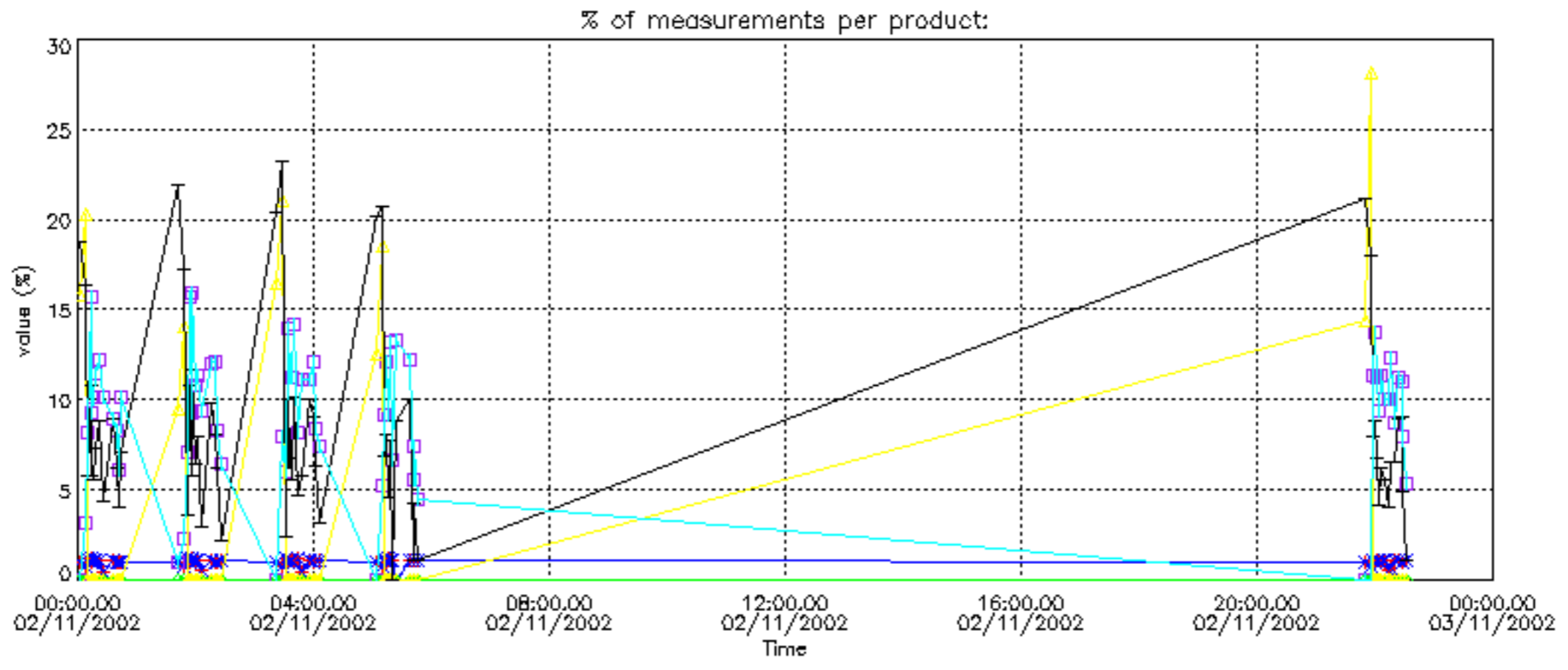
Percentage of flagged data per NO2 profile



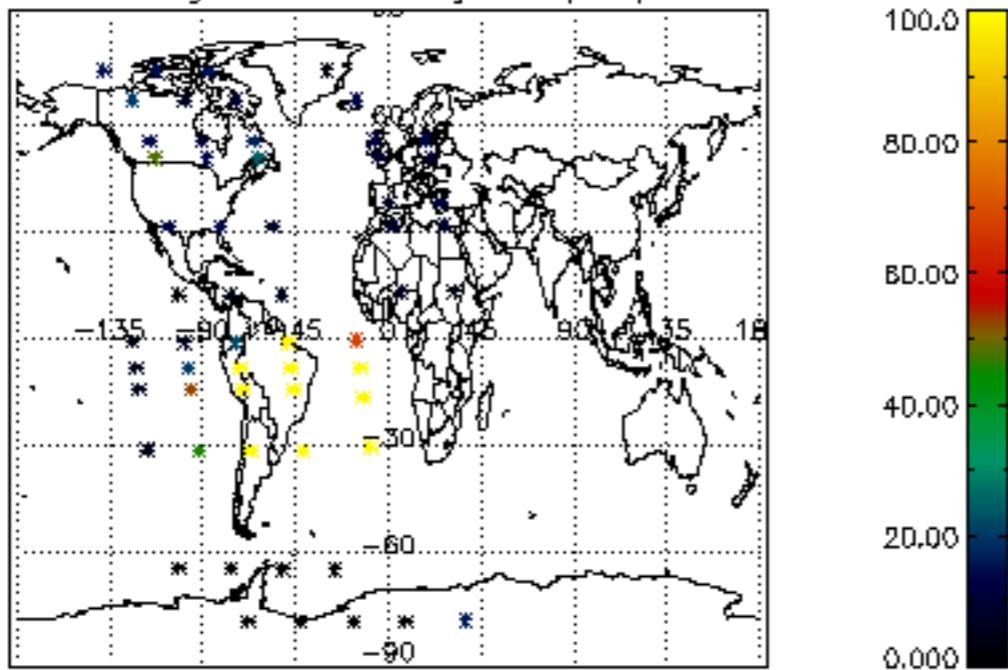
Percentage of flagged data per NO3 profile



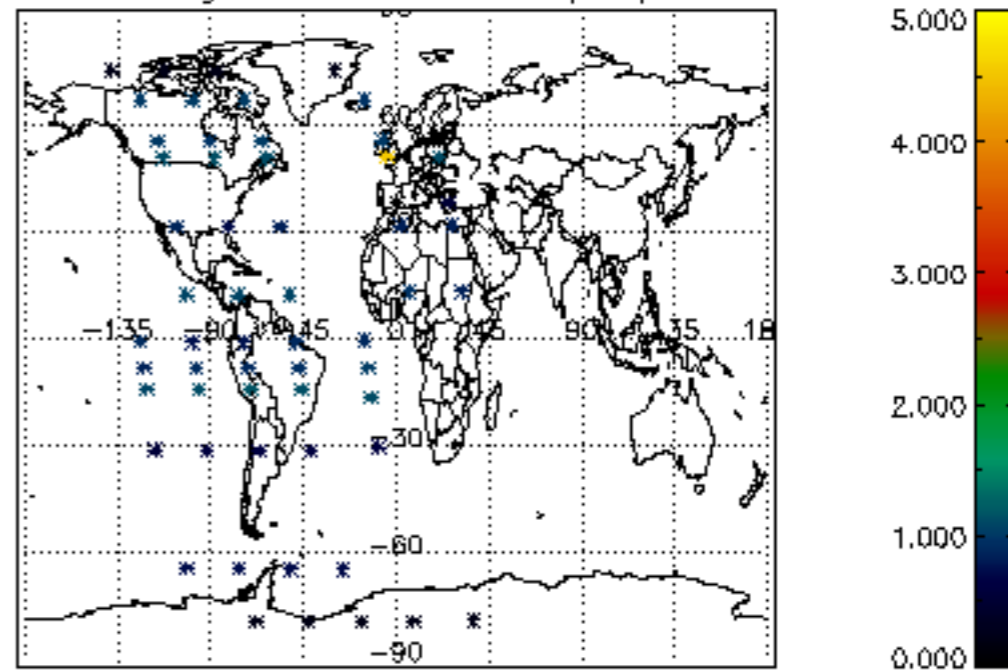




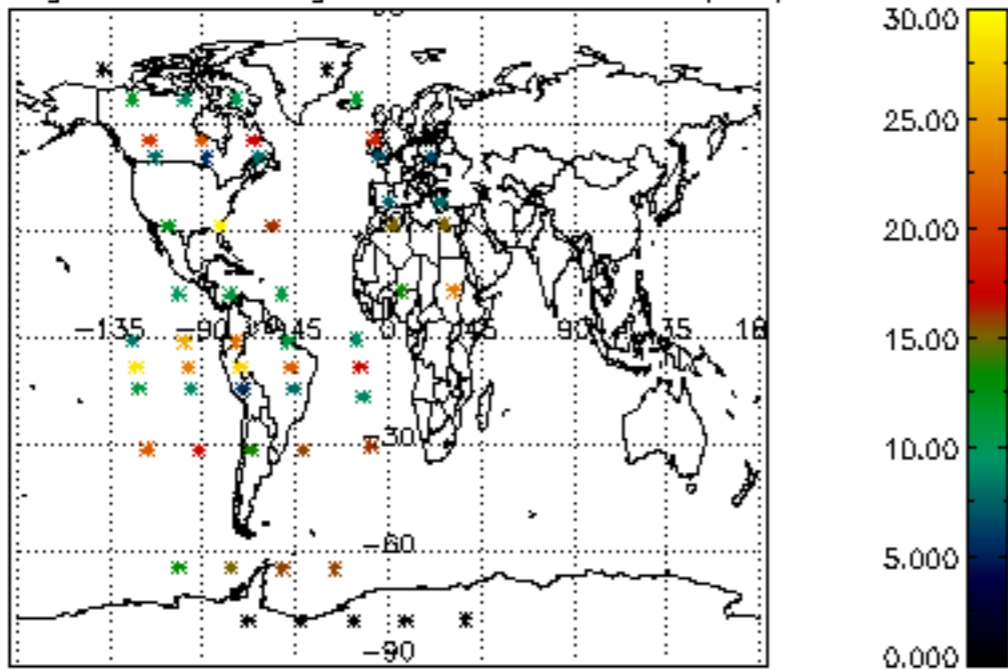
Percentage of cosmic ray hits per profile



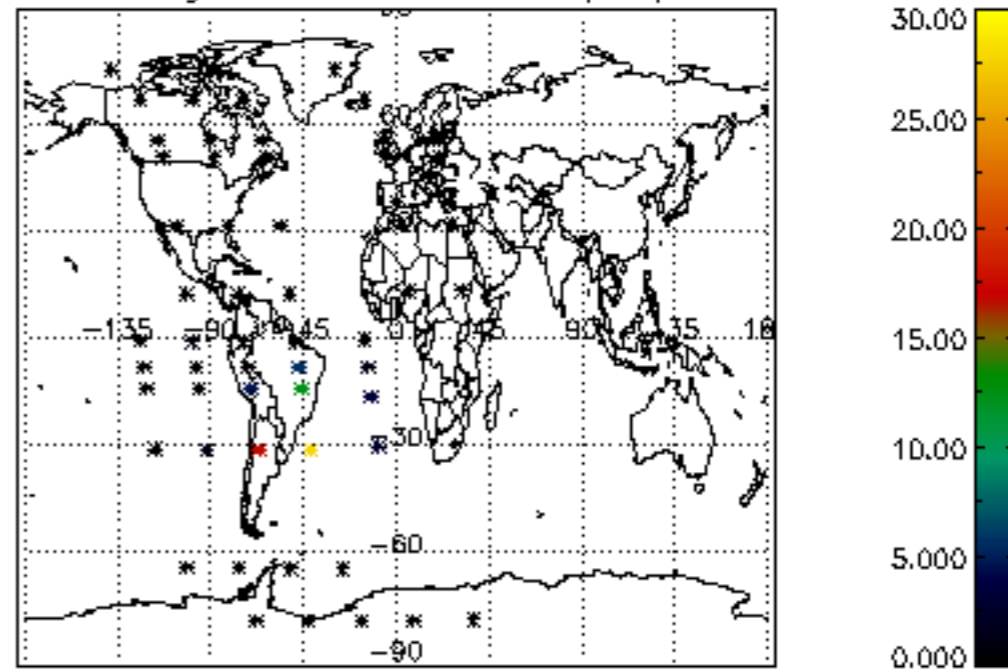
Percentage of datation errors per profile



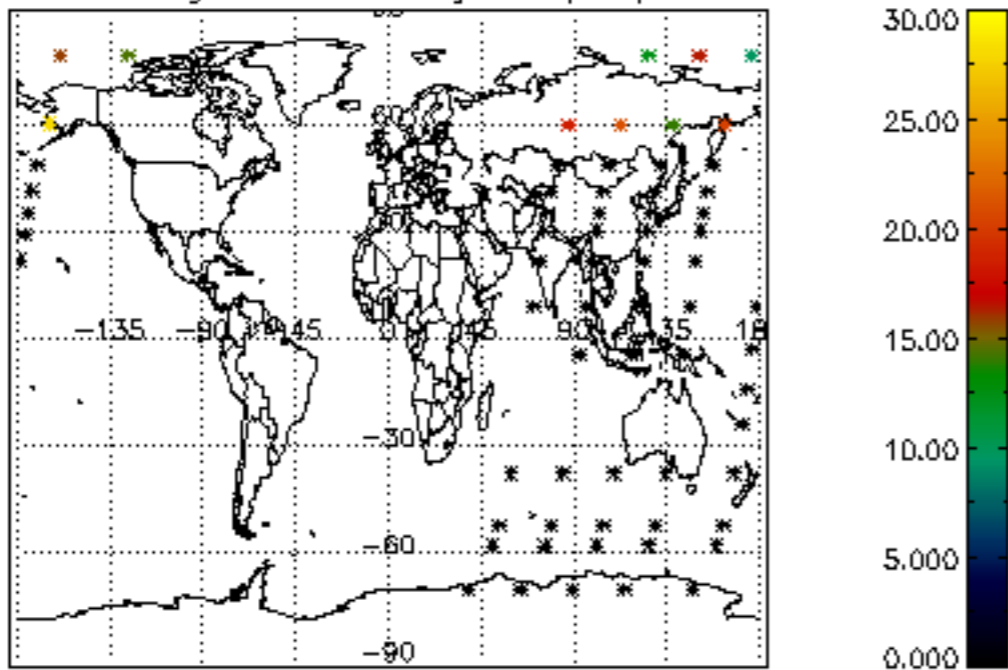
Percentage of star falling outside central band per profile



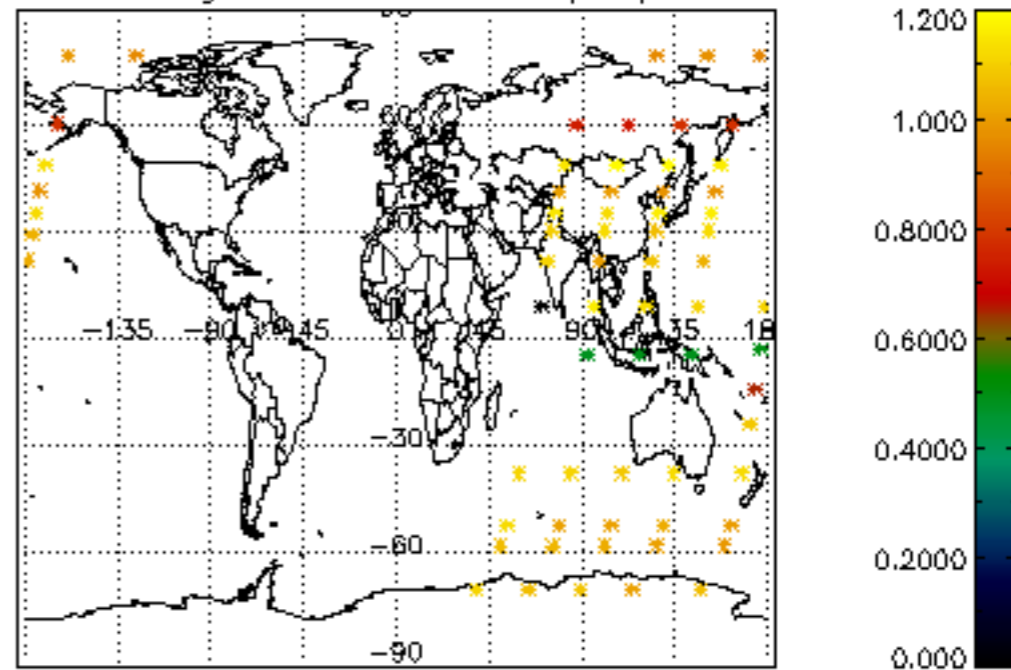
Percentage of saturation errors per profile



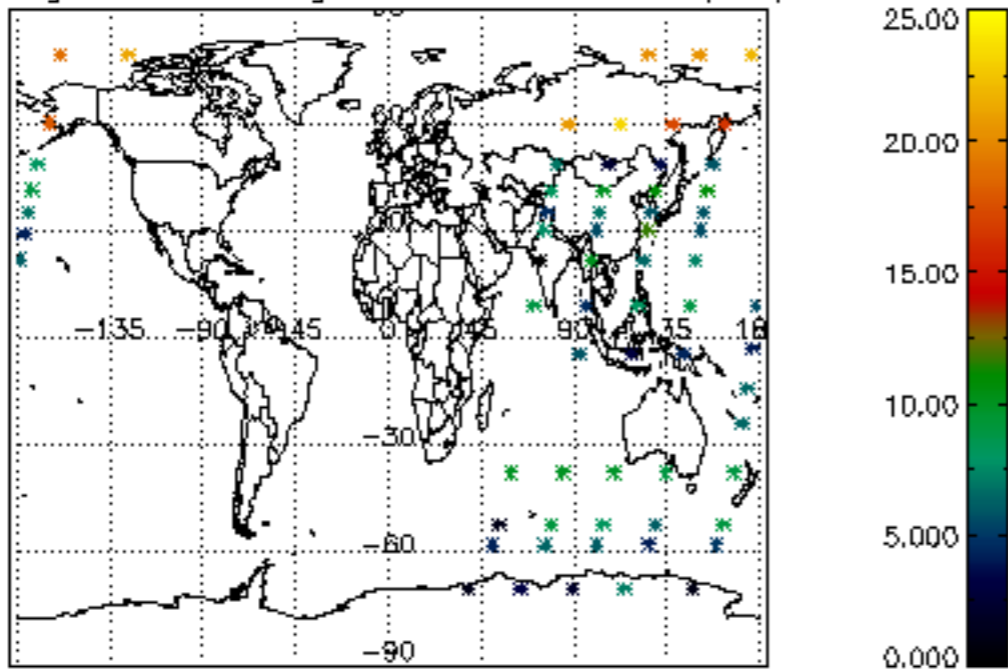
Percentage of cosmic ray hits per profile



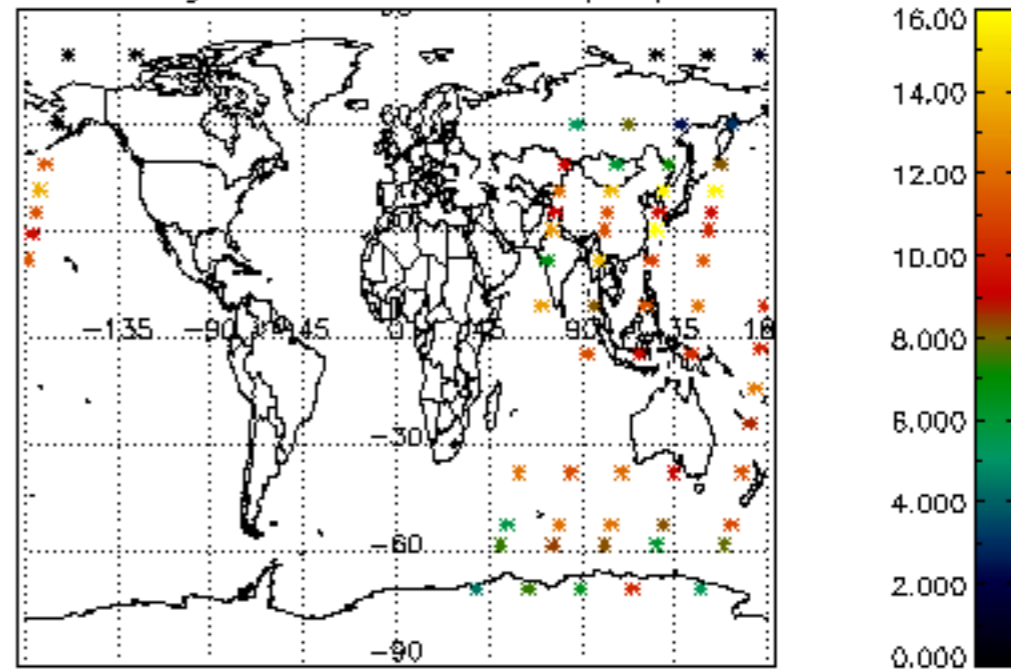
Percentage of datation errors per profile



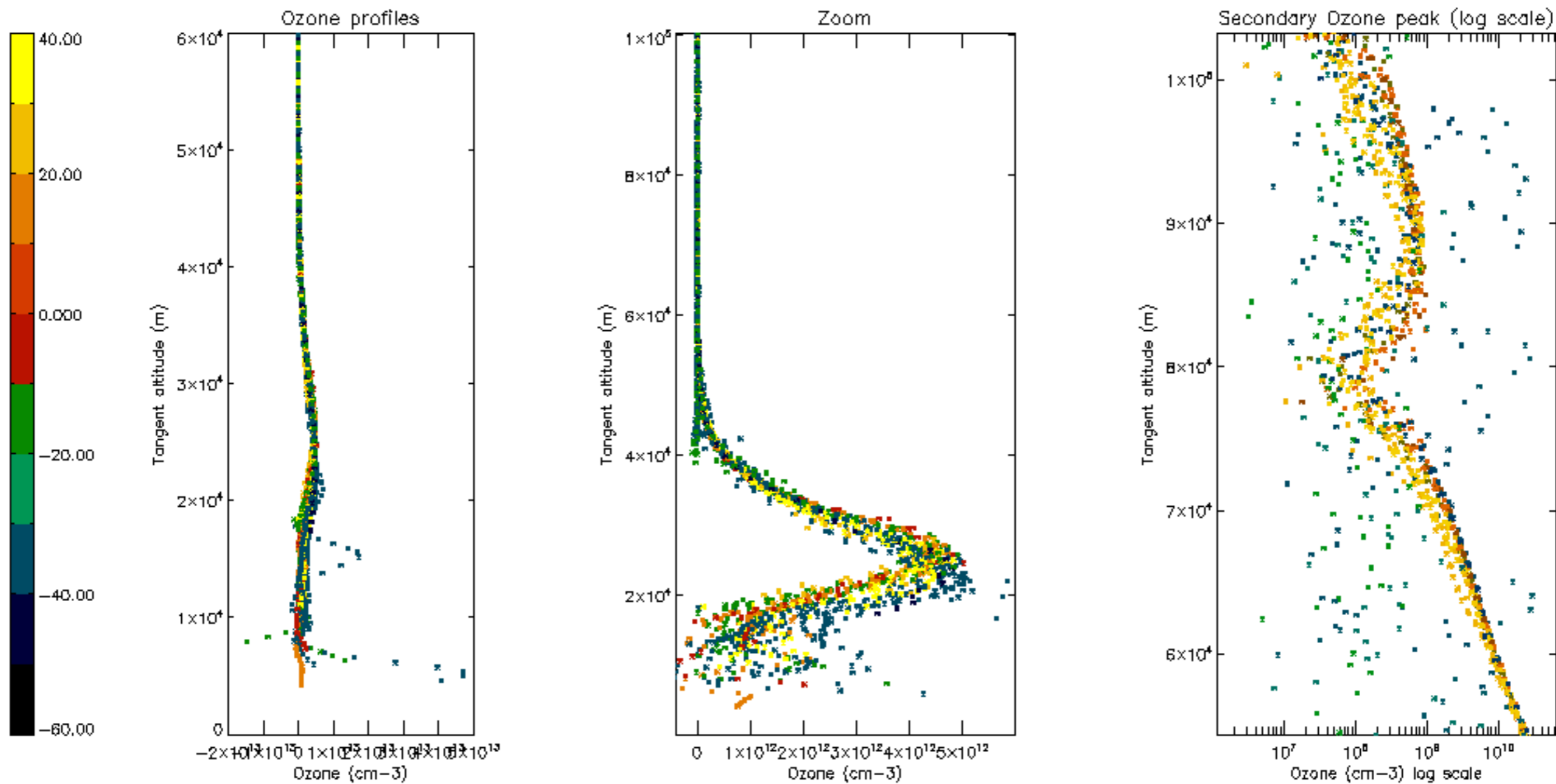
Percentage of star falling outside central band per profile

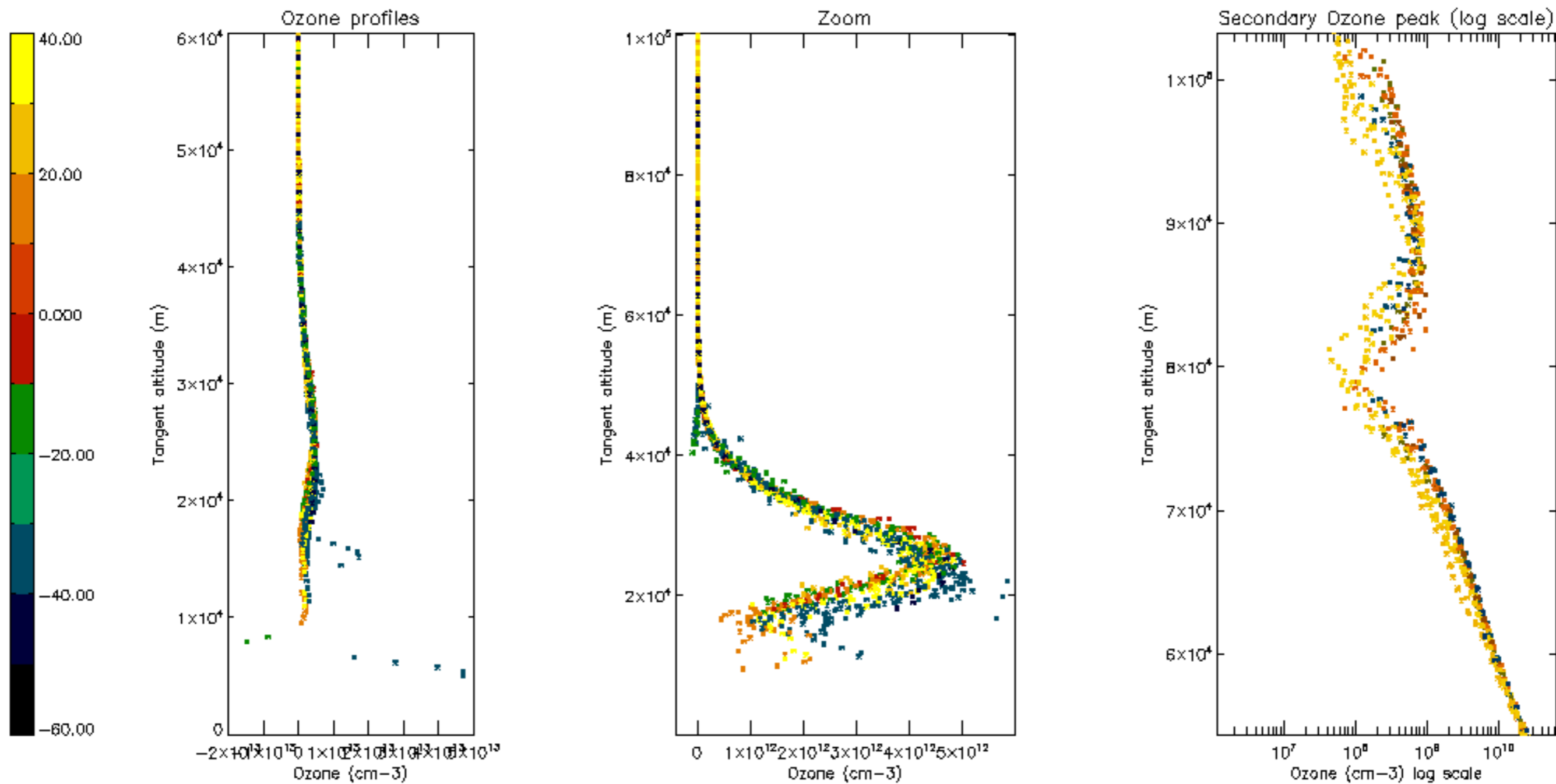


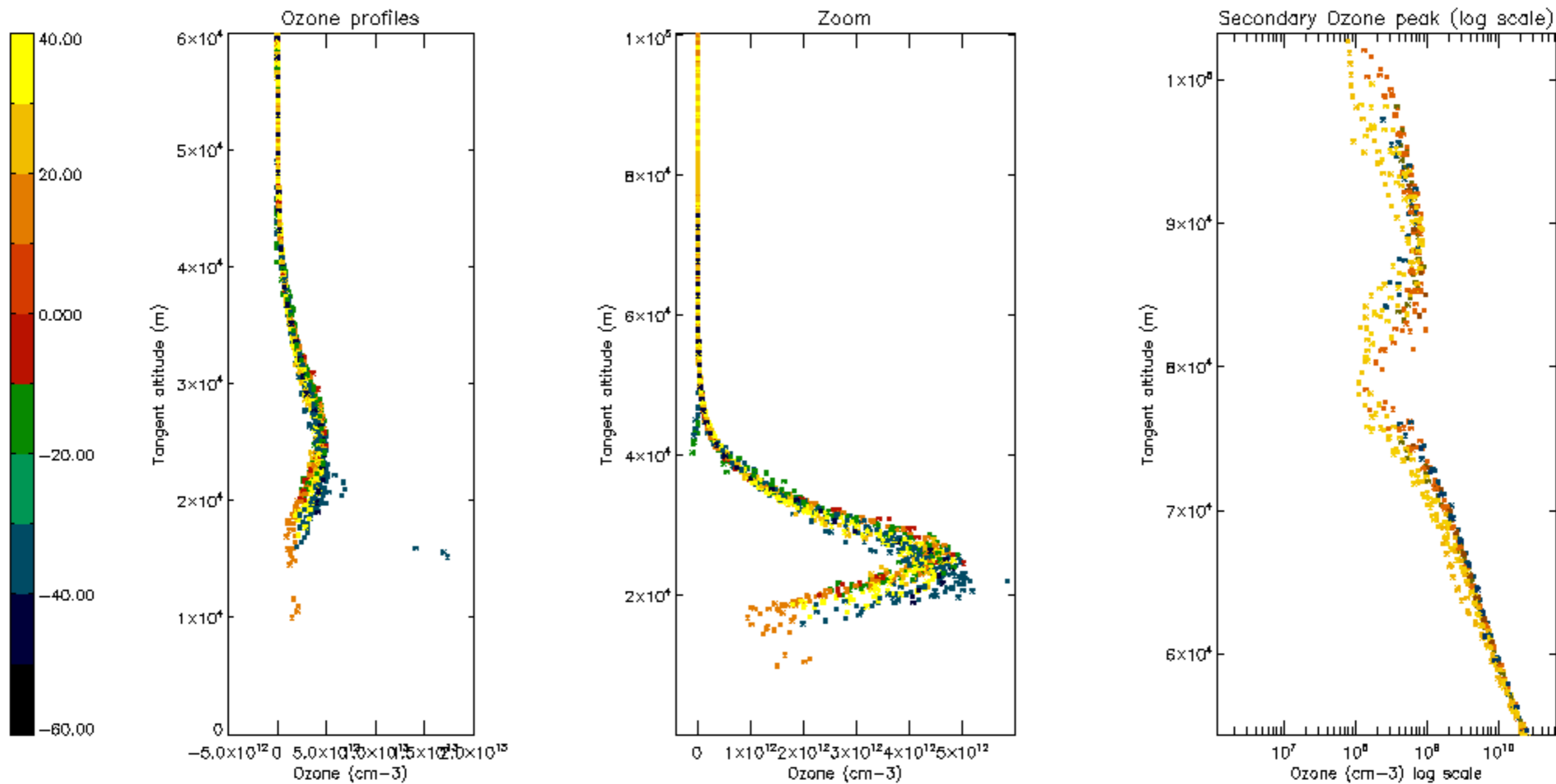
Percentage of saturation errors per profile

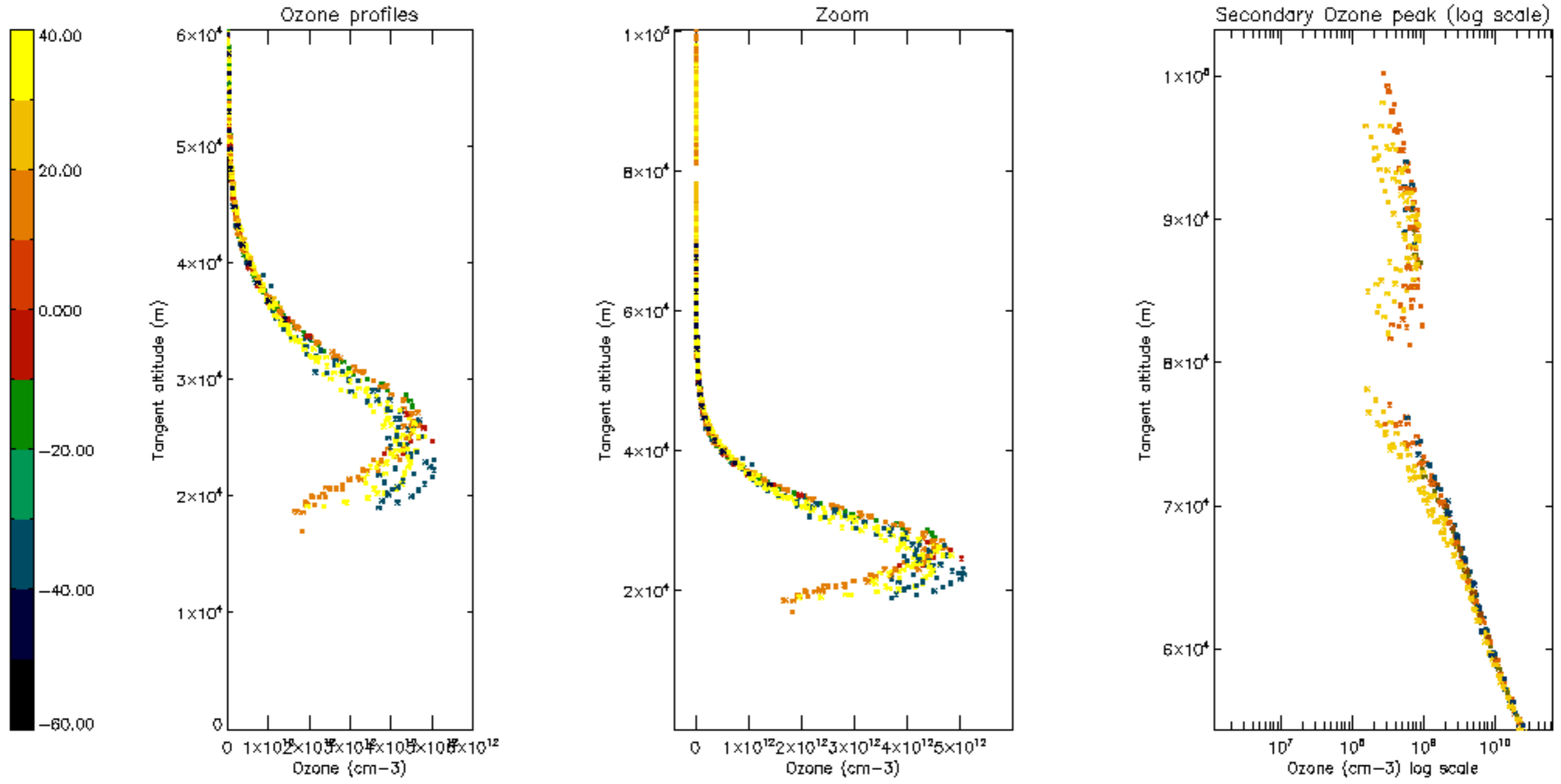


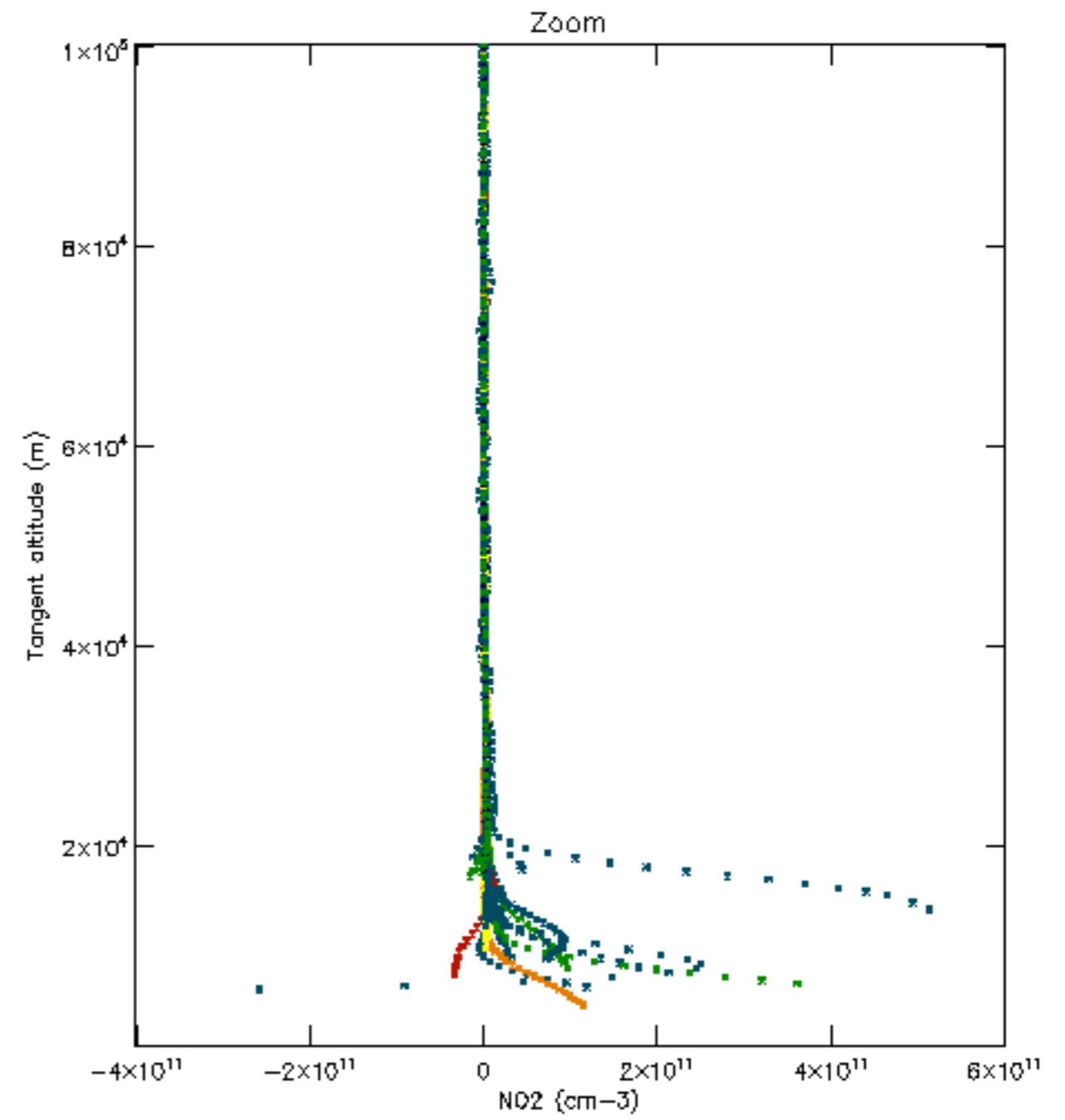
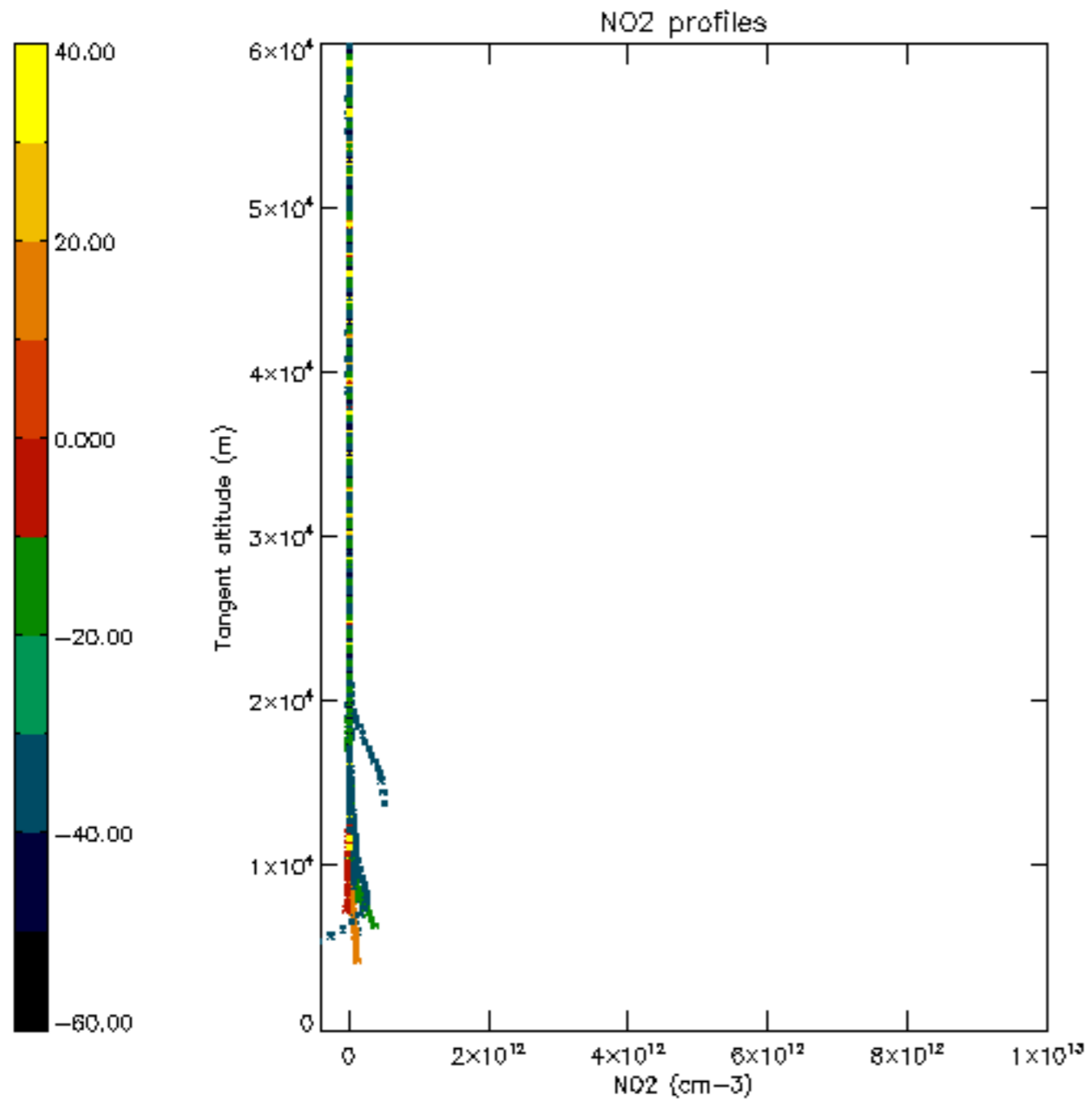


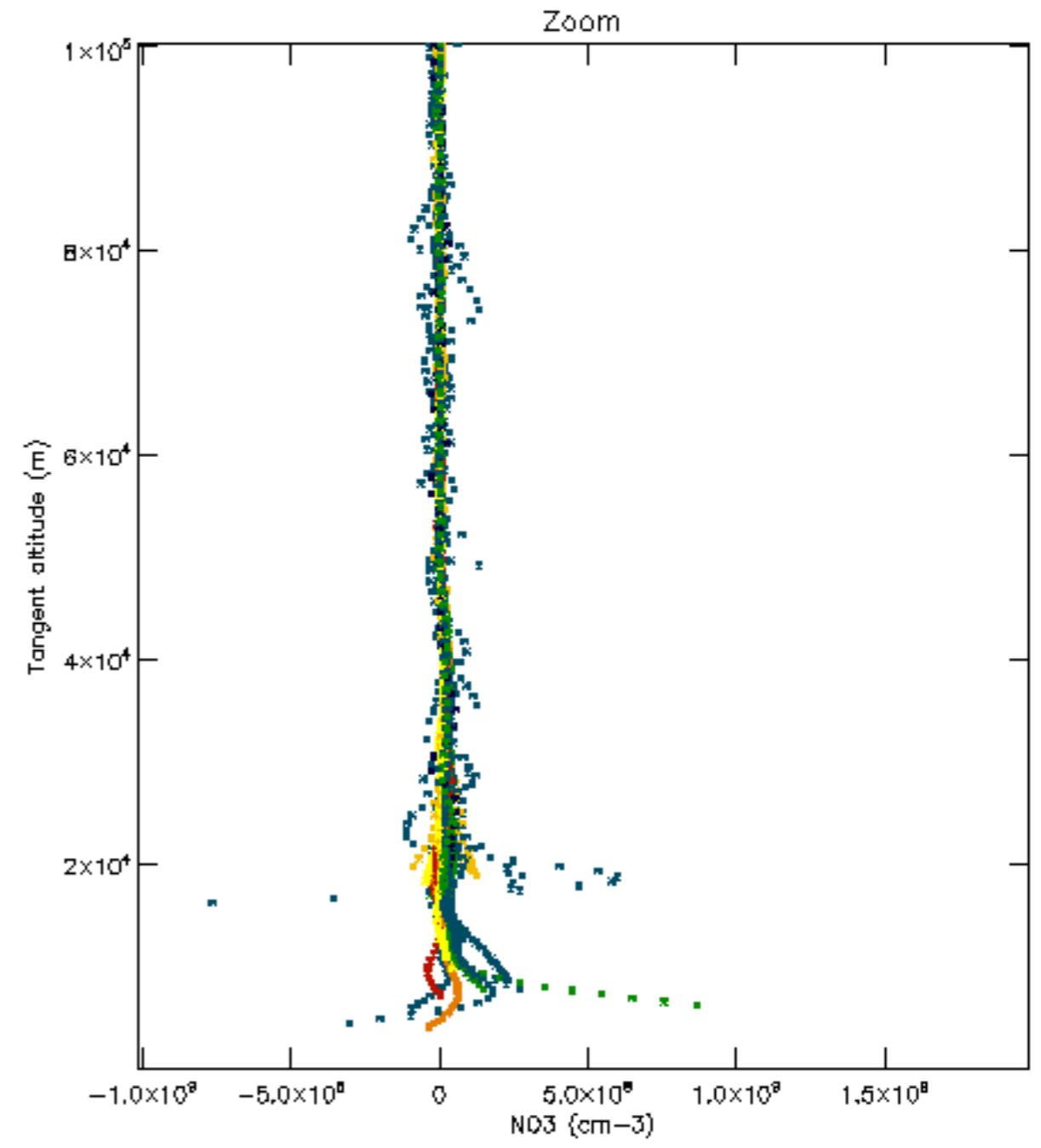
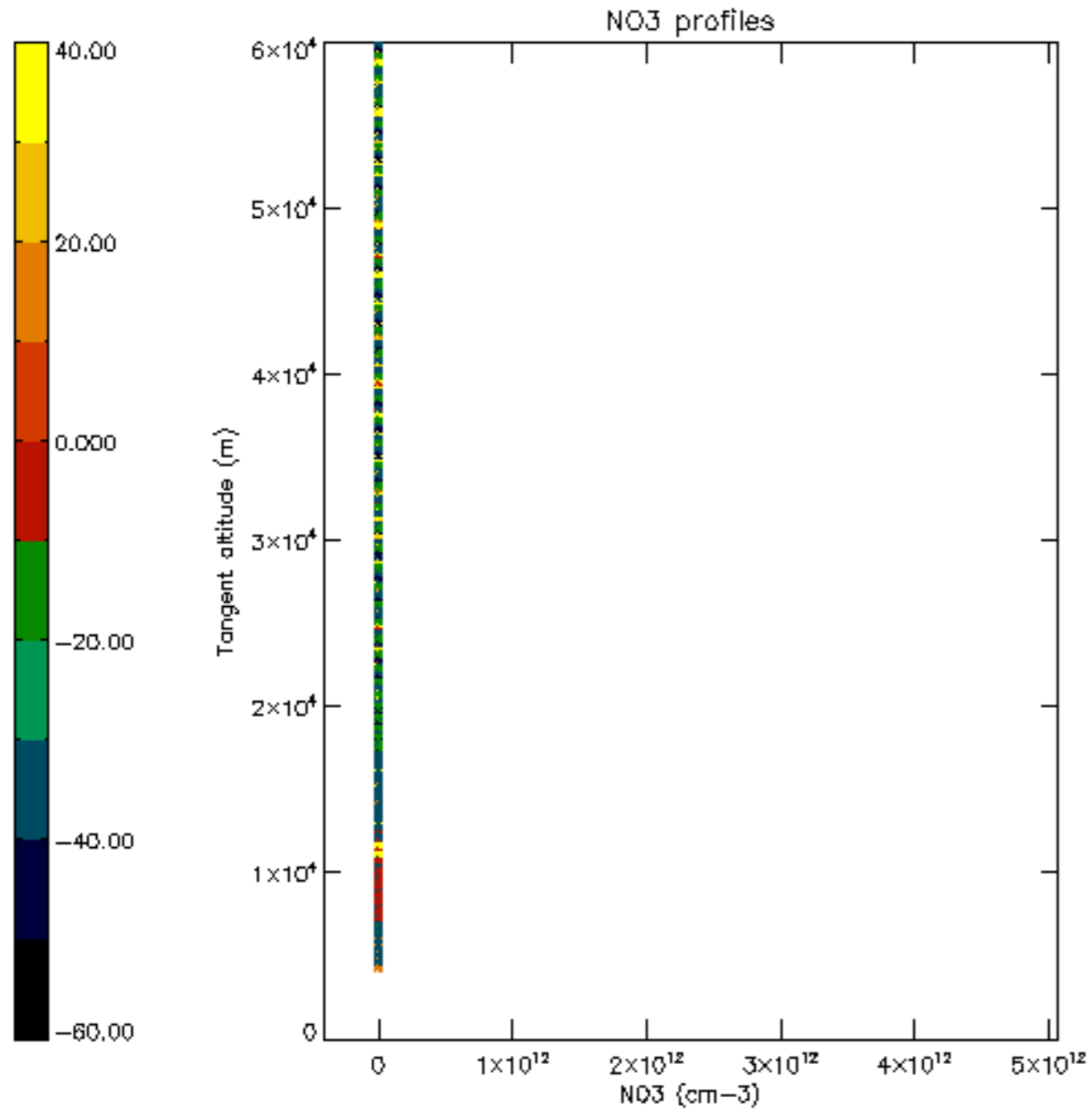


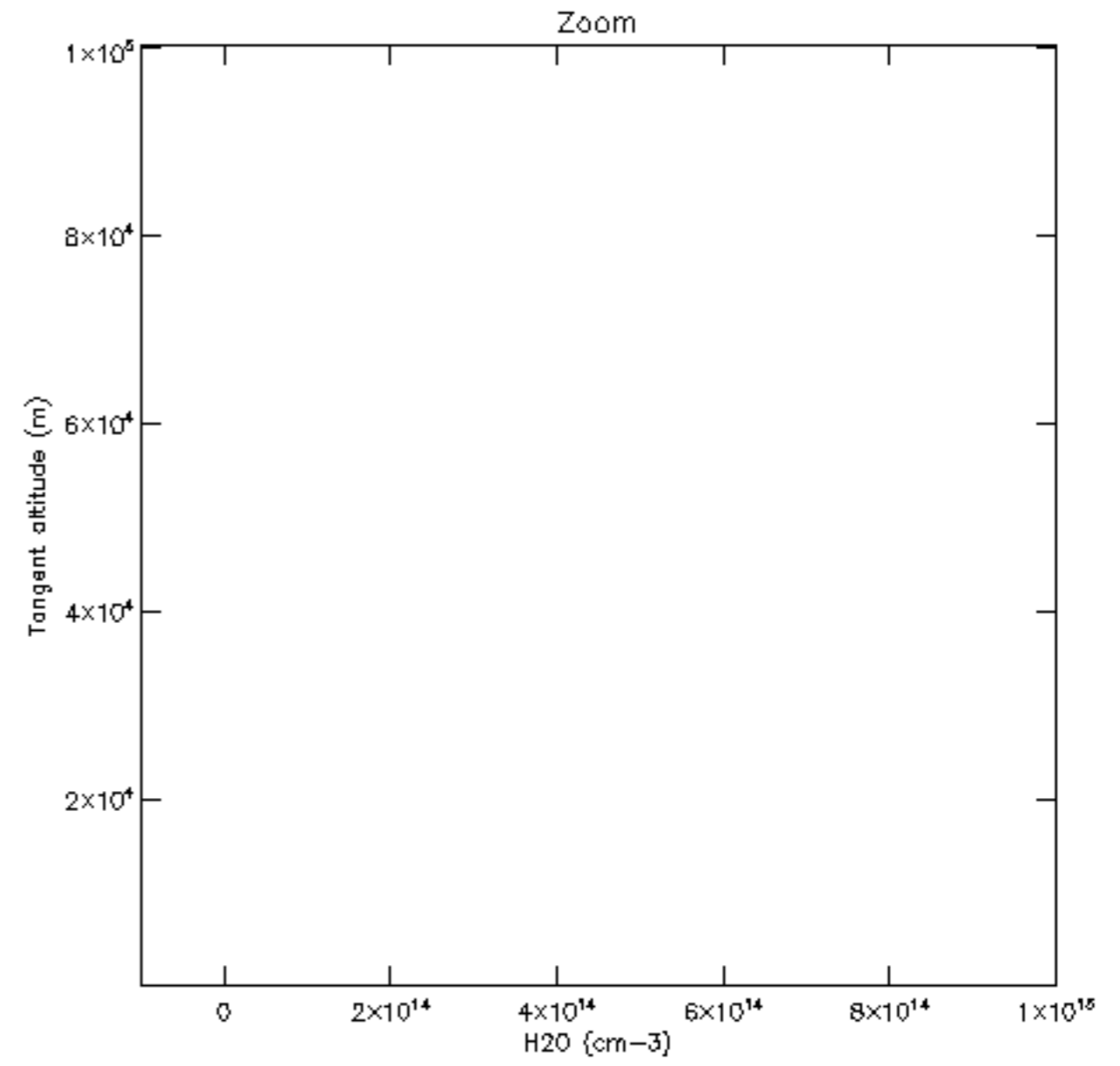
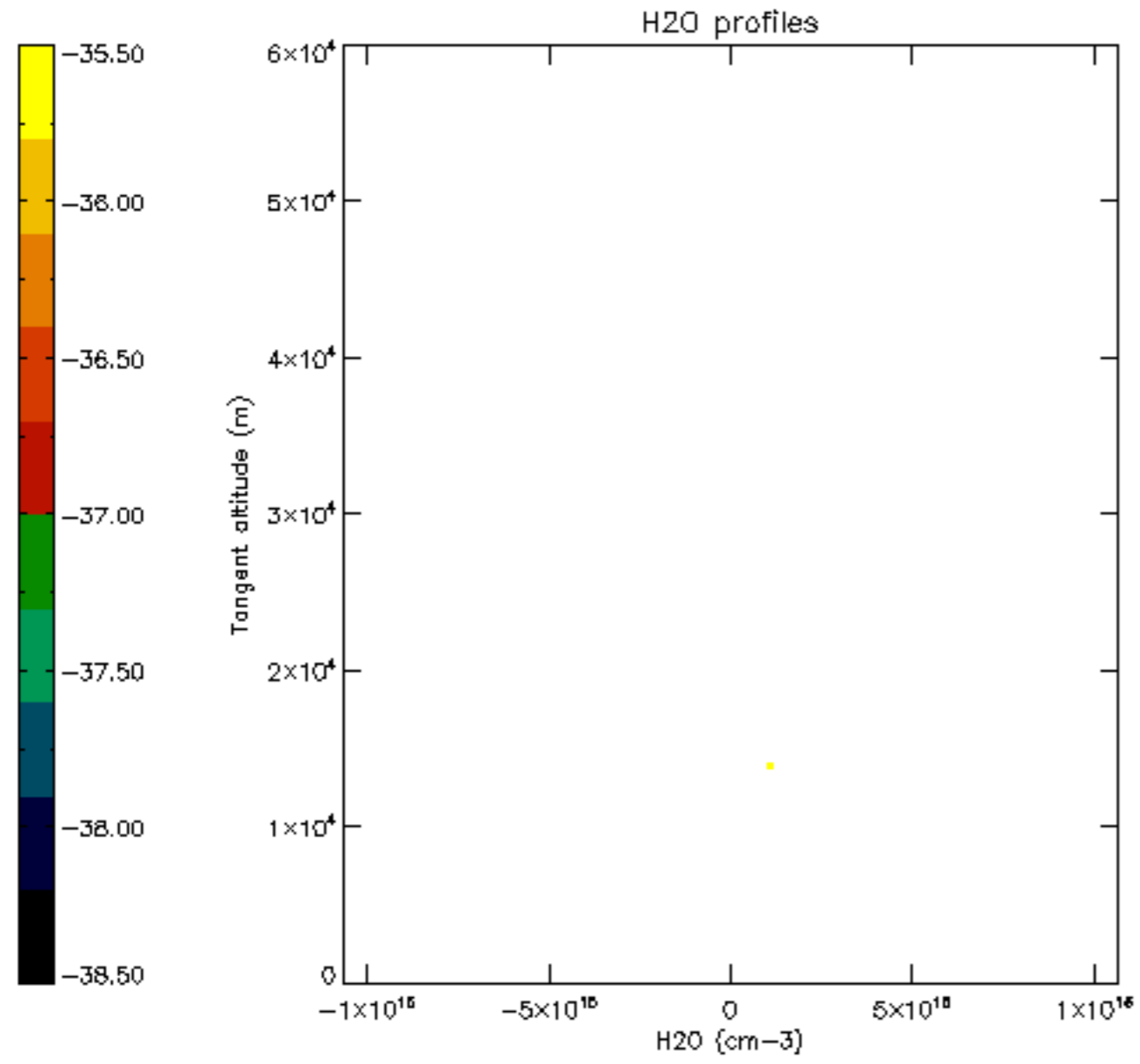


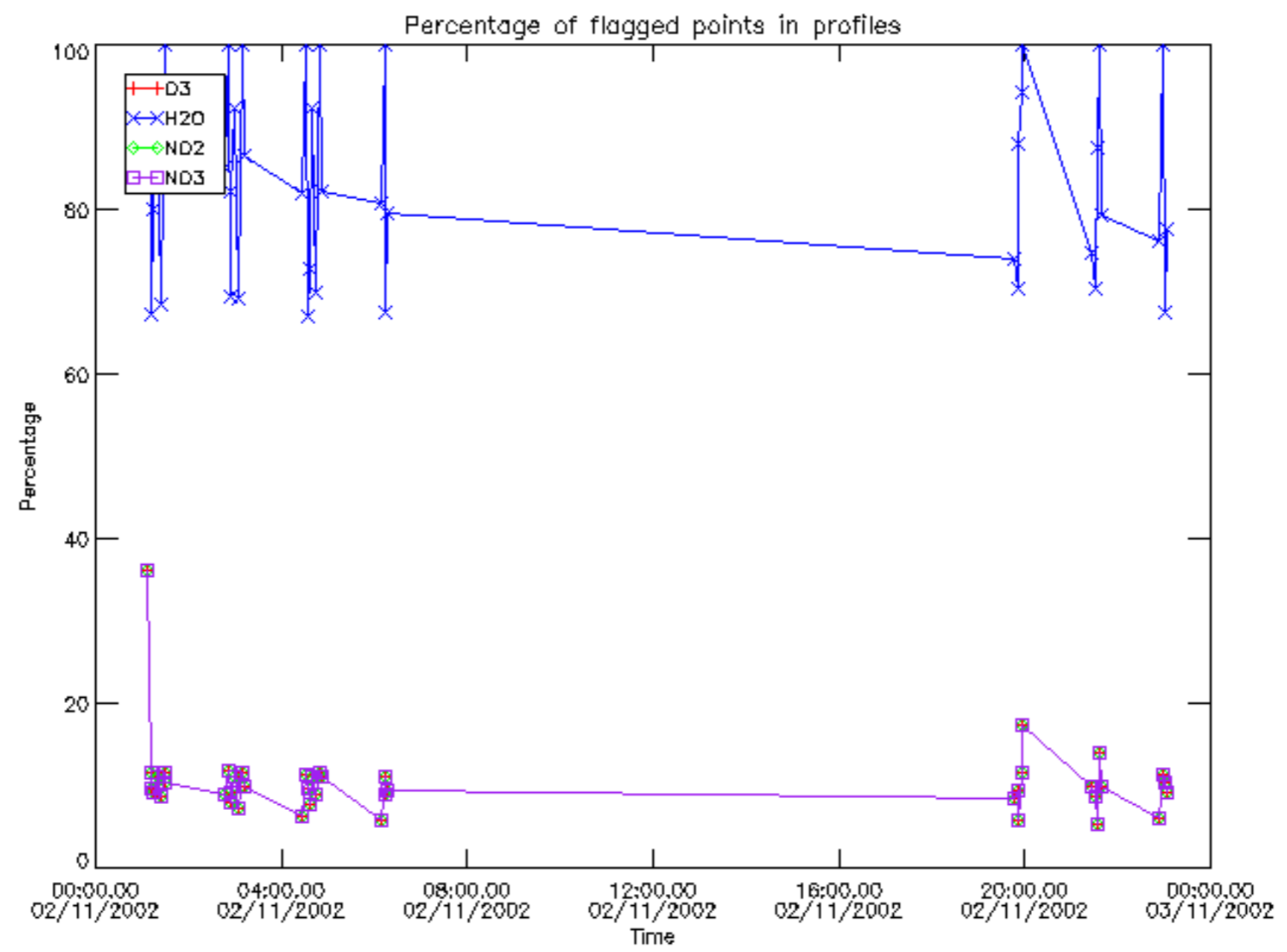






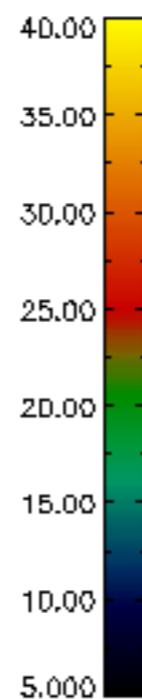
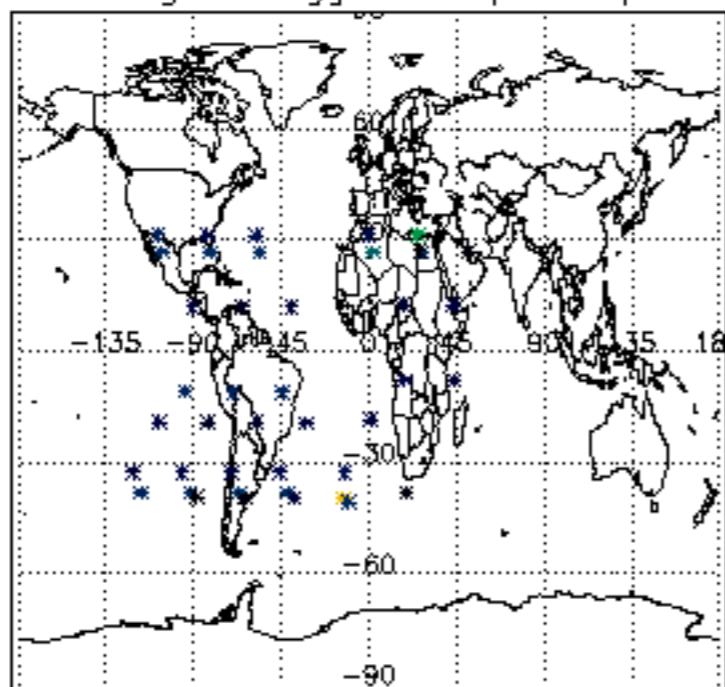




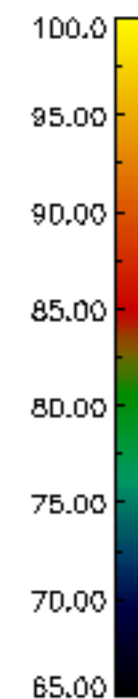
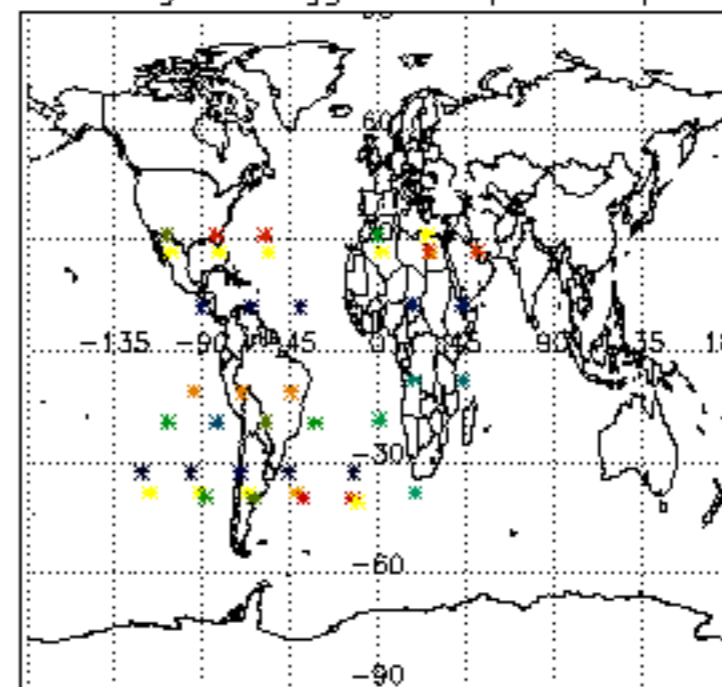




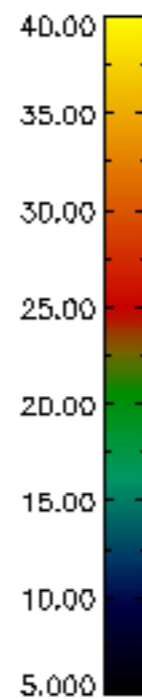
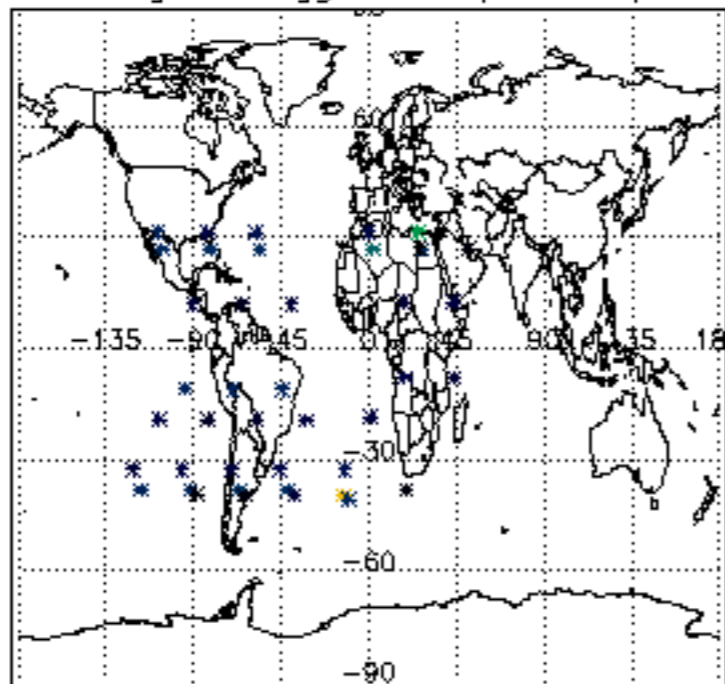
Percentage of flagged data per D3 profile



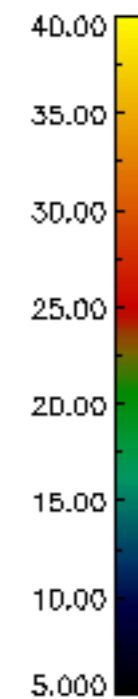
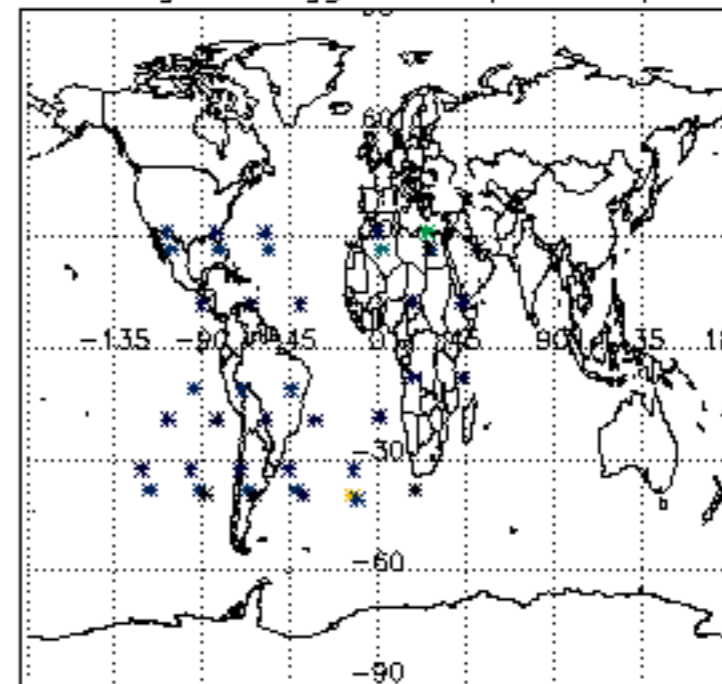
Percentage of flagged data per H2O profile

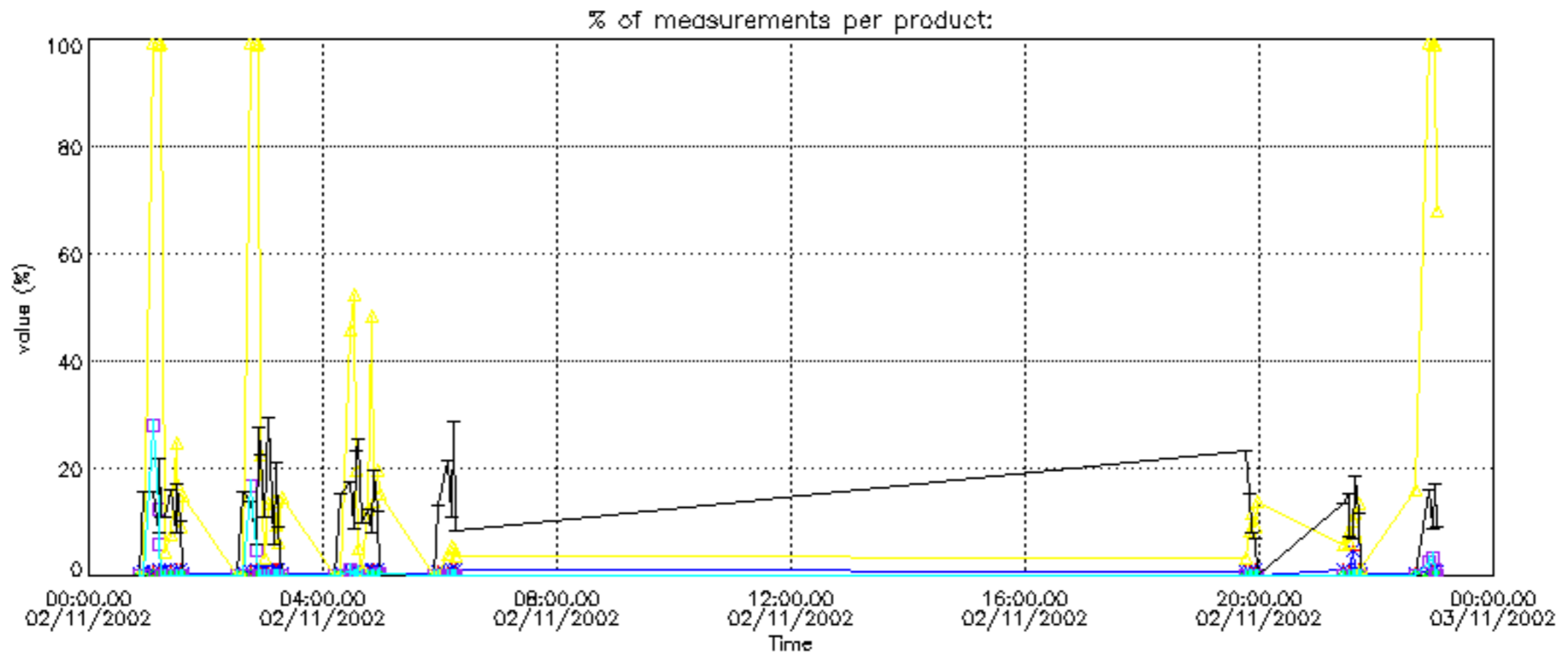


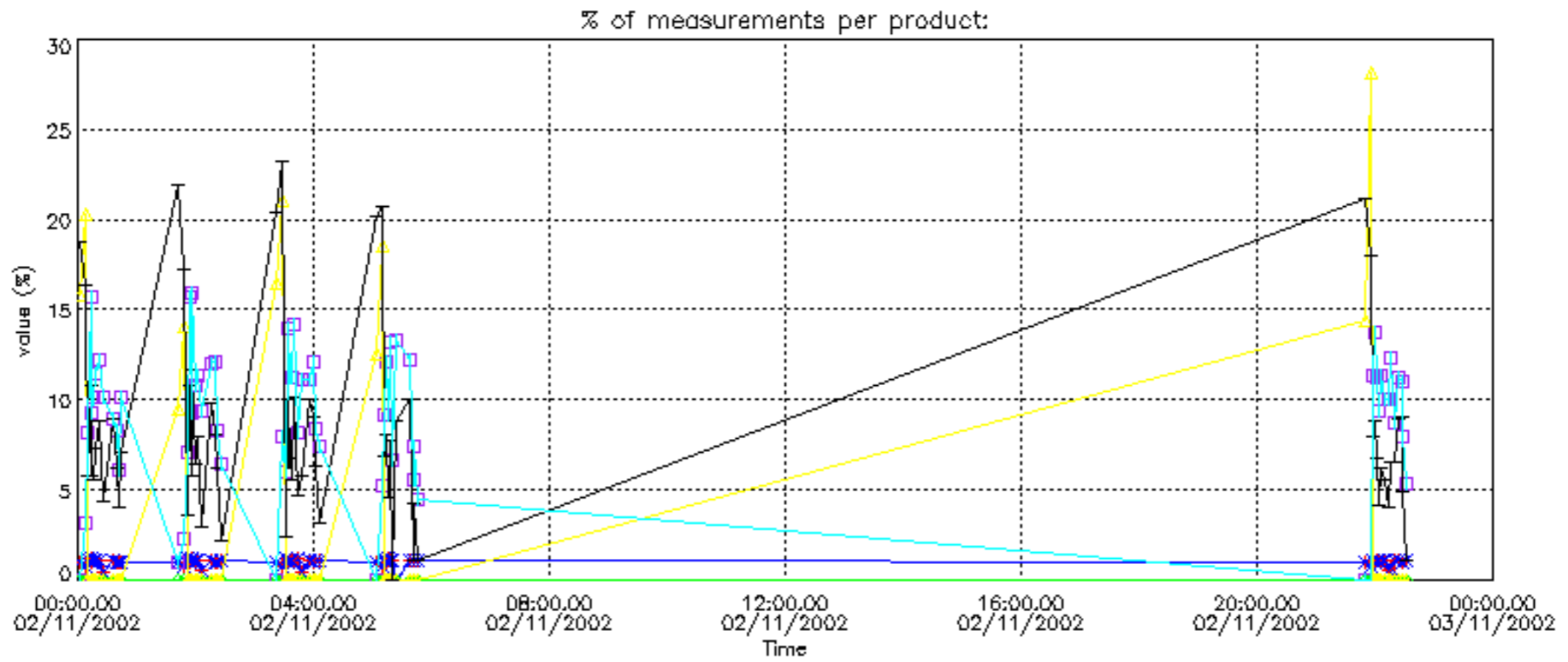
Percentage of flagged data per NO2 profile



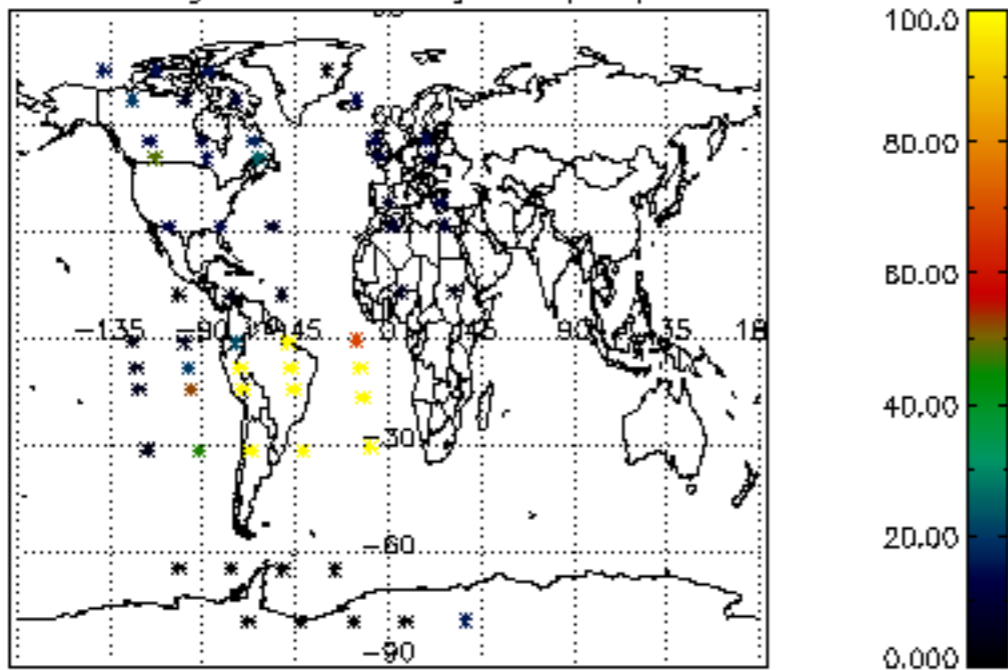
Percentage of flagged data per NO3 profile



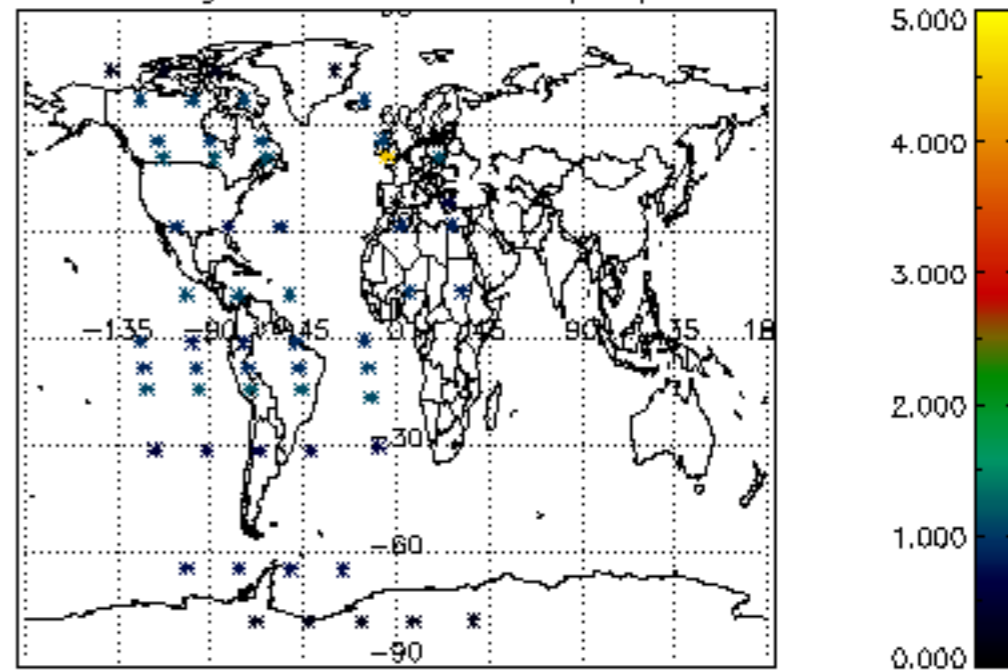




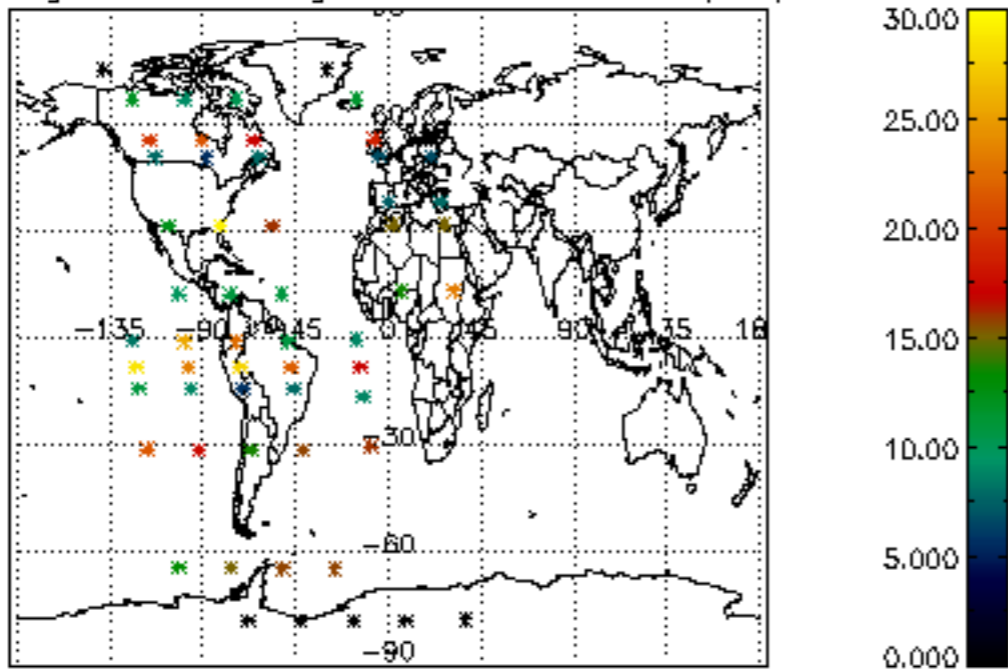
Percentage of cosmic ray hits per profile



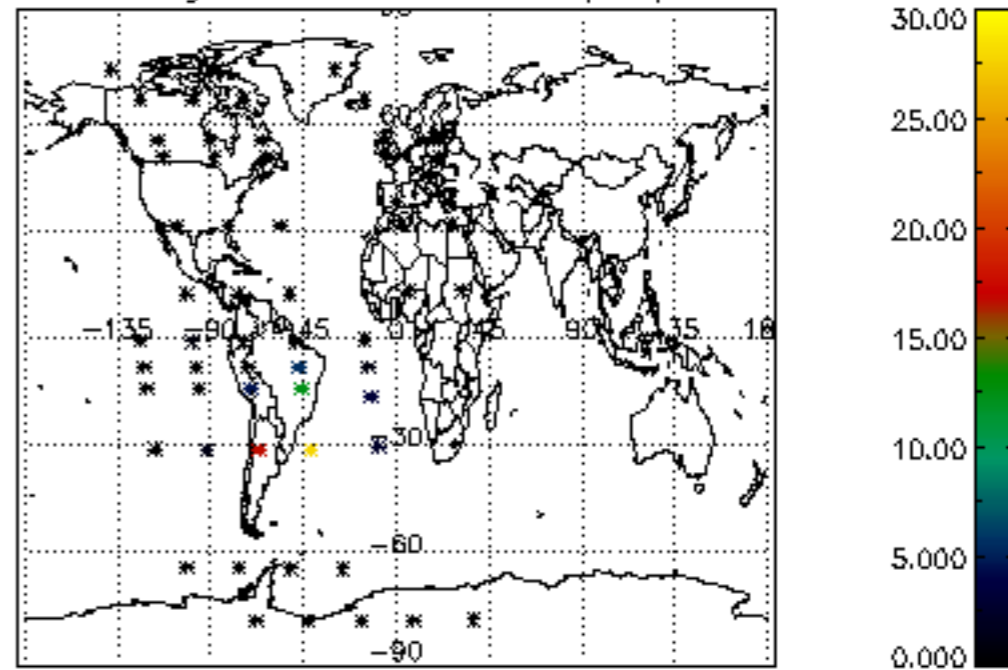
Percentage of datation errors per profile



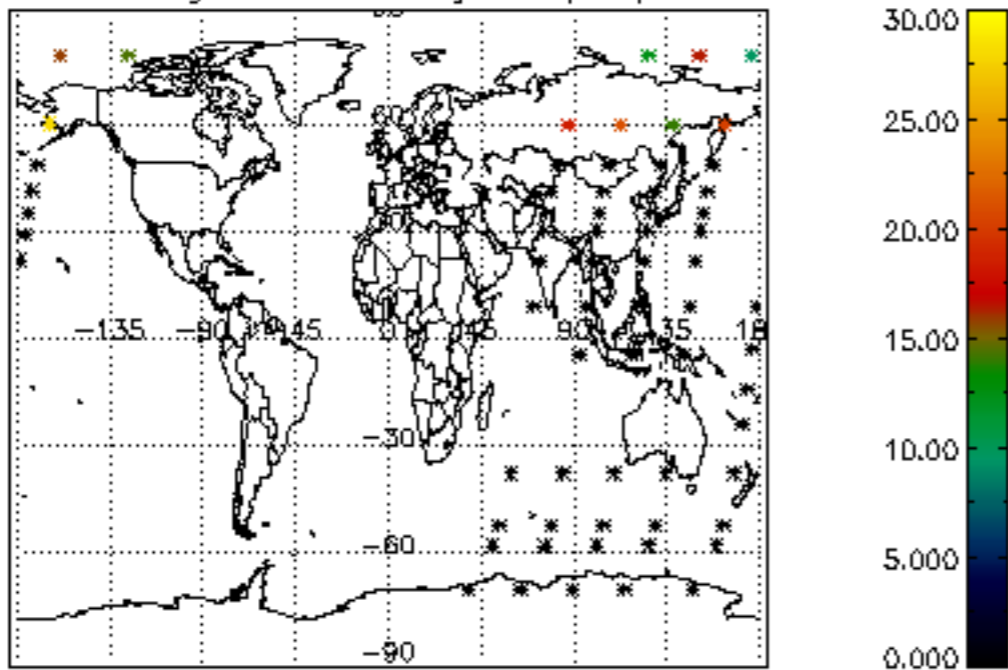
Percentage of star falling outside central band per profile



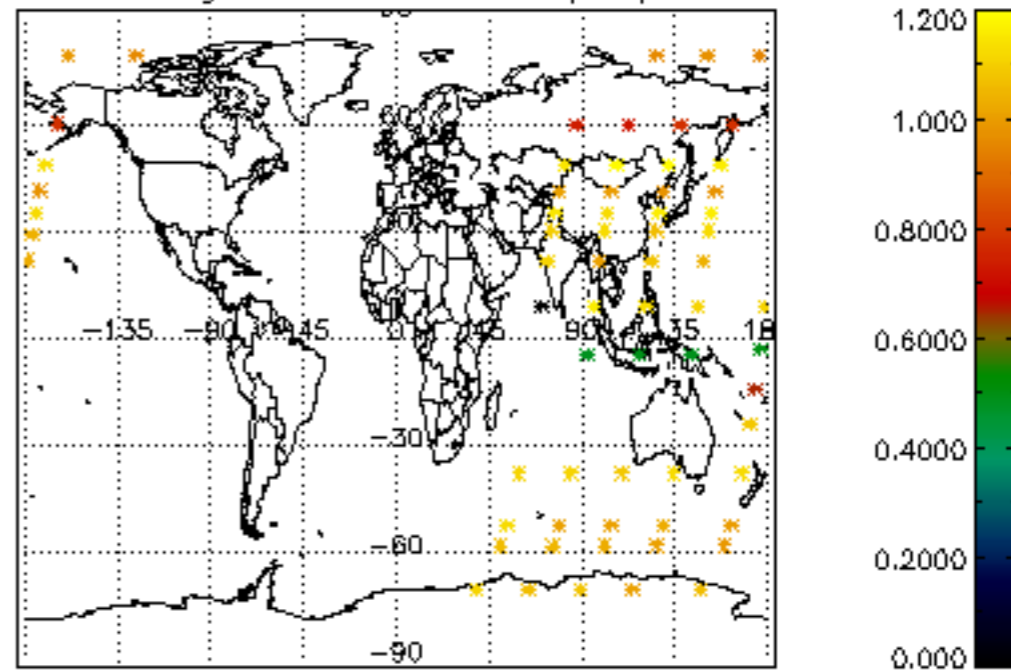
Percentage of saturation errors per profile



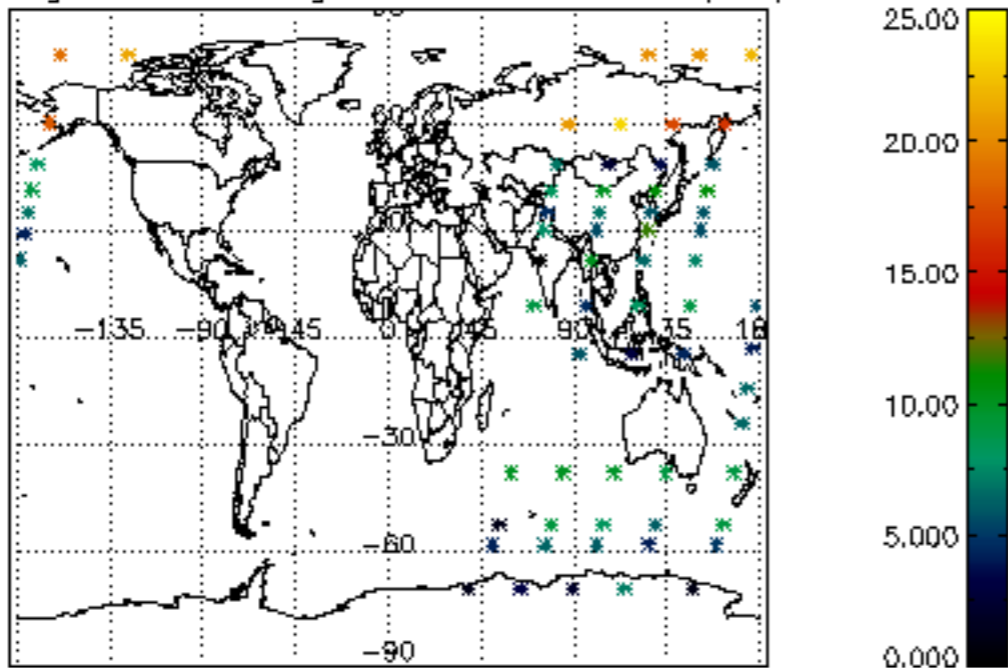
Percentage of cosmic ray hits per profile



Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile

