

# GOMOS Level 2 Daily Report

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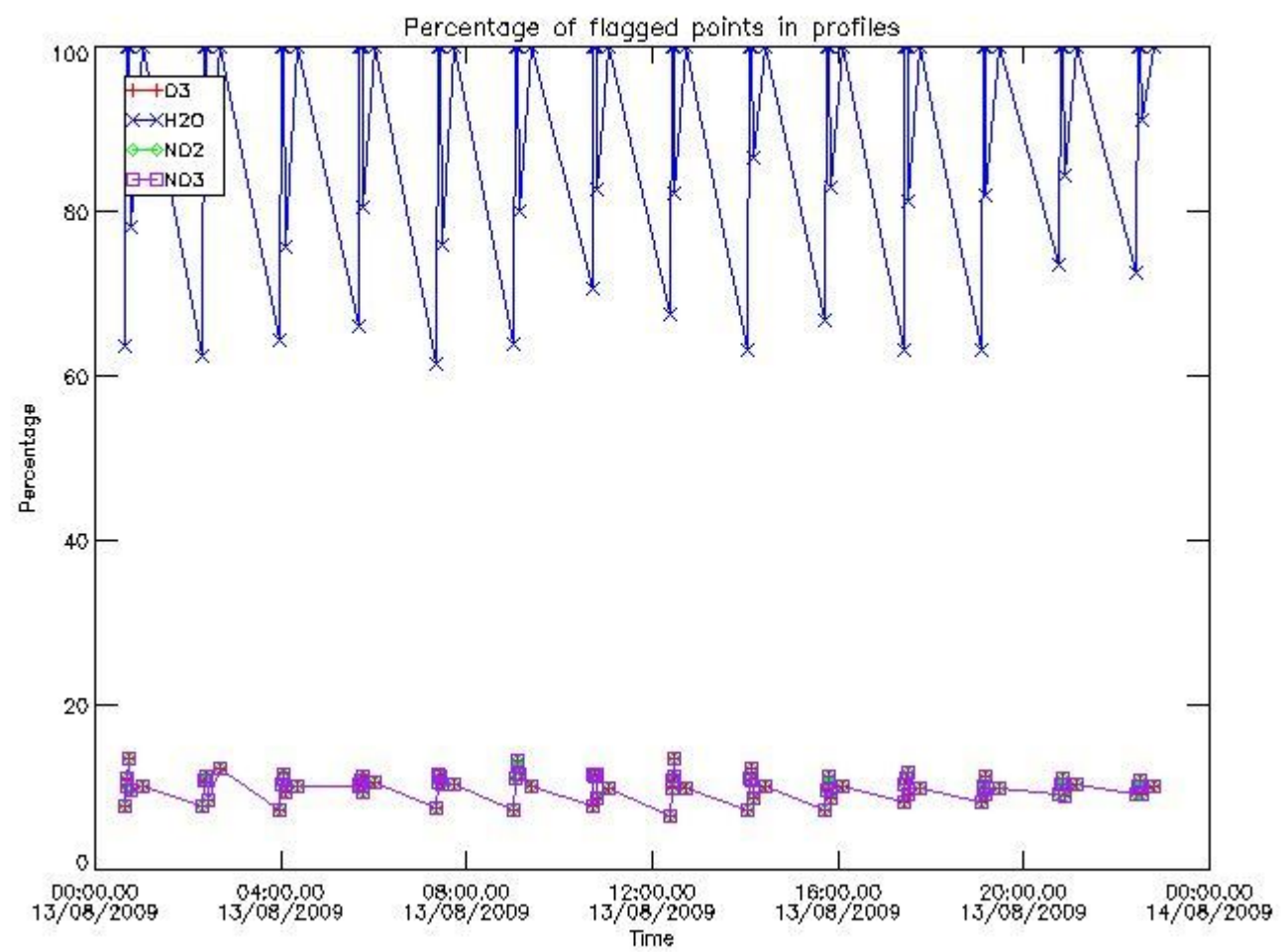


279	GOM_NL__2PRFIN20090813_213704_000000502081_00344_38975_8043.N1	13-AUG-2009 21:37:04	Bright	49.500	162	34Alp Aqr	2.9440	5350.0	99	38975	No
280	GOM_NL__2PRFIN20090813_214018_000000672081_00344_38975_8044.N1	13-AUG-2009 21:40:18	Bright	67.000	61	8Eps Peg	2.1000	3900.0	134	38975	No
281	GOM_NL__2PRFIN20090813_214643_000000382081_00344_38975_8045.N1	13-AUG-2009 21:46:43	Bright	37.500	92	53Eps Cyg	2.5000	4500.0	75	38975	No
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283	GOM_NL__2PRFIN20090813_220023_000000472081_00344_38975_8047.N1	13-AUG-2009 22:00:23	Bright	46.500	74	11Bet Cas	2.2680	6600.0	93	38975	No
284	GOM_NL__2PRFIN20090813_220236_000000472081_00344_38975_8048.N1	13-AUG-2009 22:02:36	Bright	47.000	76	27Gam Cas	2.3000	30000.	94	38975	No
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286	GOM_NL__2PRFIN20090813_221301_000000392081_00344_38975_8050.N1	13-AUG-2009 22:13:01	Bright	39.000	175	39Del Per	3.0100	19400.	78	38975	No
287	GOM_NL__2PRFIN20090813_221449_000000512081_00344_38975_8051.N1	13-AUG-2009 22:14:49	Bright	50.500	6	13Alp Aur	0.080000	3400.0	101	38975	No
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290	GOM_NL__2PRFIN20090813_222258_000000452081_00344_38975_8054.N1	13-AUG-2009 22:22:58	Twilight	45.000	176	23Zet Tau	3.0200	22000.	90	38975	No
291	GOM_NL__2PRFIN20090813_222615_000000552081_00344_38975_8055.N1	13-AUG-2009 22:26:15	Dark	55.000	13	87Alp Tau	0.86700	3800.0	110	38975	No
292	GOM_NL__2PRFIN20090813_222802_000000512081_00344_38975_8056.N1	13-AUG-2009 22:28:02	Dark	50.500	27	24Gam Ori	1.6360	26000.	101	38975	No
293	GOM_NL__2PRFIN20090813_222958_000000502081_00344_38975_8057.N1	13-AUG-2009 22:29:58	Dark	50.000	30	46Eps Ori	1.6940	30000.	100	38975	No
294	GOM_NL__2PRFIN20090813_223122_000000472081_00344_38975_8058.N1	13-AUG-2009 22:31:22	Dark	46.500	125	44lot Ori	2.7700	30000.	93	38975	No
295	GOM_NL__2PRFIN20090813_223252_000000562081_00344_38975_8059.N1	13-AUG-2009 22:32:52	Dark	56.000	7	19Bet Ori	0.10000	14000.	112	38975	No
296	GOM_NL__2PRFIN20090813_224823_000000512081_00345_38976_8054.N1	13-AUG-2009 22:48:23	Dark	50.500	157	The1Eri	2.9060	9300.0	101	38976	No
297	GOM_NL__2PRFIN20090813_225823_000000612081_00345_38976_8055.N1	13-AUG-2009 22:58:23	Straylight	60.500	84	Alp Phe	2.3970	4500.0	121	38976	No
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299	GOM_NL__2PRFIN20090813_231157_000000442081_00345_38976_8057.N1	13-AUG-2009 23:11:57	Bright	43.500	142	49Del Cap	2.8500	8900.0	87	38976	No
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301	GOM_NL__2PRFIN20090813_231740_000000492081_00345_38976_8059.N1	13-AUG-2009 23:17:40	Bright	49.000	162	34Alp Aqr	2.9440	5350.0	98	38976	No
302	GOM_NL__2PRFIN20090813_232053_000000472081_00345_38976_8060.N1	13-AUG-2009 23:20:53	Bright	47.000	61	8Eps Peg	2.1000	3900.0	94	38976	No
303	GOM_NL__2PRFIN20090813_232718_000000382081_00345_38976_8061.N1	13-AUG-2009 23:27:18	Bright	37.500	92	53Eps Cyg	2.5000	4500.0	75	38976	No
304	GOM_NL__2PRFIN20090813_233553_000000392081_00345_38976_8062.N1	13-AUG-2009 23:35:53	Bright	38.500	89	5Alp Cep	2.4510	8000.0	77	38976	No
305	GOM_NL__2PRFIN20090813_234059_000000492081_00345_38976_8063.N1	13-AUG-2009 23:40:59	Bright	49.000	74	11Bet Cas	2.2680	6600.0	98	38976	No
306	GOM_NL__2PRFIN20090813_234311_000000482081_00345_38976_8064.N1	13-AUG-2009 23:43:11	Bright	47.500	76	27Gam Cas	2.3000	30000.	95	38976	No
307	GOM_NL__2PRFIN20090813_235023_000000392081_00345_38976_8065.N1	13-AUG-2009 23:50:23	Bright	39.000	160	23Gam Per	2.9300	4700.0	78	38976	No
308	GOM_NL__2PRFIN20090813_235336_000000342081_00345_38976_8066.N1	13-AUG-2009 23:53:36	Twilight	34.000	175	39Del Per	3.0100	19400.	68	38976	No
309	GOM_NL__2PRFIN20090813_235525_000000502081_00345_38976_8067.N1	13-AUG-2009 23:55:25	Bright	49.500	6	13Alp Aur	0.080000	3400.0	99	38976	No
310	GOM_NL__2PRFIN20090813_235814_000000382081_00345_38976_8068.N1	13-AUG-2009 23:58:14	Bright	38.000	107	37The Aur	2.6490	11000.	76	38976	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.

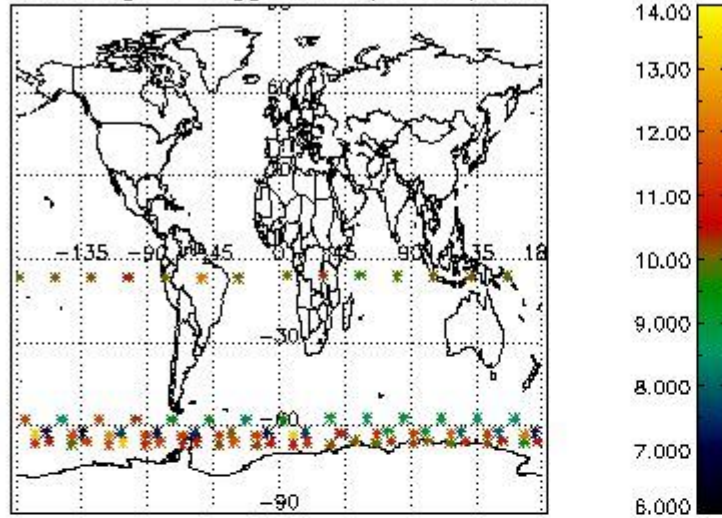
#### 3.1 Plot quality information per product (time dependant)



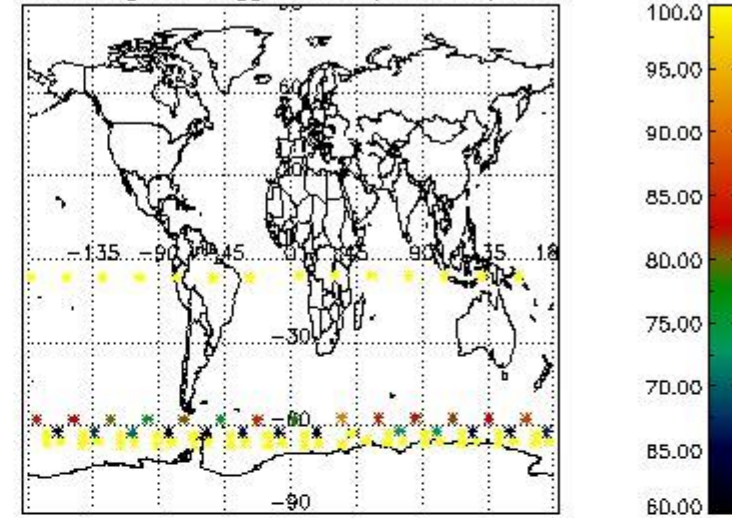
*3.2 Plot quality information per product (world map)*



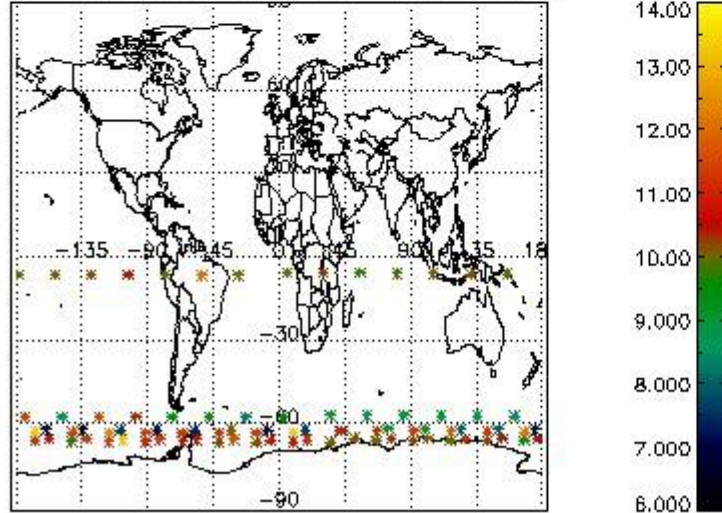
Percentage of flagged data per O3 profile



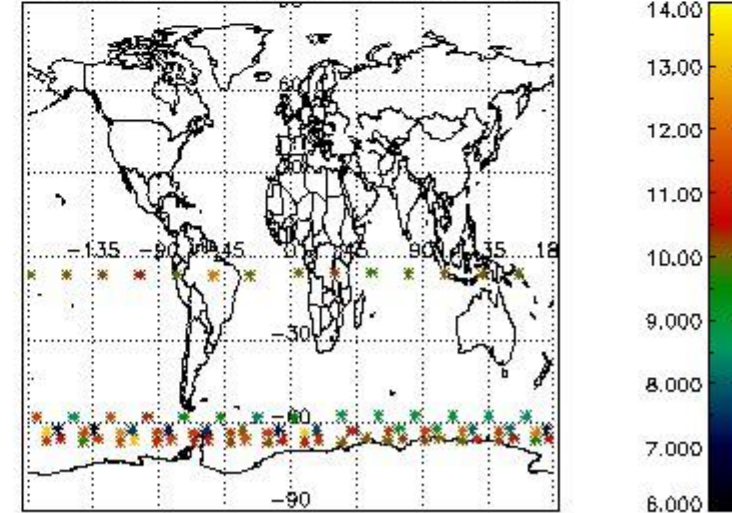
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

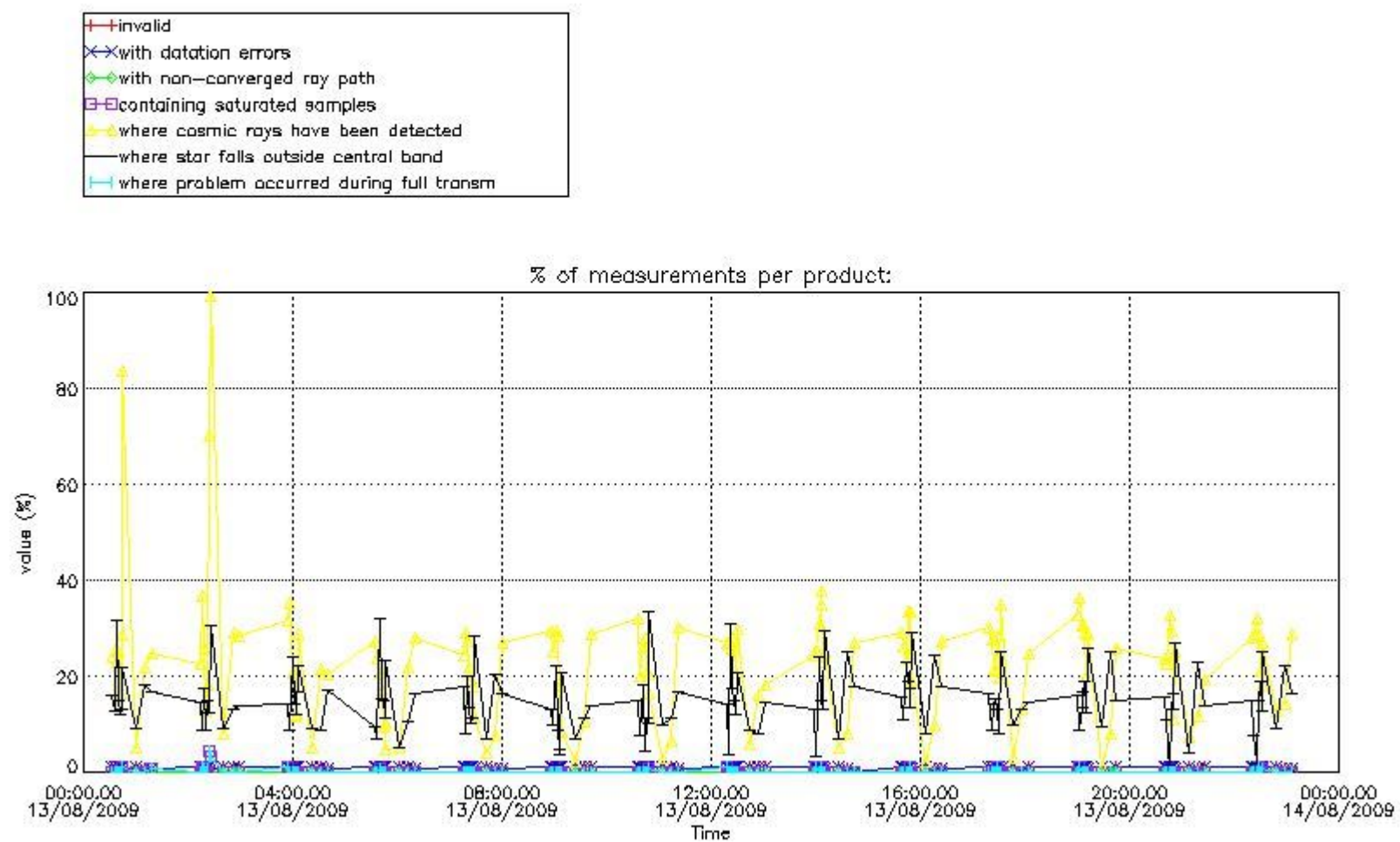


#### 4. Level 1 quality information per product

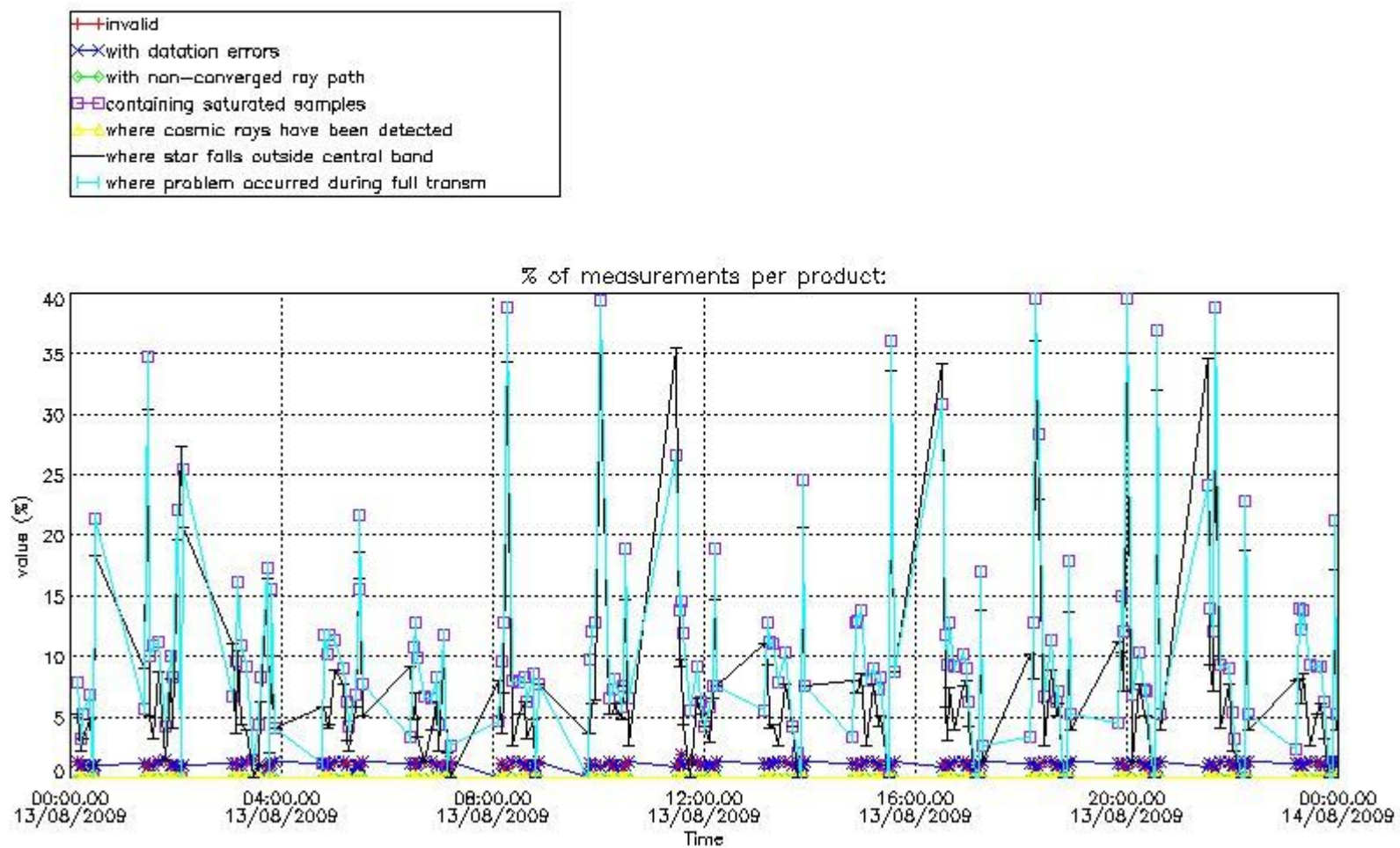
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

##### 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



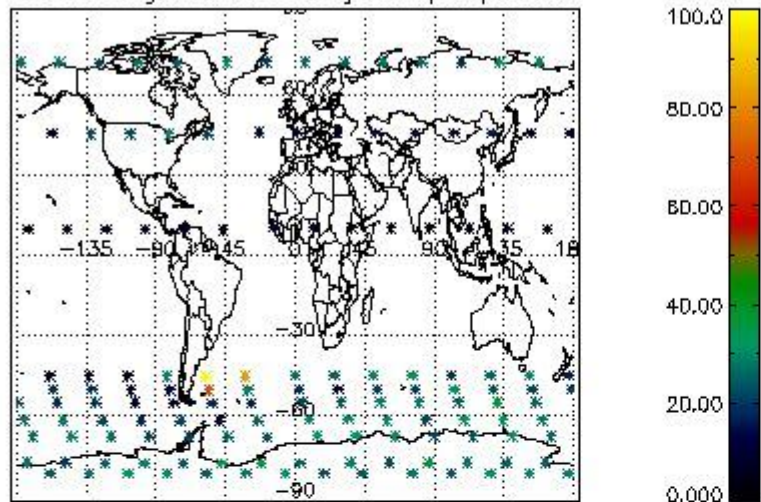
4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes



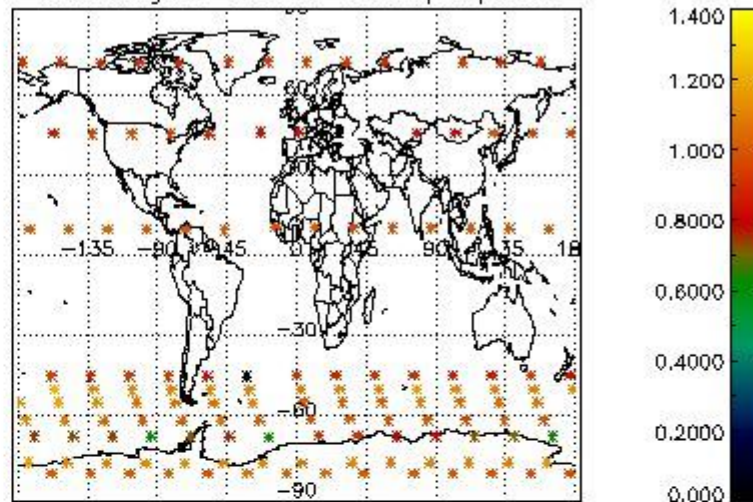
4.2 Plot quality information per product coming from level 1b processing (world map)

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

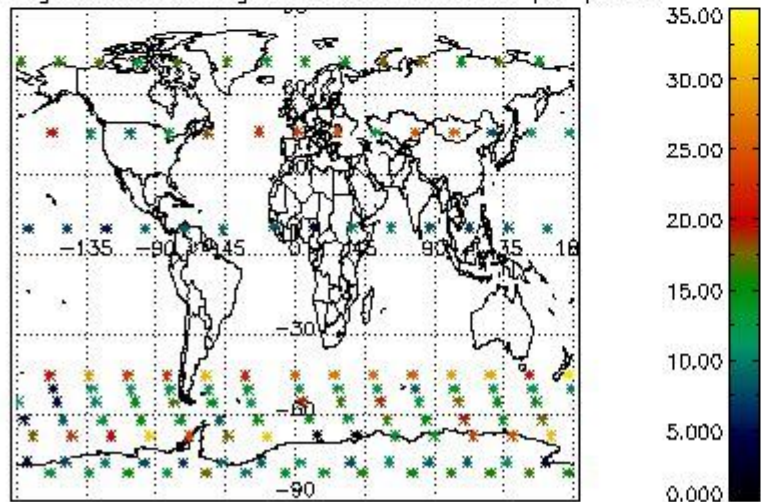
Percentage of cosmic ray hits per profile



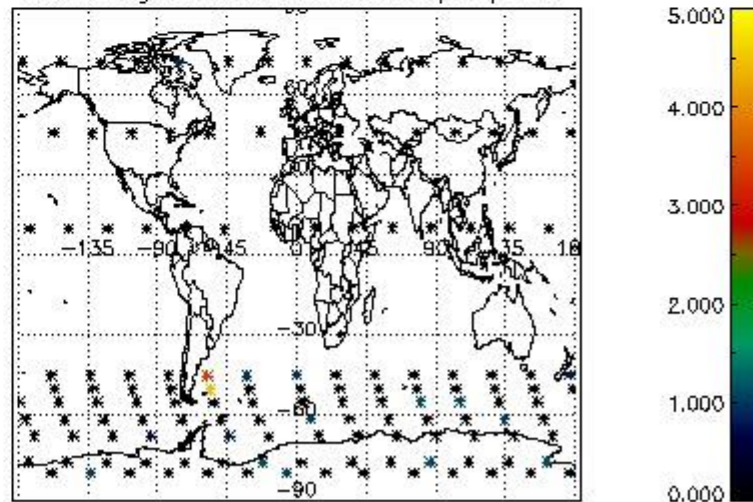
Percentage of datation errors per profile



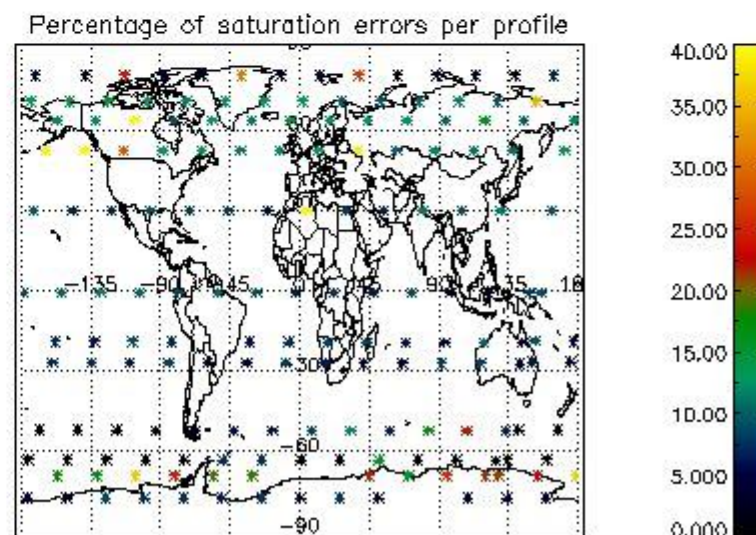
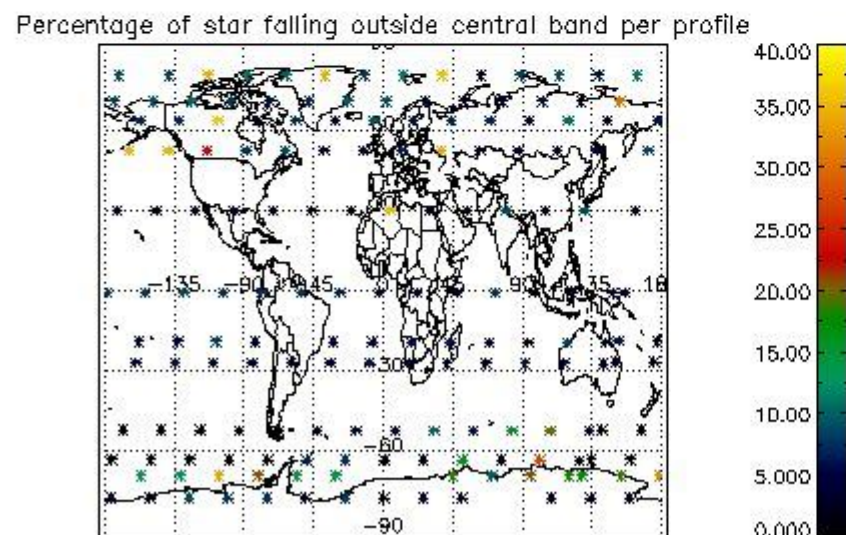
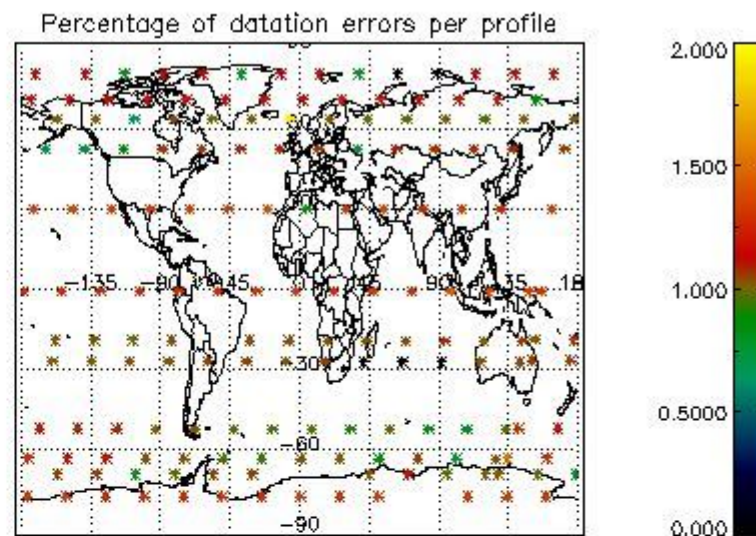
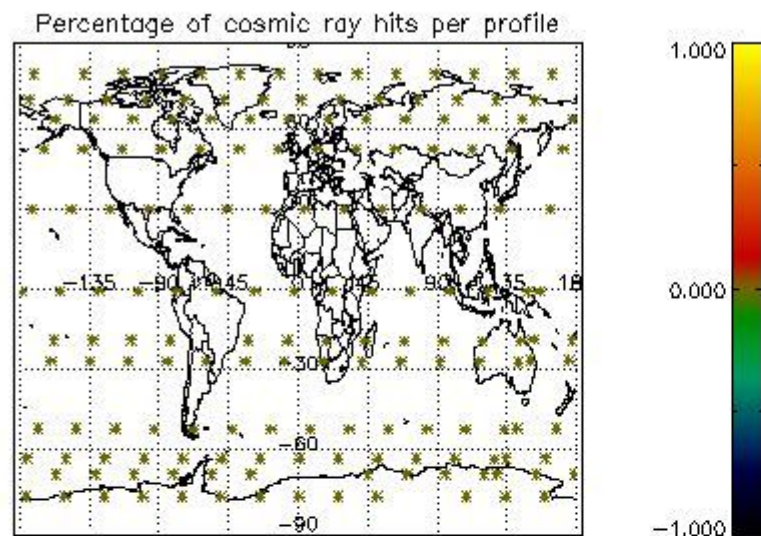
Percentage of star falling outside central band per profile



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

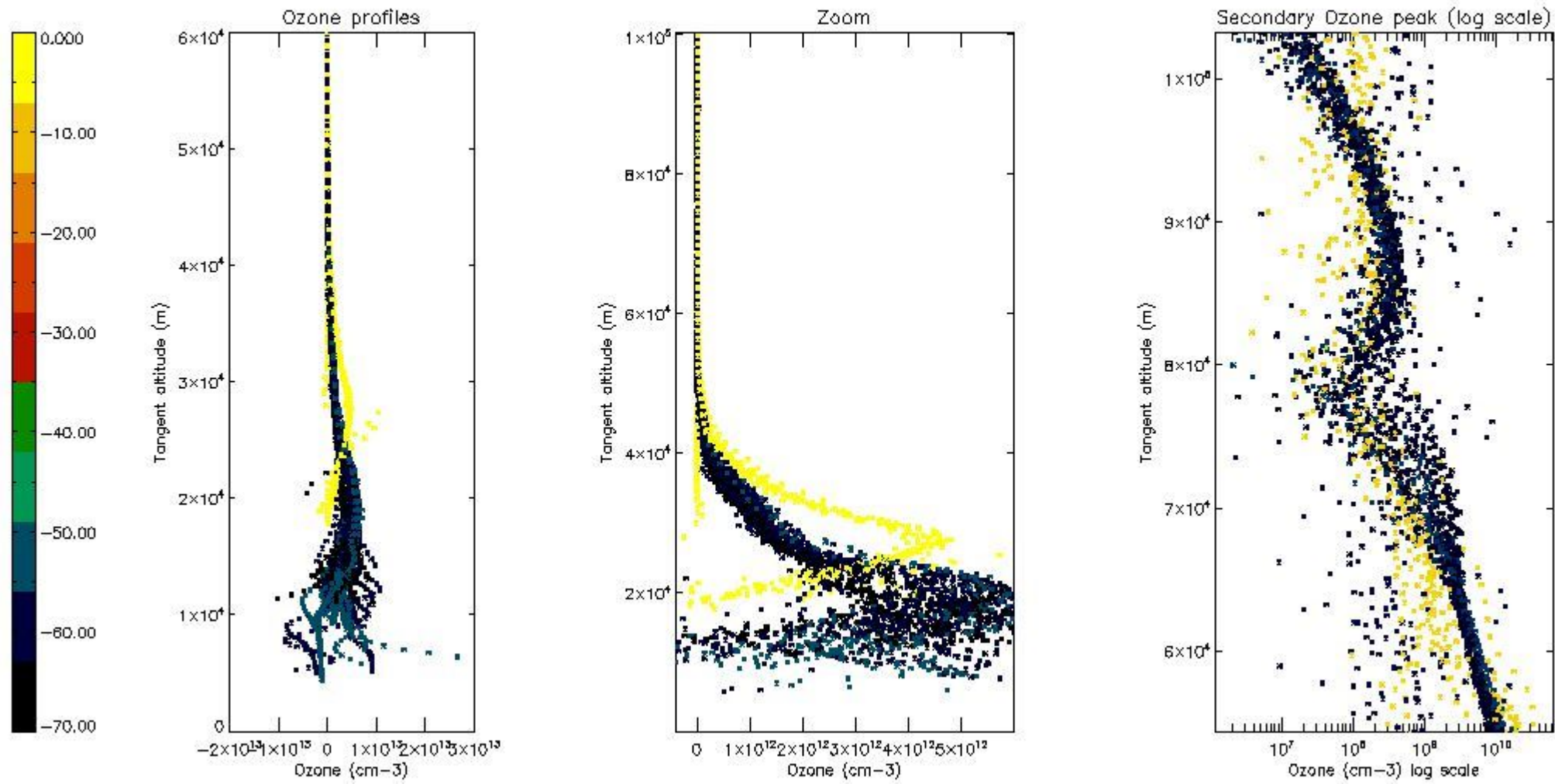
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	30
STD < 20	17

STD < 10	14
STD < 5	10

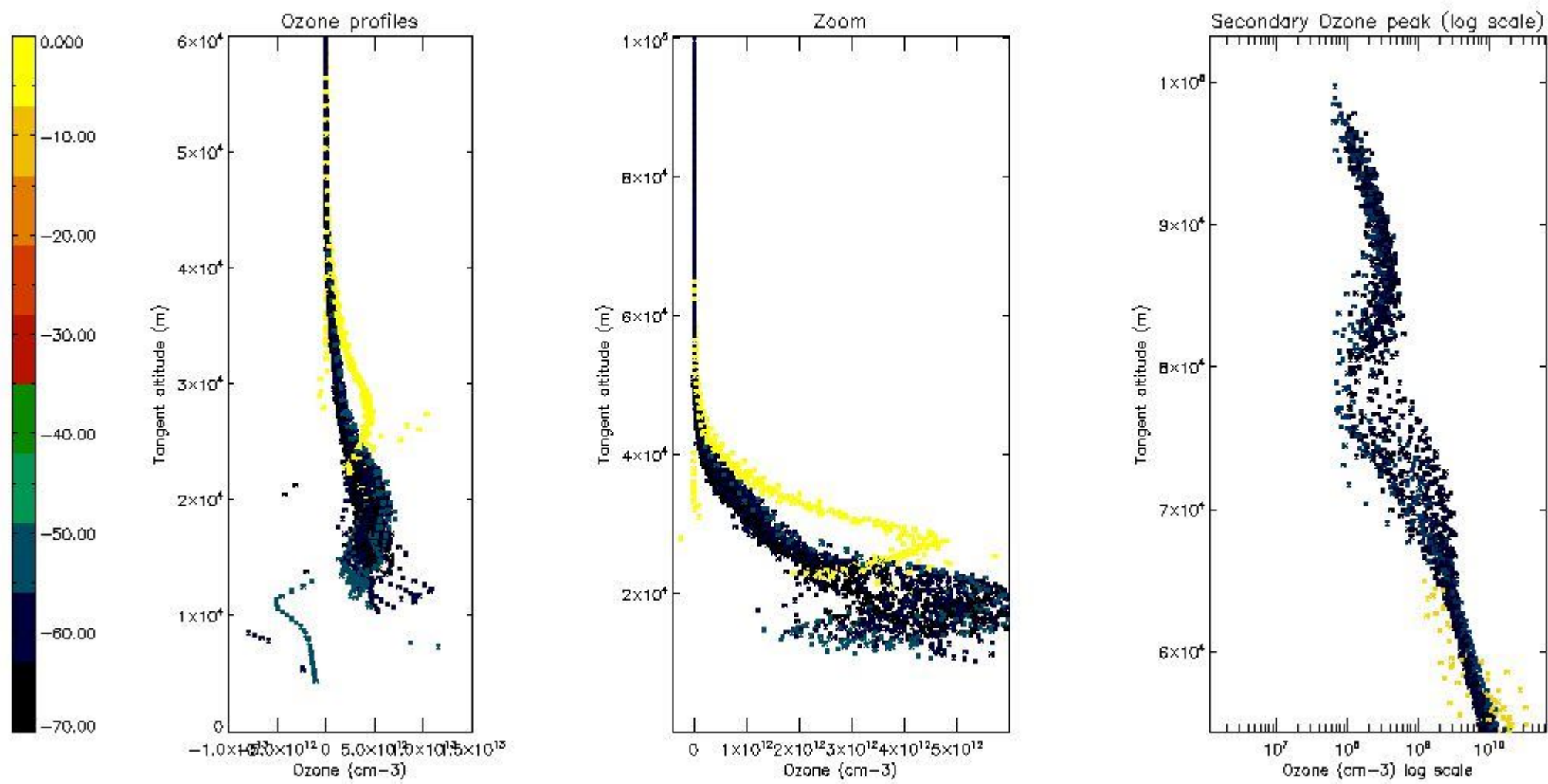
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



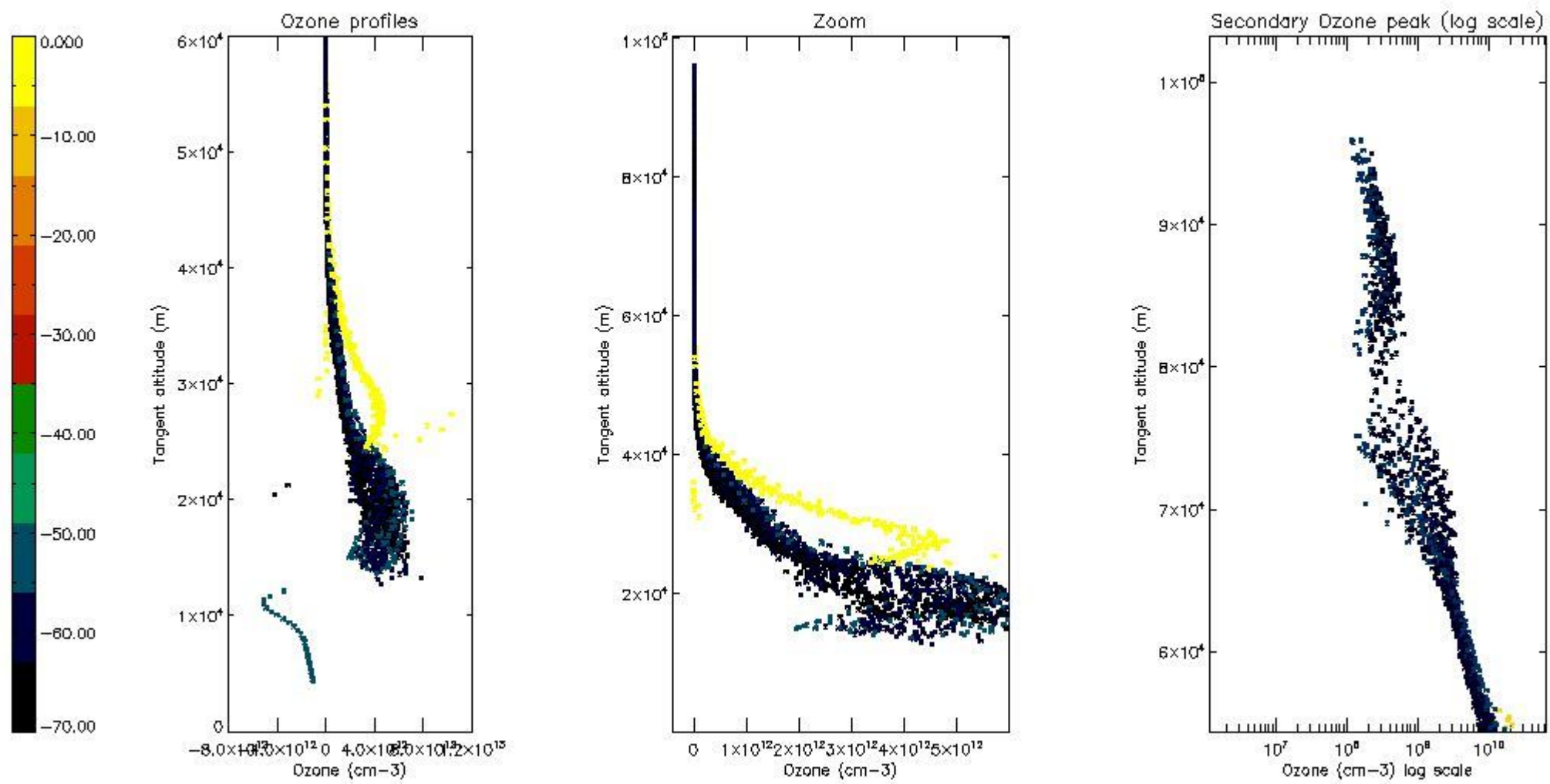
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



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

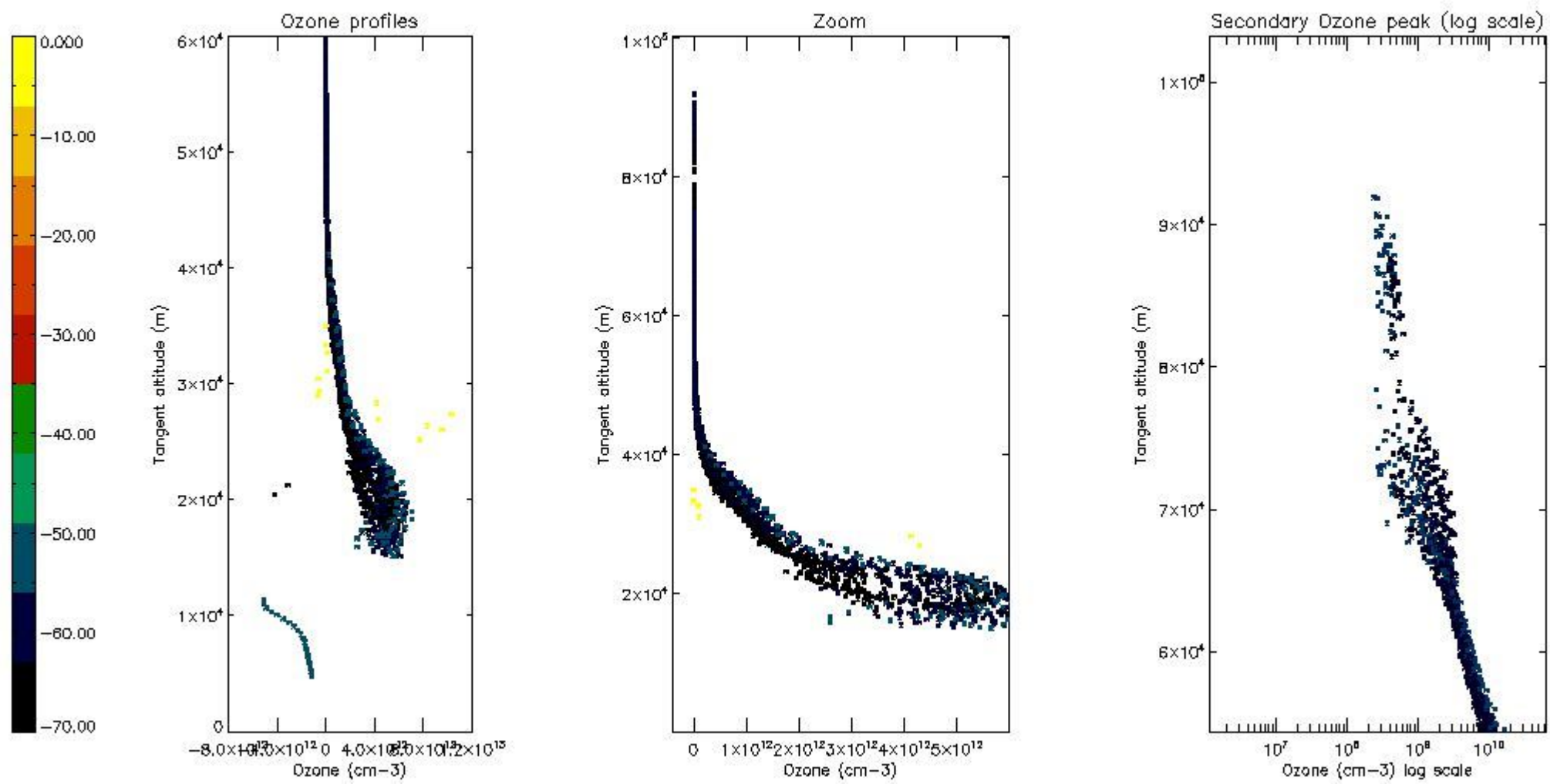
The colorbar represents the latitude.



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

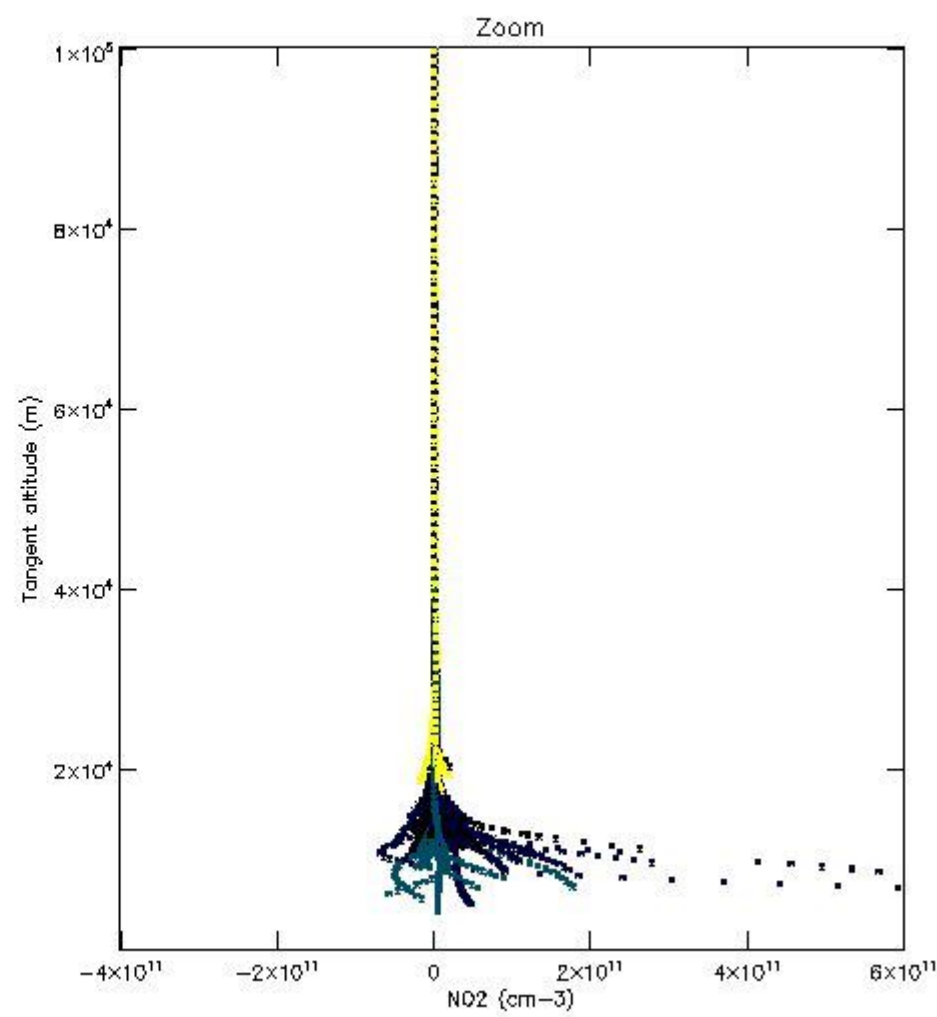
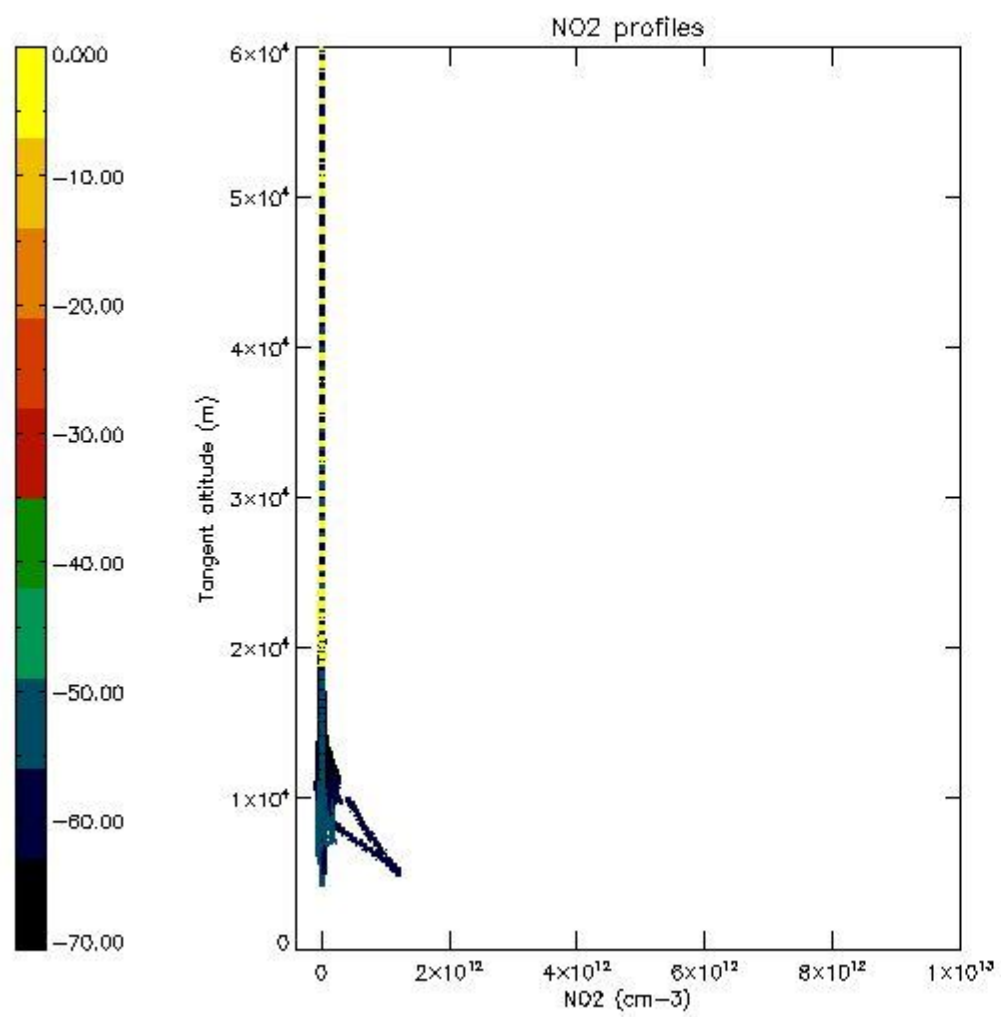
The colorbar represents the latitude.





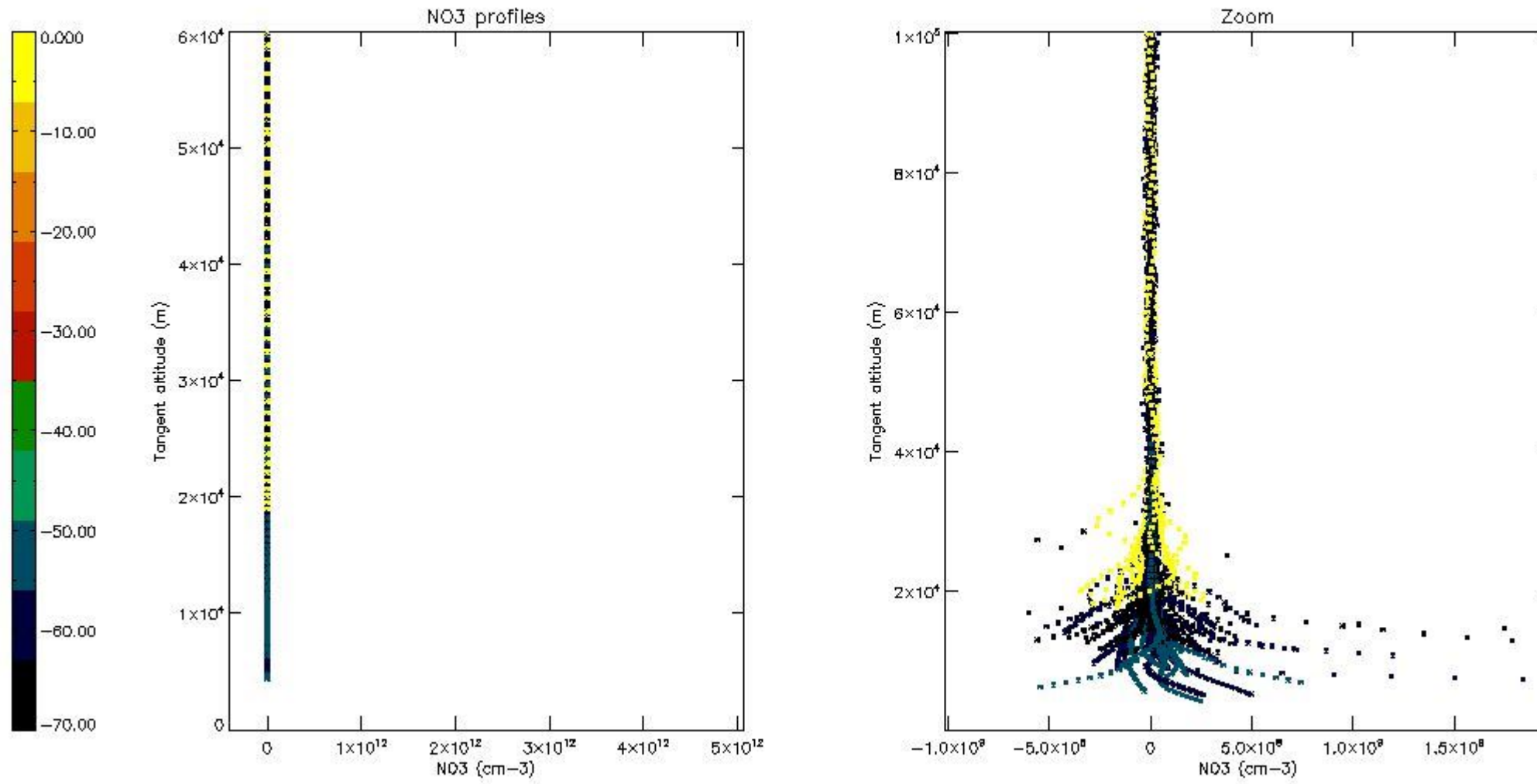
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

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	13-AUG-2009 00:07:35
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	13-AUG-2009 00:07:35
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	13-AUG-2009 00:07:35

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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](#)





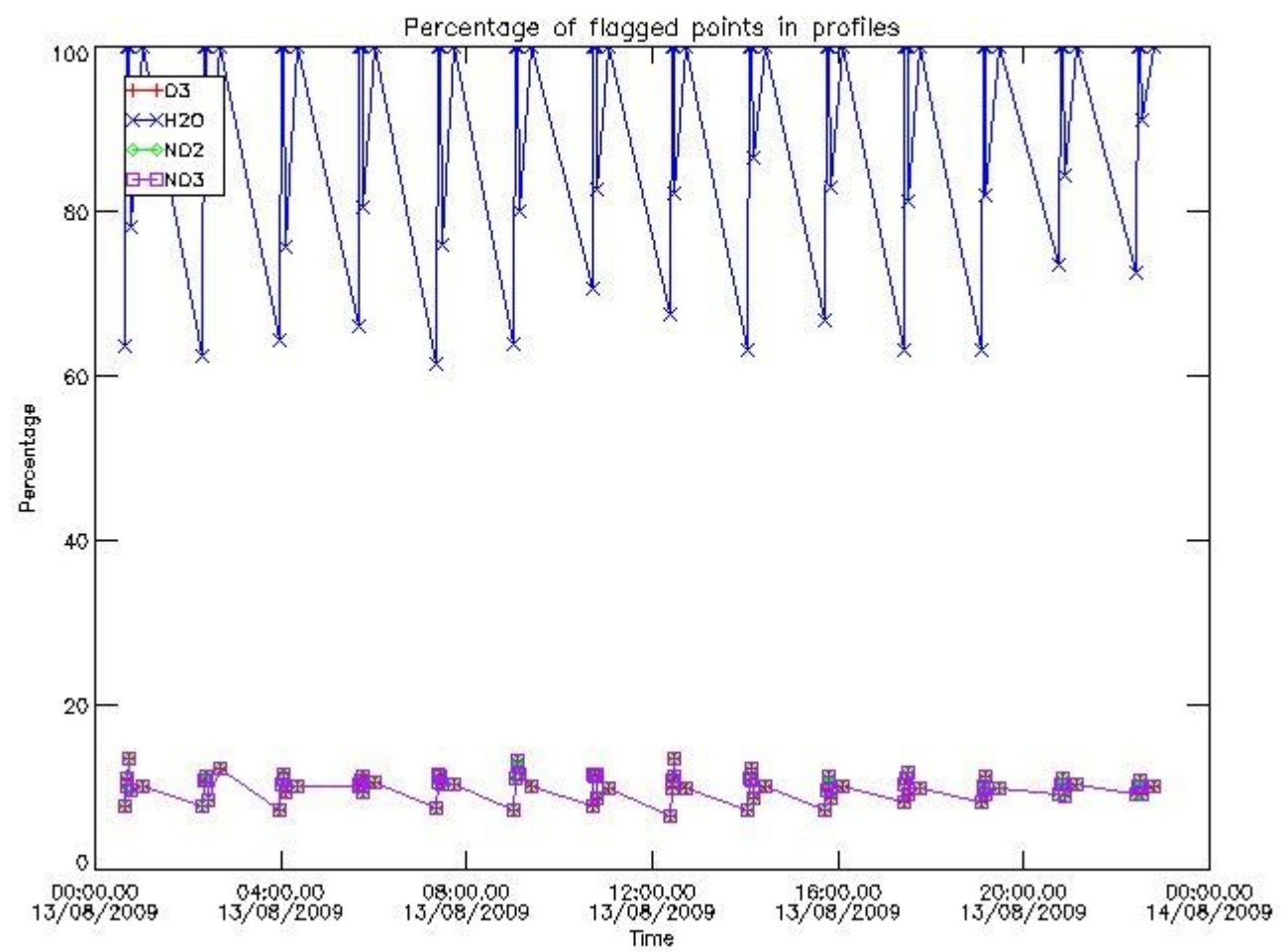






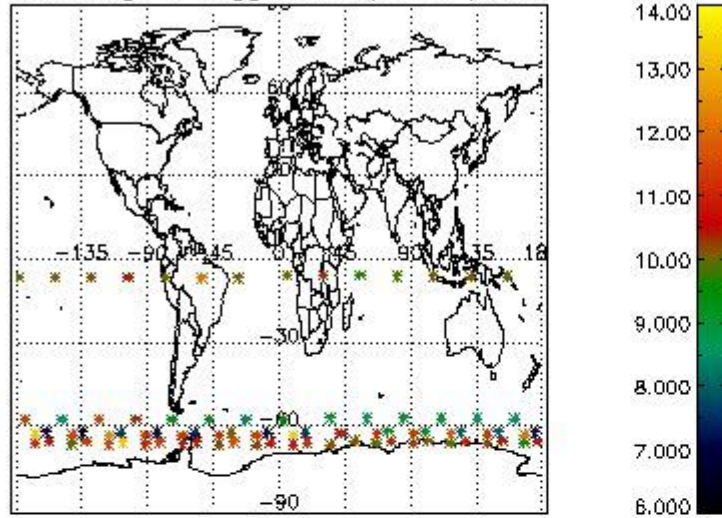




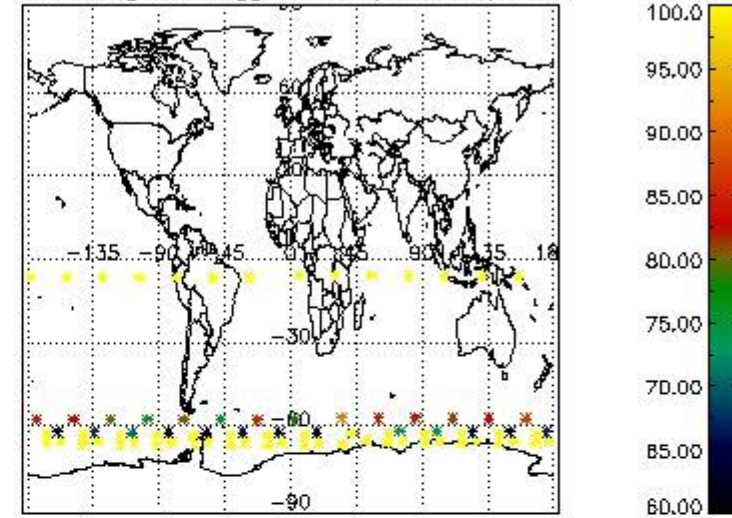


*3.2 Plot quality information per product (world map)*

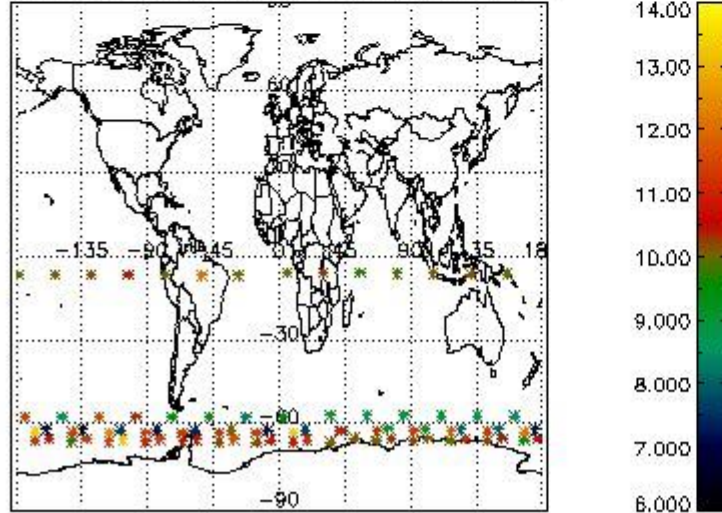
Percentage of flagged data per O3 profile



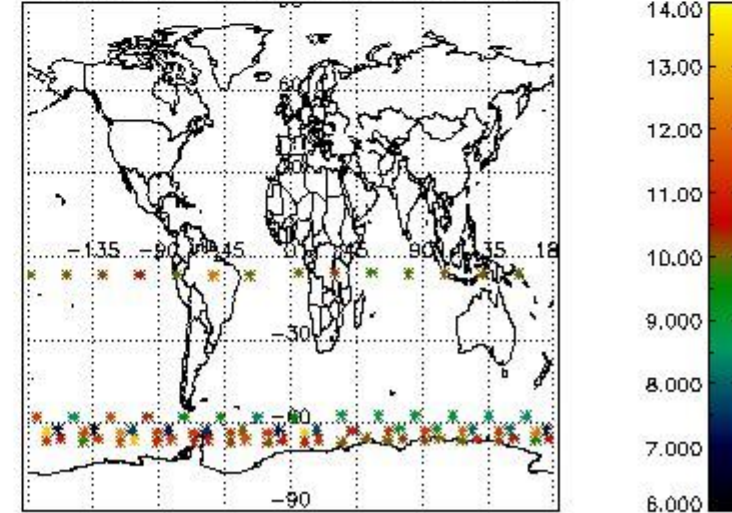
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

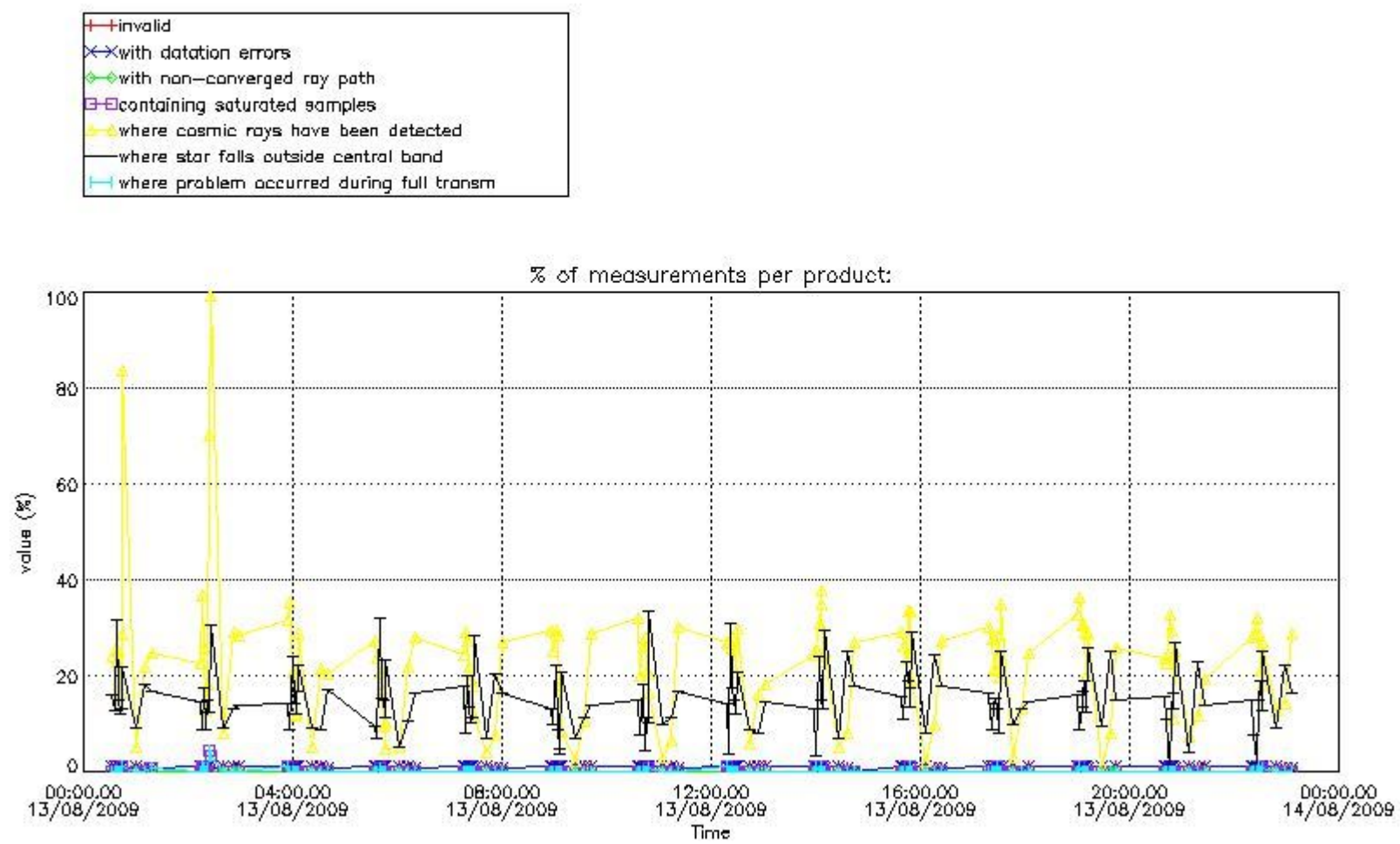


#### 4. Level 1 quality information per product

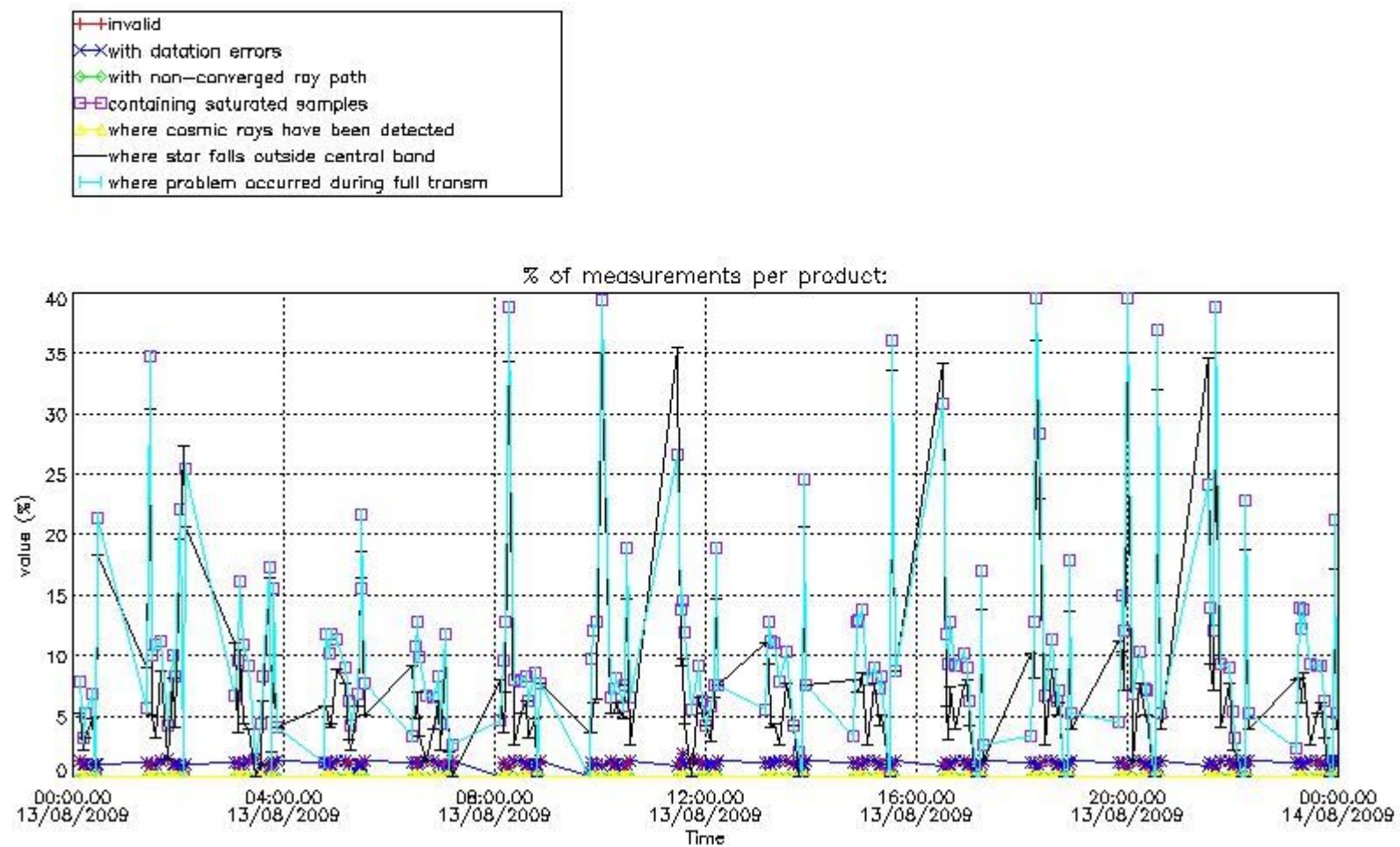
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

##### 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



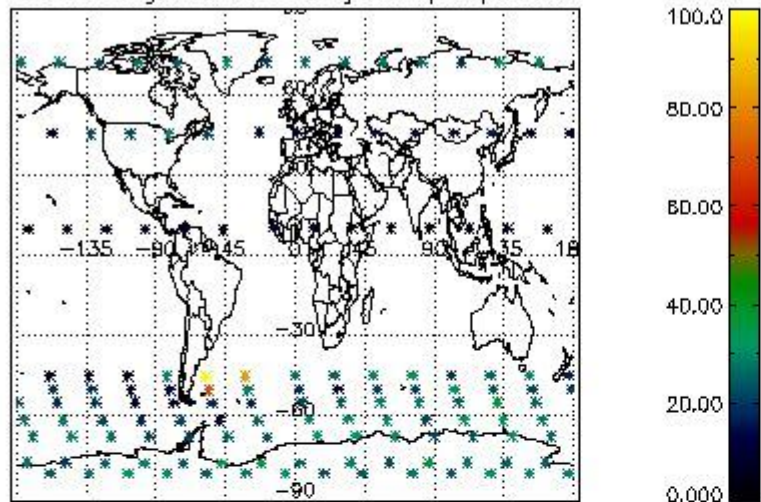
4.1.2 Plot level 1 quality information per product (time dependant): ENVI SAT DESCENDING passes



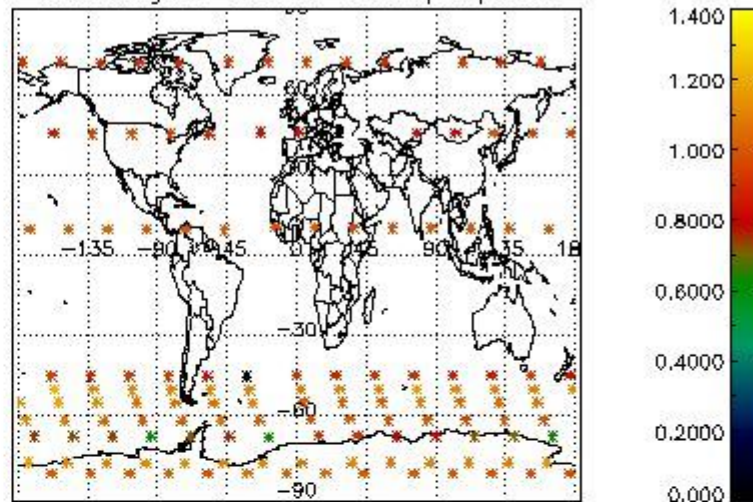
4.2 Plot quality information per product coming from level 1b processing (world map)

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

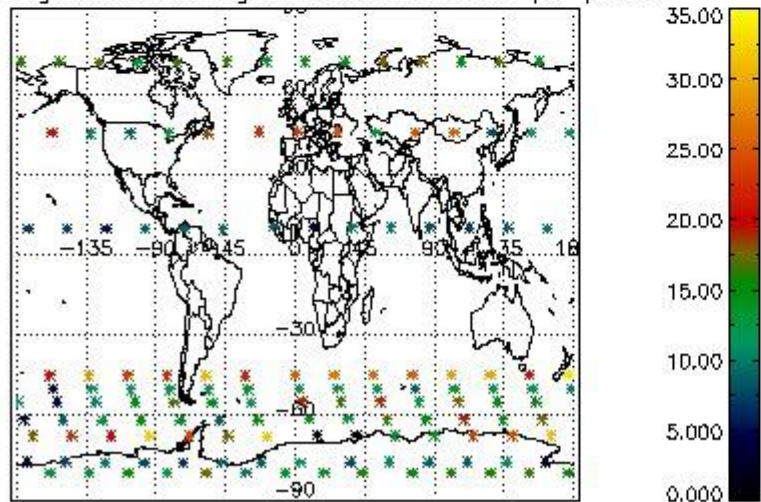
Percentage of cosmic ray hits per profile



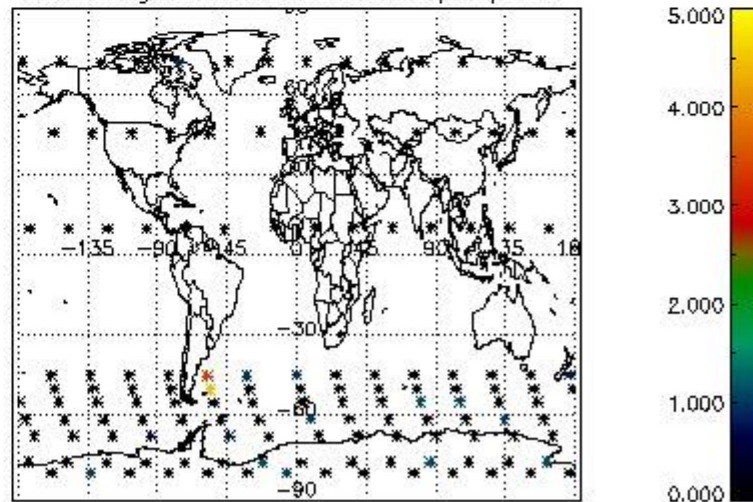
Percentage of datation errors per profile



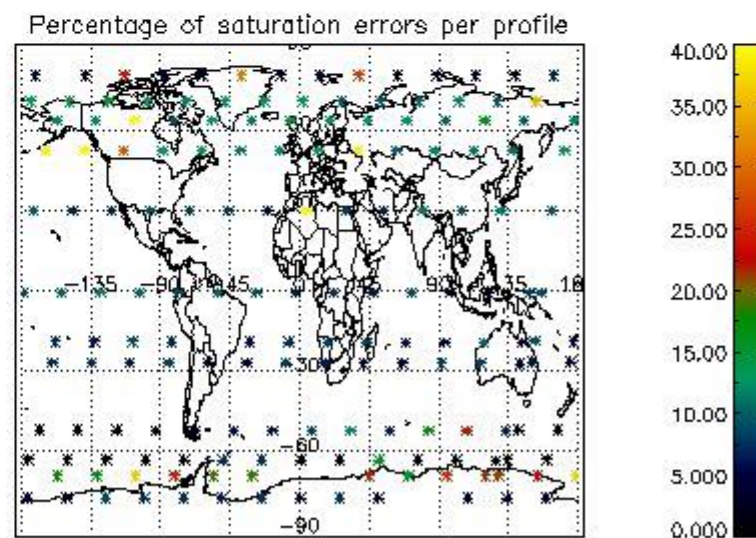
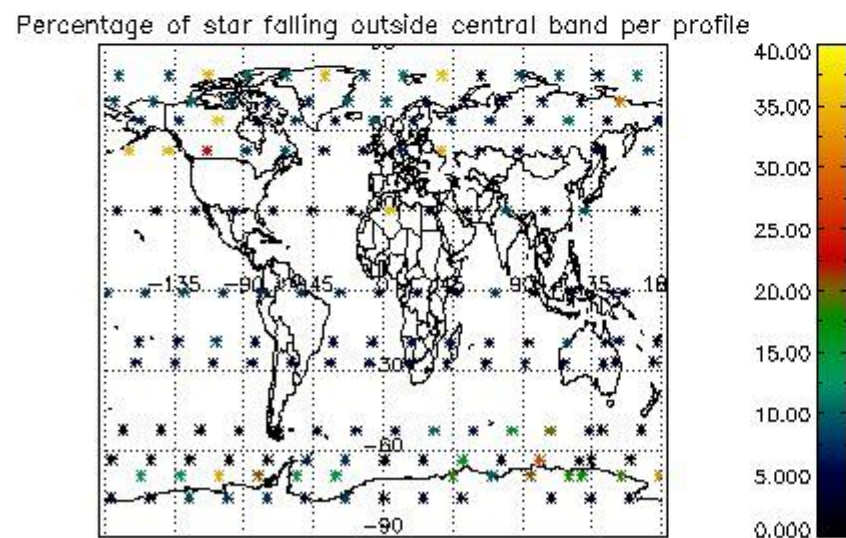
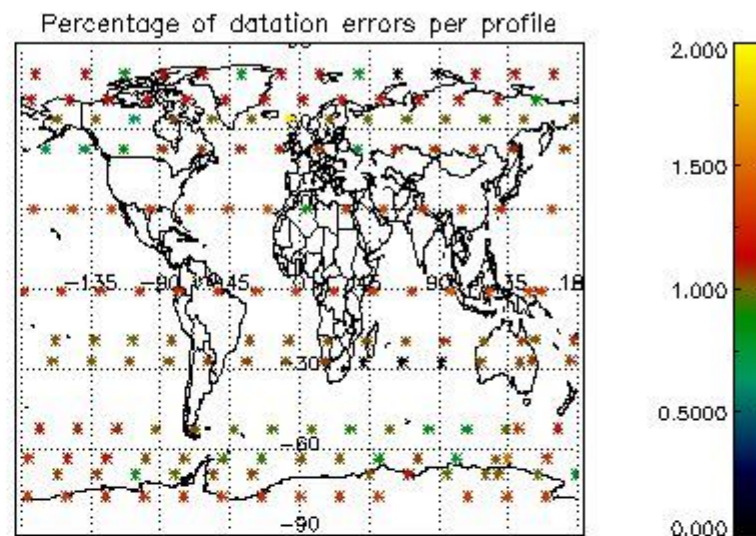
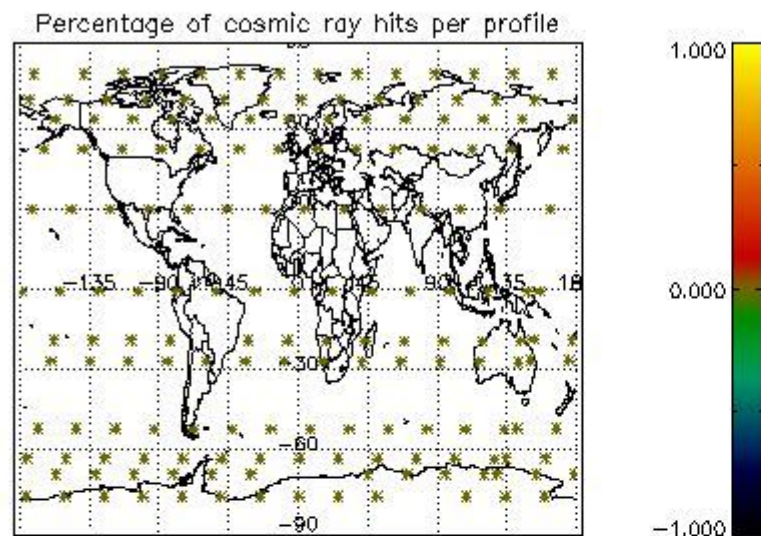
Percentage of star falling outside central band per profile



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.

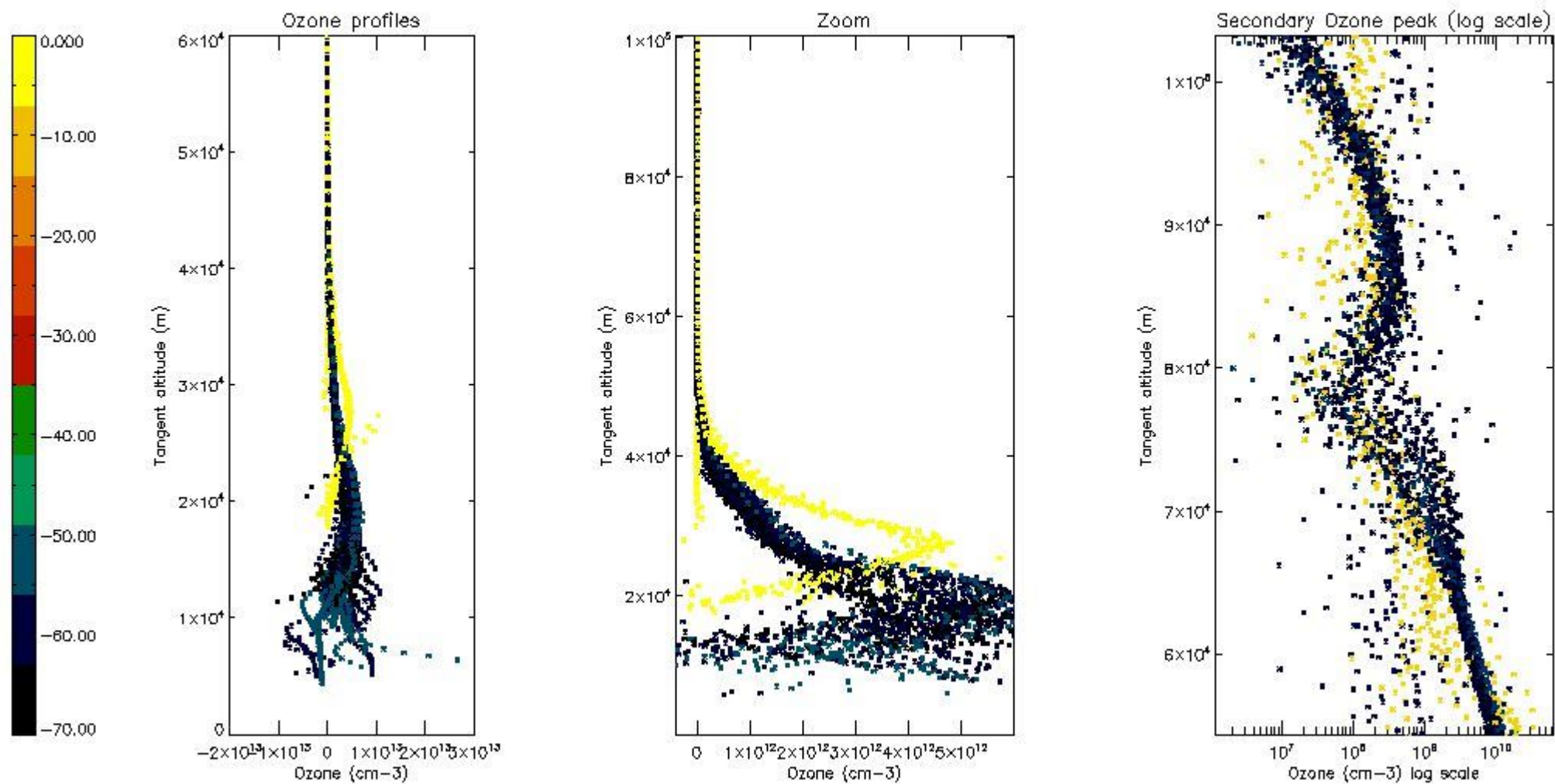
Criteria	% of total production
All STD	30
STD < 20	17



STD < 10	14
STD < 5	10

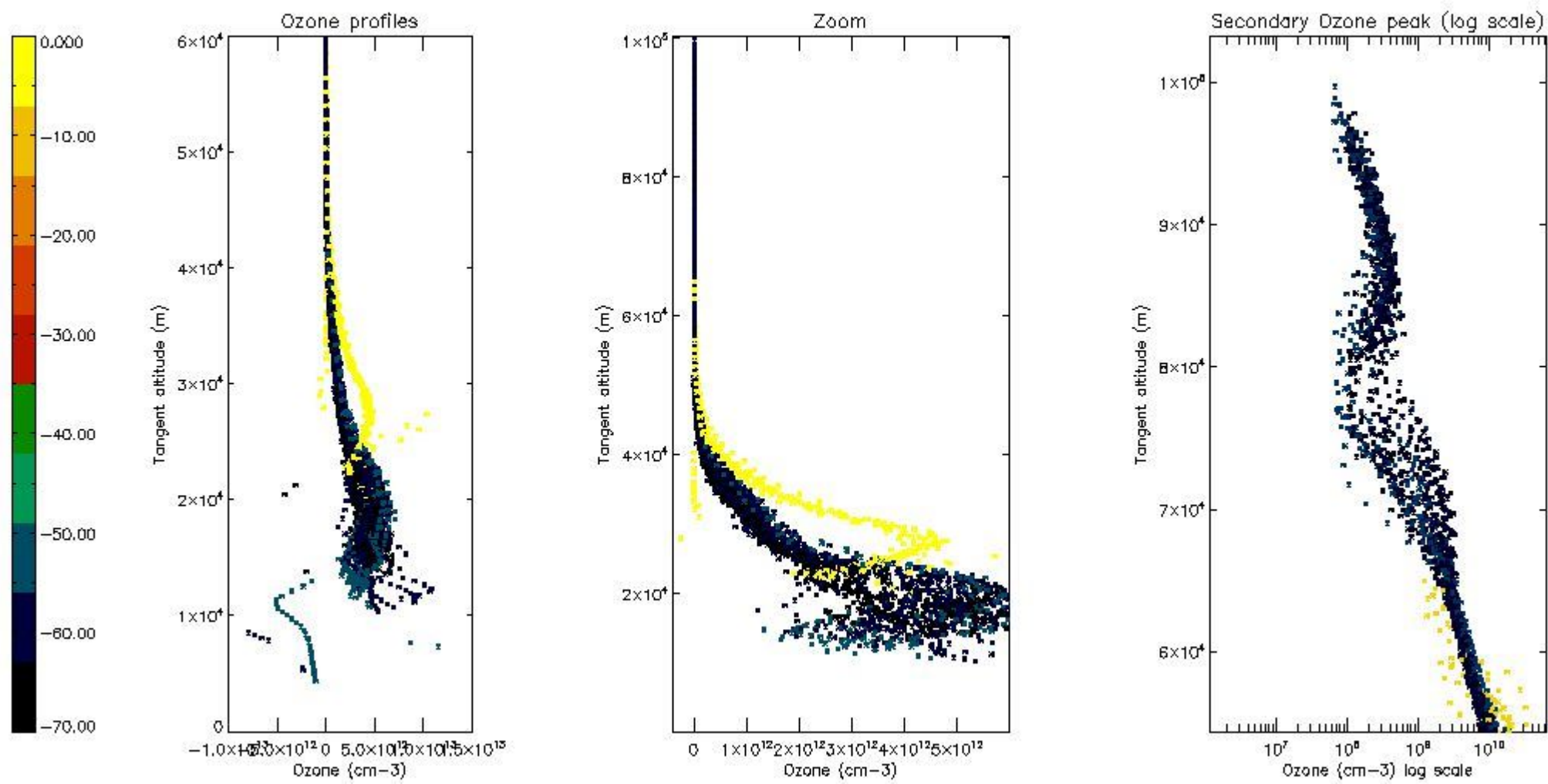
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



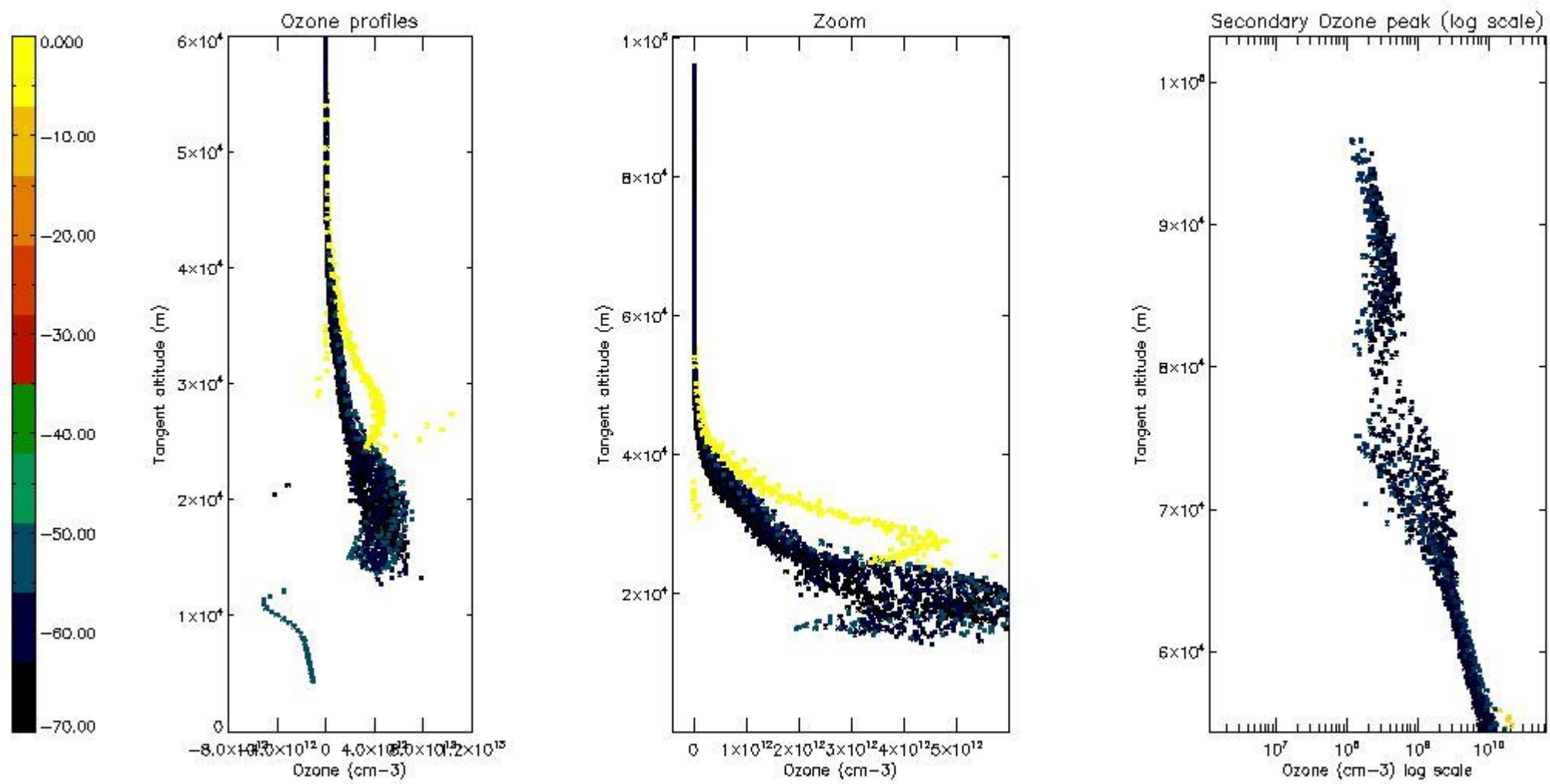
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



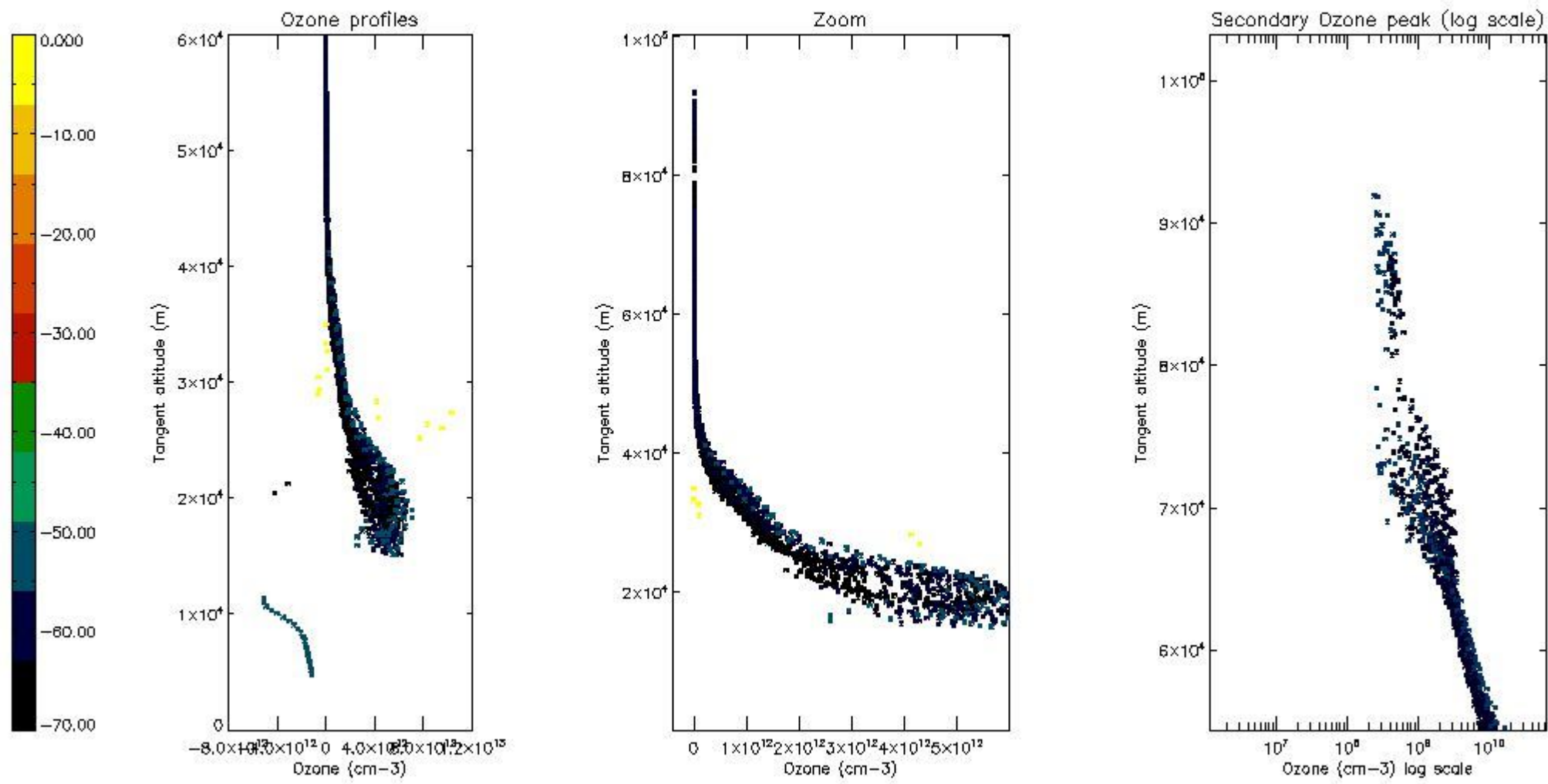
*5.4 Plot ozone profiles where STD < 10% (dark without errors)*

The colorbar represents the latitude.



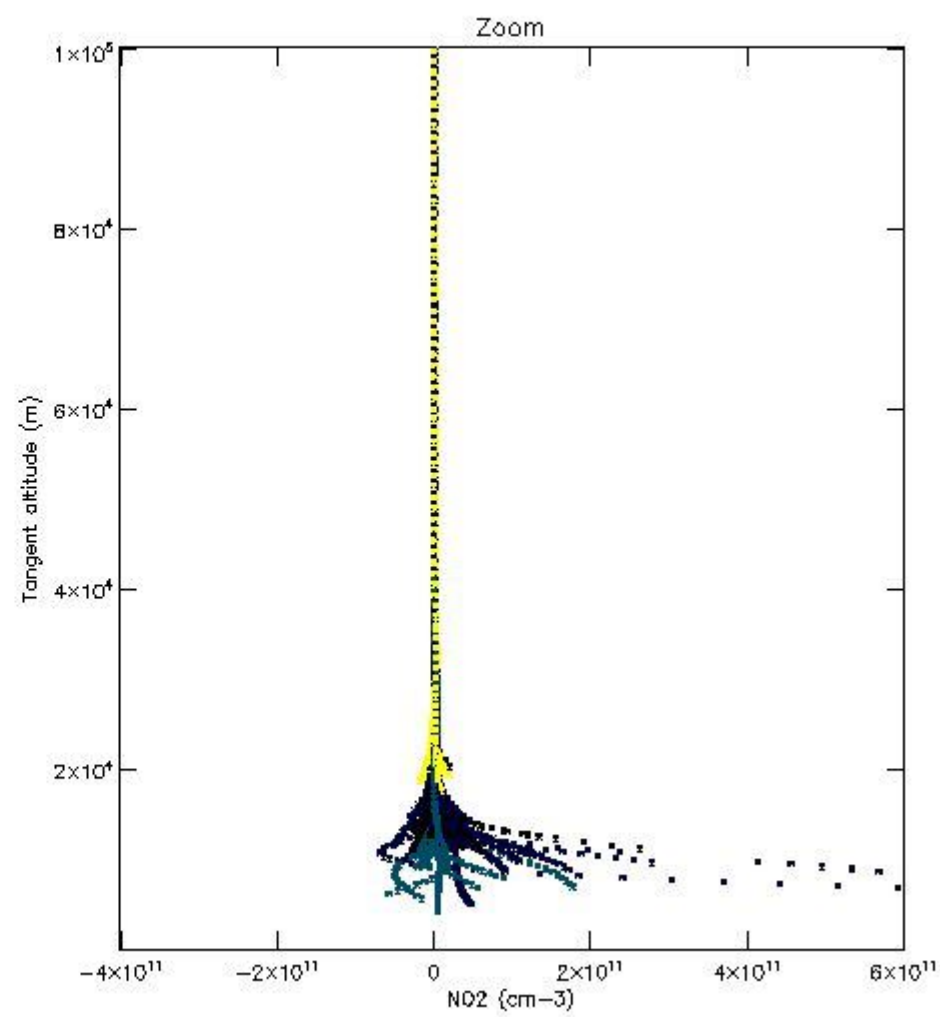
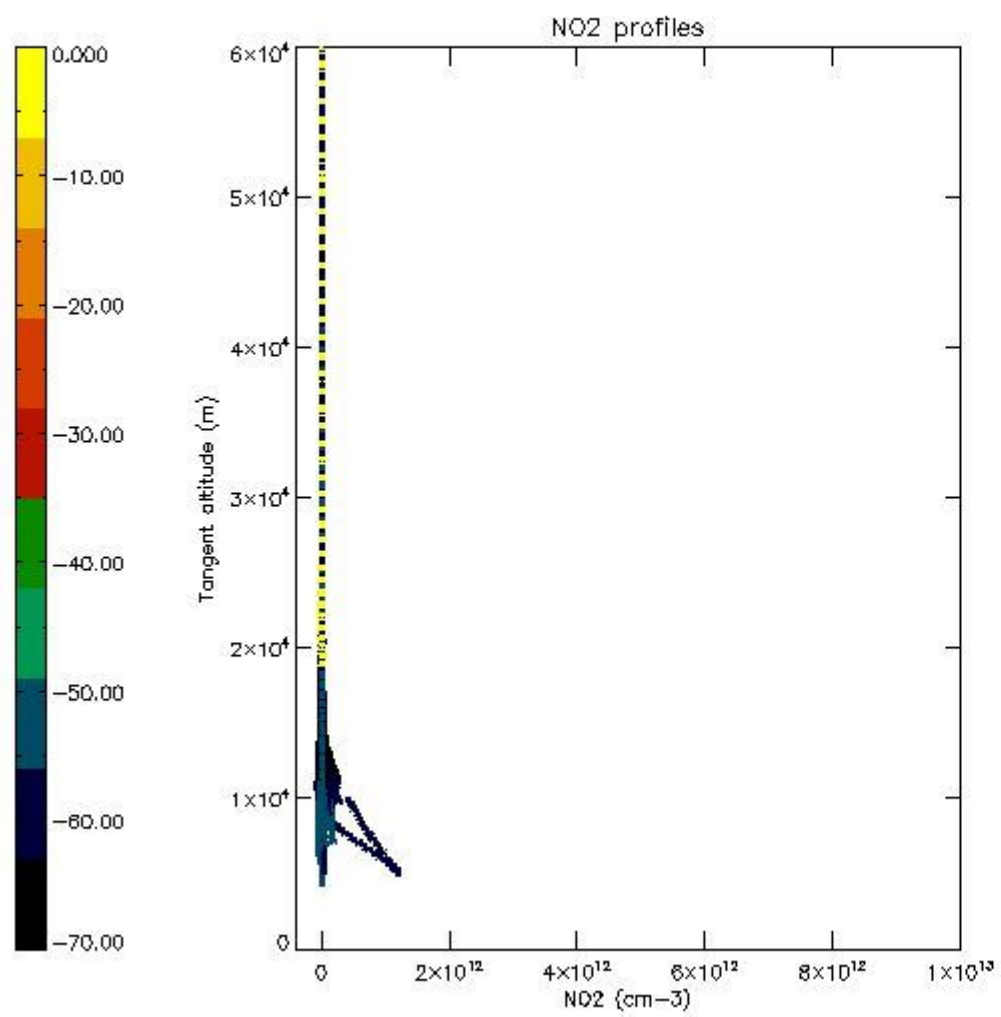
*5.5 Plot ozone profiles where STD < 5% (dark without errors)*

The colorbar represents the latitude.



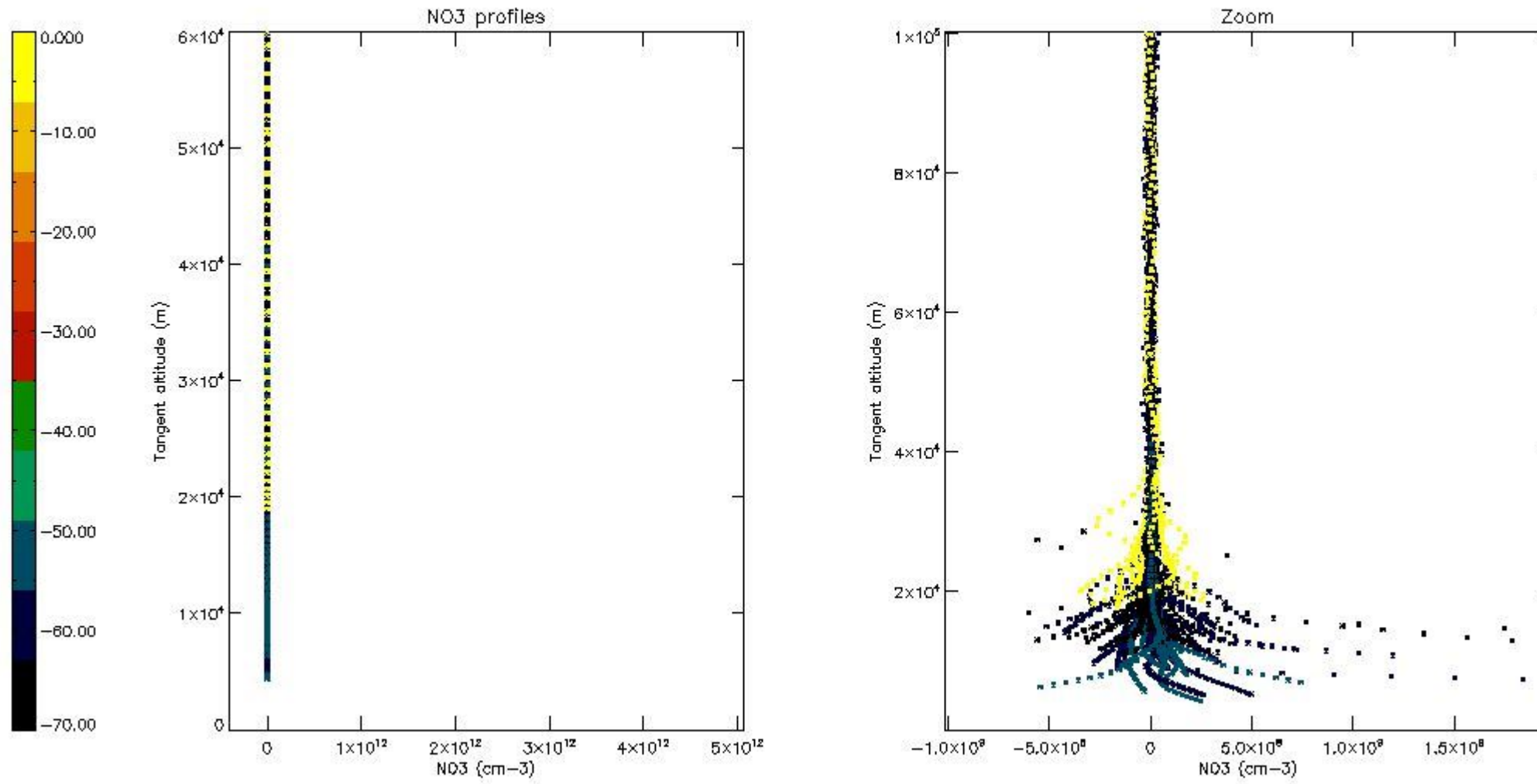
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

The colorbar represents the latitude.



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

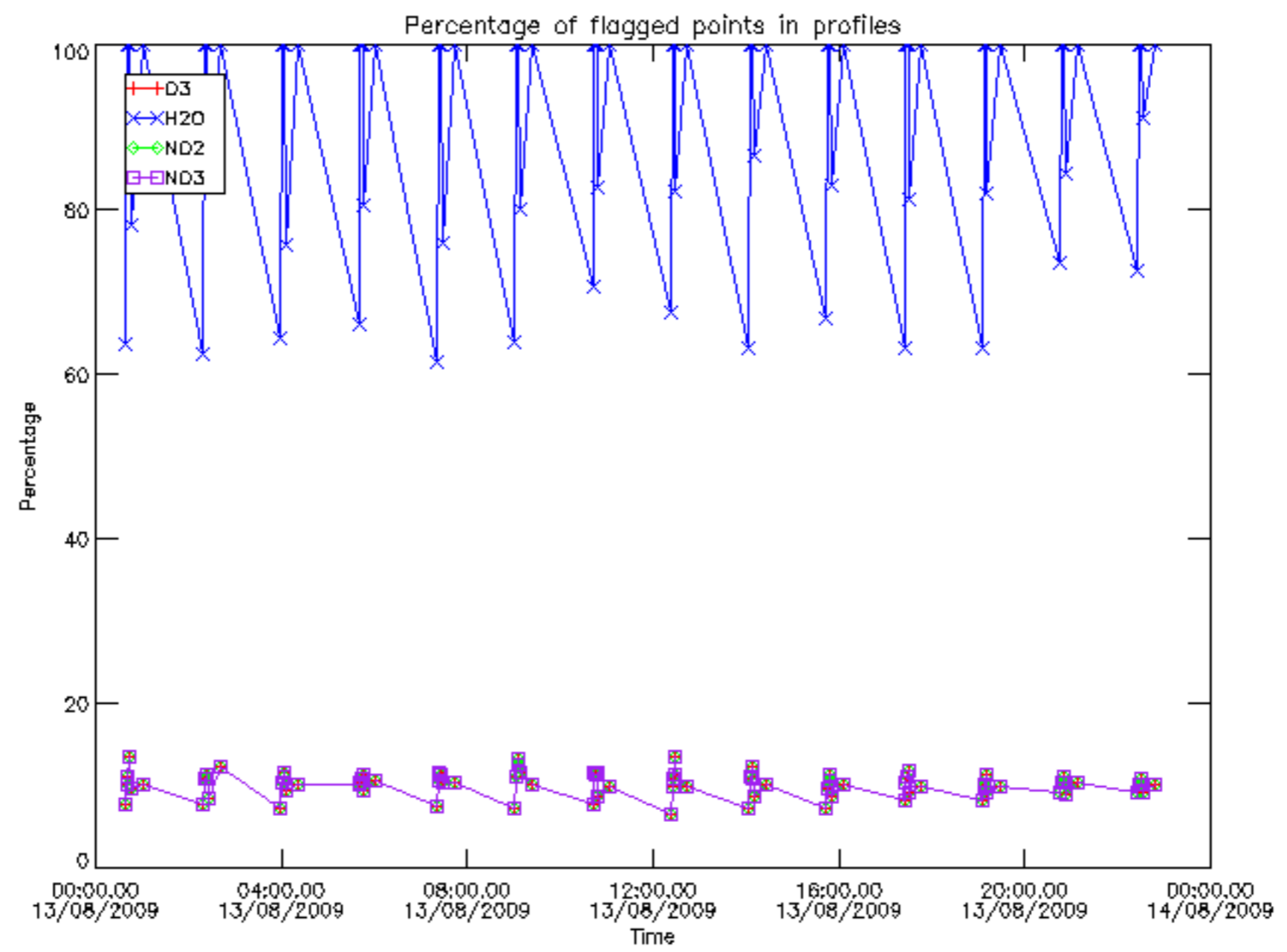
The colorbar represents the latitude.



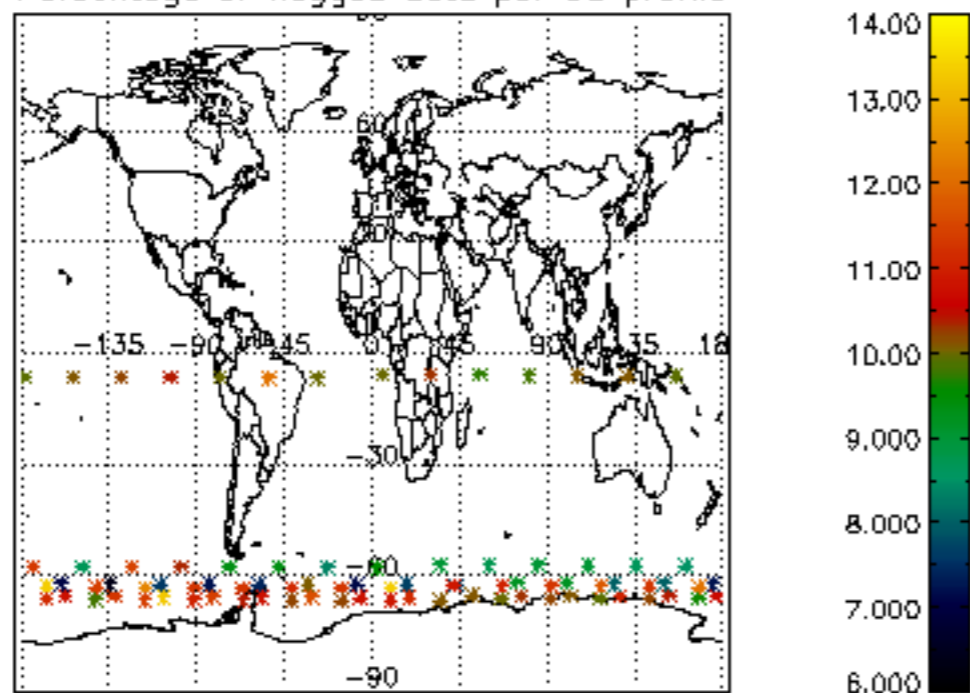
## 6. Auxiliary Data Files used for the production reported in section 2

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.

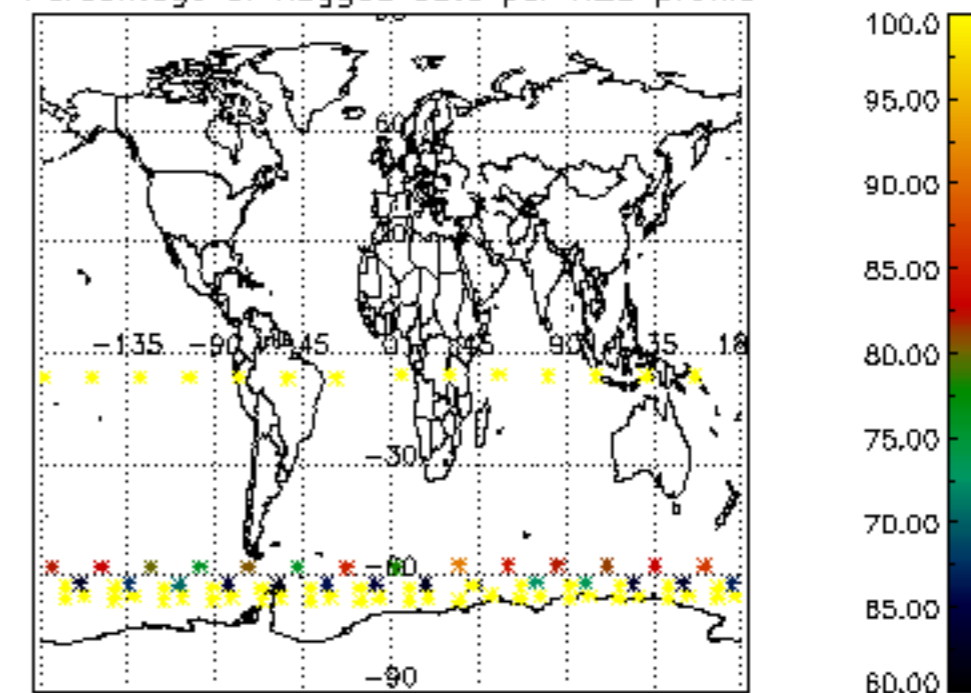
Type	Auxiliary Filename	Used since product	Used since product date
INST_PHYS_CHARACTERISTICS	GOM_INS_AXVIEC20091111_143220_20030716_120000_20500101_000000	1	13-AUG-2009 00:07:35
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	13-AUG-2009 00:07:35
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	13-AUG-2009 00:07:35



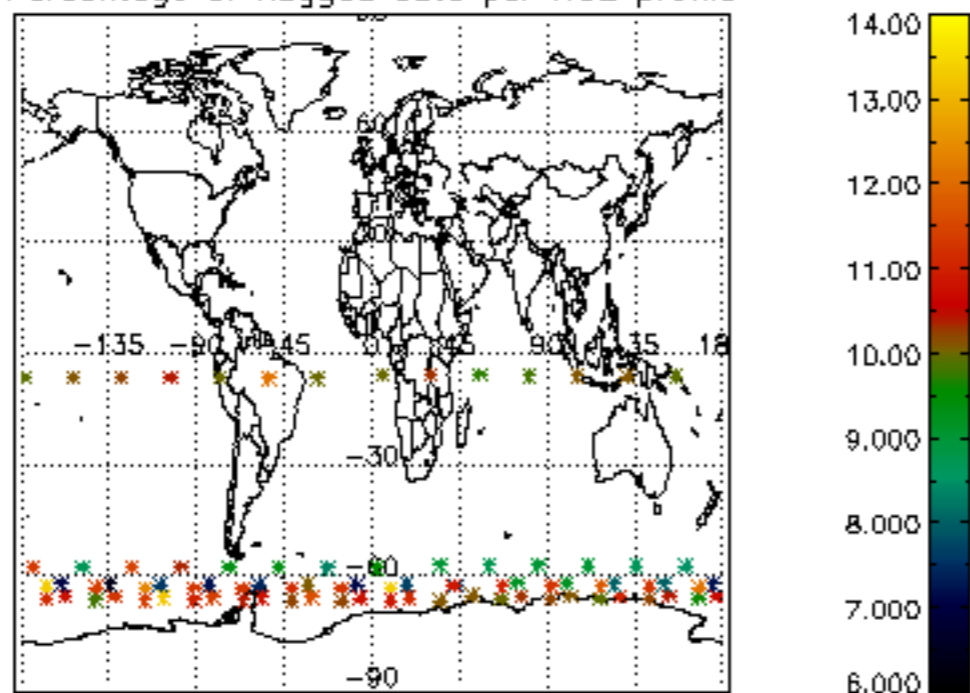
Percentage of flagged data per D3 profile



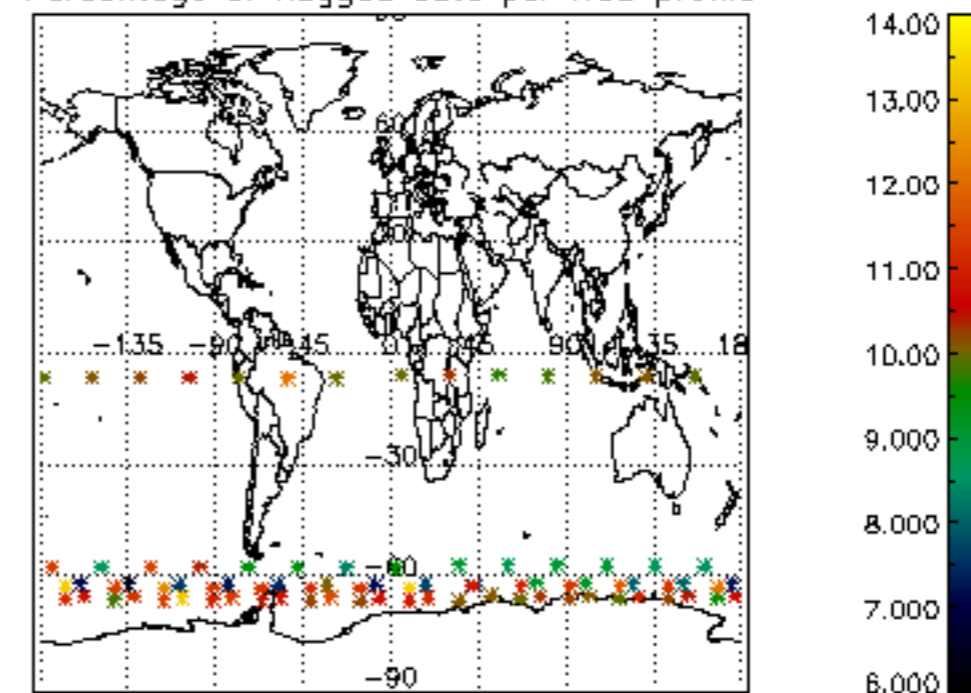
Percentage of flagged data per H2O profile



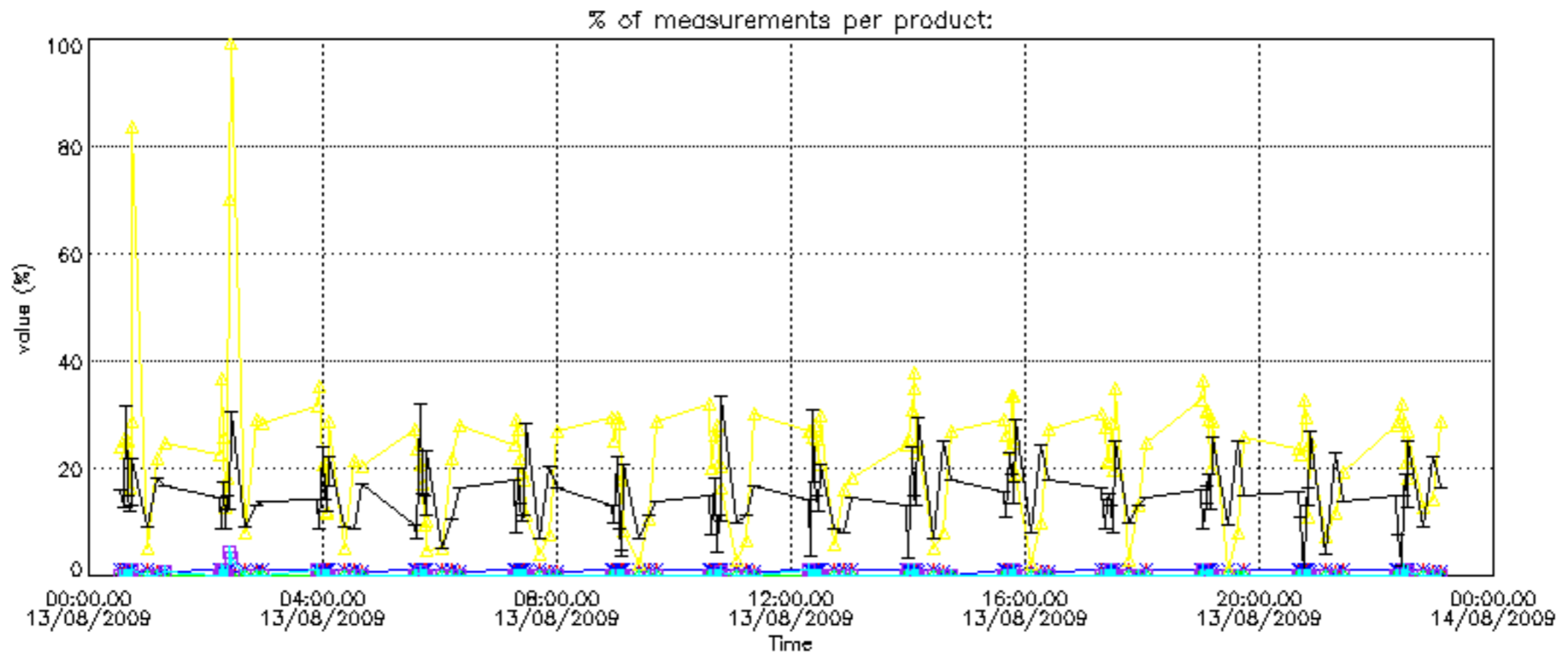
Percentage of flagged data per NO2 profile

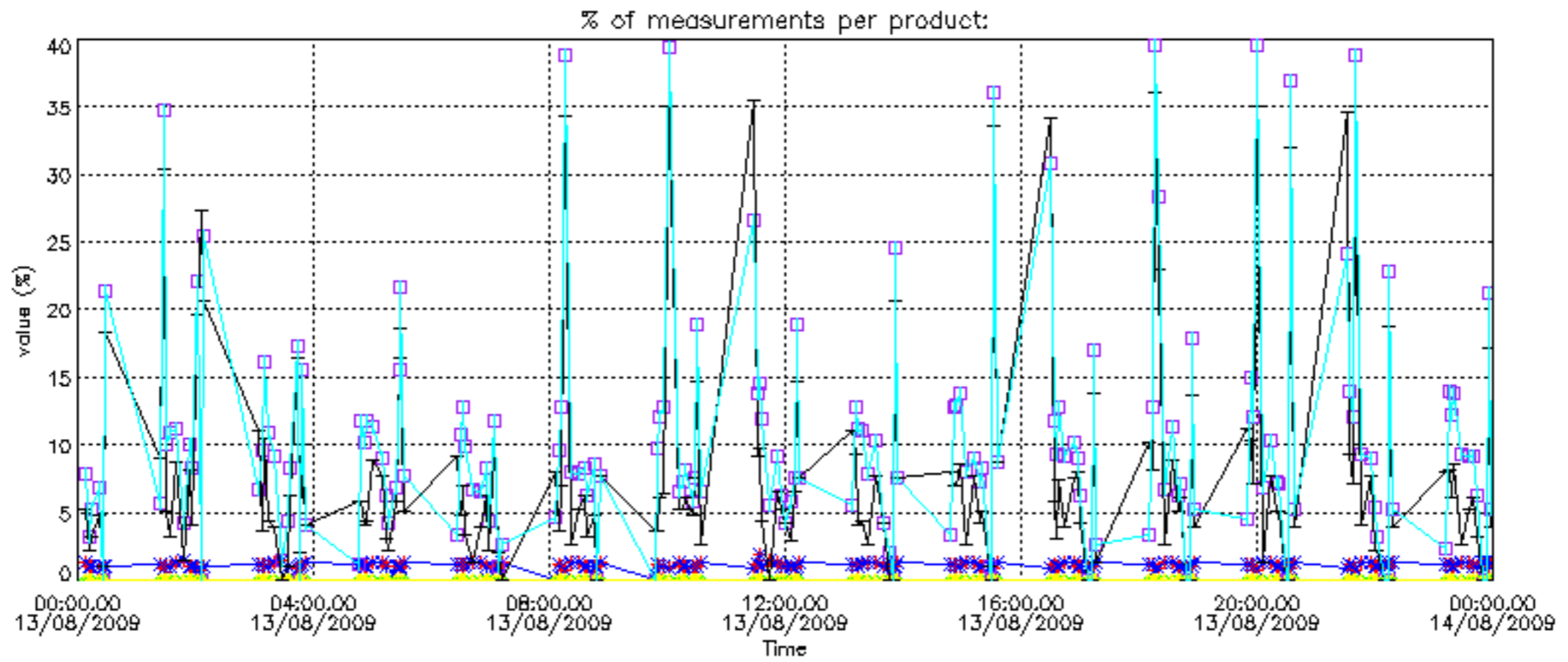


Percentage of flagged data per NO3 profile

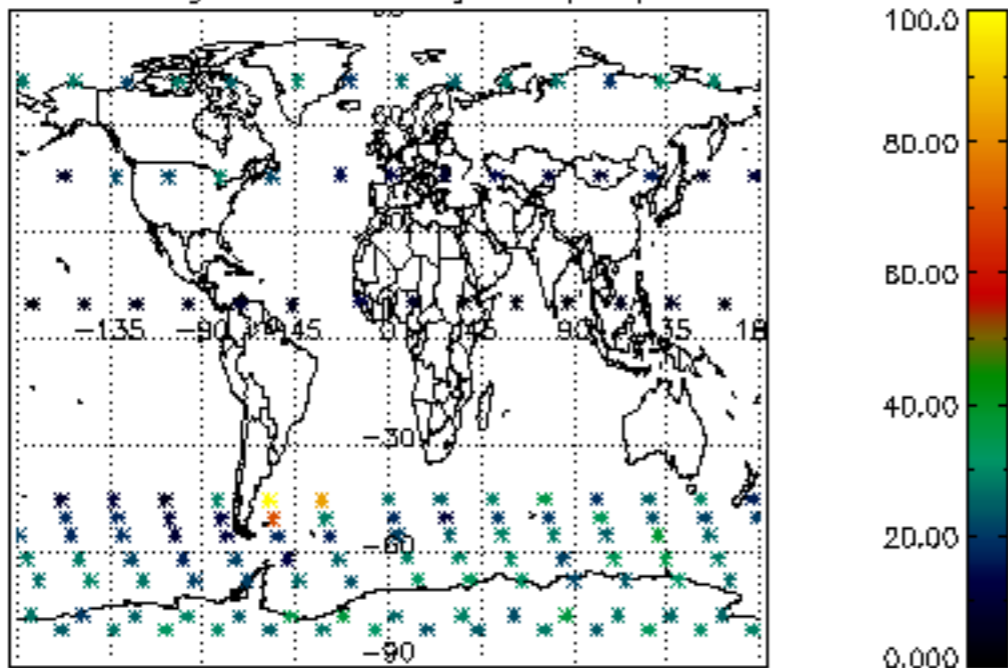




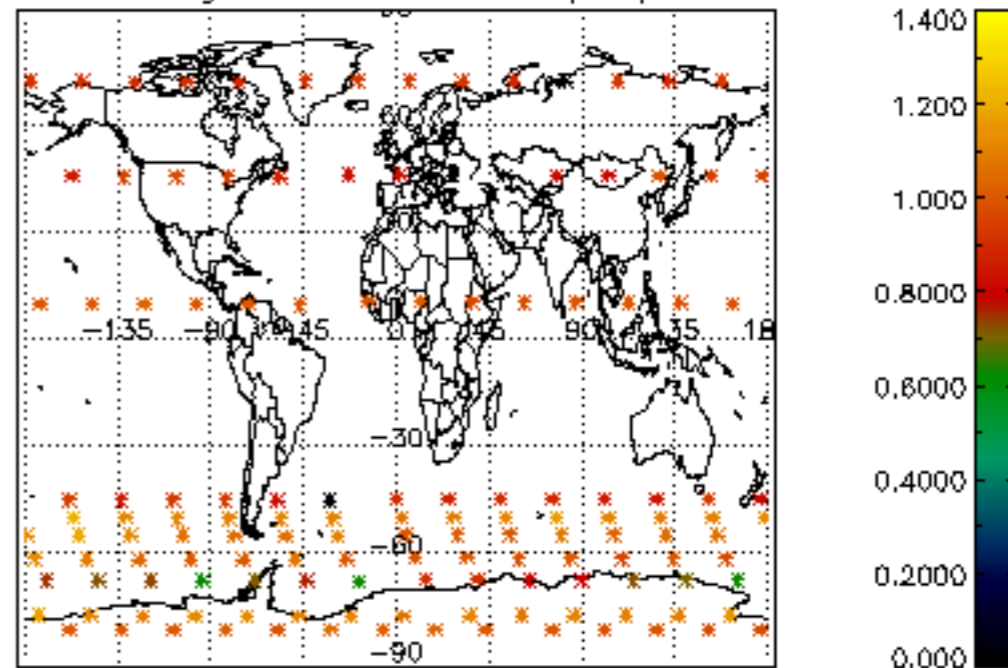




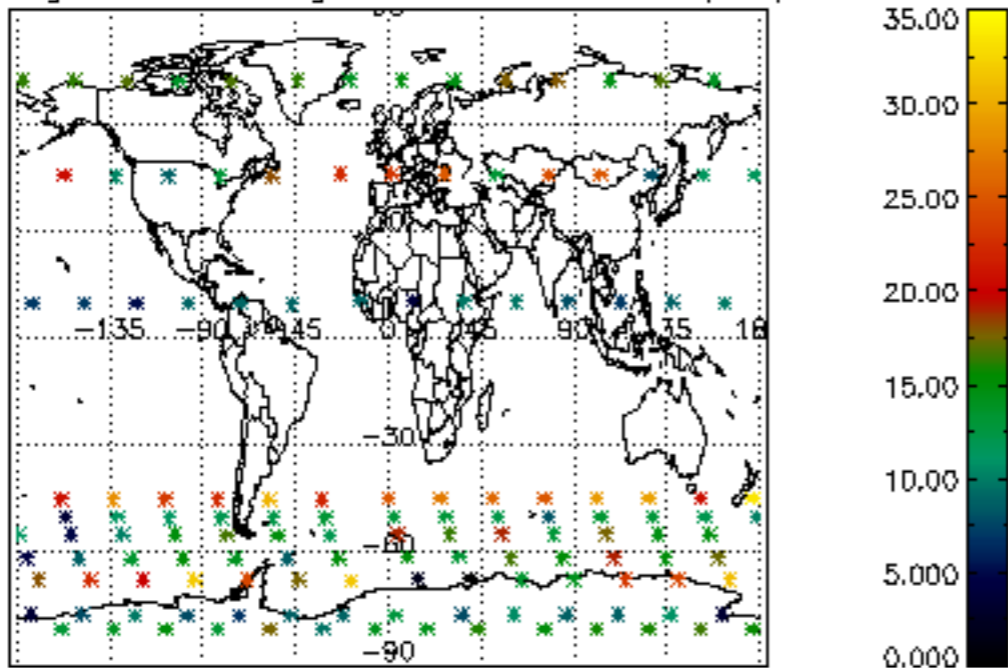
Percentage of cosmic ray hits per profile



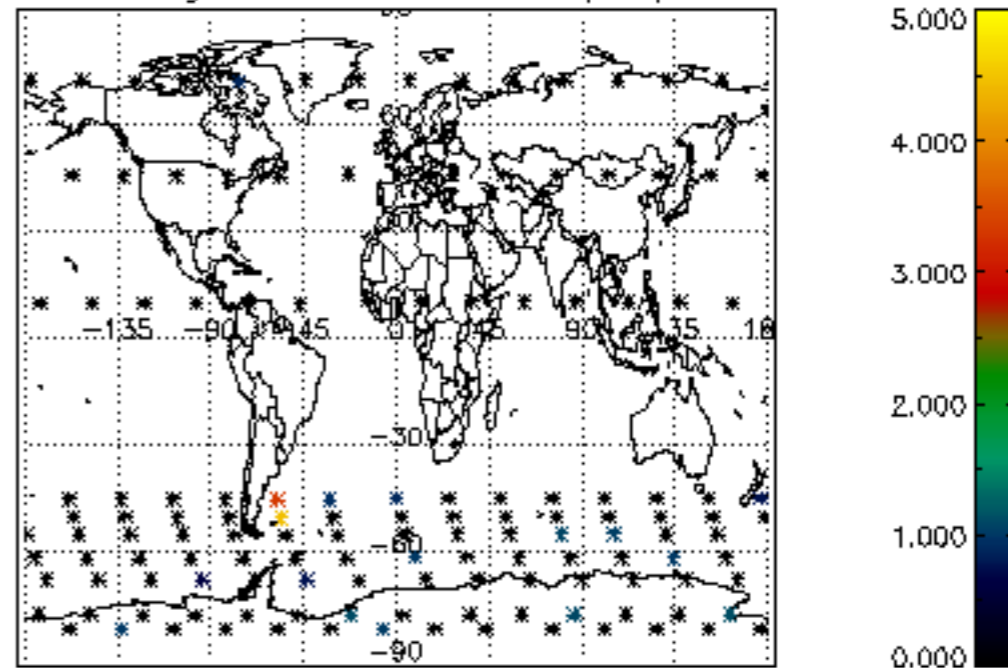
Percentage of datation errors per profile



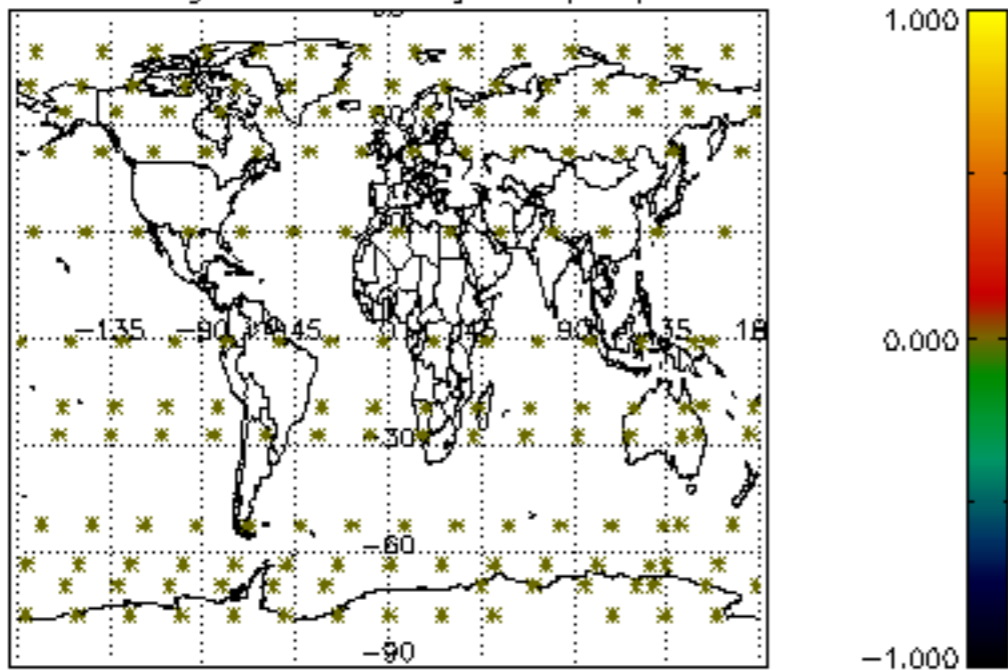
Percentage of star falling outside central band per profile



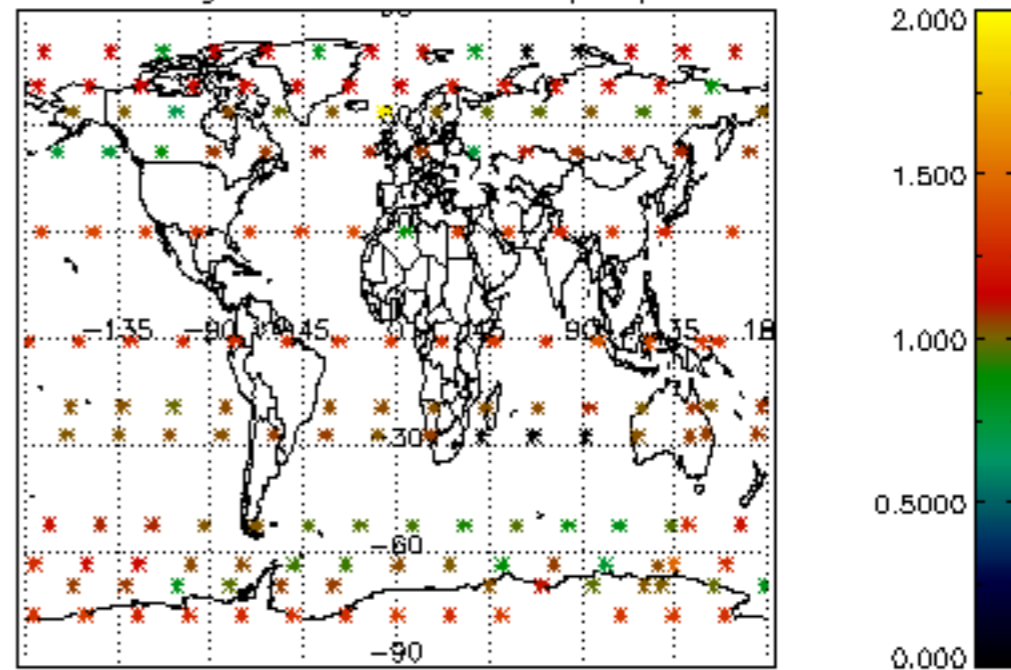
Percentage of saturation errors per profile



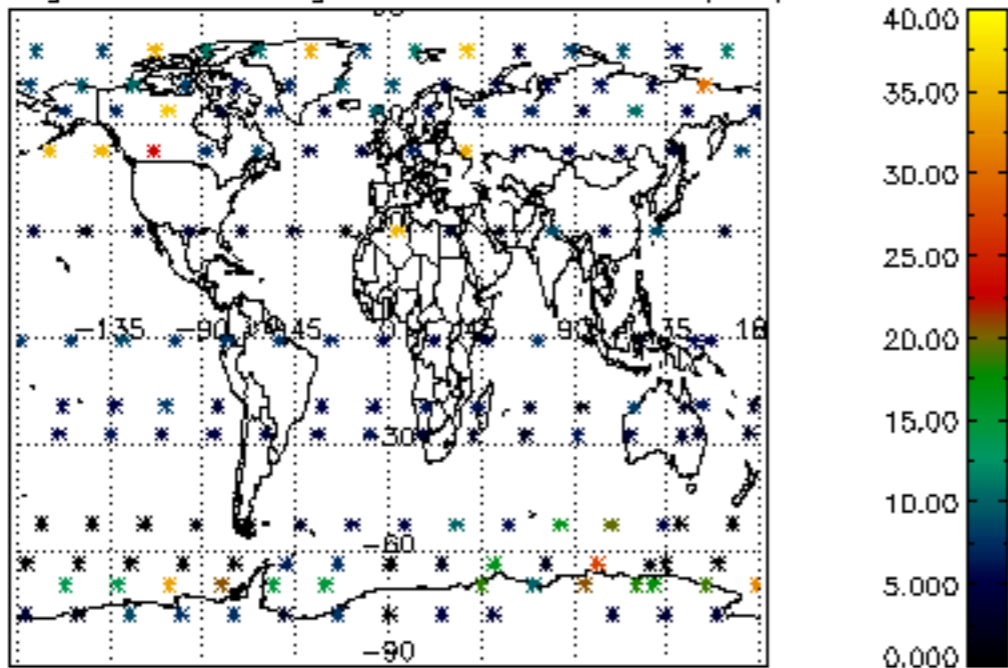
Percentage of cosmic ray hits per profile



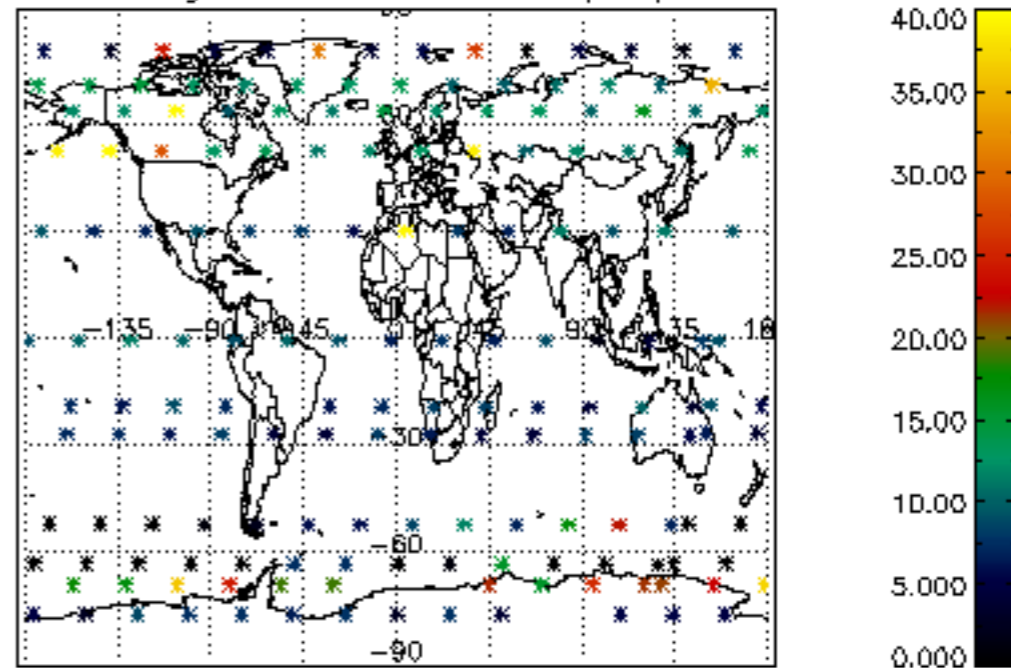
Percentage of datation errors per profile

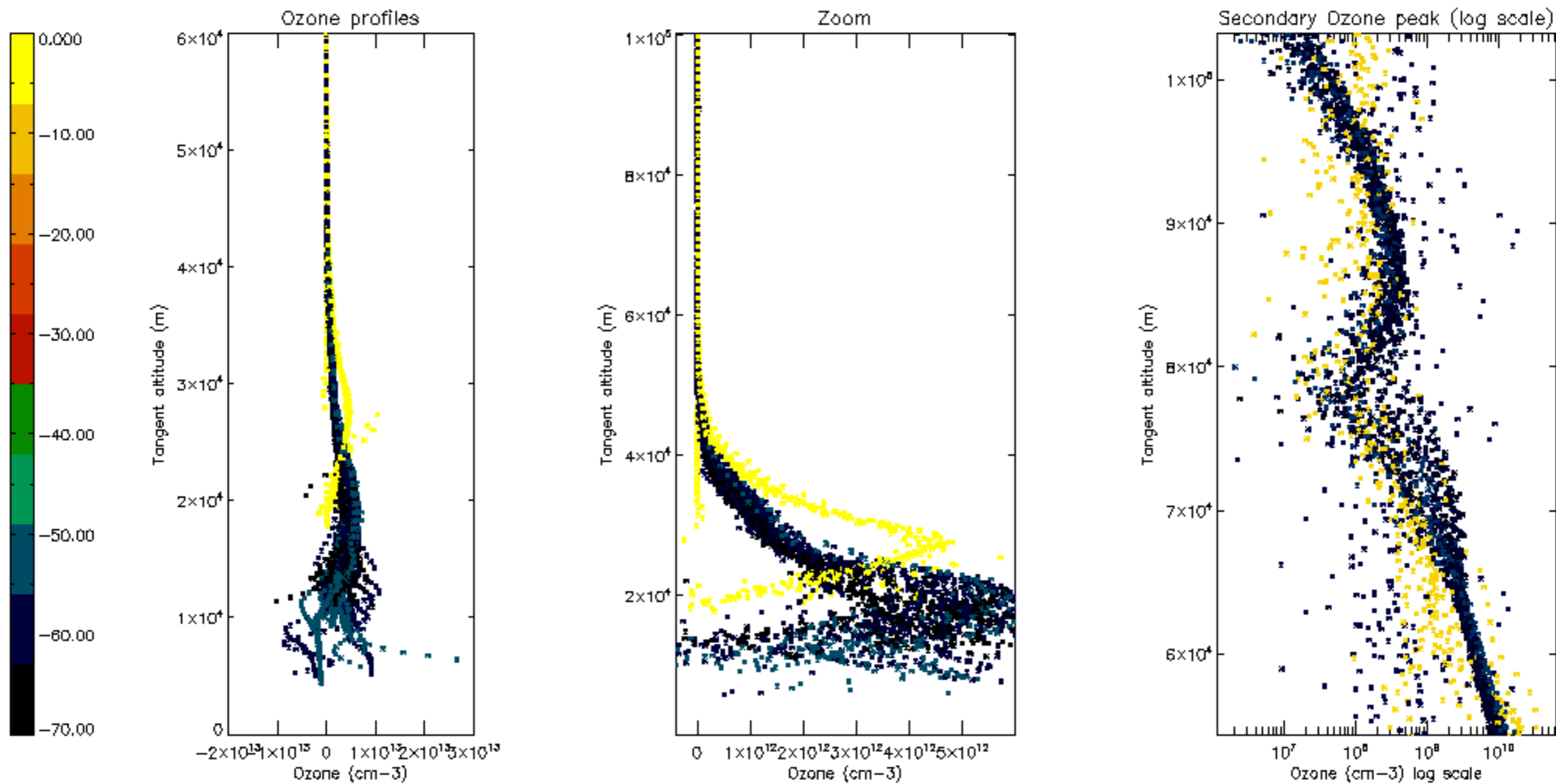


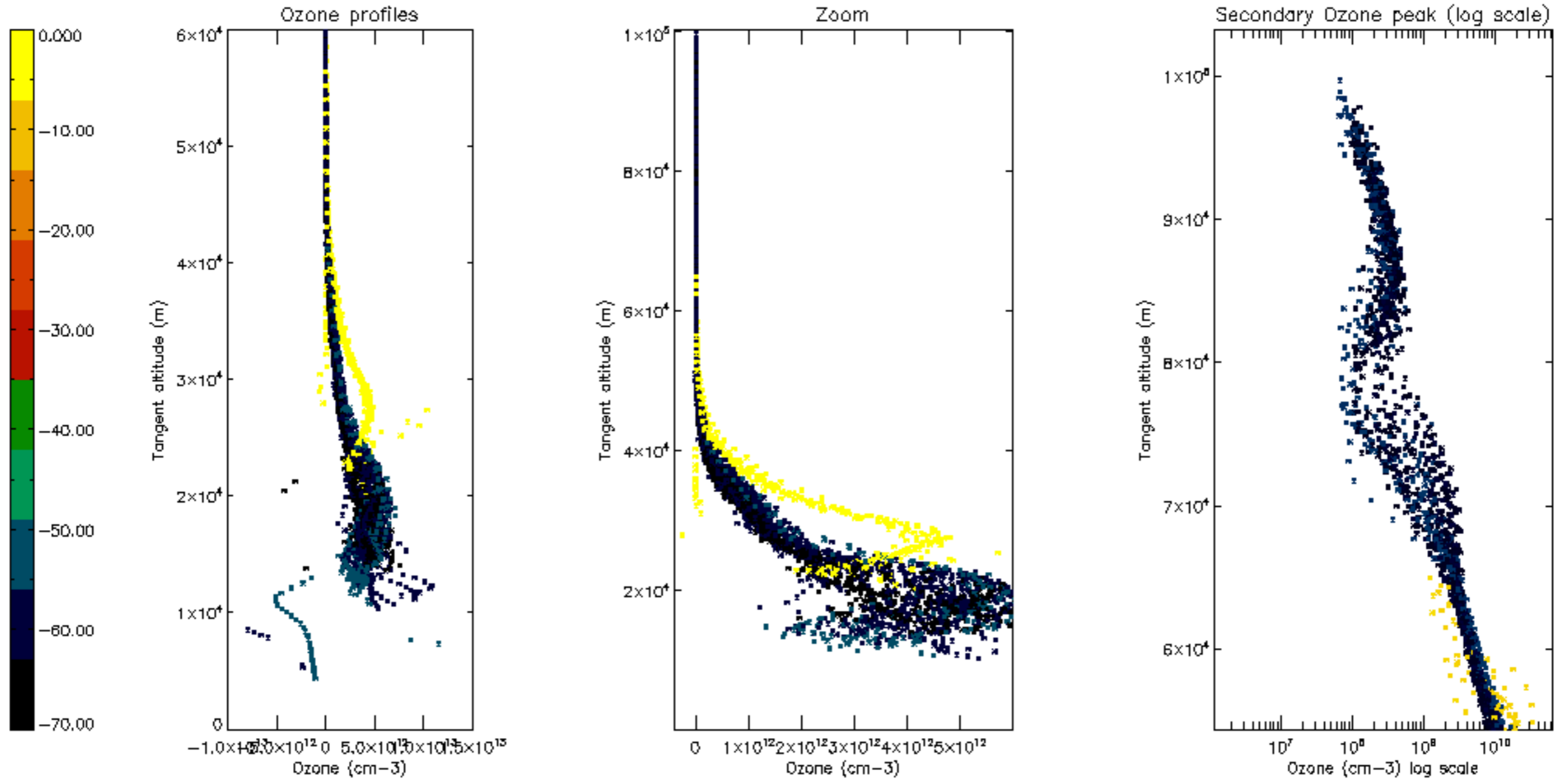
Percentage of star falling outside central band per profile

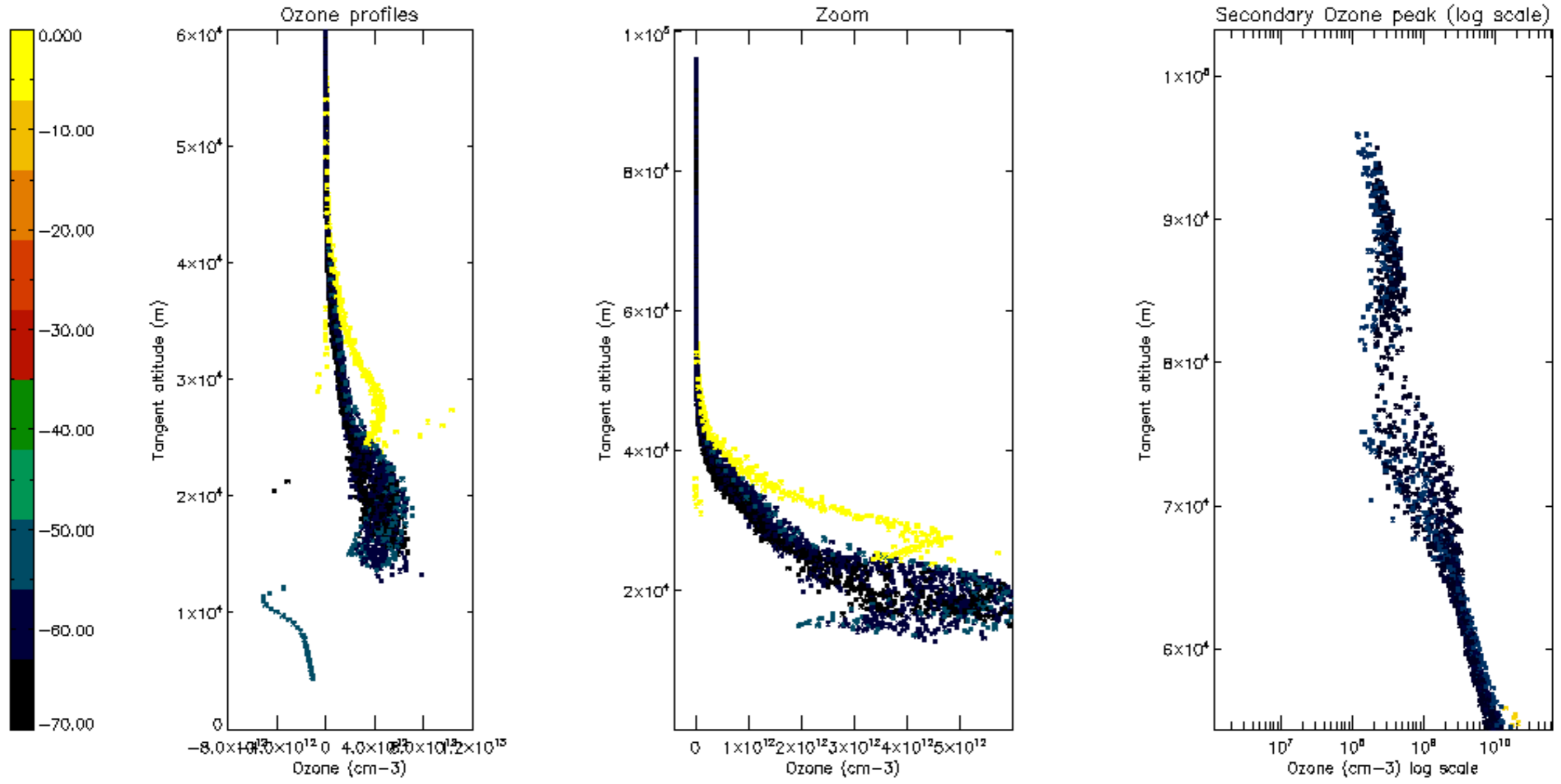


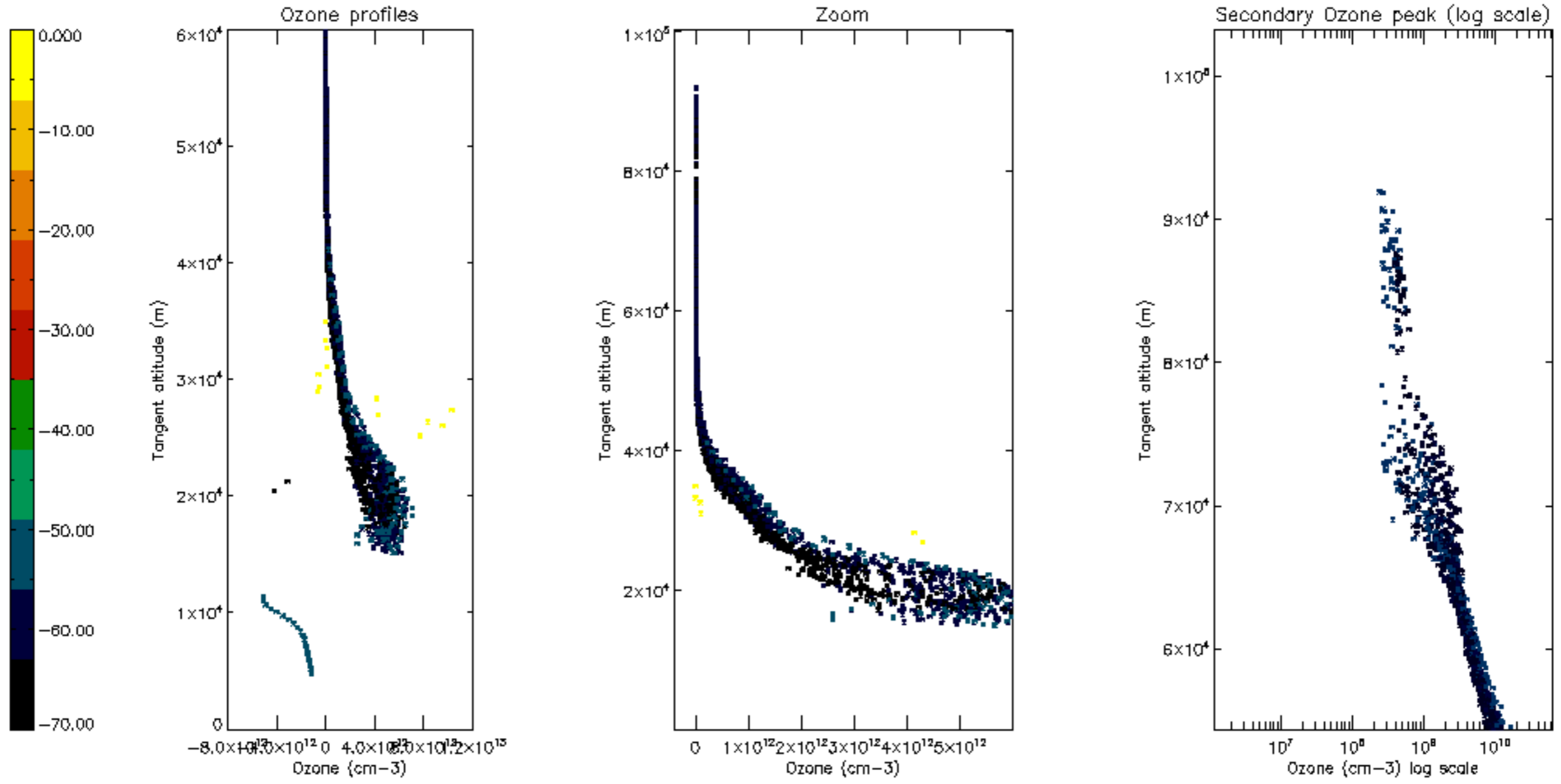
Percentage of saturation errors per profile



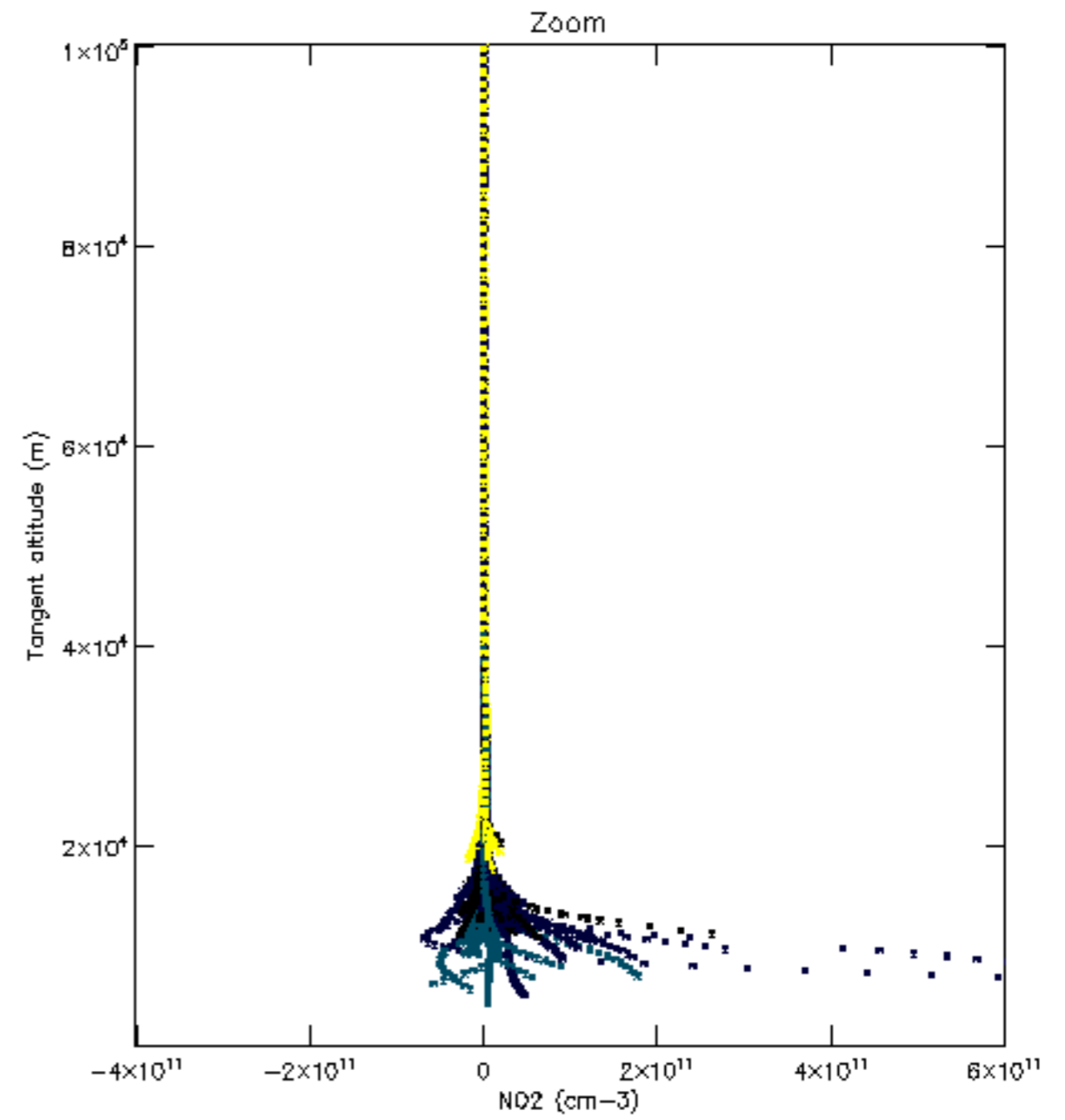
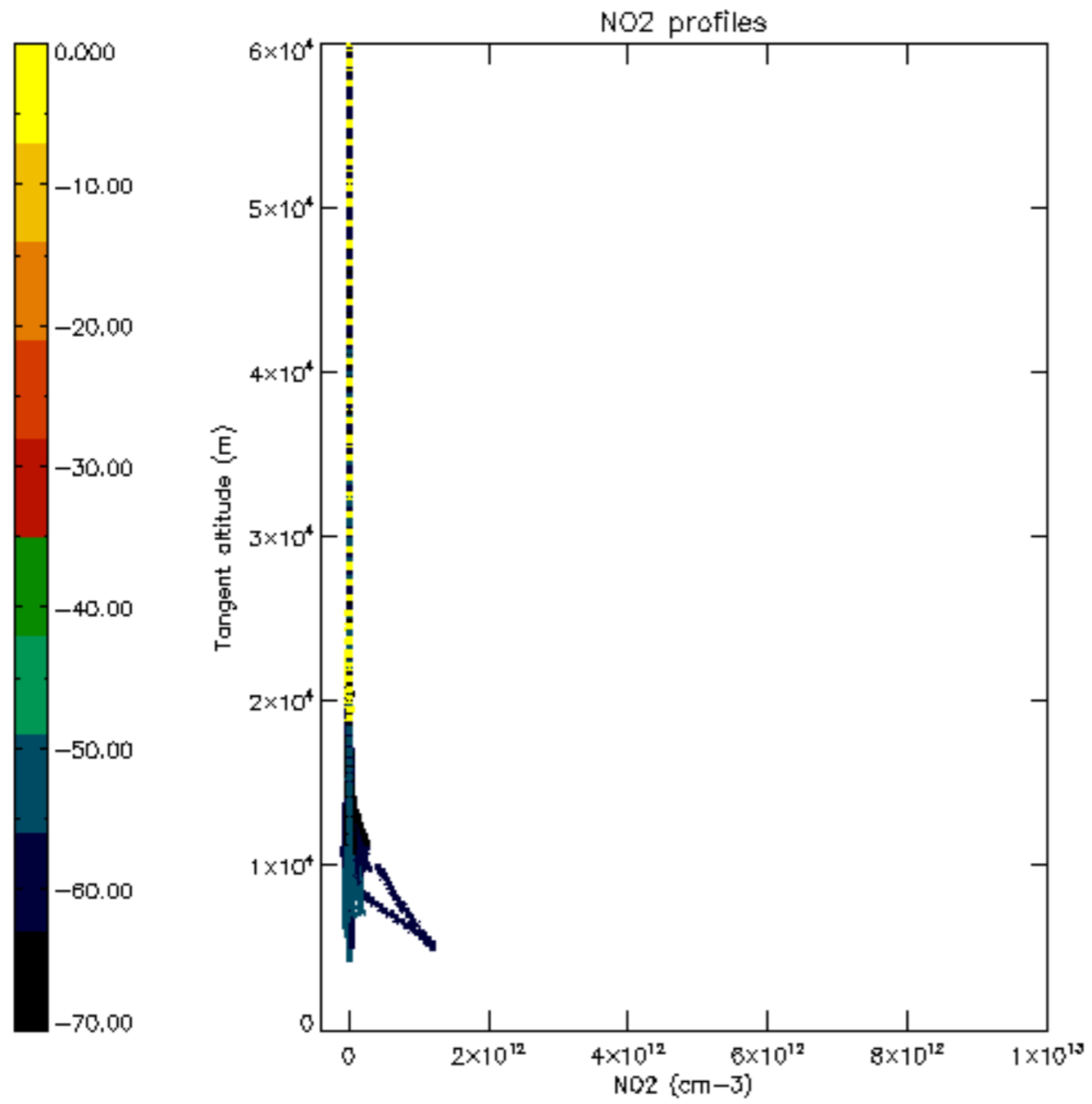


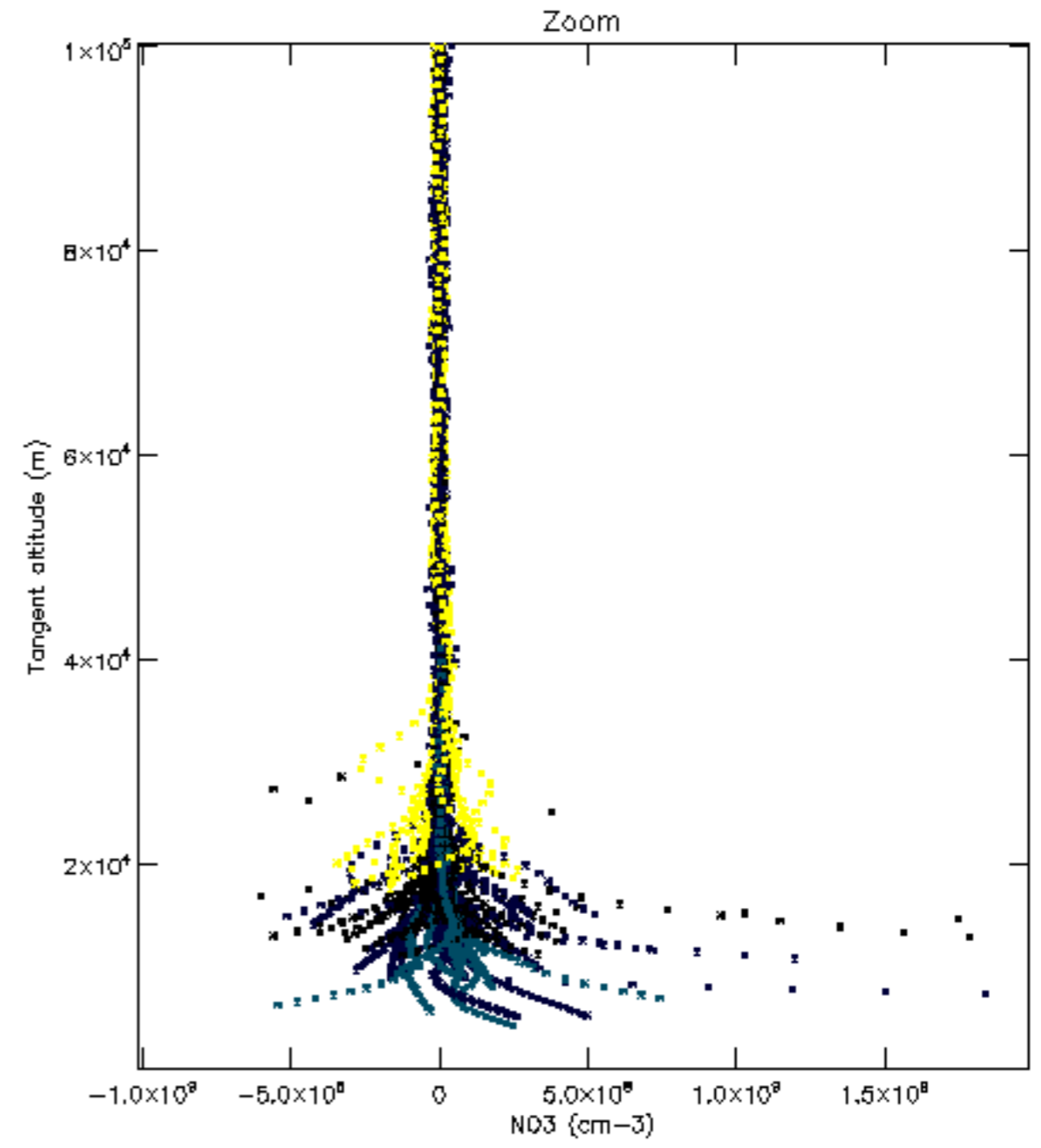
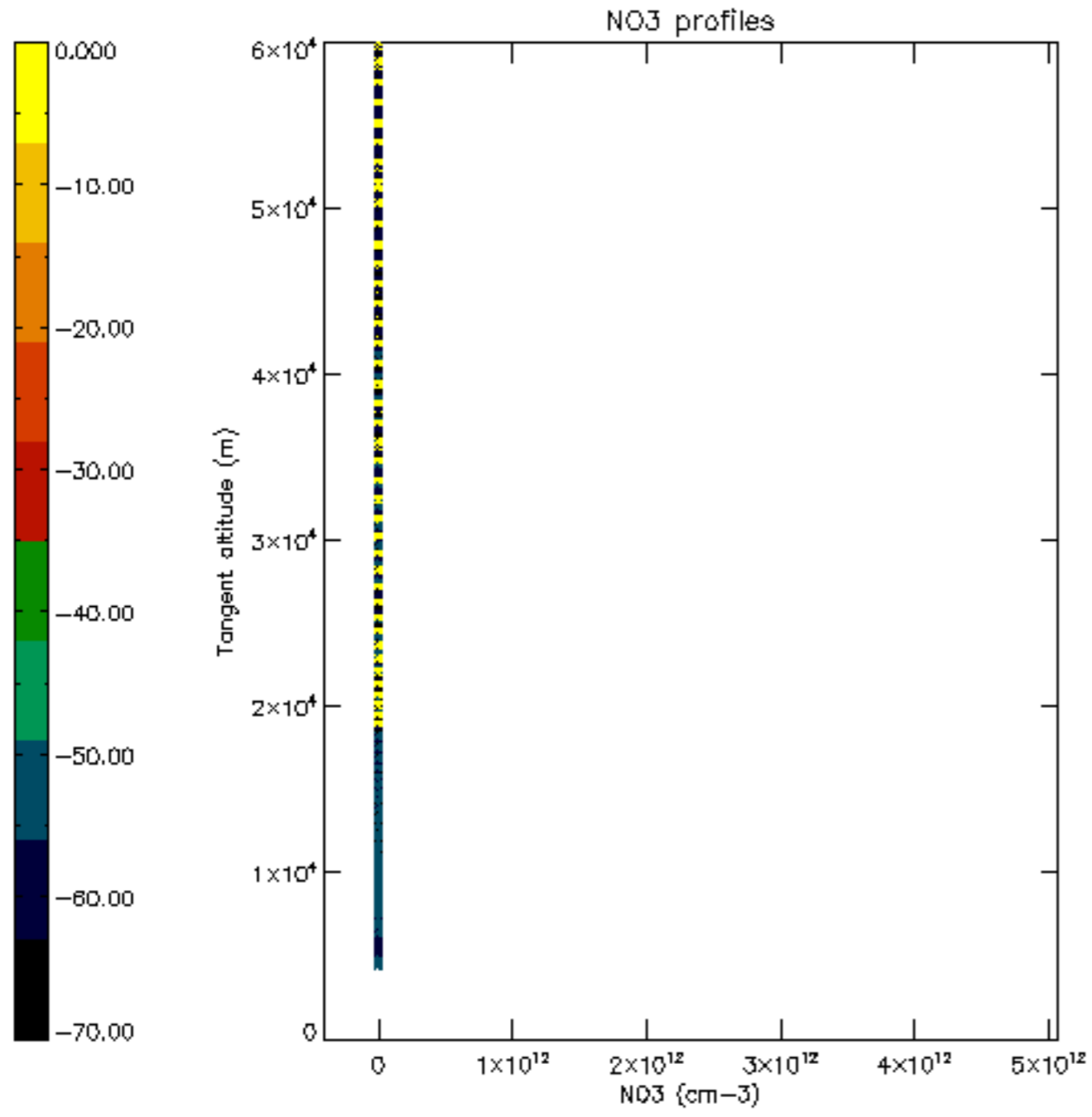


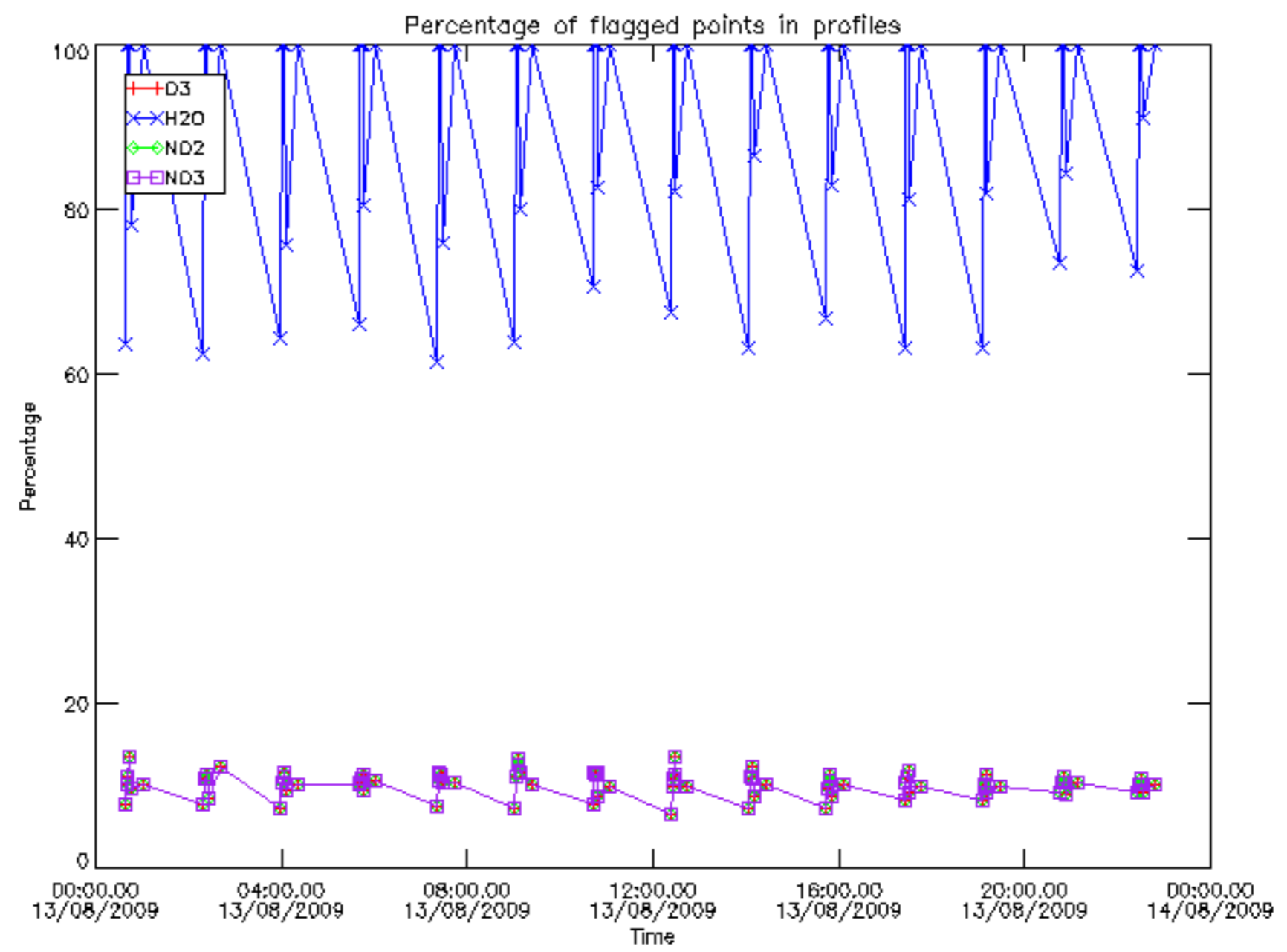




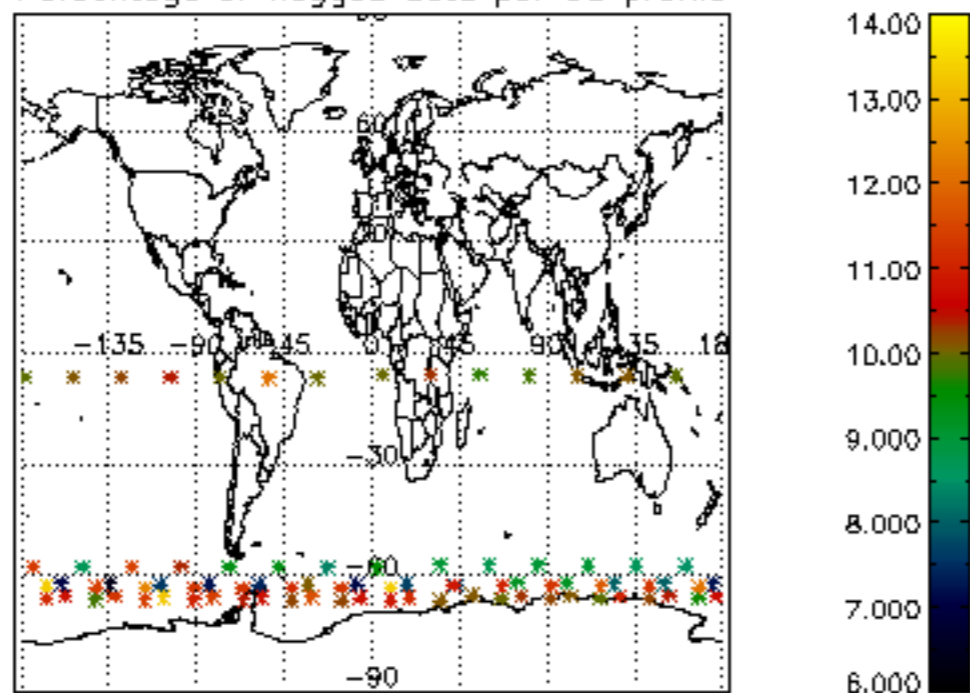




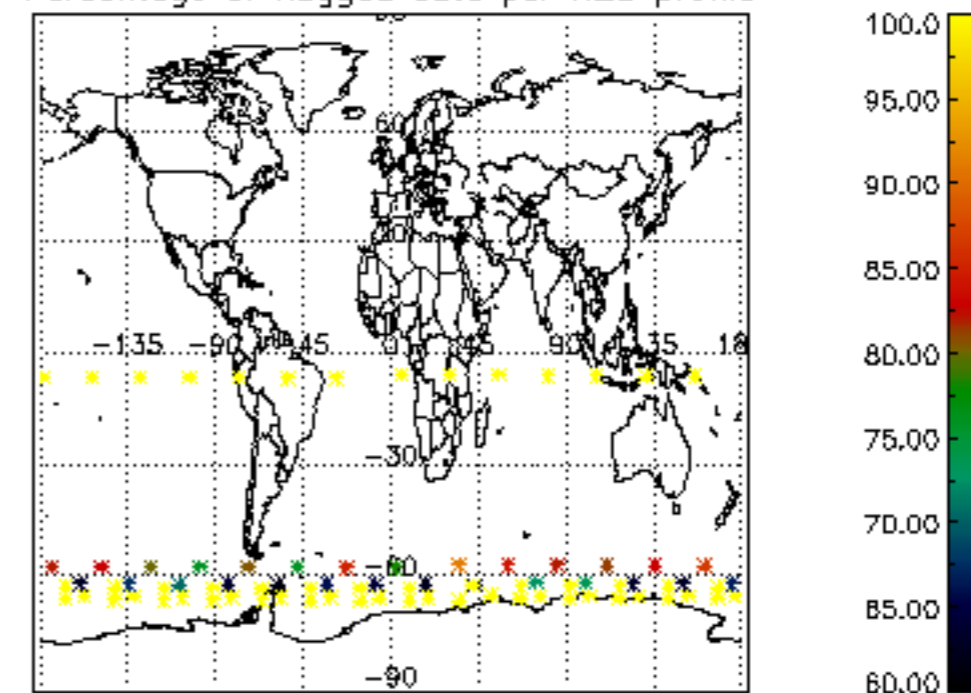




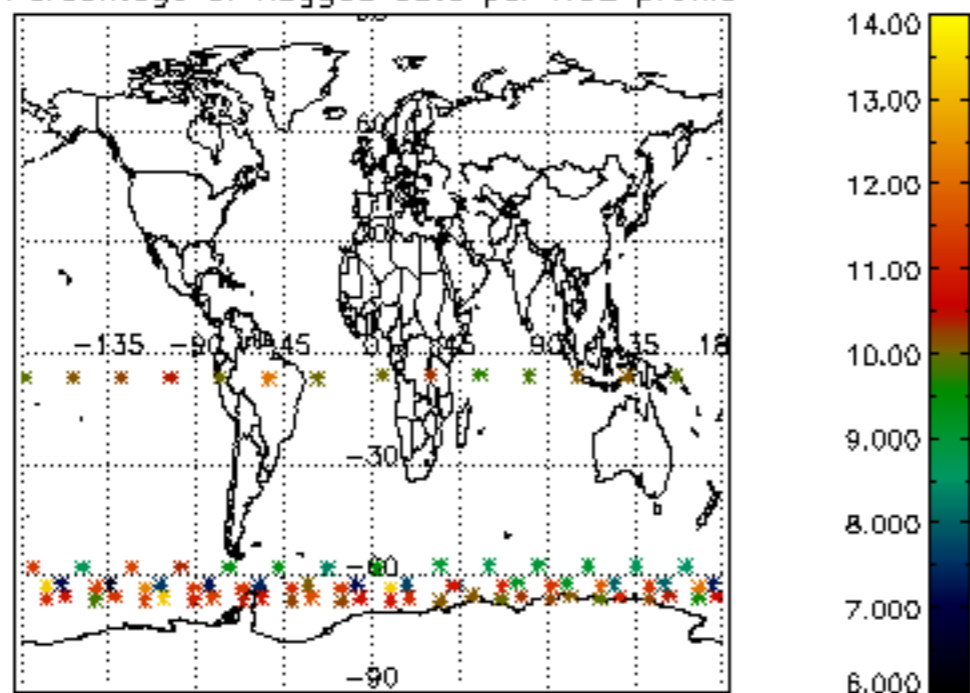
Percentage of flagged data per D3 profile



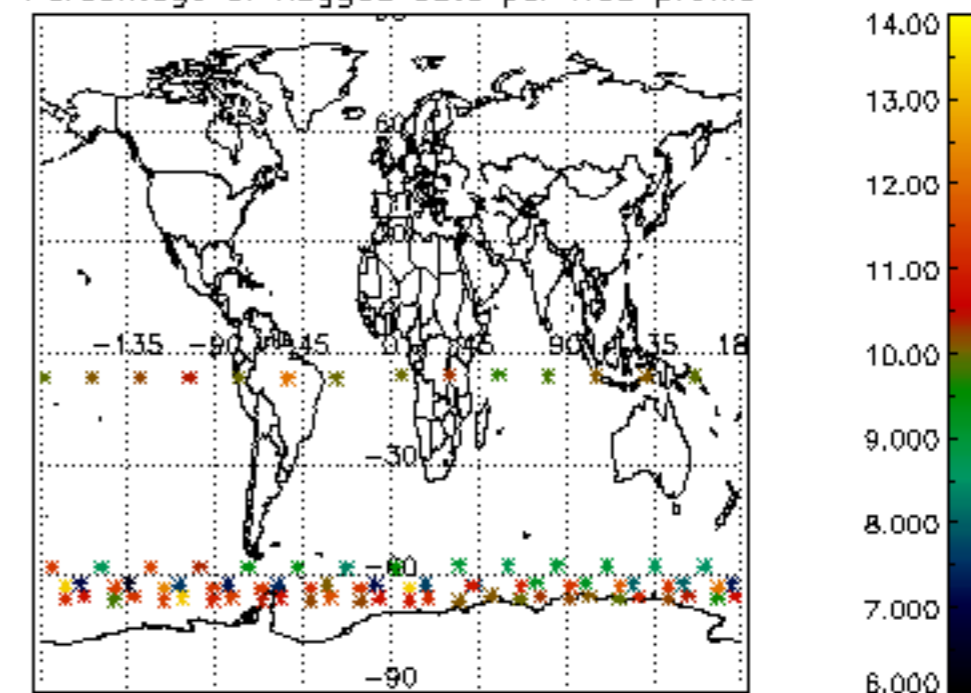
Percentage of flagged data per H2O profile

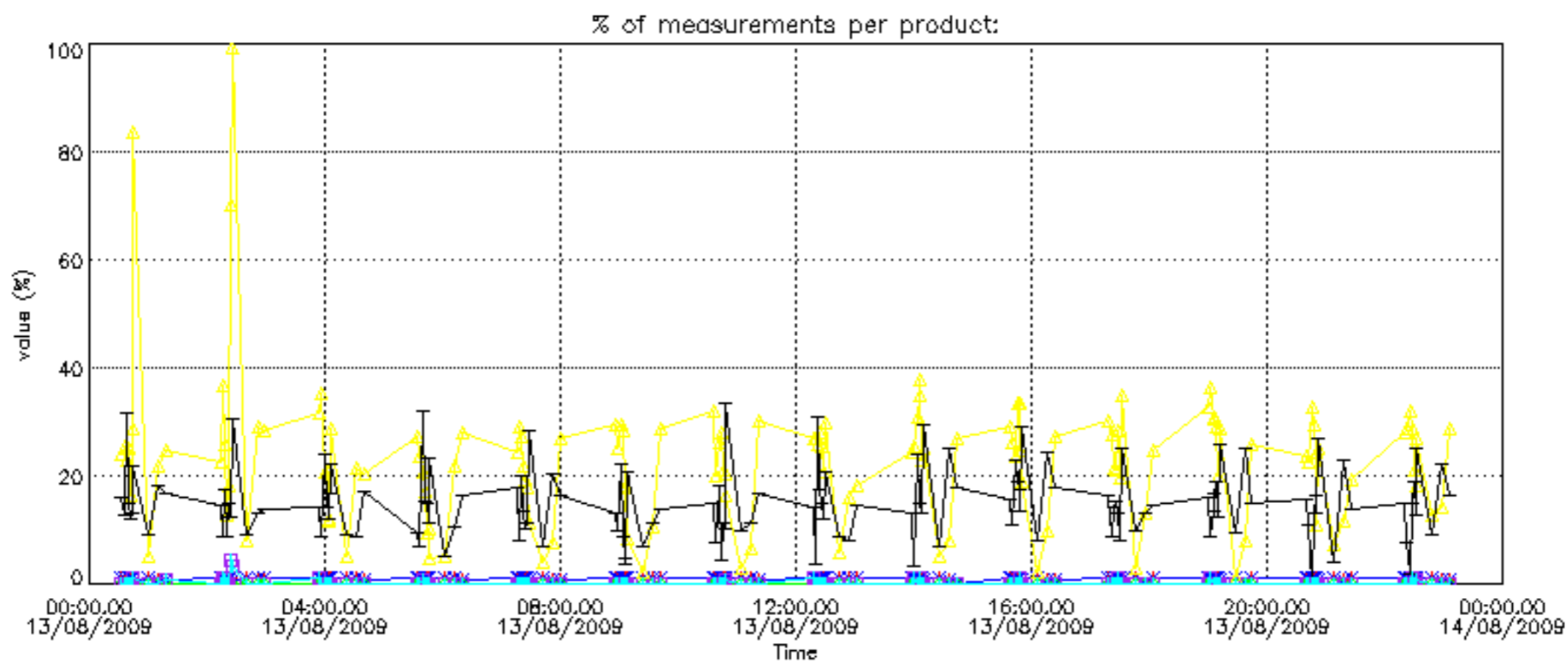


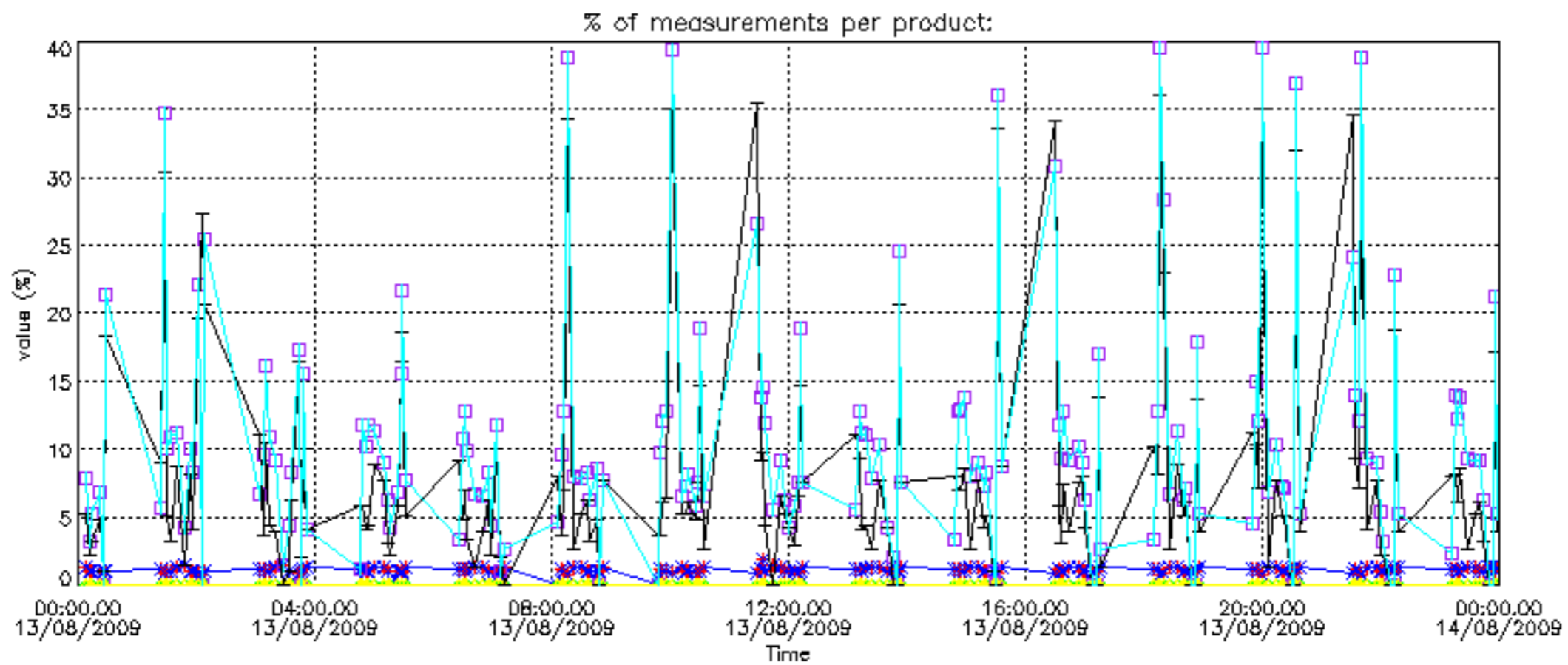
Percentage of flagged data per NO2 profile



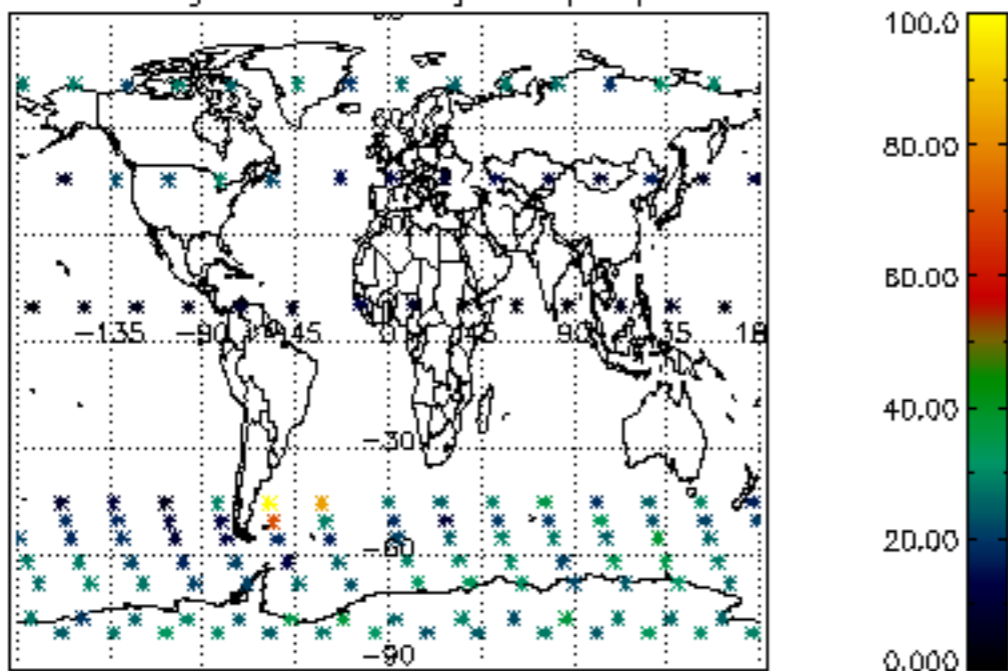
Percentage of flagged data per NO3 profile



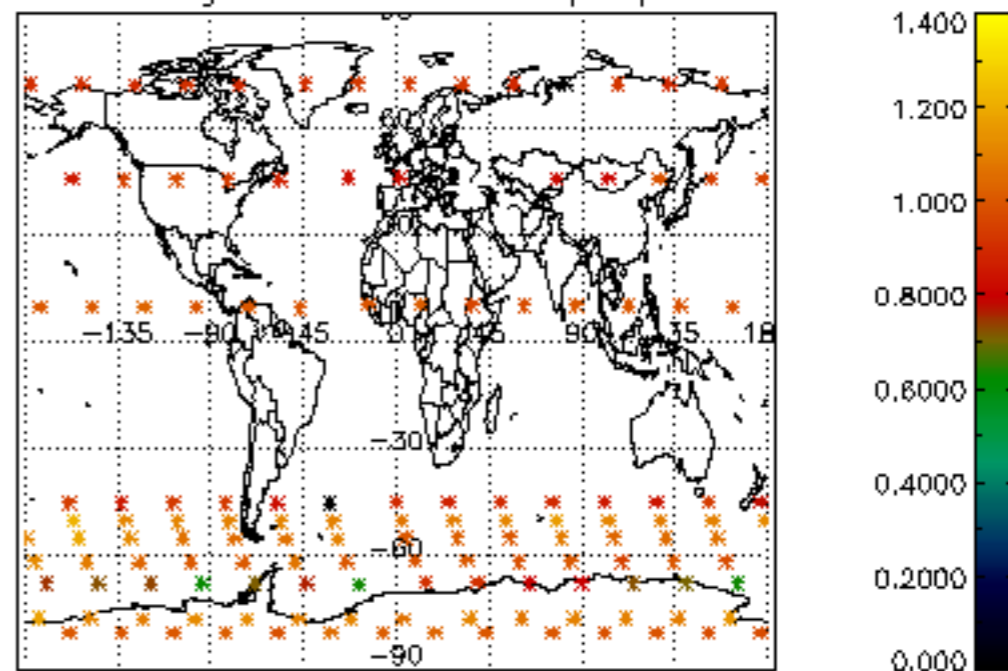




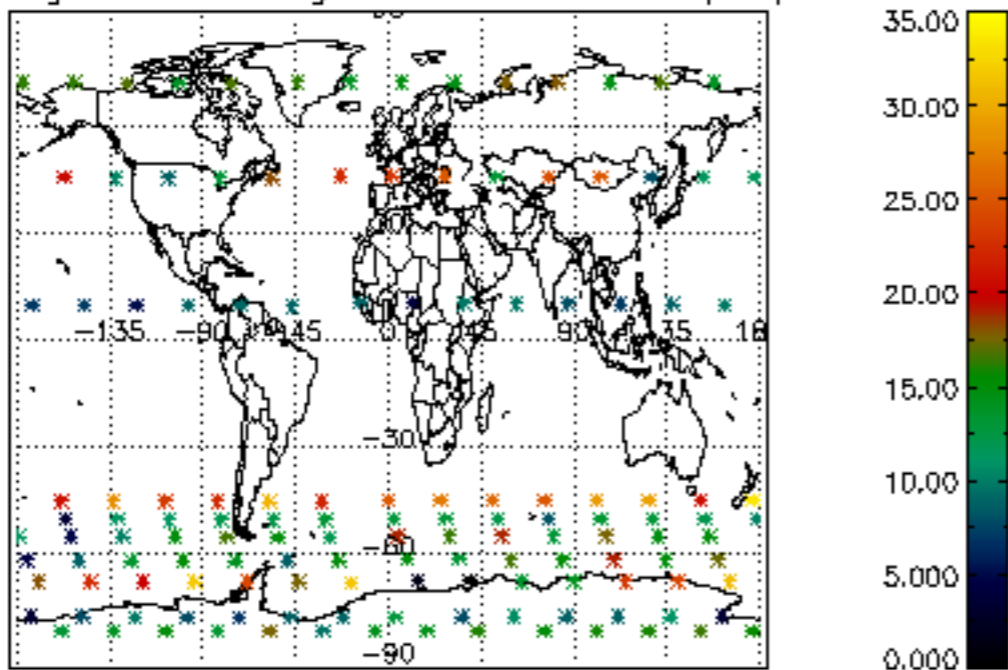
Percentage of cosmic ray hits per profile



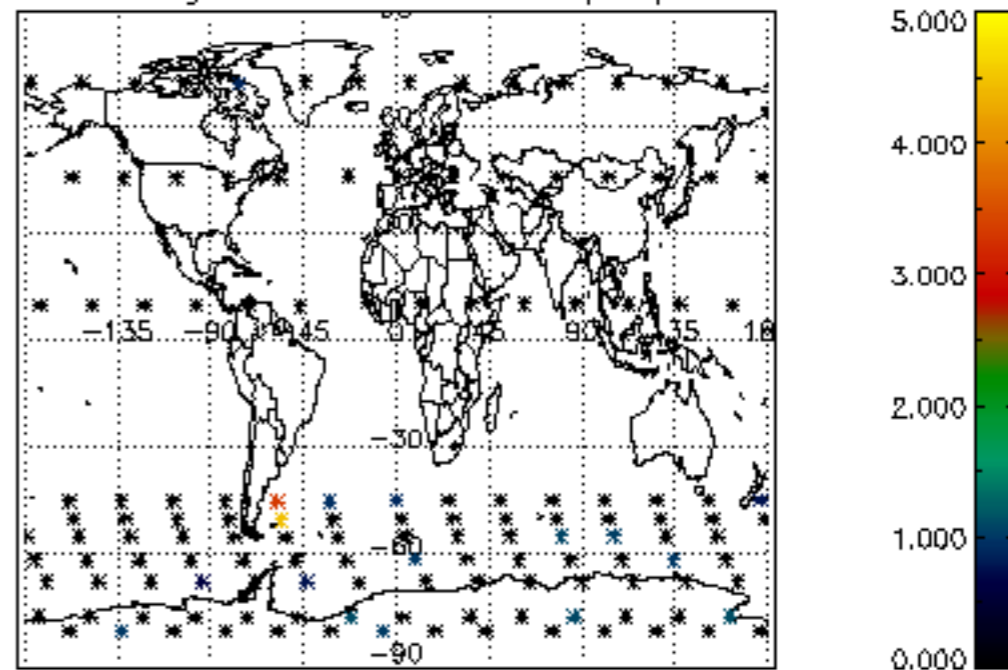
Percentage of datation errors per profile



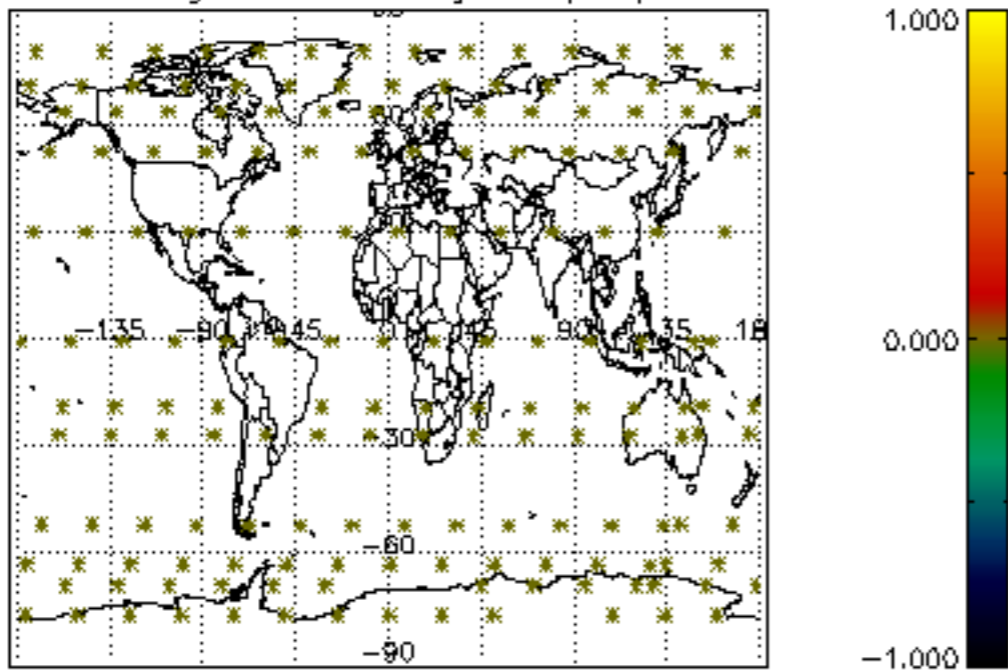
Percentage of star falling outside central band per profile



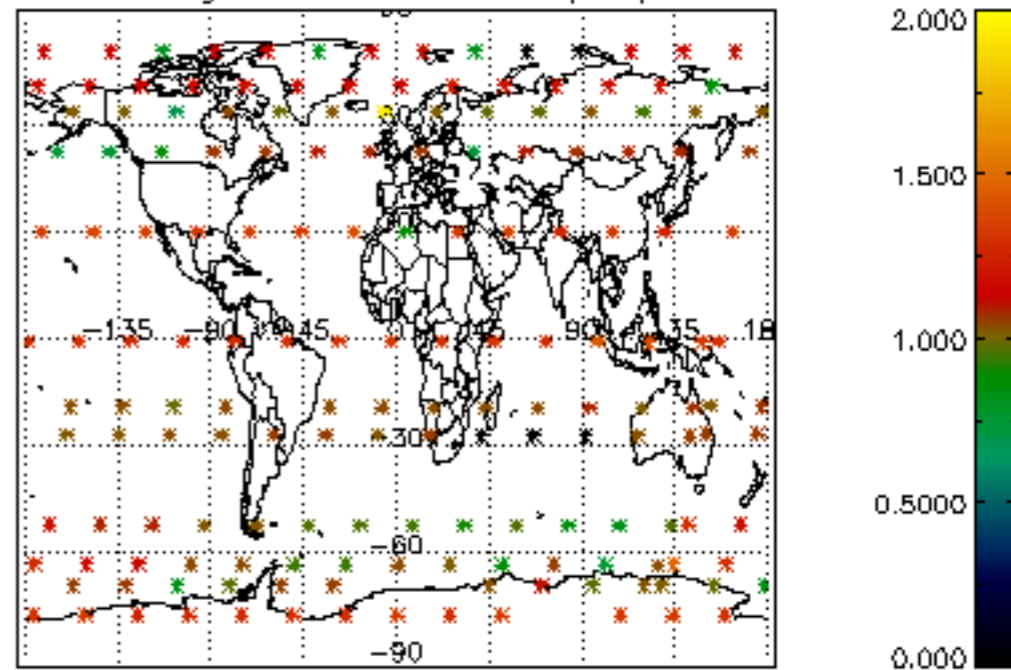
Percentage of saturation errors per profile



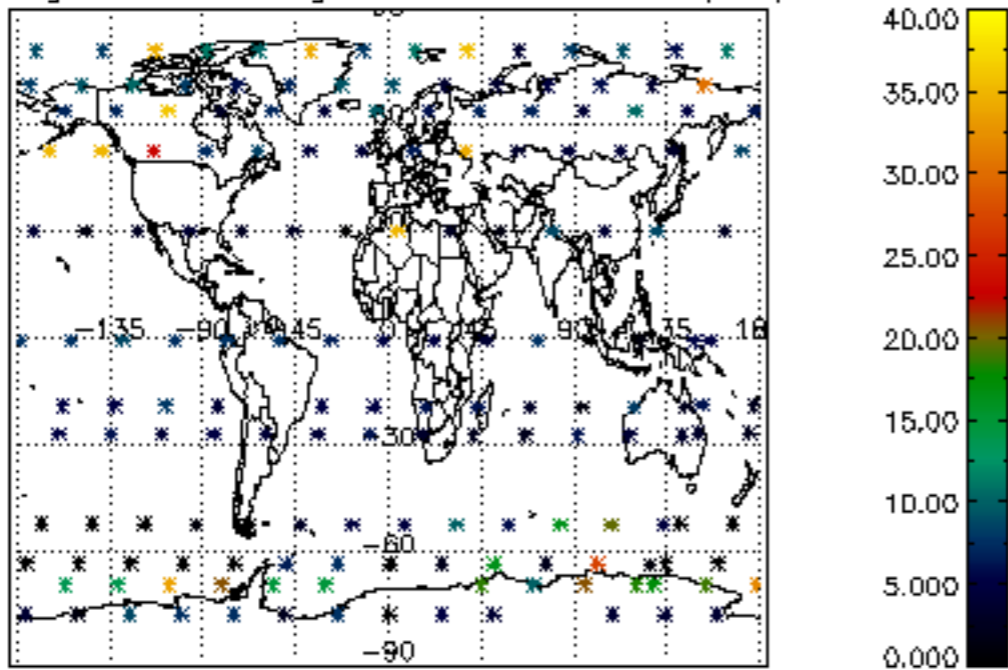
Percentage of cosmic ray hits per profile



Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile

