

# GOMOS Level 2 Daily Report

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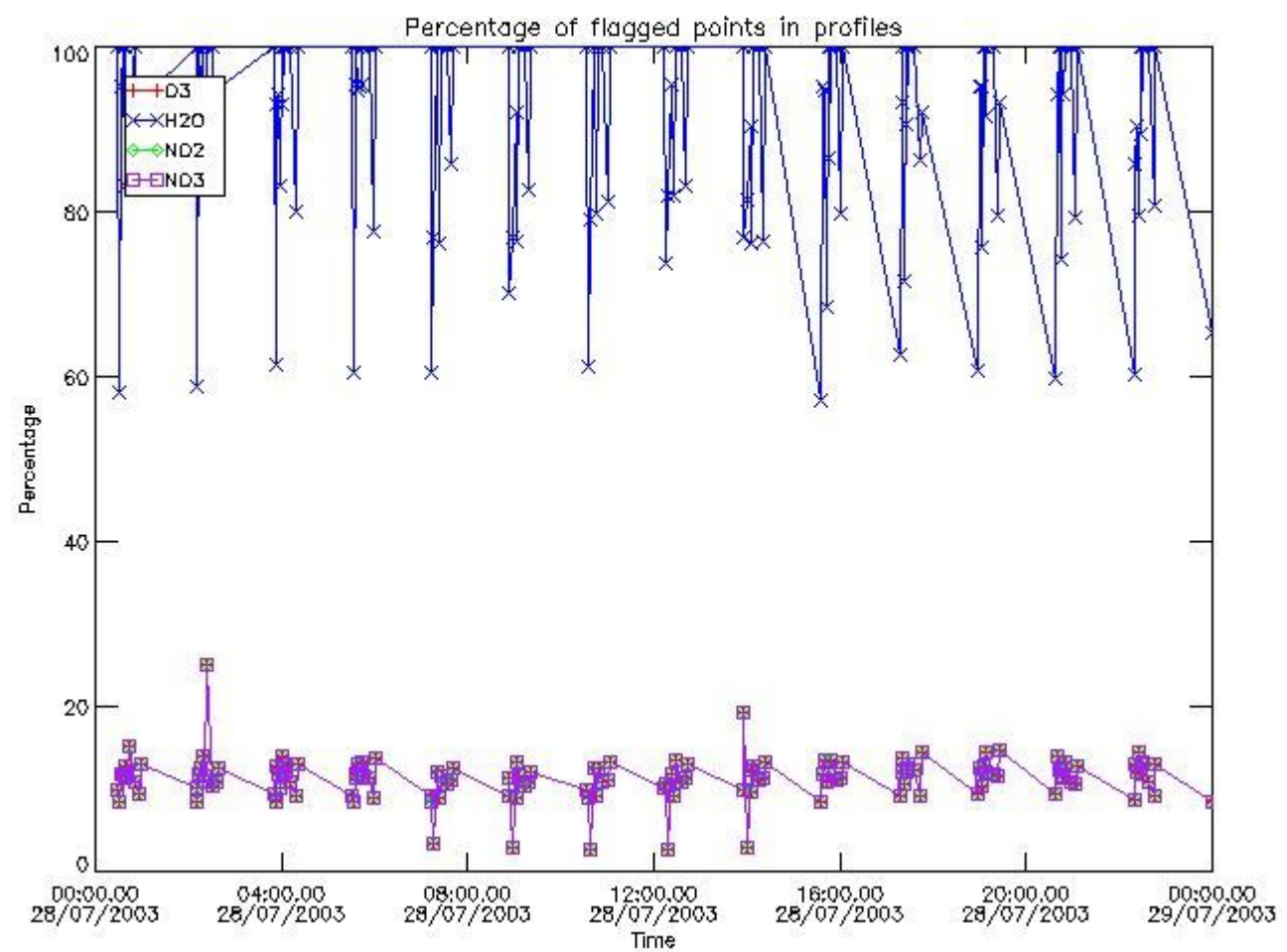


456	GOM_NL__2PRFIN20030728_225446_000000482018_00302_07370_7088.N1	28-JUL-2003 22:54:46	Straylight	47.500	31	Alp Gru	1.7340	15200.	95	7370	No
457	GOM_NL__2PRFIN20030728_225808_000000802018_00302_07370_7089.N1	28-JUL-2003 22:58:08	Twilight_stray	79.500	18	24Alp PsA	1.1660	9700.0	159	7370	No
458	GOM_NL__2PRFIN20030728_230227_000000422018_00302_07370_7090.N1	28-JUL-2003 23:02:27	Bright	41.500	38	20Eps Sgr	1.8360	11000.	83	7370	No
459	GOM_NL__2PRFIN20030728_230423_000000402018_00302_07370_7091.N1	28-JUL-2003 23:04:23	Bright	40.000	57	34Sig Sgr	2.0660	26000.	80	7370	No
460	GOM_NL__2PRFIN20030728_230558_000000592018_00302_07370_7092.N1	28-JUL-2003 23:05:58	Bright	59.000	142	49Del Cap	2.8500	8900.0	118	7370	No
461	GOM_NL__2PRFIN20030728_231030_000000582018_00302_07370_7093.N1	28-JUL-2003 23:10:30	Bright	57.500	154	22Bet Aqr	2.8990	5700.0	115	7370	No
462	GOM_NL__2PRFIN20030728_231418_000000412018_00302_07370_7094.N1	28-JUL-2003 23:14:18	Bright	40.500	11	53Alp Aql	0.76500	8000.0	81	7370	No
463	GOM_NL__2PRFIN20030728_232242_000000382018_00302_07370_7095.N1	28-JUL-2003 23:22:42	Bright	38.000	5	3Alp Lyr	0.033000	11000.	76	7370	No
464	GOM_NL__2PRFIN20030728_232427_000000442018_00302_07370_7096.N1	28-JUL-2003 23:24:27	Bright	43.500	66	37Gam Cyg	2.2080	5900.0	87	7370	No
465	GOM_NL__2PRFIN20030728_232625_000000392018_00302_07370_7097.N1	28-JUL-2003 23:26:25	Bright	38.500	69	33Gam Dra	2.2310	3800.0	77	7370	No
466	GOM_NL__2PRFIN20030728_233015_000000382018_00302_07370_7098.N1	28-JUL-2003 23:30:15	Bright	37.500	119	14Eta Dra	2.7270	4700.0	75	7370	No
467	GOM_NL__2PRFIN20030728_233148_000000422018_00302_07370_7099.N1	28-JUL-2003 23:31:48	Bright	42.000	89	5Alp Cep	2.4510	8000.0	84	7370	No
468	GOM_NL__2PRFIN20030728_233427_000000362018_00302_07370_7100.N1	28-JUL-2003 23:34:27	Bright	35.500	60	7Bet UMi	2.0810	3950.0	71	7370	No
469	GOM_NL__2PRFIN20030728_233716_000000372018_00302_07370_7101.N1	28-JUL-2003 23:37:16	Bright	36.500	49	1Alp UMi	1.9900	6300.0	73	7370	No
470	GOM_NL__2PRFIN20030728_234025_000000482018_00302_07370_7102.N1	28-JUL-2003 23:40:25	Bright	48.000	76	27Gam Cas	2.3000	30000.	96	7370	No
471	GOM_NL__2PRFIN20030728_234631_000000492018_00302_07370_7103.N1	28-JUL-2003 23:46:31	Bright	48.500	160	23Gam Per	2.9300	4700.0	97	7370	No
472	GOM_NL__2PRFIN20030728_234935_000000742018_00302_07370_7104.N1	28-JUL-2003 23:49:35	Bright	74.000	73	57Gam1And	2.2600	13100.	148	7370	No
473	GOM_NL__2PRFIN20030728_235152_000000452018_00302_07370_7105.N1	28-JUL-2003 23:51:52	Bright	44.500	149	45Eps Per	2.8880	30000.	89	7370	No
474	GOM_NL__2PRFIN20030728_235449_000000542018_00302_07370_7106.N1	28-JUL-2003 23:54:49	Twilight_stray	53.500	150	44Zet Per	2.8900	28000.	107	7370	No
475	GOM_NL__2PRFIN20030728_235703_000000402018_00302_07370_7107.N1	28-JUL-2003 23:57:03	Twilight_stray	39.500	176	23Zet Tau	3.0200	22000.	79	7370	No
476	GOM_NL__2PRFIN20030728_235926_000000612018_00302_07370_7108.N1	28-JUL-2003 23:59:26	Dark	61.000	13	87Alp Tau	0.86700	3800.0	122	7370	No

### 3. Quality information per product

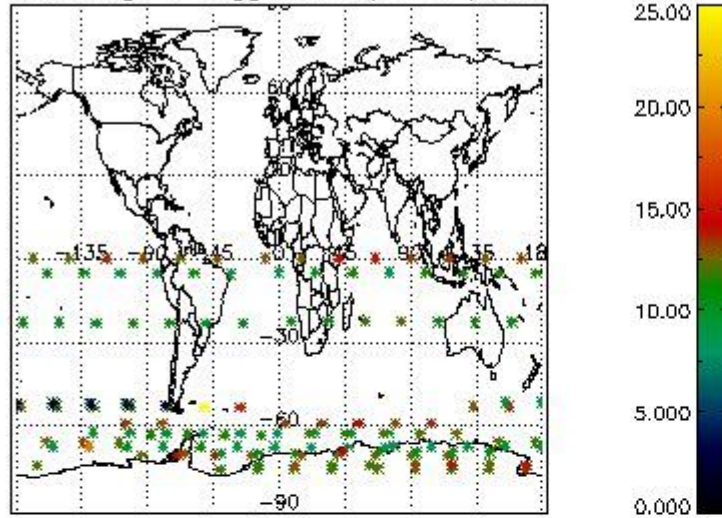
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

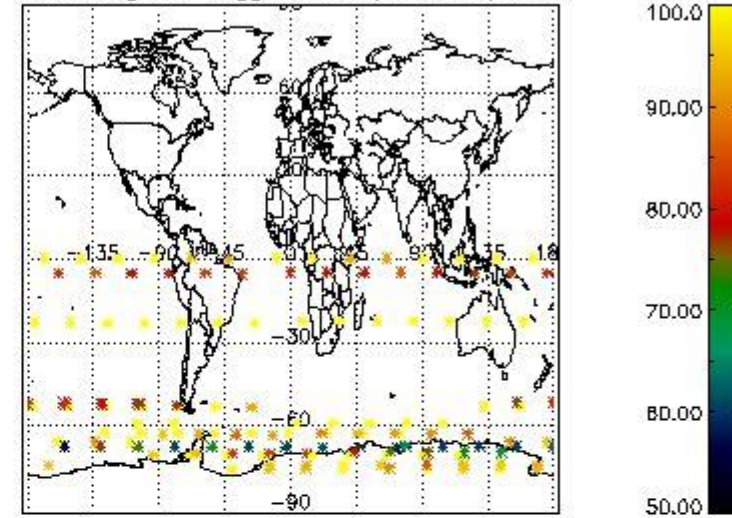


3.2 Plot quality information per product (world map)

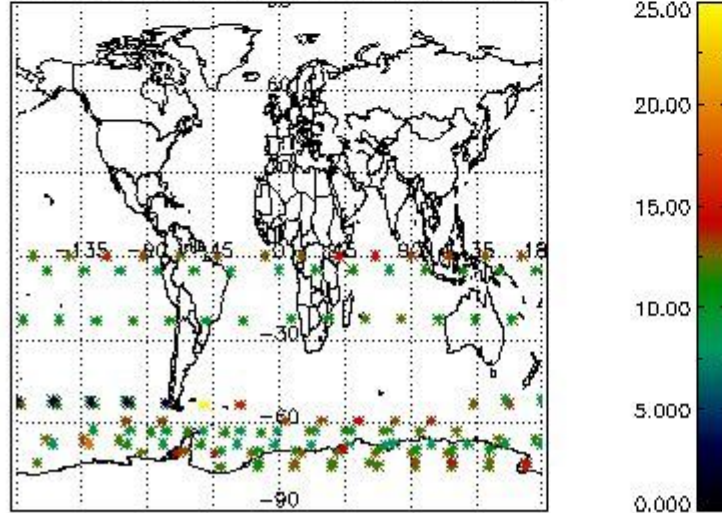
Percentage of flagged data per O3 profile



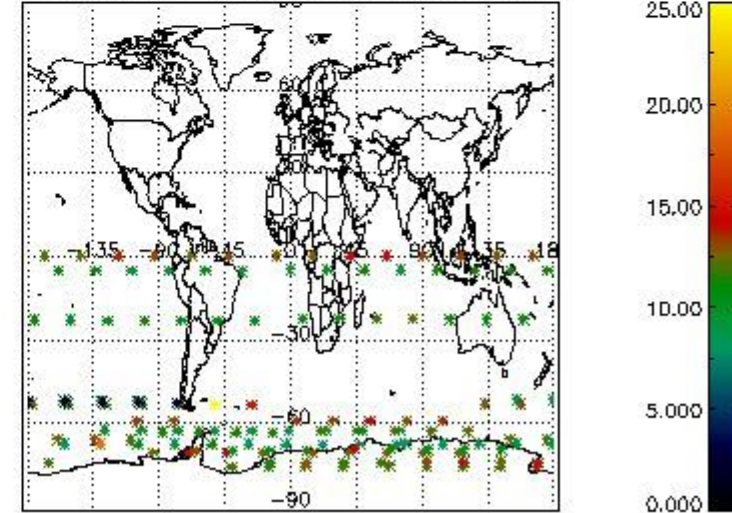
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

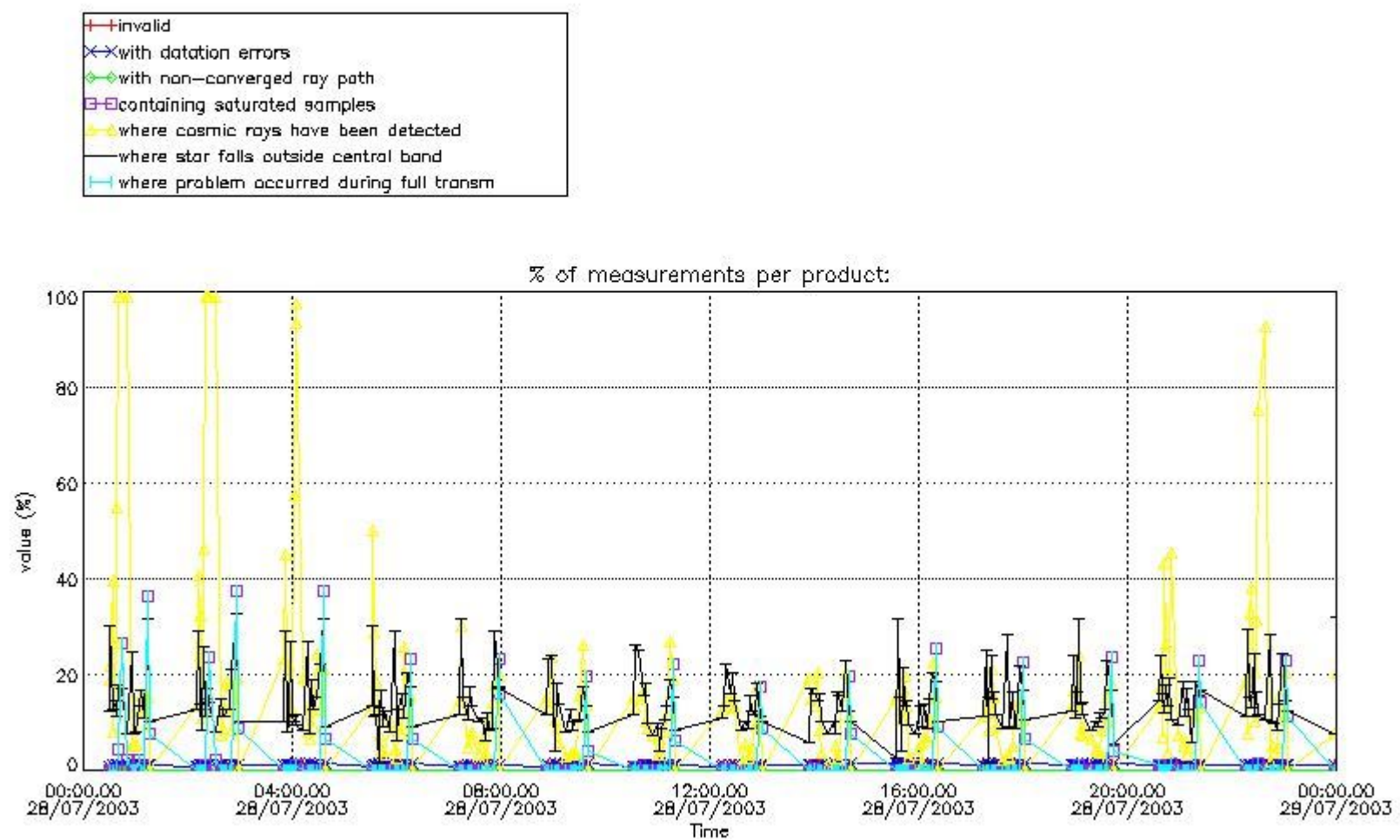


#### 4. Level 1 quality information per product

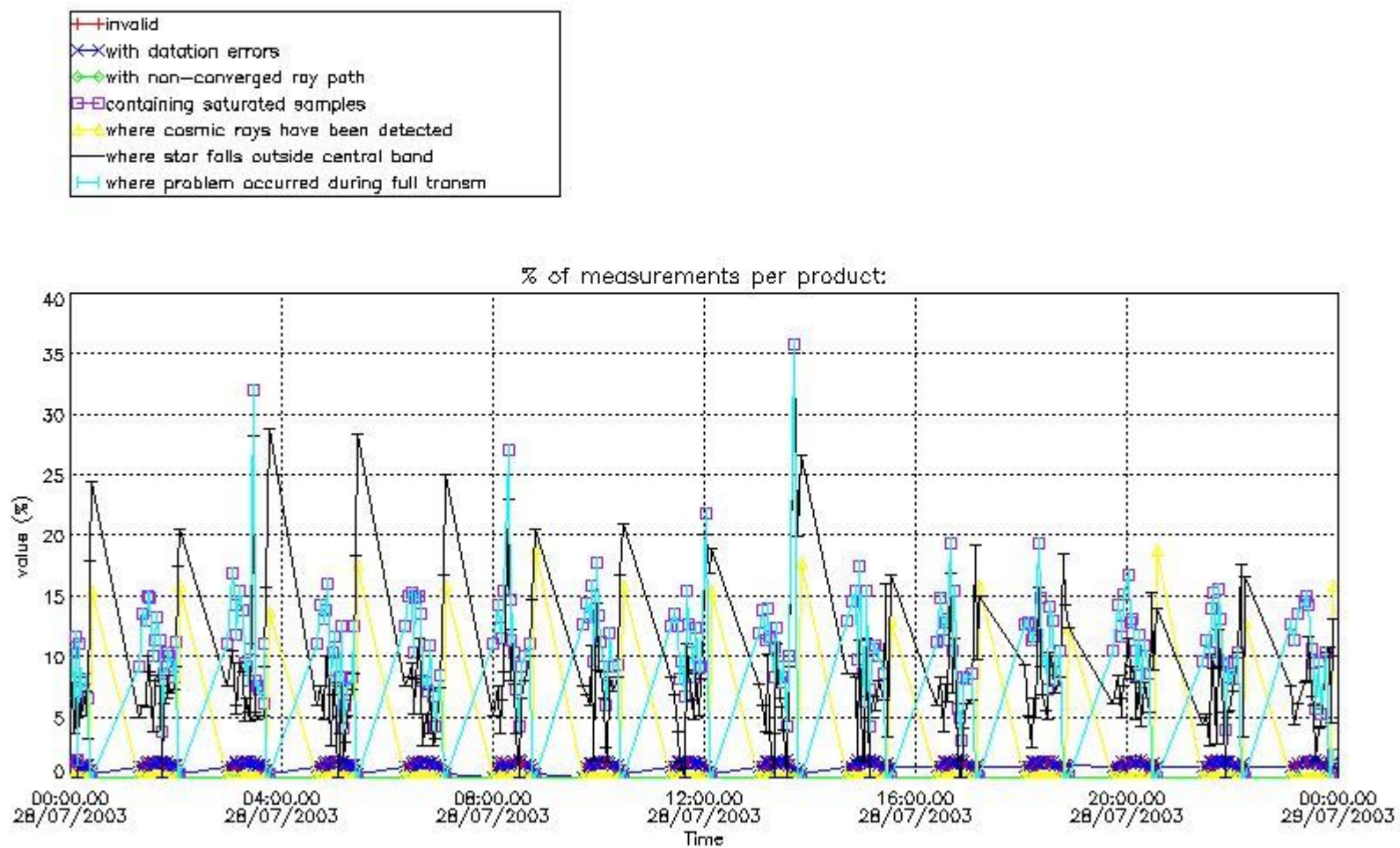
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

##### 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

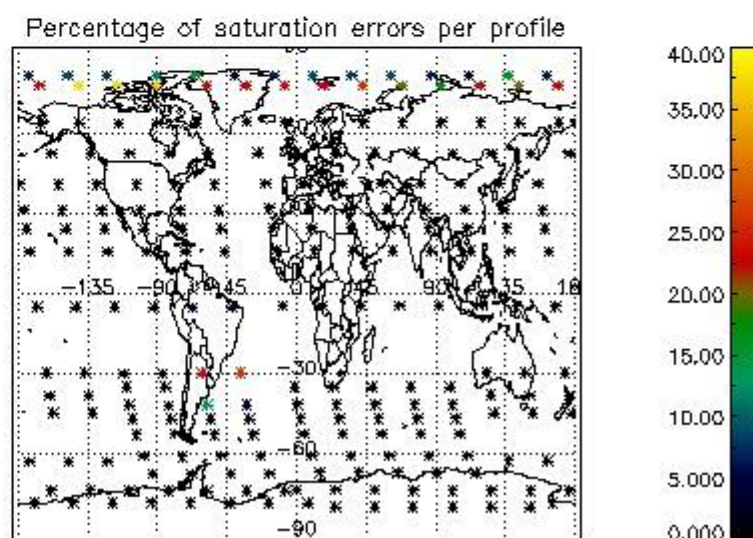
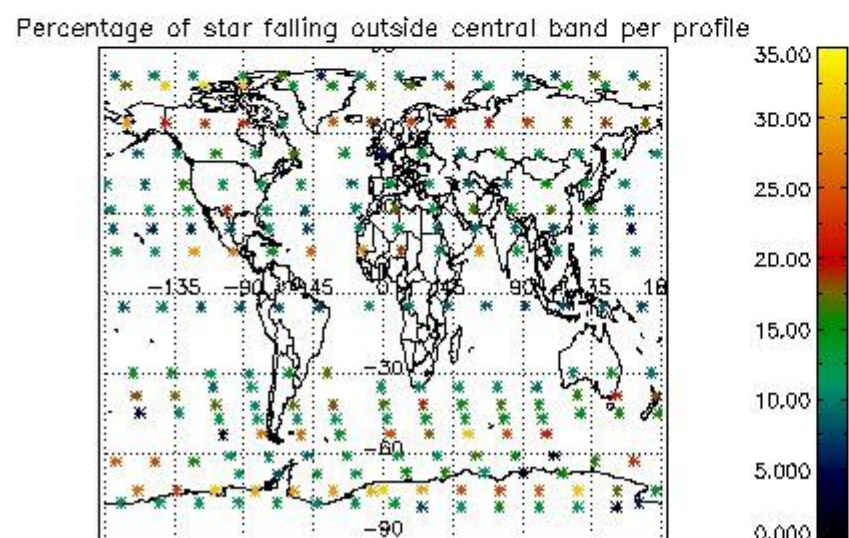
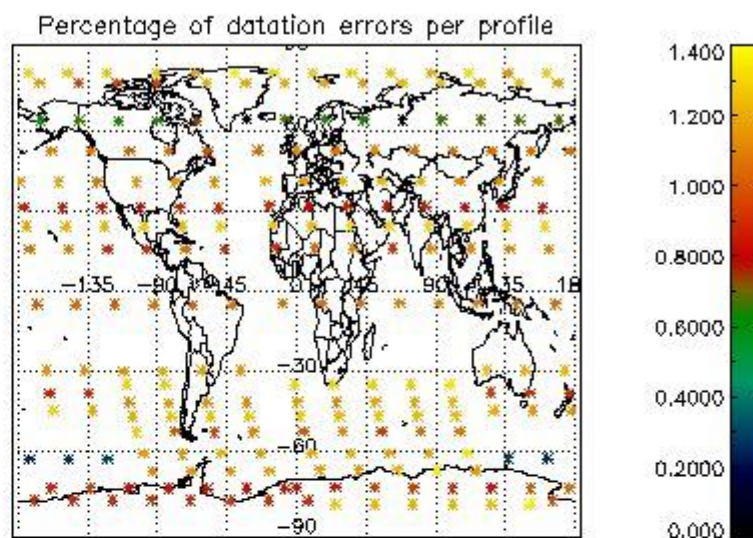
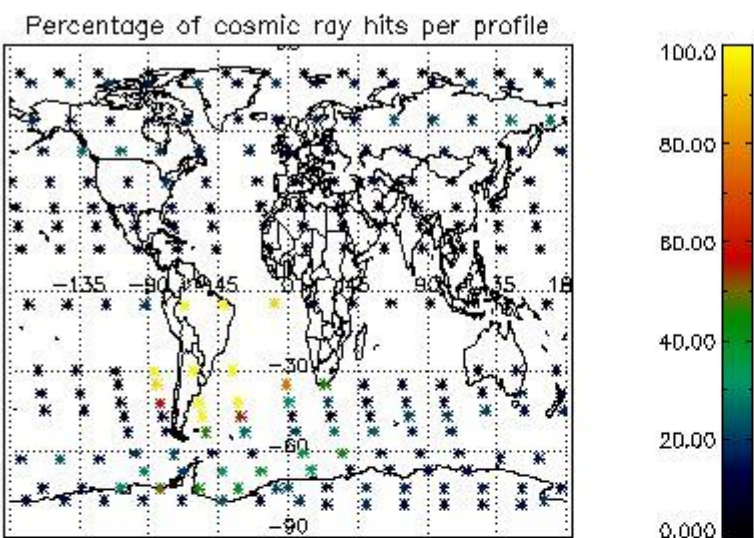


4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes

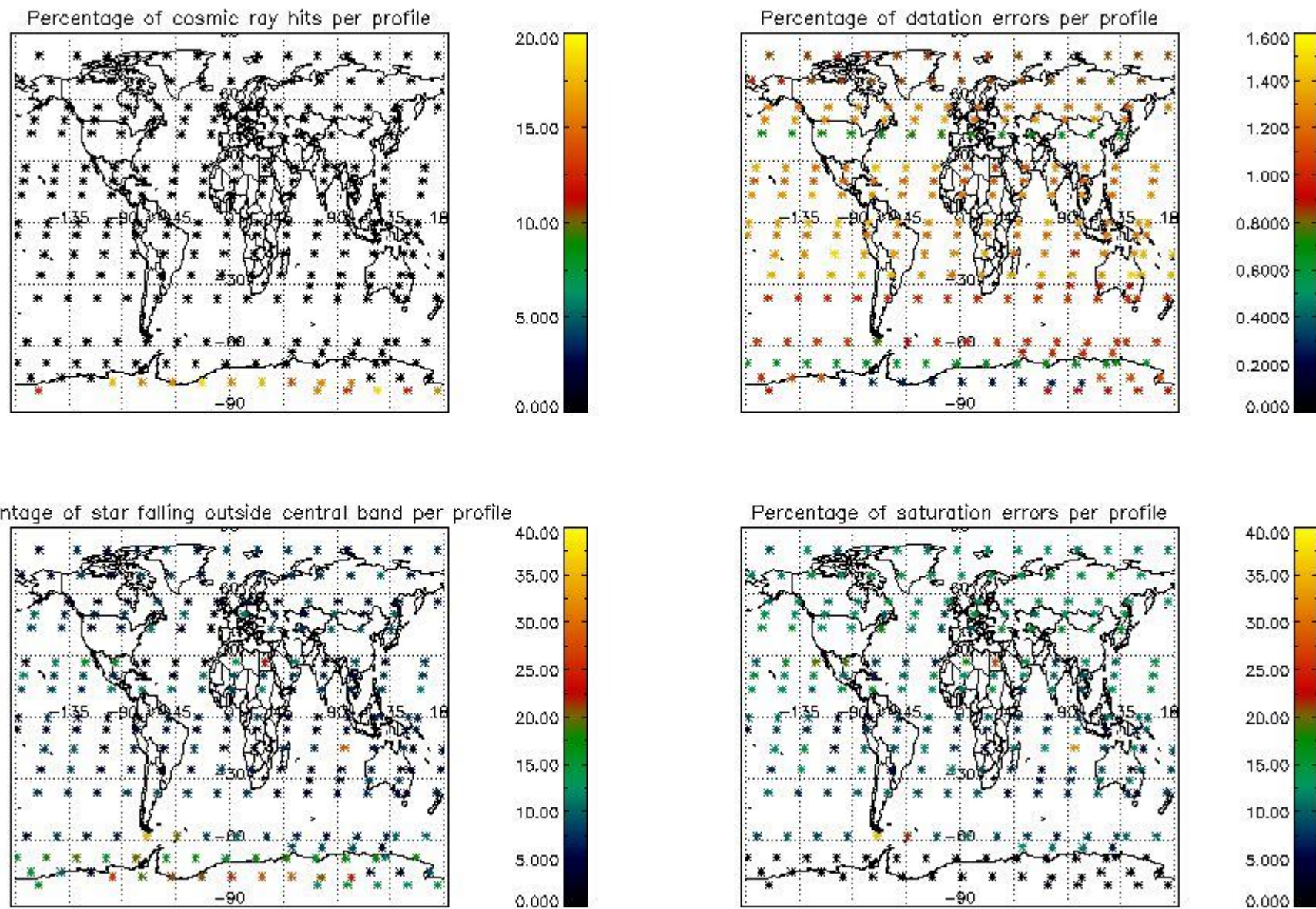


4.2 Plot quality information per product coming from level 1b processing (world map)

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



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.

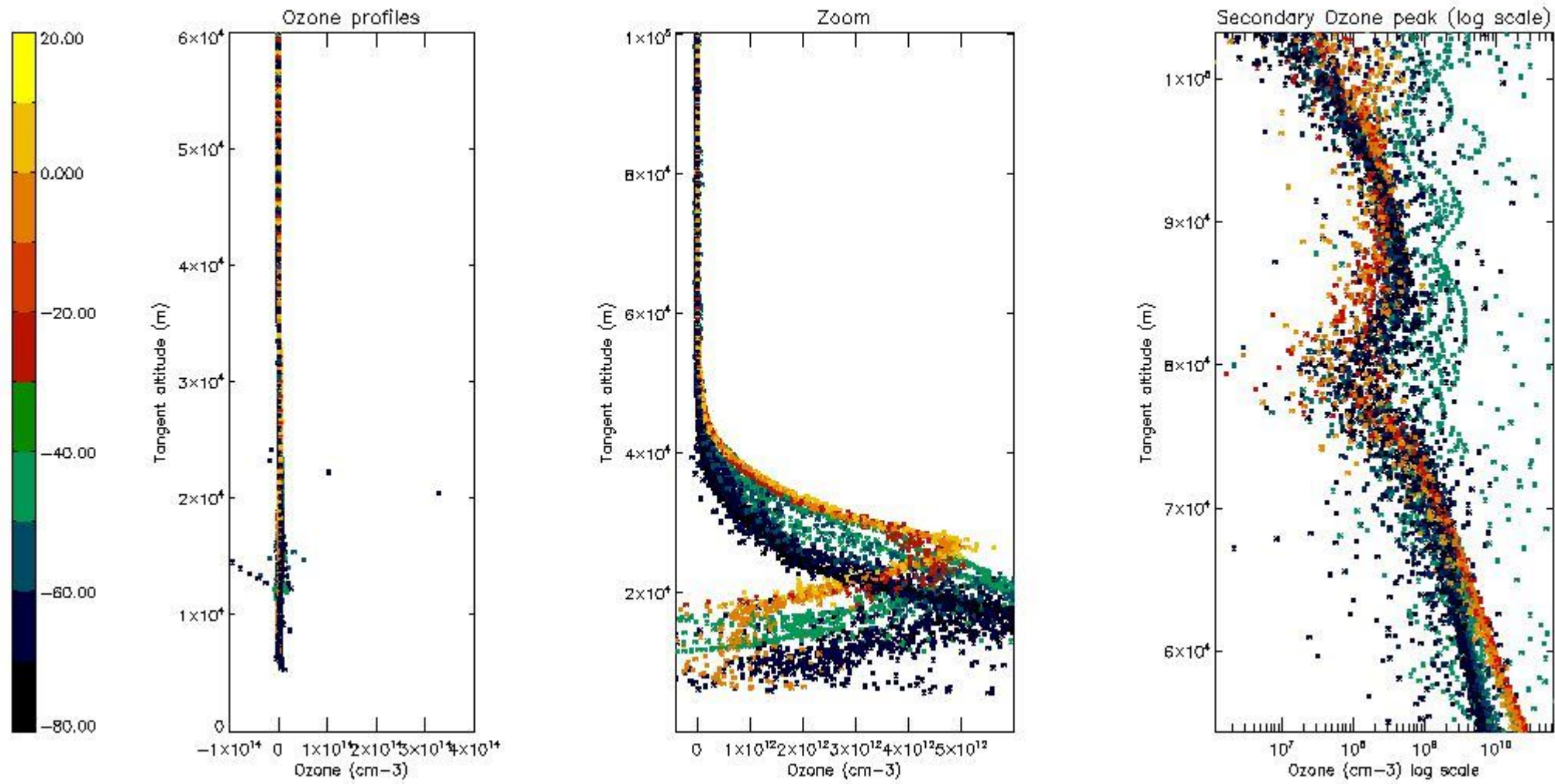
Criteria	% of total production
All STD	29
STD < 20	16



STD < 10	13
STD < 5	9

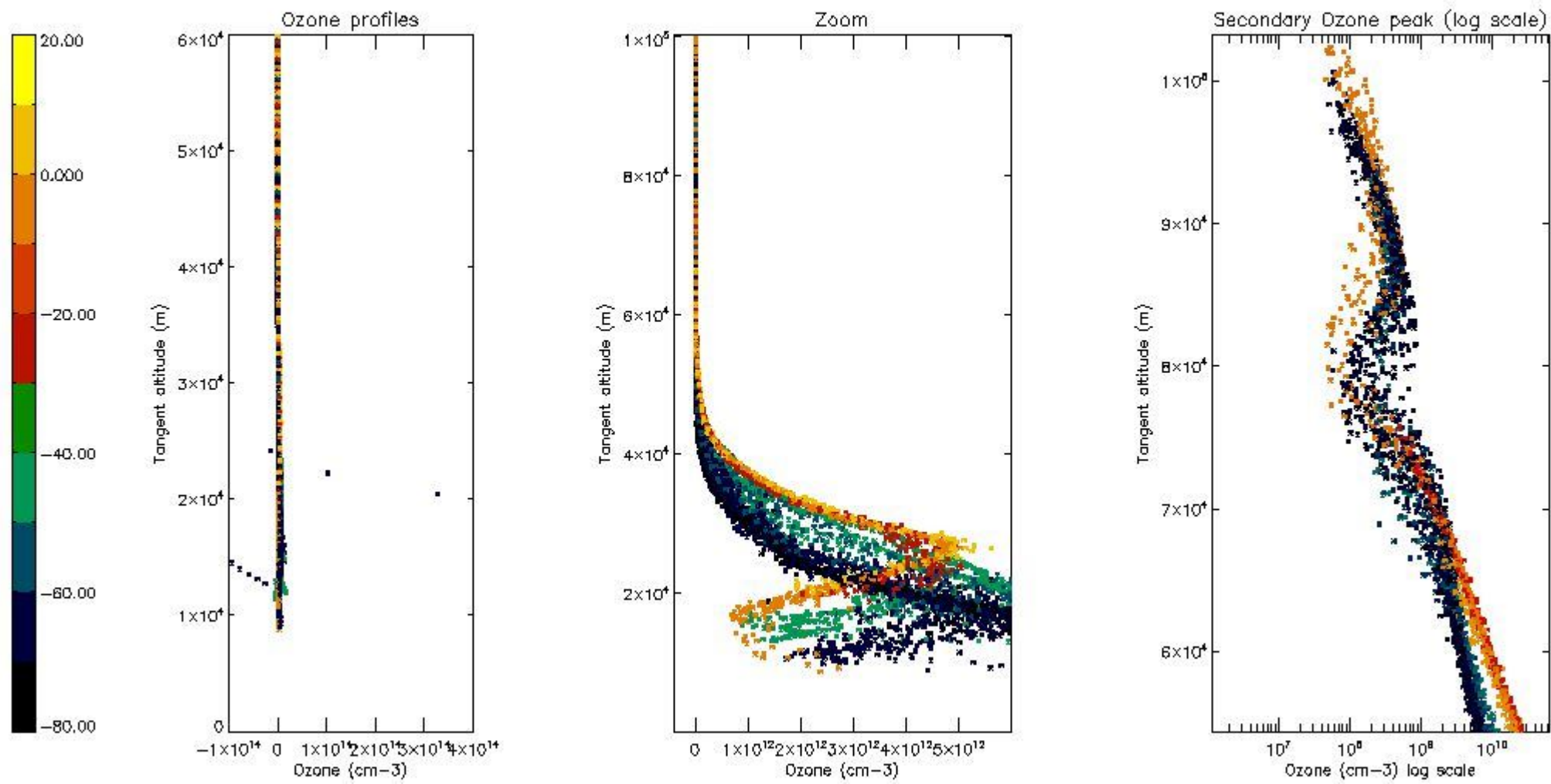
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



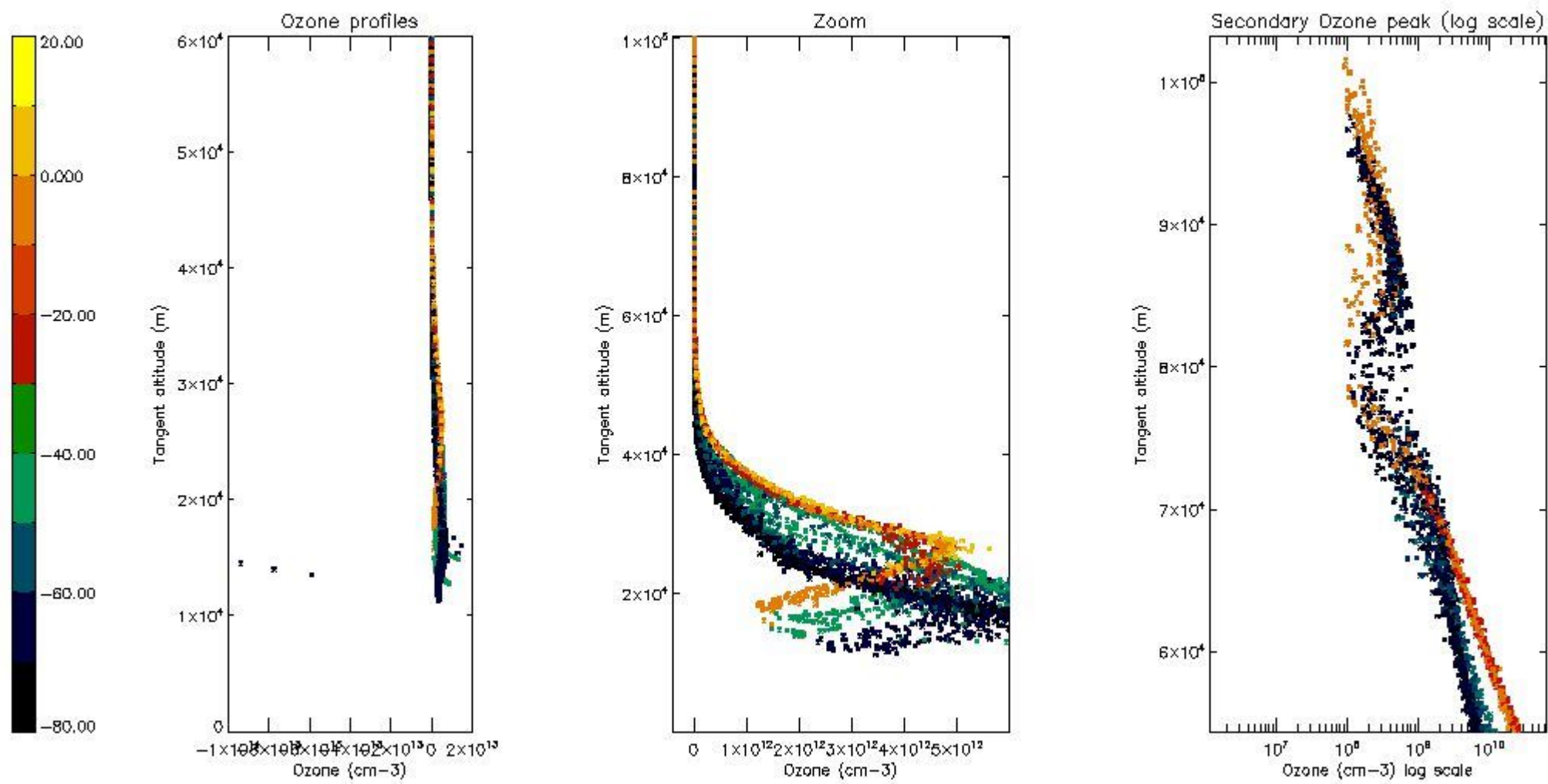
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



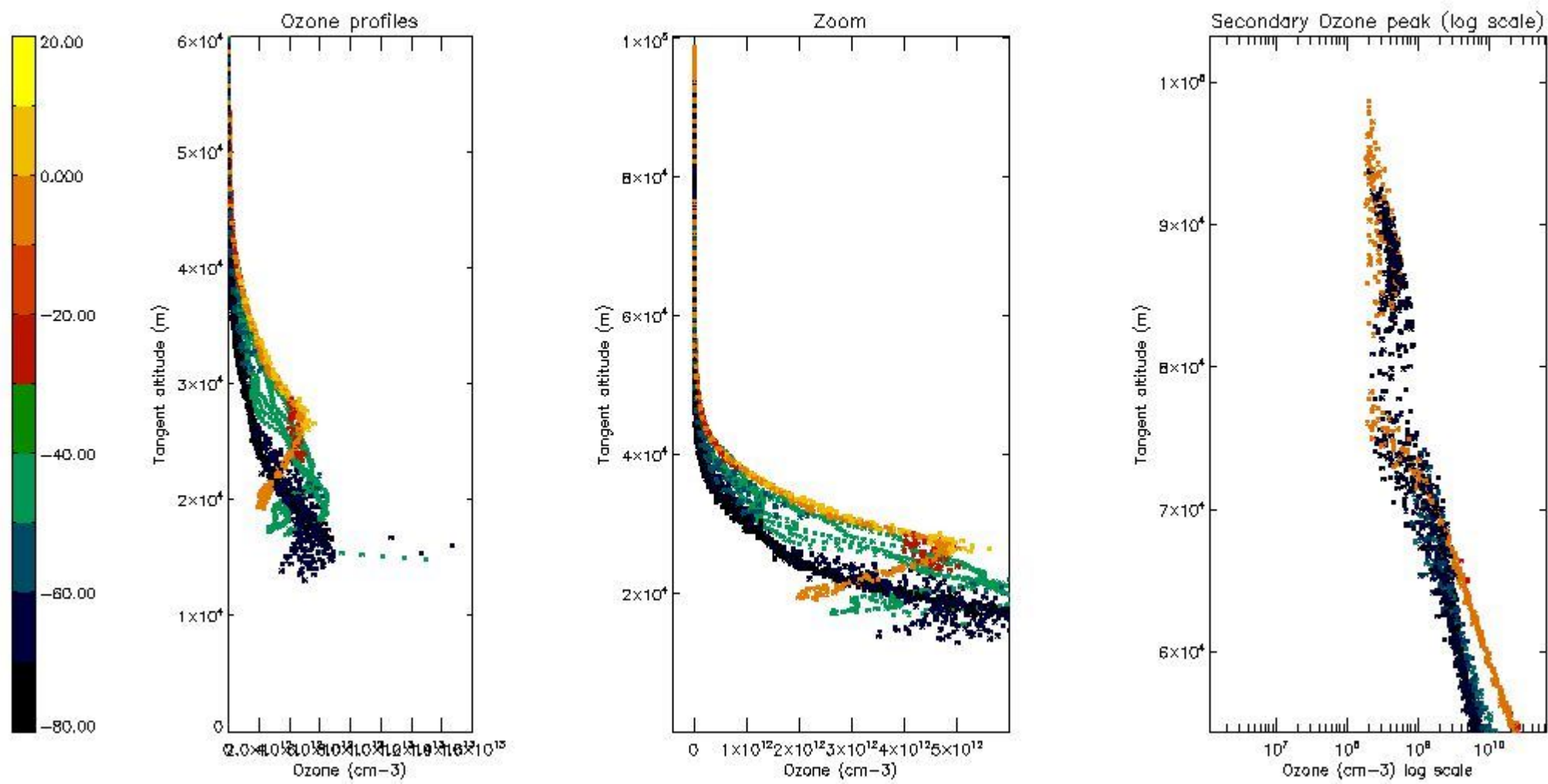
*5.4 Plot ozone profiles where STD < 10% (dark without errors)*

The colorbar represents the latitude.



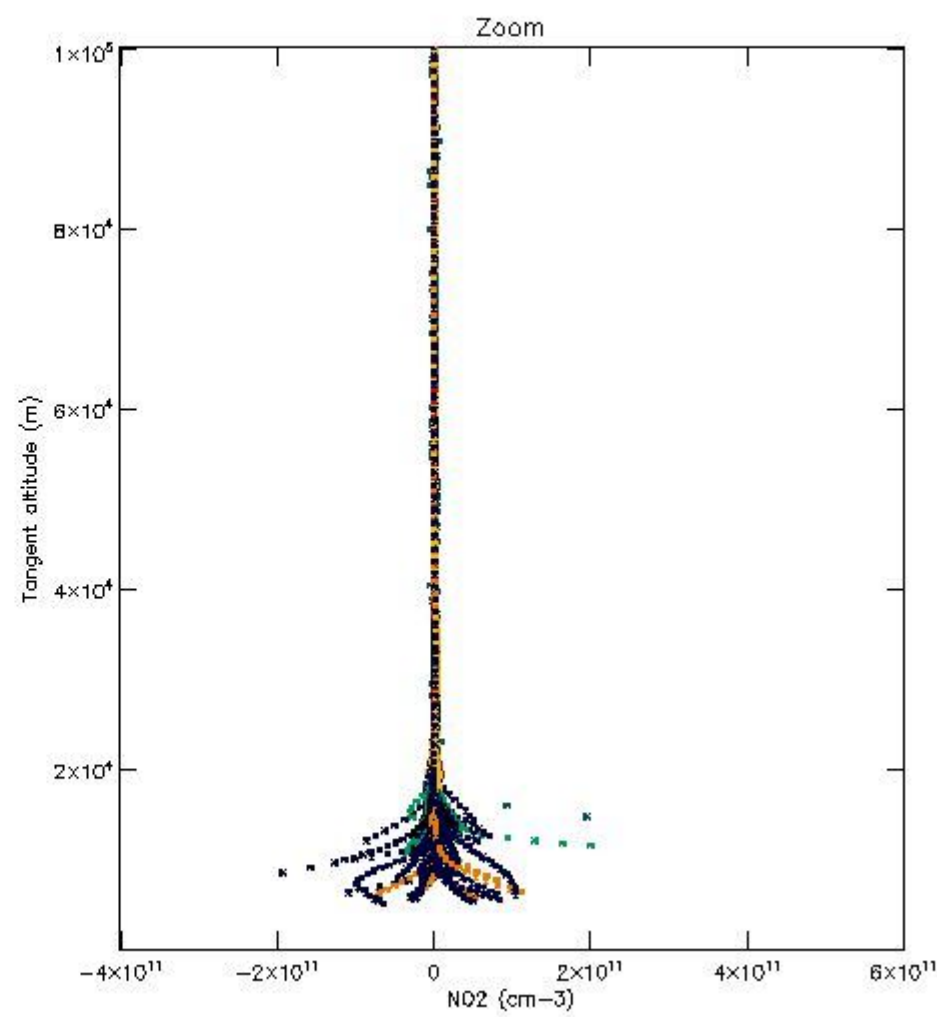
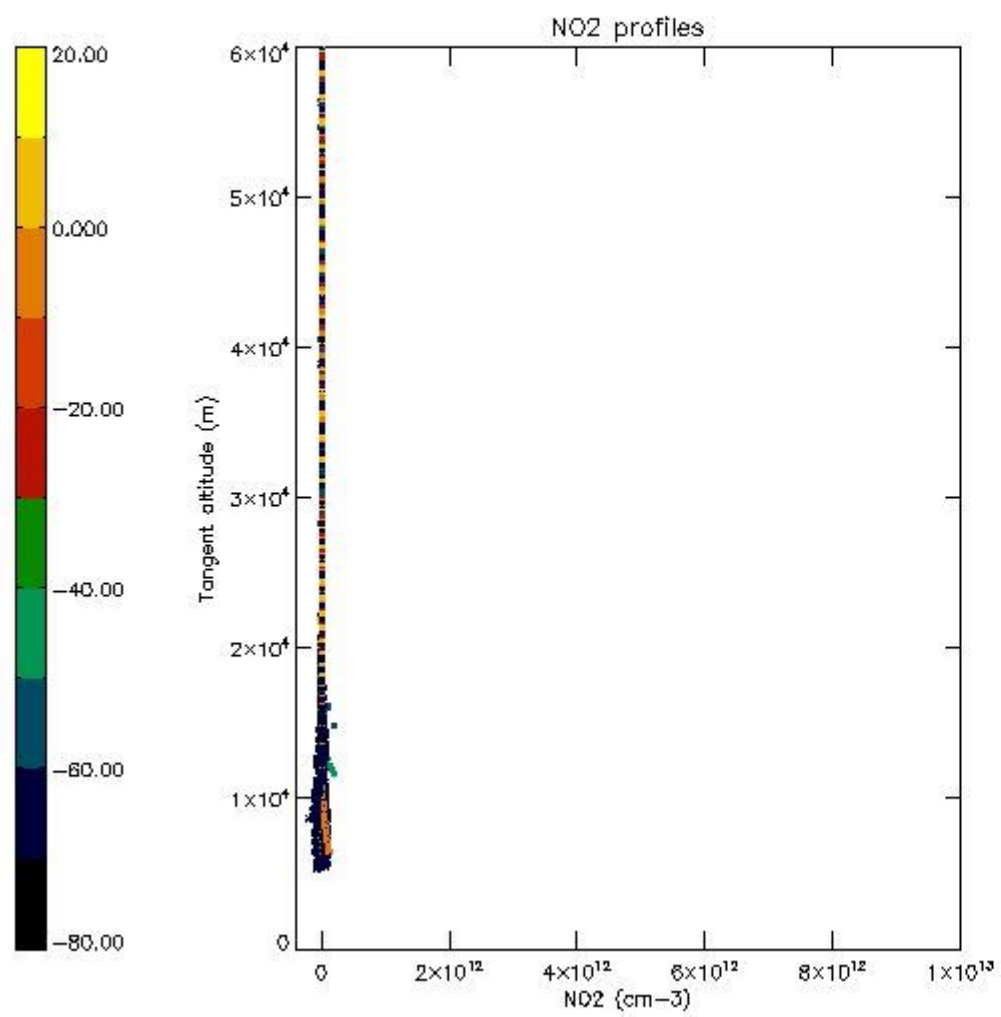
*5.5 Plot ozone profiles where  $STD < 5\%$  (dark without errors)*

The colorbar represents the latitude.



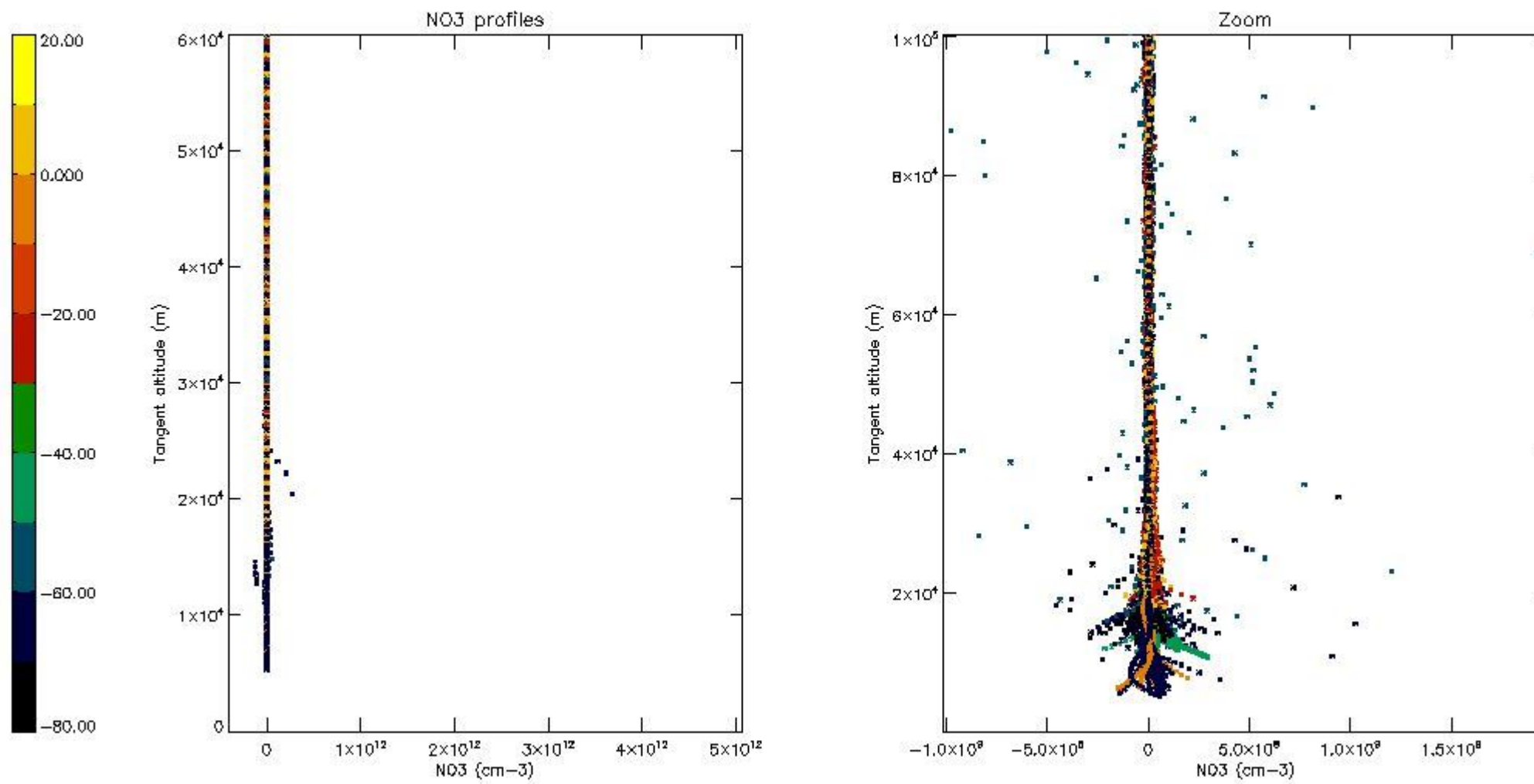
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

The colorbar represents the latitude.



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

The colorbar represents the latitude.



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

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

Type	Auxiliary Filename	Used since product	Used since product date
INST_PHYS_CHARACTERISTICS	GOM_INS_AXVIEC20091111_143220_20030716_120000_20500101_000000	1	28-JUL-2003 00:01:47
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	28-JUL-2003 00:01:47
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	28-JUL-2003 00:01:47

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

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

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

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

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

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

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

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

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

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

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

#### [5.3 Plot ozone profiles where STD < 20% \(dark without errors\)](#)

#### [5.4. Plot ozone profiles where STD < 10% \(dark without errors\)](#)

#### [5.5. Plot ozone profiles where STD < 5% \(dark without errors\)](#)

#### [5.6 Plot NO2 profiles for all STD \(dark without errors\)](#)

#### [5.7 Plot NO3 profiles for all STD \(dark without errors\)](#)

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

### [6. Auxiliary Data Files used for the production reported in section 2](#)



















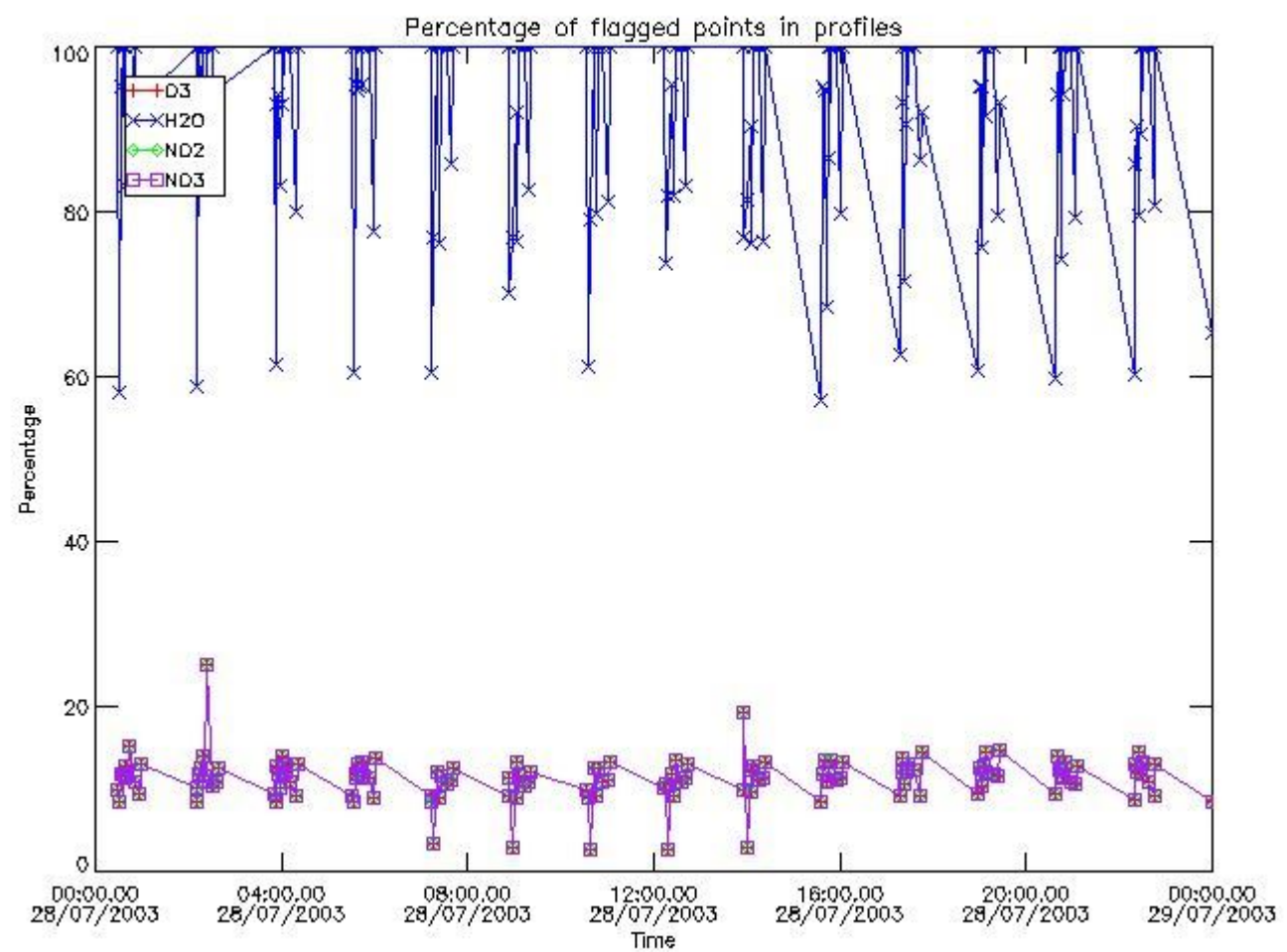
456	GOM_NL__2PRFIN20030728_225446_000000482018_00302_07370_7088.N1	28-JUL-2003 22:54:46	Straylight	47.500	31	Alp Gru	1.7340	15200.	95	7370	No
457	GOM_NL__2PRFIN20030728_225808_000000802018_00302_07370_7089.N1	28-JUL-2003 22:58:08	Twilight_stray	79.500	18	24Alp PsA	1.1660	9700.0	159	7370	No
458	GOM_NL__2PRFIN20030728_230227_000000422018_00302_07370_7090.N1	28-JUL-2003 23:02:27	Bright	41.500	38	20Eps Sgr	1.8360	11000.	83	7370	No
459	GOM_NL__2PRFIN20030728_230423_000000402018_00302_07370_7091.N1	28-JUL-2003 23:04:23	Bright	40.000	57	34Sig Sgr	2.0660	26000.	80	7370	No
460	GOM_NL__2PRFIN20030728_230558_000000592018_00302_07370_7092.N1	28-JUL-2003 23:05:58	Bright	59.000	142	49Del Cap	2.8500	8900.0	118	7370	No
461	GOM_NL__2PRFIN20030728_231030_000000582018_00302_07370_7093.N1	28-JUL-2003 23:10:30	Bright	57.500	154	22Bet Aqr	2.8990	5700.0	115	7370	No
462	GOM_NL__2PRFIN20030728_231418_000000412018_00302_07370_7094.N1	28-JUL-2003 23:14:18	Bright	40.500	11	53Alp Aql	0.76500	8000.0	81	7370	No
463	GOM_NL__2PRFIN20030728_232242_000000382018_00302_07370_7095.N1	28-JUL-2003 23:22:42	Bright	38.000	5	3Alp Lyr	0.033000	11000.	76	7370	No
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465	GOM_NL__2PRFIN20030728_232625_000000392018_00302_07370_7097.N1	28-JUL-2003 23:26:25	Bright	38.500	69	33Gam Dra	2.2310	3800.0	77	7370	No
466	GOM_NL__2PRFIN20030728_233015_000000382018_00302_07370_7098.N1	28-JUL-2003 23:30:15	Bright	37.500	119	14Eta Dra	2.7270	4700.0	75	7370	No
467	GOM_NL__2PRFIN20030728_233148_000000422018_00302_07370_7099.N1	28-JUL-2003 23:31:48	Bright	42.000	89	5Alp Cep	2.4510	8000.0	84	7370	No
468	GOM_NL__2PRFIN20030728_233427_000000362018_00302_07370_7100.N1	28-JUL-2003 23:34:27	Bright	35.500	60	7Bet UMi	2.0810	3950.0	71	7370	No
469	GOM_NL__2PRFIN20030728_233716_000000372018_00302_07370_7101.N1	28-JUL-2003 23:37:16	Bright	36.500	49	1Alp UMi	1.9900	6300.0	73	7370	No
470	GOM_NL__2PRFIN20030728_234025_000000482018_00302_07370_7102.N1	28-JUL-2003 23:40:25	Bright	48.000	76	27Gam Cas	2.3000	30000.	96	7370	No
471	GOM_NL__2PRFIN20030728_234631_000000492018_00302_07370_7103.N1	28-JUL-2003 23:46:31	Bright	48.500	160	23Gam Per	2.9300	4700.0	97	7370	No
472	GOM_NL__2PRFIN20030728_234935_000000742018_00302_07370_7104.N1	28-JUL-2003 23:49:35	Bright	74.000	73	57Gam1And	2.2600	13100.	148	7370	No
473	GOM_NL__2PRFIN20030728_235152_000000452018_00302_07370_7105.N1	28-JUL-2003 23:51:52	Bright	44.500	149	45Eps Per	2.8880	30000.	89	7370	No
474	GOM_NL__2PRFIN20030728_235449_000000542018_00302_07370_7106.N1	28-JUL-2003 23:54:49	Twilight_stray	53.500	150	44Zet Per	2.8900	28000.	107	7370	No
475	GOM_NL__2PRFIN20030728_235703_000000402018_00302_07370_7107.N1	28-JUL-2003 23:57:03	Twilight_stray	39.500	176	23Zet Tau	3.0200	22000.	79	7370	No
476	GOM_NL__2PRFIN20030728_235926_000000612018_00302_07370_7108.N1	28-JUL-2003 23:59:26	Dark	61.000	13	87Alp Tau	0.86700	3800.0	122	7370	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.

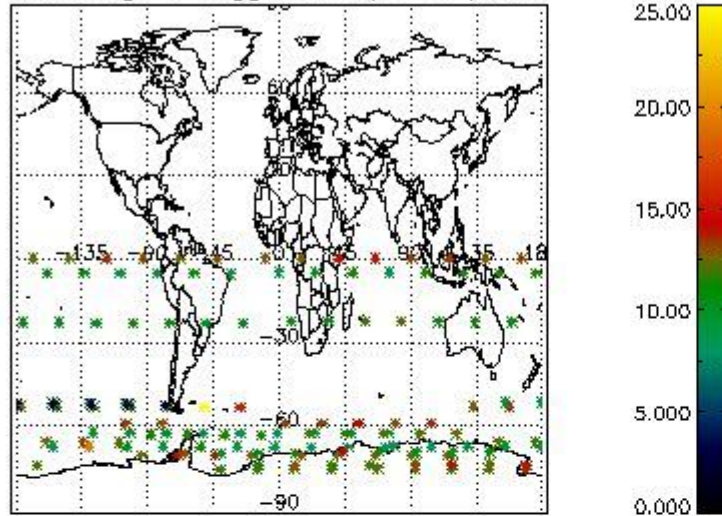
#### 3.1 Plot quality information per product (time dependant)



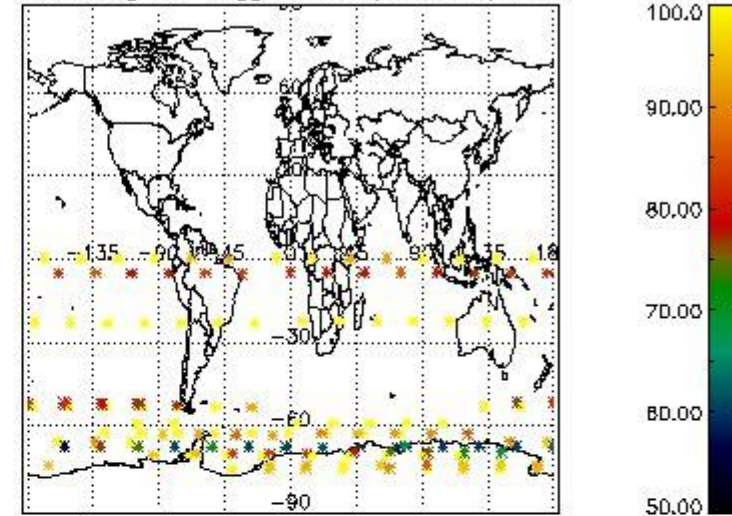


*3.2 Plot quality information per product (world map)*

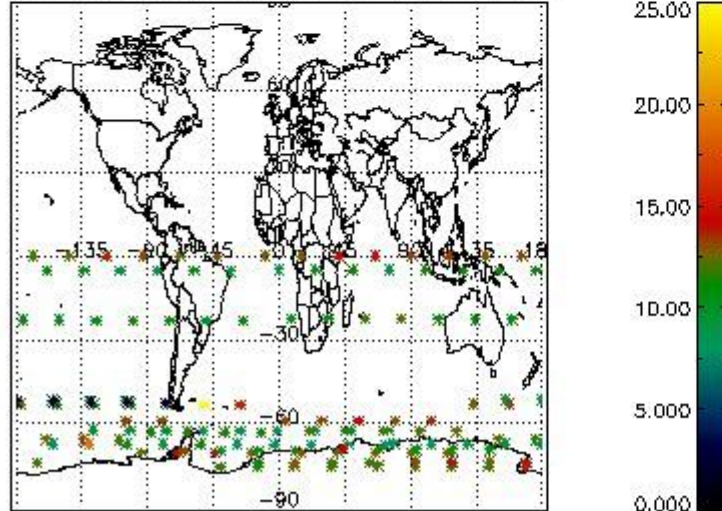
Percentage of flagged data per O3 profile



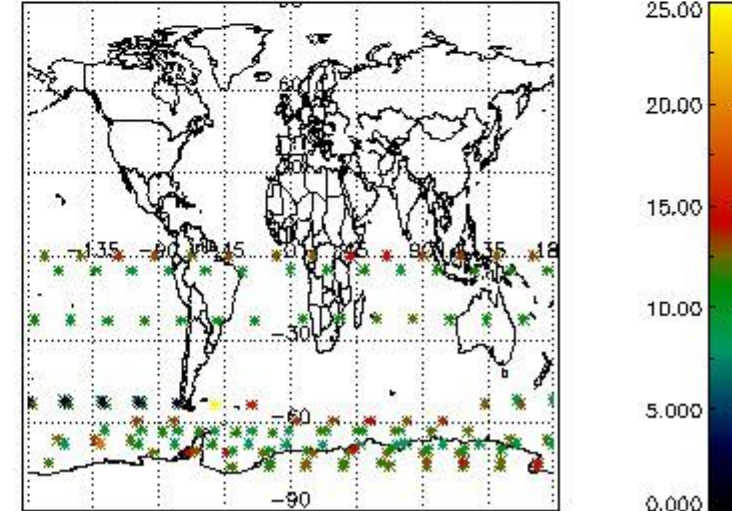
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

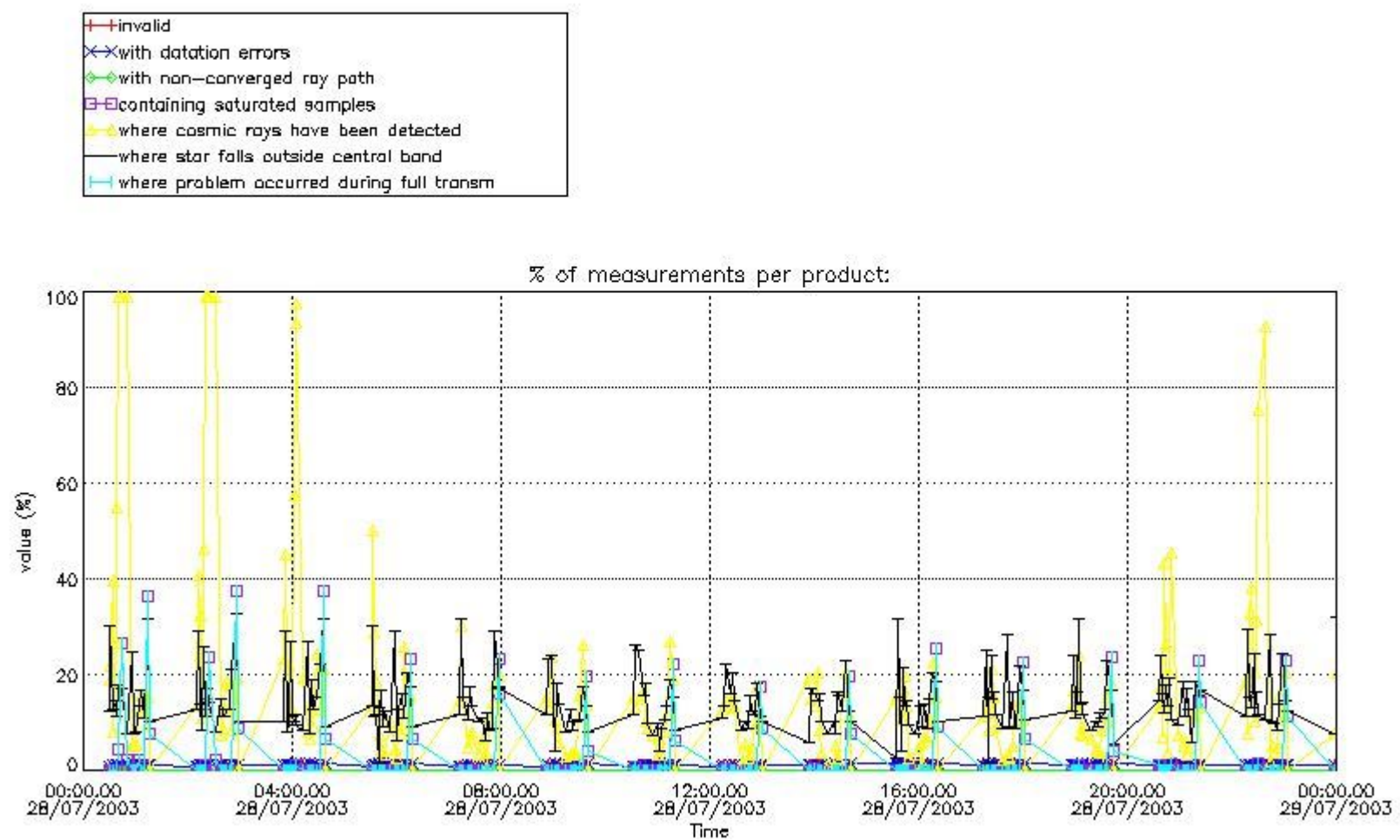


#### 4. Level 1 quality information per product

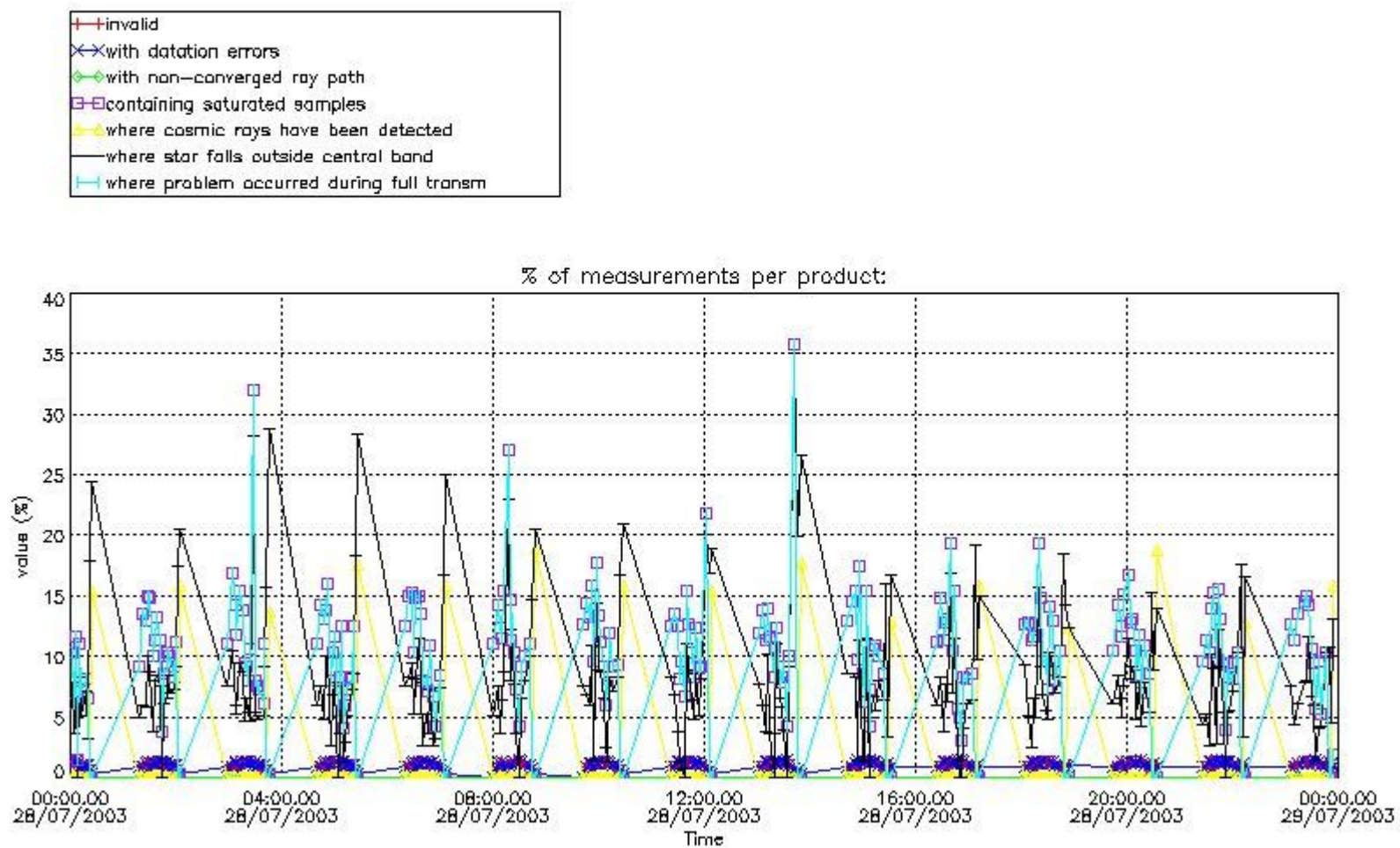
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

##### 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



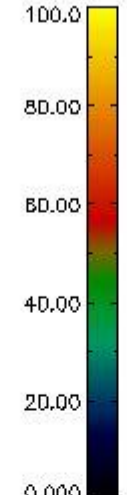
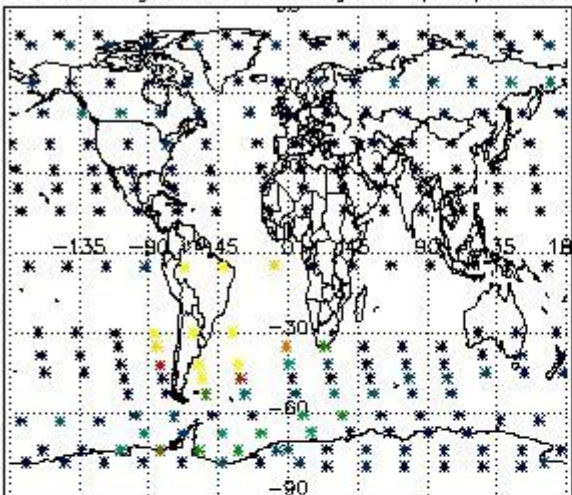
4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes



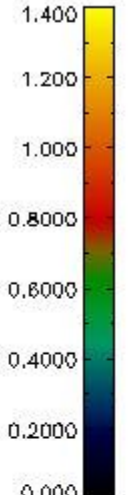
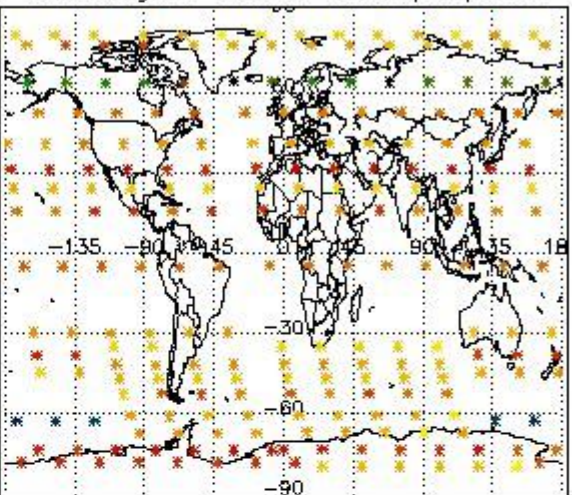
4.2 Plot quality information per product coming from level 1b processing (world map)

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

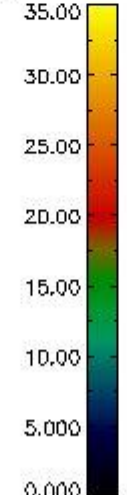
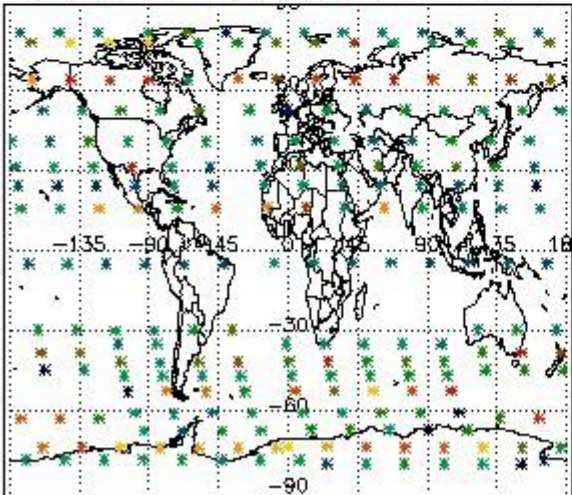
Percentage of cosmic ray hits per profile



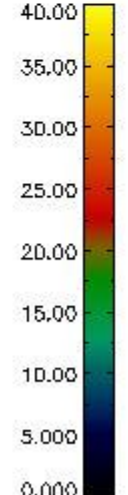
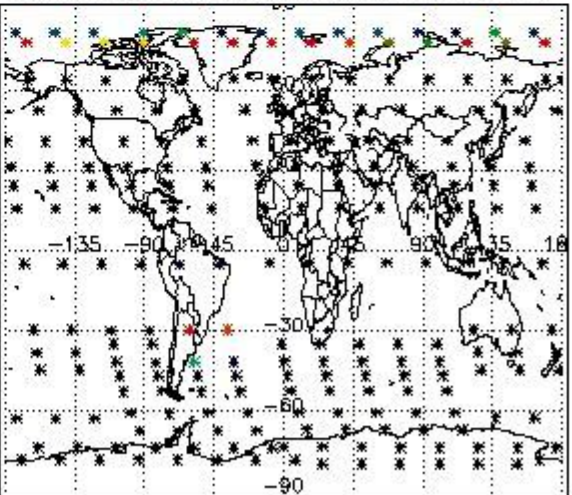
Percentage of datation errors per profile



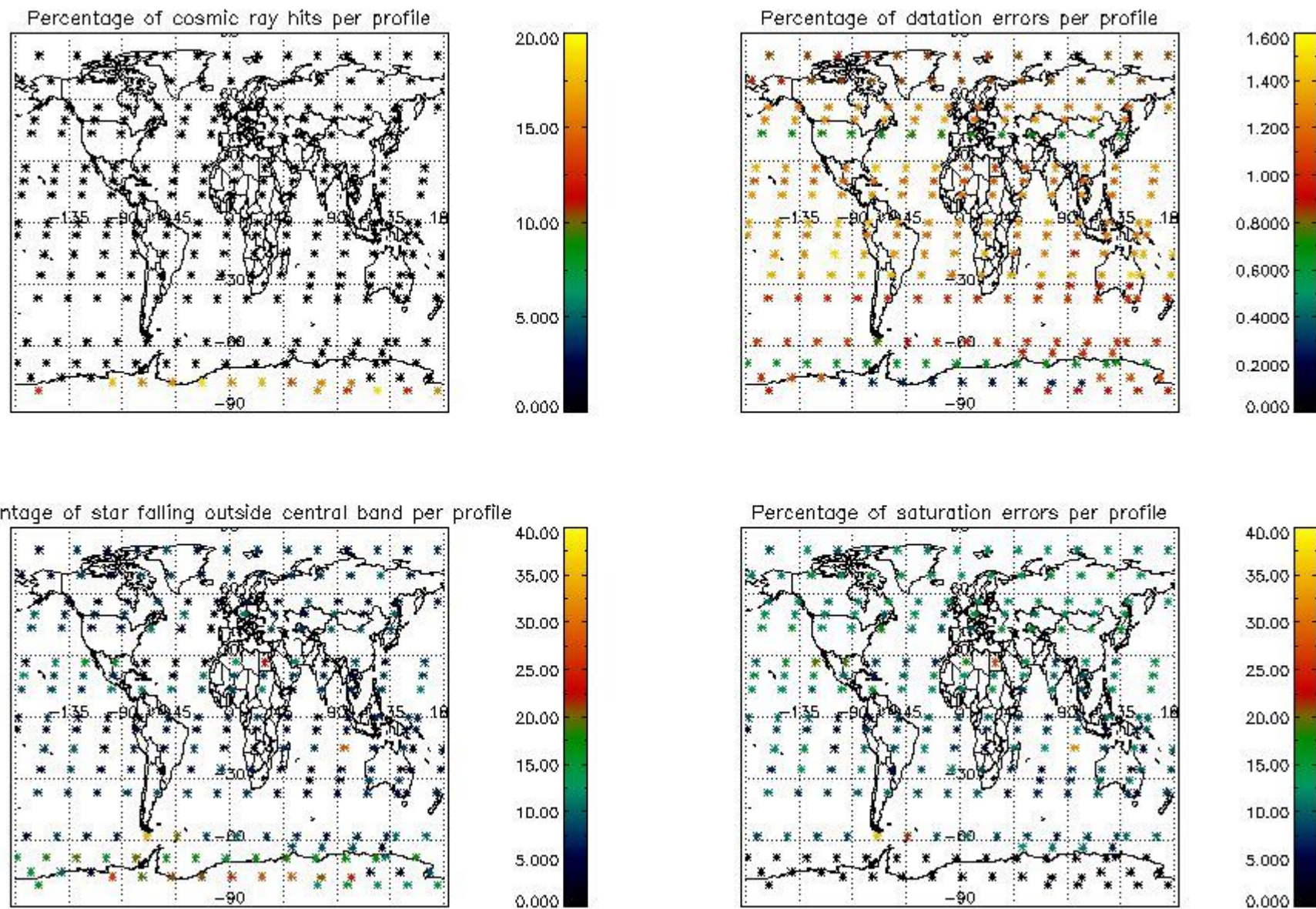
Percentage of star falling outside central band per profile



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

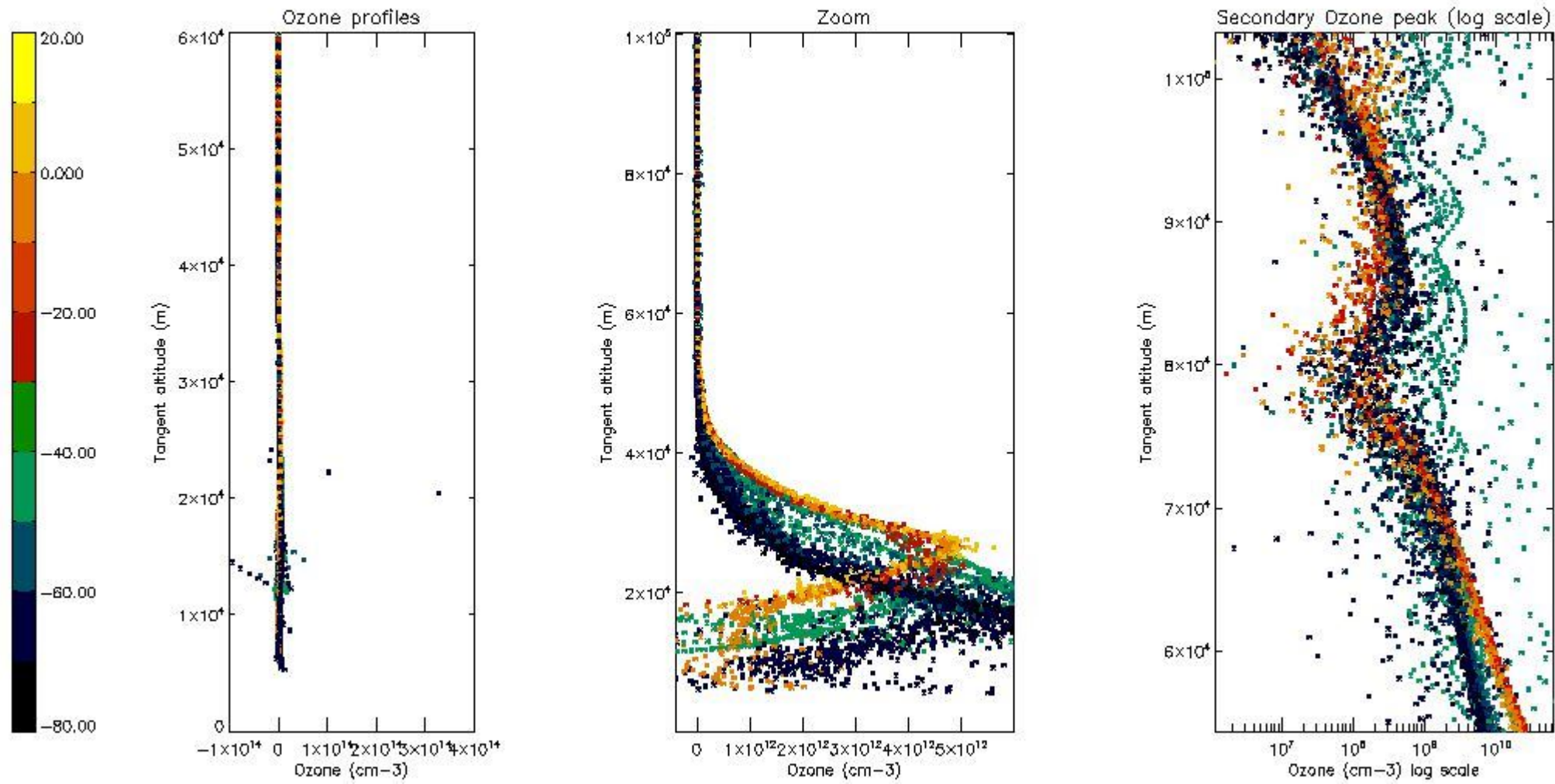
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	29
STD < 20	16

STD < 10	13
STD < 5	9

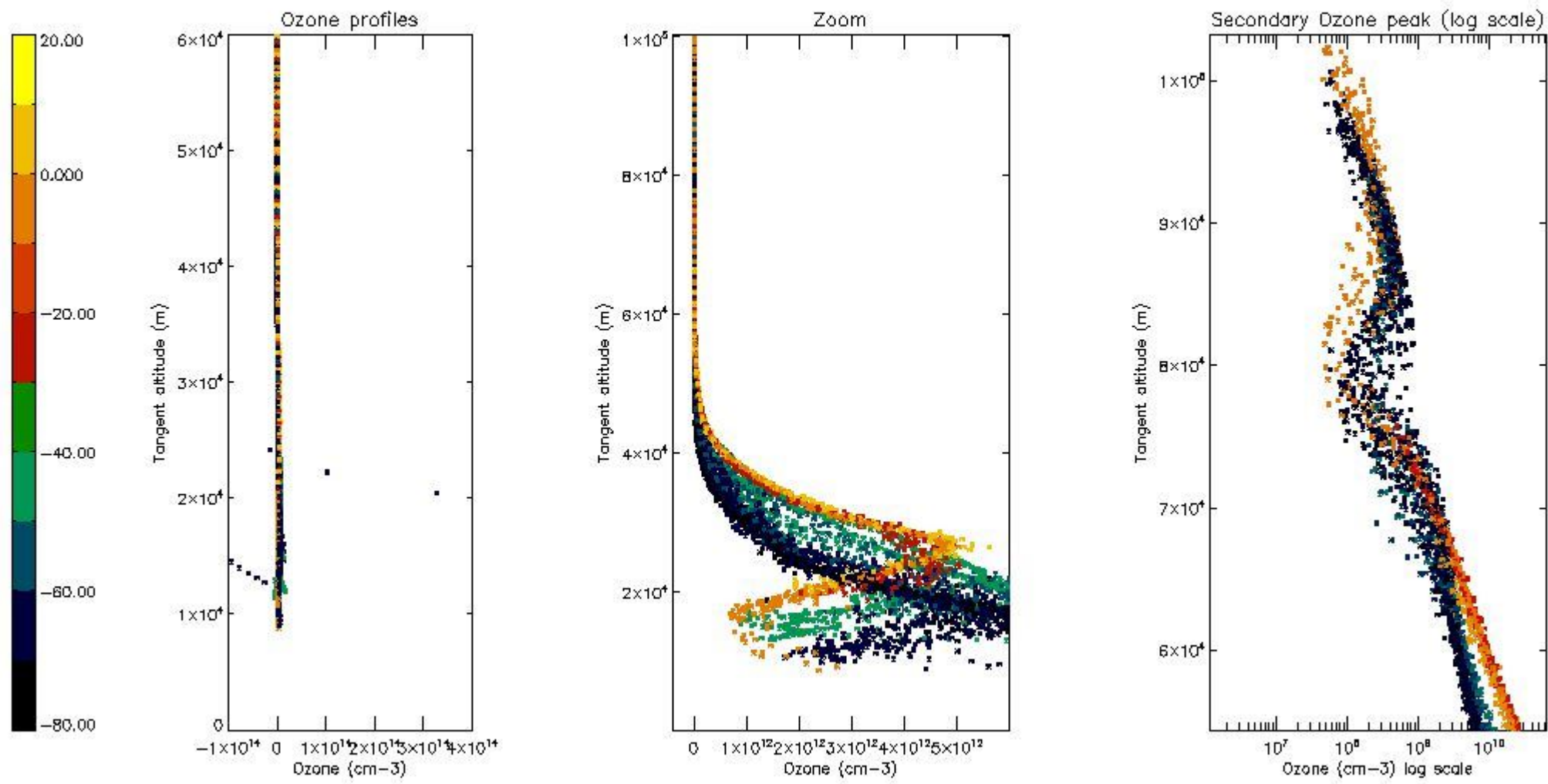
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



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

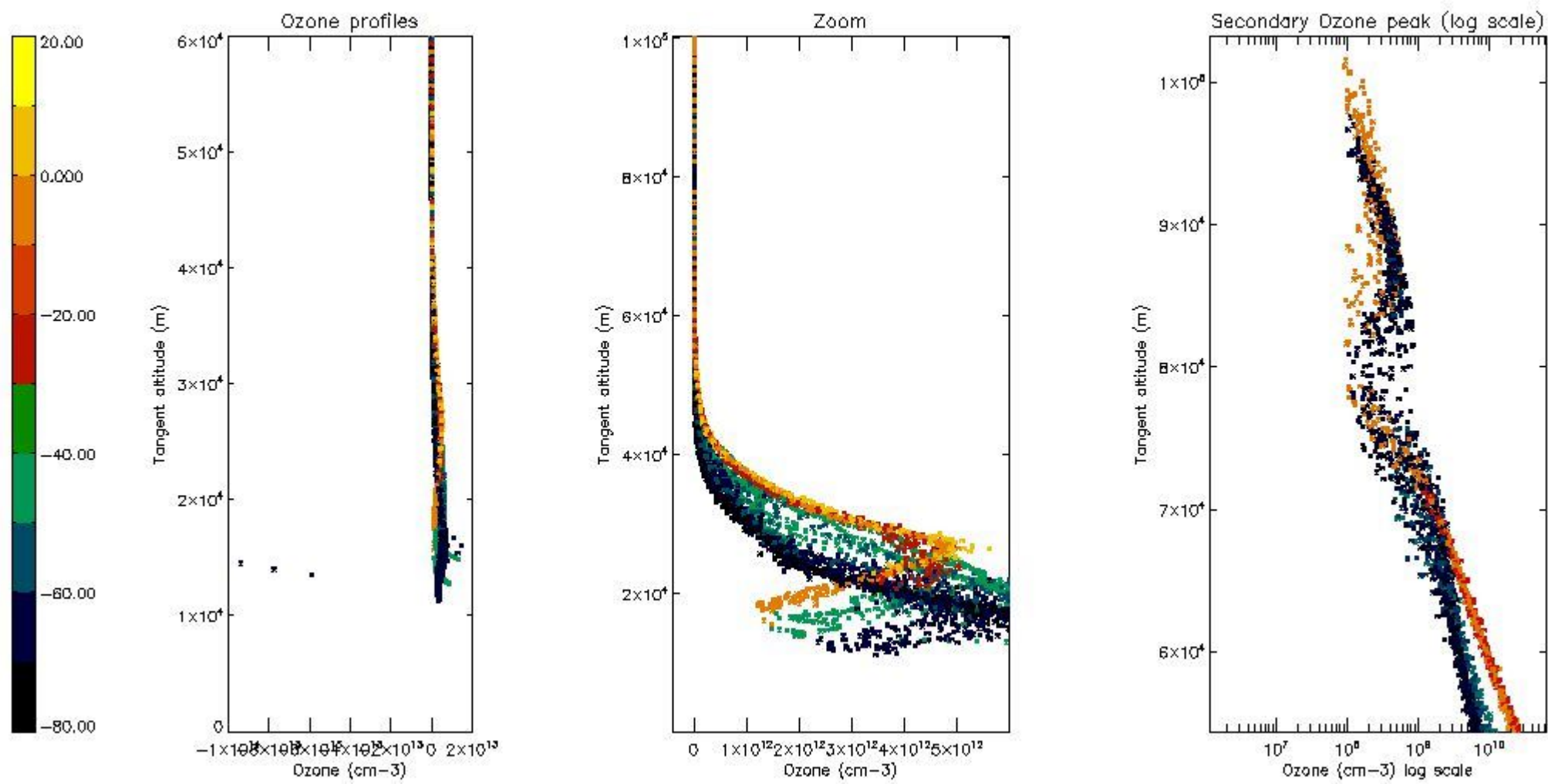
The colorbar represents the latitude.



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

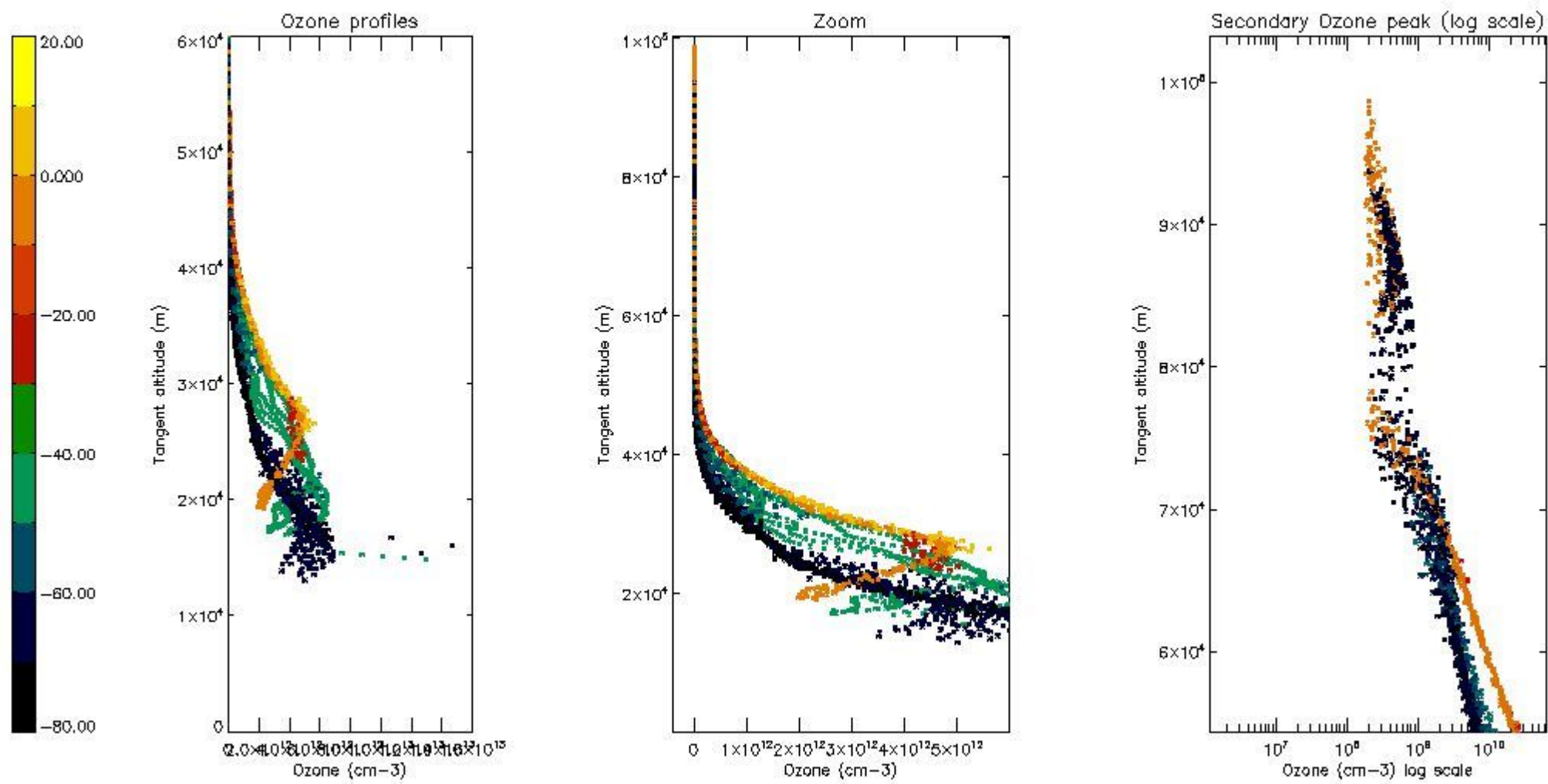
The colorbar represents the latitude.





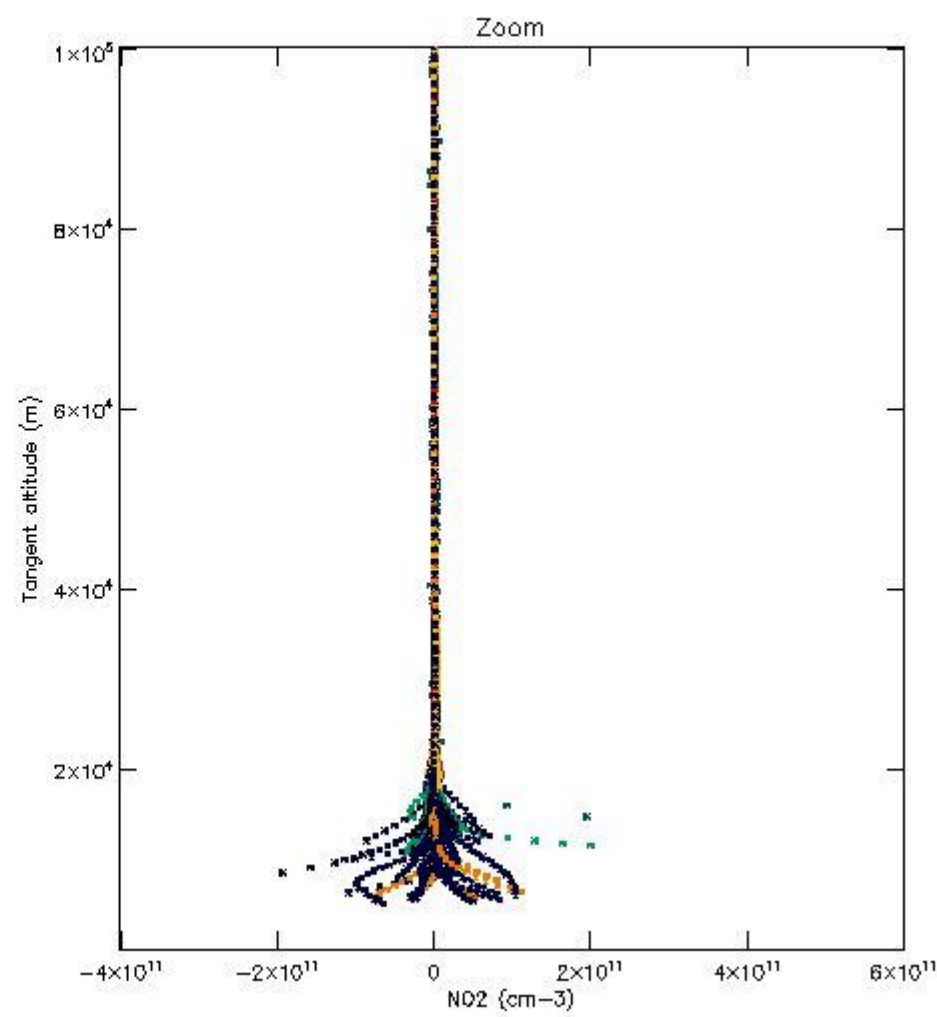
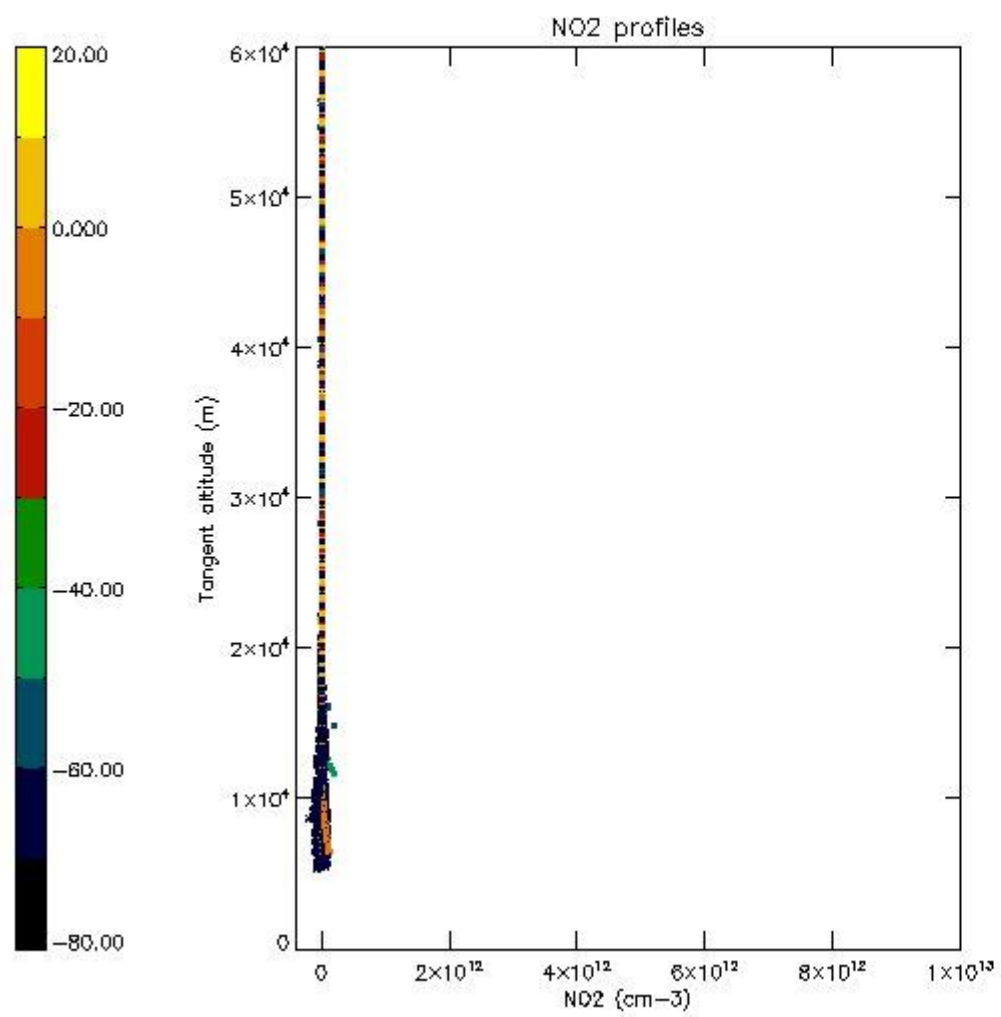
*5.5 Plot ozone profiles where  $STD < 5\%$  (dark without errors)*

The colorbar represents the latitude.



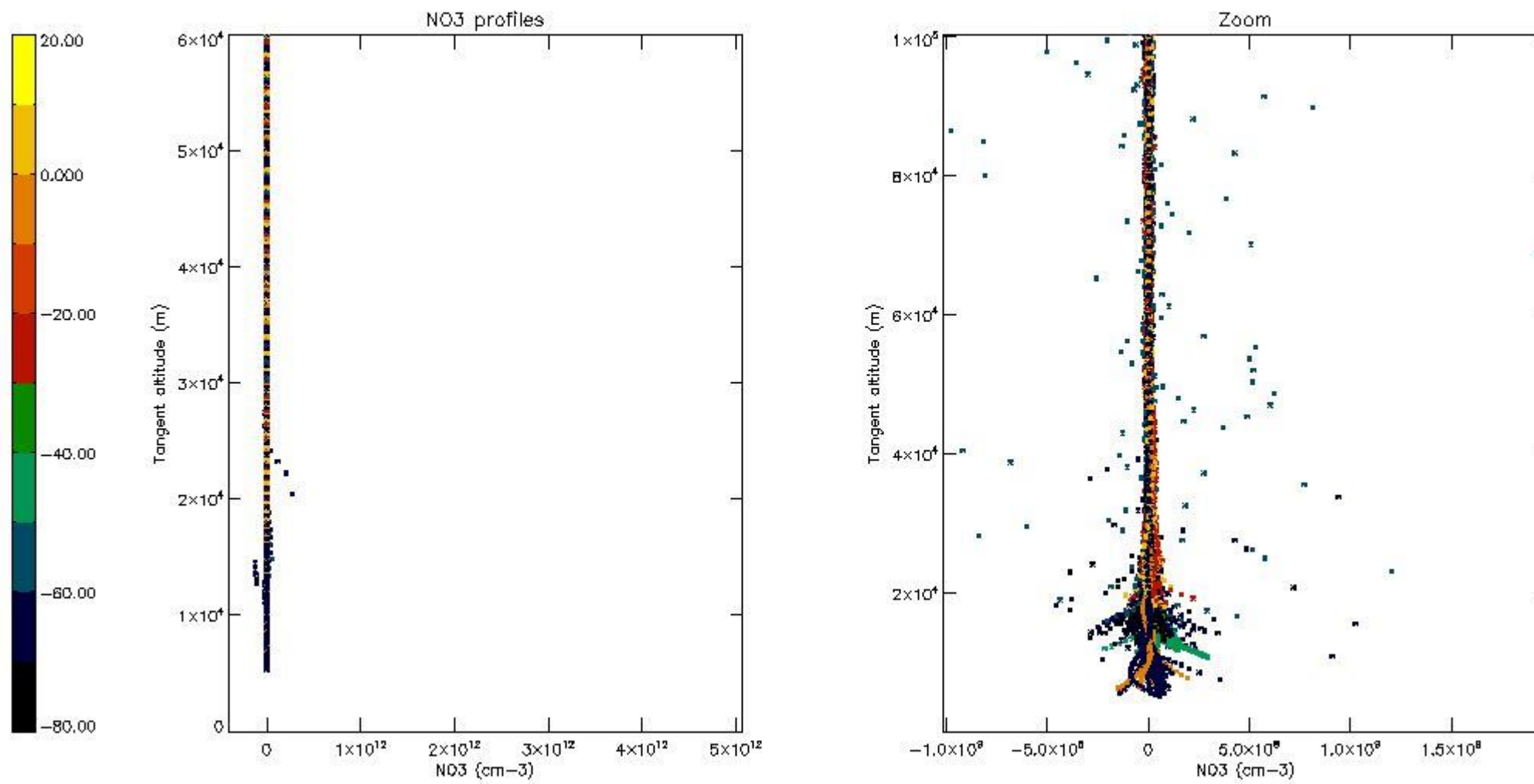
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

The colorbar represents the latitude.



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

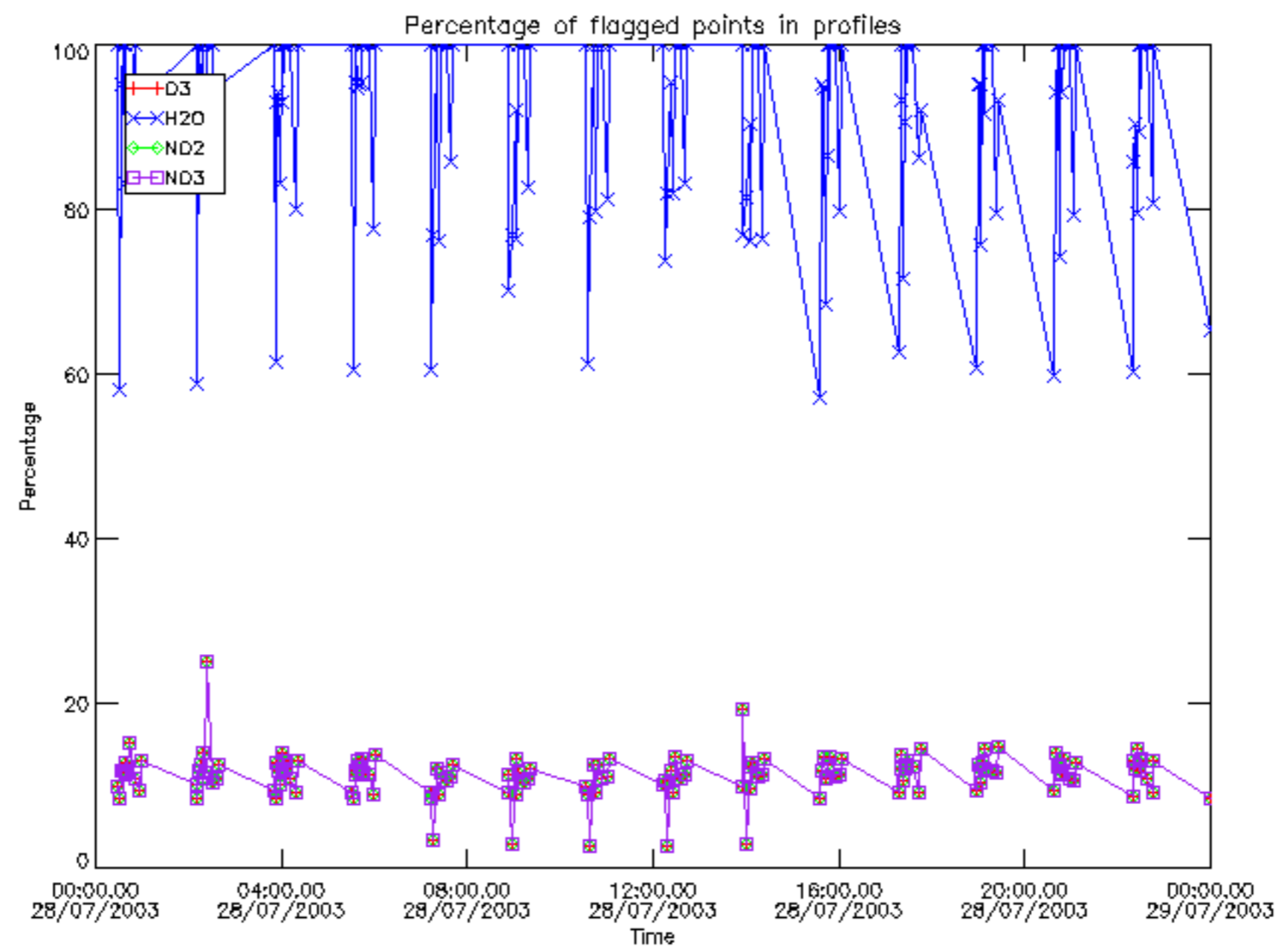
The colorbar represents the latitude.



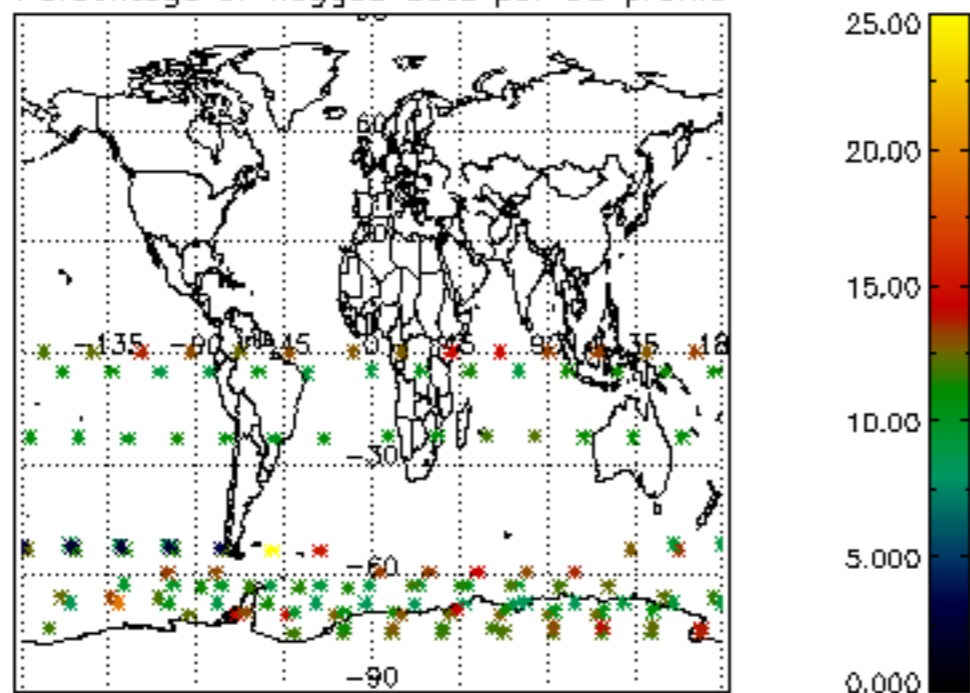
## 6. Auxiliary Data Files used for the production reported in section 2

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

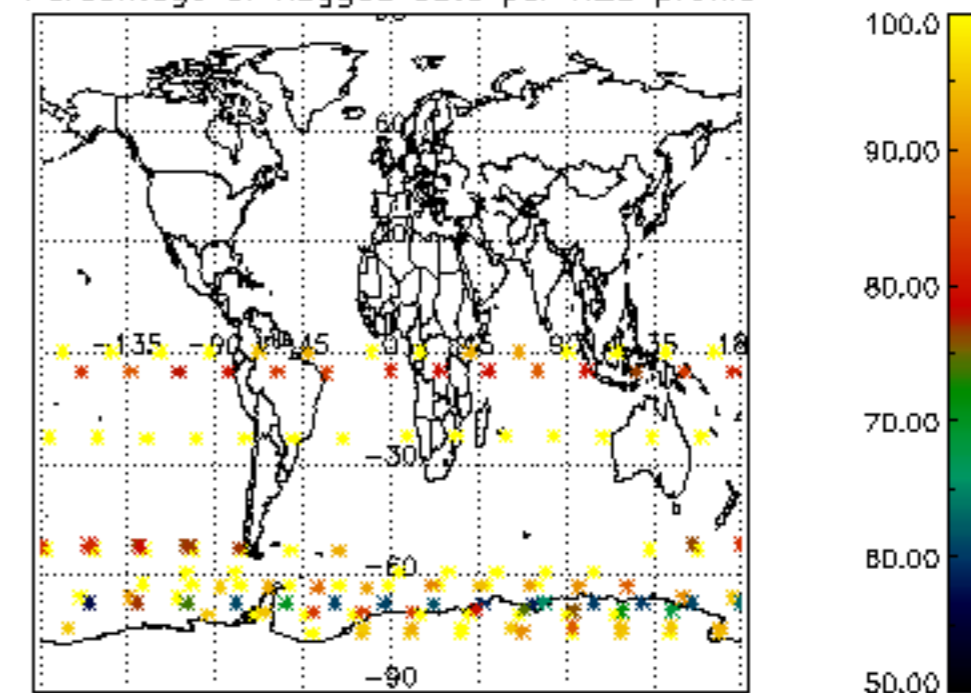
Type	Auxiliary Filename	Used since product	Used since product date
INST_PHYS_CHARACTERISTICS	GOM_INS_AXVIEC20091111_143220_20030716_120000_20500101_000000	1	28-JUL-2003 00:01:47
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	28-JUL-2003 00:01:47
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	28-JUL-2003 00:01:47



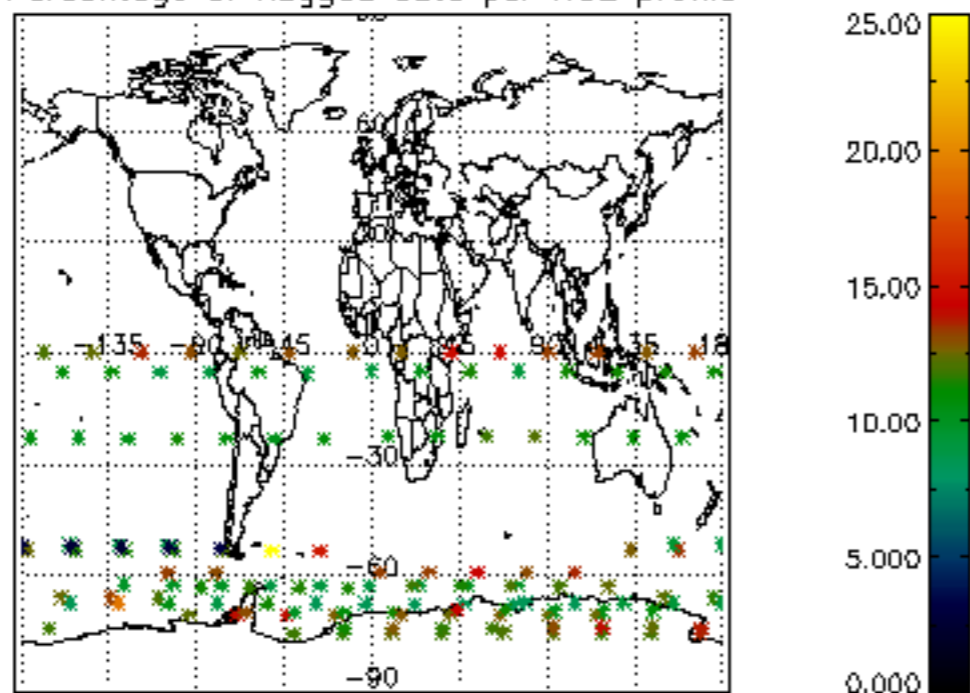
Percentage of flagged data per D3 profile



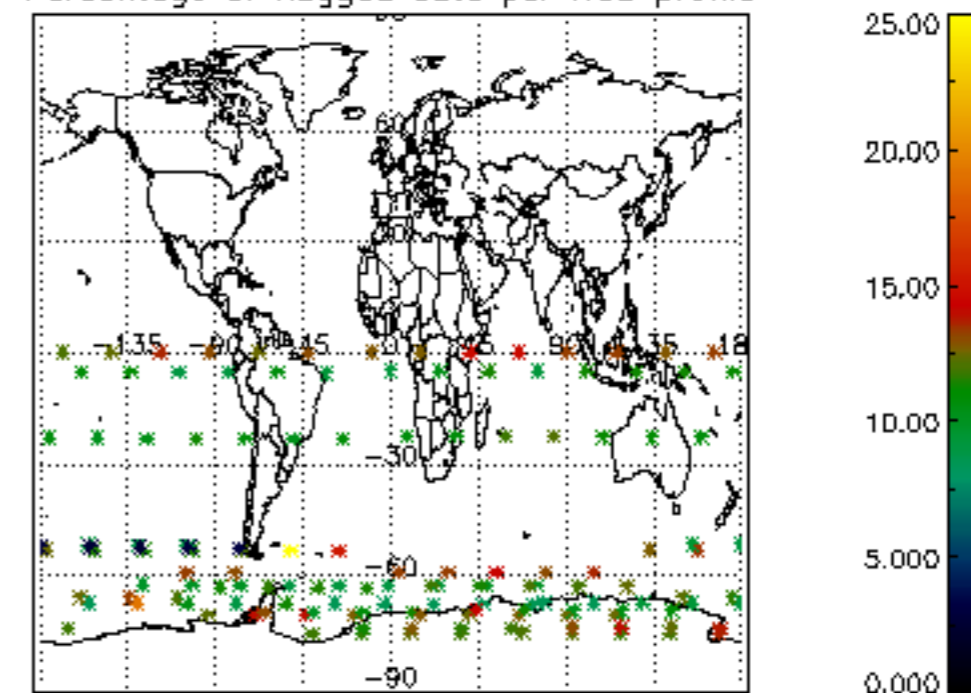
Percentage of flagged data per H2O profile

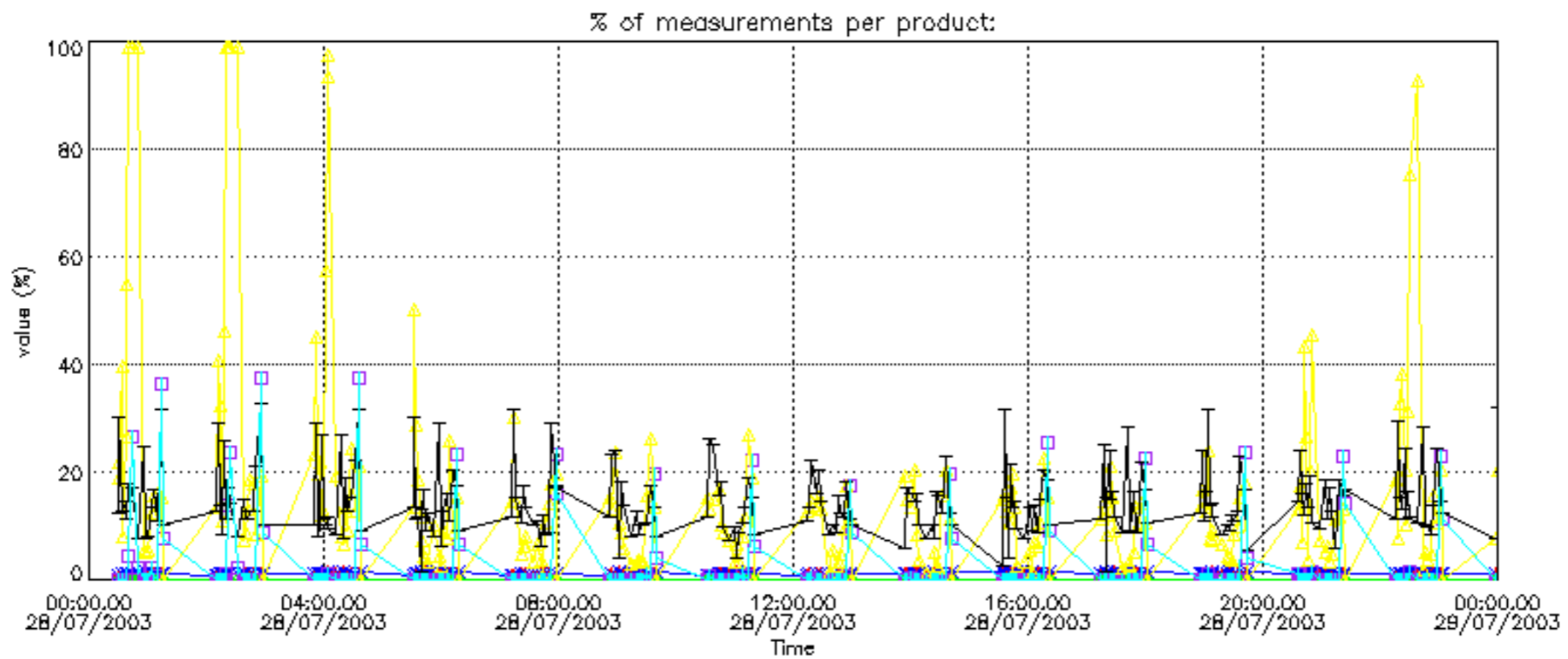


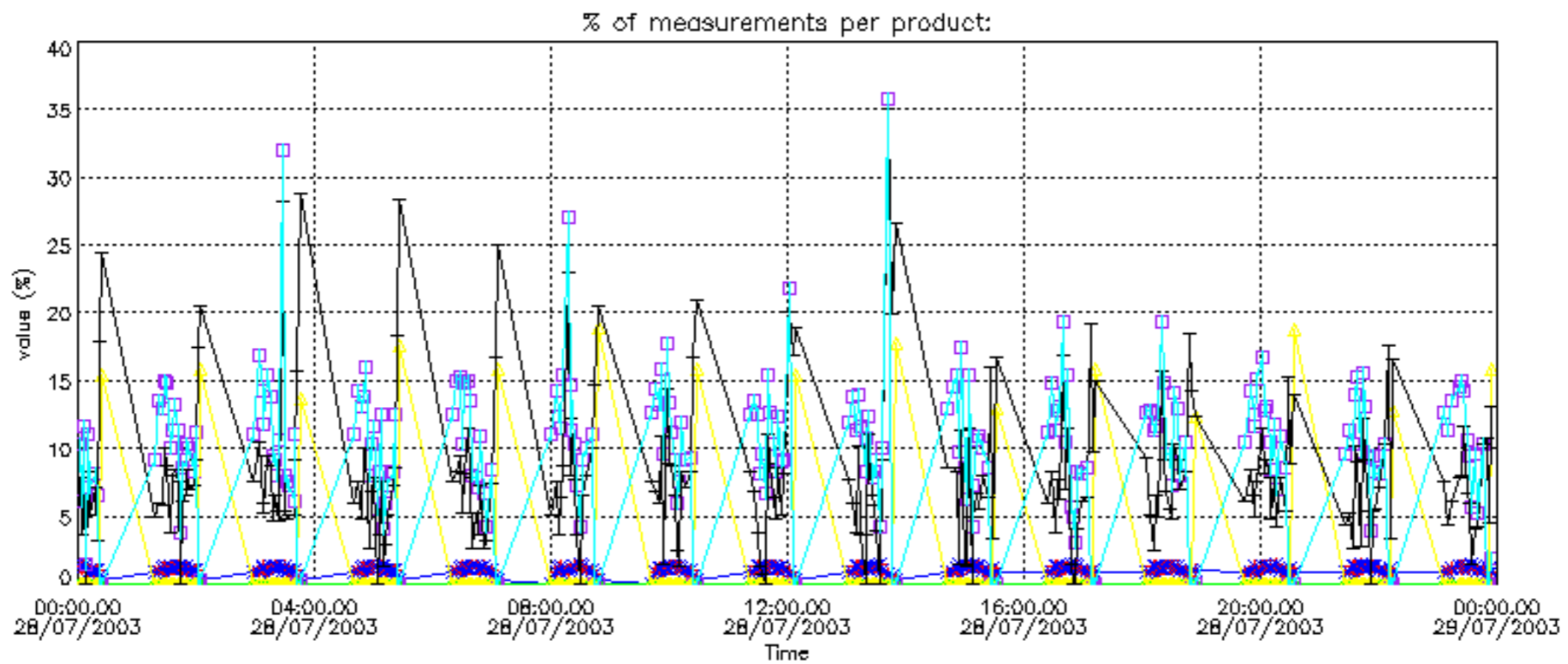
Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

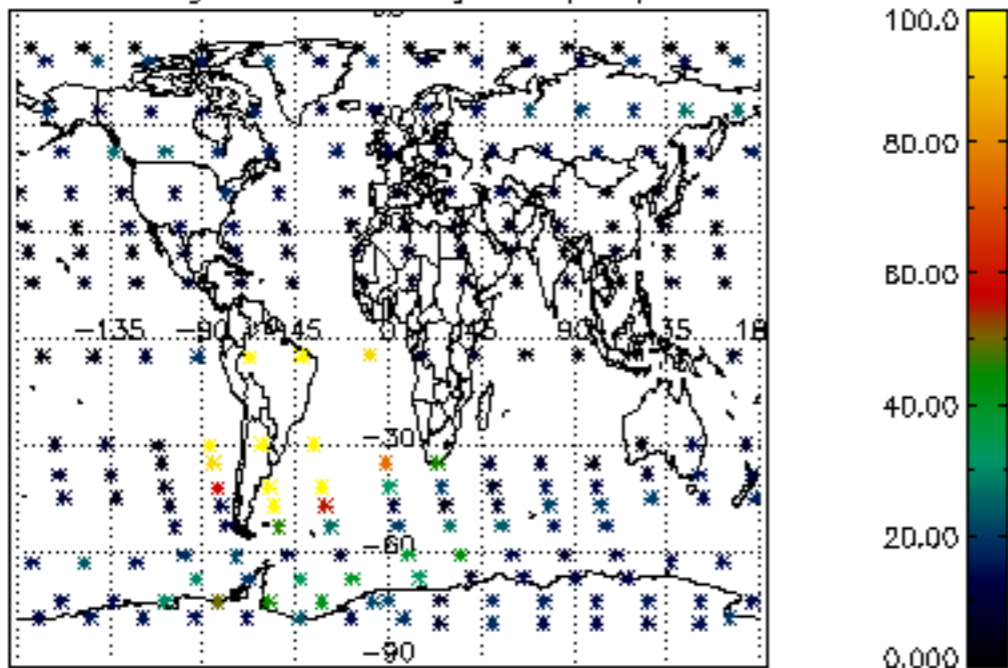




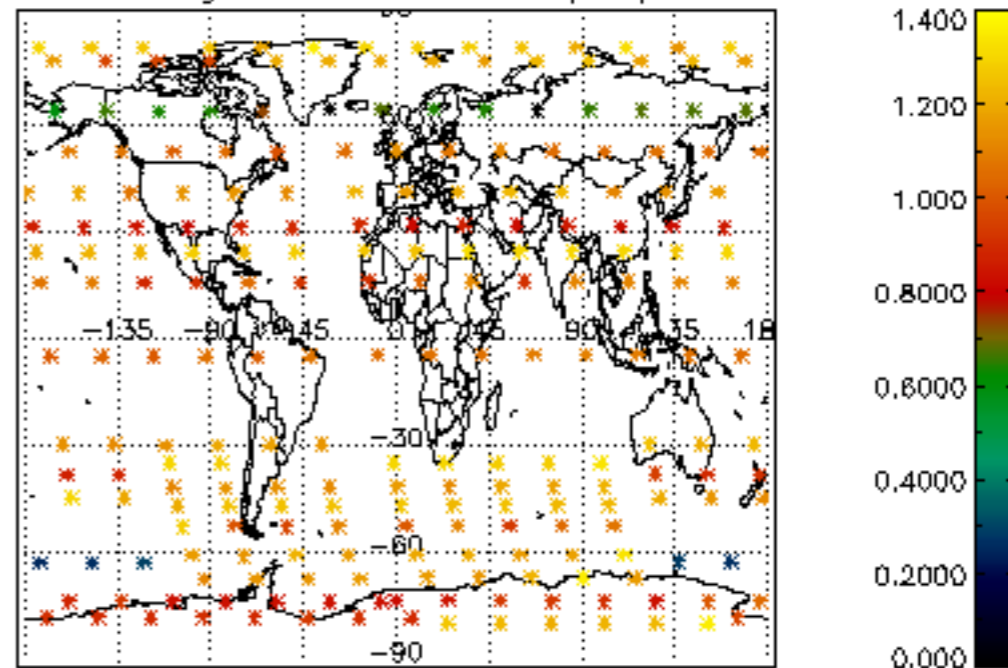




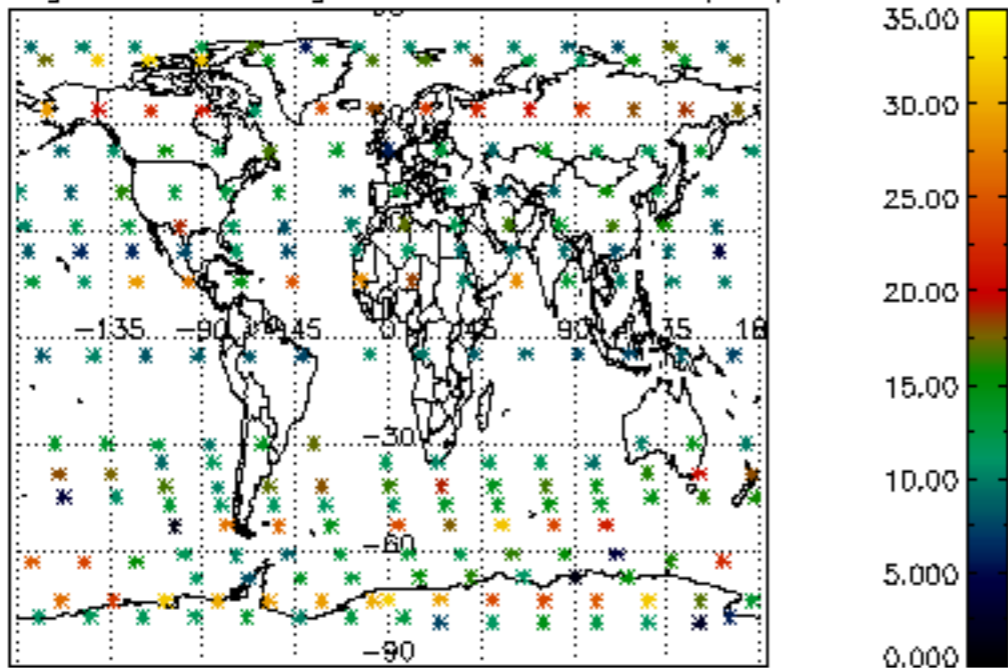
Percentage of cosmic ray hits per profile



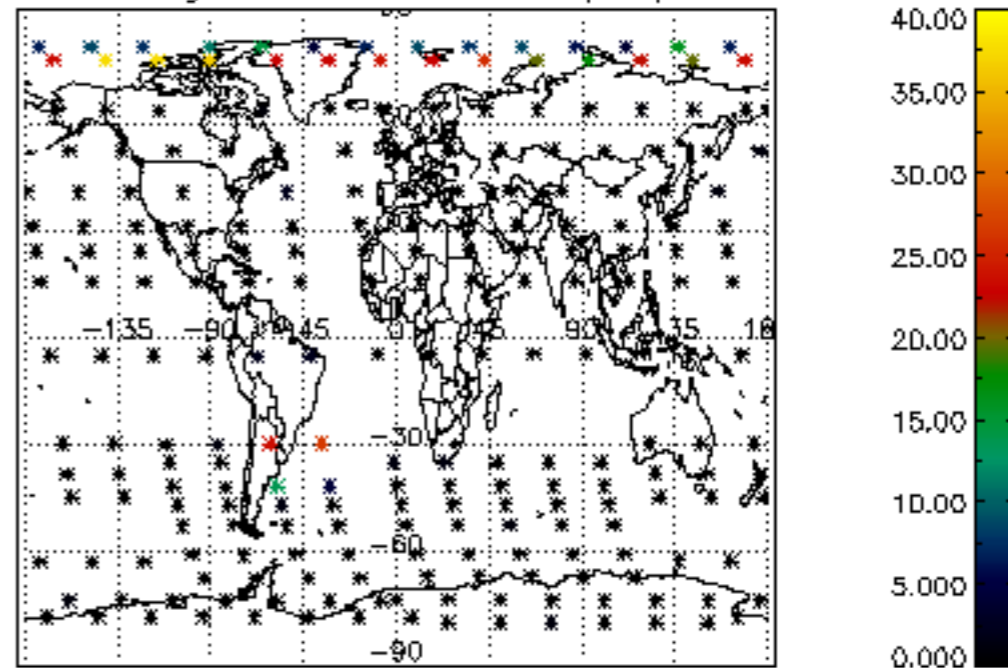
Percentage of datation errors per profile



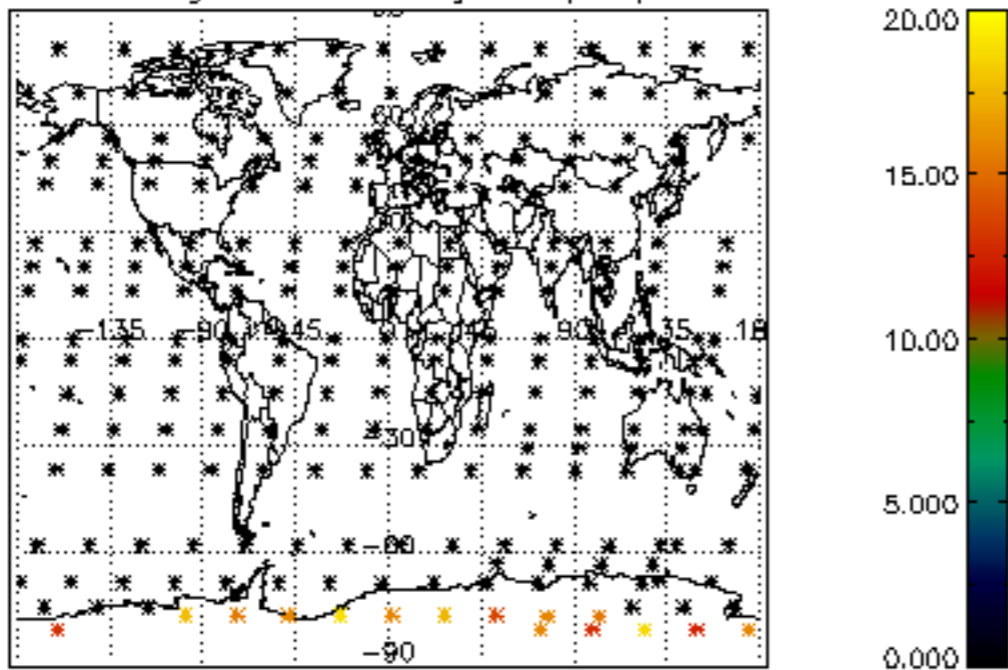
Percentage of star falling outside central band per profile



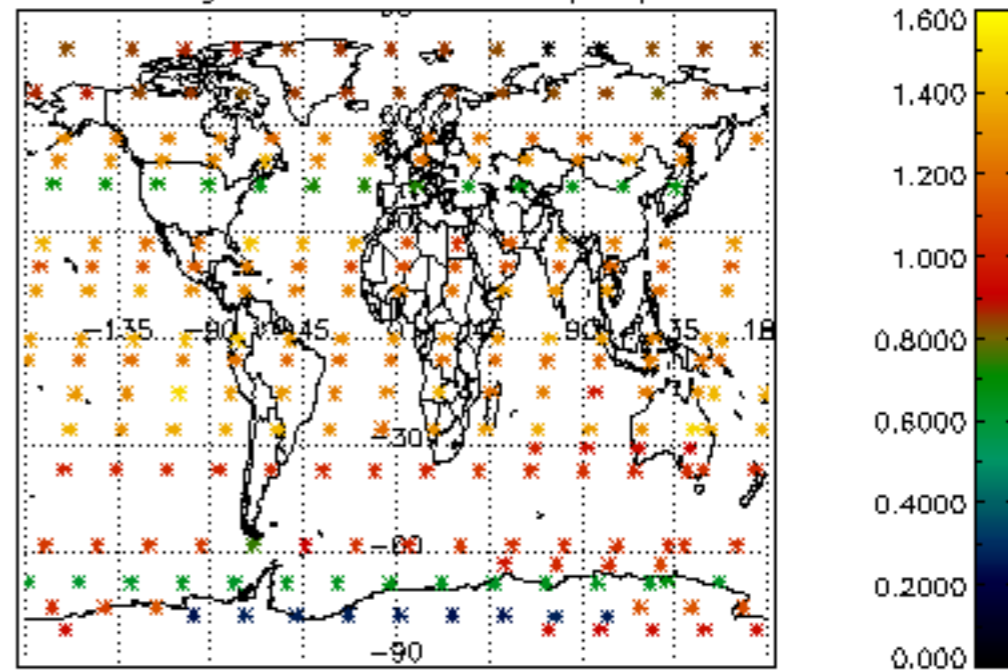
Percentage of saturation errors per profile



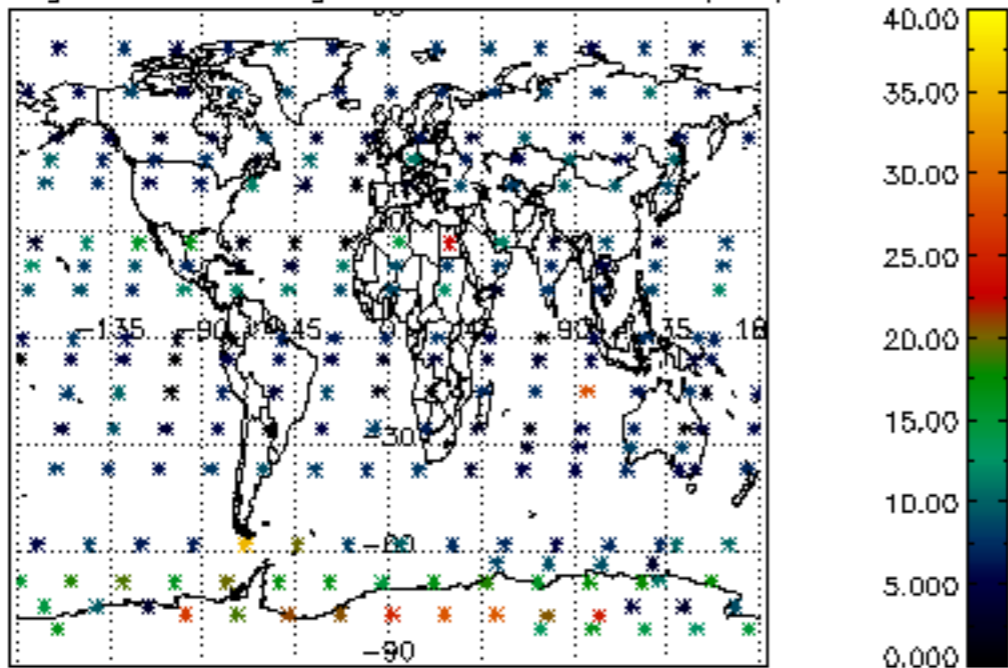
Percentage of cosmic ray hits per profile



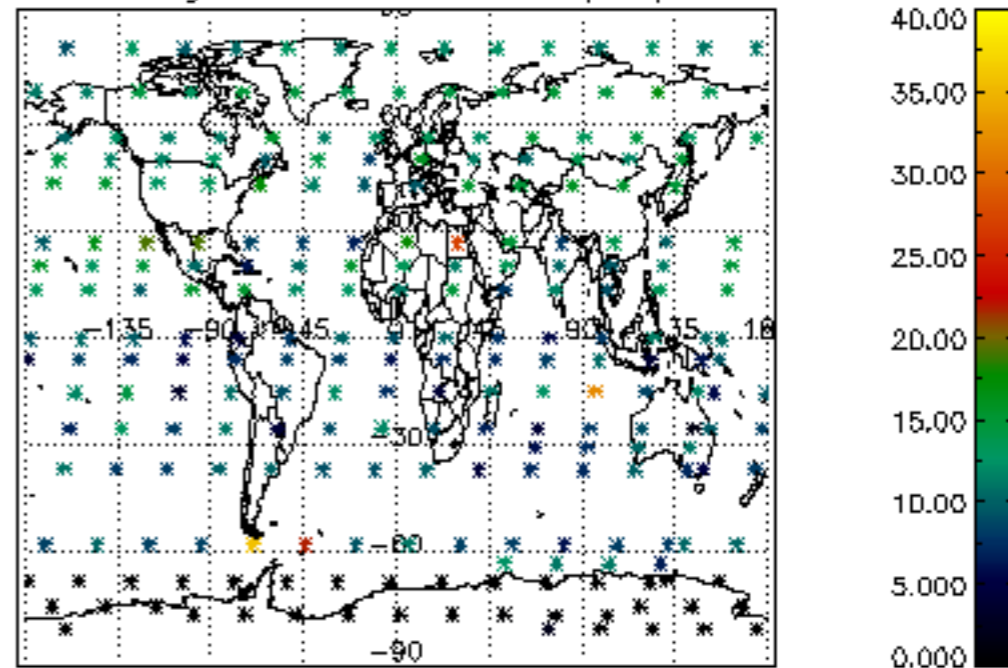
Percentage of datation errors per profile

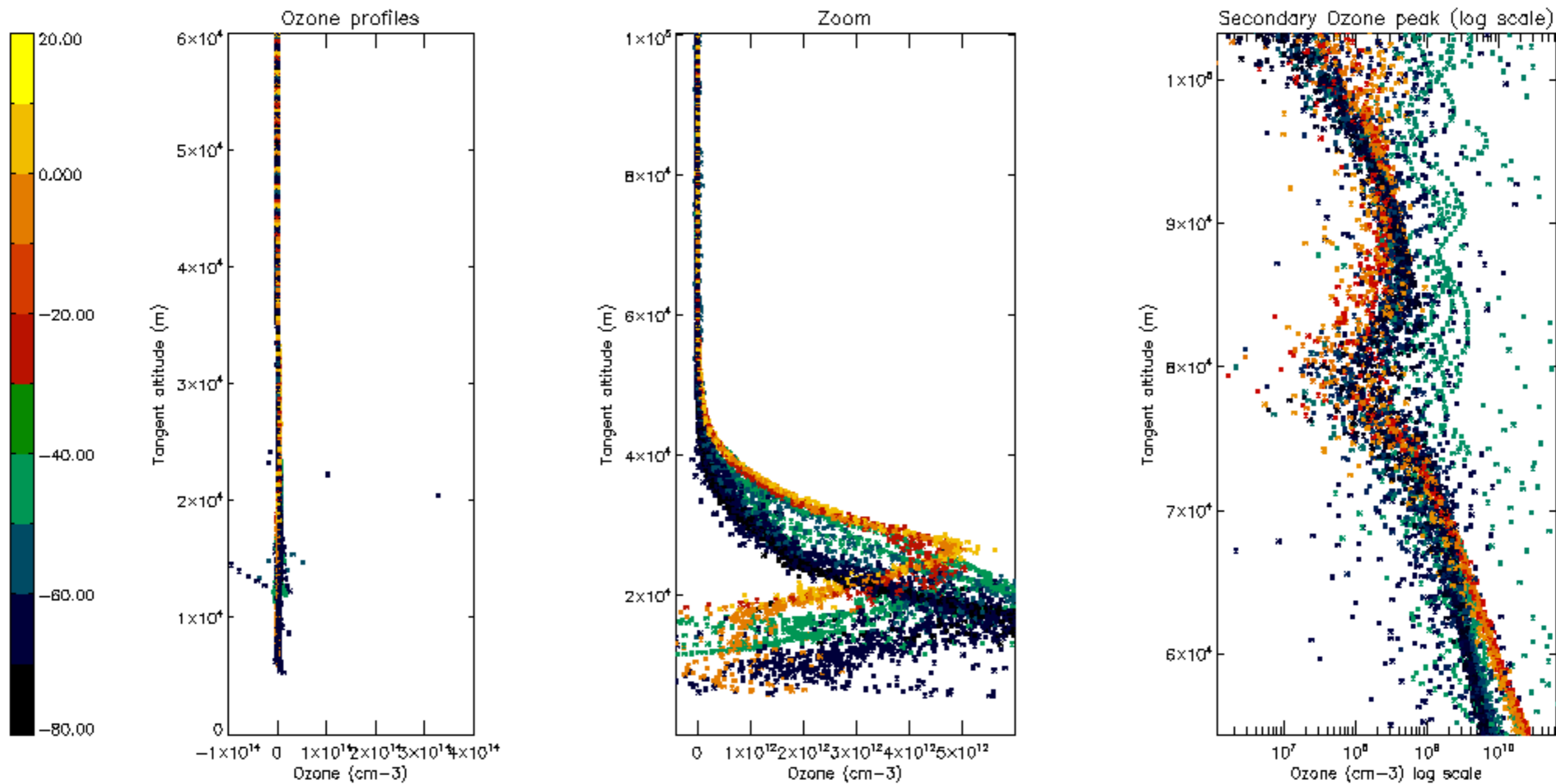


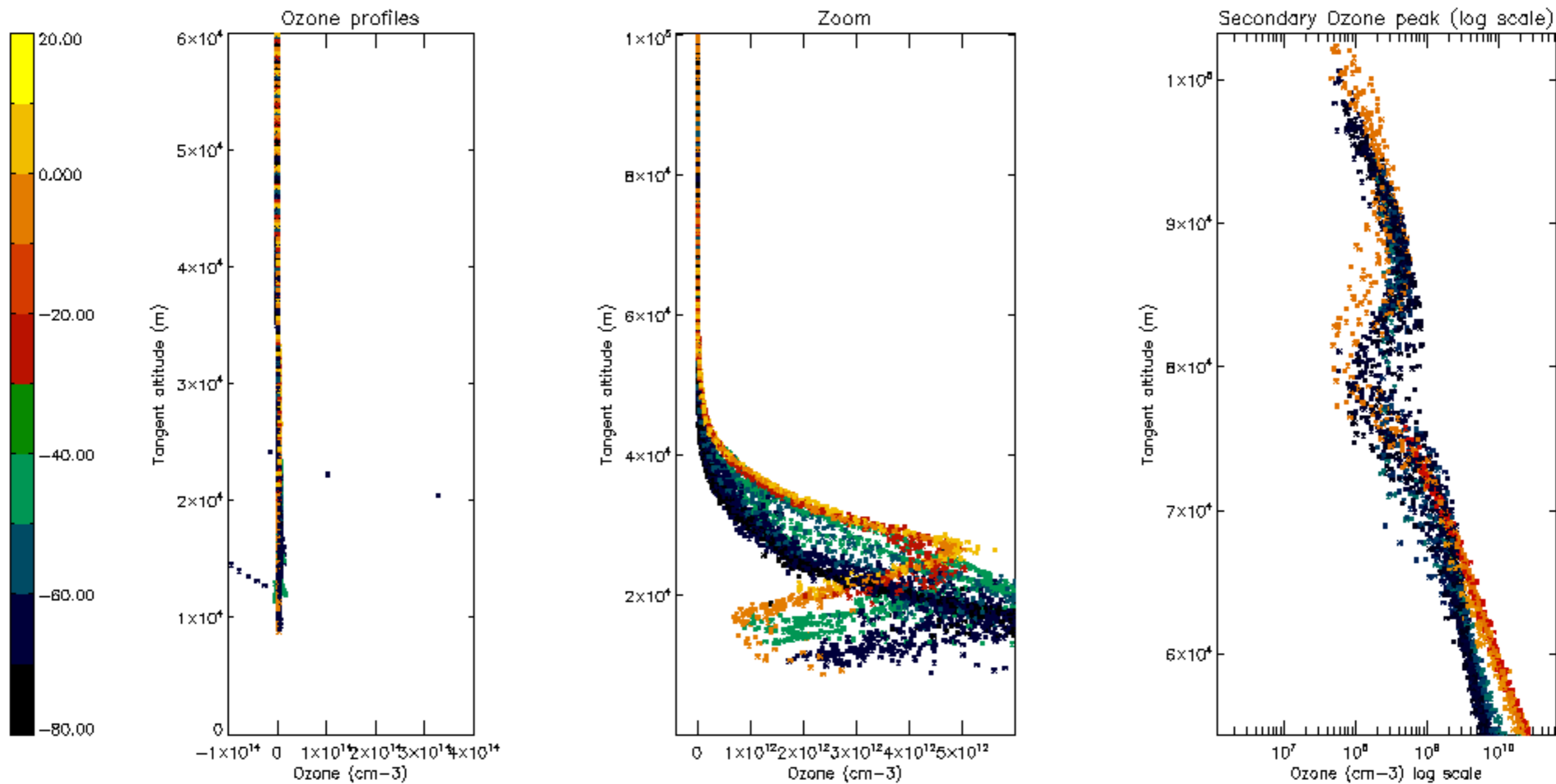
Percentage of star falling outside central band per profile

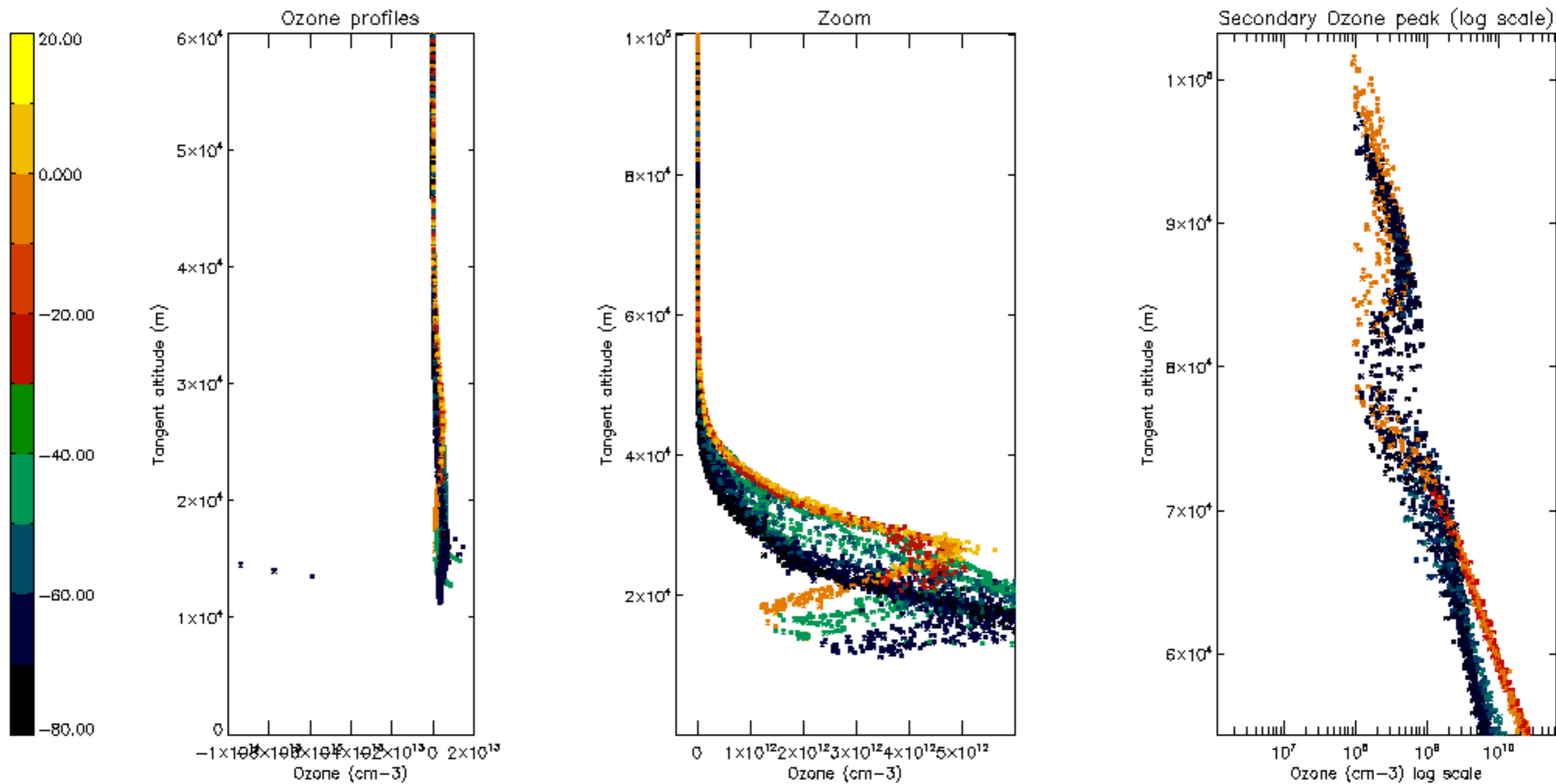


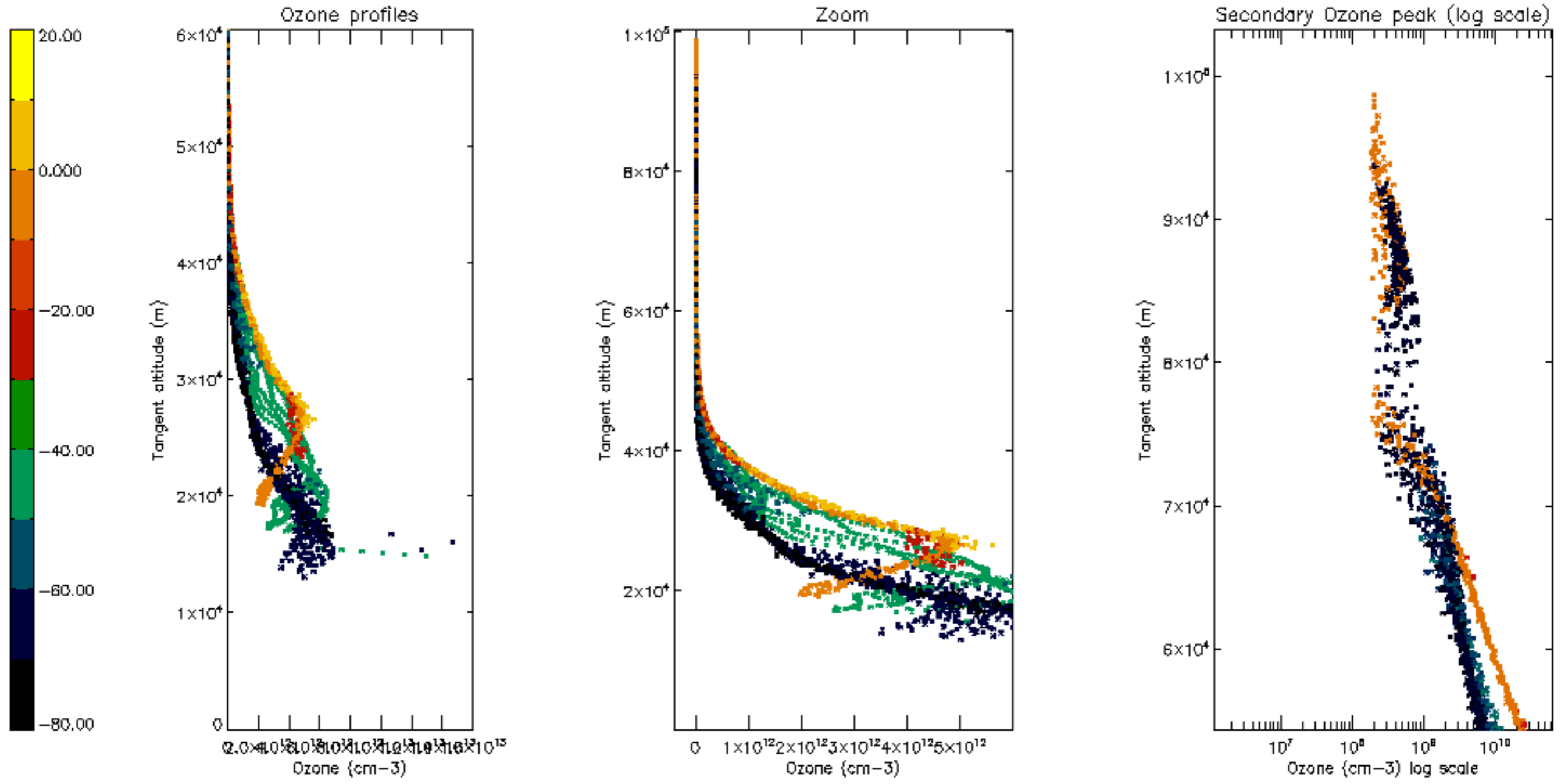
Percentage of saturation errors per profile

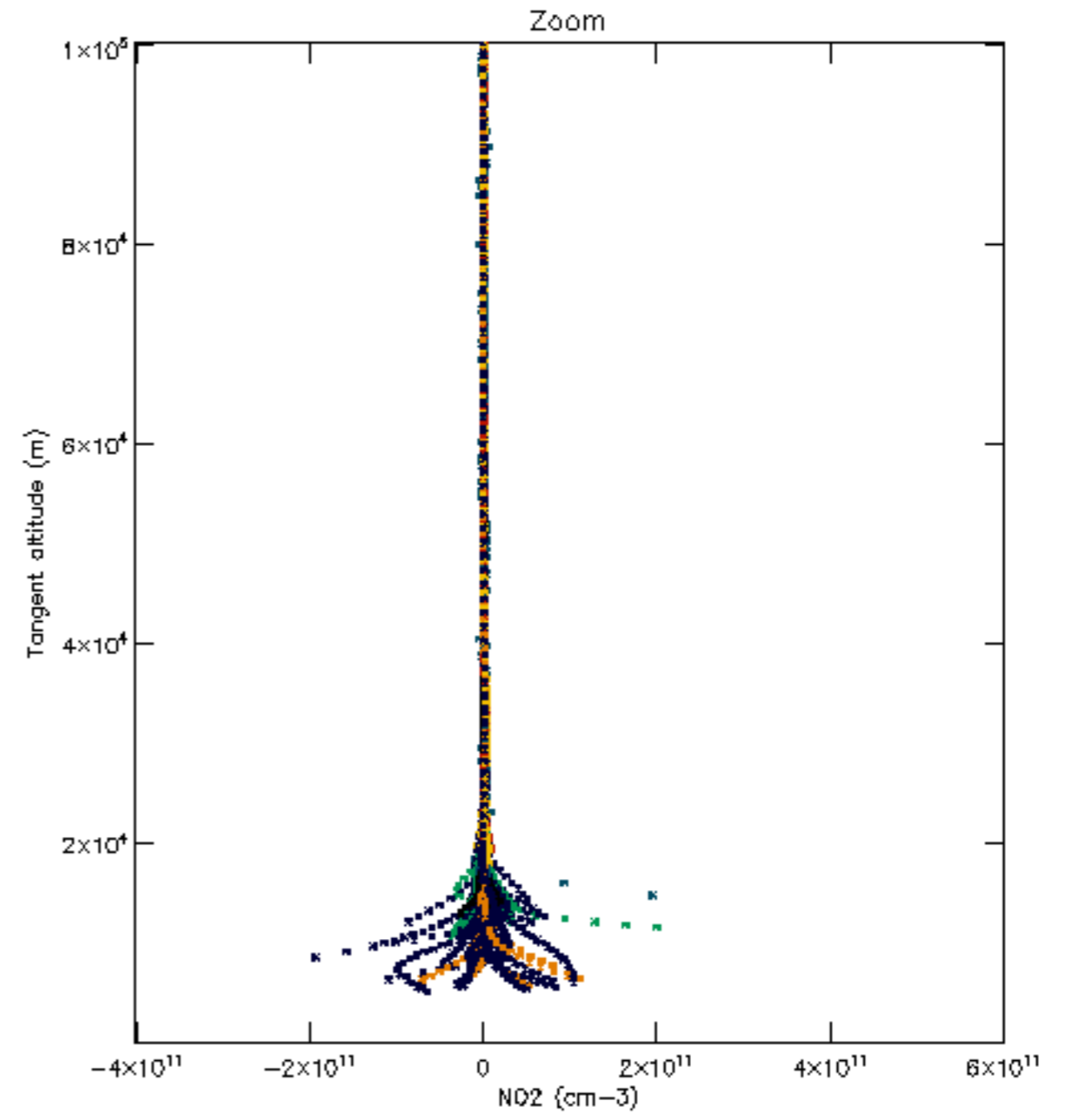
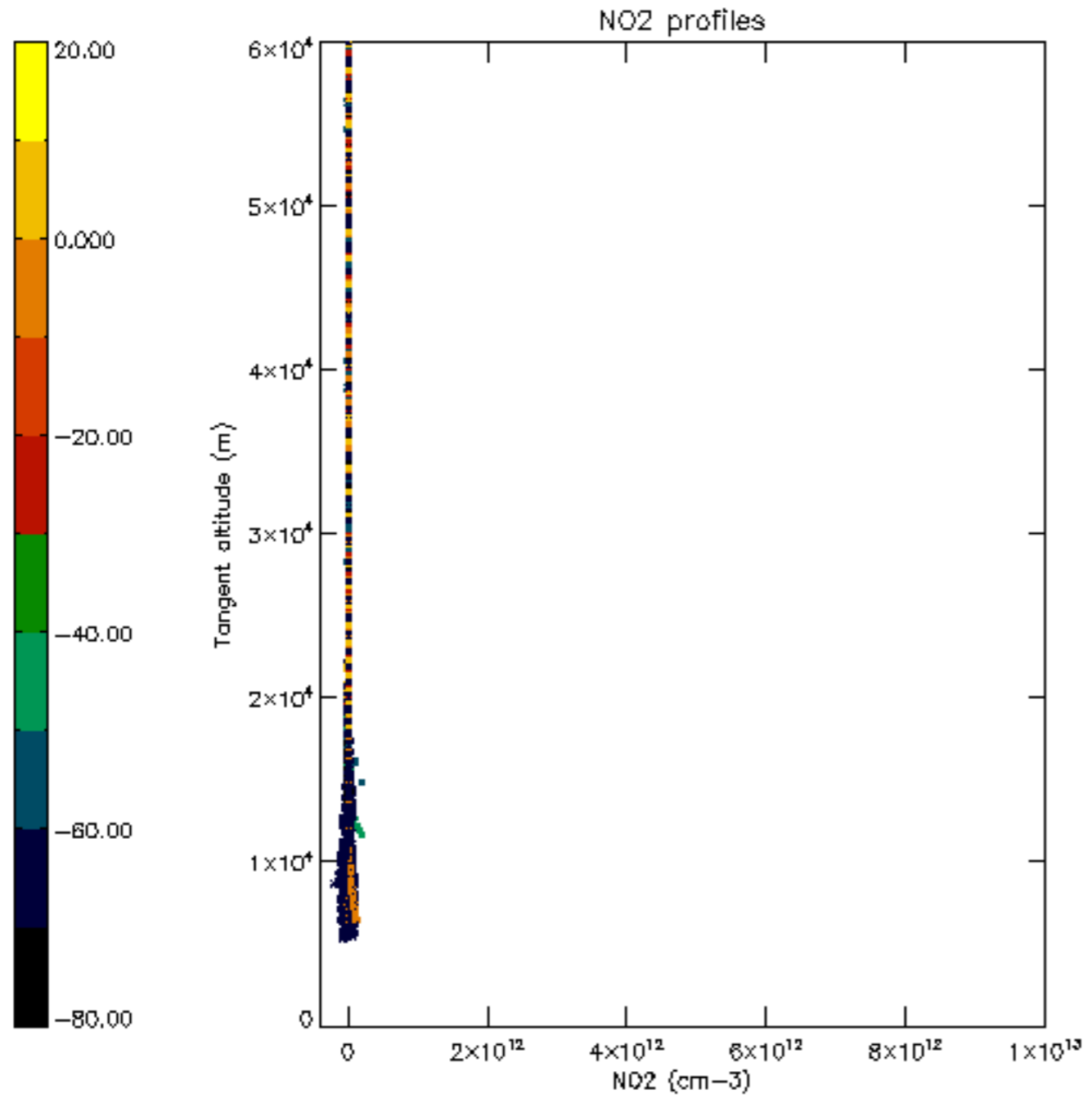


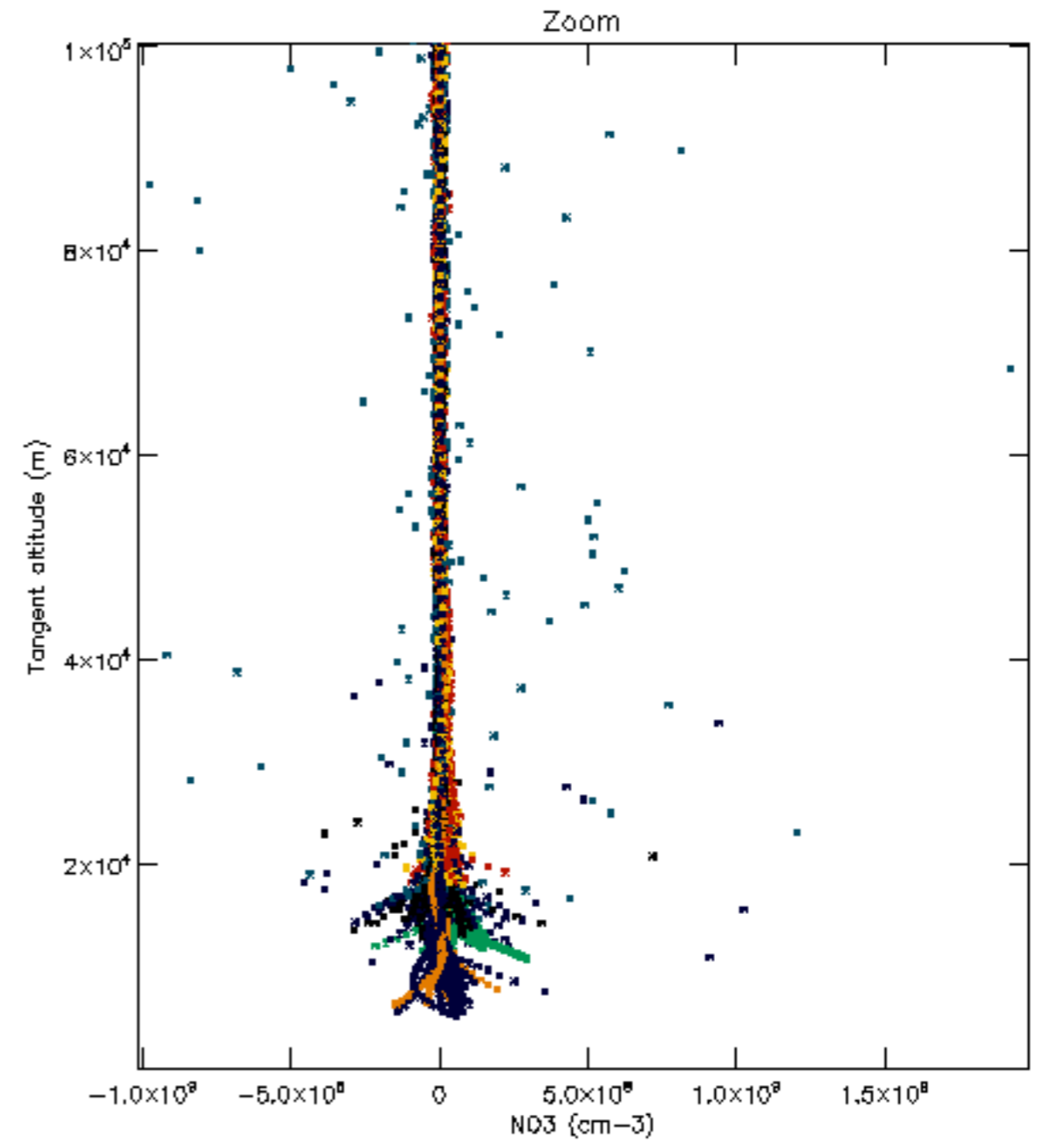
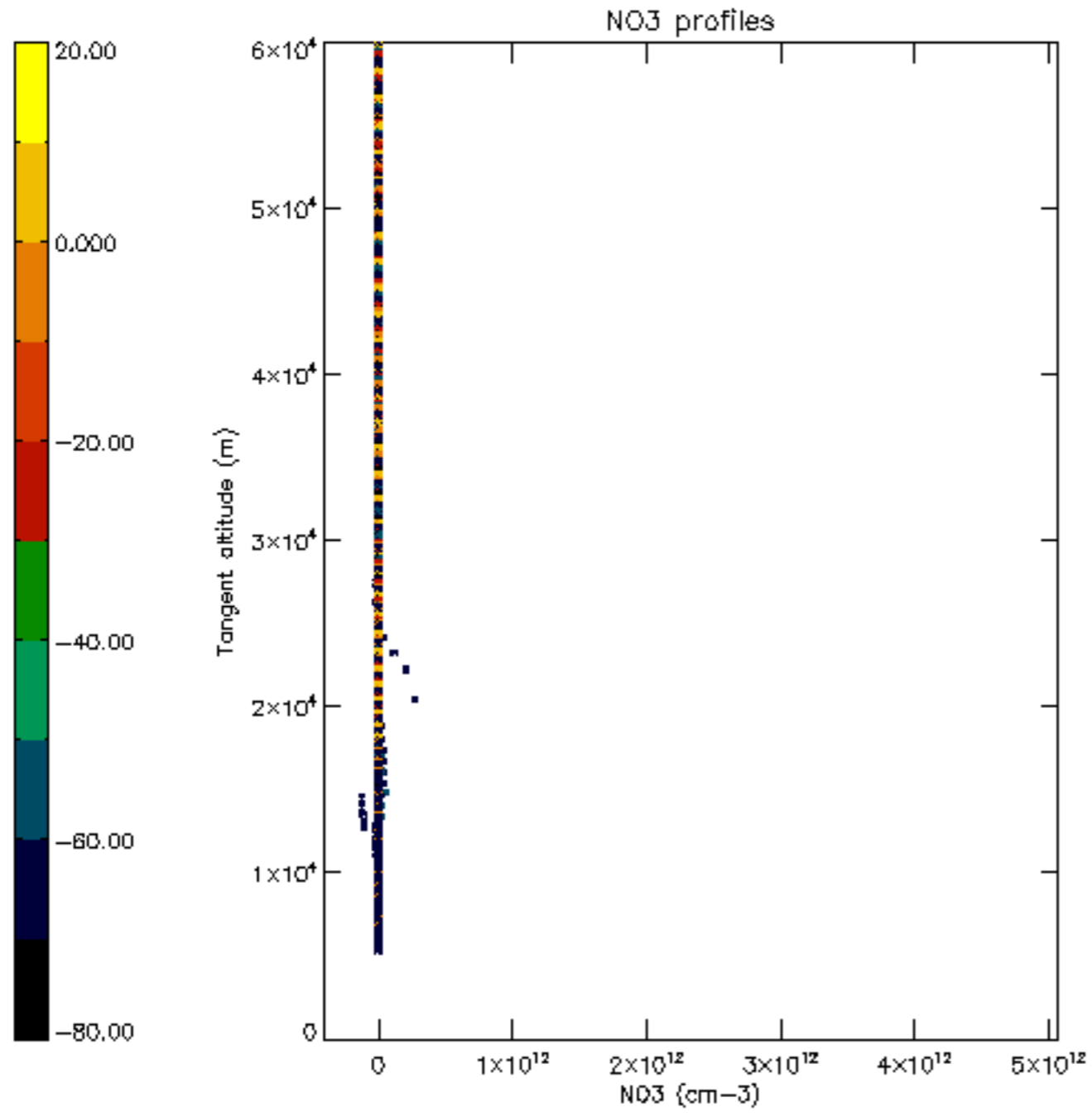




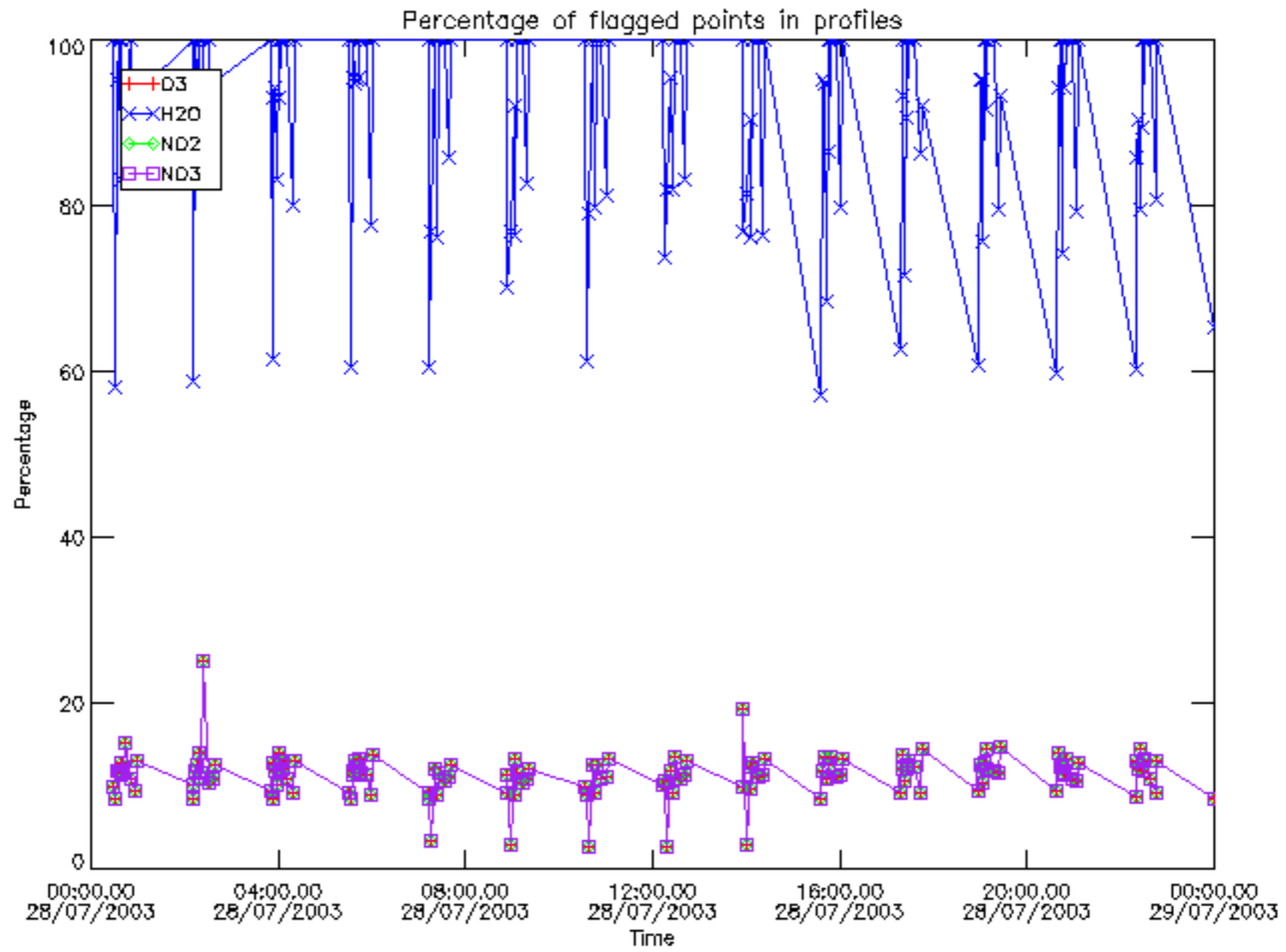




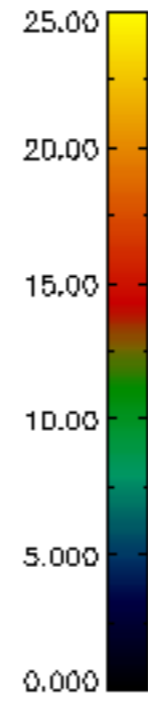
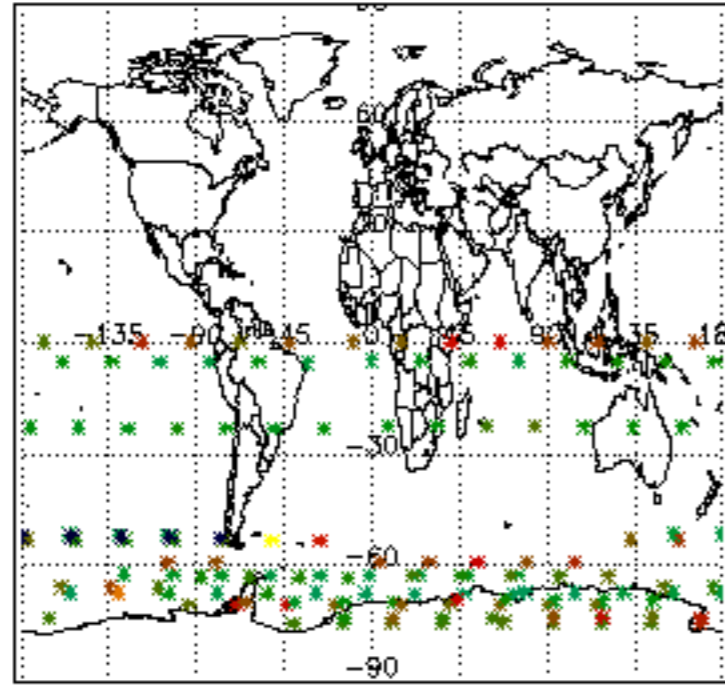




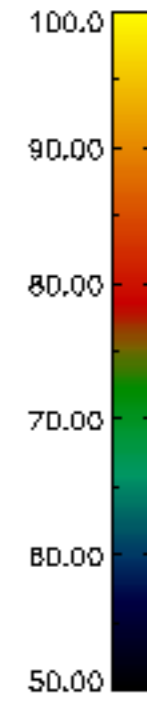
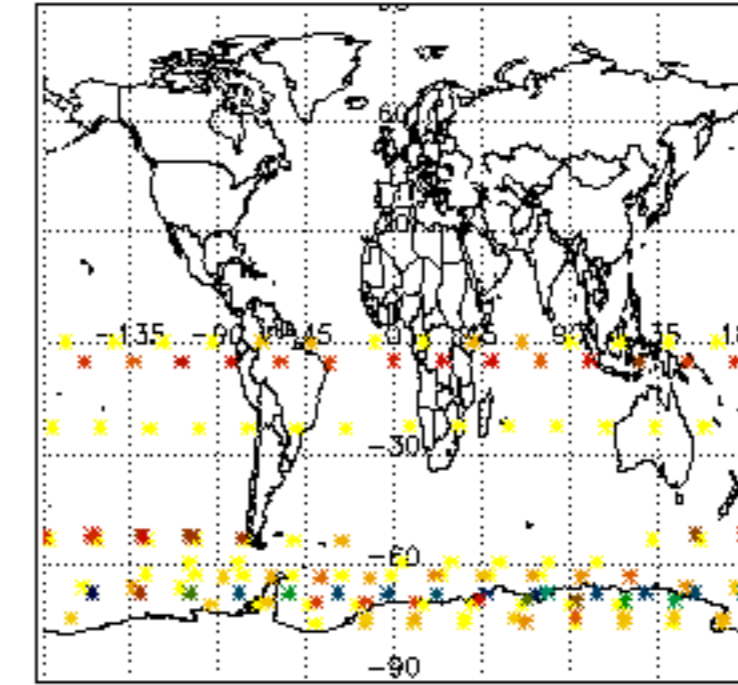




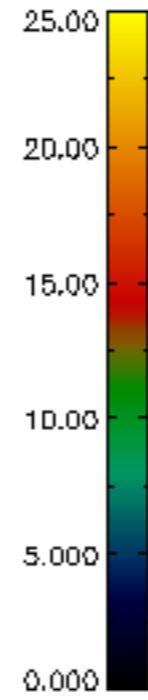
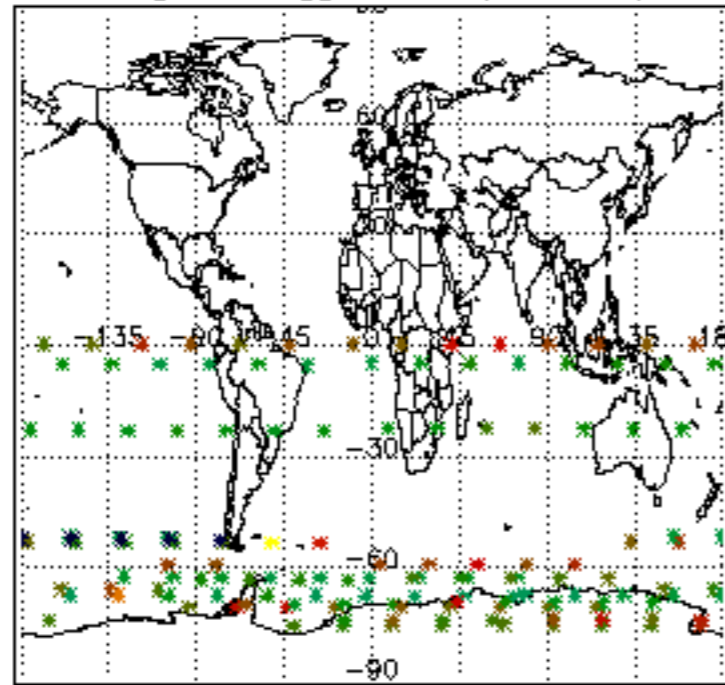
Percentage of flagged data per D3 profile



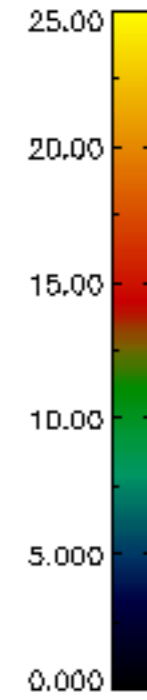
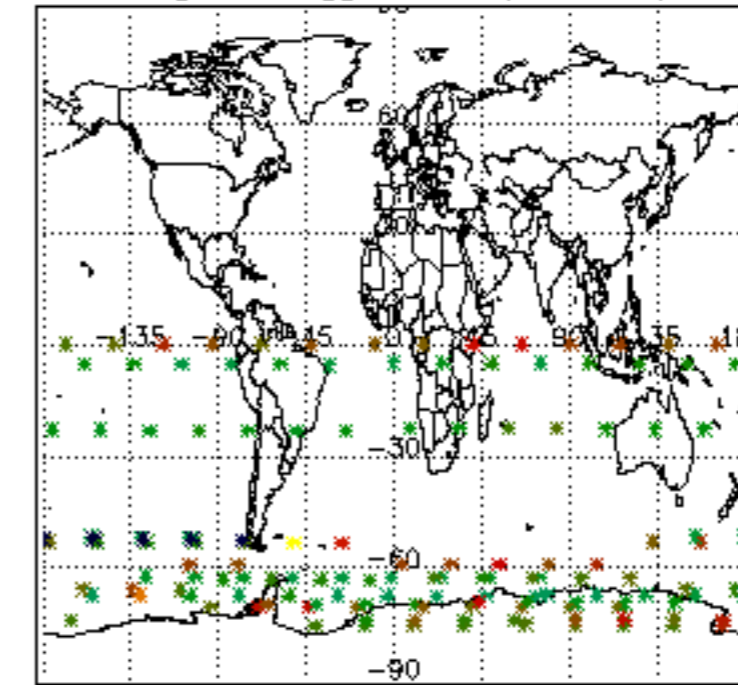
Percentage of flagged data per H2O profile

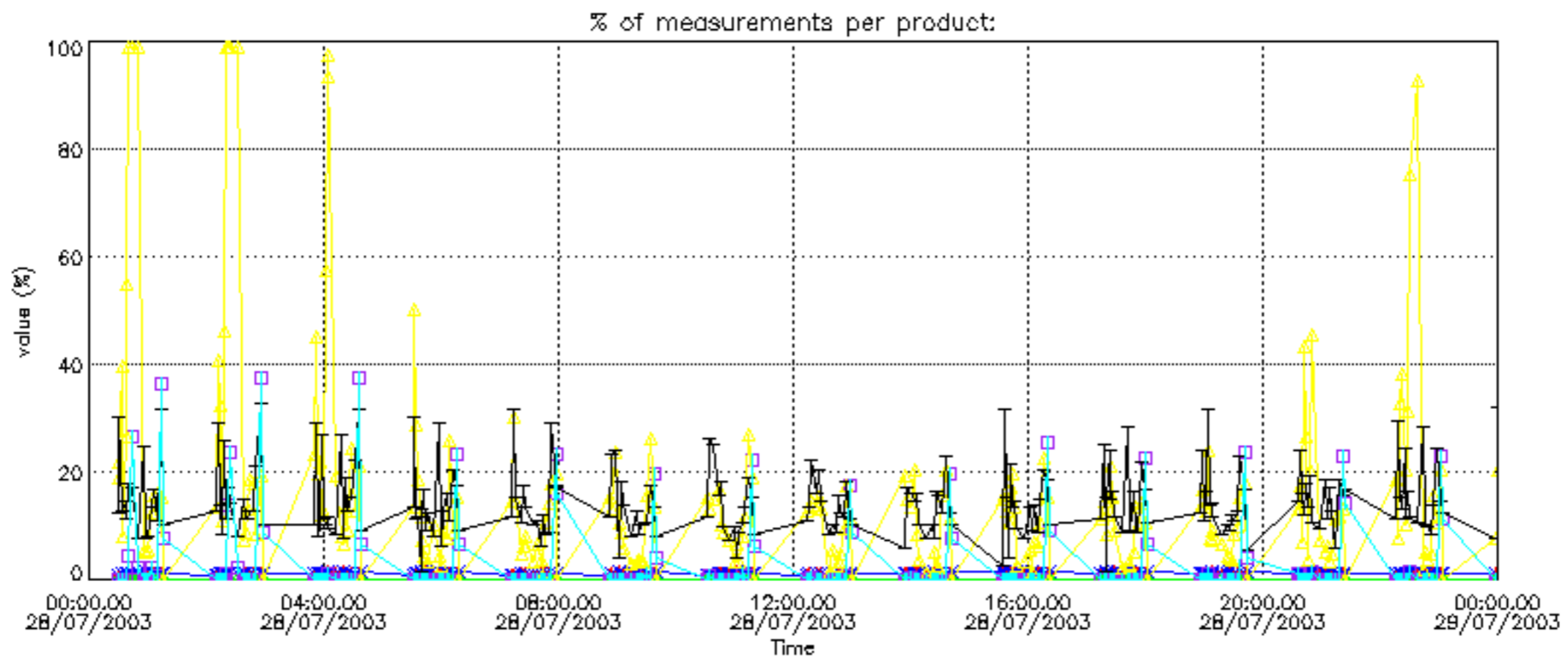
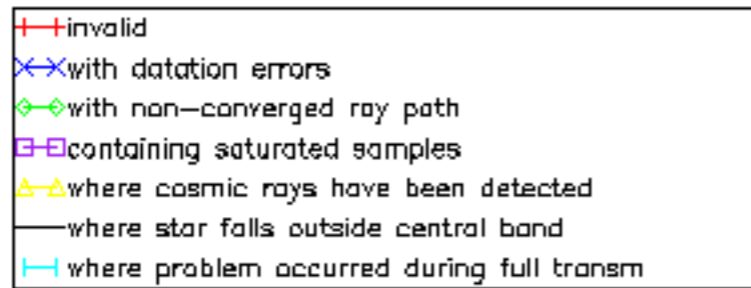


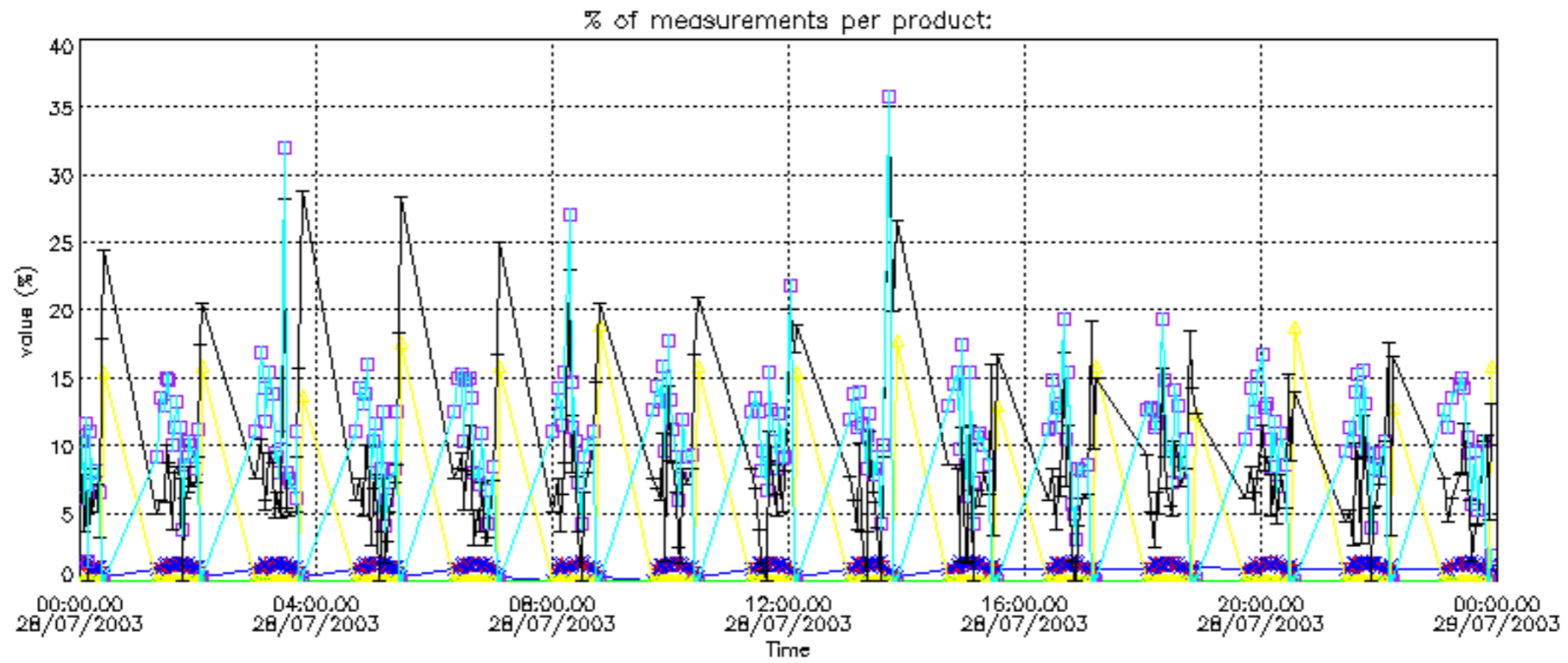
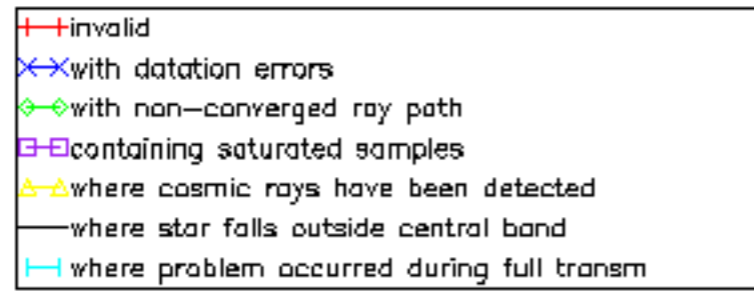
Percentage of flagged data per NO2 profile



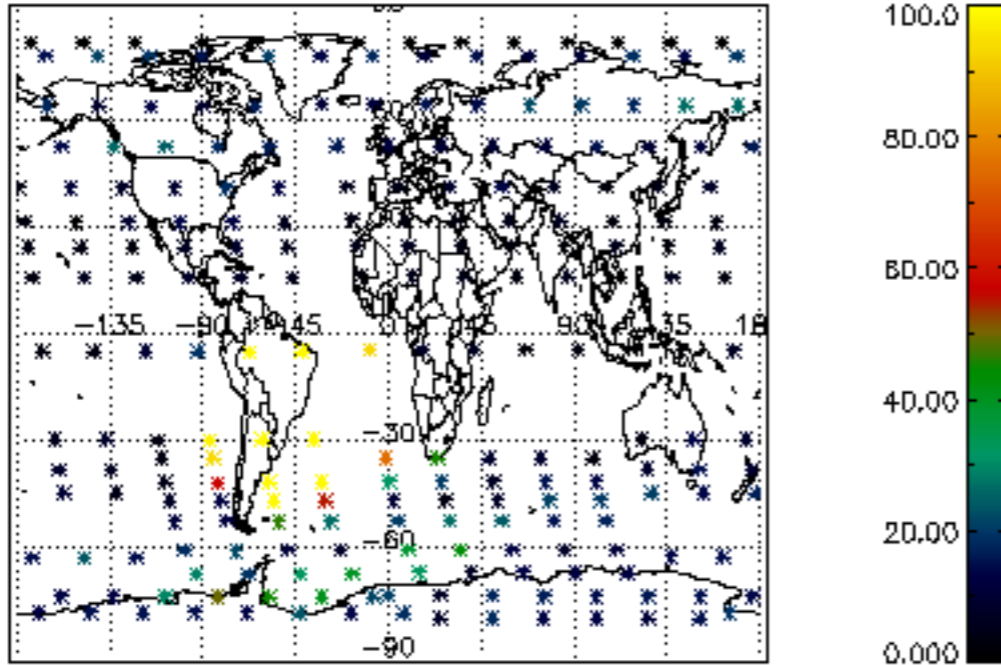
Percentage of flagged data per NO3 profile



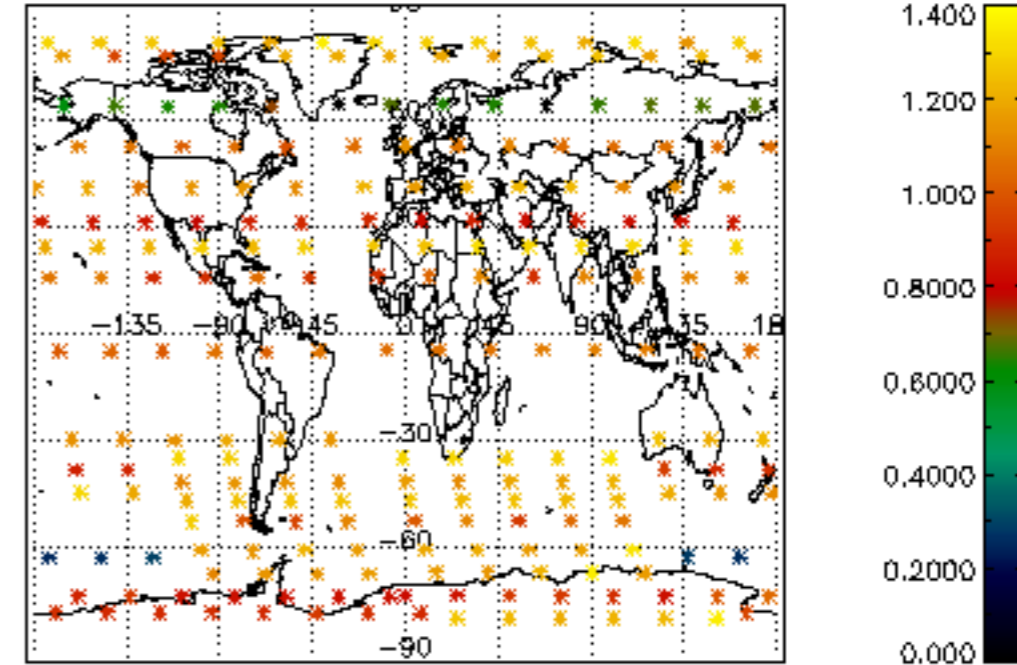




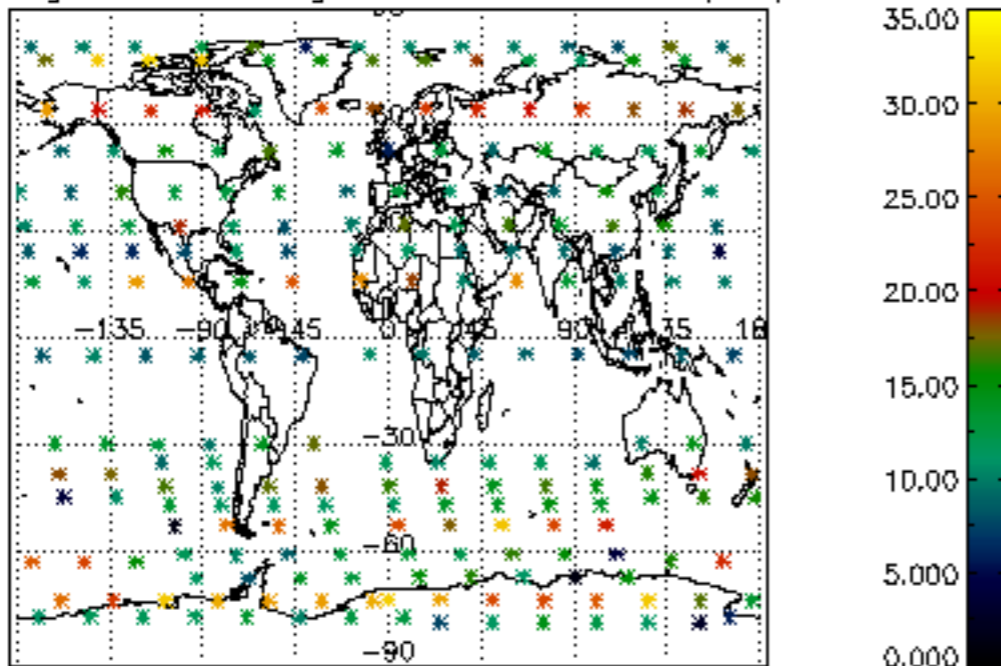
Percentage of cosmic ray hits per profile



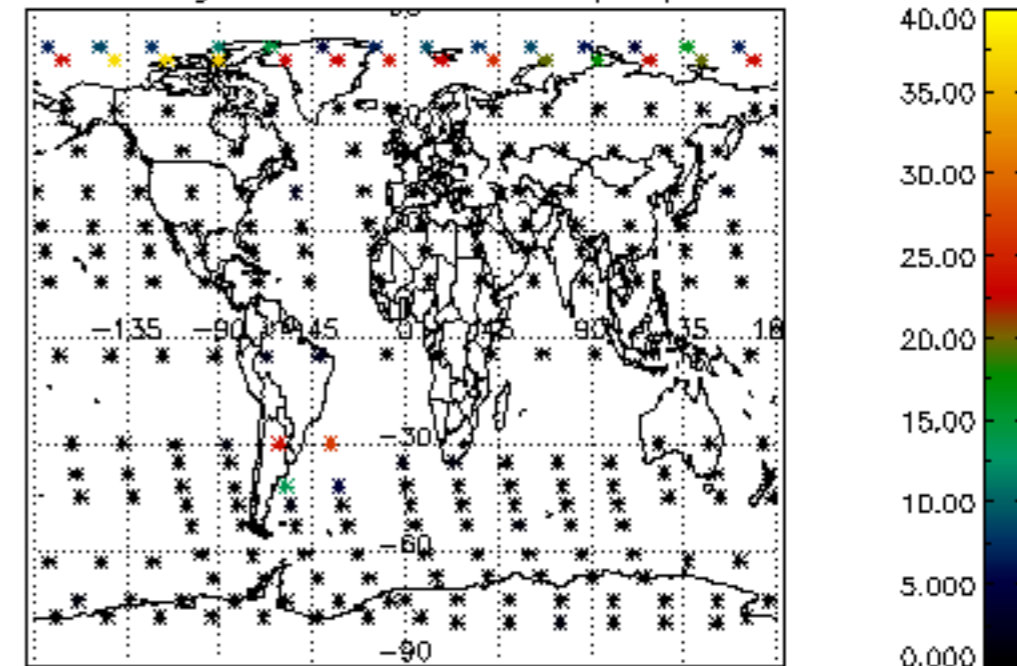
Percentage of datation errors per profile



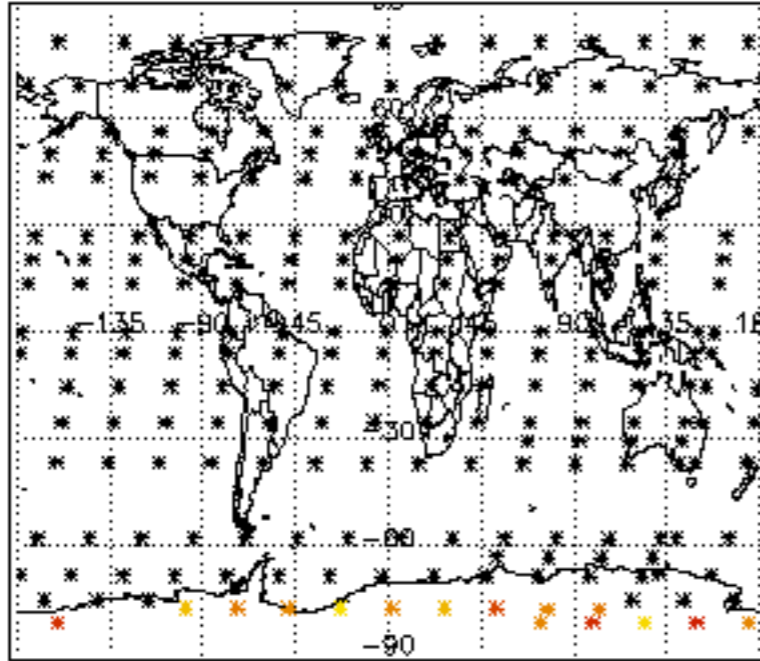
Percentage of star falling outside central band per profile



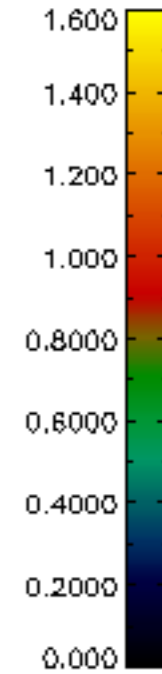
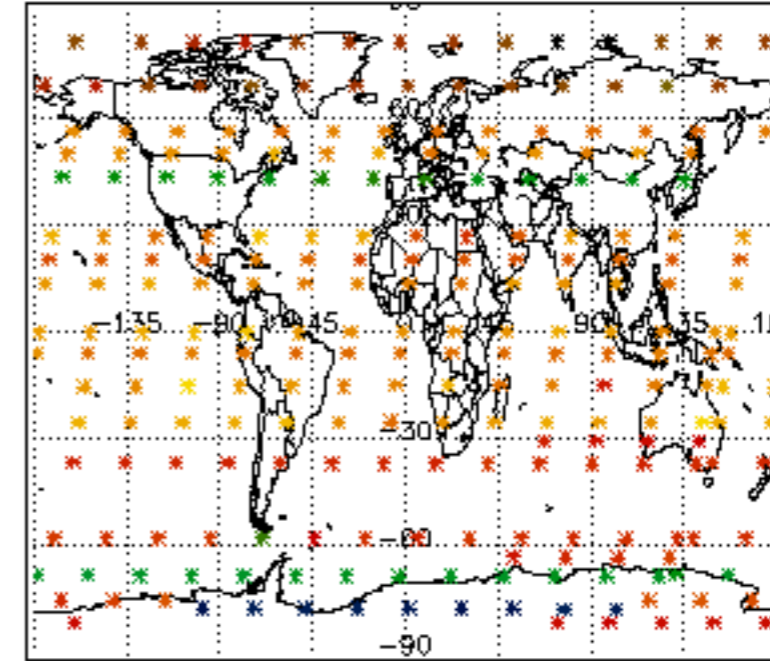
Percentage of saturation errors per profile



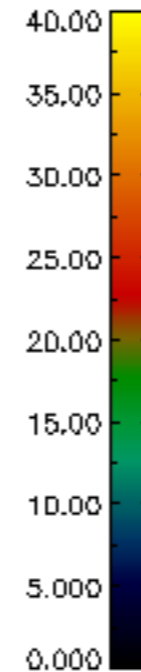
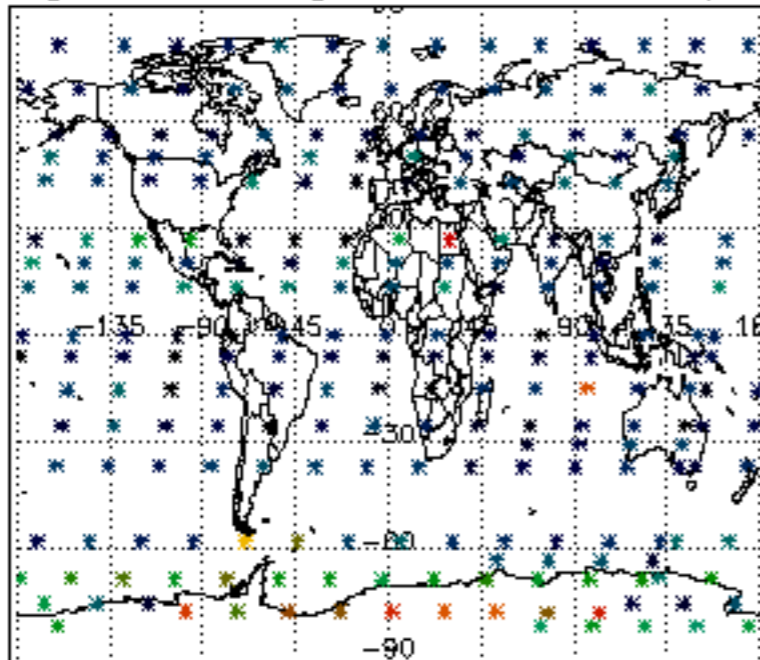
Percentage of cosmic ray hits per profile



Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile

