

# 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 19:32:59
Data source version	GOMOS/6.01
Start time of products	18-10-2002 (18OCT2002 00:00:00)
Stop time of products	19-10-2002 (19OCT2002 00:00:00)
Store outputs in DB	Yes
Nb of level 2 prods	193
Nb of prods with errors	3

## 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__2PRFIN20021018_000236_000000412010_00245_03305_2595.N1	18-OCT-2002 00:02:36	Bright	41.000	49	1Alp UMi	1.9900	6300.0	82	3305	No
2	GOM_NL__2PRFIN20021018_000543_000000452010_00245_03305_2596.N1	18-OCT-2002 00:05:43	Bright	45.000	60	7Bet UMi	2.0810	3950.0	90	3305	No
3	GOM_NL__2PRFIN20021018_001050_000000472010_00245_03305_2597.N1	18-OCT-2002 00:10:50	Bright	47.000	36	50Alp UMa	1.8000	6300.0	94	3305	No
4	GOM_NL__2PRFIN20021018_001222_000000482010_00245_03305_2598.N1	18-OCT-2002 00:12:22	Bright	47.500	82	48Bet UMa	2.3650	10600.	95	3305	No
5	GOM_NL__2PRFIN20021018_001548_000000472010_00245_03305_2599.N1	18-OCT-2002 00:15:48	Bright	47.000	174	52Psi UMa	3.0040	4400.0	94	3305	No
6	GOM_NL__2PRFIN20021018_002340_000001362010_00245_03305_2600.N1	18-OCT-2002 00:23:40	Twilight	135.50	17	78Bet Gem	1.1610	4500.0	271	3305	No
7	GOM_NL__2PRFIN20021018_003344_000000672010_00245_03305_2601.N1	18-OCT-2002 00:33:44	Dark	67.000	48	30Alp Hya	1.9770	4100.0	134	3305	No
8	GOM_NL__2PRFIN20021018_003911_000002542010_00245_03305_2602.N1	18-OCT-2002 00:39:11	Dark	254.00	8	10Alp CMi	0.40000	6500.0	508	3305	No
9	GOM_NL__2PRFIN20021018_004629_000000592010_00246_03306_2589.N1	18-OCT-2002 00:46:29	Dark	58.500	34	Gam2Vel	1.7930	23000.	117	3306	No
10	GOM_NL__2PRFIN20021018_005048_000000542010_00246_03306_2590.N1	18-OCT-2002 00:50:48	Dark	53.500	161	Tau Pup	2.9310	4500.0	107	3306	No
11	GOM_NL__2PRFIN20021018_005342_000001992010_00246_03306_2591.N1	18-OCT-2002 00:53:42	Dark	198.50	1	9Alp CMa	-1.4400	11000.	397	3306	No
12	GOM_NL__2PRFIN20021018_005755_000002222010_00246_03306_2592.N1	18-OCT-2002 00:57:55	Dark	222.00	47	2Bet CMa	1.9760	28000.	444	3306	No
13	GOM_NL__2PRFIN20021018_010346_000000552010_00246_03306_2593.N1	18-OCT-2002 01:03:46	Straylight	55.000	157	The1Eri	2.9060	9300.0	110	3306	No
14	GOM_NL__2PRFIN20021018_010605_000000472010_00246_03306_2594.N1	18-OCT-2002 01:06:05	Straylight	46.500	84	Alp Phe	2.3970	4500.0	93	3306	No
15	GOM_NL__2PRFIN20021018_011239_000000572010_00246_03306_2595.N1	18-OCT-2002 01:12:39	Straylight	56.500	52	16Bet Cet	2.0370	4500.0	113	3306	No
16	GOM_NL__2PRFIN20021018_012214_000000442010_00246_03306_2596.N1	18-OCT-2002 01:22:14	Bright	44.000	140	88Gam Peg	2.8340	26000.	88	3306	No
17	GOM_NL__2PRFIN20021018_012611_000000442010_00246_03306_2597.N1	18-OCT-2002 01:26:11	Bright	43.500	58	21Alp And	2.0730	11000.	87	3306	No
18	GOM_NL__2PRFIN20021018_012833_000000512010_00246_03306_2598.N1	18-OCT-2002 01:28:33	Bright	51.000	53	43Bet And	2.0480	3300.0	102	3306	No
19	GOM_NL__2PRFIN20021018_013153_000000512010_00246_03306_2599.N1	18-OCT-2002 01:31:53	Bright	50.500	73	57Gam1And	2.2600	13100.	101	3306	No
20	GOM_NL__2PRFIN20021018_013408_000000442010_00246_03306_2600.N1	18-OCT-2002 01:34:08	Bright	43.500	68	18Alp Cas	2.2250	4500.0	87	3306	No
21	GOM_NL__2PRFIN20021018_013529_000000432010_00246_03306_2601.N1	18-OCT-2002 01:35:29	Bright	43.000	76	27Gam Cas	2.3000	30000.	86	3306	No
22	GOM_NL__2PRFIN20021018_013714_000000432010_00246_03306_2602.N1	18-OCT-2002 01:37:14	Bright	42.500	89	5Alp Cep	2.4510	8000.0	85	3306	No
23	GOM_NL__2PRFIN20021018_014313_000000442010_00246_03306_2603.N1	18-OCT-2002 01:43:13	Bright	43.500	49	1Alp UMi	1.9900	6300.0	87	3306	No
24	GOM_NL__2PRFIN20021018_014620_000000442010_00246_03306_2604.N1	18-OCT-2002 01:46:20	Bright	44.000	60	7Bet UMi	2.0810	3950.0	88	3306	No
25	GOM_NL__2PRFIN20021018_015127_000000452010_00246_03306_2605.N1	18-OCT-2002 01:51:27	Bright	44.500	36	50Alp UMa	1.8000	6300.0	89	3306	No
26	GOM_NL__2PRFIN20021018_020417_000001342010_00246_03306_2606.N1	18-OCT-2002 02:04:17	Dark	133.50	17	78Bet Gem	1.1610	4500.0	267	3306	Yes
27	GOM_NL__2PRFIN20021018_021421_000000652010_00246_03306_2607.N1	18-OCT-2002 02:14:21	Dark	64.500	48	30Alp Hya	1.9770	4100.0	129	3306	No
28	GOM_NL__2PRFIN20021018_021951_000002252010_00246_03306_2608.N1	18-OCT-2002 02:19:51	Dark	224.50	8	10Alp CMi	0.40000	6500.0	449	3306	No
29	GOM_NL__2PRFIN20021018_022706_000000512010_00247_03307_2581.N1	18-OCT-2002 02:27:06	Dark	50.500	34	Gam2Vel	1.7930	23000.	101	3307	No
30	GOM_NL__2PRFIN20021018_023126_000000552010_00247_03307_2582.N1	18-OCT-2002 02:31:26	Dark	54.500	161	Tau Pup	2.9310	4500.0	109	3307	No
31	GOM_NL__2PRFIN20021018_023421_000001982010_00247_03307_2583.N1	18-OCT-2002 02:34:21	Dark	198.00	1	9Alp CMa	-1.4400	11000.	396	3307	No
32	GOM_NL__2PRFIN20021018_023834_000002222010_00247_03307_2584.N1	18-OCT-2002 02:38:34	Dark	222.00	47	2Bet CMa	1.9760	28000.	444	3307	No
33	GOM_NL__2PRFIN20021018_024422_000000542010_00247_03307_2585.N1	18-OCT-2002 02:44:22	Straylight	53.500	157	The1Eri	2.9060	9300.0	107	3307	No
34	GOM_NL__2PRFIN20021018_024641_000000522010_00247_03307_2586.N1	18-OCT-2002 02:46:41	Straylight	51.500	84	Alp Phe	2.3970	4500.0	103	3307	No
35	GOM_NL__2PRFIN20021018_025315_000000522010_00247_03307_2587.N1	18-OCT-2002 02:53:15	Straylight	51.500	52	16Bet Cet	2.0370	4500.0	103	3307	No
36	GOM_NL__2PRFIN20021018_030251_000000432010_00247_03307_2588.N1	18-OCT-2002 03:02:51	Bright	43.000	140	88Gam Peg	2.8340	26000.	86	3307	No
37	GOM_NL__2PRFIN20021018_030647_000000442010_00247_03307_2589.N1	18-OCT-2002 03:06:47	Bright	44.000	58	21Alp And	2.0730	11000.	88	3307	No
38	GOM_NL__2PRFIN20021018_030908_000000502010_00247_03307_2590.N1	18-OCT-2002 03:09:08	Bright	50.000	53	43Bet And	2.0480	3300.0	100	3307	No
39	GOM_NL__2PRFIN20021018_031229_000000522010_00247_03307_2591.N1	18-OCT-2002 03:12:29	Bright	52.000	73	57Gam1And	2.2600	13100.	104	3307	No
40	GOM_NL__2PRFIN20021018_031444_000000432010_00247_03307_2592.N1	18-OCT-2002 03:14:44	Bright	43.000	68	18Alp Cas	2.2250	4500.0	86	3307	No
41	GOM_NL__2PRFIN20021018_031605_000000442010_00247_03307_2593.N1	18-OCT-2002 03:16:05	Bright	44.000	76	27Gam Cas	2.3000	30000.	88	3307	No
42	GOM_NL__2PRFIN20021018_031750_000000442010_00247_03307_2594.N1	18-OCT-2002 03:17:50	Bright	44.000	89	5Alp Cep	2.4510	8000.0	88	3307	No



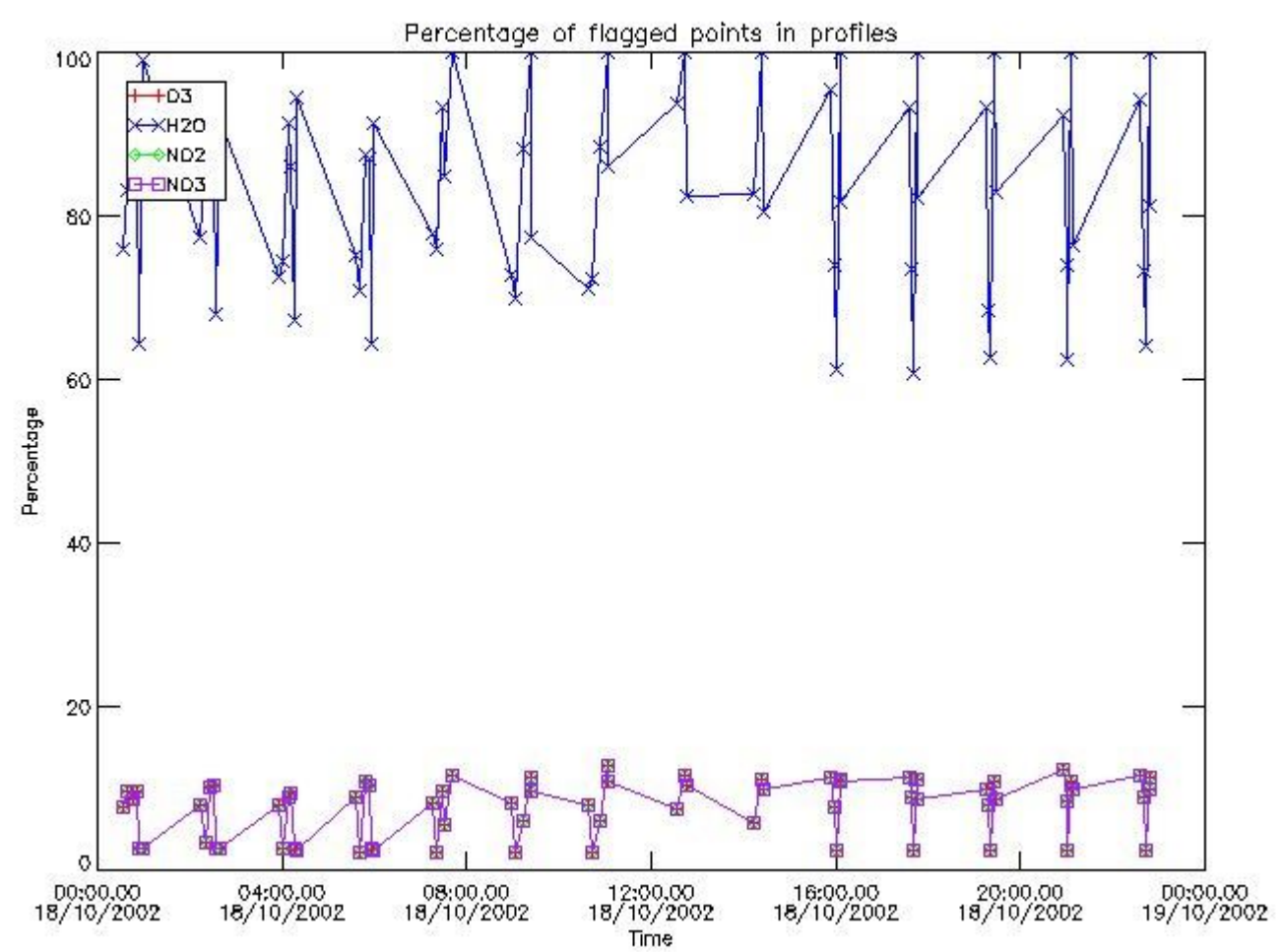


161	GOM_NL__2PRFIN20021018_173814_000000572010_00256_03316_9074.N1	18-OCT-2002 17:38:14	Dark	57.000	2	Alp Car	-0.73600	7000.0	114	3316	No
162	GOM_NL__2PRFIN20021018_174017_000002262010_00256_03316_9075.N1	18-OCT-2002 17:40:17	Dark	226.00	1	9Alp CMa	-1.4400	11000.	452	3316	No
163	GOM_NL__2PRFIN20021018_174541_000000462010_00256_03316_9076.N1	18-OCT-2002 17:45:41	Dark	46.000	143	Alp Hyi	2.8570	7200.0	92	3316	No
164	GOM_NL__2PRFIN20021018_174707_000000592010_00256_03316_9077.N1	18-OCT-2002 17:47:07	Dark	59.000	9	Alp Eri	0.45300	24000.	118	3316	No
165	GOM_NL__2PRFIN20021018_174948_000000582010_00256_03316_9078.N1	18-OCT-2002 17:49:48	Straylight	57.500	157	The1Eri	2.9060	9300.0	115	3316	No
166	GOM_NL__2PRFIN20021018_175206_000000462010_00256_03316_9079.N1	18-OCT-2002 17:52:06	Straylight	46.000	84	Alp Phe	2.3970	4500.0	92	3316	No
167	GOM_NL__2PRFIN20021018_191515_000000522010_00257_03317_9073.N1	18-OCT-2002 19:15:15	Dark	51.500	29	Bet Car	1.6720	10200.	103	3317	No
168	GOM_NL__2PRFIN20021018_191849_000000702010_00257_03317_9074.N1	18-OCT-2002 19:18:49	Dark	70.000	2	Alp Car	-0.73600	7000.0	140	3317	No
169	GOM_NL__2PRFIN20021018_192057_000002192010_00257_03317_9075.N1	18-OCT-2002 19:20:57	Dark	218.50	1	9Alp CMa	-1.4400	11000.	437	3317	No
170	GOM_NL__2PRFIN20021018_192618_000000472010_00257_03317_9076.N1	18-OCT-2002 19:26:18	Dark	46.500	143	Alp Hyi	2.8570	7200.0	93	3317	No
171	GOM_NL__2PRFIN20021018_192744_000000592010_00257_03317_9077.N1	18-OCT-2002 19:27:44	Dark	58.500	9	Alp Eri	0.45300	24000.	117	3317	No
172	GOM_NL__2PRFIN20021018_193026_000000542010_00257_03317_9078.N1	18-OCT-2002 19:30:26	Straylight	53.500	157	The1Eri	2.9060	9300.0	107	3317	No
173	GOM_NL__2PRFIN20021018_205551_000000462010_00258_03318_9093.N1	18-OCT-2002 20:55:51	Dark	46.000	29	Bet Car	1.6720	10200.	92	3318	No
174	GOM_NL__2PRFIN20021018_205926_000000602010_00258_03318_9094.N1	18-OCT-2002 20:59:26	Dark	60.000	2	Alp Car	-0.73600	7000.0	120	3318	No
175	GOM_NL__2PRFIN20021018_210136_000002262010_00258_03318_9095.N1	18-OCT-2002 21:01:36	Dark	226.00	1	9Alp CMa	-1.4400	11000.	452	3318	No
176	GOM_NL__2PRFIN20021018_210654_000000472010_00258_03318_9096.N1	18-OCT-2002 21:06:54	Dark	46.500	143	Alp Hyi	2.8570	7200.0	93	3318	No
177	GOM_NL__2PRFIN20021018_210820_000000512010_00258_03318_9097.N1	18-OCT-2002 21:08:20	Dark	51.000	9	Alp Eri	0.45300	24000.	102	3318	No
178	GOM_NL__2PRFIN20021018_211102_000000542010_00258_03318_9098.N1	18-OCT-2002 21:11:02	Straylight	53.500	157	The1Eri	2.9060	9300.0	107	3318	No
179	GOM_NL__2PRFIN20021018_211318_000000502010_00258_03318_9099.N1	18-OCT-2002 21:13:18	Straylight	50.000	84	Alp Phe	2.3970	4500.0	100	3318	No
180	GOM_NL__2PRFIN20021018_223628_000000452010_00259_03319_9093.N1	18-OCT-2002 22:36:28	Dark	44.500	29	Bet Car	1.6720	10200.	89	3319	No
181	GOM_NL__2PRFIN20021018_224005_000000572010_00259_03319_9094.N1	18-OCT-2002 22:40:05	Dark	56.500	2	Alp Car	-0.73600	7000.0	113	3319	No
182	GOM_NL__2PRFIN20021018_224216_000002222010_00259_03319_9095.N1	18-OCT-2002 22:42:16	Dark	222.00	1	9Alp CMa	-1.4400	11000.	444	3319	No
183	GOM_NL__2PRFIN20021018_224730_000000452010_00259_03319_9096.N1	18-OCT-2002 22:47:30	Dark	45.000	143	Alp Hyi	2.8570	7200.0	90	3319	No
184	GOM_NL__2PRFIN20021018_224856_000000512010_00259_03319_9097.N1	18-OCT-2002 22:48:56	Dark	50.500	9	Alp Eri	0.45300	24000.	101	3319	No
185	GOM_NL__2PRFIN20021018_225138_000000562010_00259_03319_9098.N1	18-OCT-2002 22:51:38	Straylight	55.500	157	The1Eri	2.9060	9300.0	111	3319	No
186	GOM_NL__2PRFIN20021018_225354_000000472010_00259_03319_9099.N1	18-OCT-2002 22:53:54	Straylight	47.000	84	Alp Phe	2.3970	4500.0	94	3319	No
187	GOM_NL__2PRFIN20021018_232506_000000452010_00259_03319_2749.N1	18-OCT-2002 23:25:06	Dark	44.500	89	5Alp Cep	2.4510	8000.0	89	3319	Yes
188	GOM_NL__2PRFIN20021018_233100_000000452010_00259_03319_2750.N1	18-OCT-2002 23:31:00	Bright	45.000	49	1Alp UMi	1.9900	6300.0	90	3319	No
189	GOM_NL__2PRFIN20021018_233410_000000452010_00259_03319_2751.N1	18-OCT-2002 23:34:10	Bright	44.500	60	7Bet UMi	2.0810	3950.0	89	3319	No
190	GOM_NL__2PRFIN20021018_233912_000000492010_00259_03319_2752.N1	18-OCT-2002 23:39:12	Bright	48.500	36	50Alp UMa	1.8000	6300.0	97	3319	No
191	GOM_NL__2PRFIN20021018_234048_000000462010_00259_03319_2753.N1	18-OCT-2002 23:40:48	Bright	45.500	82	48Bet UMa	2.3650	10600.	91	3319	No
192	GOM_NL__2PRFIN20021018_234414_000000472010_00259_03319_2754.N1	18-OCT-2002 23:44:14	Bright	46.500	174	52Psi UMa	3.0040	4400.0	93	3319	No
193	GOM_NL__2PRFIN20021018_235212_000001352010_00259_03319_2755.N1	18-OCT-2002 23:52:12	Tw_i_and_stray	134.50	17	78Bet Gem	1.1610	4500.0	269	3319	No

### 3. Quality information per product

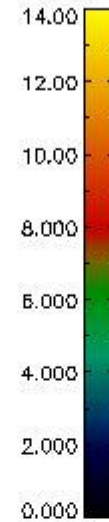
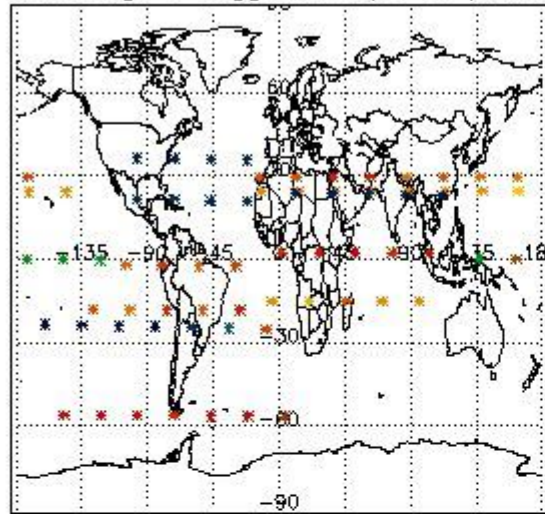
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

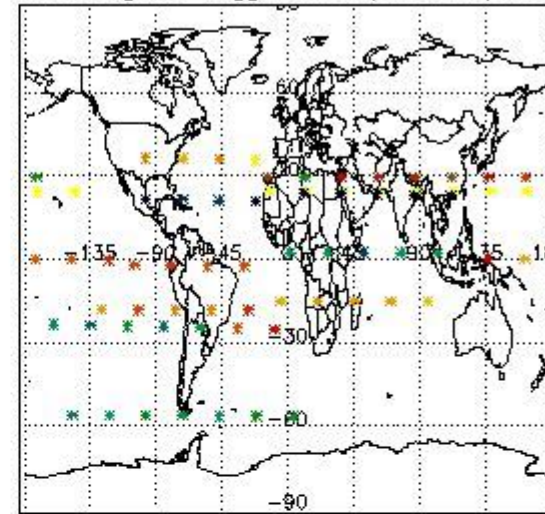


3.2 Plot quality information per product (world map)

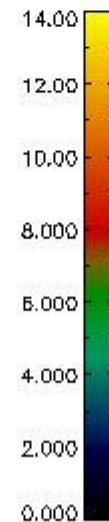
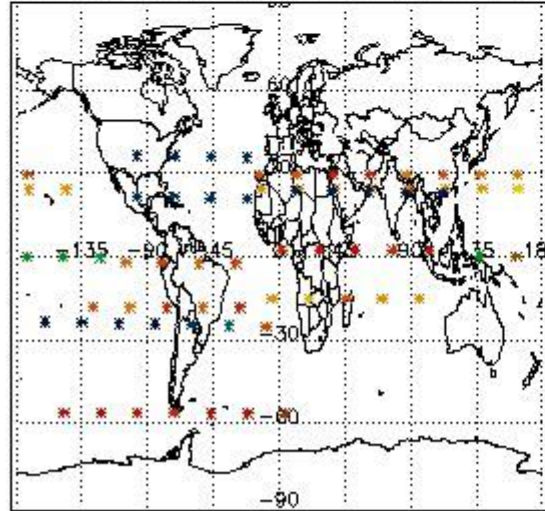
Percentage of flagged data per O3 profile



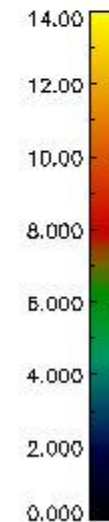
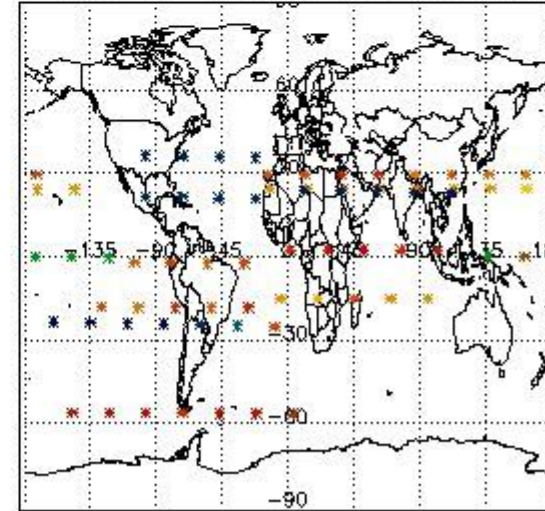
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

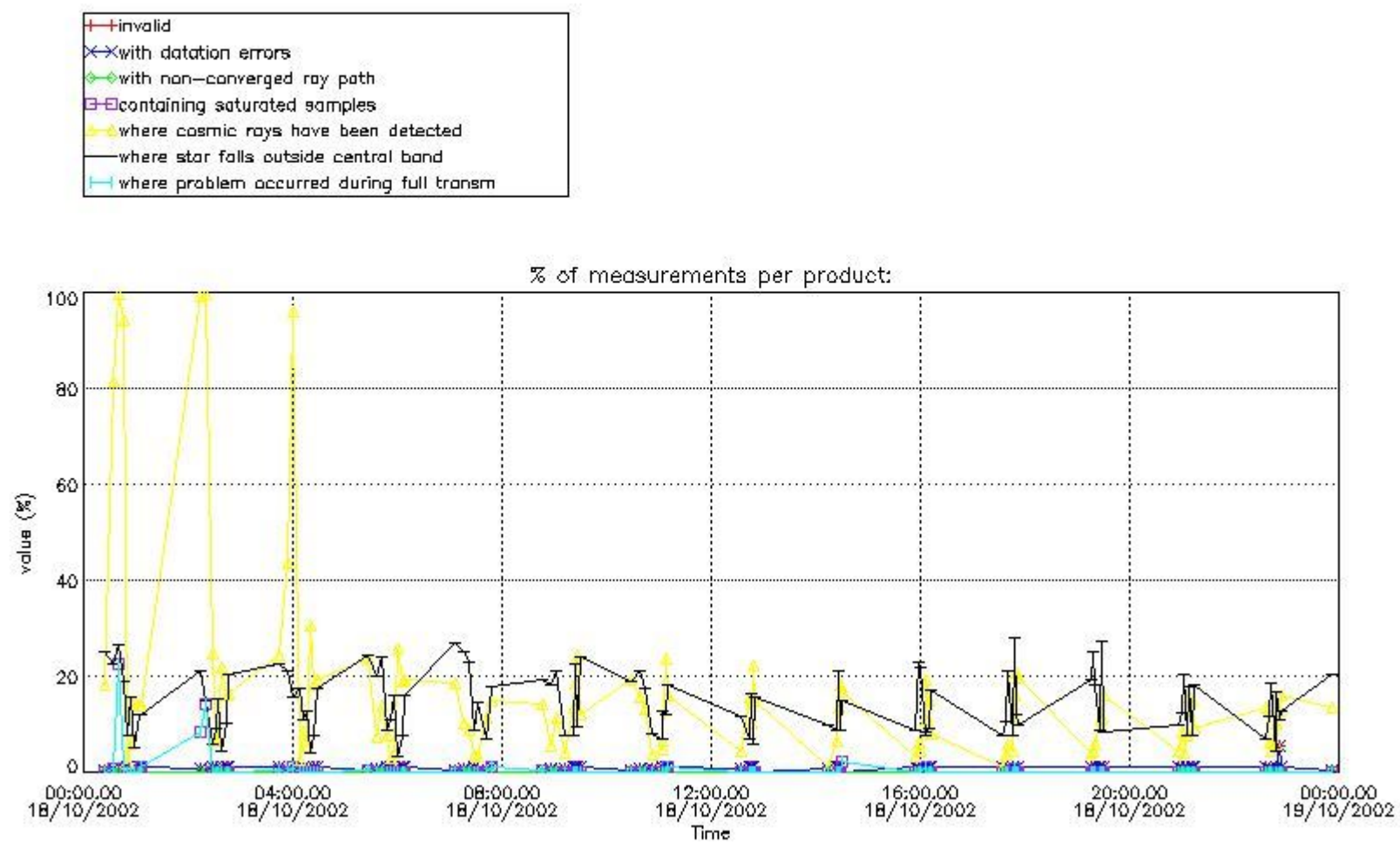


#### 4. Level 1 quality information per product

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.

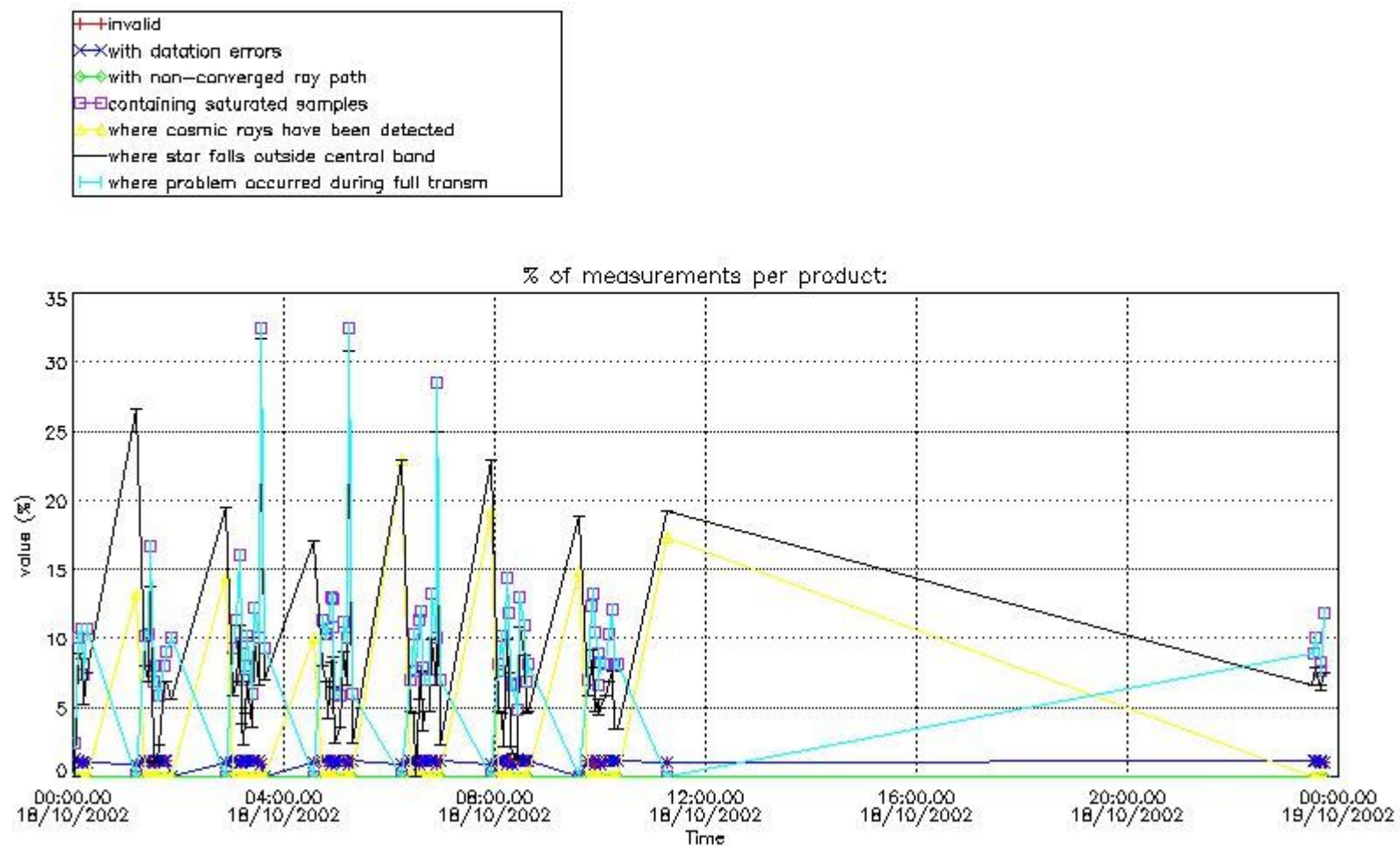
##### 4.1 Plot quality information per product (time dependant) coming from level 1b processing

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



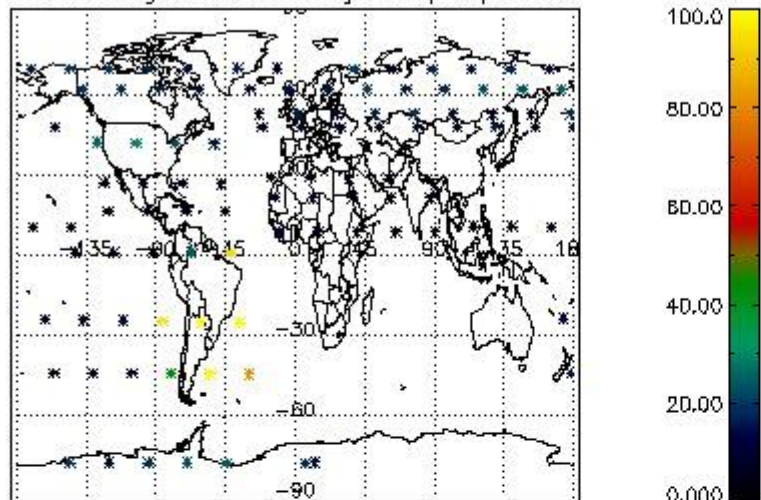
4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes



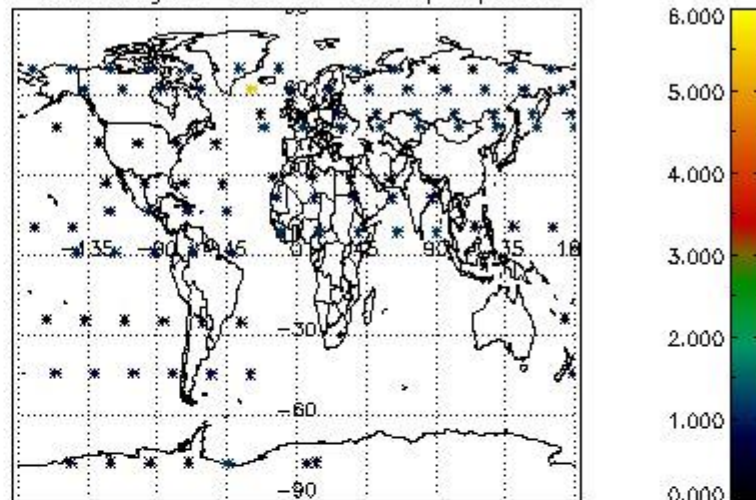


4.2 Plot quality information per product coming from level 1b processing (world map)  
 4.2.1 Plot level 1 quality information per product (world map): ENVISAT ASCENDING passes

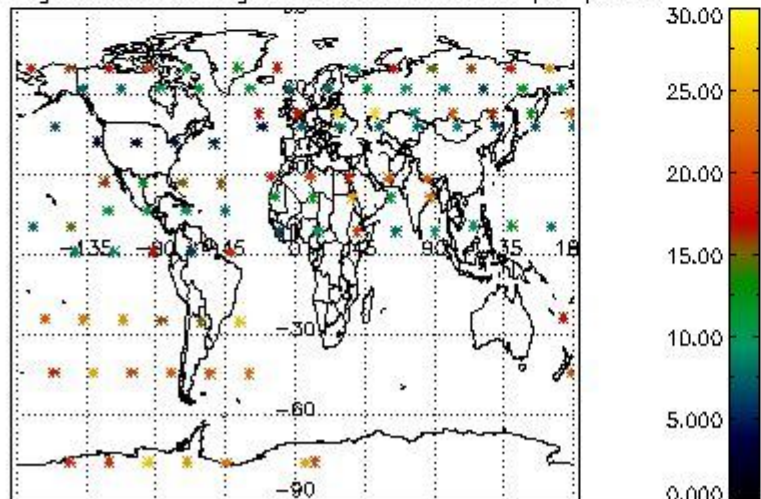
Percentage of cosmic ray hits per profile



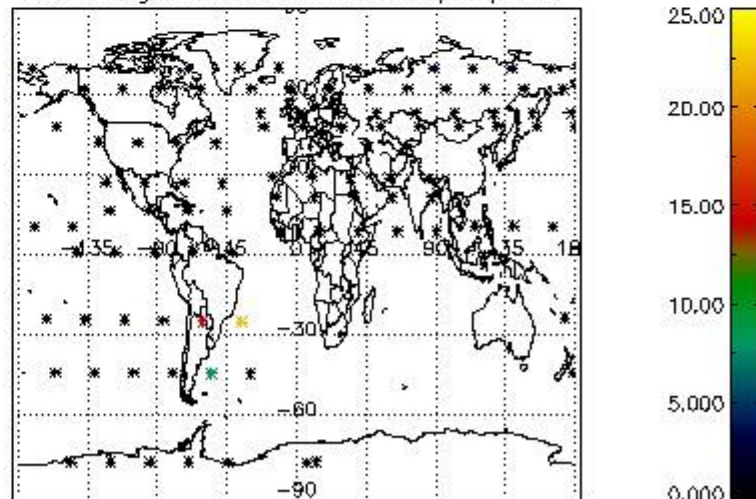
Percentage of datation errors per profile



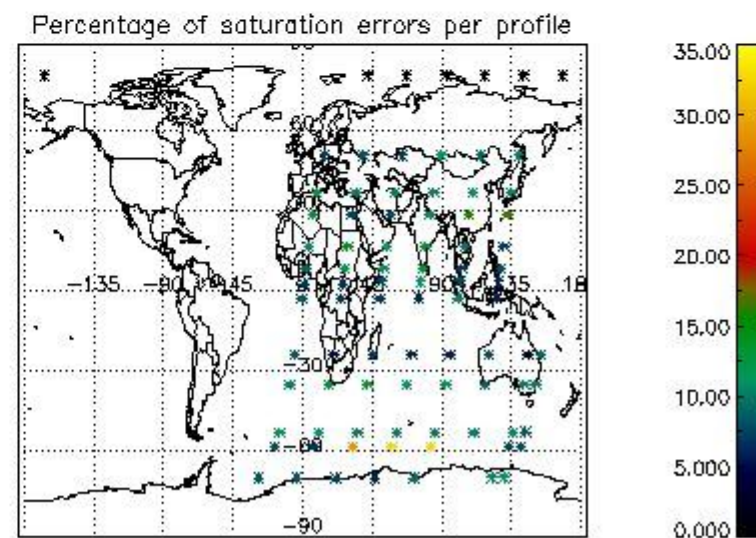
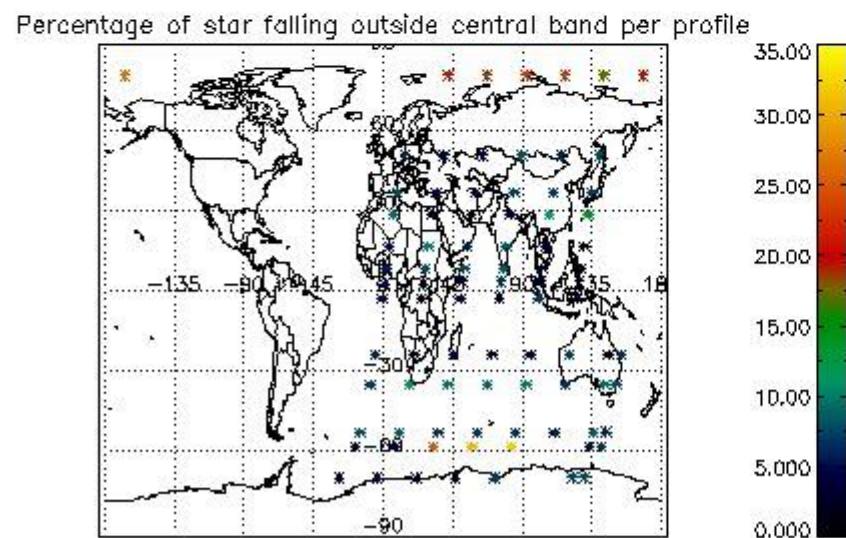
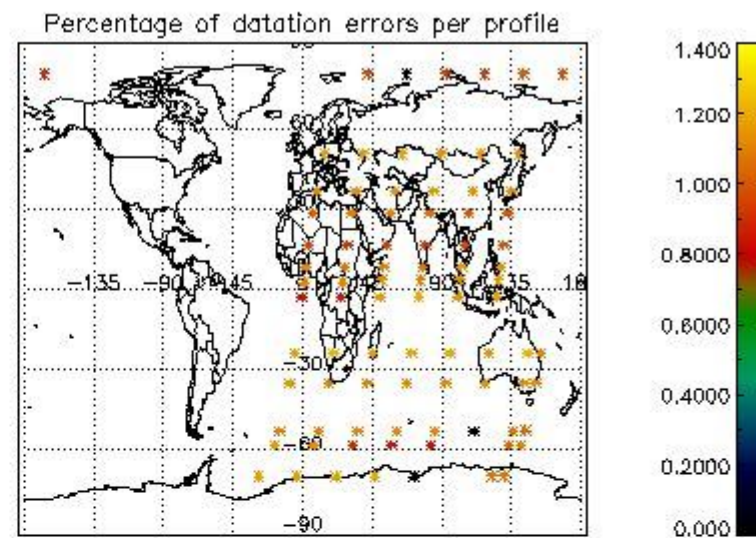
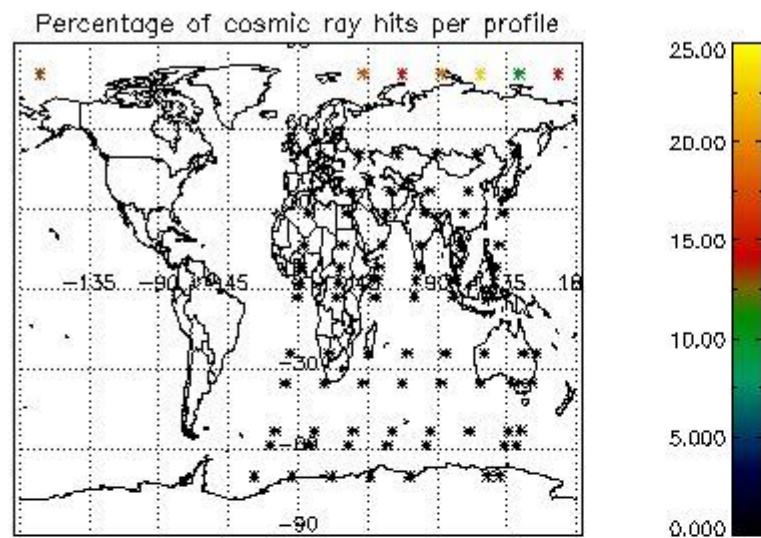
Percentage of star falling outside central band per profile



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

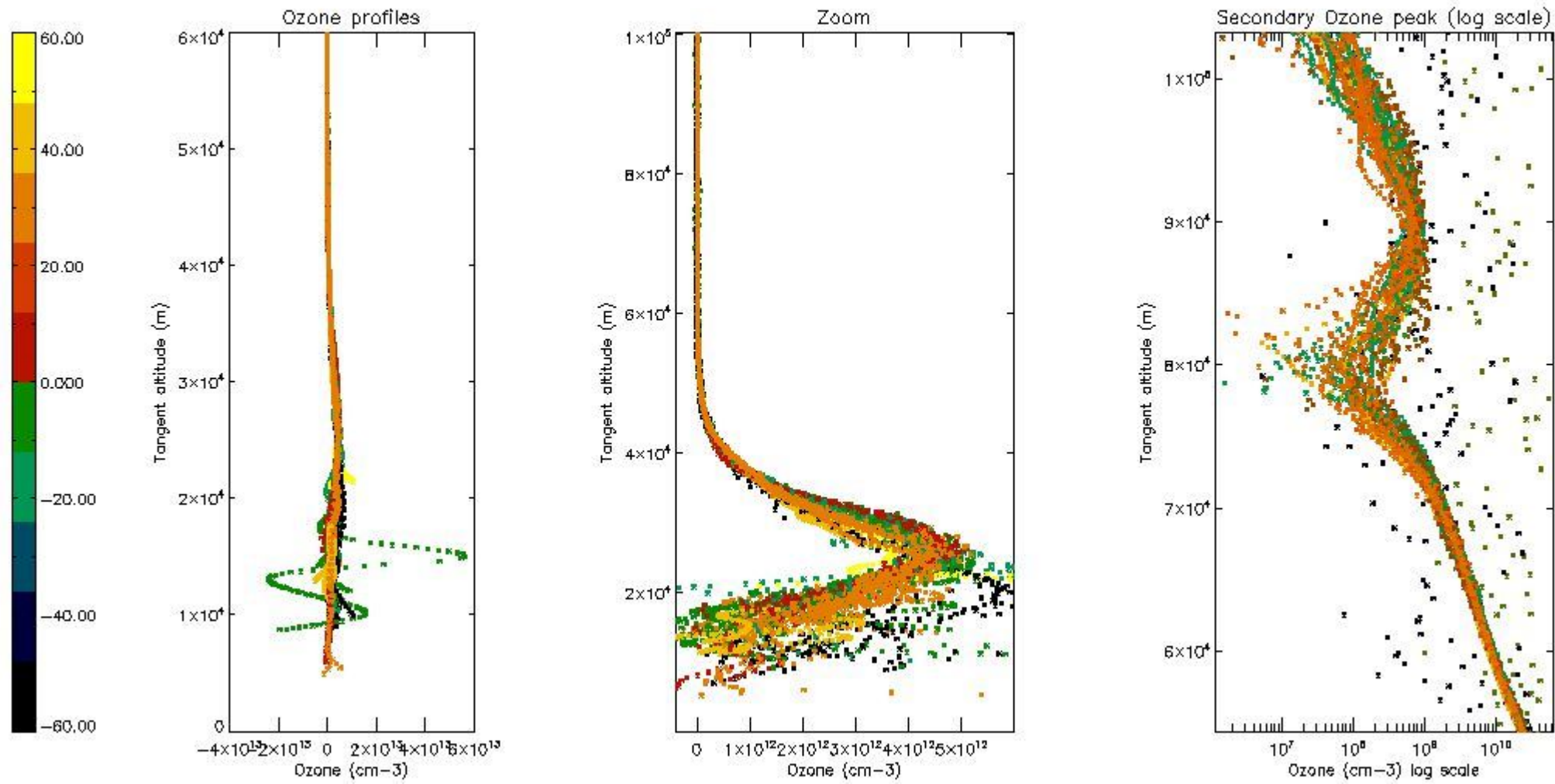
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	56
STD < 20	35

STD < 10	32
STD < 5	27

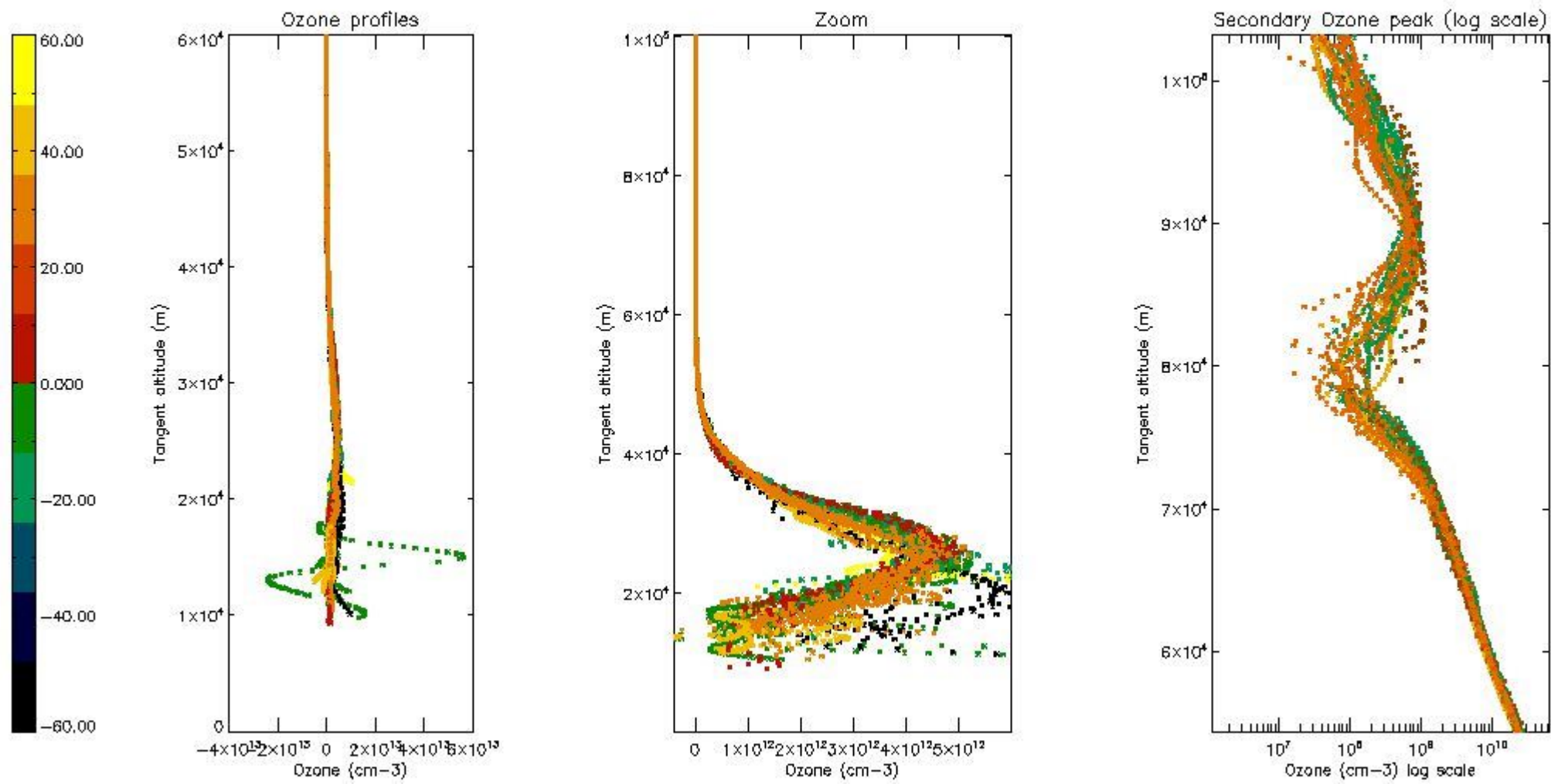
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



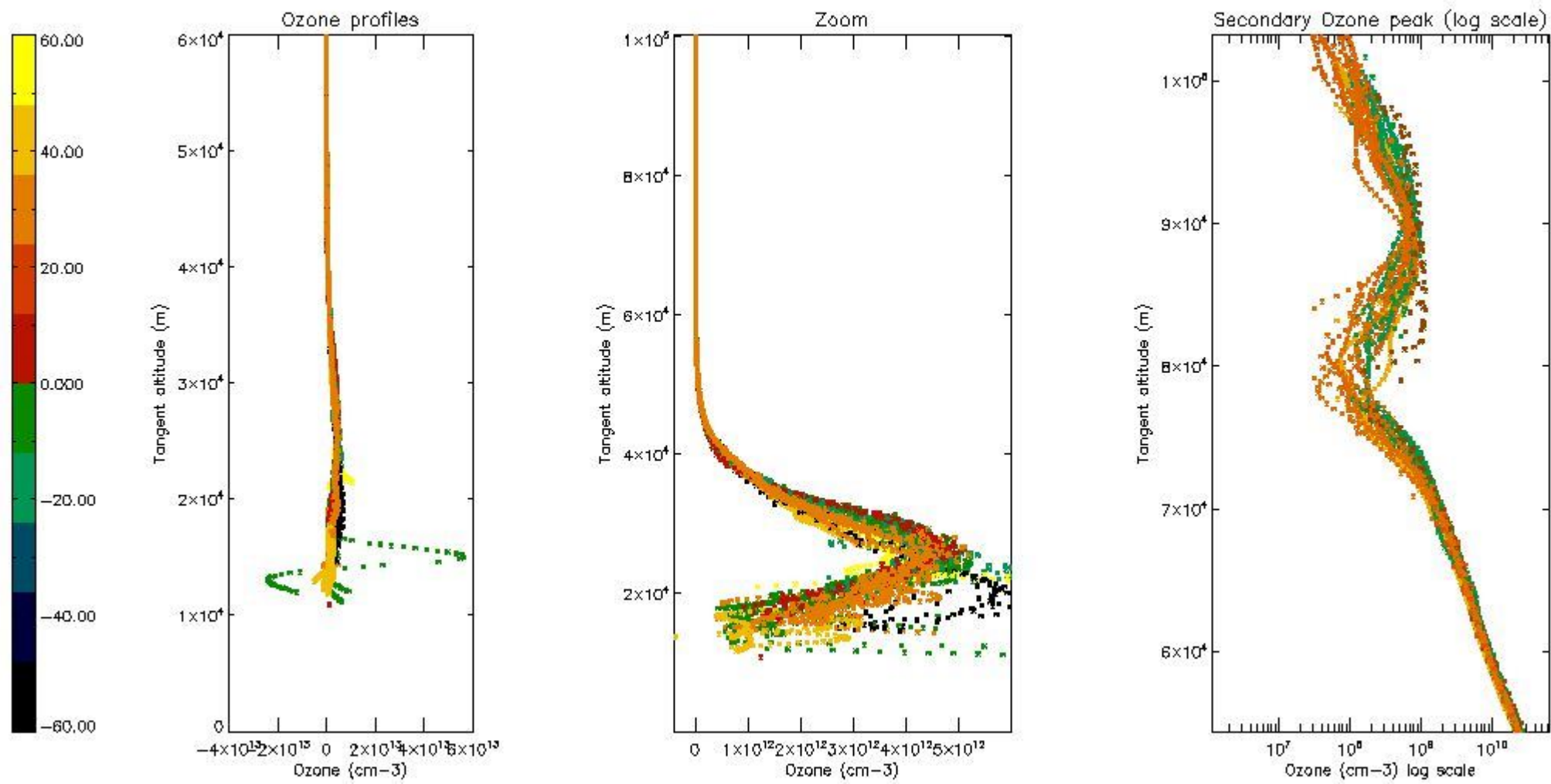
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



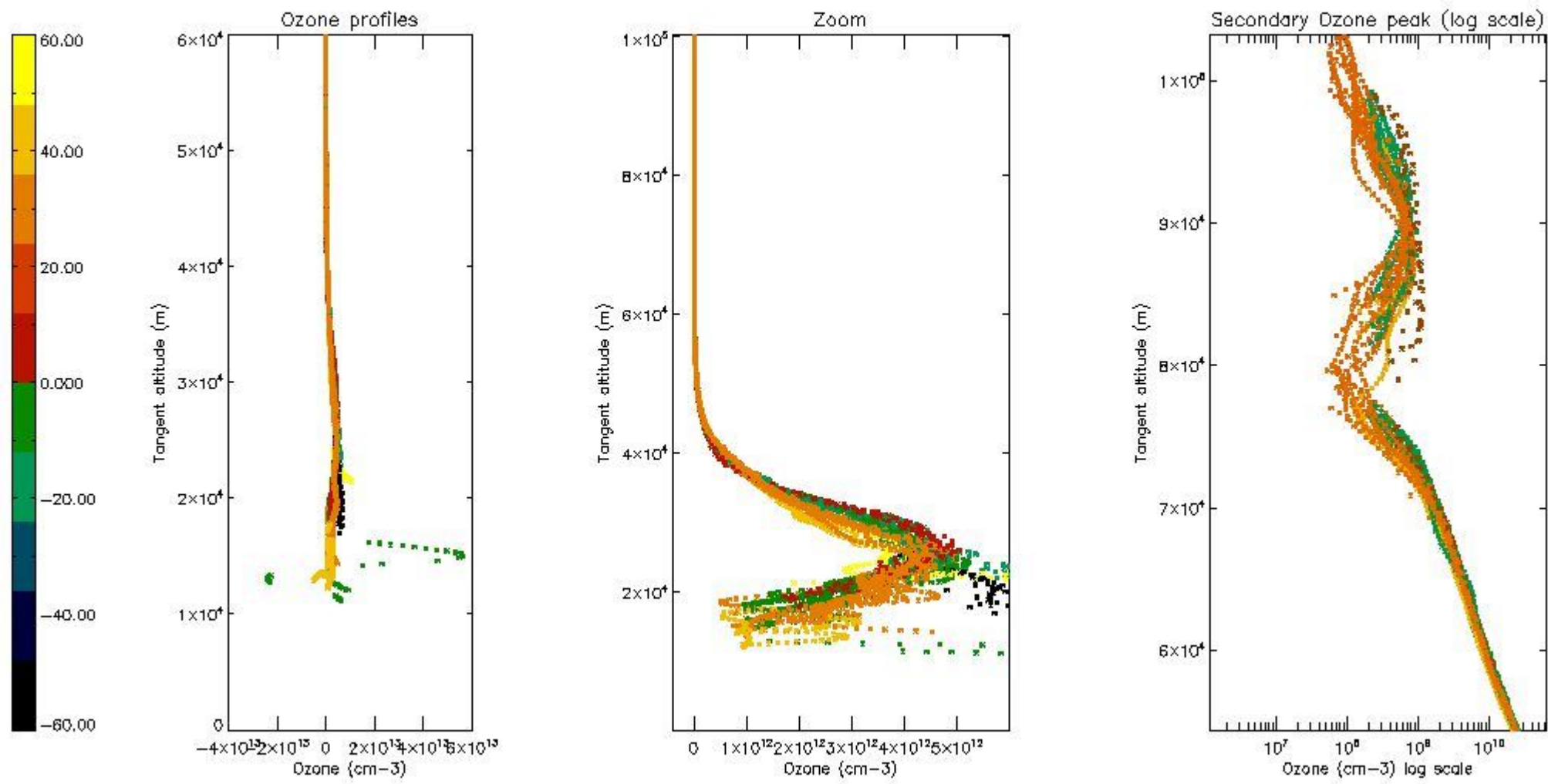
5.4 Plot ozone profiles where  $STD < 10\%$  (dark without errors)

The colorbar represents the latitude.



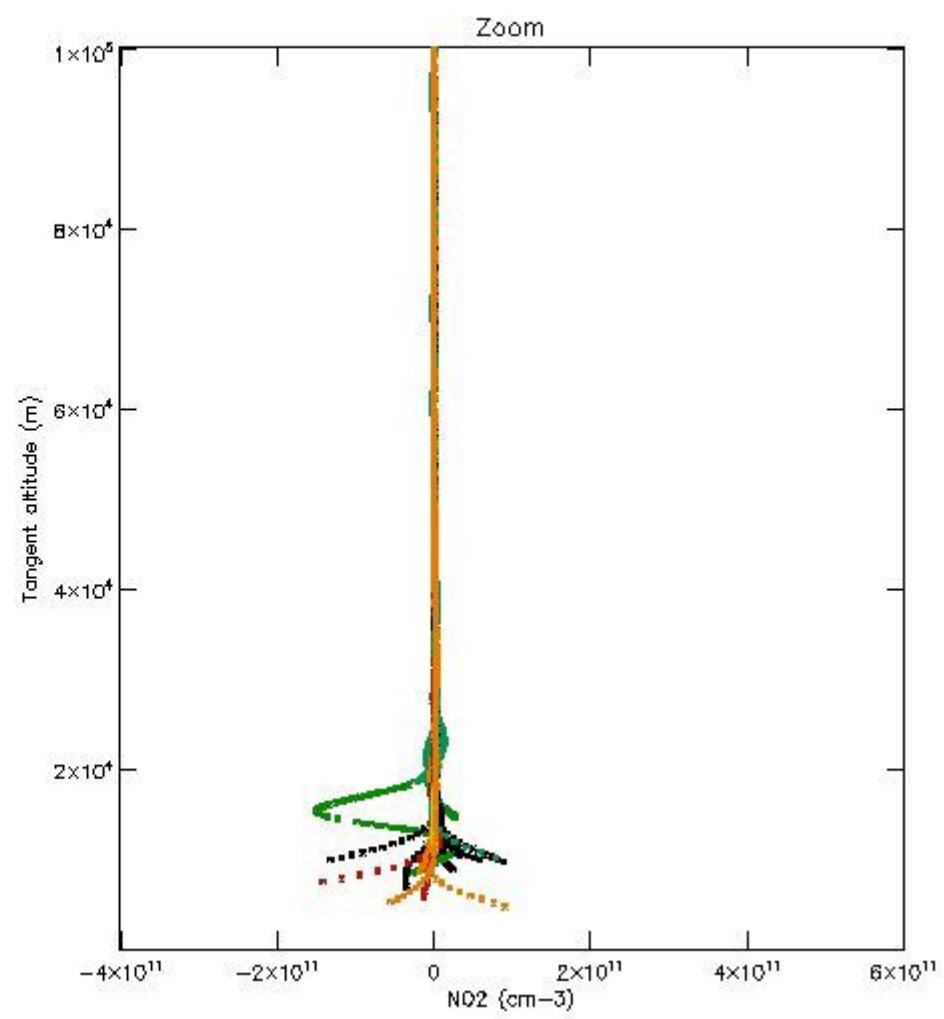
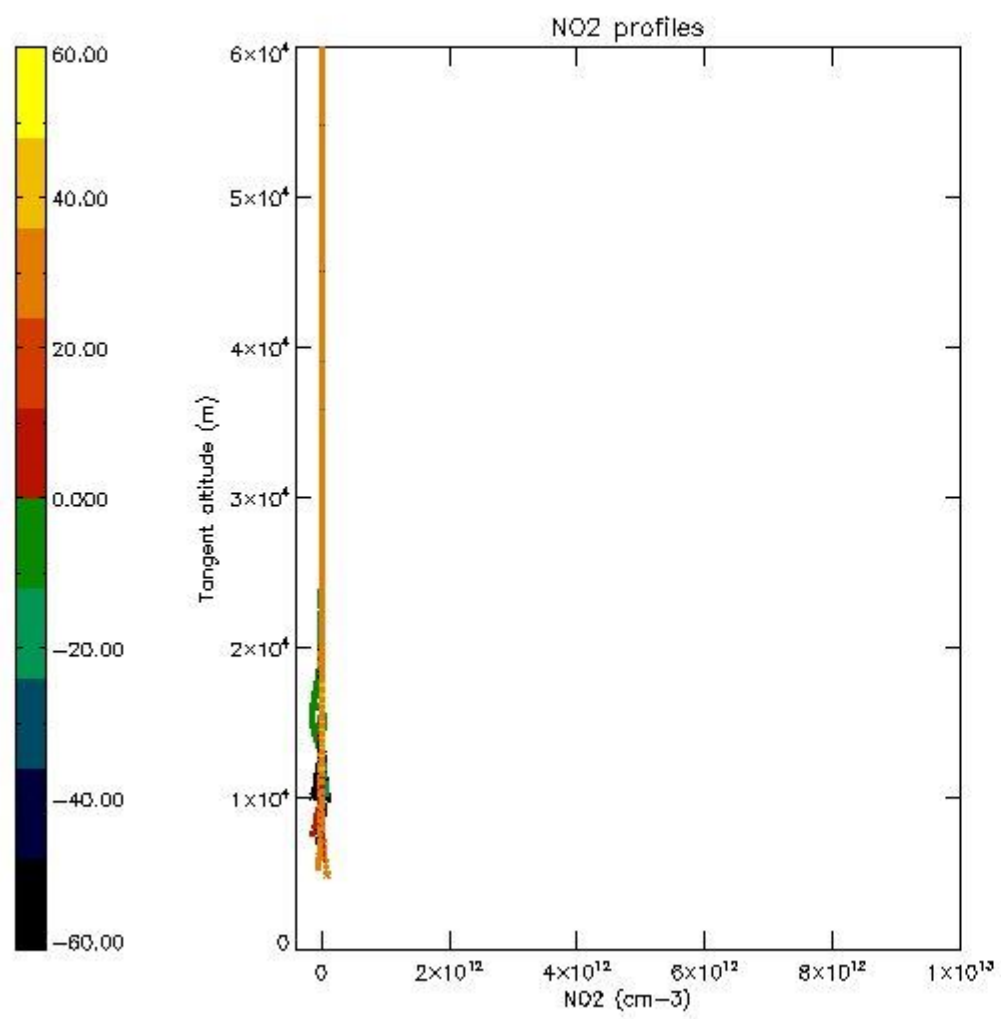
*5.5 Plot ozone profiles where STD < 5% (dark without errors)*

The colorbar represents the latitude.



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

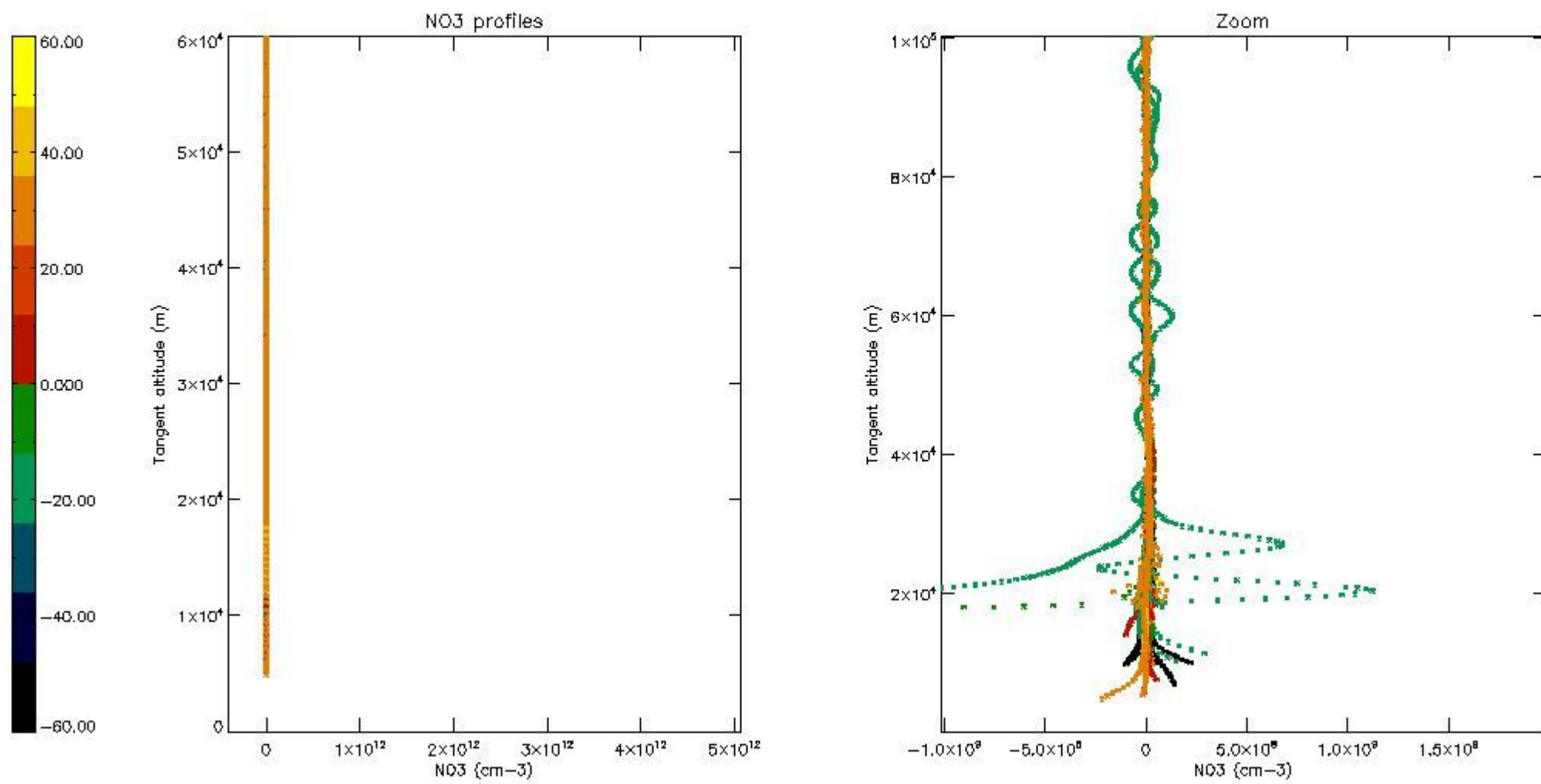
The colorbar represents the latitude.



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

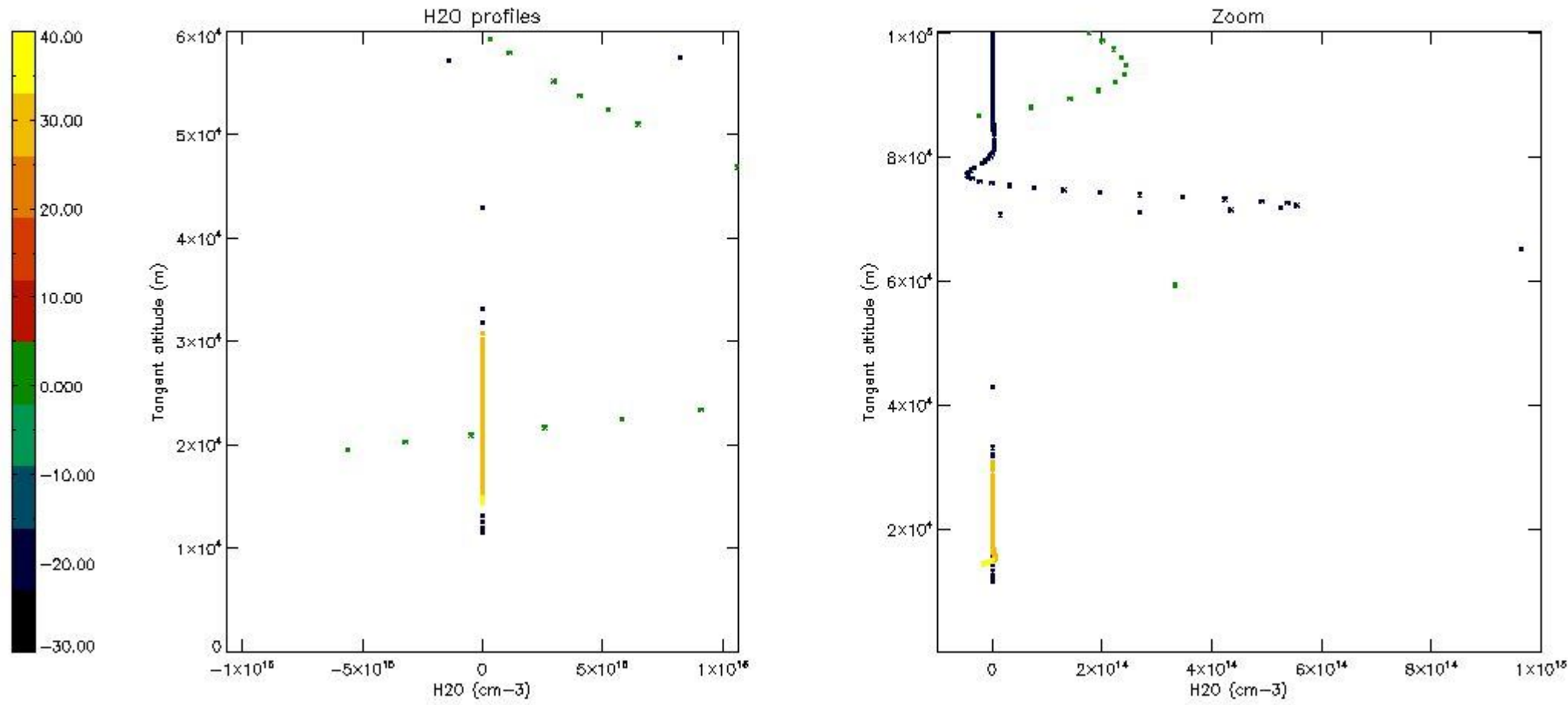
The colorbar represents the latitude.





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	18-OCT-2002 00:02:36
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	18-OCT-2002 00:02:36
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	18-OCT-2002 00:02:36

# GOMOS Level 2 Daily Report

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#### [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](#)





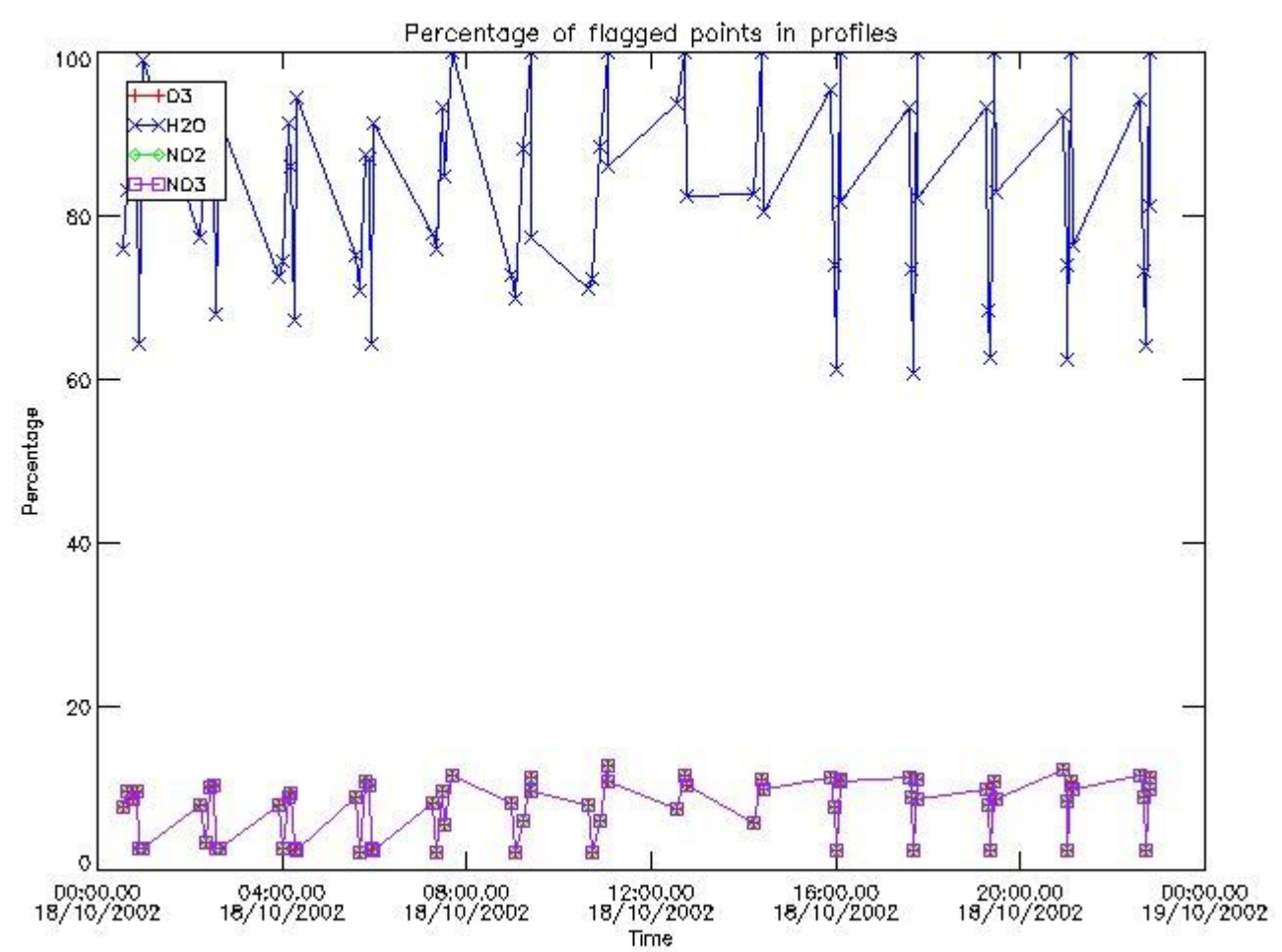


161	GOM_NL__2PRFIN20021018_173814_000000572010_00256_03316_9074.N1	18-OCT-2002 17:38:14	Dark	57.000	2	Alp Car	-0.73600	7000.0	114	3316	No
162	GOM_NL__2PRFIN20021018_174017_000002262010_00256_03316_9075.N1	18-OCT-2002 17:40:17	Dark	226.00	1	9Alp CMa	-1.4400	11000.	452	3316	No
163	GOM_NL__2PRFIN20021018_174541_000000462010_00256_03316_9076.N1	18-OCT-2002 17:45:41	Dark	46.000	143	Alp Hyi	2.8570	7200.0	92	3316	No
164	GOM_NL__2PRFIN20021018_174707_000000592010_00256_03316_9077.N1	18-OCT-2002 17:47:07	Dark	59.000	9	Alp Eri	0.45300	24000.	118	3316	No
165	GOM_NL__2PRFIN20021018_174948_000000582010_00256_03316_9078.N1	18-OCT-2002 17:49:48	Straylight	57.500	157	The1Eri	2.9060	9300.0	115	3316	No
166	GOM_NL__2PRFIN20021018_175206_000000462010_00256_03316_9079.N1	18-OCT-2002 17:52:06	Straylight	46.000	84	Alp Phe	2.3970	4500.0	92	3316	No
167	GOM_NL__2PRFIN20021018_191515_000000522010_00257_03317_9073.N1	18-OCT-2002 19:15:15	Dark	51.500	29	Bet Car	1.6720	10200.	103	3317	No
168	GOM_NL__2PRFIN20021018_191849_000000702010_00257_03317_9074.N1	18-OCT-2002 19:18:49	Dark	70.000	2	Alp Car	-0.73600	7000.0	140	3317	No
169	GOM_NL__2PRFIN20021018_192057_000002192010_00257_03317_9075.N1	18-OCT-2002 19:20:57	Dark	218.50	1	9Alp CMa	-1.4400	11000.	437	3317	No
170	GOM_NL__2PRFIN20021018_192618_000000472010_00257_03317_9076.N1	18-OCT-2002 19:26:18	Dark	46.500	143	Alp Hyi	2.8570	7200.0	93	3317	No
171	GOM_NL__2PRFIN20021018_192744_000000592010_00257_03317_9077.N1	18-OCT-2002 19:27:44	Dark	58.500	9	Alp Eri	0.45300	24000.	117	3317	No
172	GOM_NL__2PRFIN20021018_193026_000000542010_00257_03317_9078.N1	18-OCT-2002 19:30:26	Straylight	53.500	157	The1Eri	2.9060	9300.0	107	3317	No
173	GOM_NL__2PRFIN20021018_205551_000000462010_00258_03318_9093.N1	18-OCT-2002 20:55:51	Dark	46.000	29	Bet Car	1.6720	10200.	92	3318	No
174	GOM_NL__2PRFIN20021018_205926_000000602010_00258_03318_9094.N1	18-OCT-2002 20:59:26	Dark	60.000	2	Alp Car	-0.73600	7000.0	120	3318	No
175	GOM_NL__2PRFIN20021018_210136_000002262010_00258_03318_9095.N1	18-OCT-2002 21:01:36	Dark	226.00	1	9Alp CMa	-1.4400	11000.	452	3318	No
176	GOM_NL__2PRFIN20021018_210654_000000472010_00258_03318_9096.N1	18-OCT-2002 21:06:54	Dark	46.500	143	Alp Hyi	2.8570	7200.0	93	3318	No
177	GOM_NL__2PRFIN20021018_210820_000000512010_00258_03318_9097.N1	18-OCT-2002 21:08:20	Dark	51.000	9	Alp Eri	0.45300	24000.	102	3318	No
178	GOM_NL__2PRFIN20021018_211102_000000542010_00258_03318_9098.N1	18-OCT-2002 21:11:02	Straylight	53.500	157	The1Eri	2.9060	9300.0	107	3318	No
179	GOM_NL__2PRFIN20021018_211318_000000502010_00258_03318_9099.N1	18-OCT-2002 21:13:18	Straylight	50.000	84	Alp Phe	2.3970	4500.0	100	3318	No
180	GOM_NL__2PRFIN20021018_223628_000000452010_00259_03319_9093.N1	18-OCT-2002 22:36:28	Dark	44.500	29	Bet Car	1.6720	10200.	89	3319	No
181	GOM_NL__2PRFIN20021018_224005_000000572010_00259_03319_9094.N1	18-OCT-2002 22:40:05	Dark	56.500	2	Alp Car	-0.73600	7000.0	113	3319	No
182	GOM_NL__2PRFIN20021018_224216_000002222010_00259_03319_9095.N1	18-OCT-2002 22:42:16	Dark	222.00	1	9Alp CMa	-1.4400	11000.	444	3319	No
183	GOM_NL__2PRFIN20021018_224730_000000452010_00259_03319_9096.N1	18-OCT-2002 22:47:30	Dark	45.000	143	Alp Hyi	2.8570	7200.0	90	3319	No
184	GOM_NL__2PRFIN20021018_224856_000000512010_00259_03319_9097.N1	18-OCT-2002 22:48:56	Dark	50.500	9	Alp Eri	0.45300	24000.	101	3319	No
185	GOM_NL__2PRFIN20021018_225138_000000562010_00259_03319_9098.N1	18-OCT-2002 22:51:38	Straylight	55.500	157	The1Eri	2.9060	9300.0	111	3319	No
186	GOM_NL__2PRFIN20021018_225354_000000472010_00259_03319_9099.N1	18-OCT-2002 22:53:54	Straylight	47.000	84	Alp Phe	2.3970	4500.0	94	3319	No
187	GOM_NL__2PRFIN20021018_232506_000000452010_00259_03319_2749.N1	18-OCT-2002 23:25:06	Dark	44.500	89	5Alp Cep	2.4510	8000.0	89	3319	Yes
188	GOM_NL__2PRFIN20021018_233100_000000452010_00259_03319_2750.N1	18-OCT-2002 23:31:00	Bright	45.000	49	1Alp UMi	1.9900	6300.0	90	3319	No
189	GOM_NL__2PRFIN20021018_233410_000000452010_00259_03319_2751.N1	18-OCT-2002 23:34:10	Bright	44.500	60	7Bet UMi	2.0810	3950.0	89	3319	No
190	GOM_NL__2PRFIN20021018_233912_000000492010_00259_03319_2752.N1	18-OCT-2002 23:39:12	Bright	48.500	36	50Alp UMa	1.8000	6300.0	97	3319	No
191	GOM_NL__2PRFIN20021018_234048_000000462010_00259_03319_2753.N1	18-OCT-2002 23:40:48	Bright	45.500	82	48Bet UMa	2.3650	10600.	91	3319	No
192	GOM_NL__2PRFIN20021018_234414_000000472010_00259_03319_2754.N1	18-OCT-2002 23:44:14	Bright	46.500	174	52Psi UMa	3.0040	4400.0	93	3319	No
193	GOM_NL__2PRFIN20021018_235212_000001352010_00259_03319_2755.N1	18-OCT-2002 23:52:12	Tw_i_and_stray	134.50	17	78Bet Gem	1.1610	4500.0	269	3319	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.

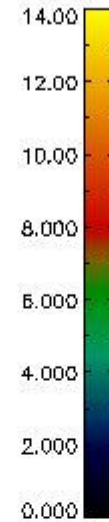
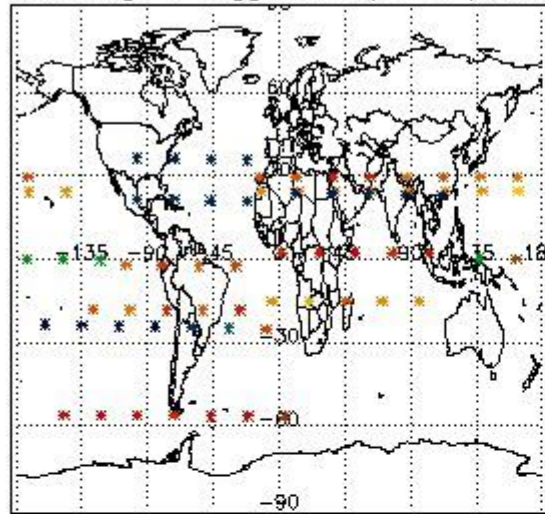
#### 3.1 Plot quality information per product (time dependant)



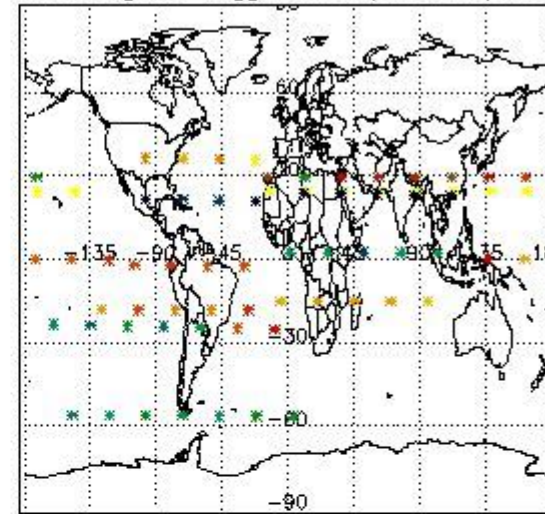
3.2 Plot quality information per product (world map)



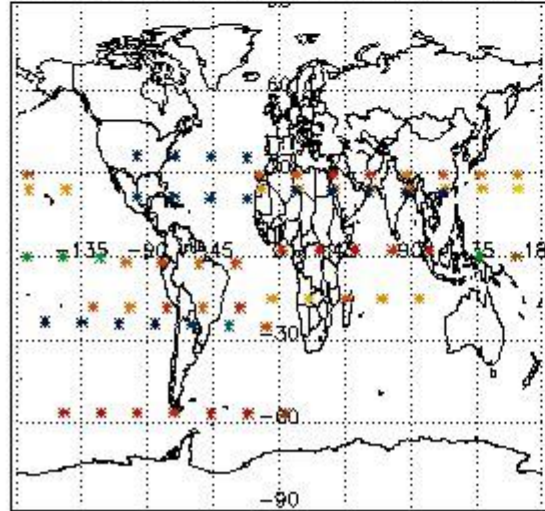
Percentage of flagged data per O3 profile



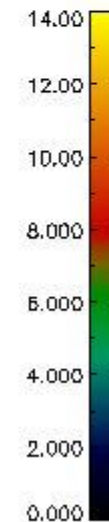
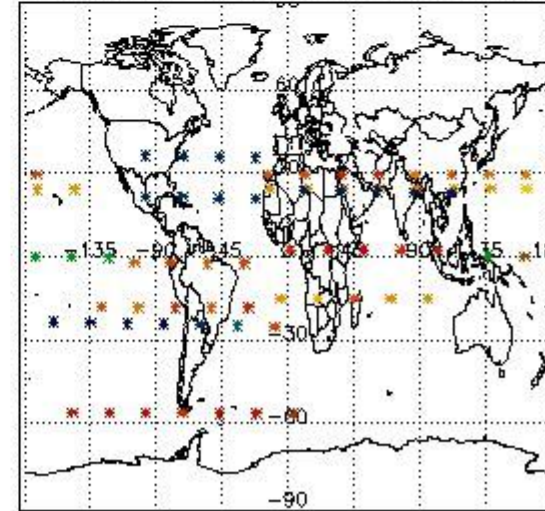
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

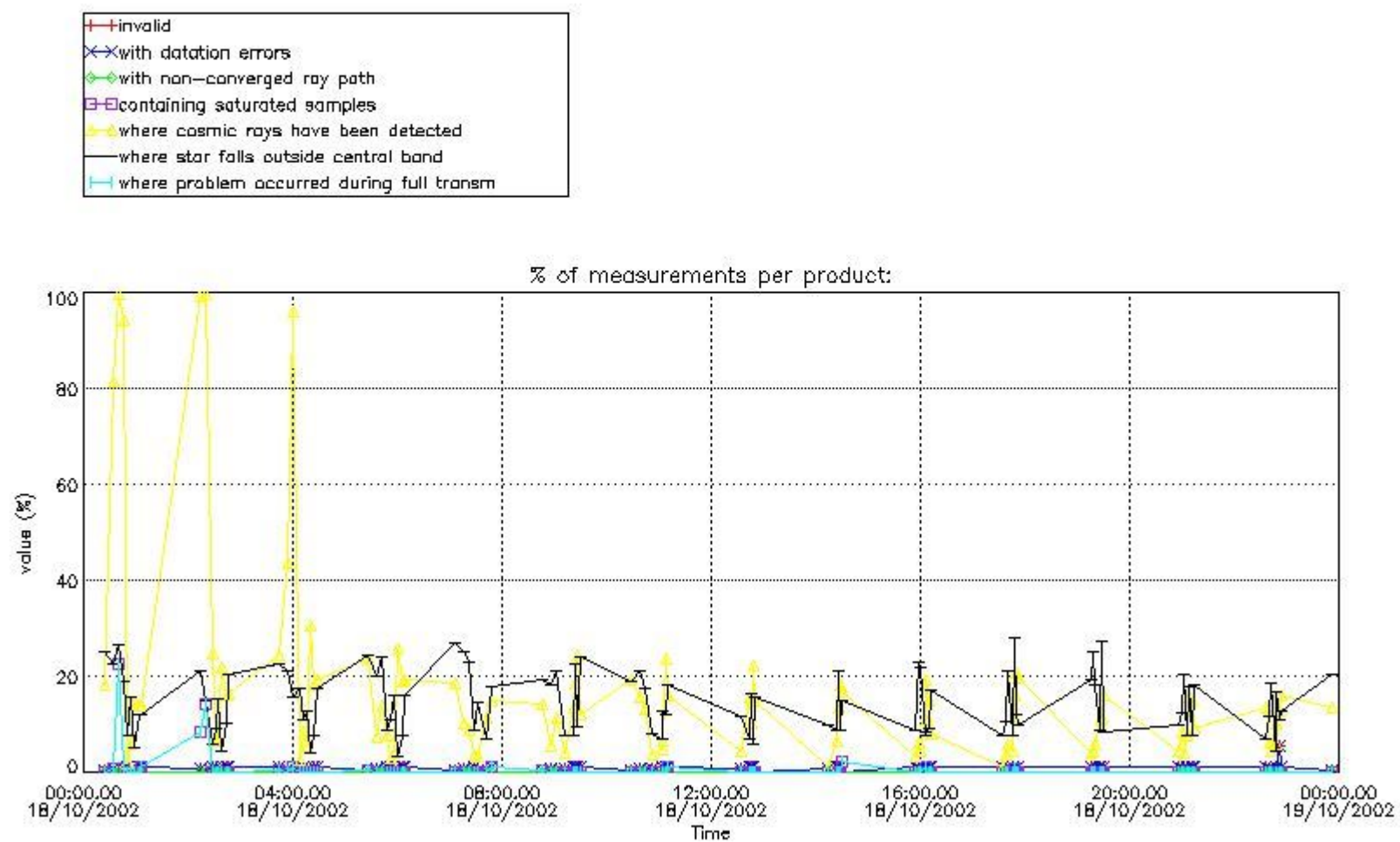


#### 4. Level 1 quality information per product

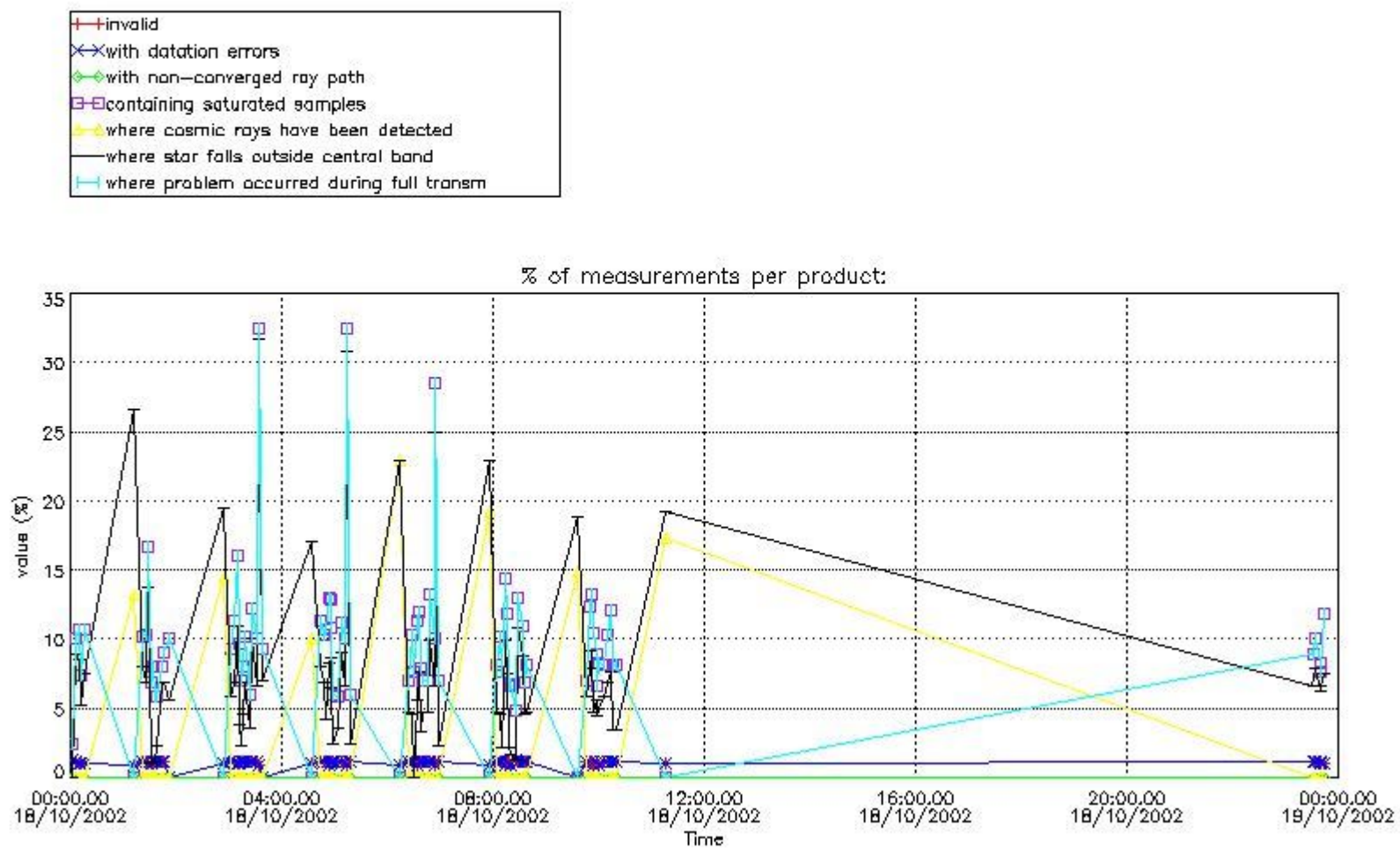
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

##### 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



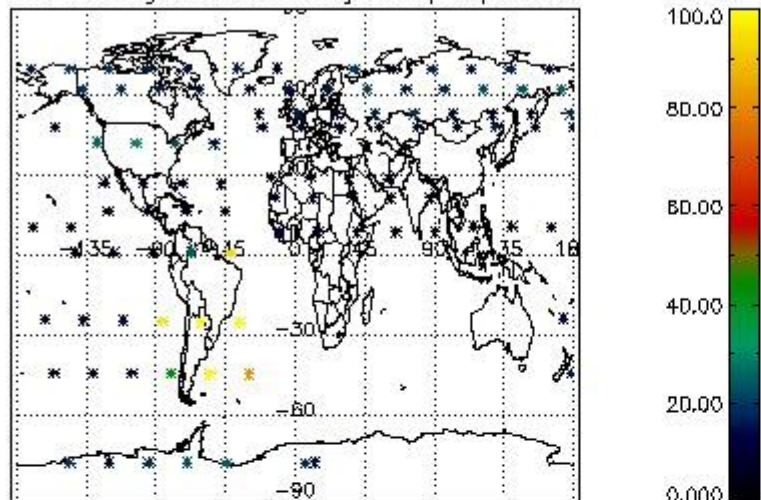
4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes



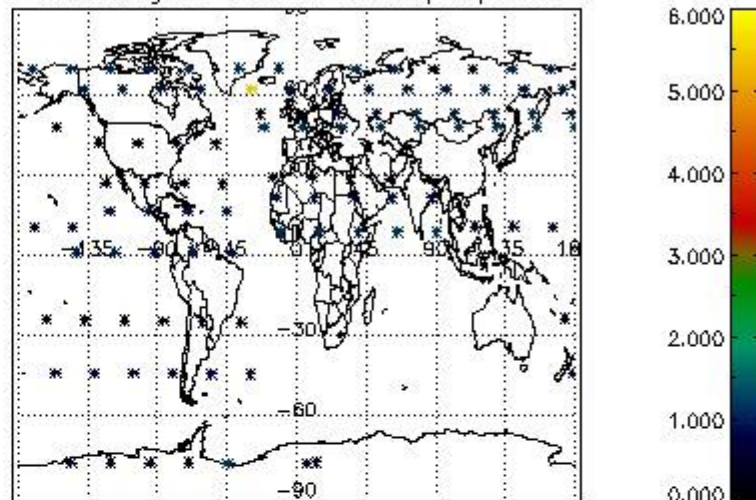
4.2 Plot quality information per product coming from level 1b processing (world map)

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

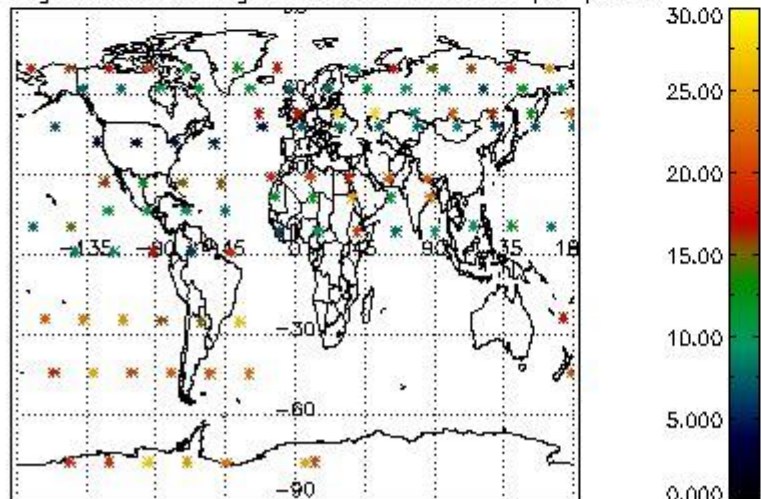
Percentage of cosmic ray hits per profile



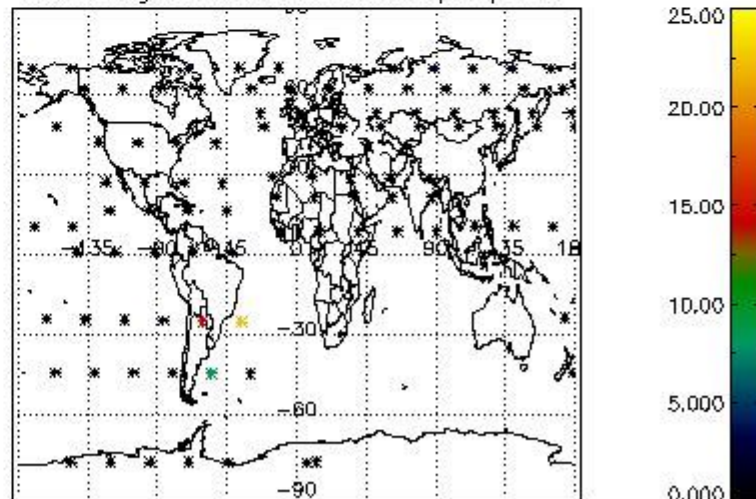
Percentage of datation errors per profile



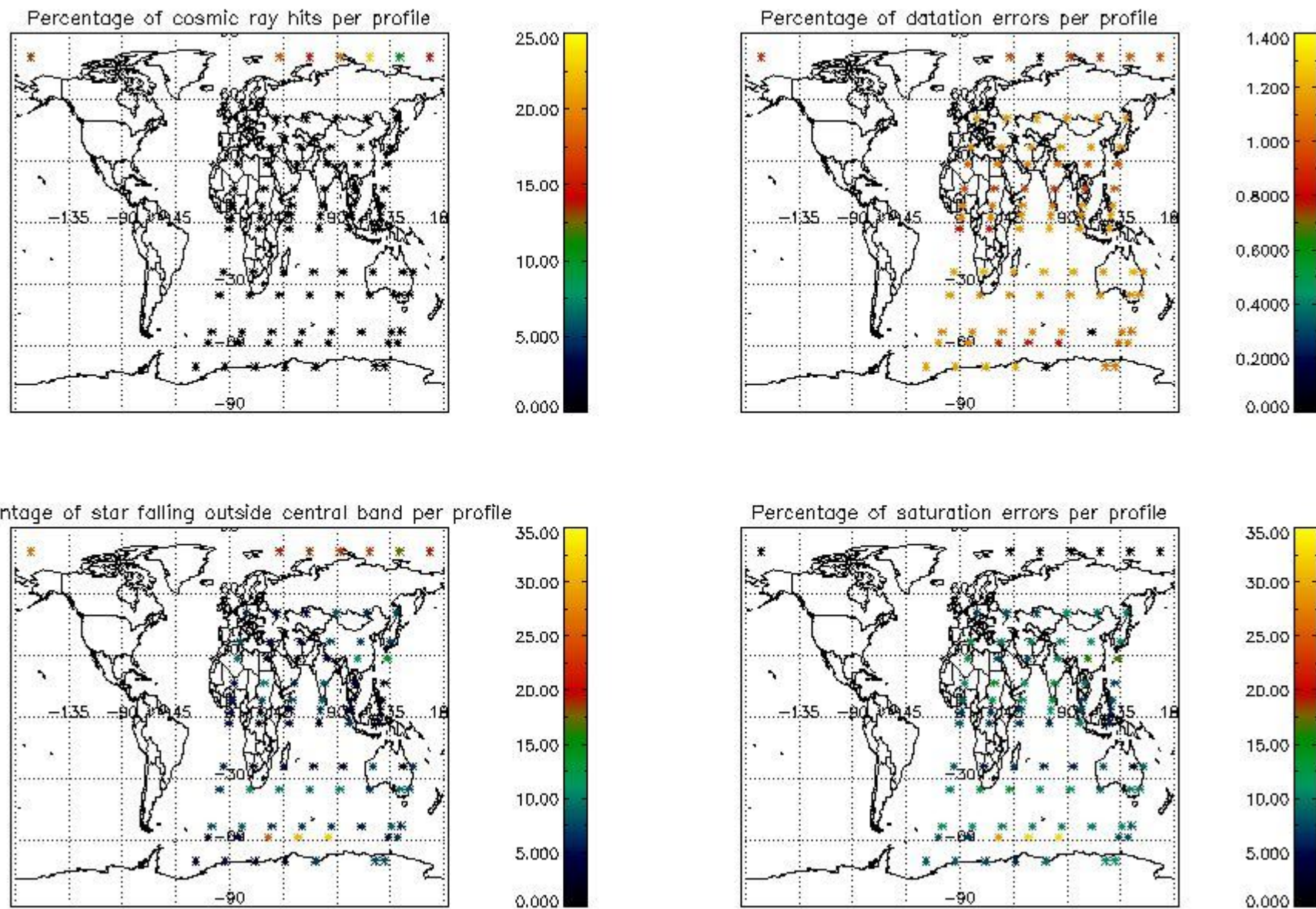
Percentage of star falling outside central band per profile



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

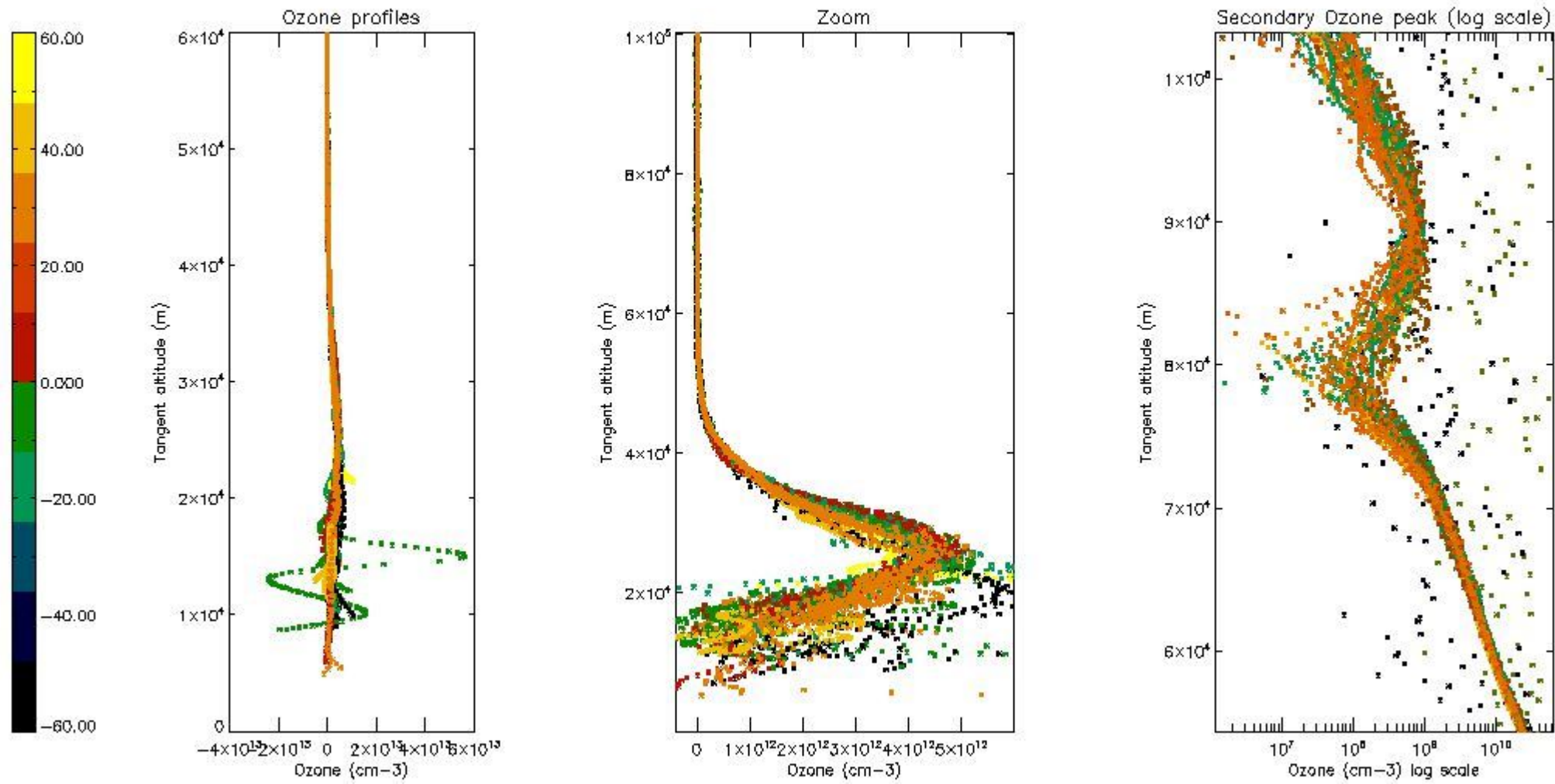
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	56
STD < 20	35

STD < 10	32
STD < 5	27

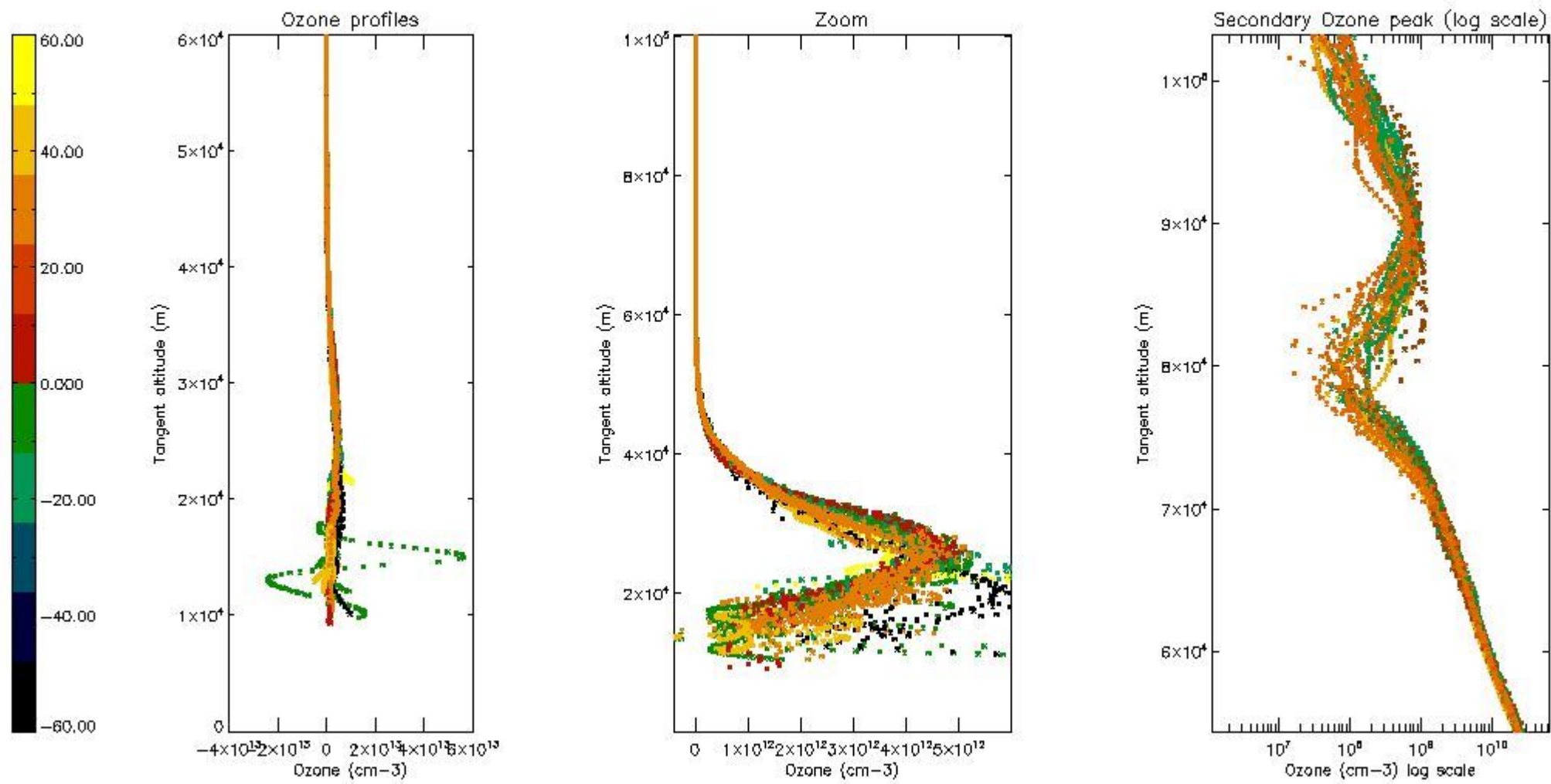
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



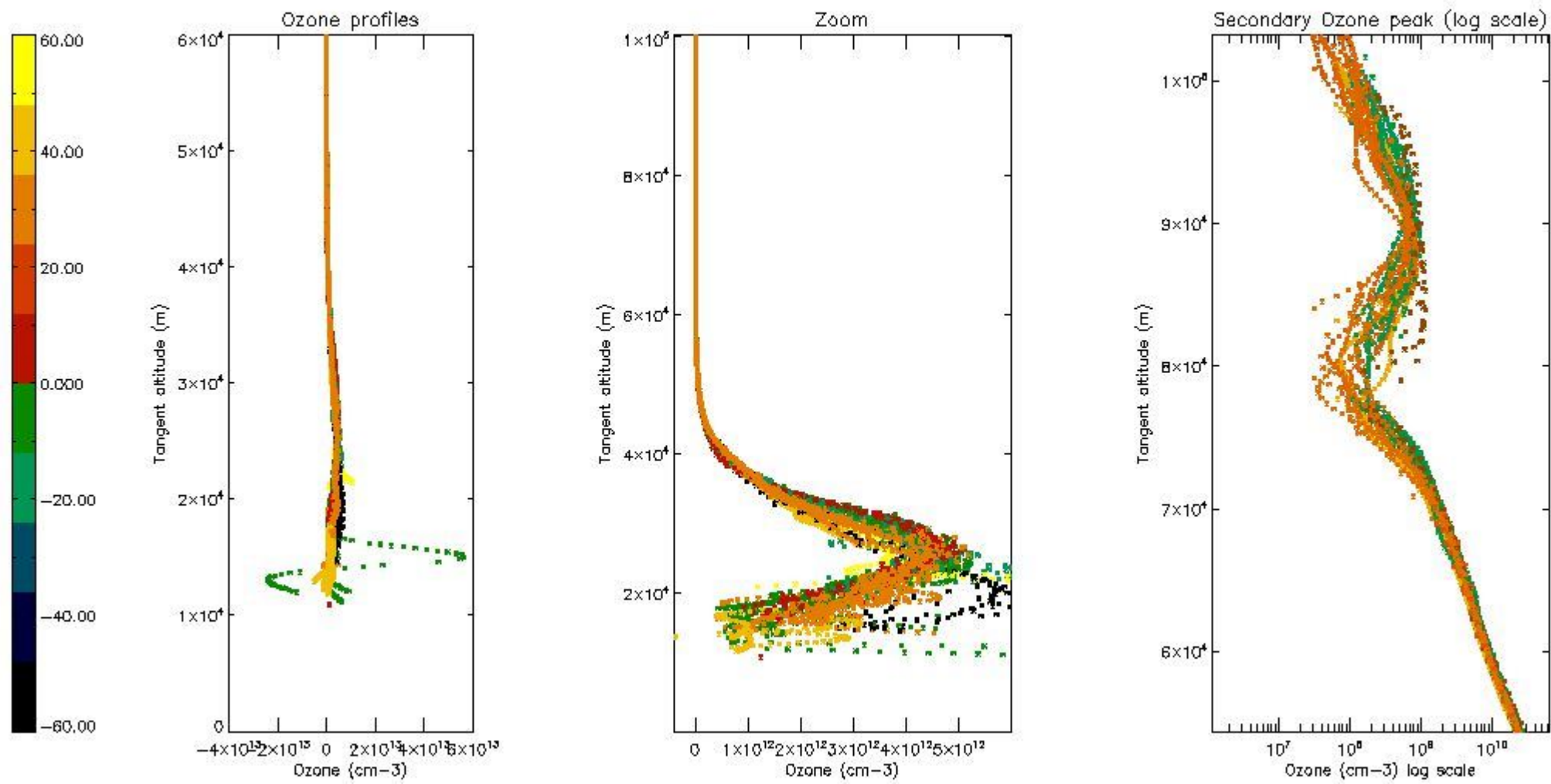
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



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

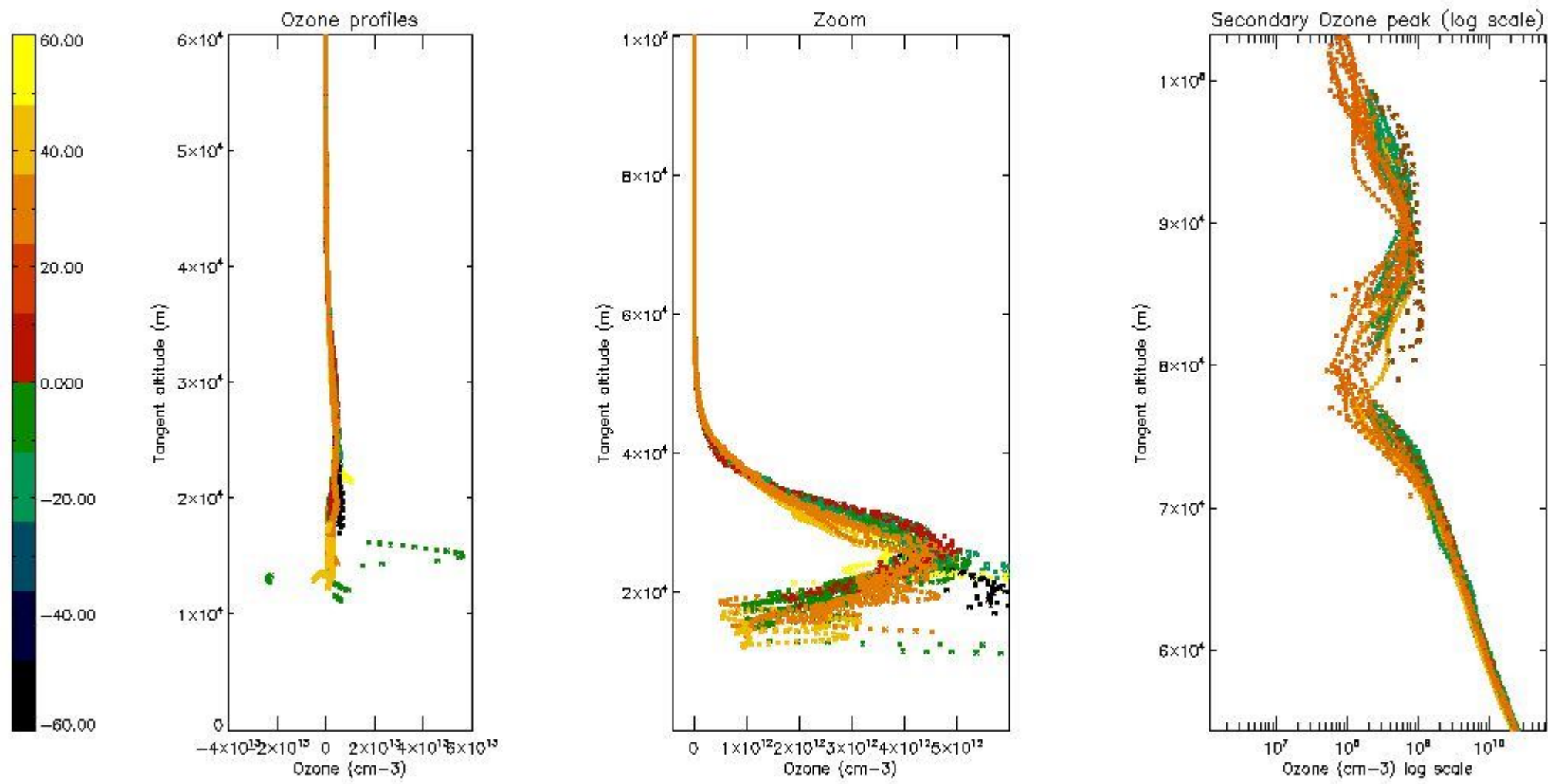
The colorbar represents the latitude.



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

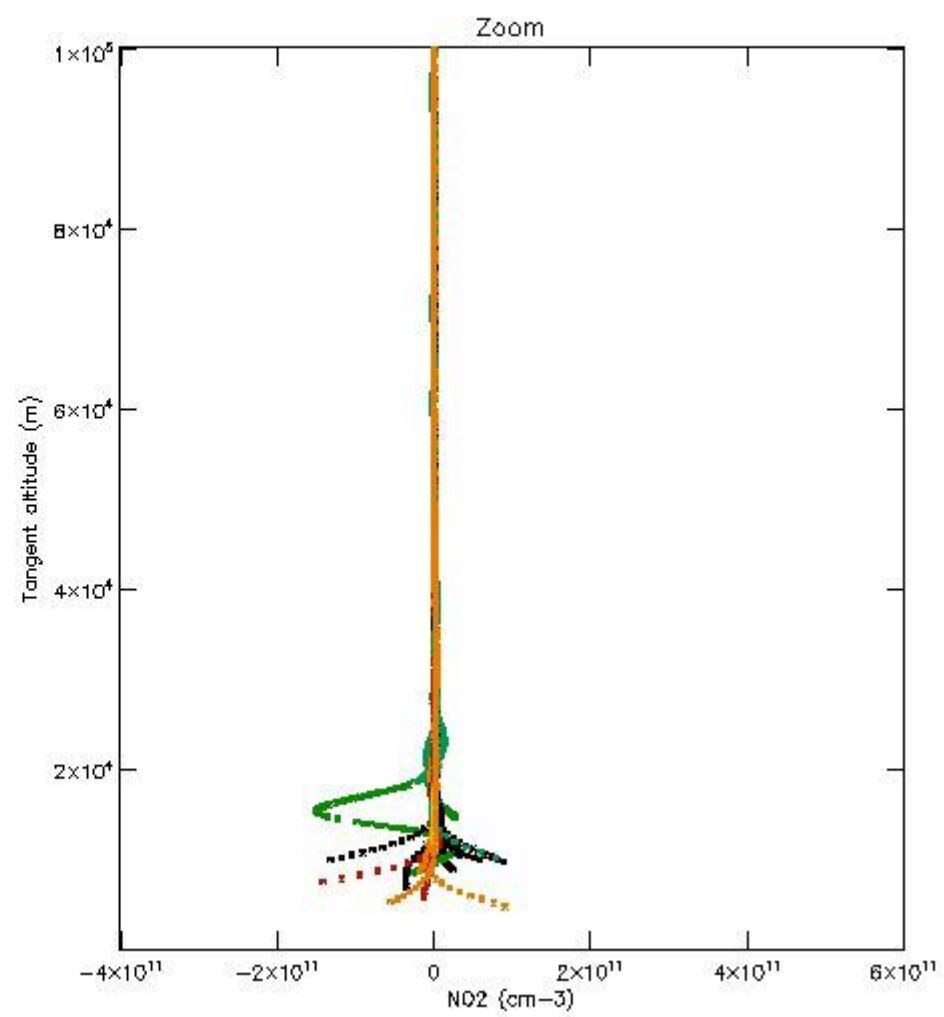
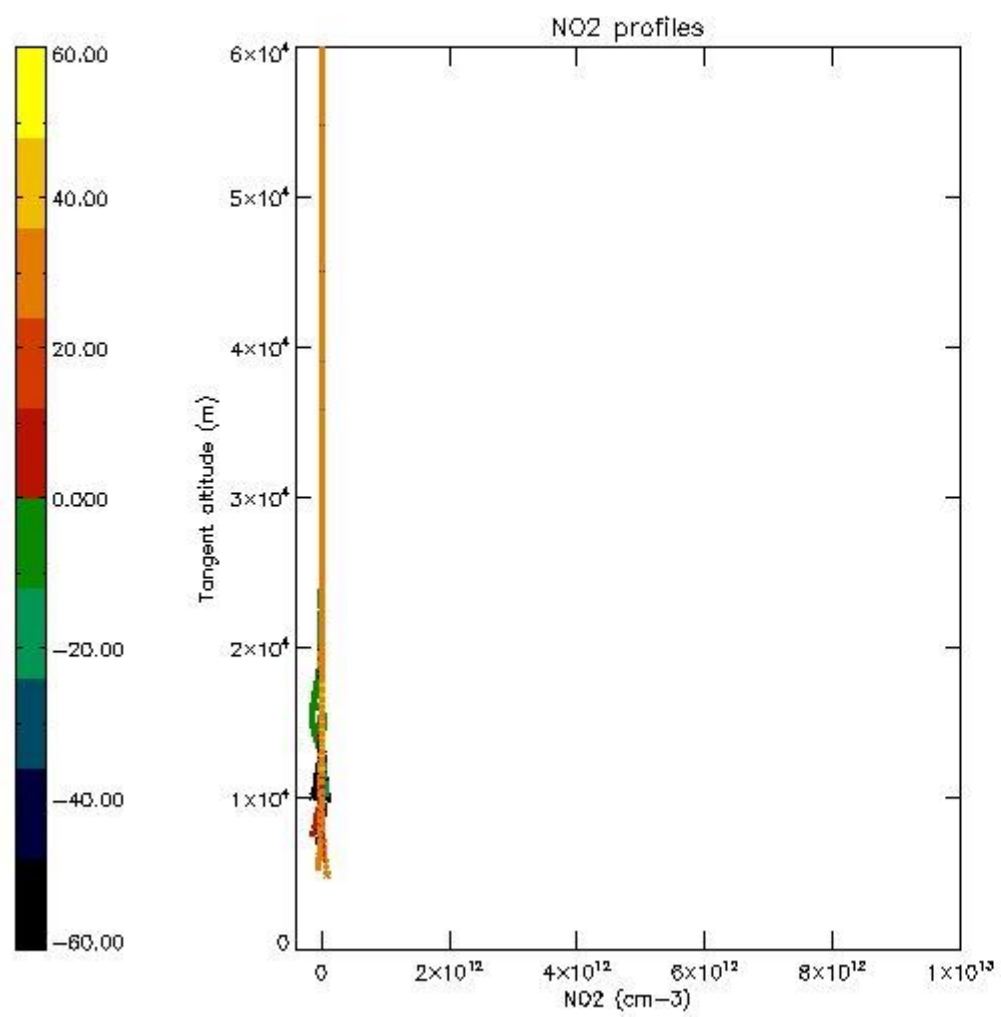
The colorbar represents the latitude.





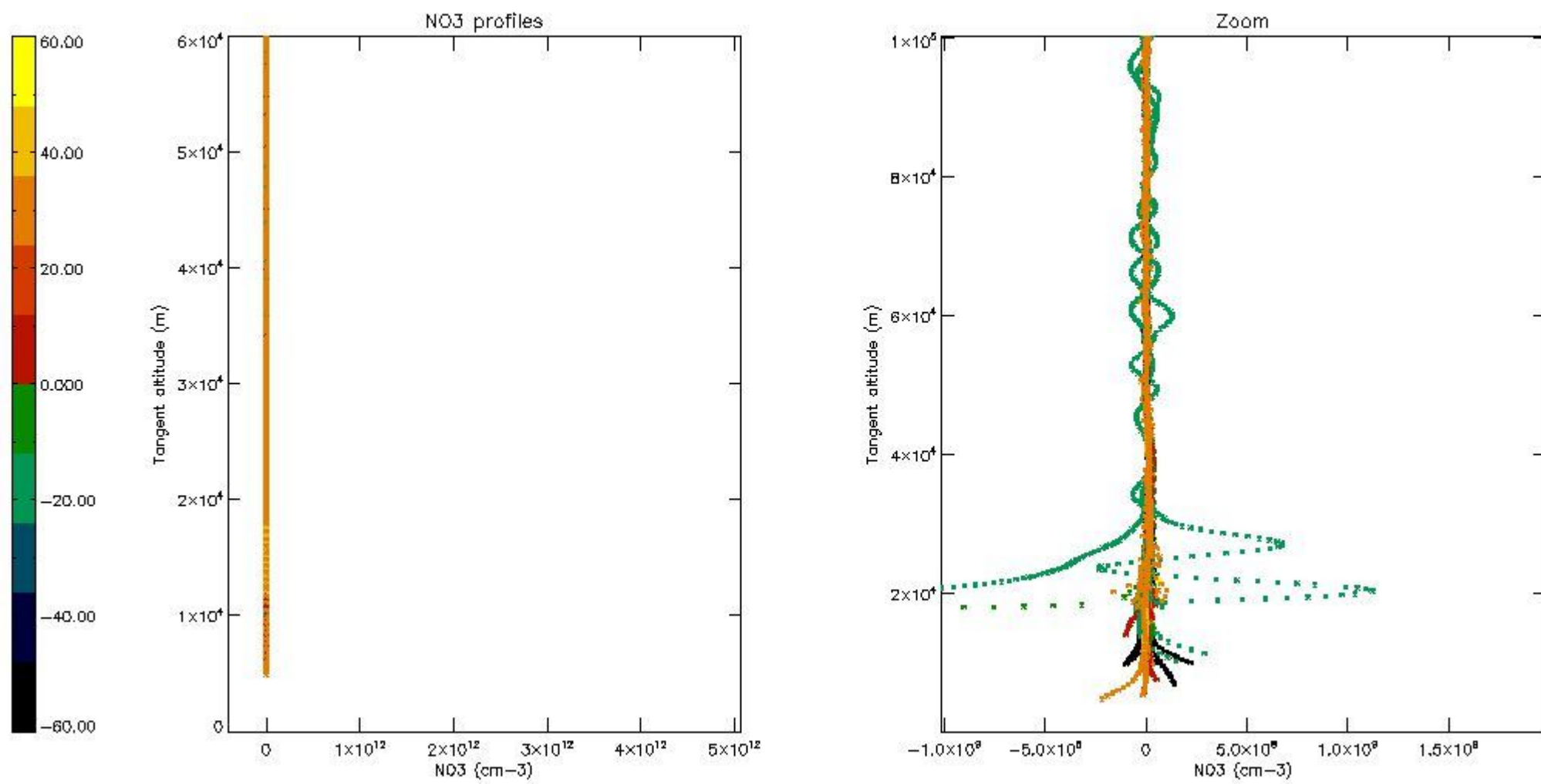
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

The colorbar represents the latitude.



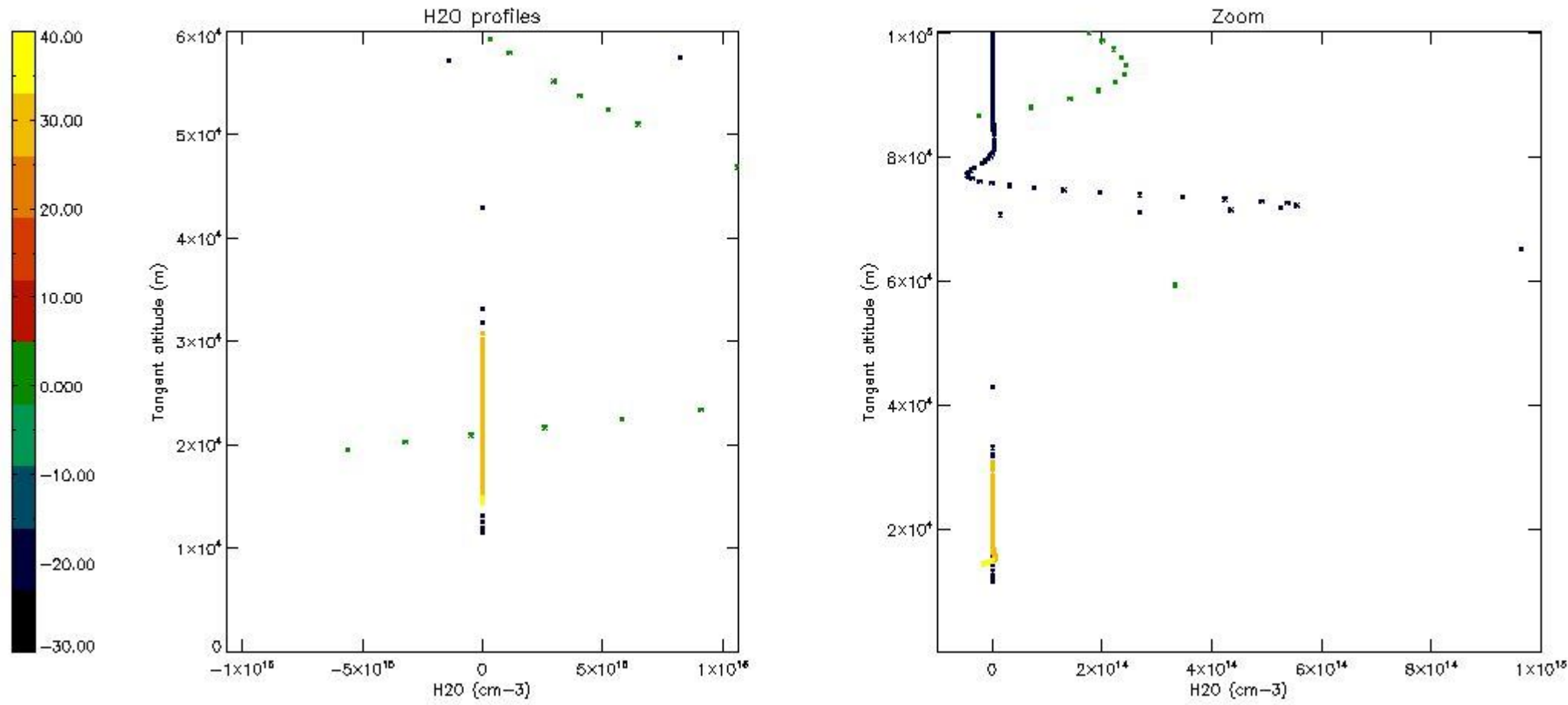
*5.7 Plot NO3 profiles for all STD (dark without errors)*

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)

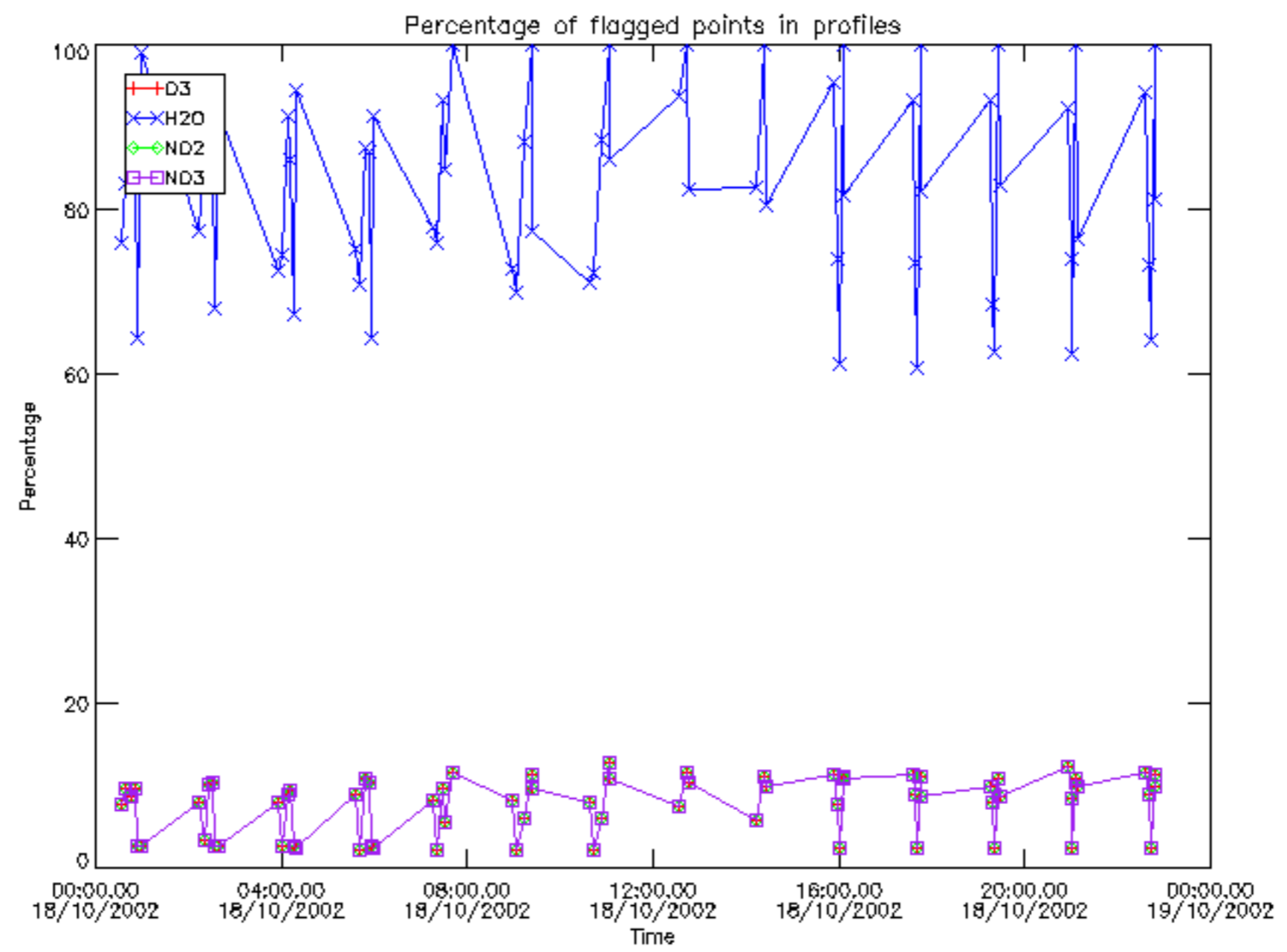
The colorbar represents the latitude.



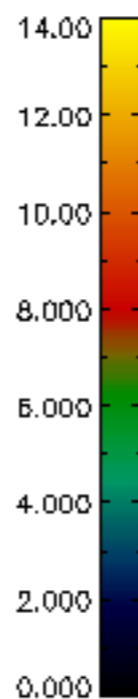
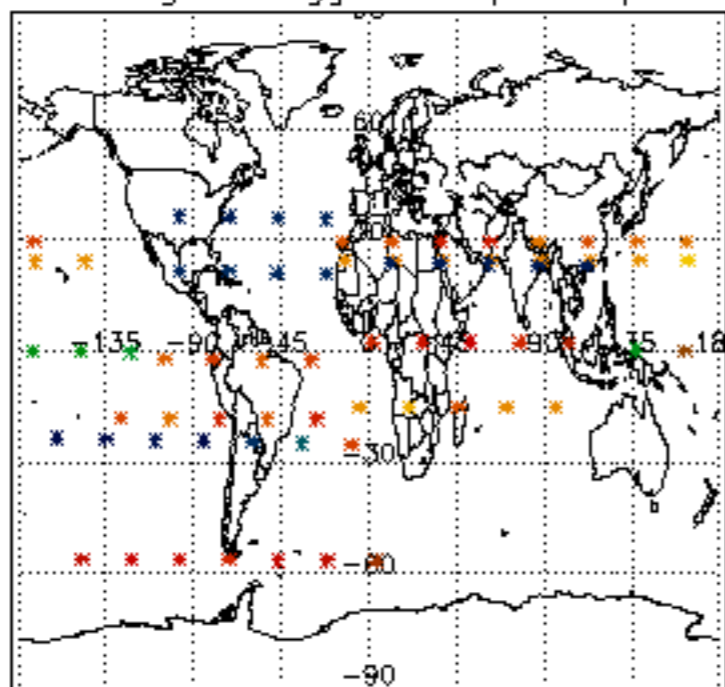
## 6. Auxiliary Data Files used for the production reported in section 2

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.

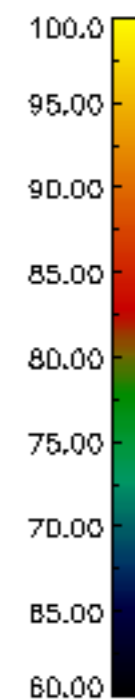
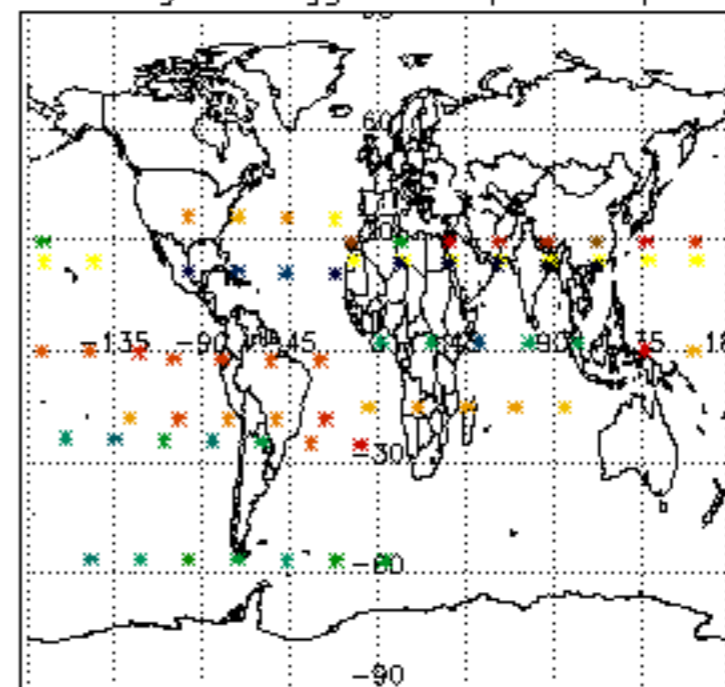
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LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	18-OCT-2002 00:02:36
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	18-OCT-2002 00:02:36



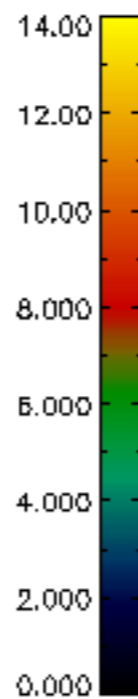
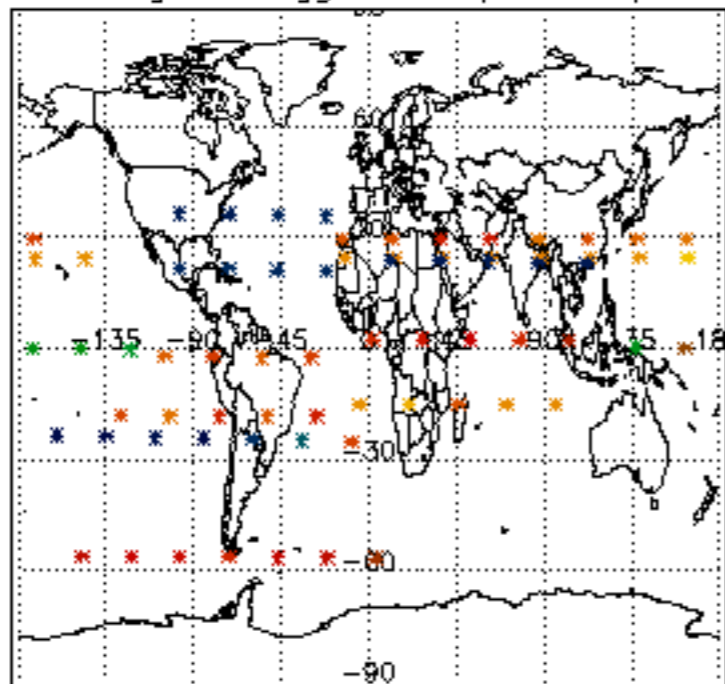
Percentage of flagged data per D3 profile



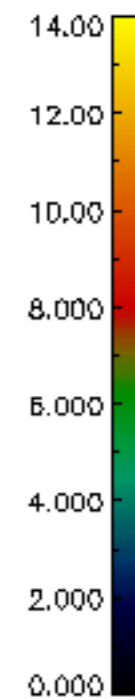
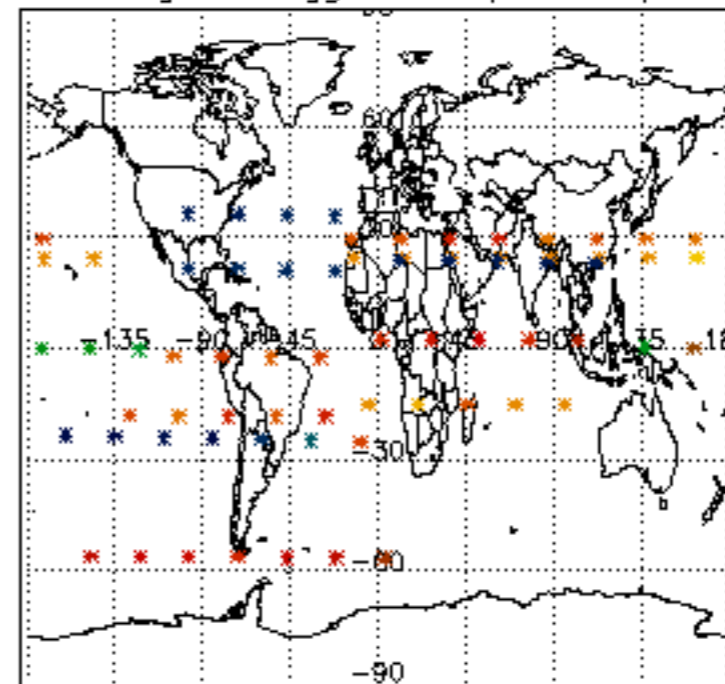
Percentage of flagged data per H2O profile

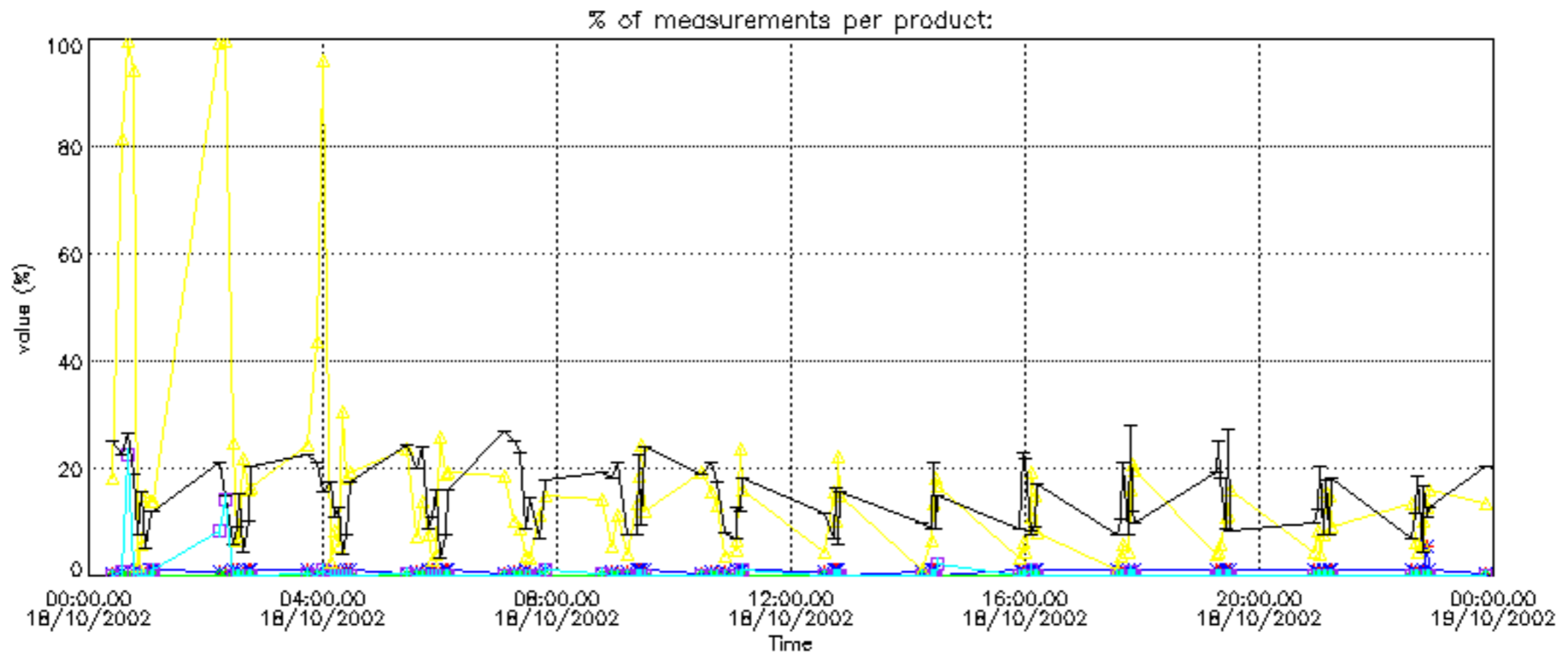


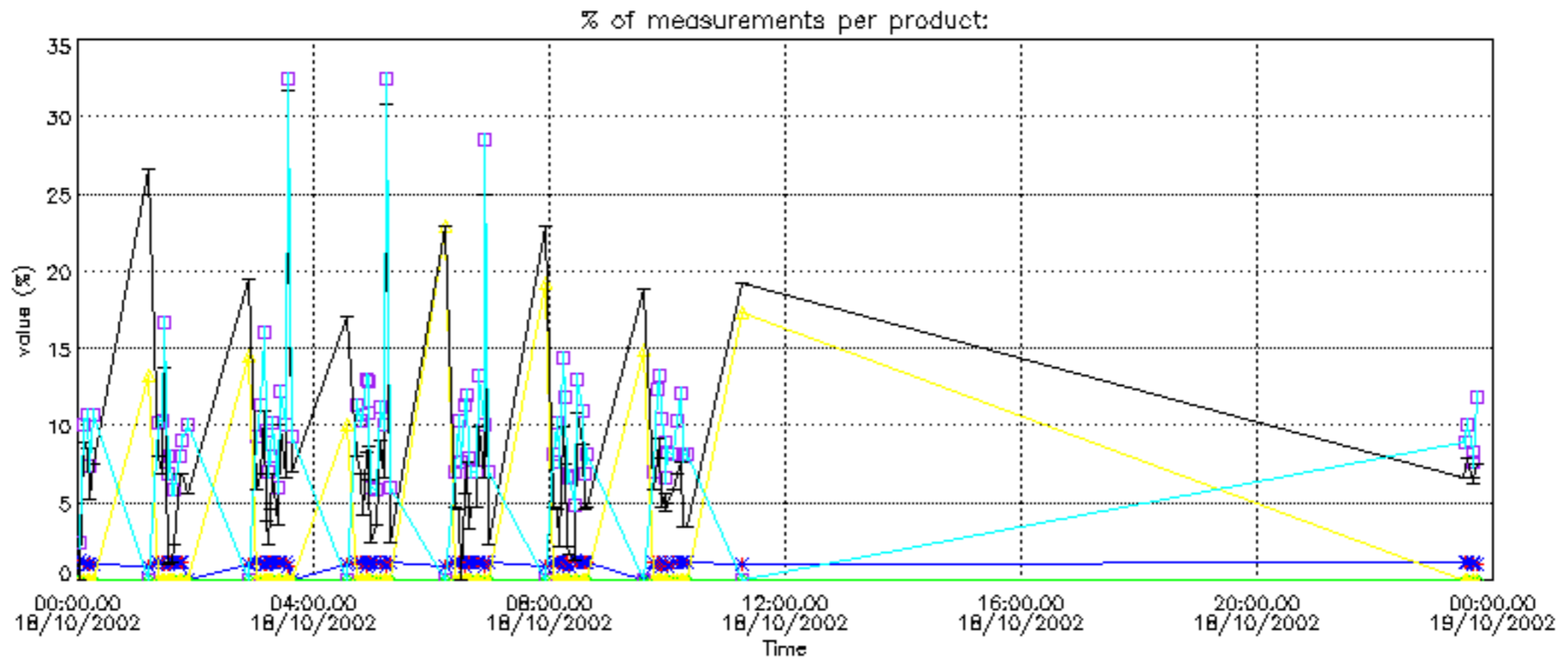
Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

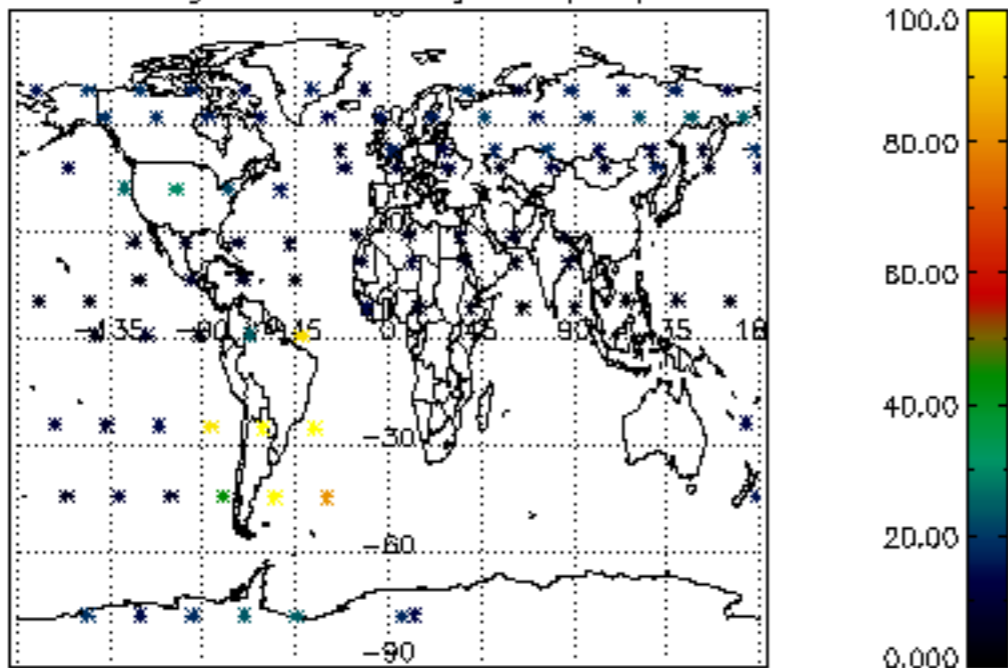




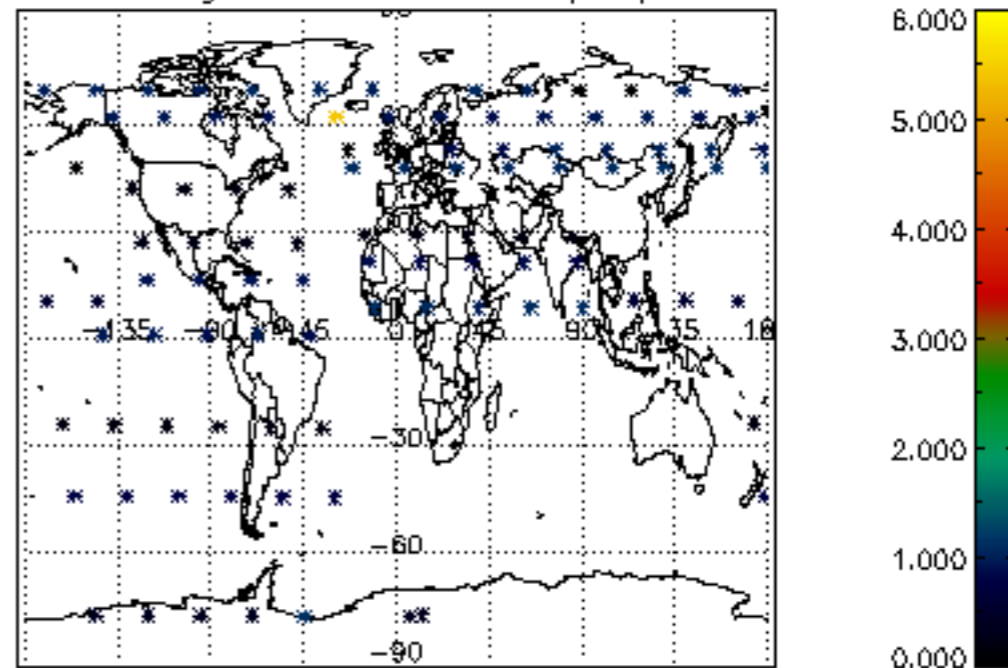




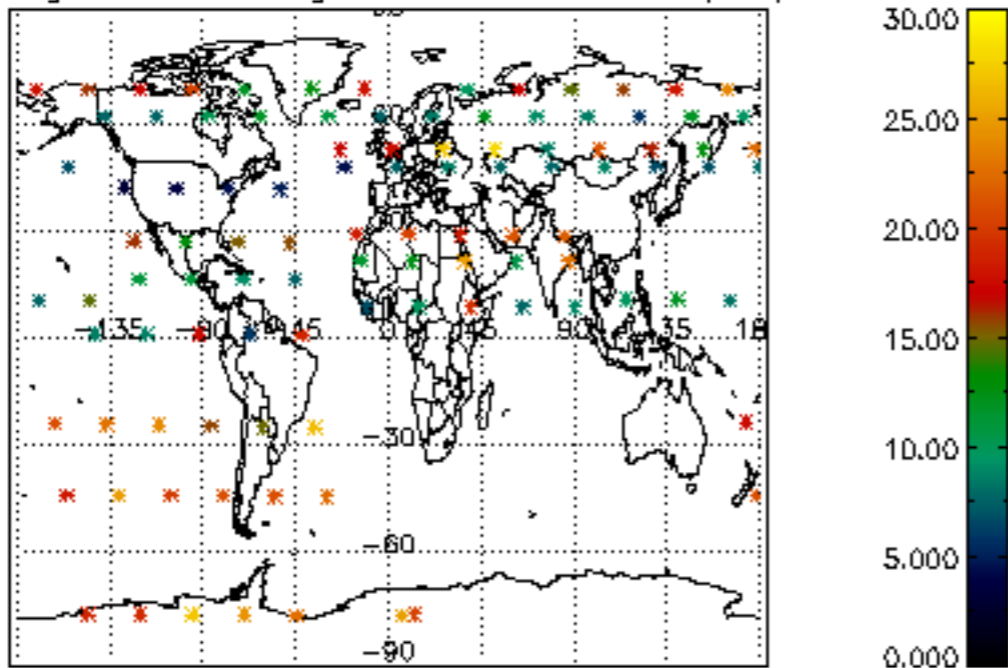
Percentage of cosmic ray hits per profile



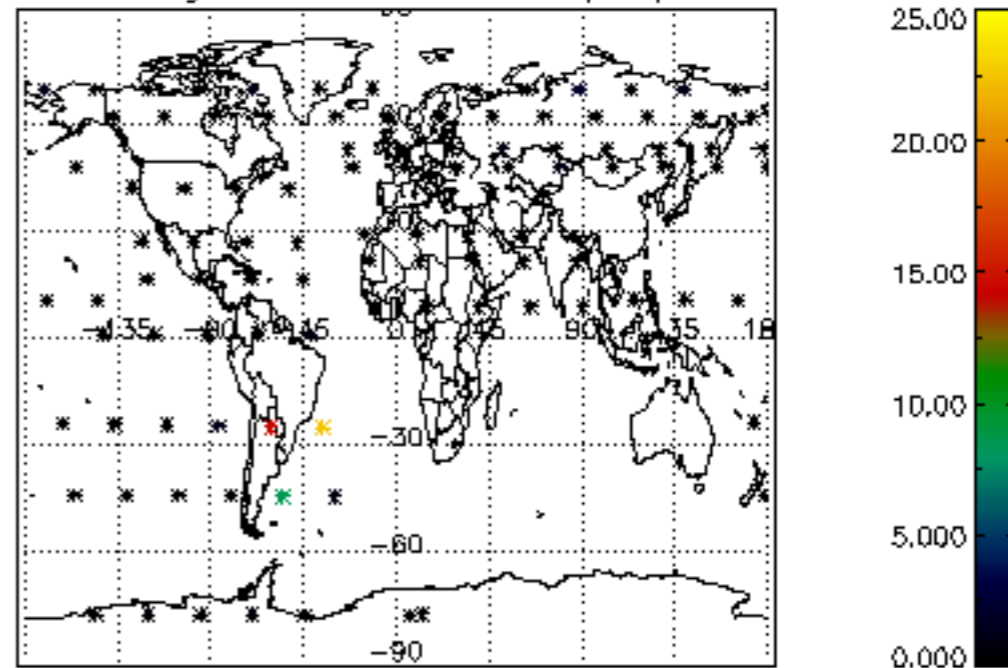
Percentage of datation errors per profile



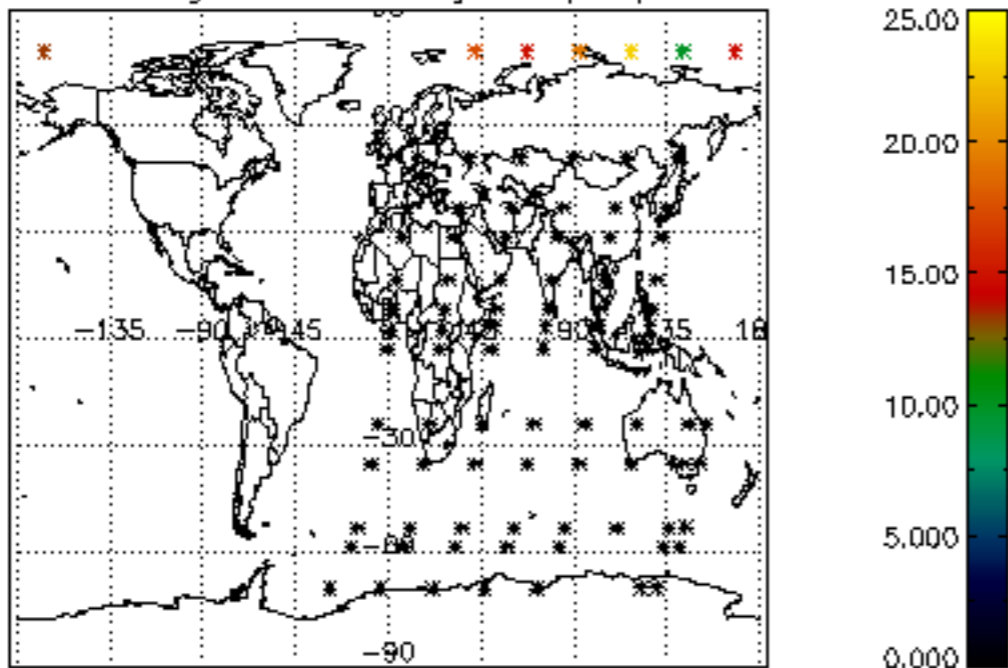
Percentage of star falling outside central band per profile



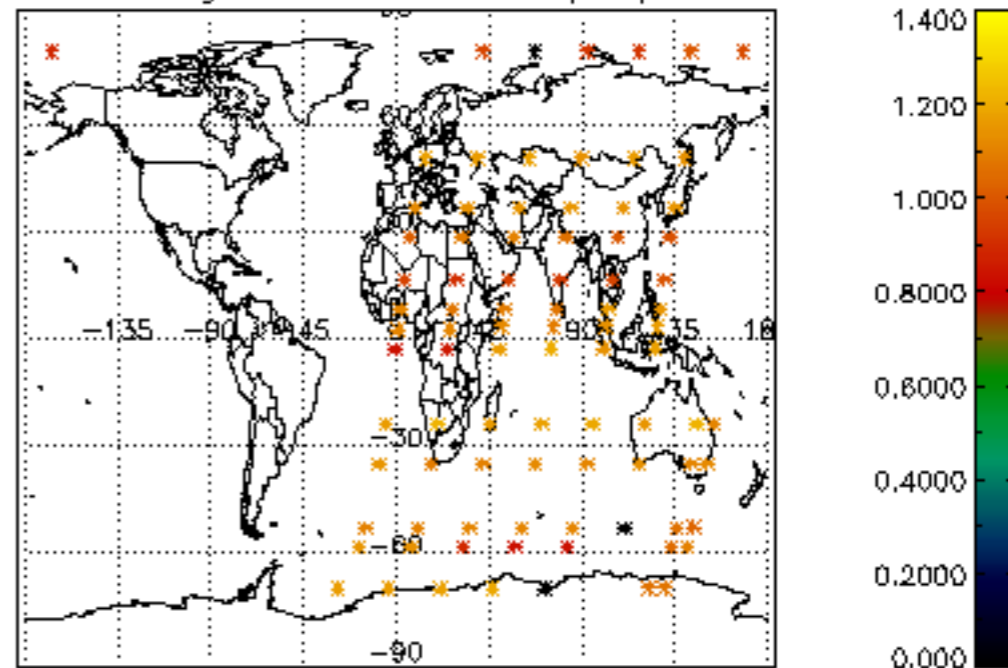
Percentage of saturation errors per profile



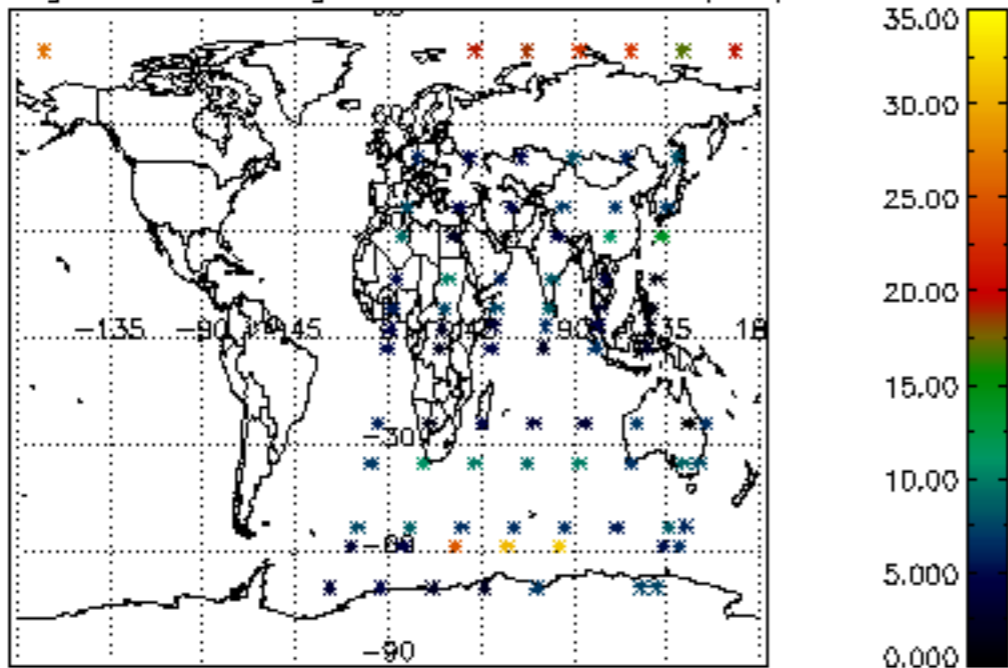
Percentage of cosmic ray hits per profile



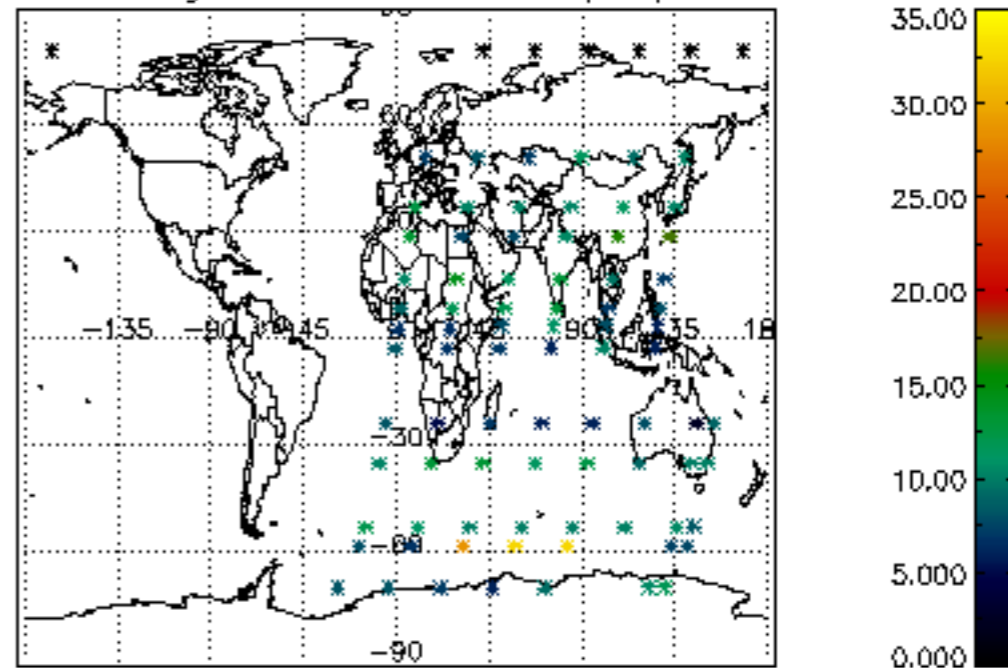
Percentage of datation errors per profile

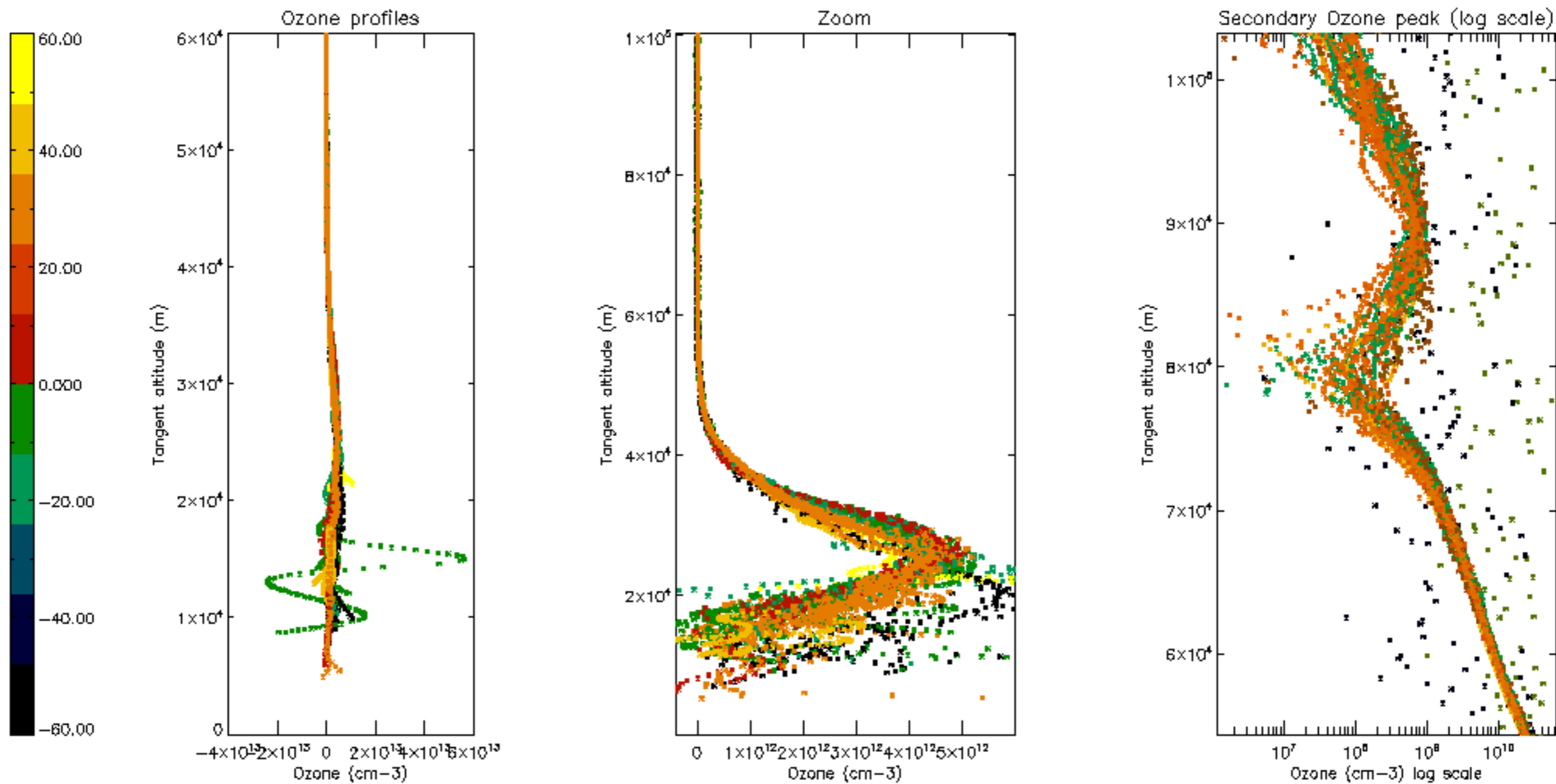


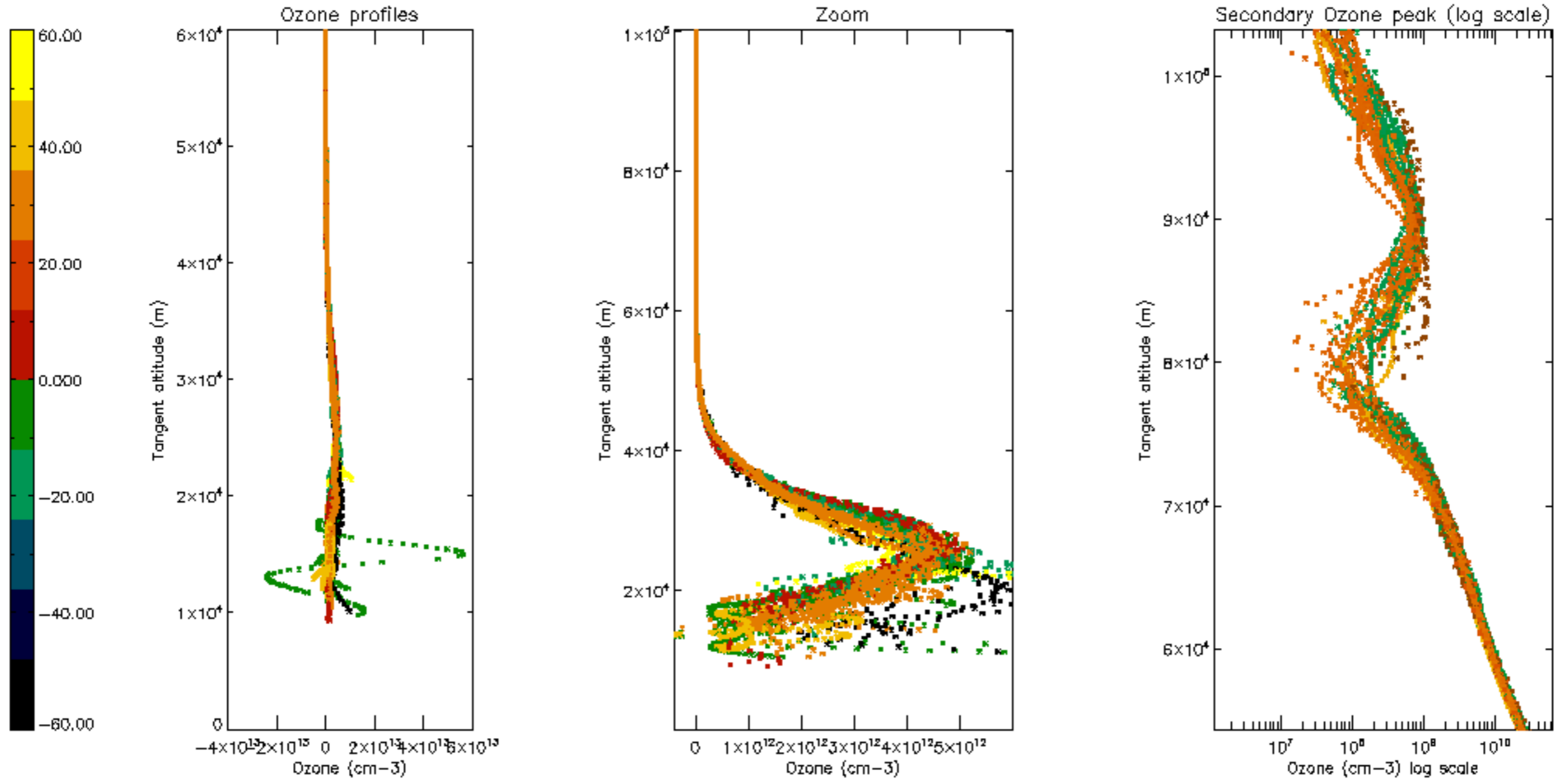
Percentage of star falling outside central band per profile

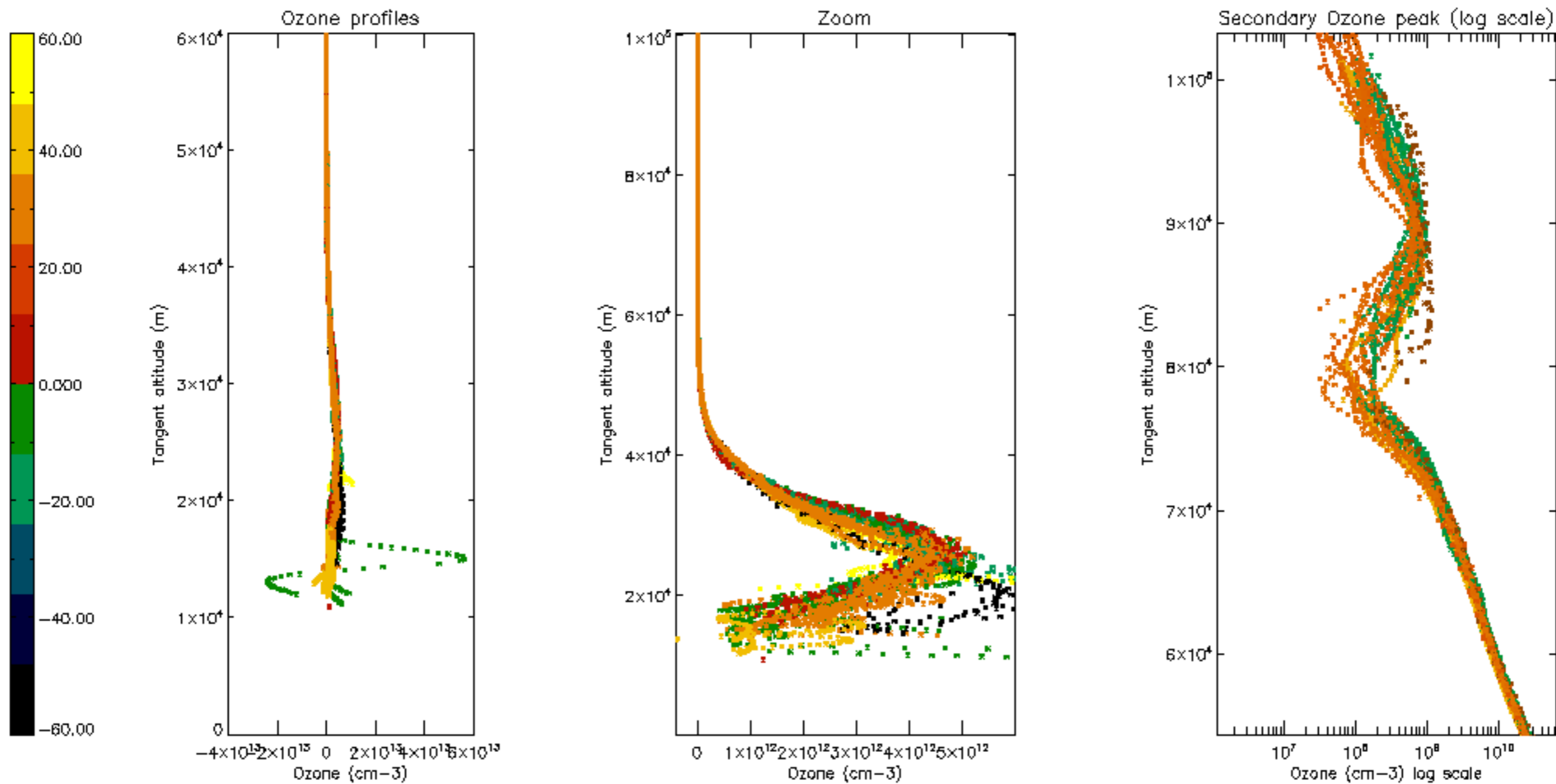


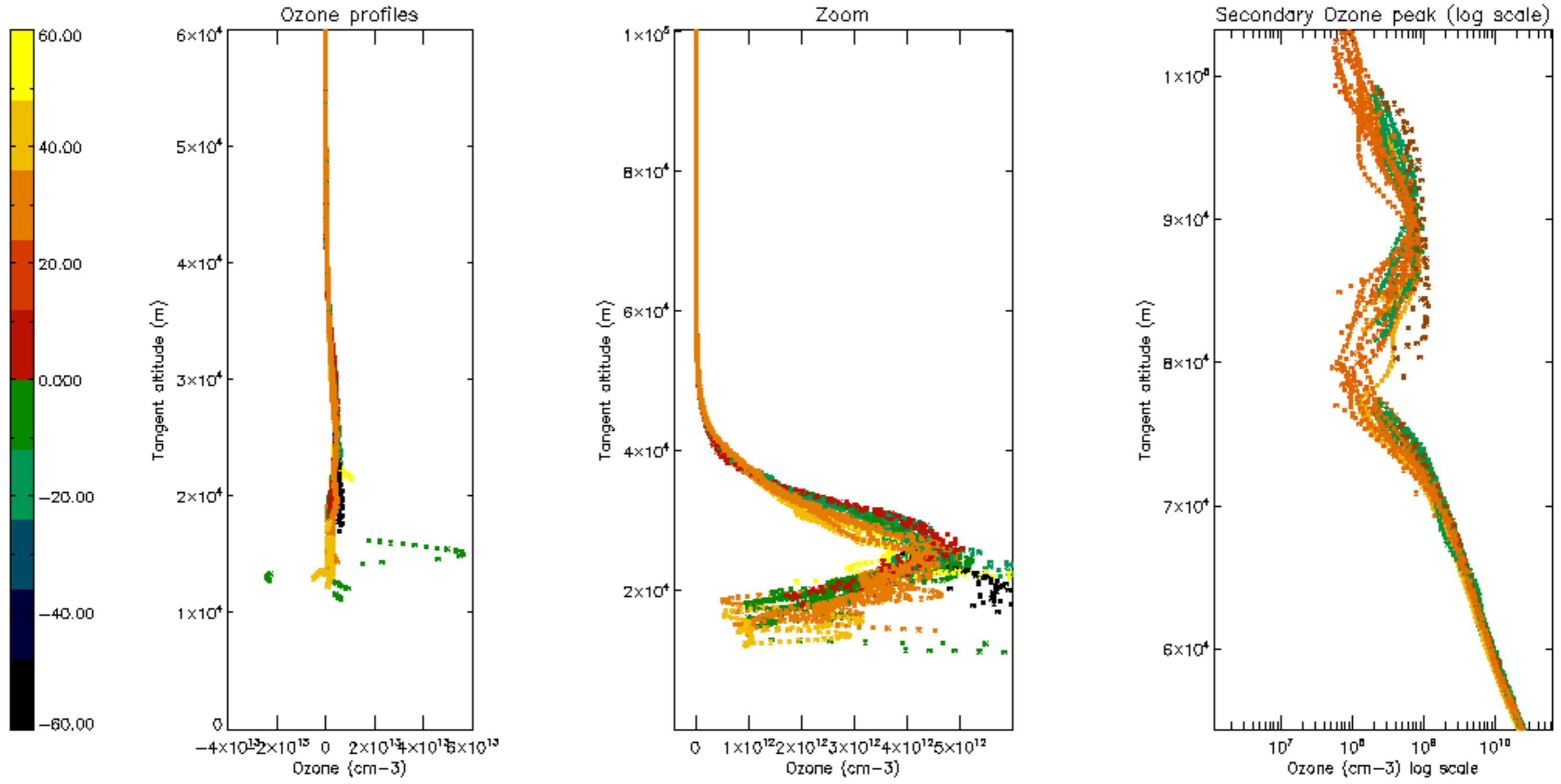
Percentage of saturation errors per profile

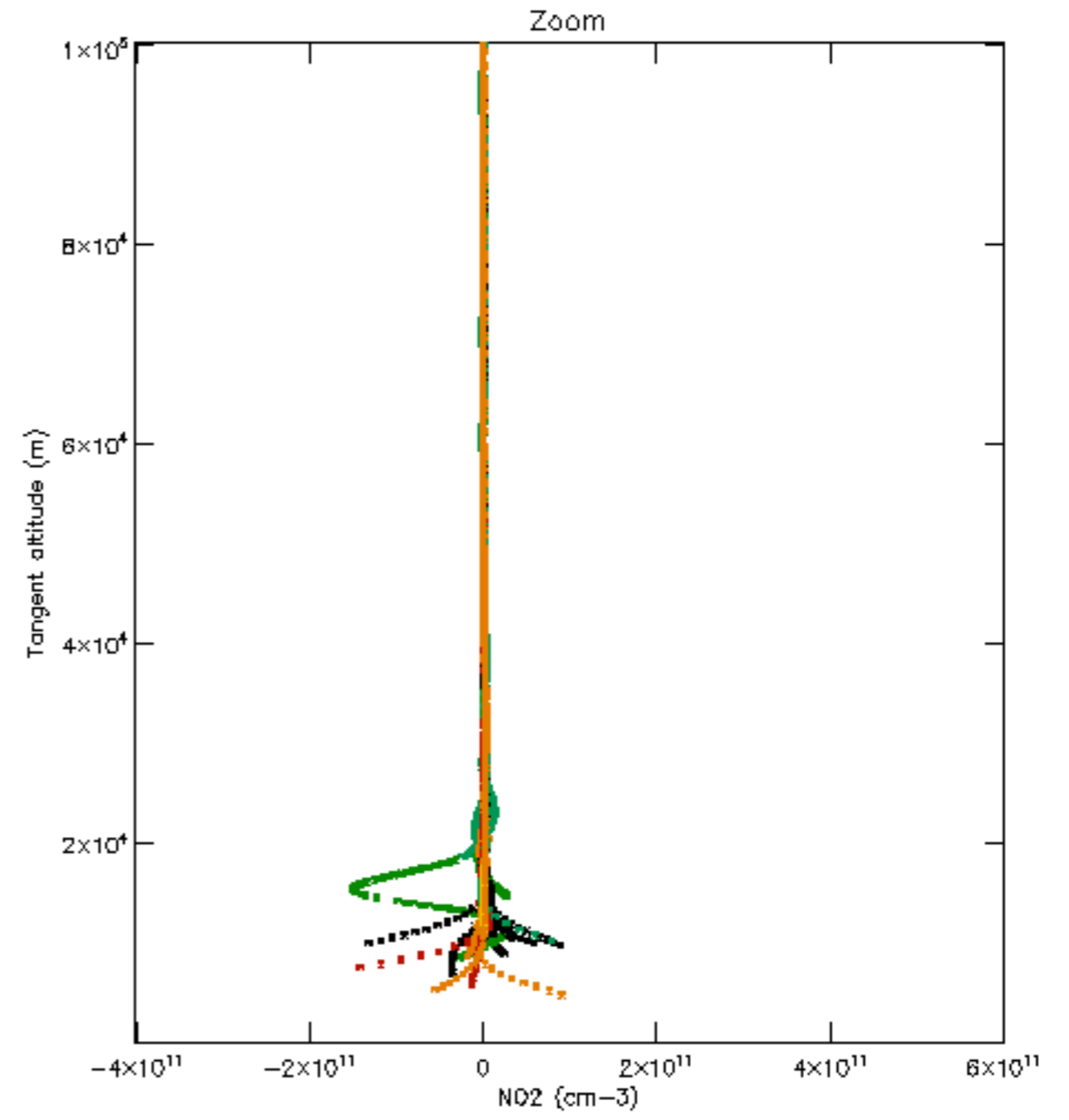
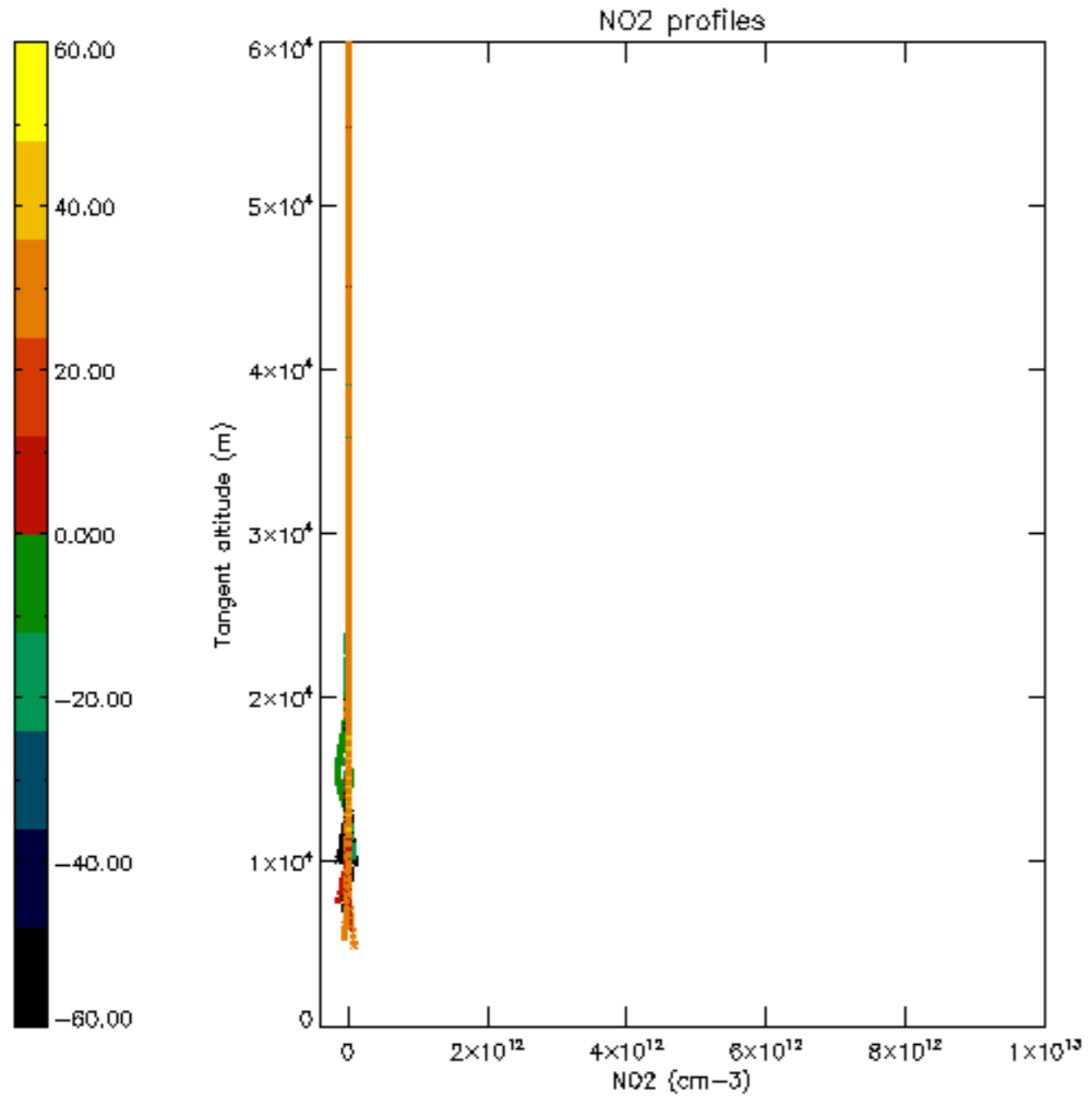


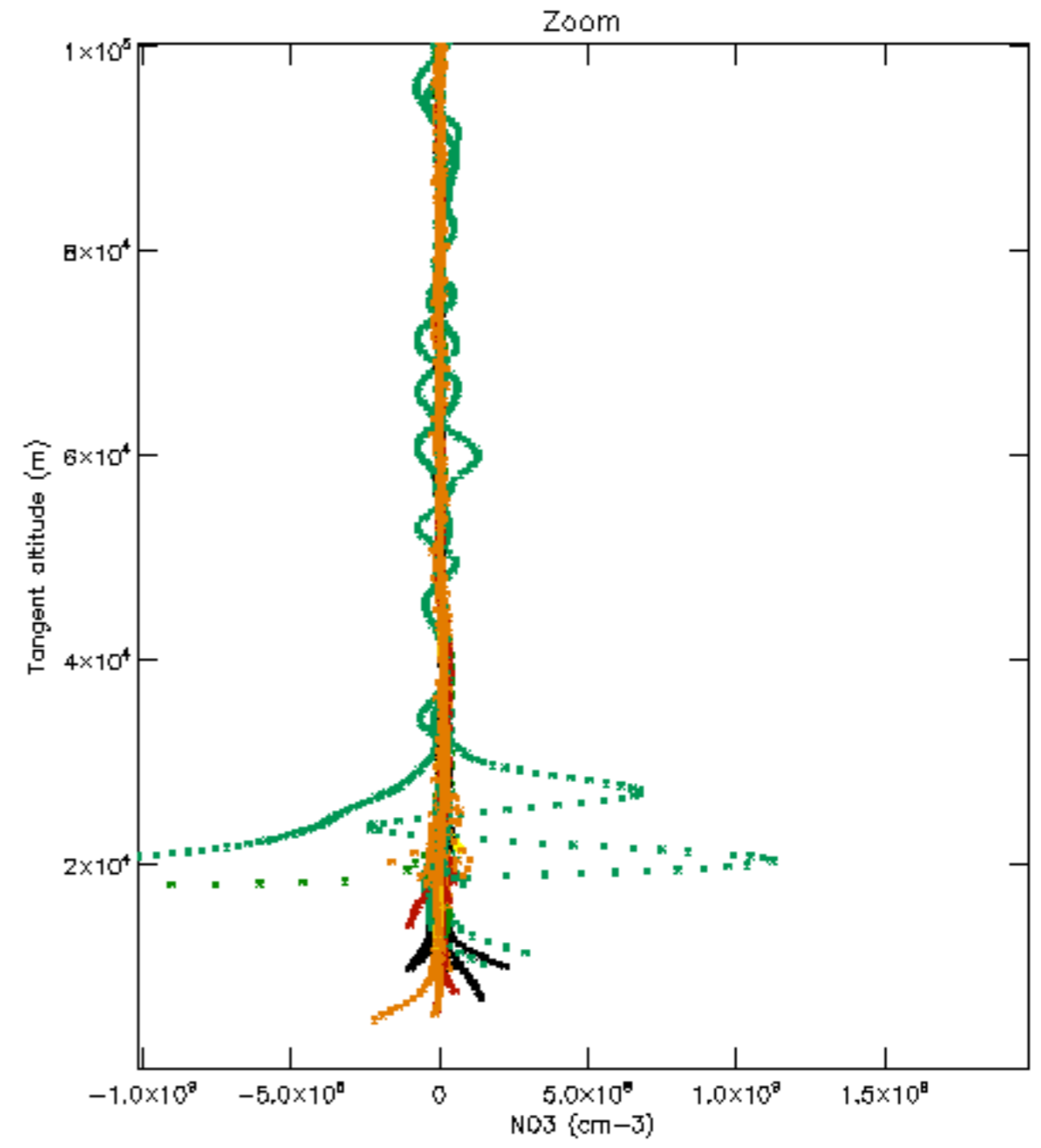
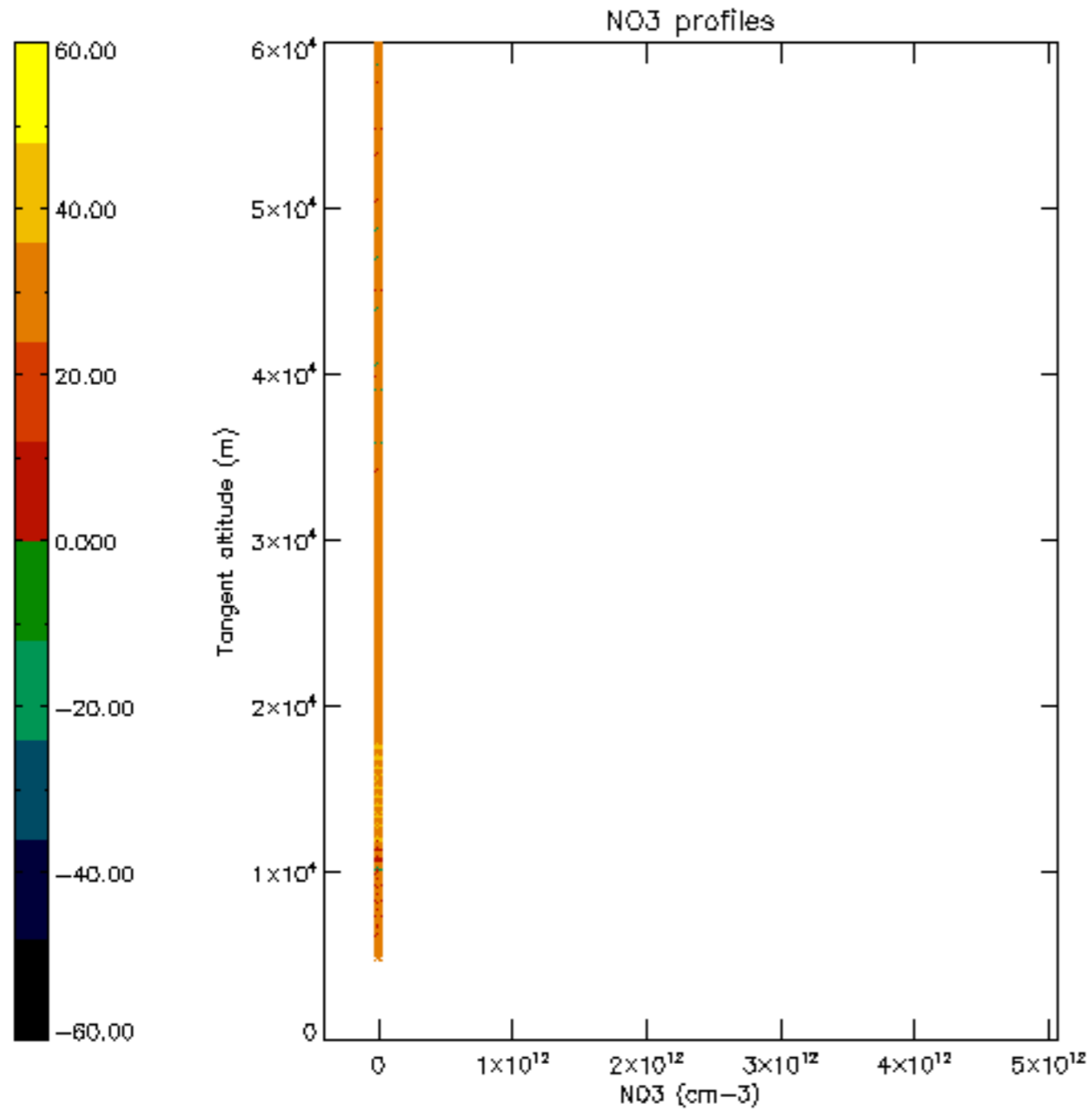




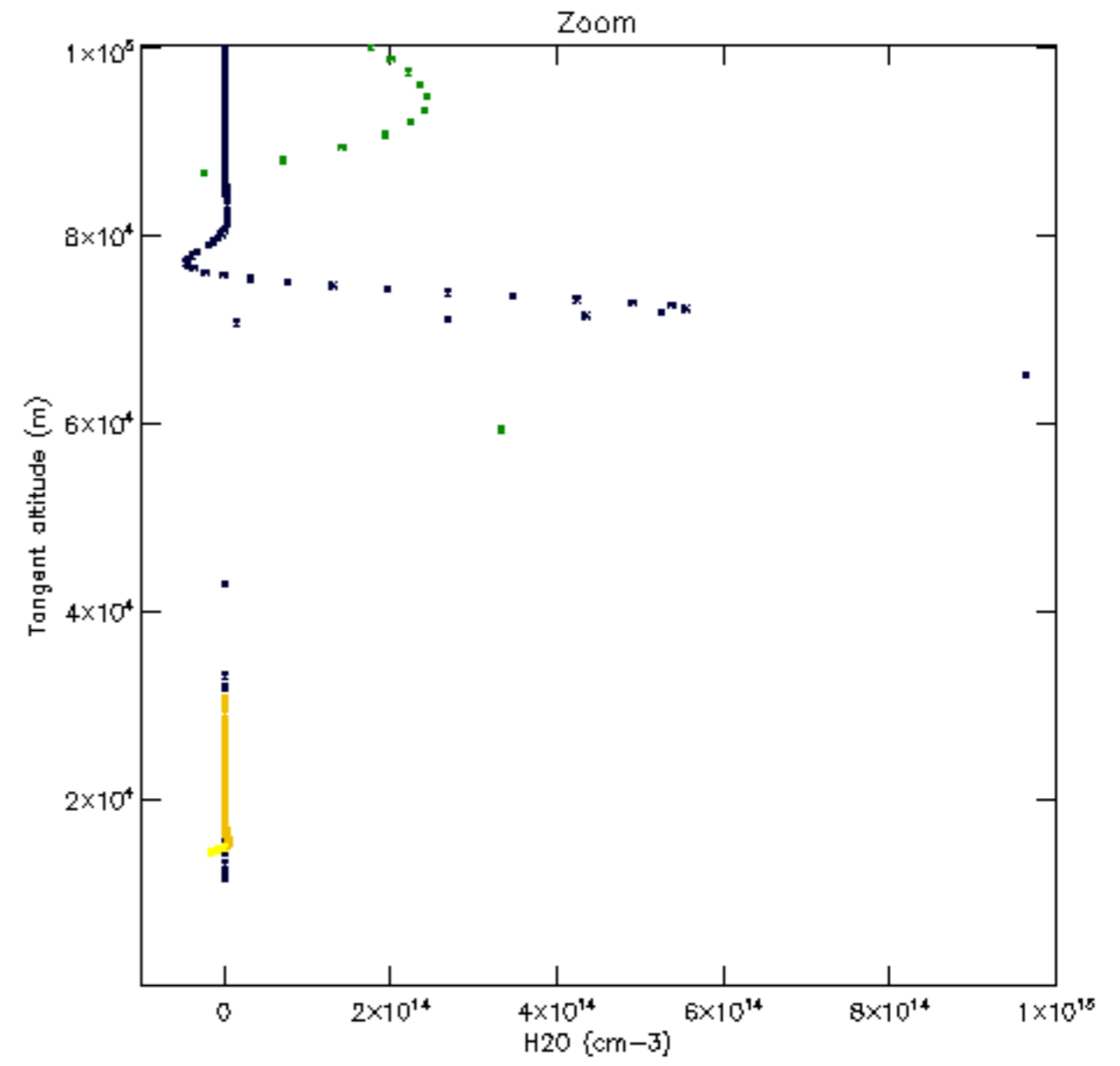
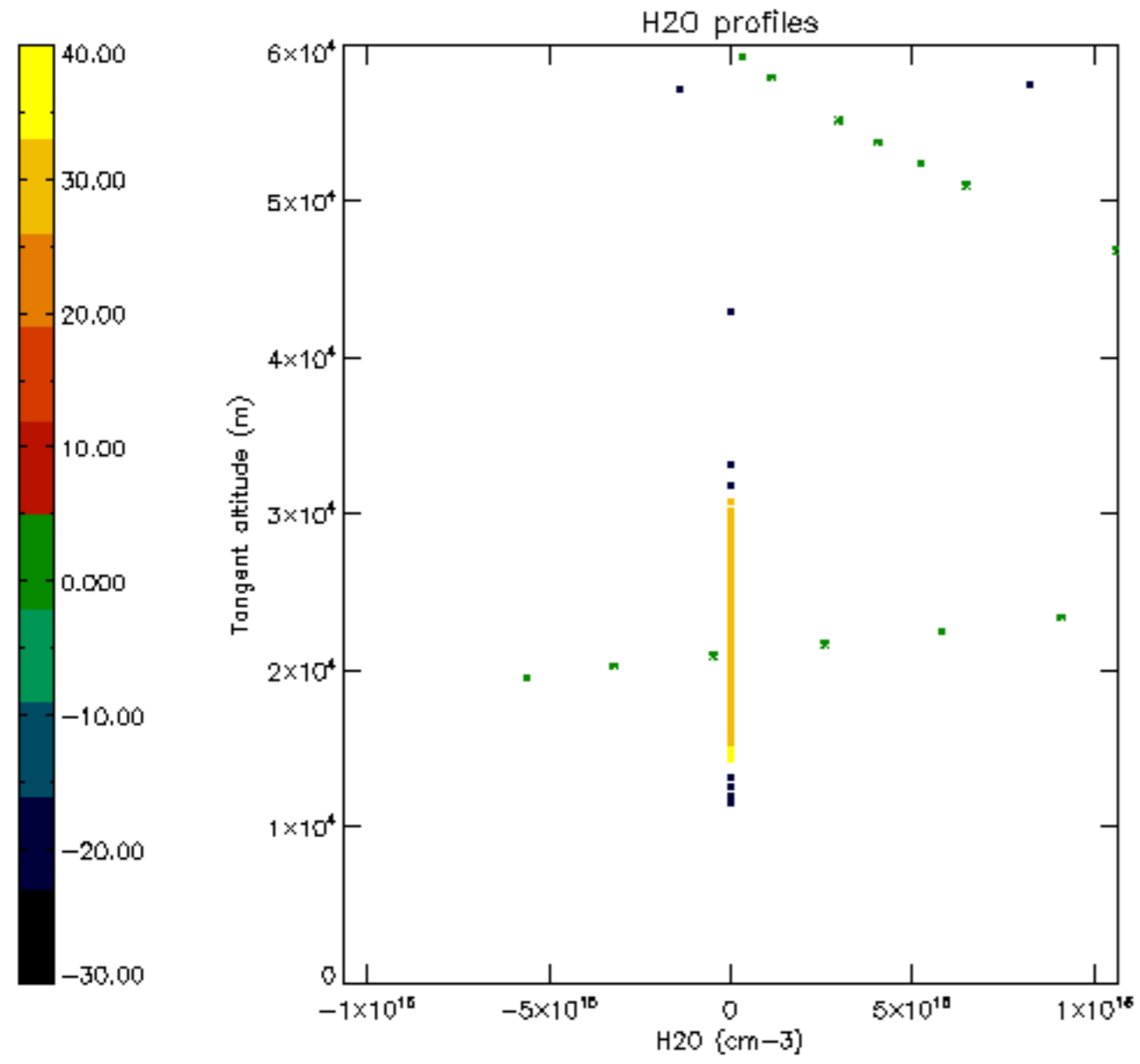


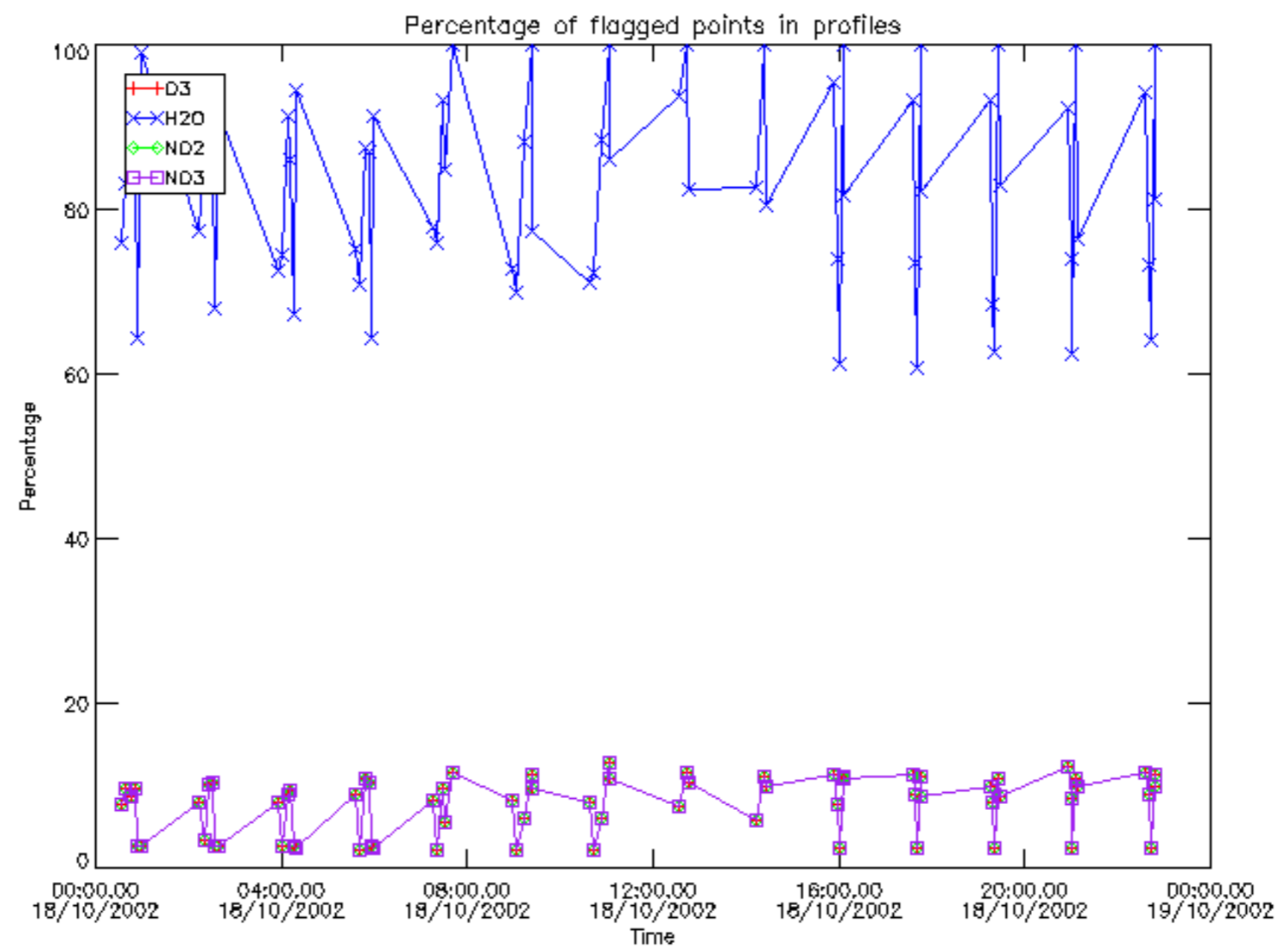




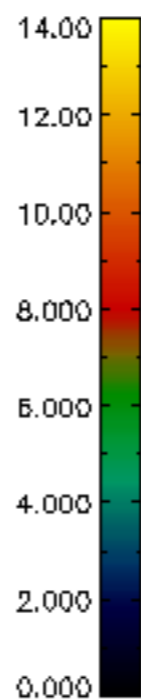
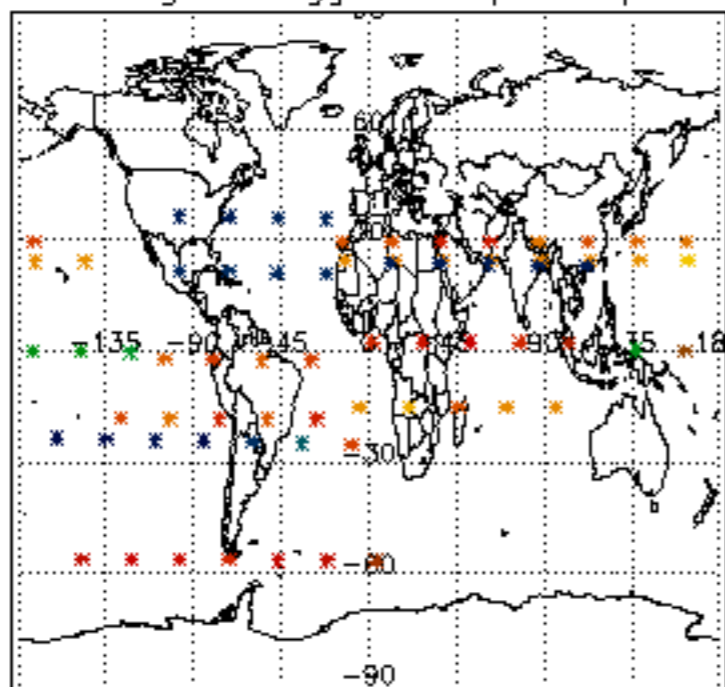




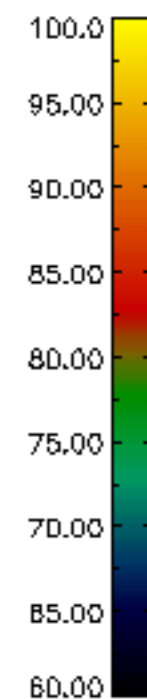
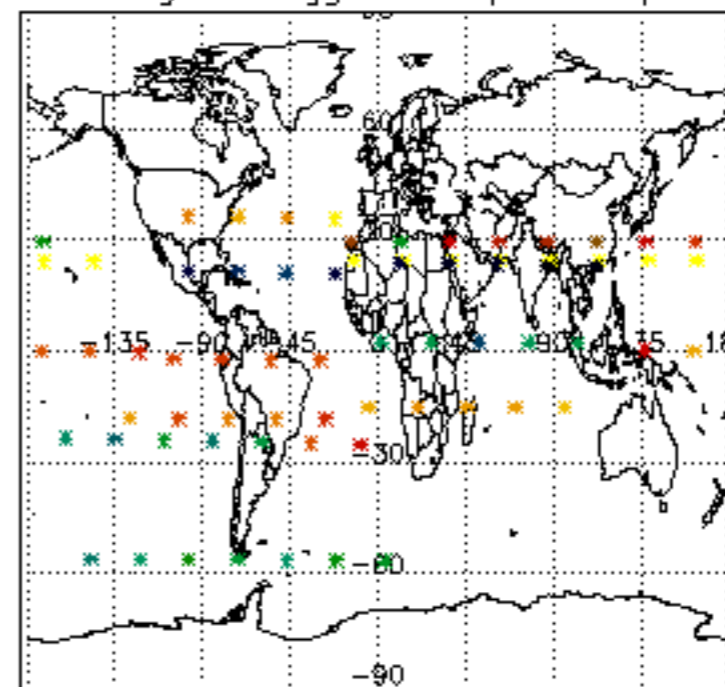




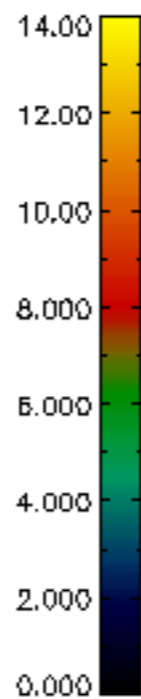
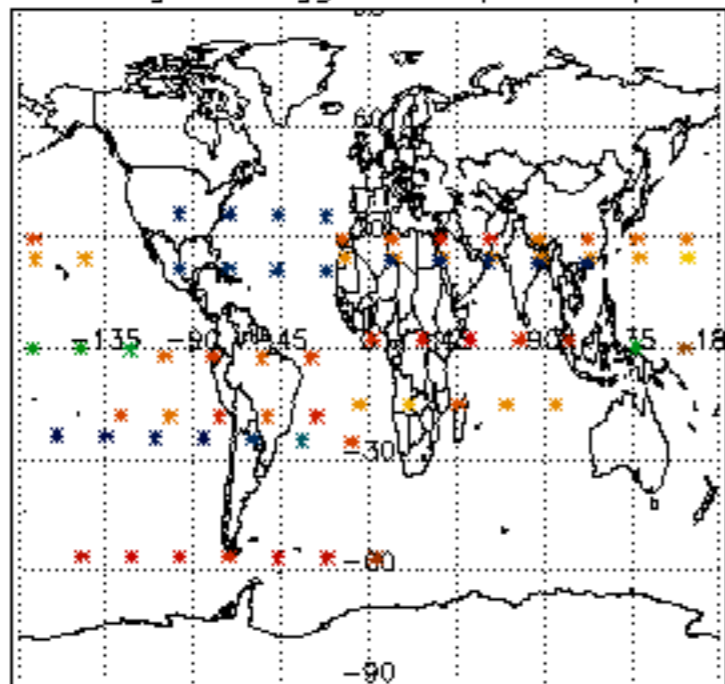
Percentage of flagged data per D3 profile



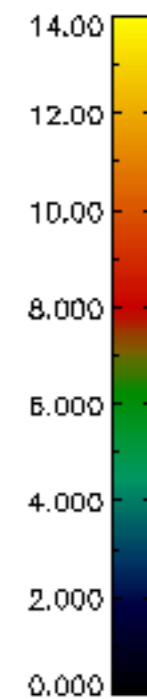
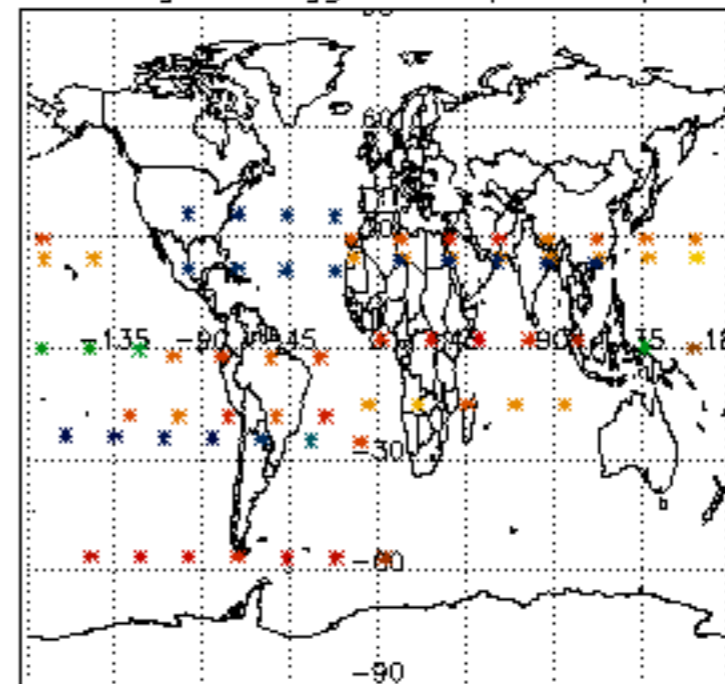
Percentage of flagged data per H2O profile

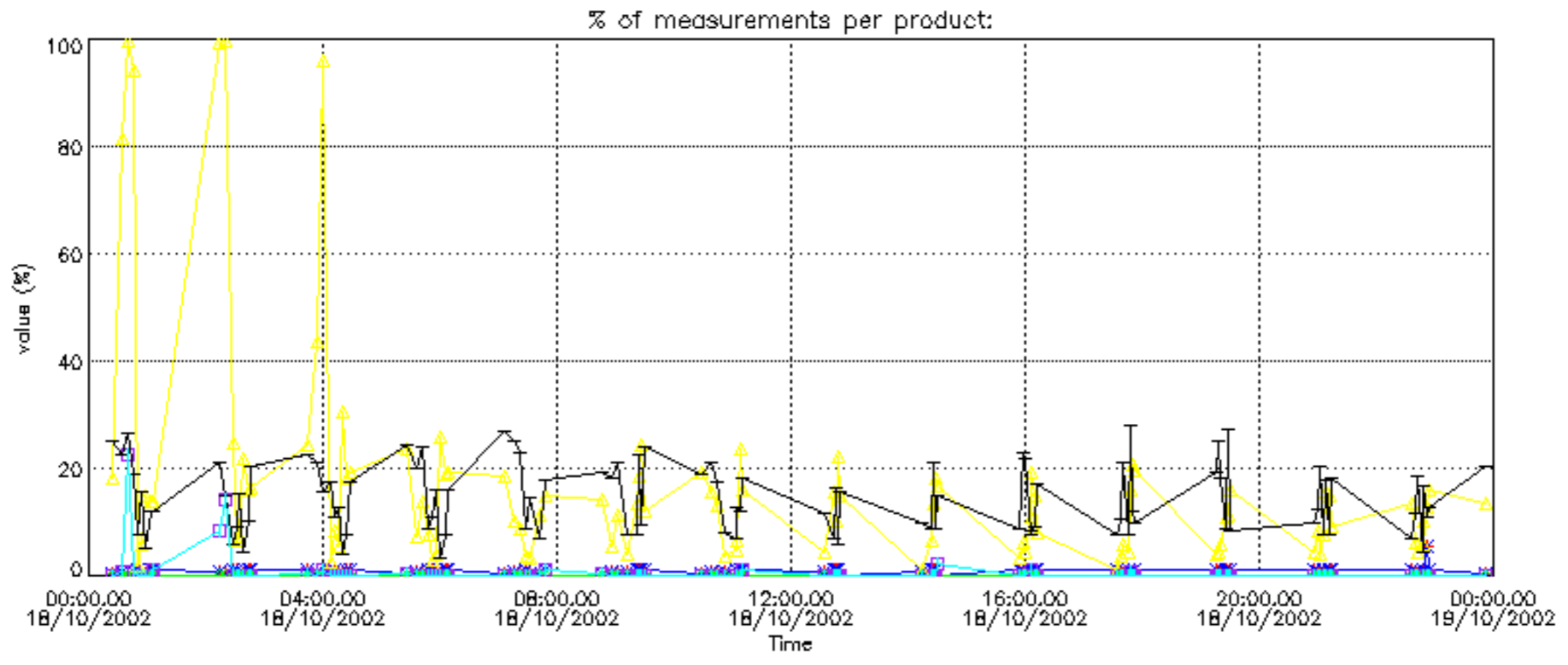


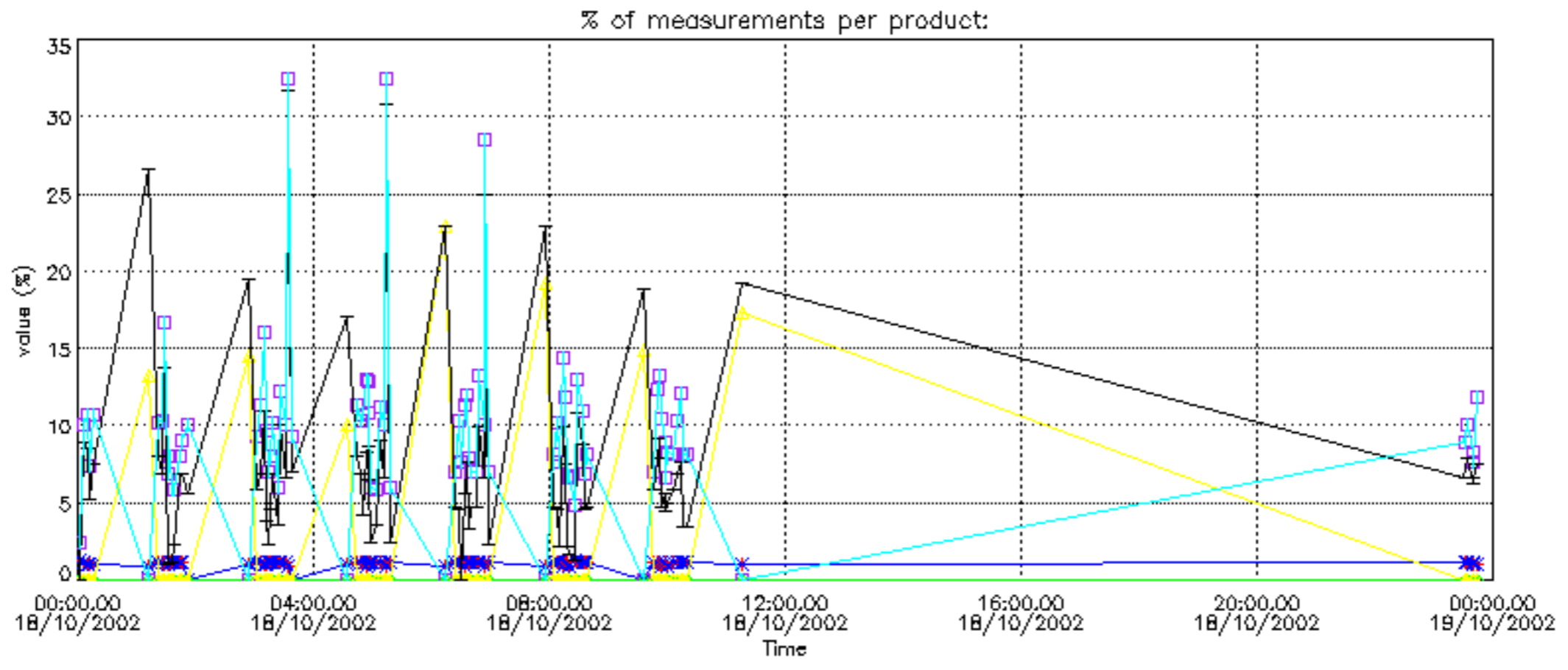
Percentage of flagged data per NO2 profile



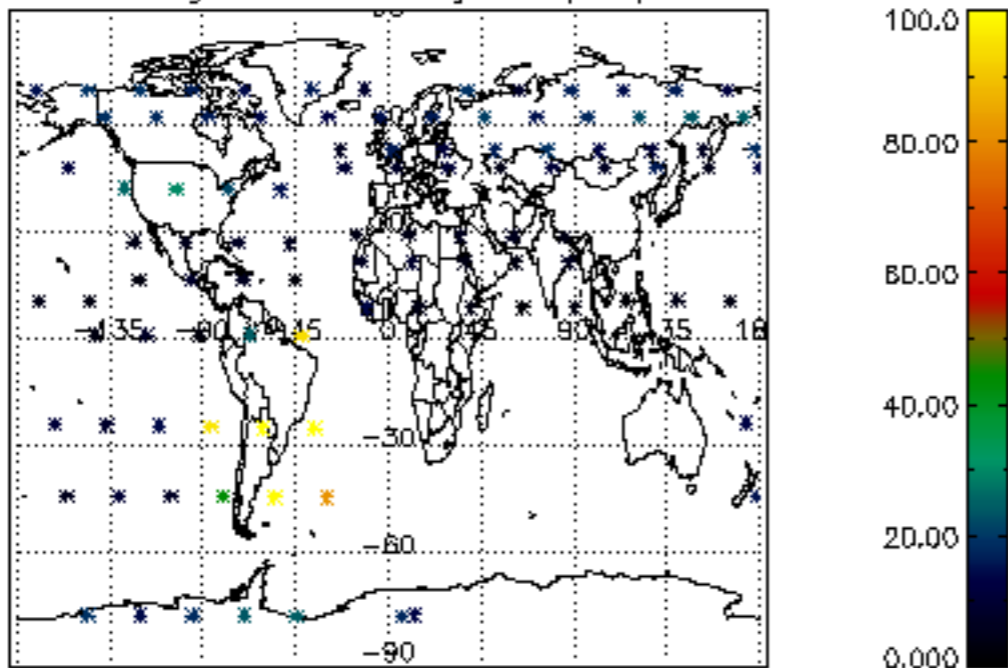
Percentage of flagged data per NO3 profile



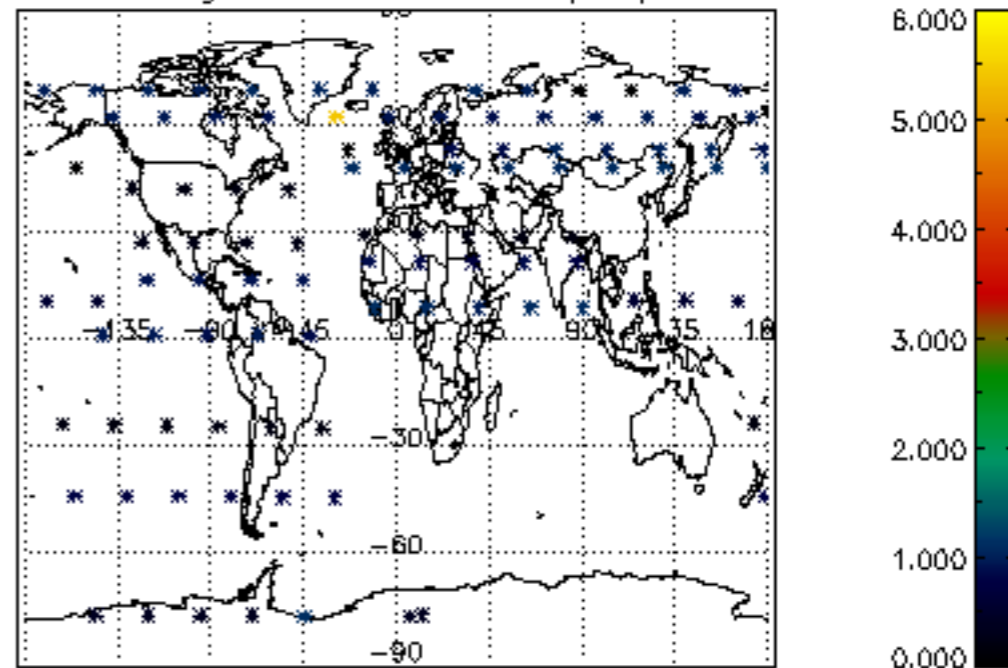




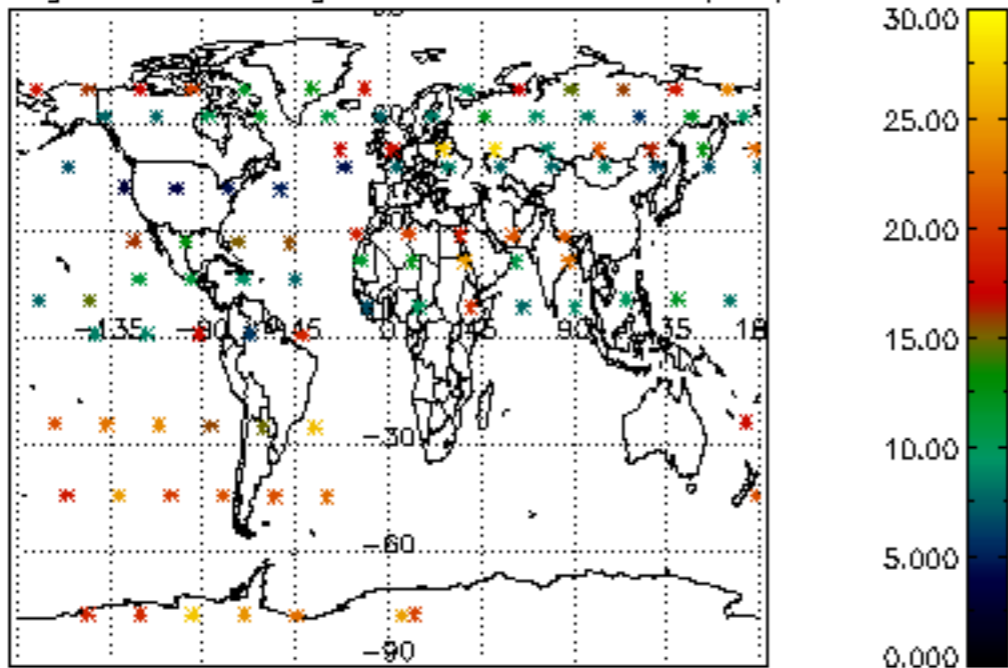
Percentage of cosmic ray hits per profile



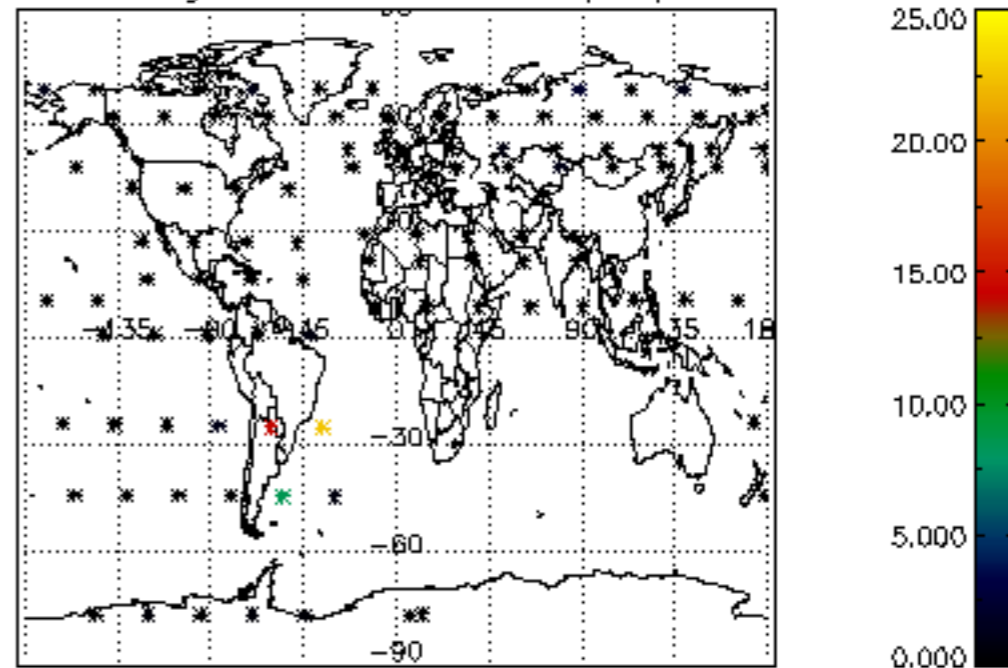
Percentage of datation errors per profile



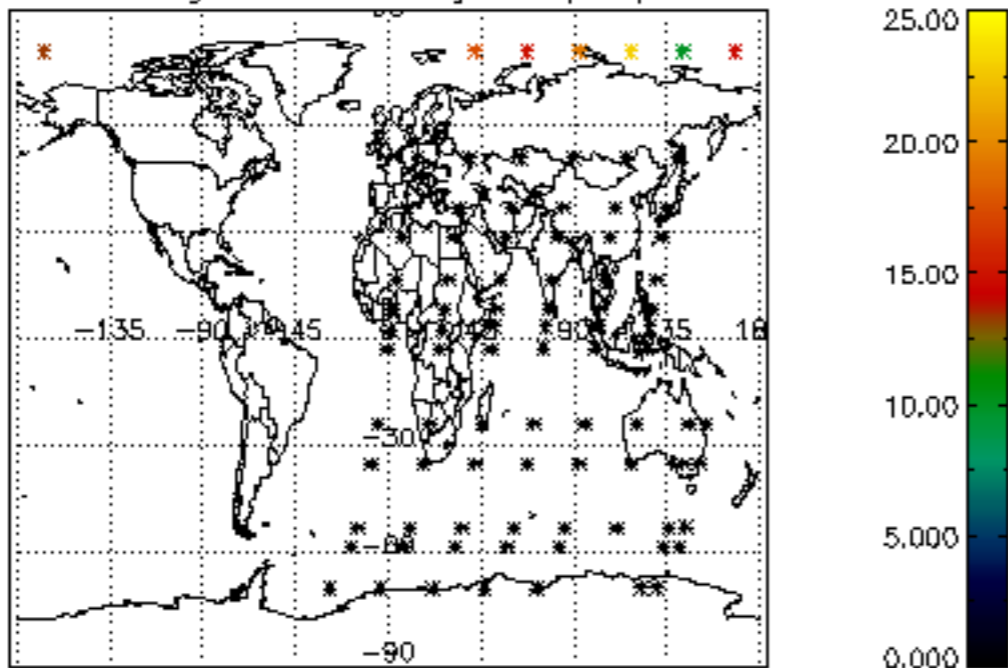
Percentage of star falling outside central band per profile



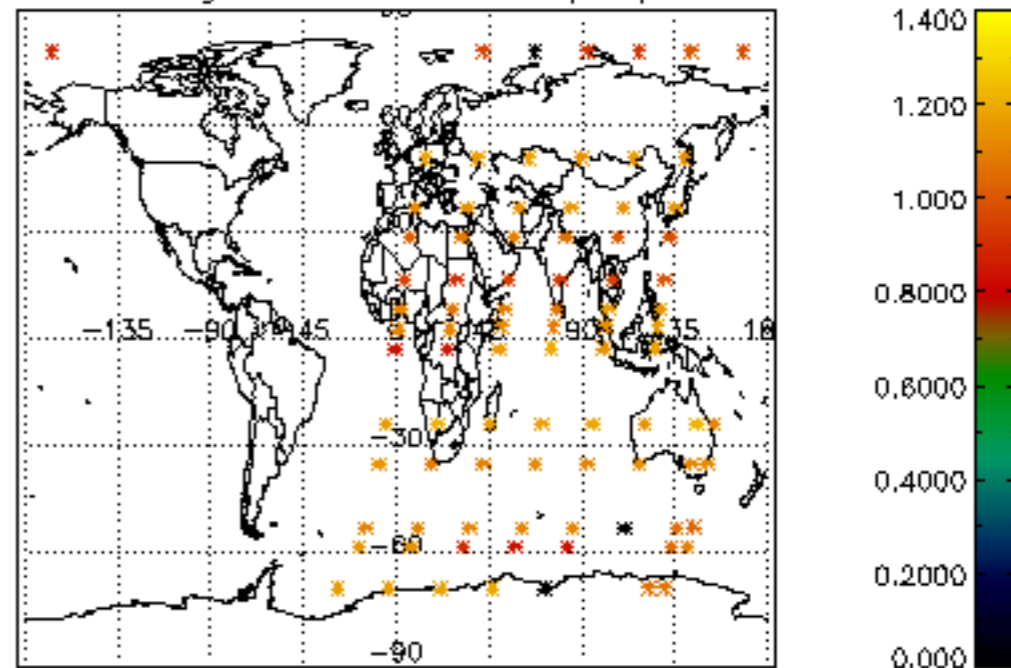
Percentage of saturation errors per profile



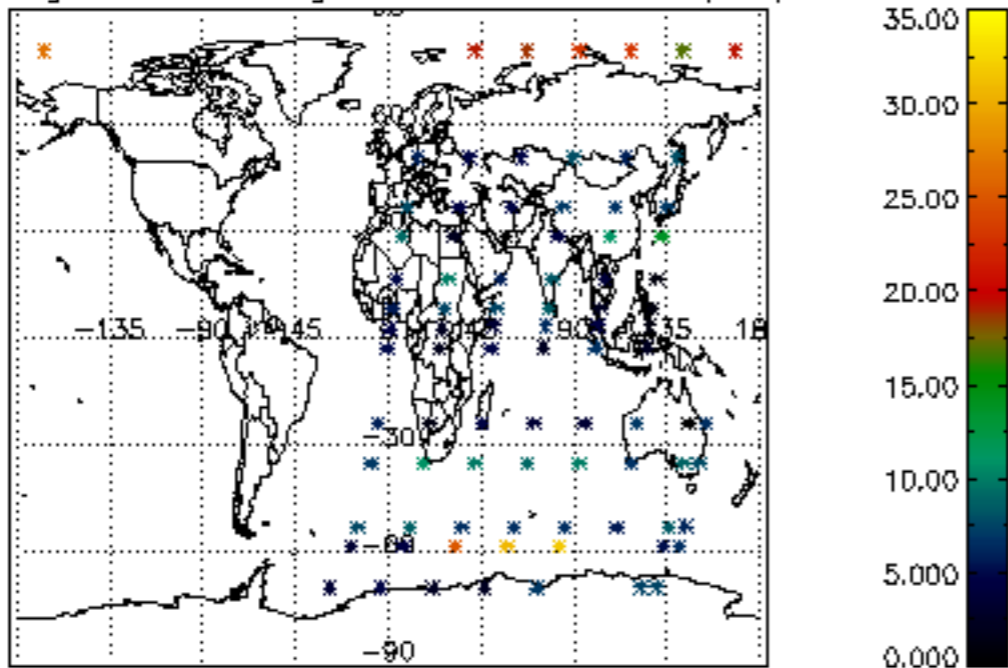
Percentage of cosmic ray hits per profile



Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile

