

# 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	18APR2013 14:03:33
Data source version	GOMOS/6.01
Start time of products	05-01-2012 (05JAN2012 00:00:00)
Stop time of products	06-01-2012 (06JAN2012 00:00:00)
Store outputs in DB	Yes
Nb of level 2 prods	7
Nb of prods with errors	0

## 2. Summary of processed GOM\_NL\_\_2P products.

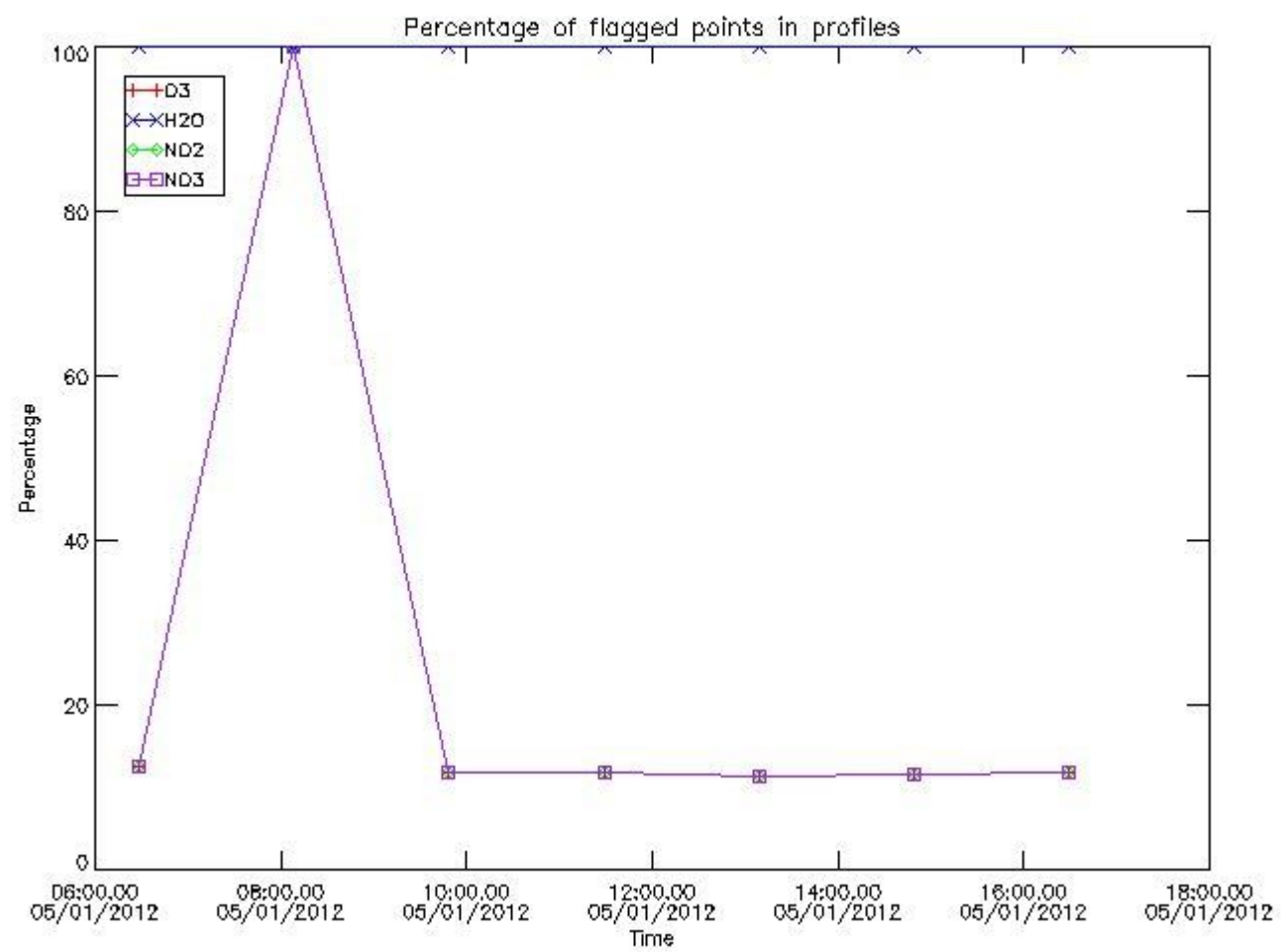
**!Warning: No products without errors in BRIGHT limb contitions found**

Nr	Filename	UTC Start time	Limb	Duration	Star Id	Star Name	Star Mag	Star Temp	Nb Meas	Orbit	Prod. error
1	GOM_NL__2PRFIN20120105_062800_000000443110_00207_51514_7369.N1	05-JAN-2012 06:28:00	Dark	44.000	34	Gam2Vel	1.7930	23000.	88	51514	No
2	GOM_NL__2PRFIN20120105_080815_000000433110_00208_51515_7388.N1	05-JAN-2012 08:08:15	Dark	43.000	34	Gam2Vel	1.7930	23000.	86	51515	No
3	GOM_NL__2PRFIN20120105_094829_000000433110_00209_51516_7419.N1	05-JAN-2012 09:48:29	Dark	42.500	34	Gam2Vel	1.7930	23000.	85	51516	No
4	GOM_NL__2PRFIN20120105_112844_000000433110_00210_51517_7473.N1	05-JAN-2012 11:28:44	Dark	42.500	34	Gam2Vel	1.7930	23000.	85	51517	No
5	GOM_NL__2PRFIN20120105_130858_000000453110_00211_51518_7520.N1	05-JAN-2012 13:08:58	Dark	44.500	34	Gam2Vel	1.7930	23000.	89	51518	No
6	GOM_NL__2PRFIN20120105_144912_000000443110_00212_51519_7543.N1	05-JAN-2012 14:49:12	Dark	43.500	34	Gam2Vel	1.7930	23000.	87	51519	No
7	GOM_NL__2PRFIN20120105_162927_000000433110_00213_51520_7572.N1	05-JAN-2012 16:29:27	Dark	42.500	34	Gam2Vel	1.7930	23000.	85	51520	No

## 3. Quality information per product

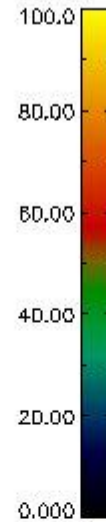
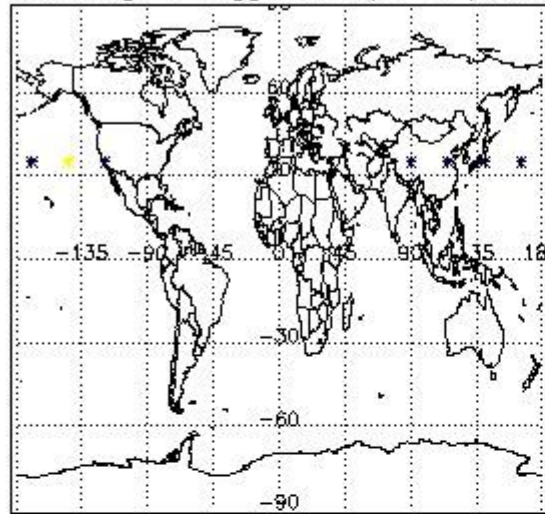
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

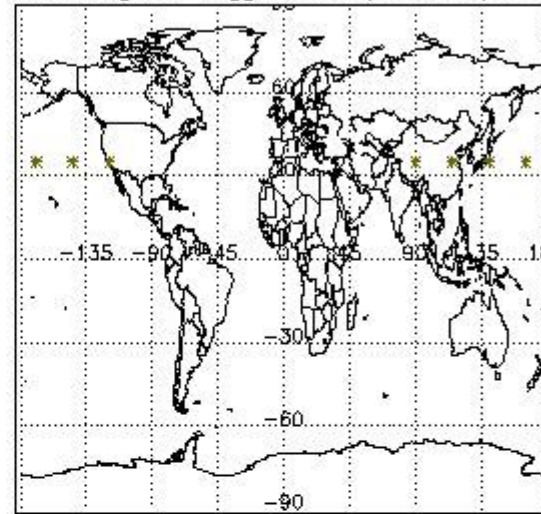


*3.2 Plot quality information per product (world map)*

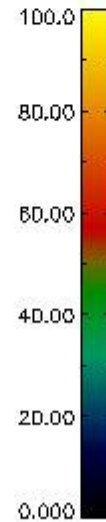
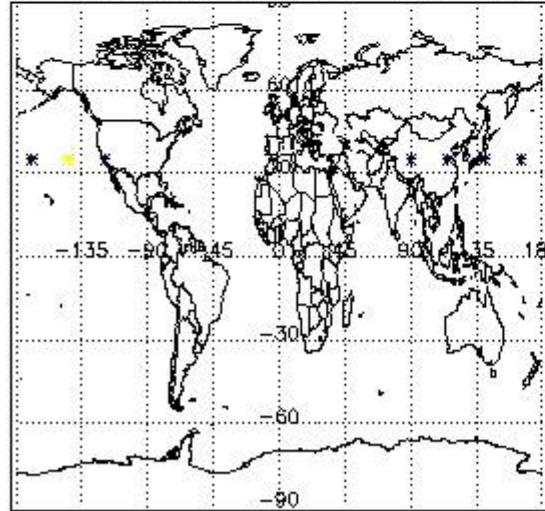
Percentage of flagged data per O3 profile



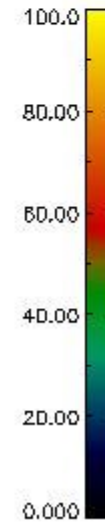
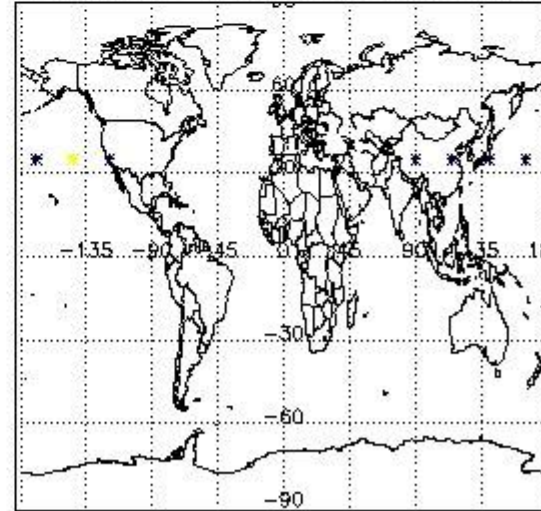
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

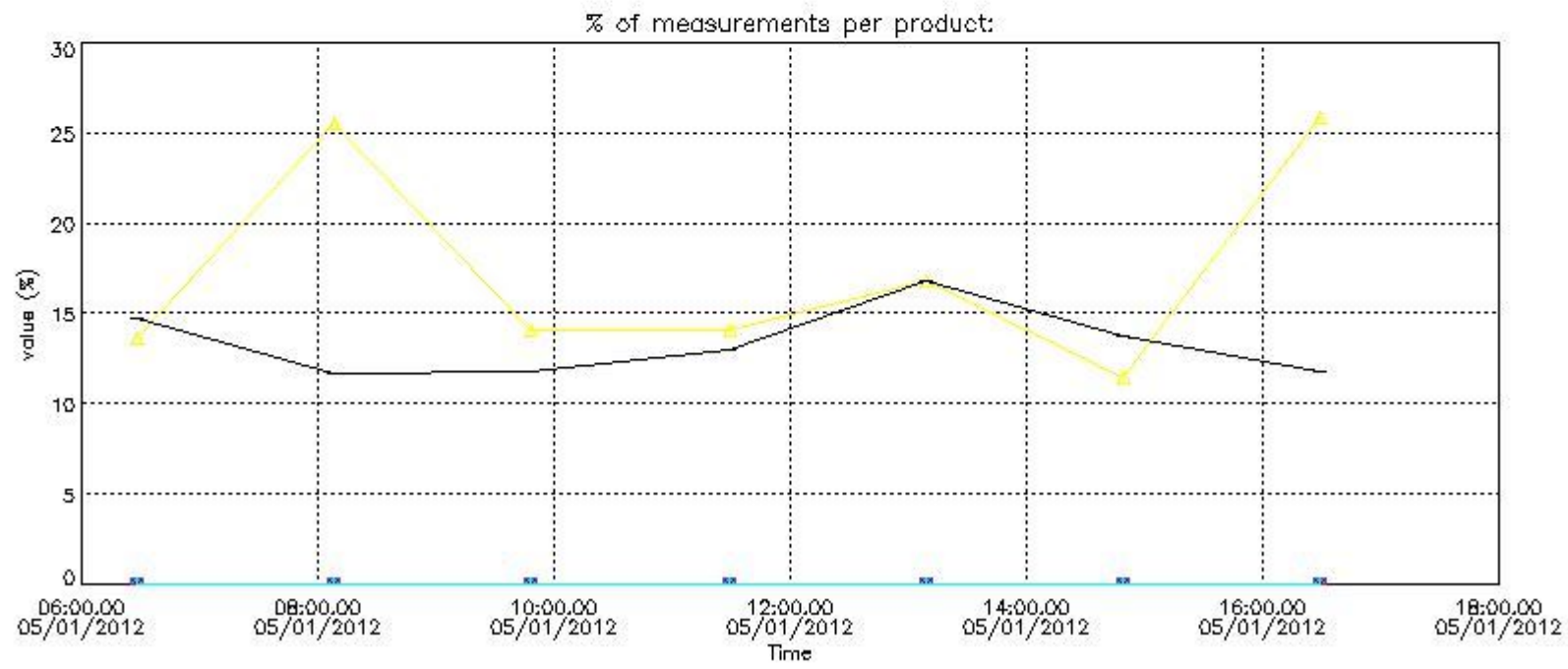
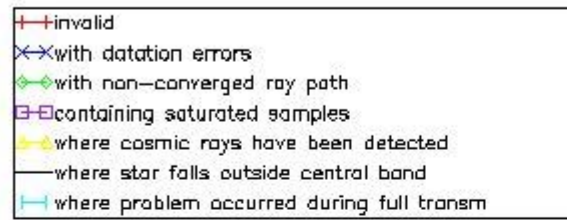


#### 4. Level 1 quality information per product

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

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

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



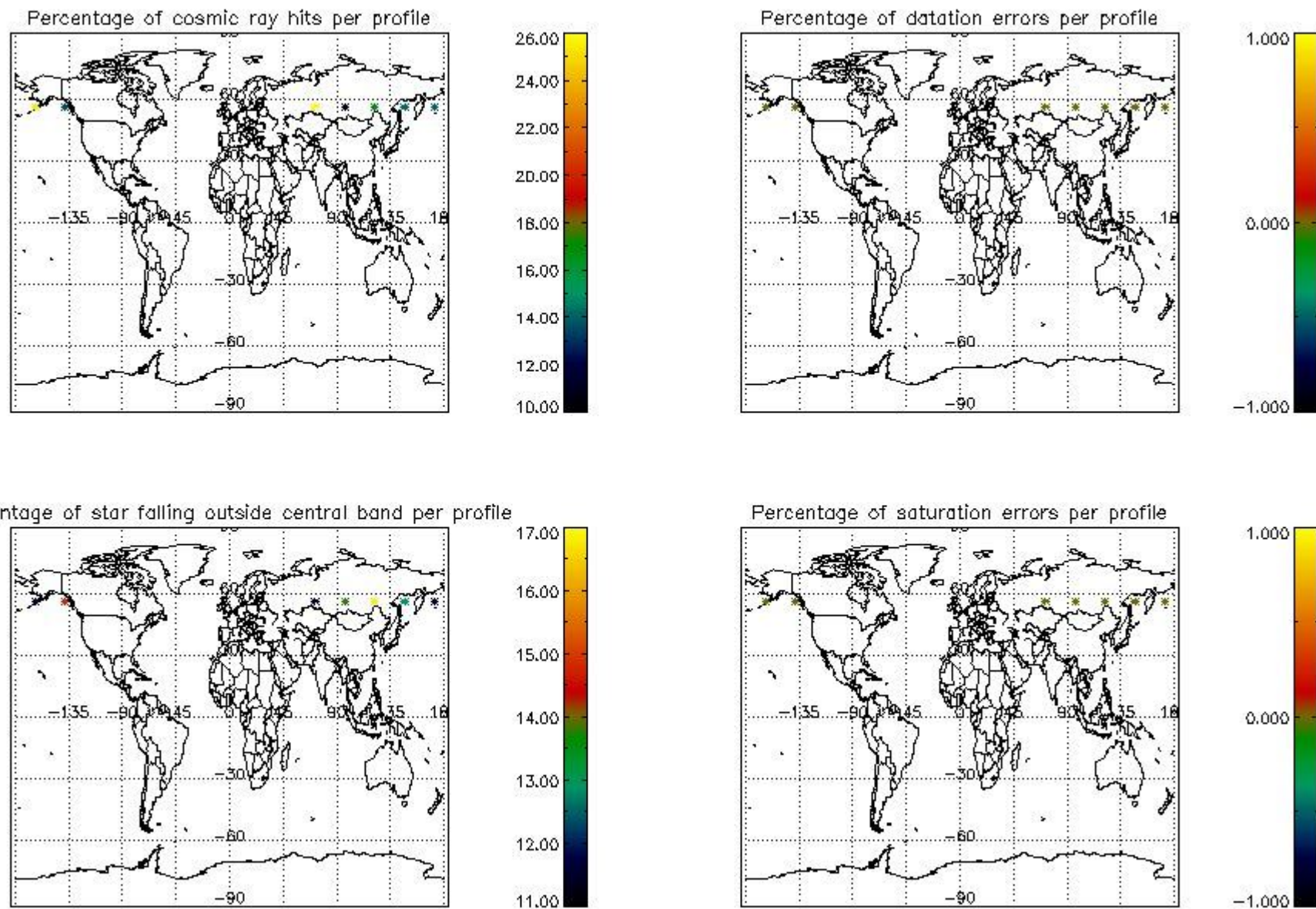
4.1.2 Plot level 1 quality information per product (time dependant): ENVISAT DESCENDING passes

!Warning: No products without errors in descending found

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

**!Warning: No products without errors in descending found**

### 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:

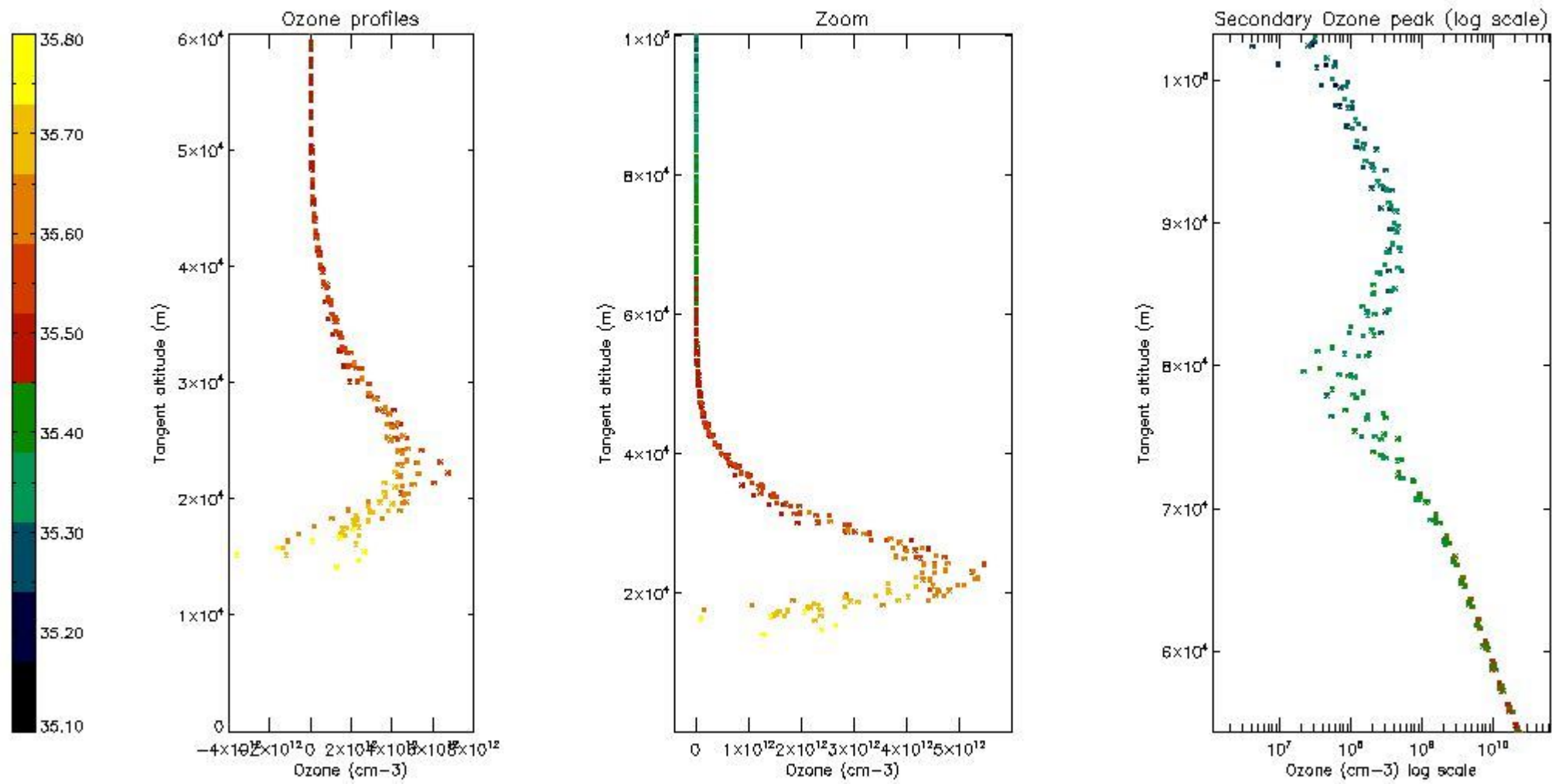
- Products in dark limb illumination condition: GOM\_NL\_\_2P/NL\_SUMMARY\_QUALITY/obs\_ill\_cond=0
- Products without fatal errors: GOM\_NL\_\_2P/MPH/PRODUCT\_ERR=0
- Valid point profile: GOM\_NL\_\_2P/NL\_LOCAL\_SPECIES\_DENSITY/pcd(0)=0

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	100
STD < 20	70
STD < 10	60
STD < 5	48

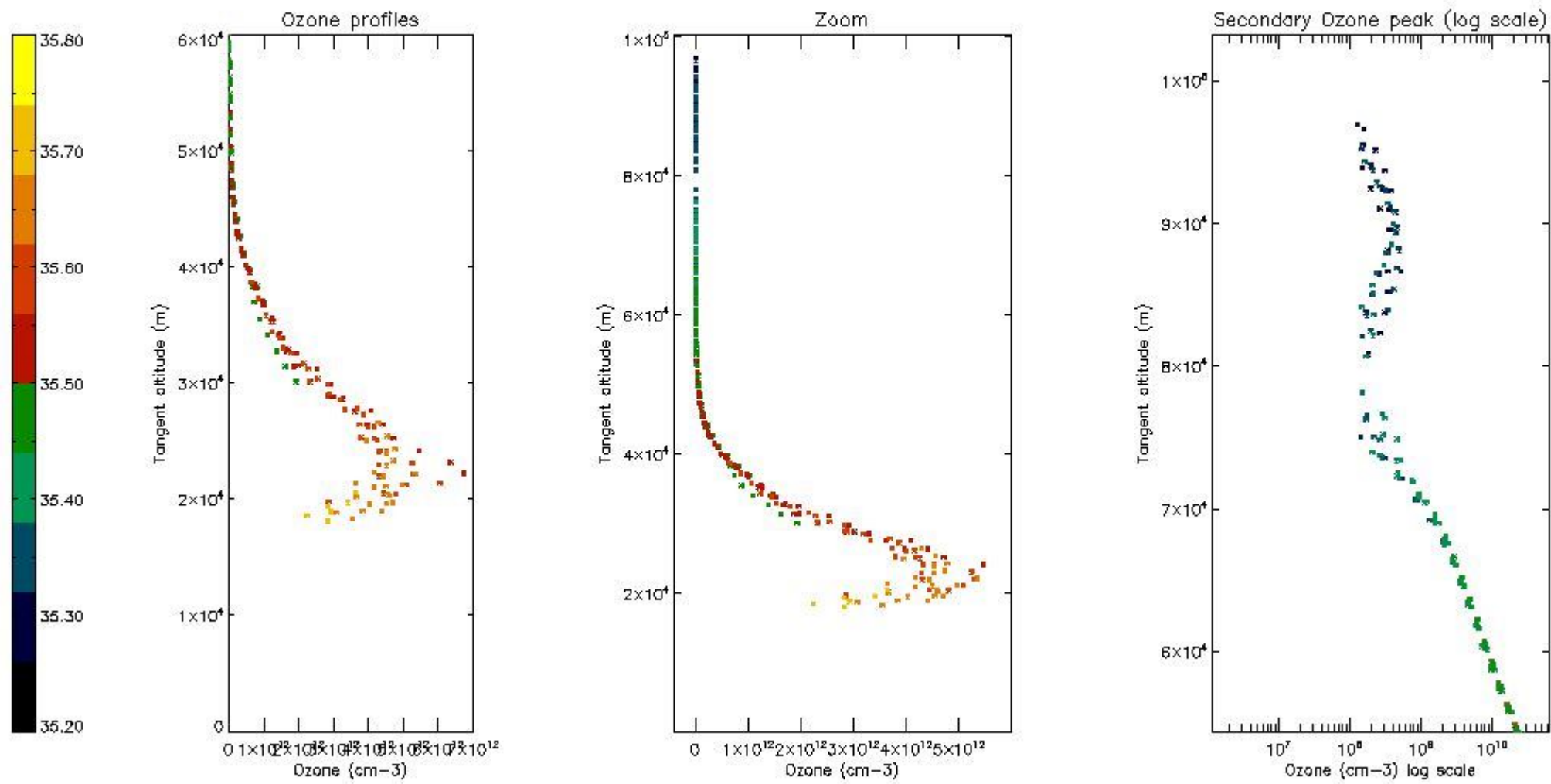
### 5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



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

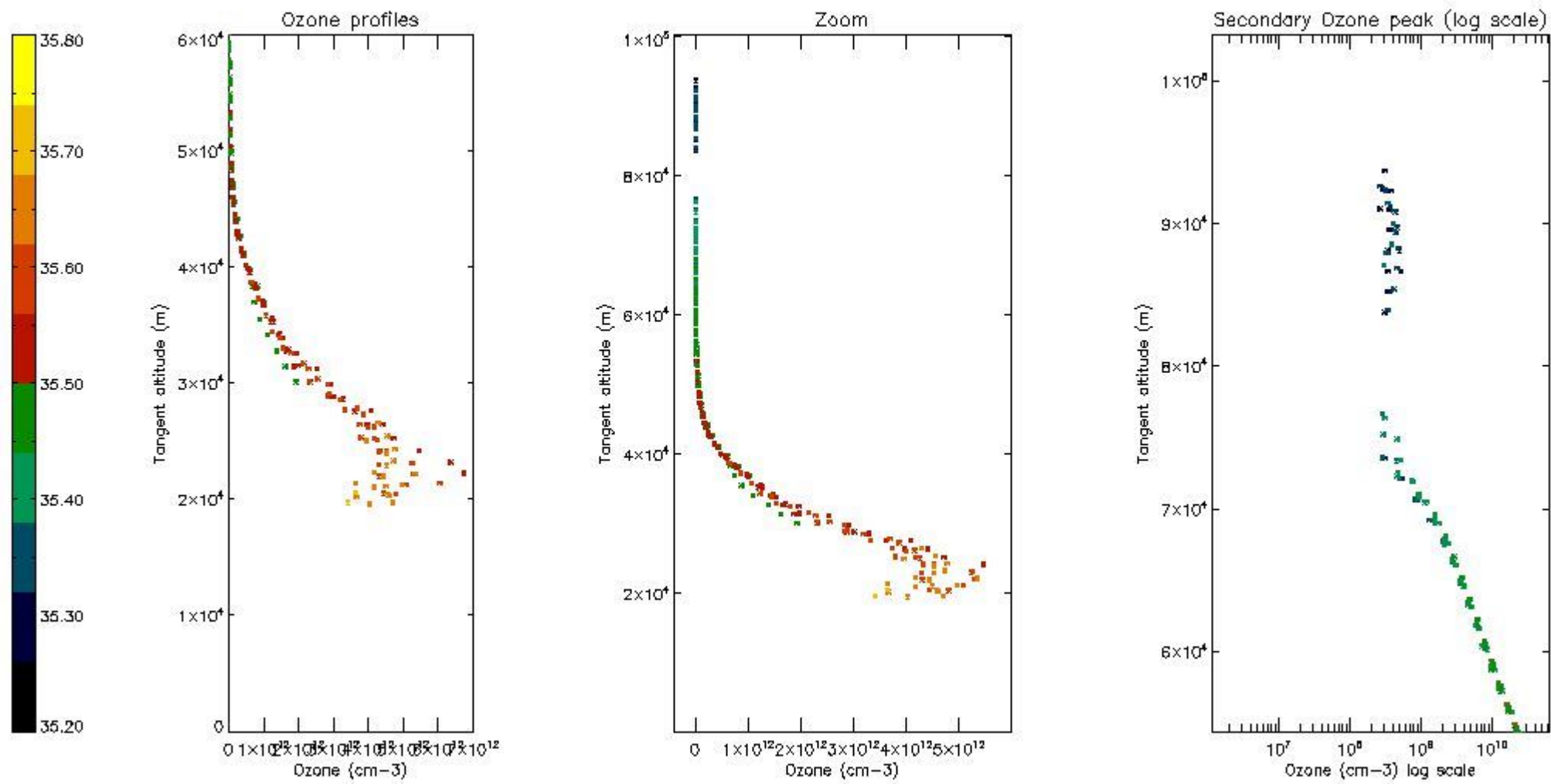
The colorbar represents the latitude.



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

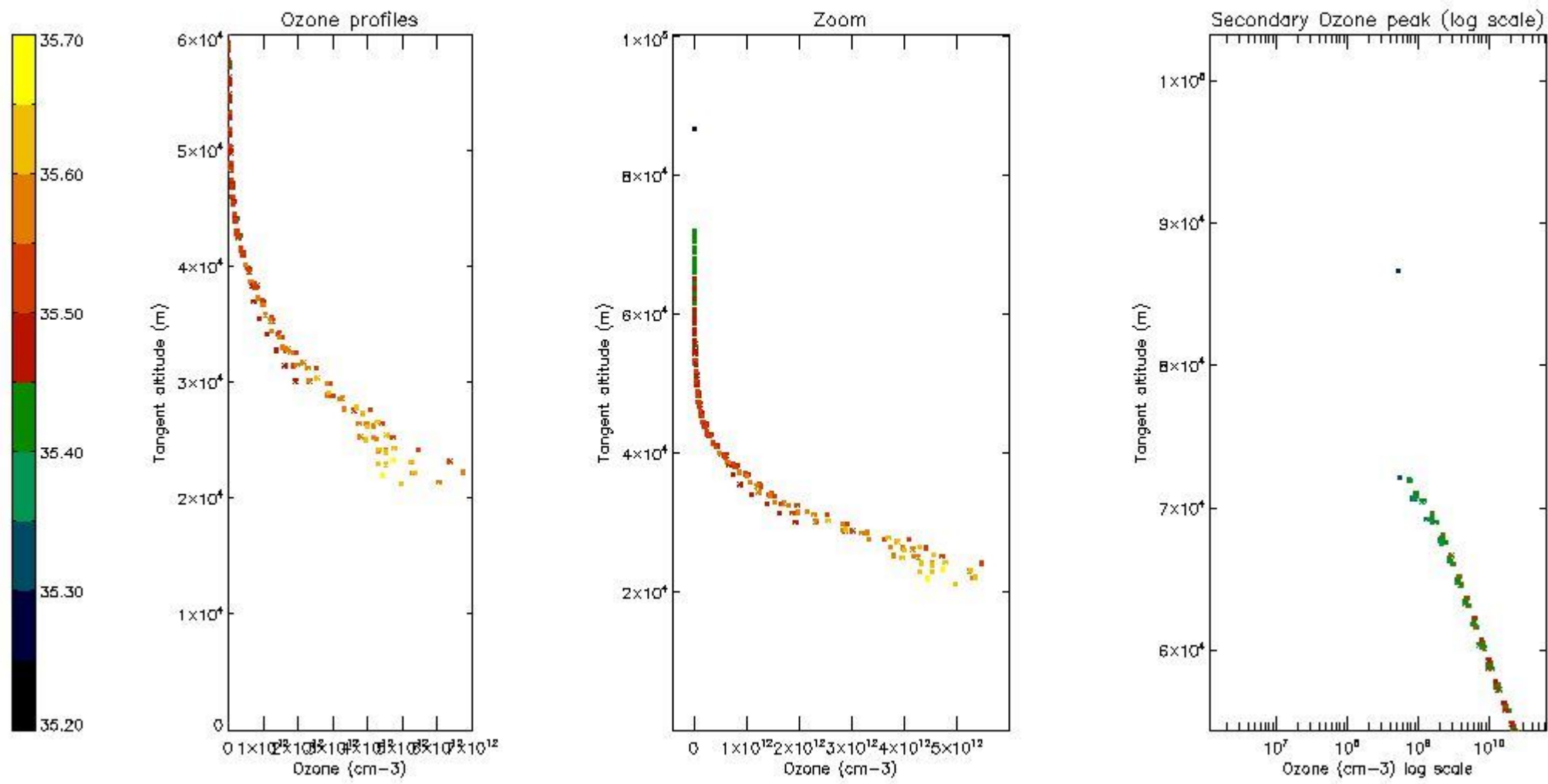
The colorbar represents the latitude.





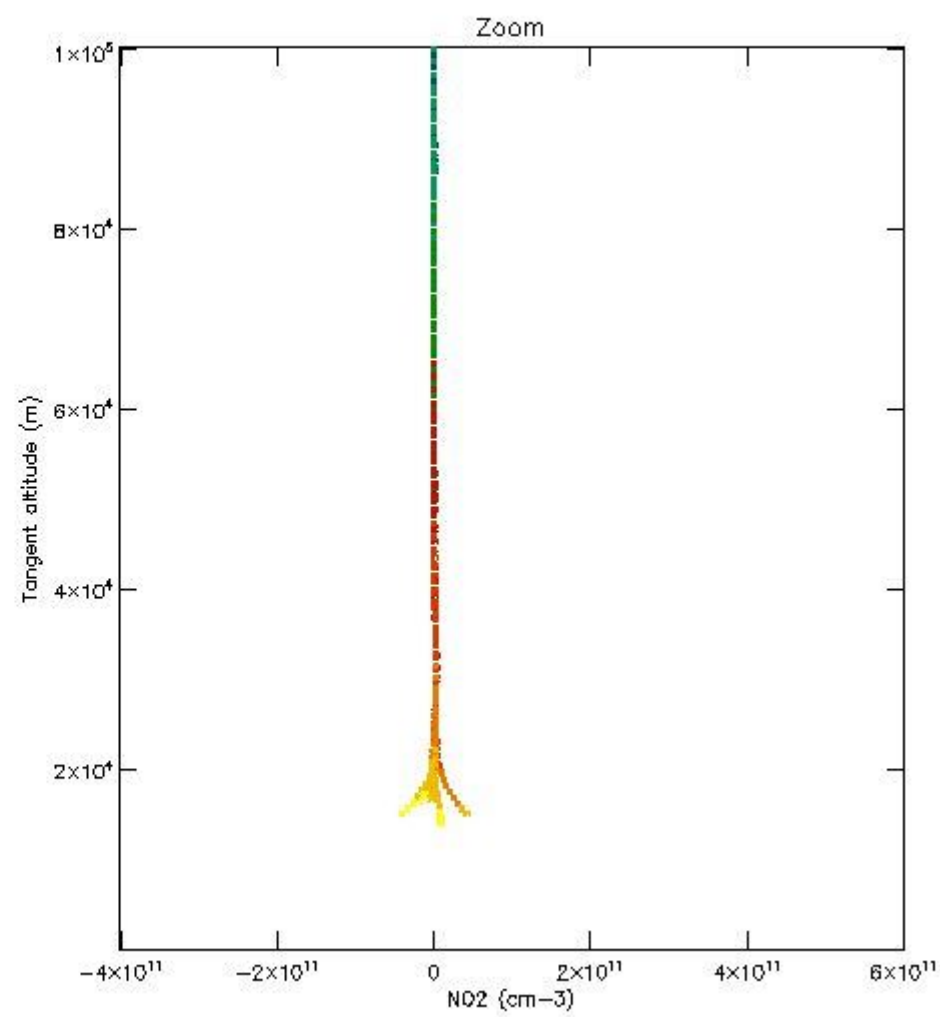
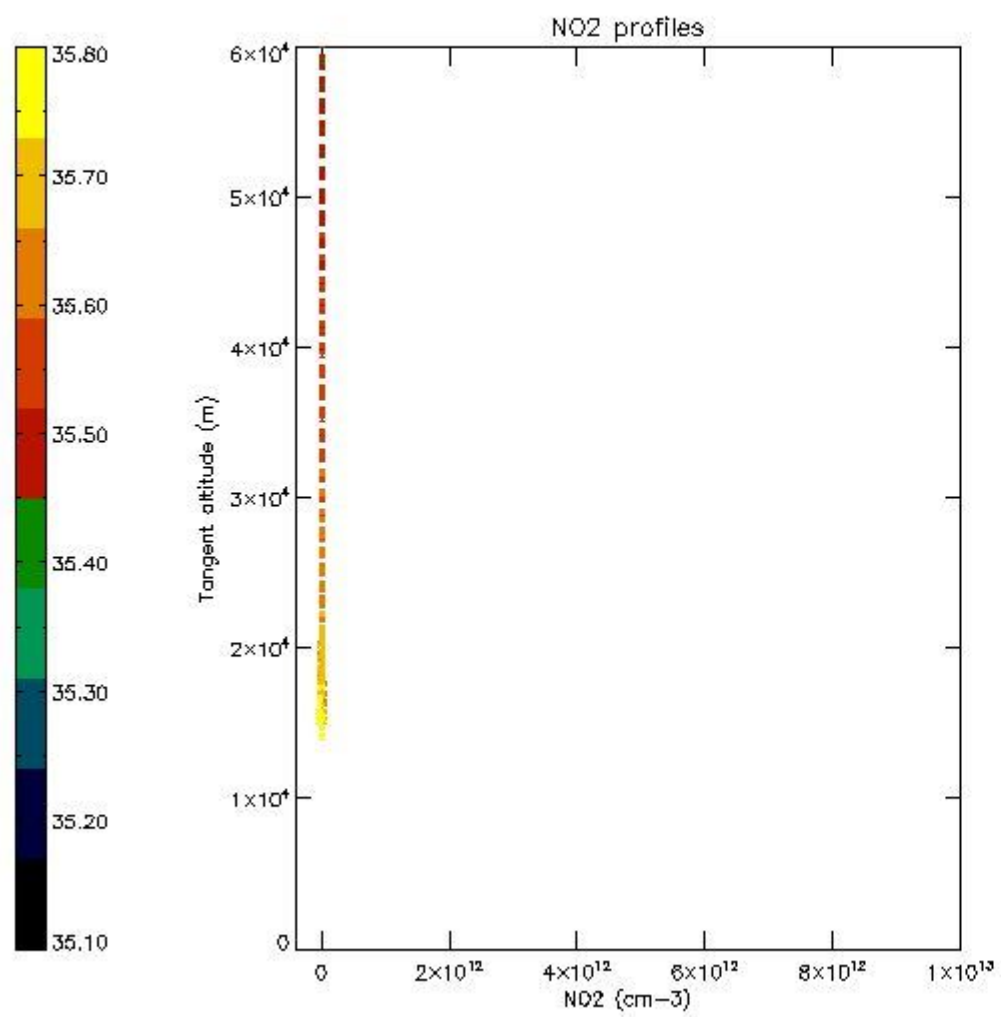
*5.5 Plot ozone profiles where STD < 5% (dark without errors)*

The colorbar represents the latitude.



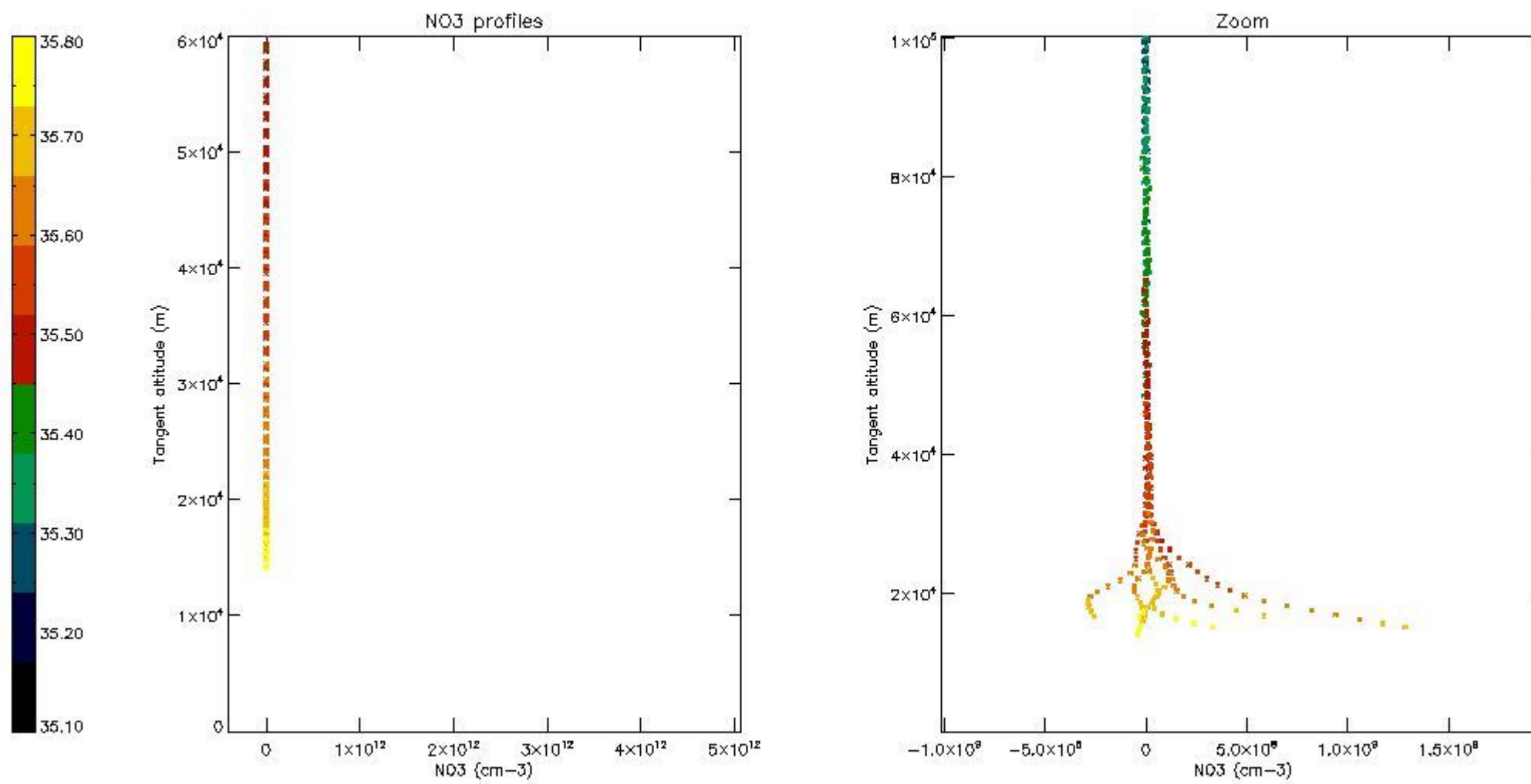
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

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_AXVIEC20111213_163131_20111215_000000_20500101_000000	1	05-JAN-2012 06:28:00
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	05-JAN-2012 06:28:00
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	05-JAN-2012 06:28:00

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##### [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](#)

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Store outputs in DB	Yes
Nb of level 2 prods	7
Nb of prods with errors	0

## 2. Summary of processed GOM\_NL\_\_2P products.

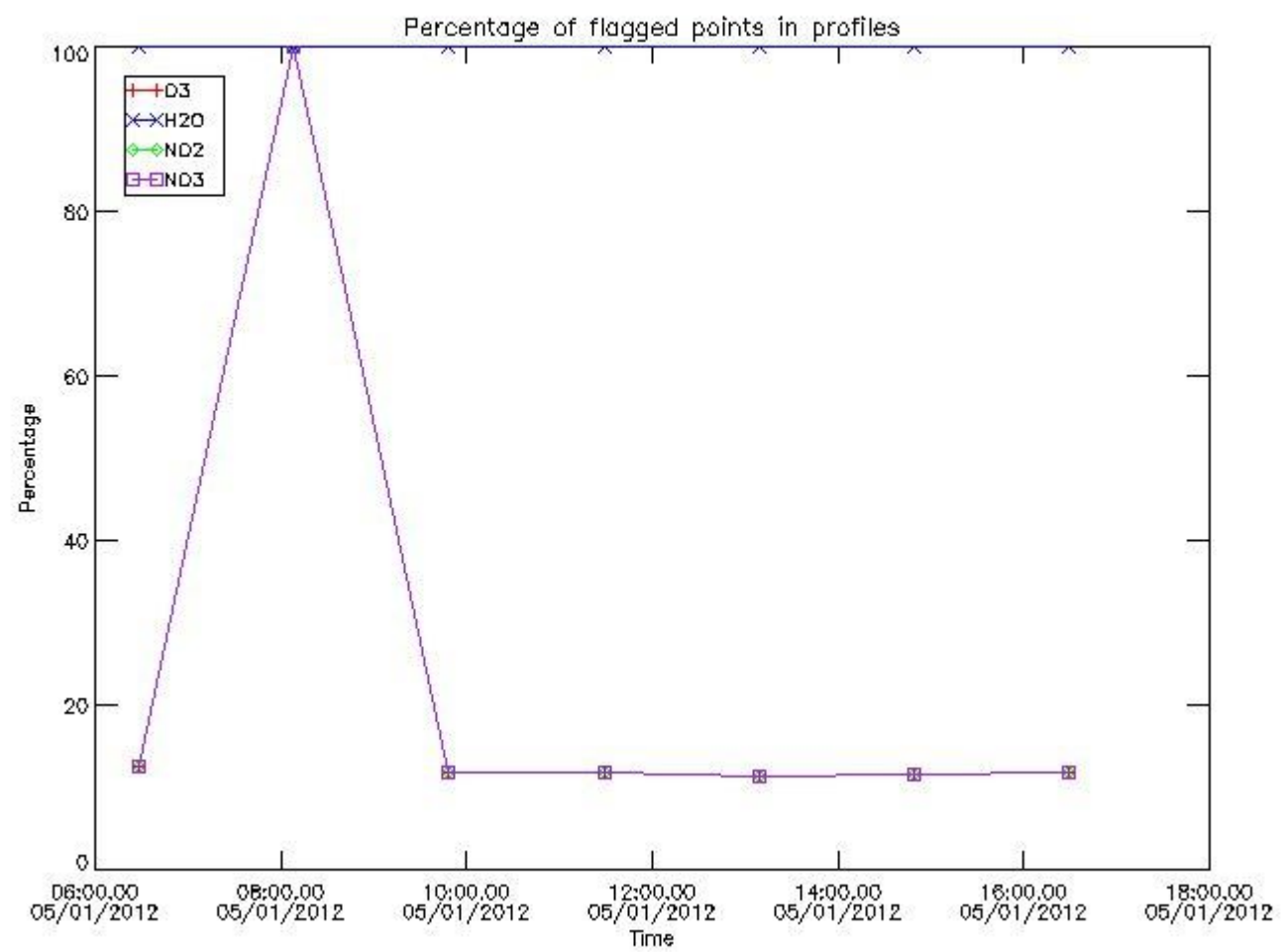
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Nr	Filename	UTC Start time	Limb	Duration	Star Id	Star Name	Star Mag	Star Temp	Nb Meas	Orbit	Prod. error
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2	GOM_NL__2PRFIN20120105_080815_000000433110_00208_51515_7388.N1	05-JAN-2012 08:08:15	Dark	43.000	34	Gam2Vel	1.7930	23000.	86	51515	No
3	GOM_NL__2PRFIN20120105_094829_000000433110_00209_51516_7419.N1	05-JAN-2012 09:48:29	Dark	42.500	34	Gam2Vel	1.7930	23000.	85	51516	No
4	GOM_NL__2PRFIN20120105_112844_000000433110_00210_51517_7473.N1	05-JAN-2012 11:28:44	Dark	42.500	34	Gam2Vel	1.7930	23000.	85	51517	No
5	GOM_NL__2PRFIN20120105_130858_000000453110_00211_51518_7520.N1	05-JAN-2012 13:08:58	Dark	44.500	34	Gam2Vel	1.7930	23000.	89	51518	No
6	GOM_NL__2PRFIN20120105_144912_000000443110_00212_51519_7543.N1	05-JAN-2012 14:49:12	Dark	43.500	34	Gam2Vel	1.7930	23000.	87	51519	No
7	GOM_NL__2PRFIN20120105_162927_000000433110_00213_51520_7572.N1	05-JAN-2012 16:29:27	Dark	42.500	34	Gam2Vel	1.7930	23000.	85	51520	No

## 3. Quality information per product

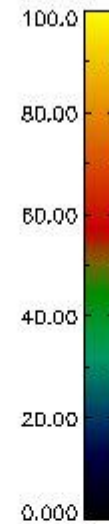
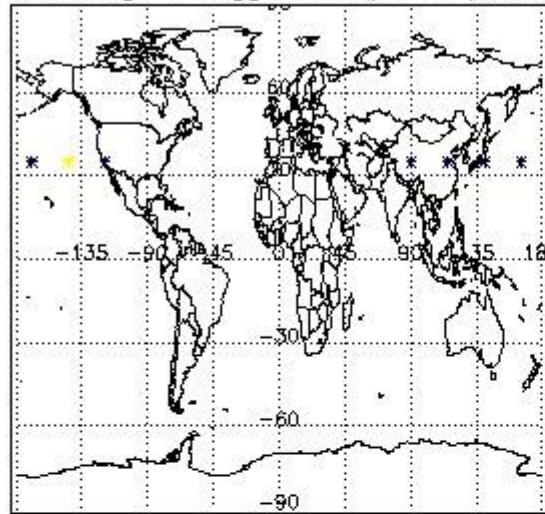
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

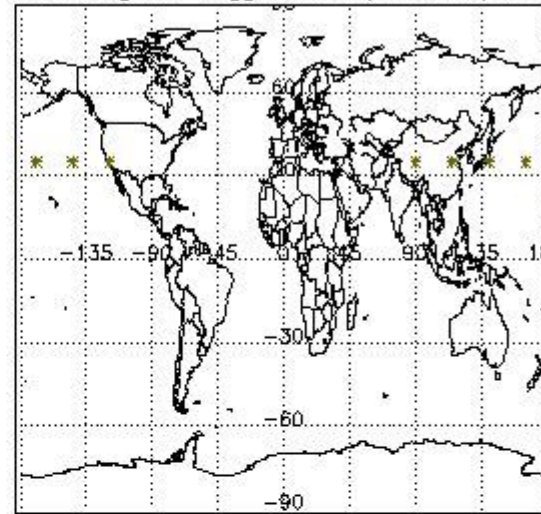


*3.2 Plot quality information per product (world map)*

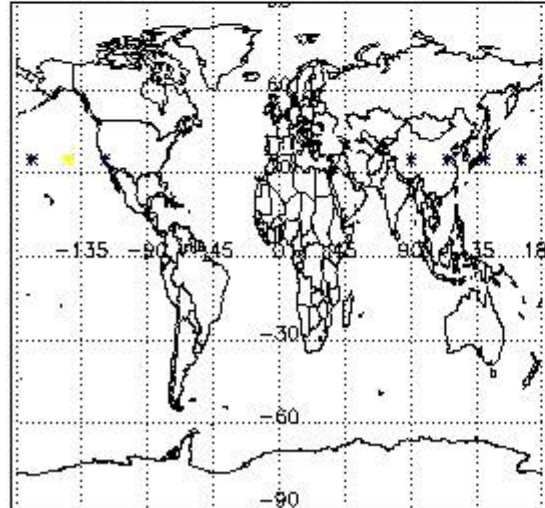
Percentage of flagged data per O3 profile



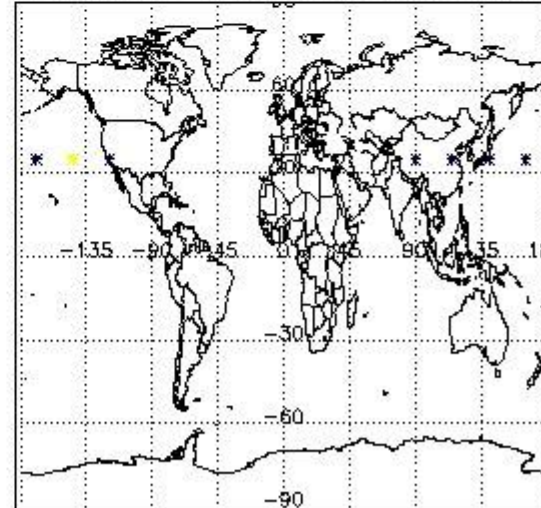
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

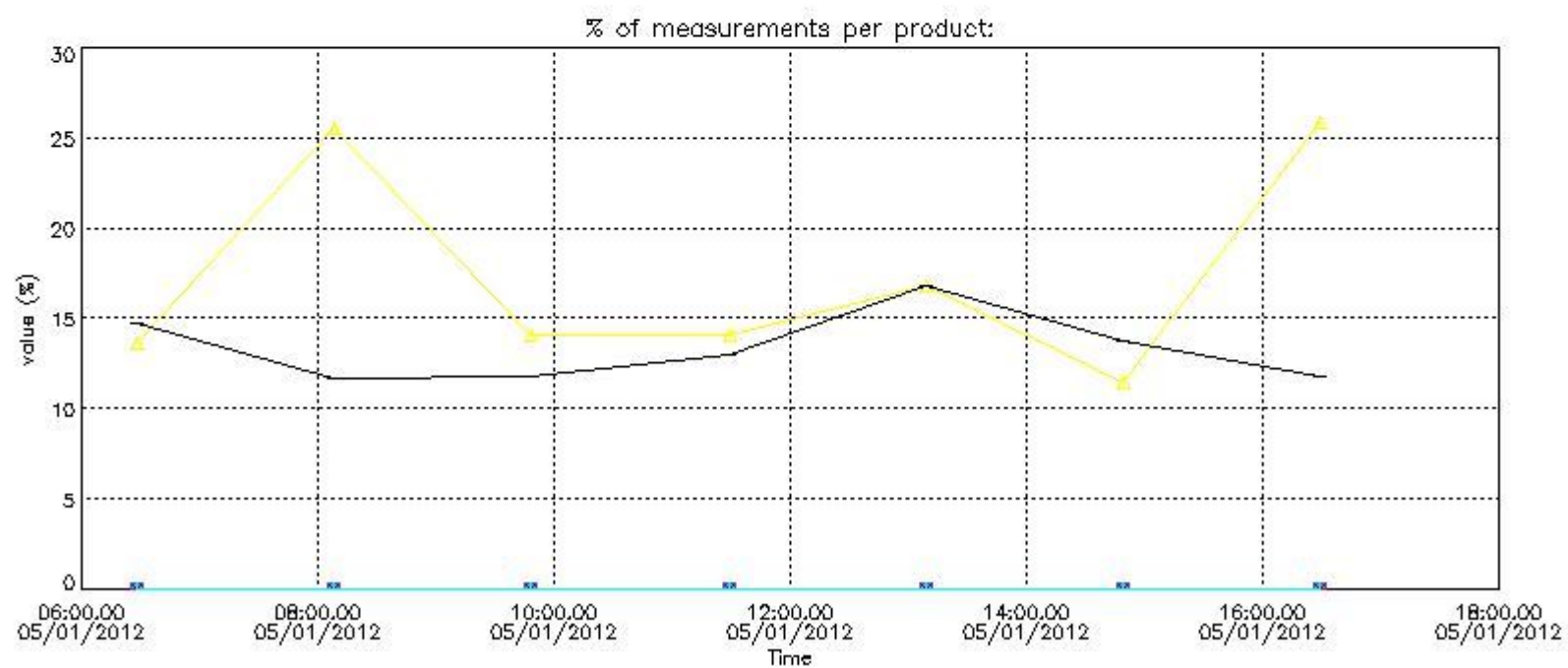


#### 4. Level 1 quality information per product

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

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

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



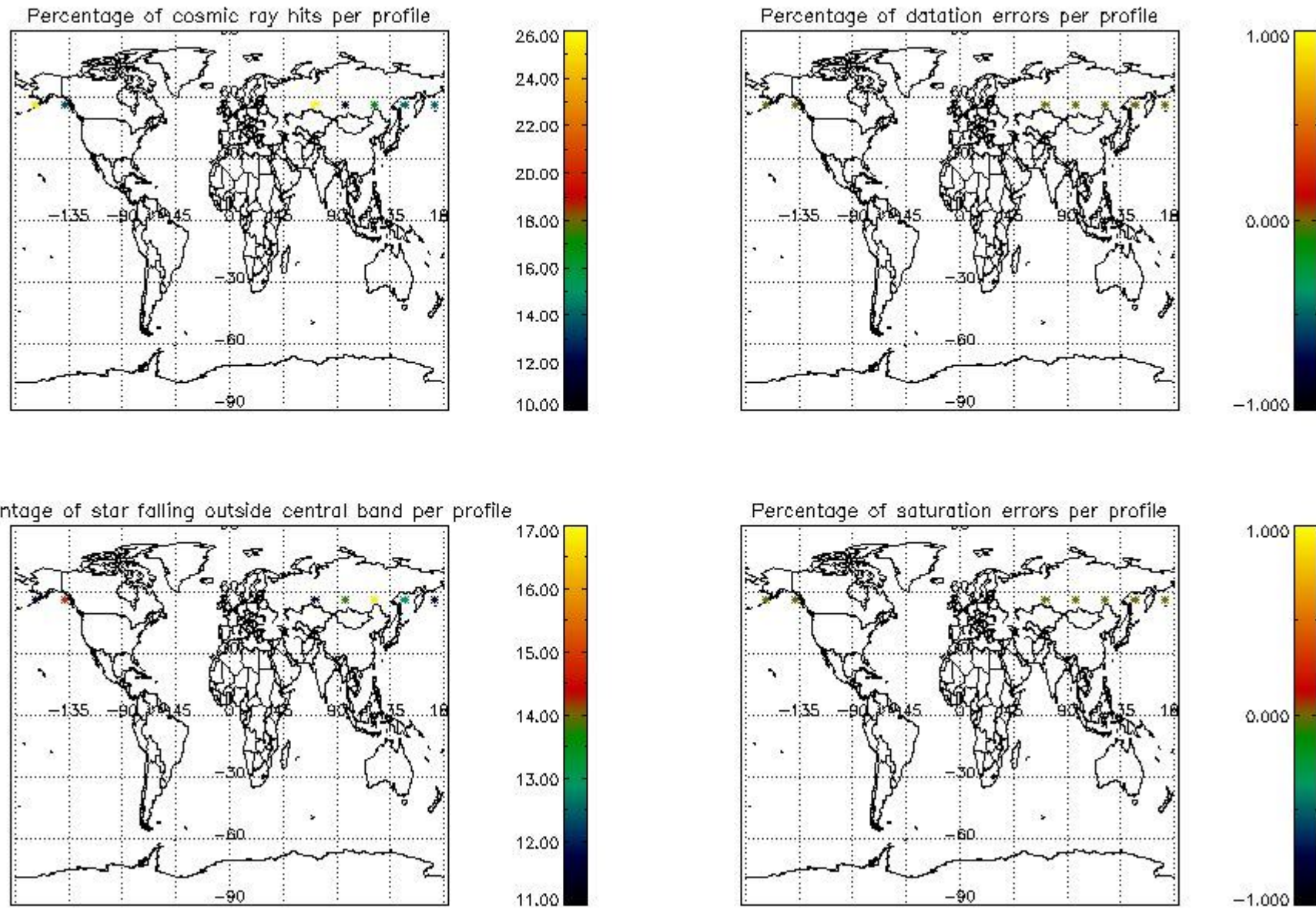
4.1.2 Plot level 1 quality information per product (time dependant): ENVISAT DESCENDING passes

!Warning: No products without errors in descending found

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

**!Warning: No products without errors in descending found**

### 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

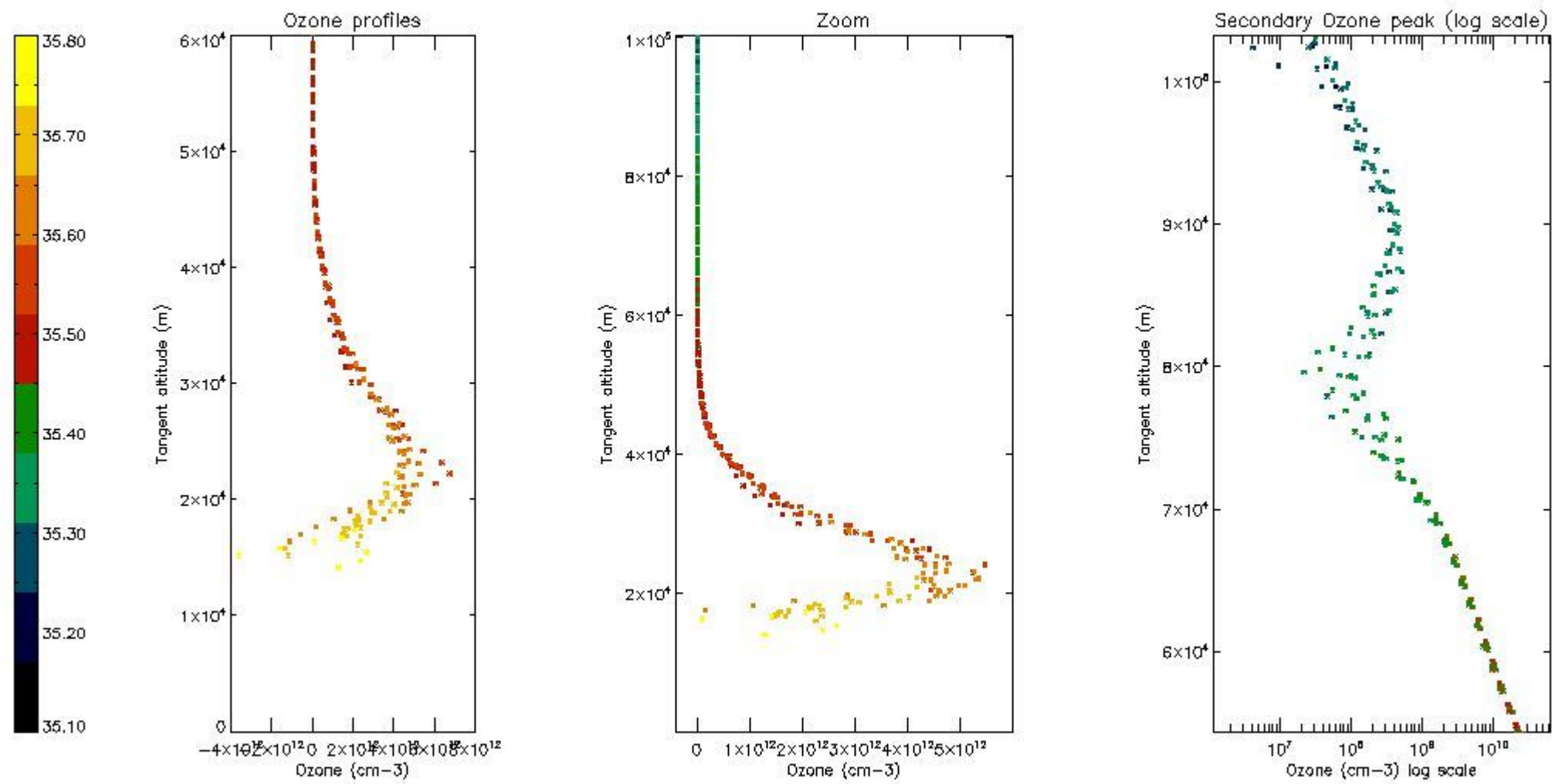
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.



Criteria	% of total production
All STD	100
STD < 20	70
STD < 10	60
STD < 5	48

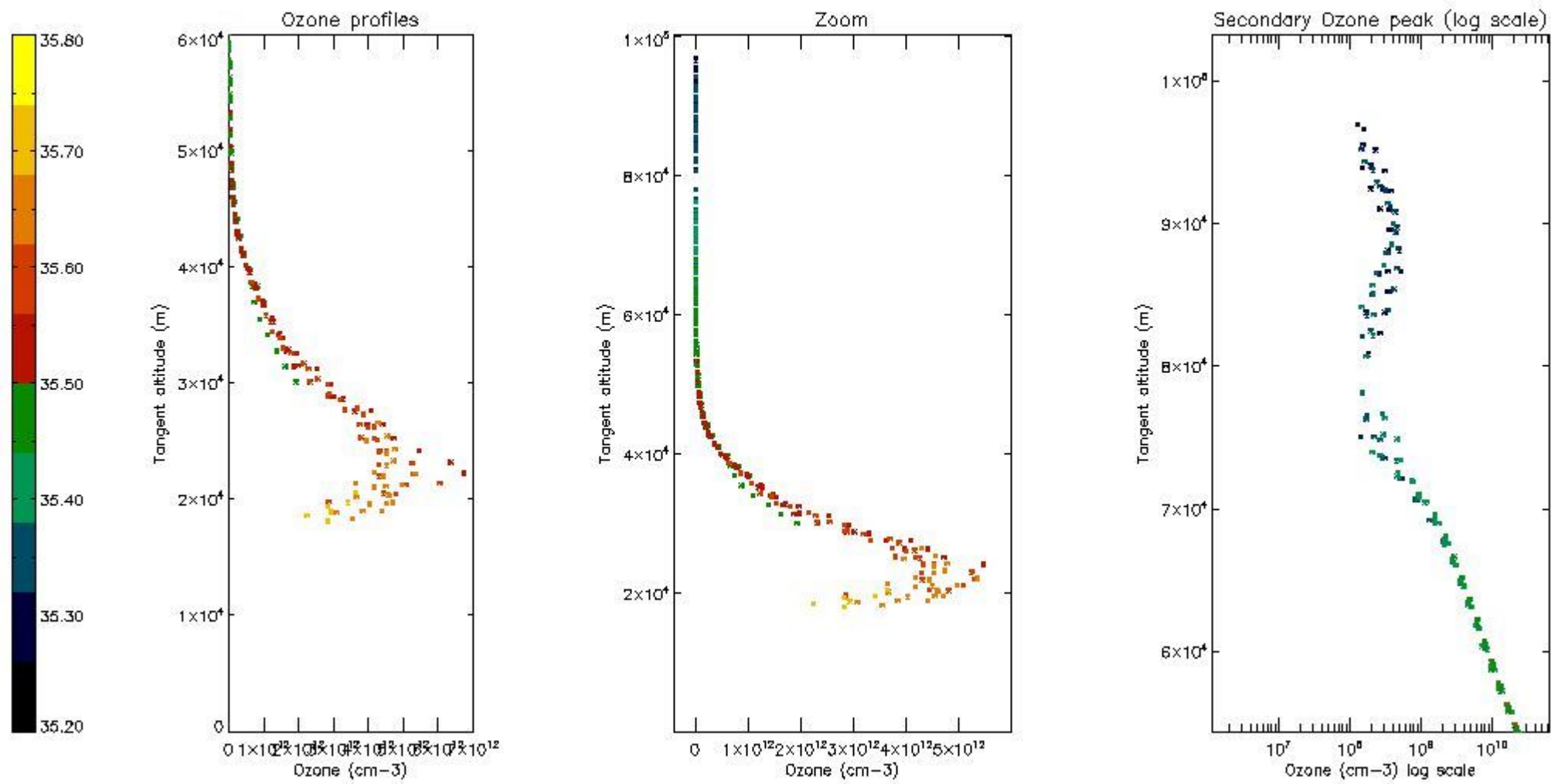
### 5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



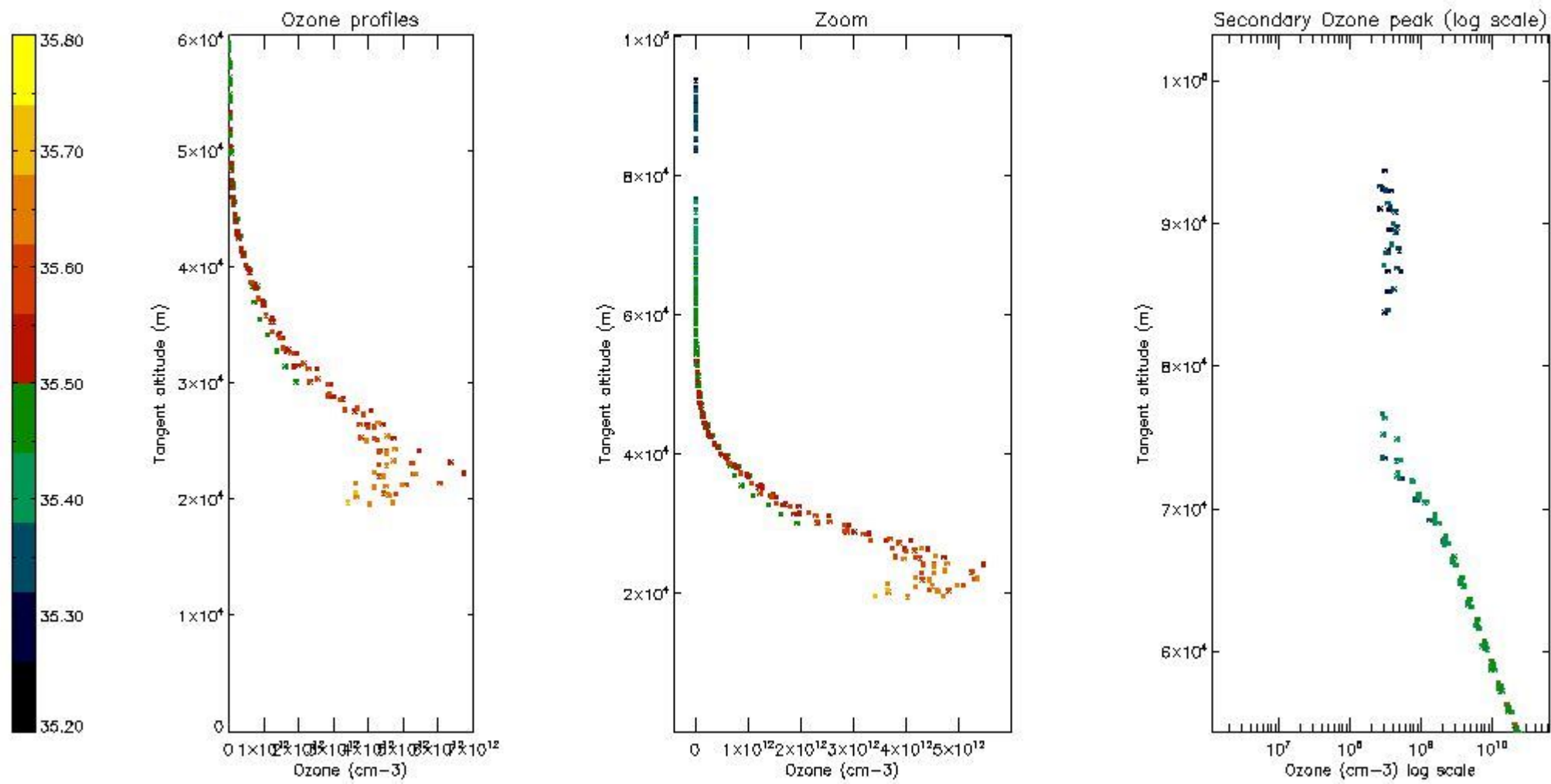
### 5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



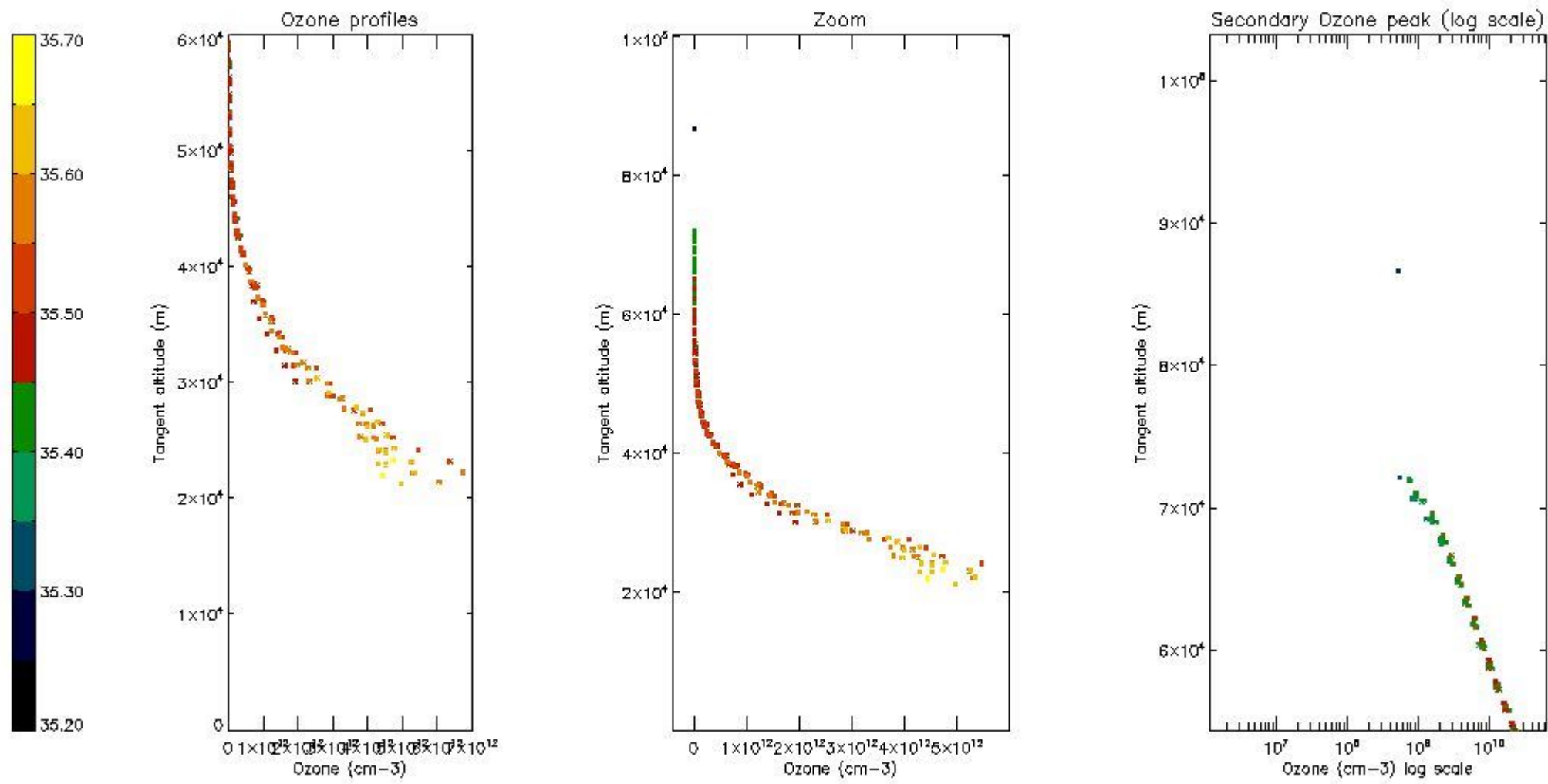
*5.4 Plot ozone profiles where STD < 10% (dark without errors)*

The colorbar represents the latitude.



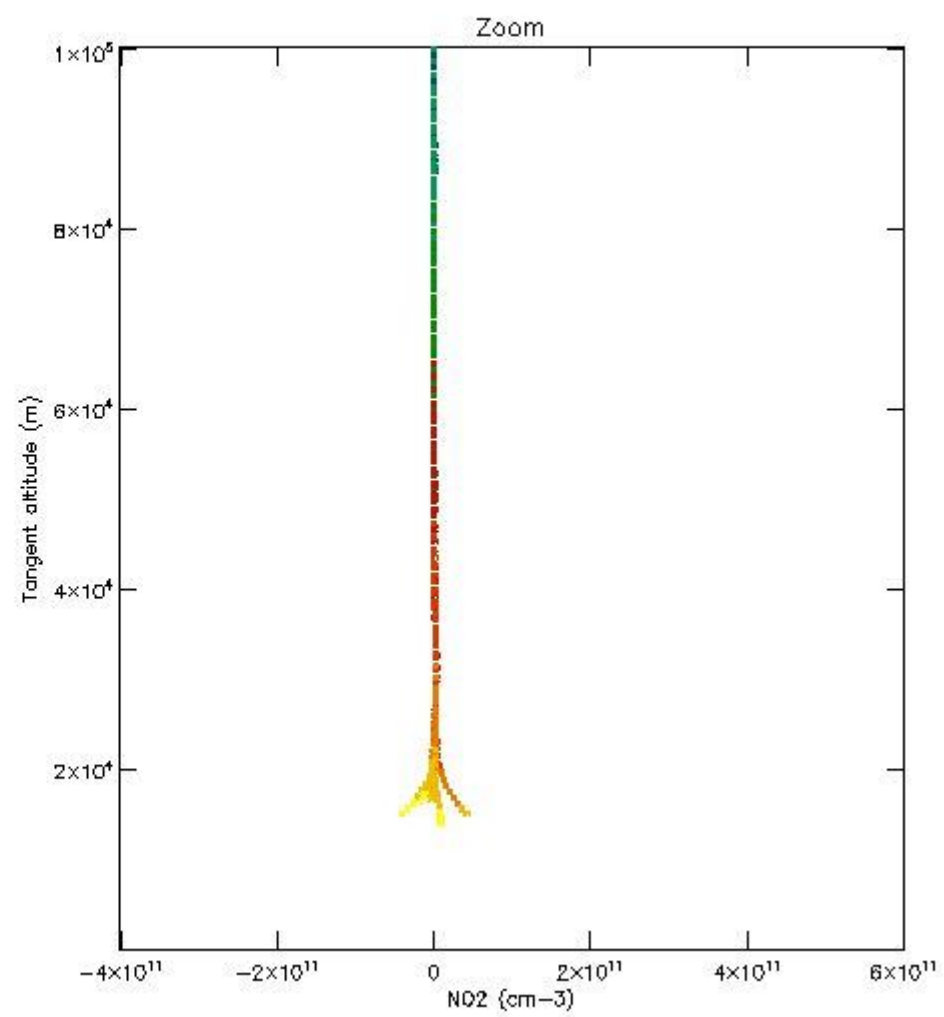
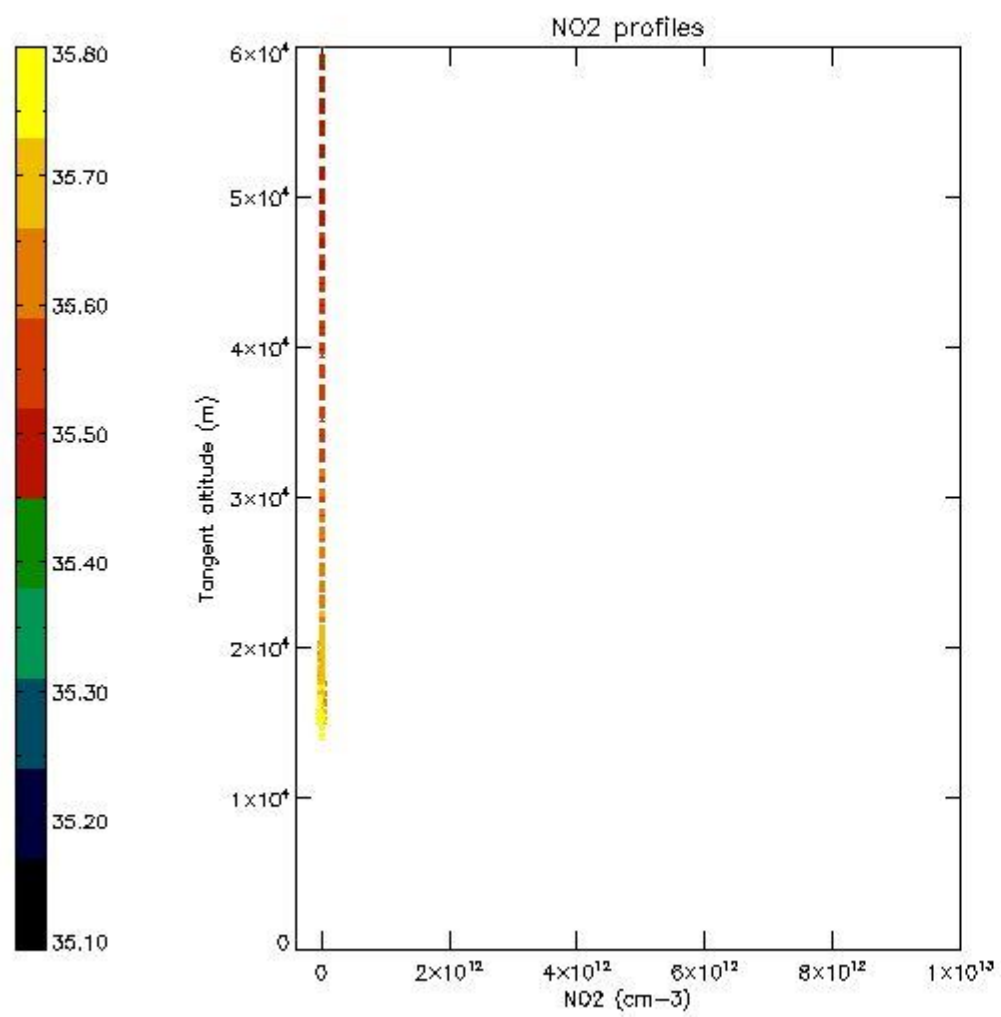
*5.5 Plot ozone profiles where STD < 5% (dark without errors)*

The colorbar represents the latitude.



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

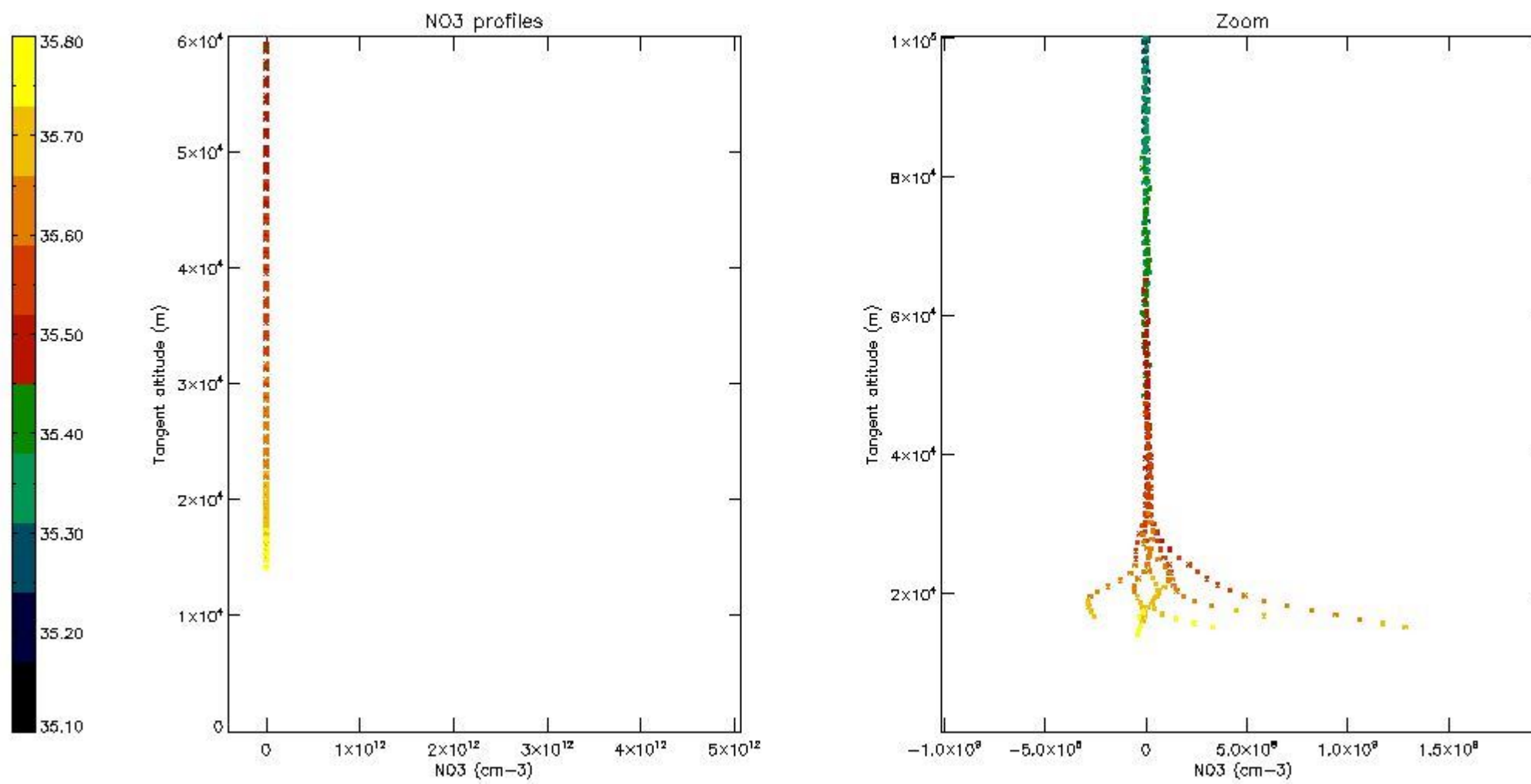
The colorbar represents the latitude.



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

The colorbar represents the latitude.

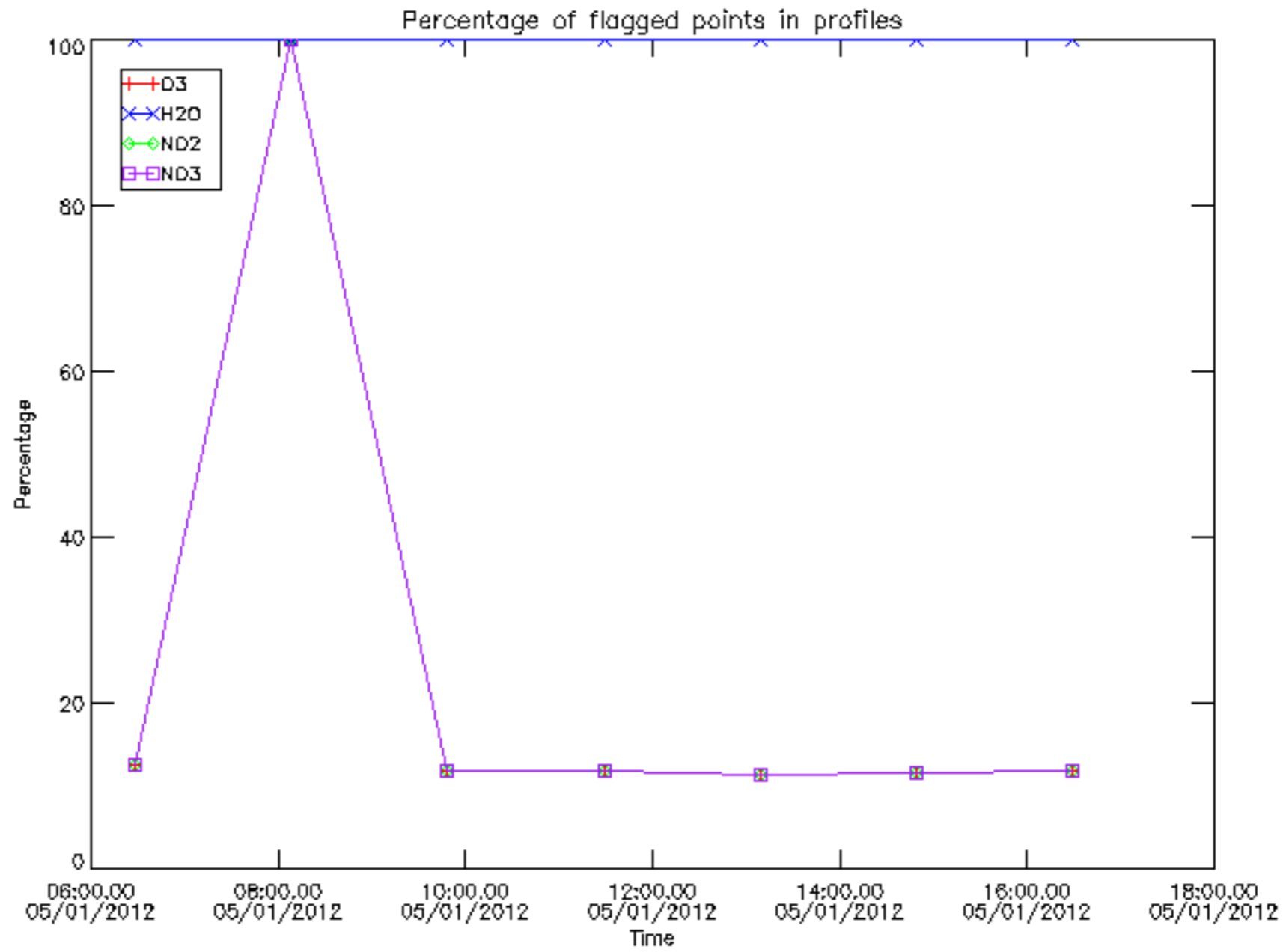




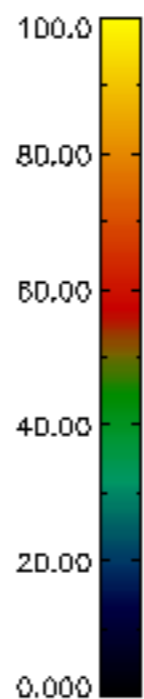
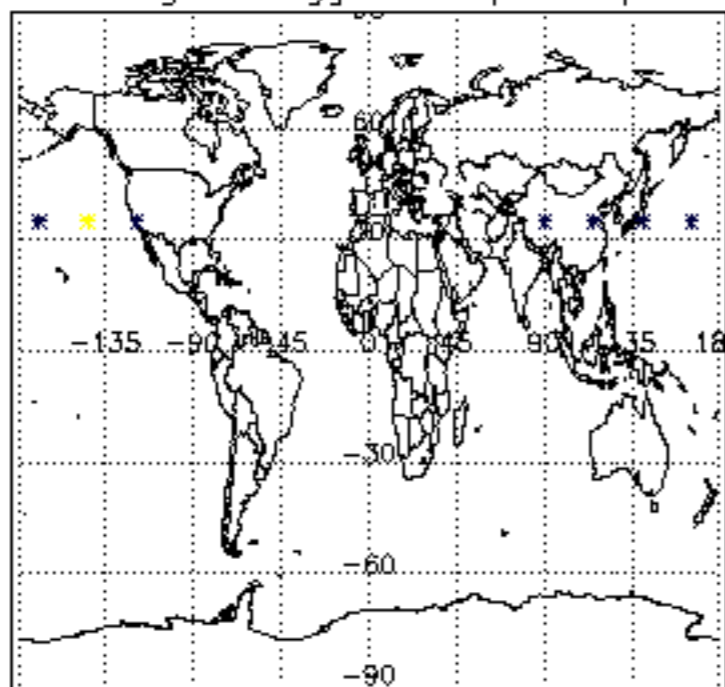
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The number reported in the third column indicates since which file (see list in section 2) the corresponding auxiliary file has been used. The fourth column is the date of those product files.

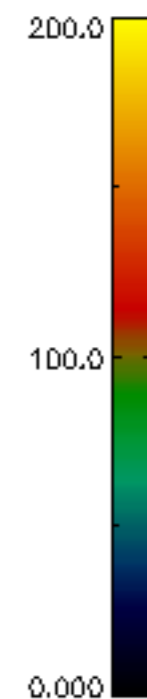
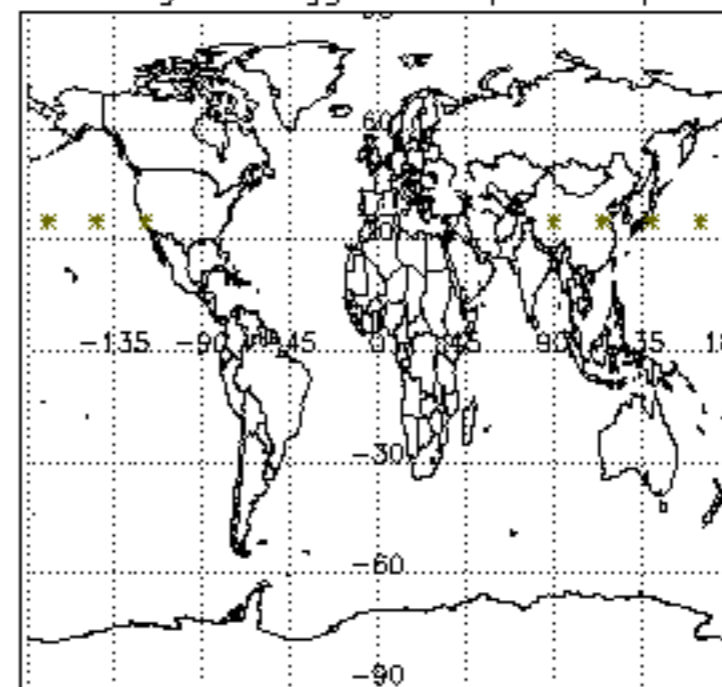
Type	Auxiliary Filename	Used since product	Used since product date
INST_PHYS_CHARACTERISTICS	GOM_INS_AXVIEC20111213_163131_20111215_000000_20500101_000000	1	05-JAN-2012 06:28:00
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	05-JAN-2012 06:28:00
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	05-JAN-2012 06:28:00



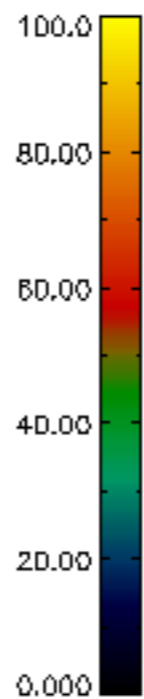
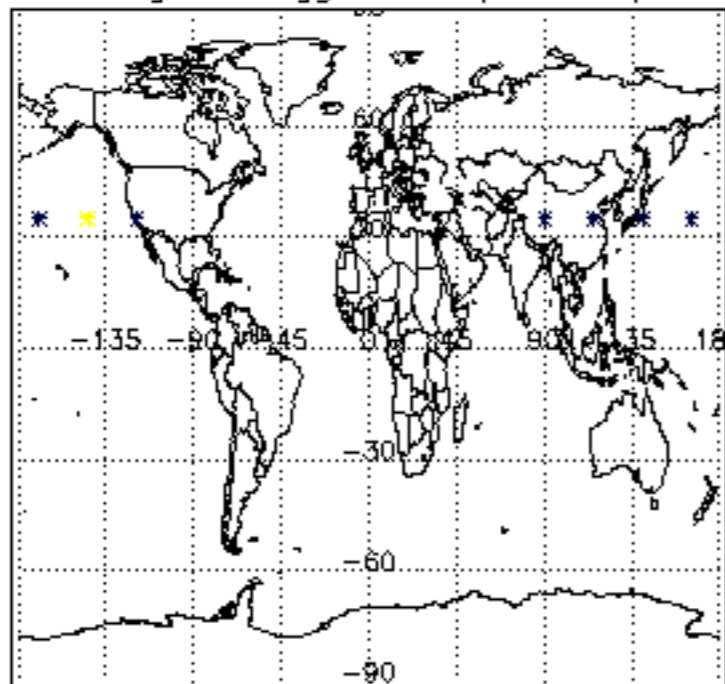
Percentage of flagged data per D3 profile



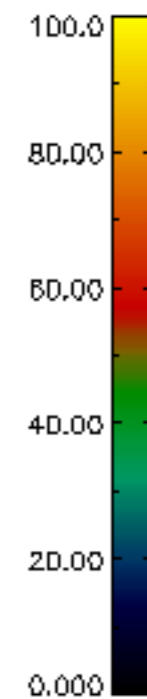
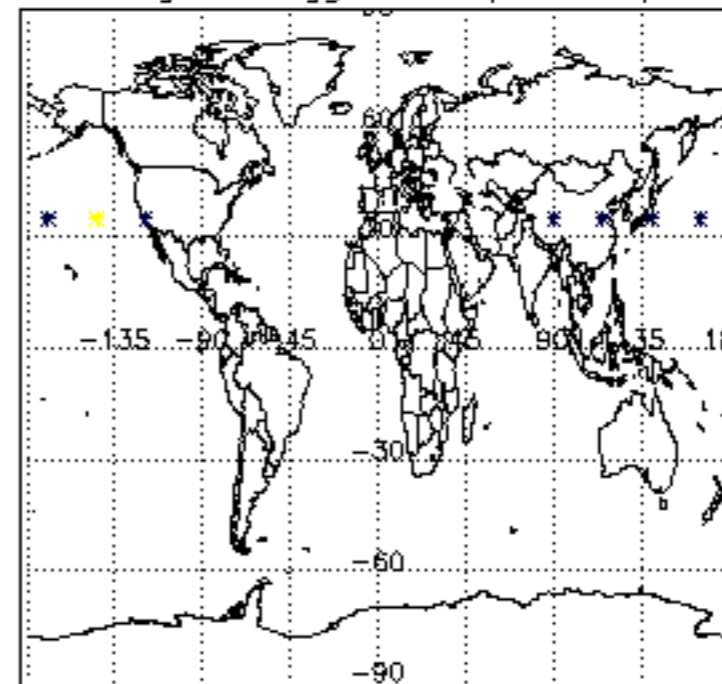
Percentage of flagged data per H2O profile

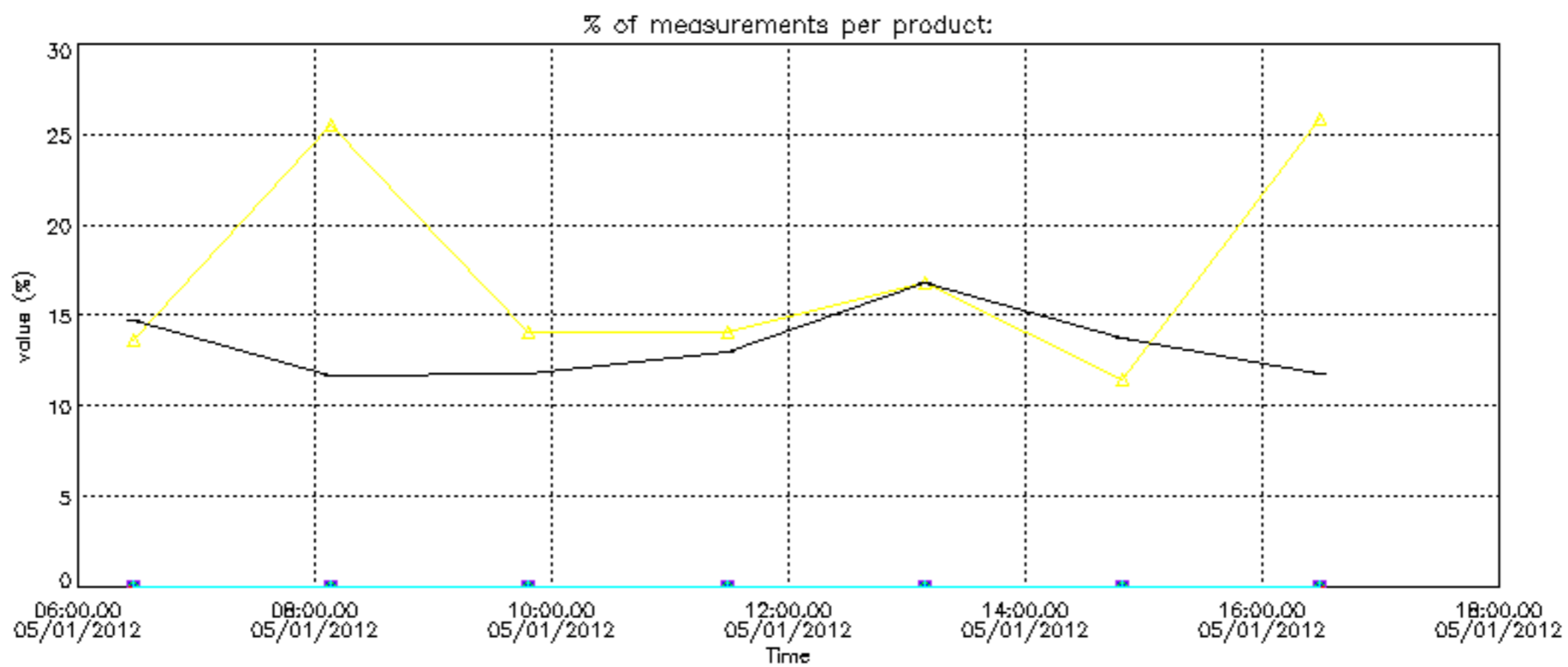


Percentage of flagged data per NO2 profile

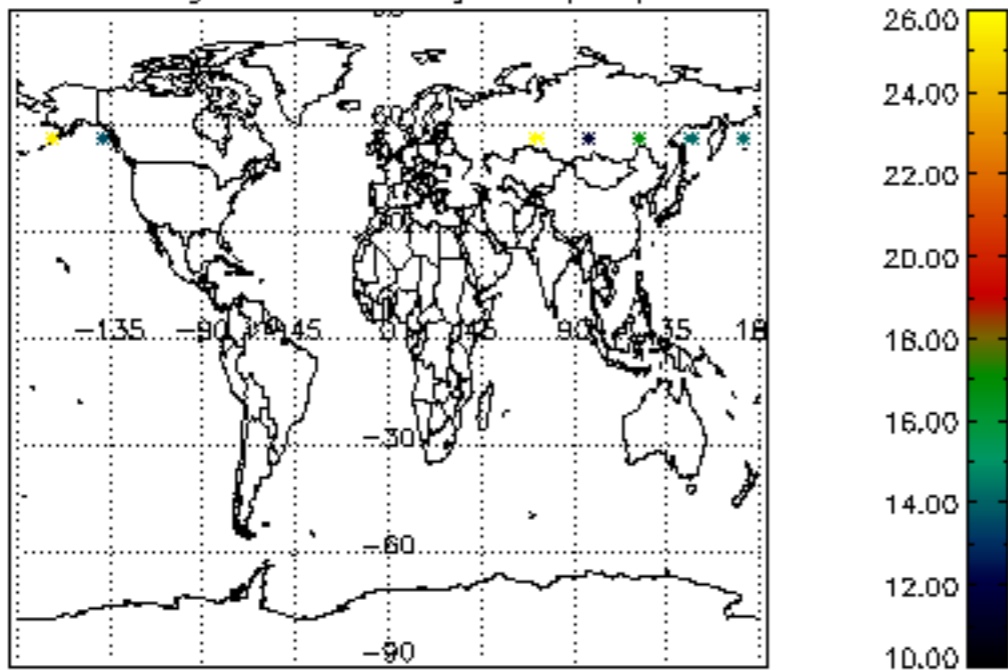


Percentage of flagged data per NO3 profile

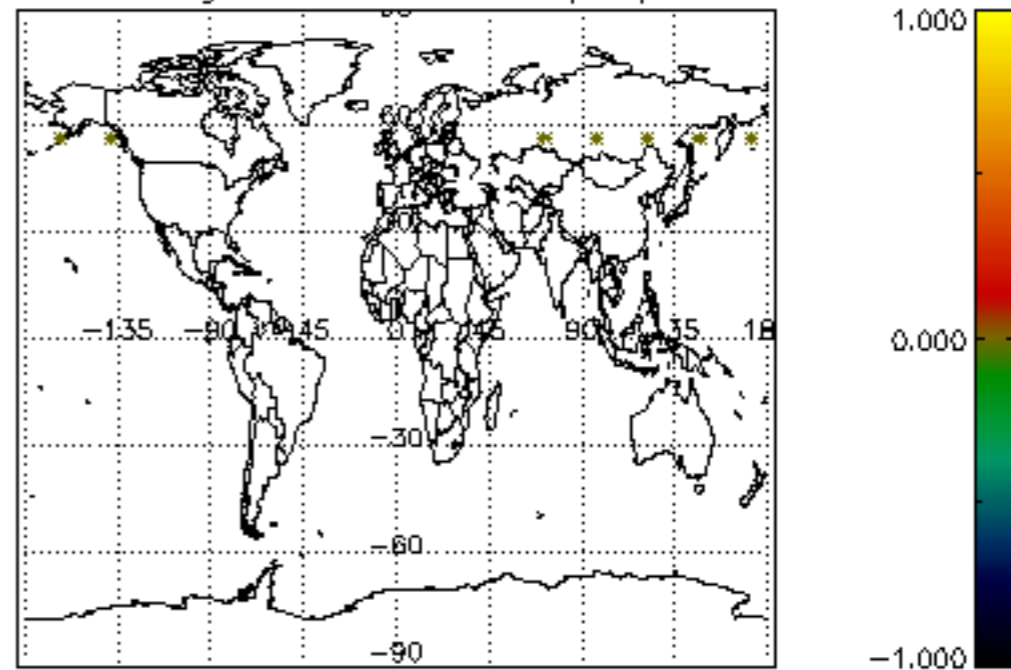




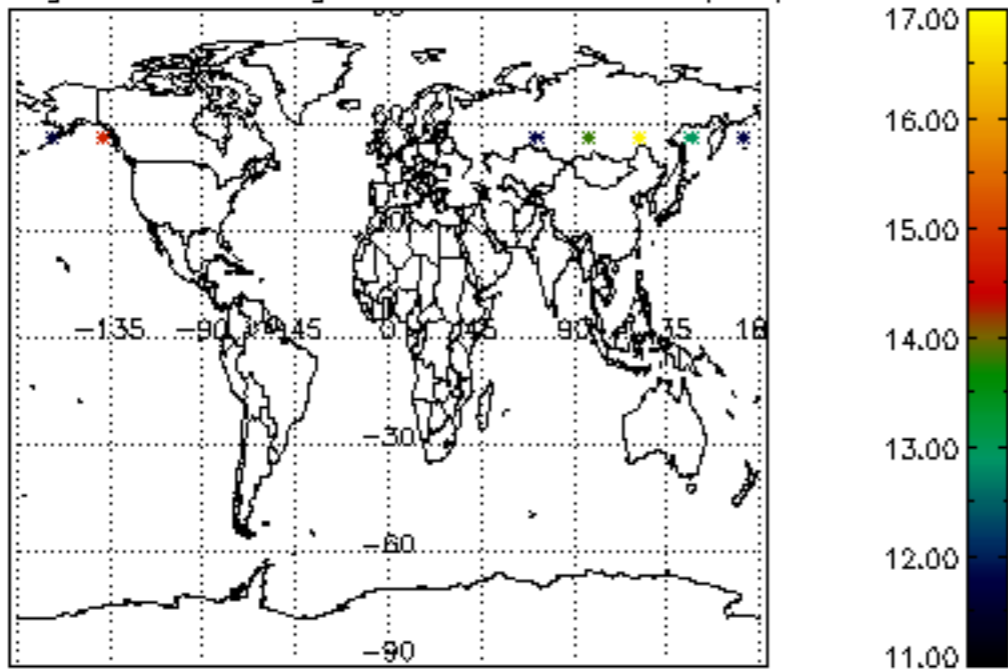
Percentage of cosmic ray hits per profile



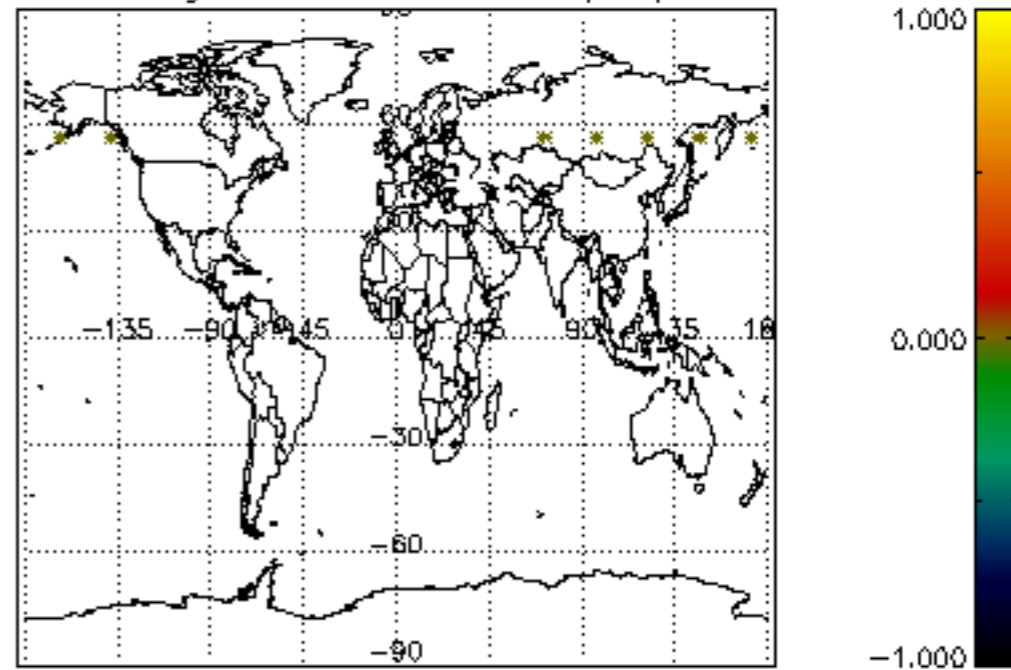
Percentage of datation errors per profile



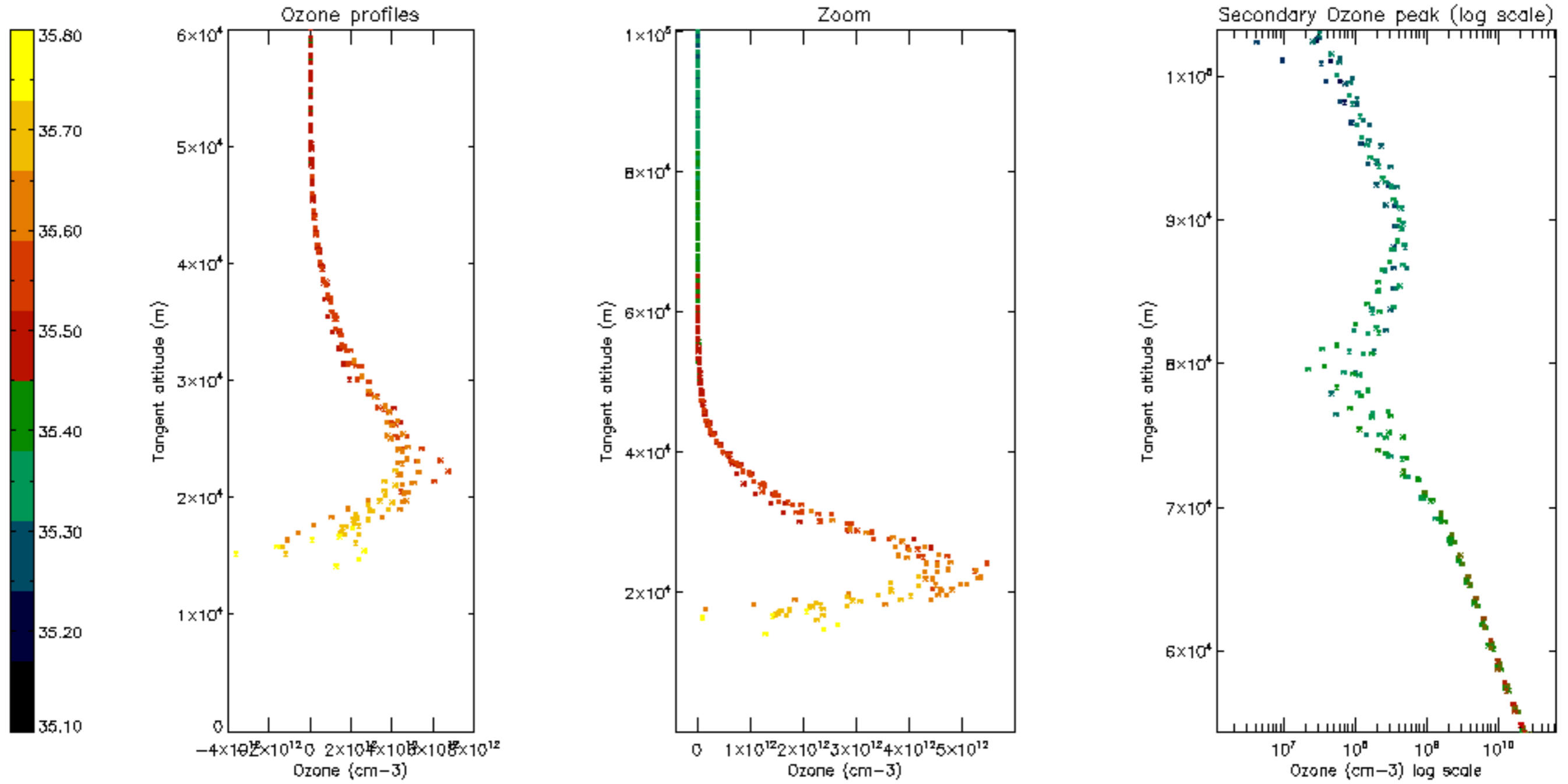
Percentage of star falling outside central band per profile

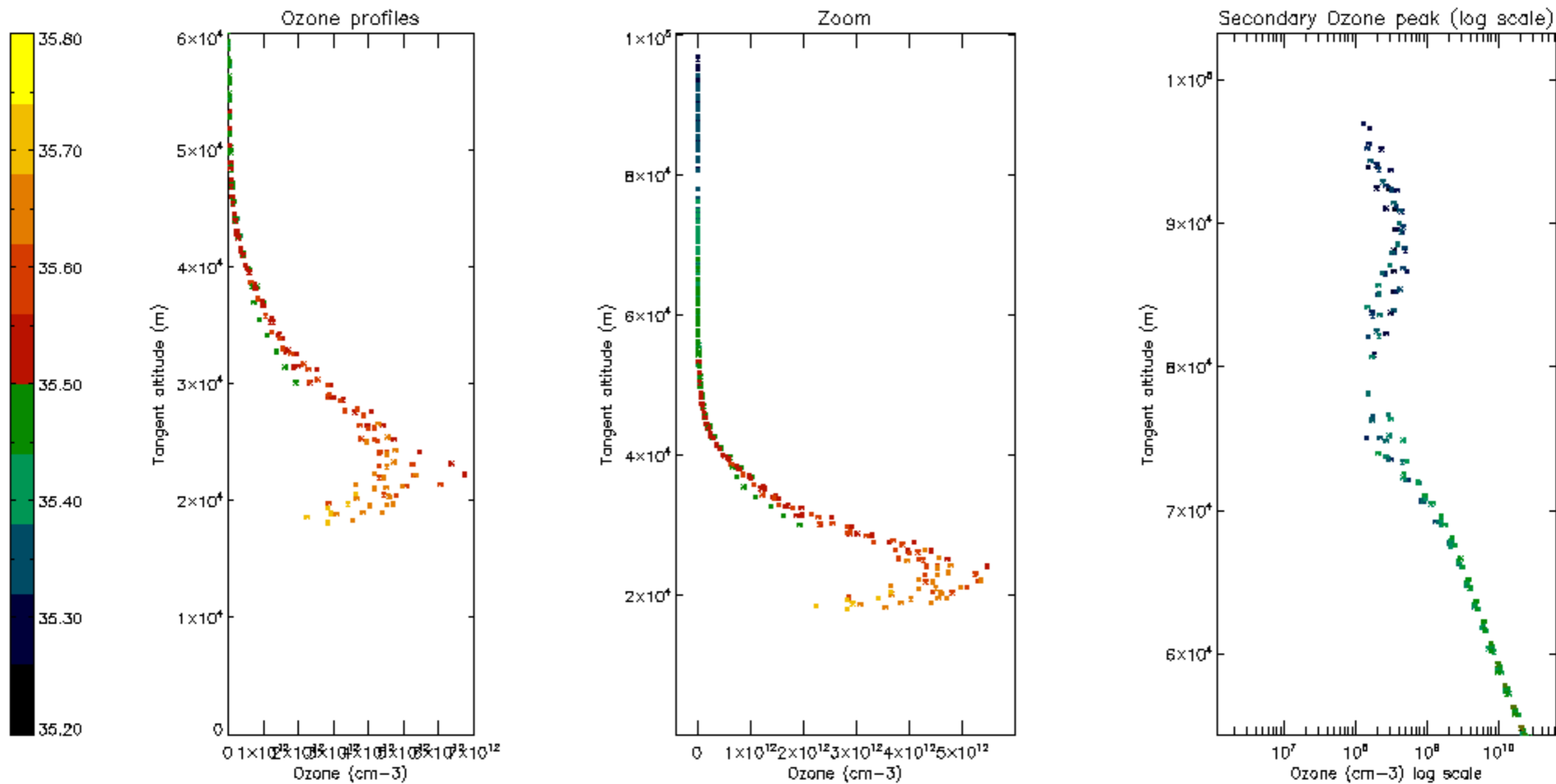


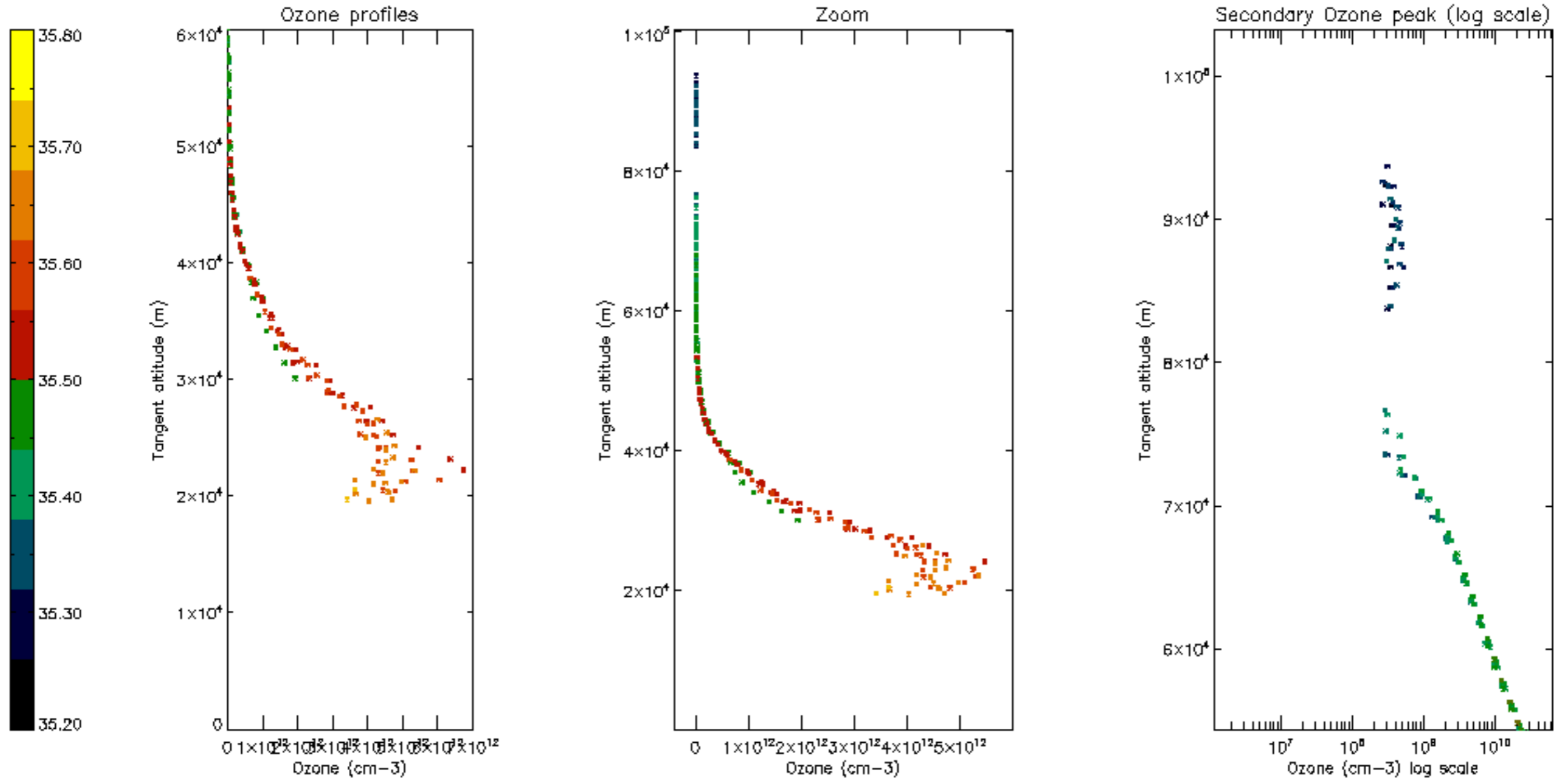
Percentage of saturation errors per profile

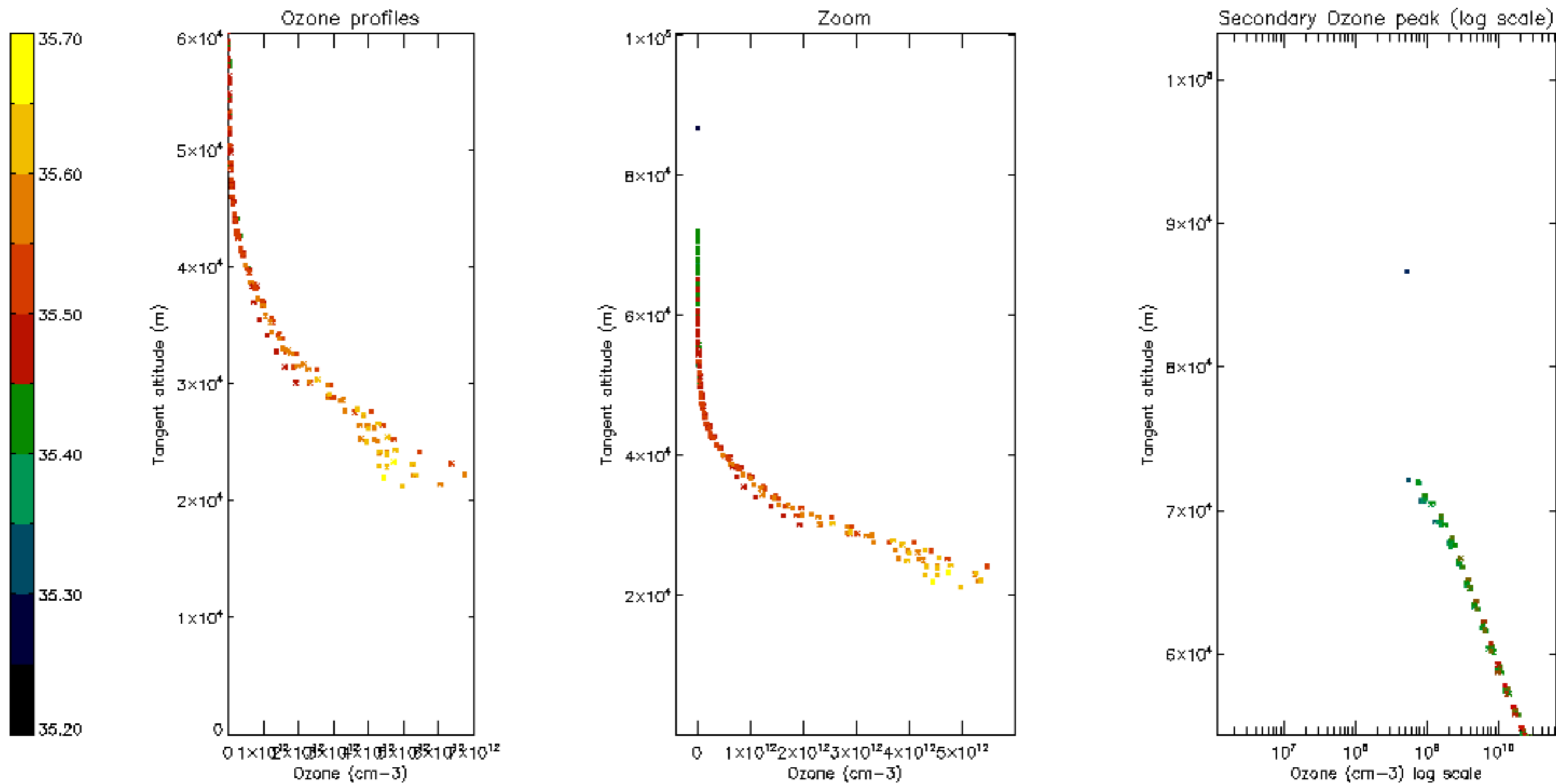


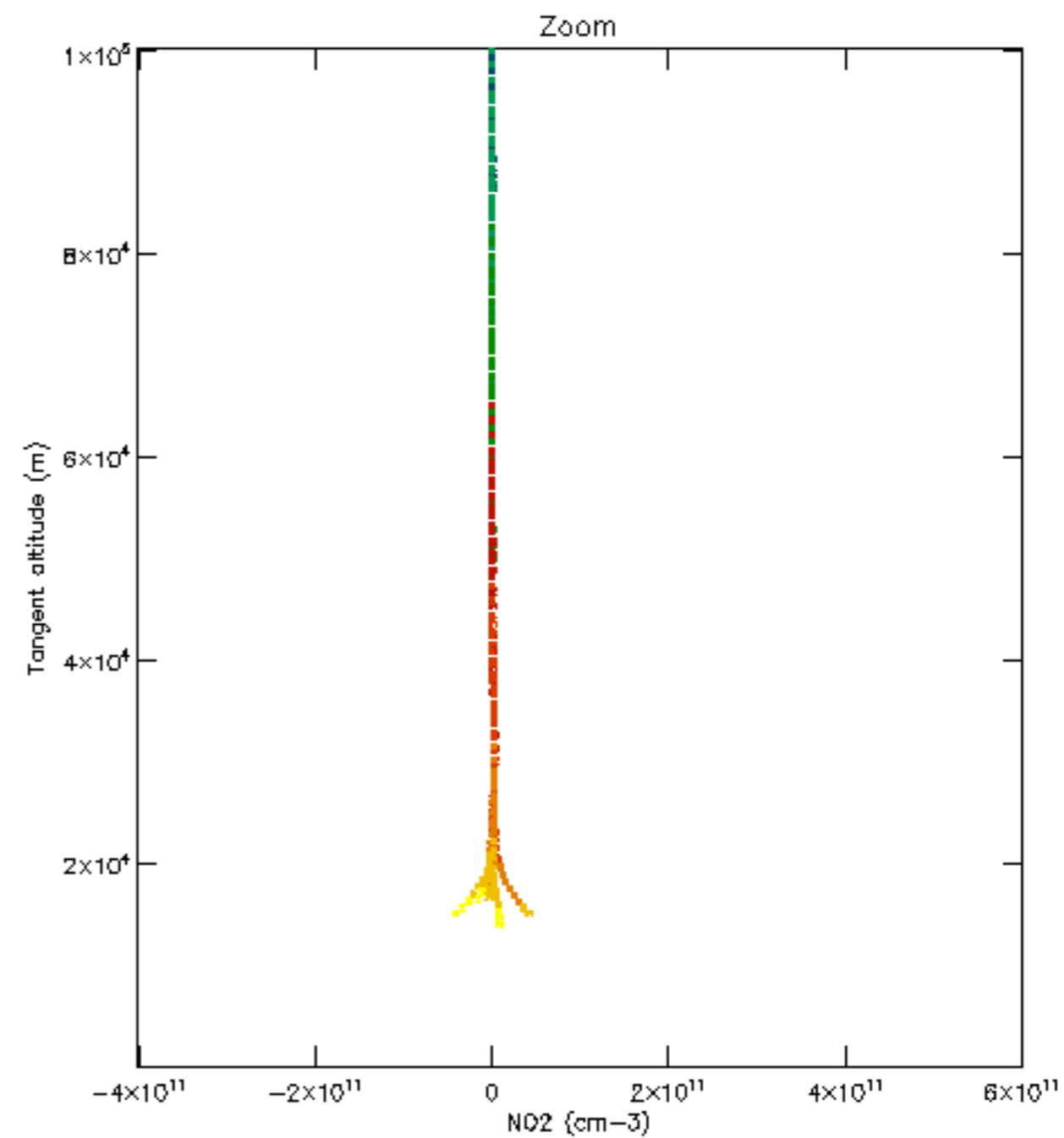
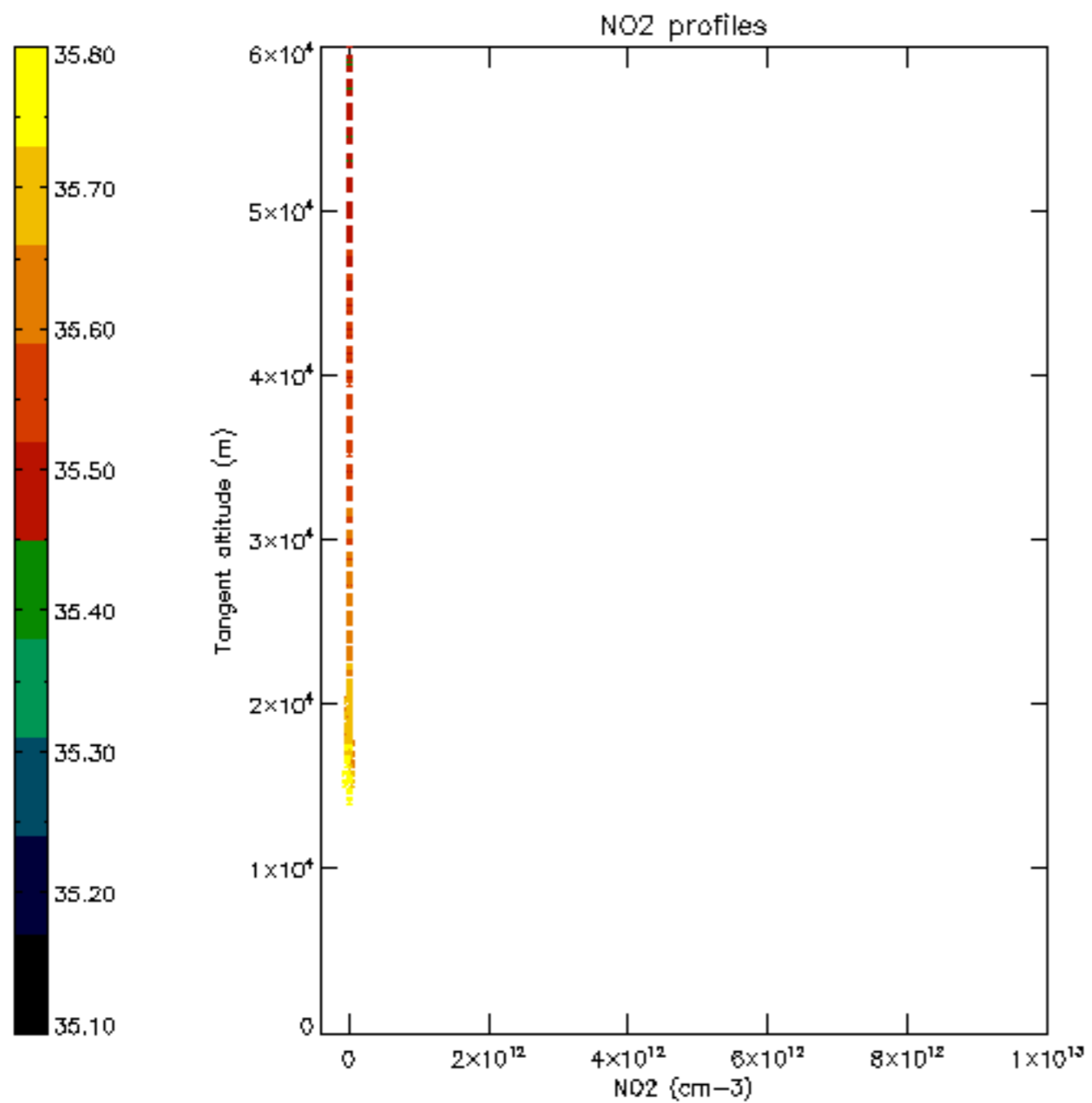




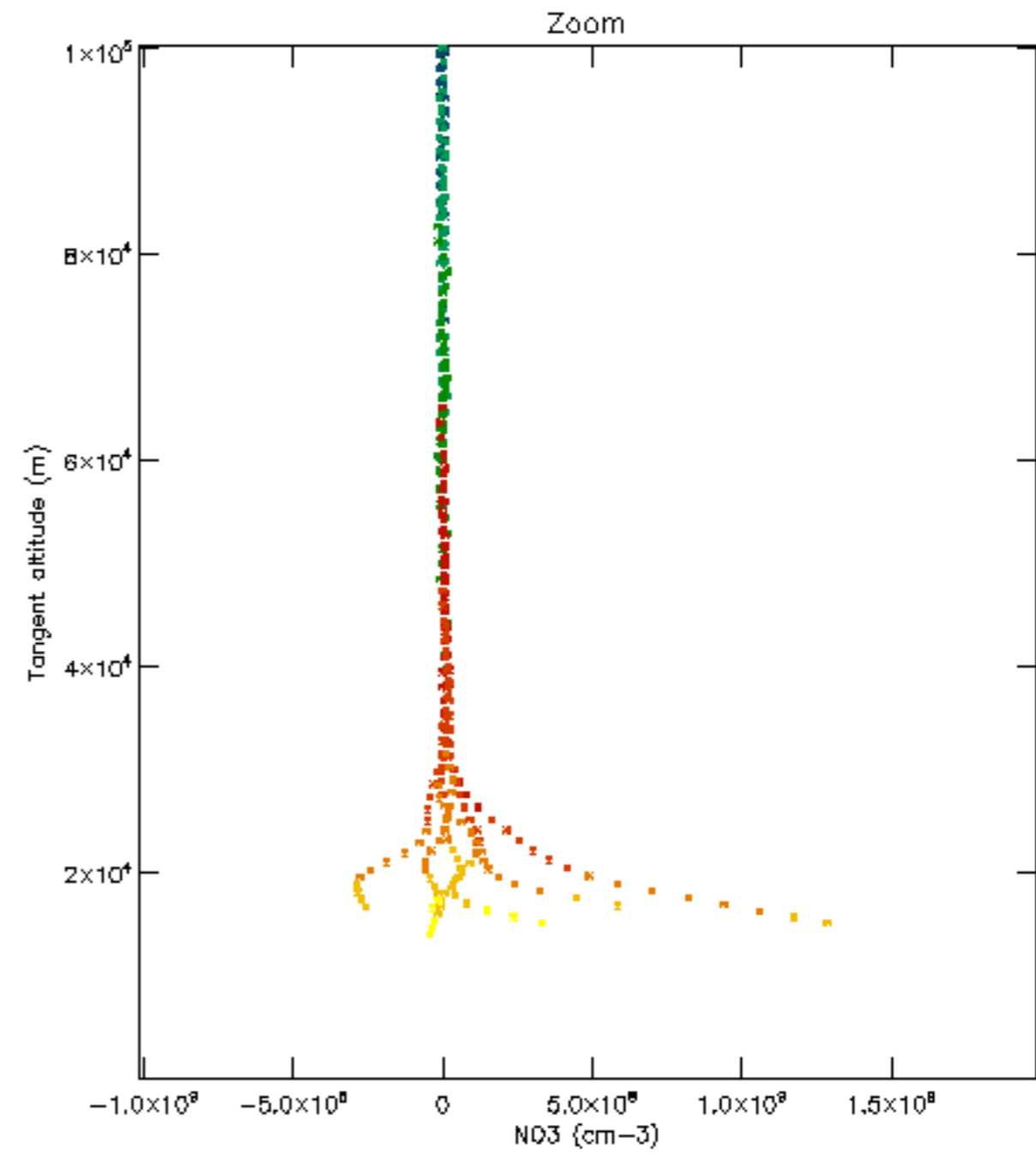
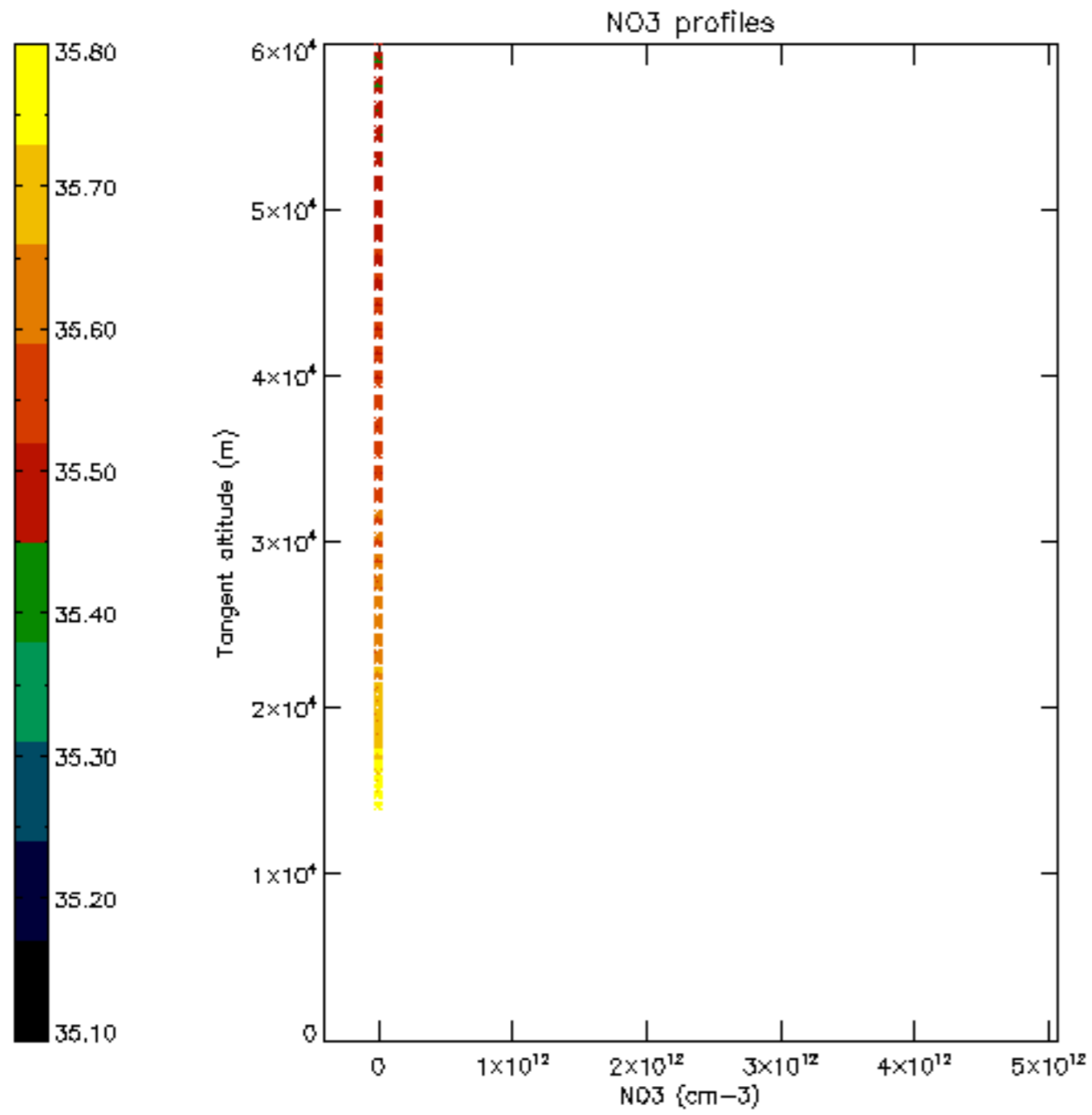


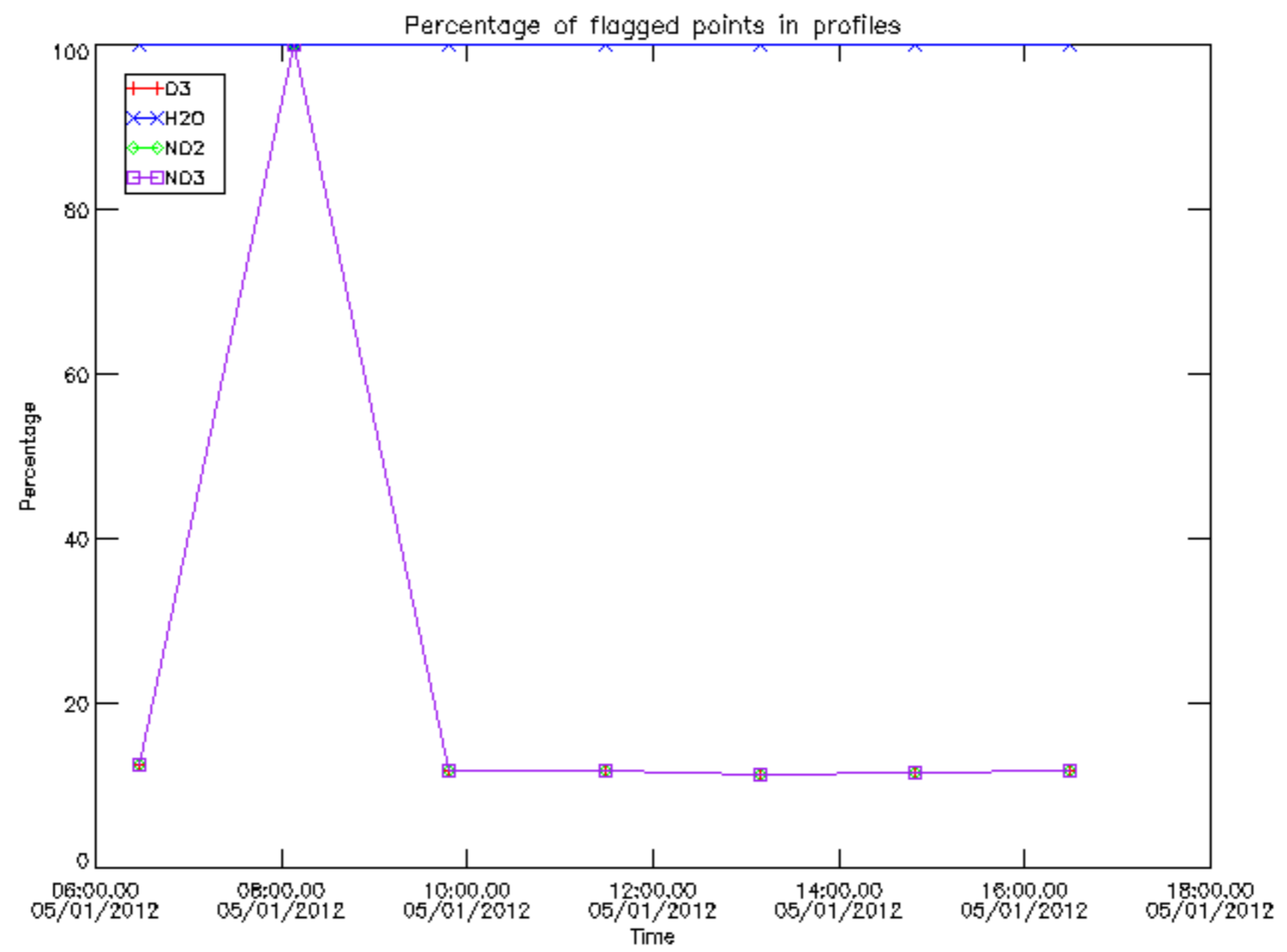




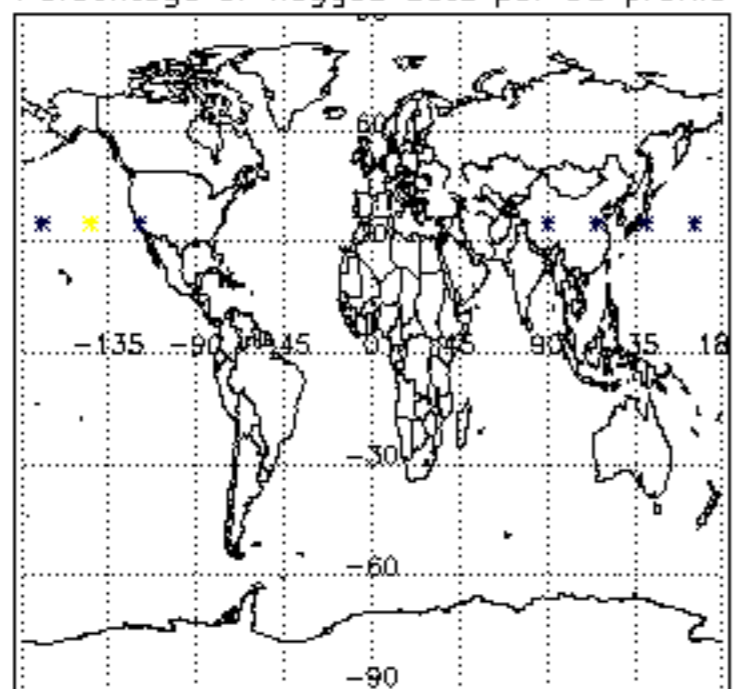




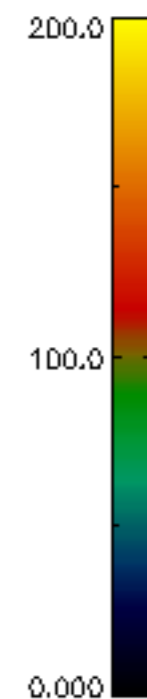
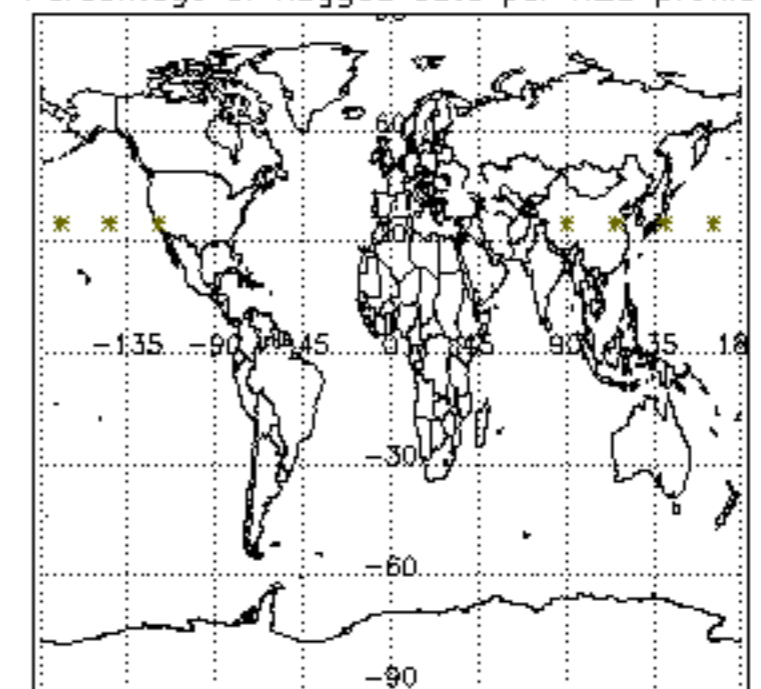




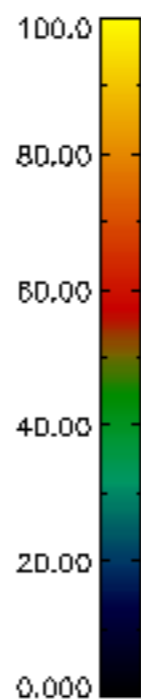
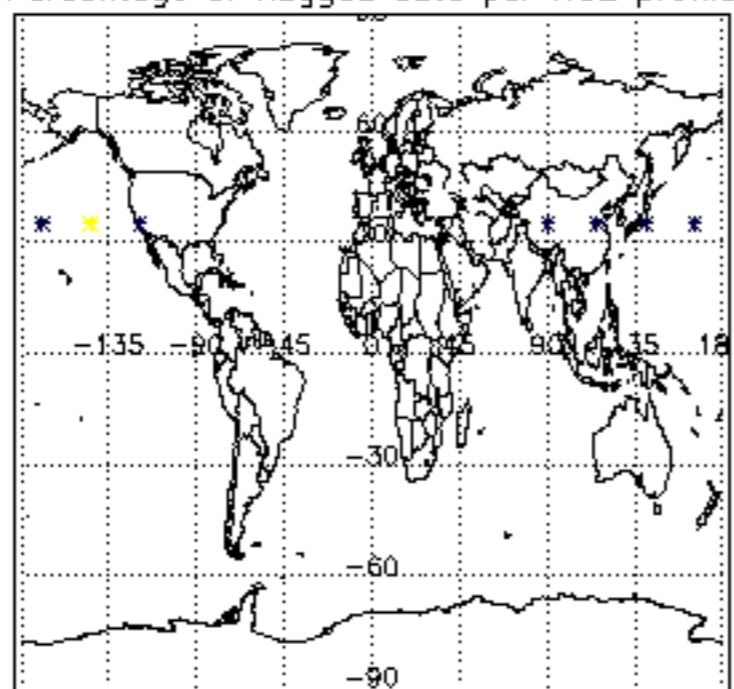
Percentage of flagged data per D3 profile



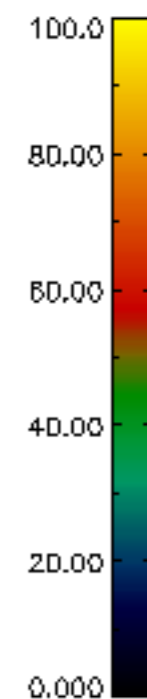
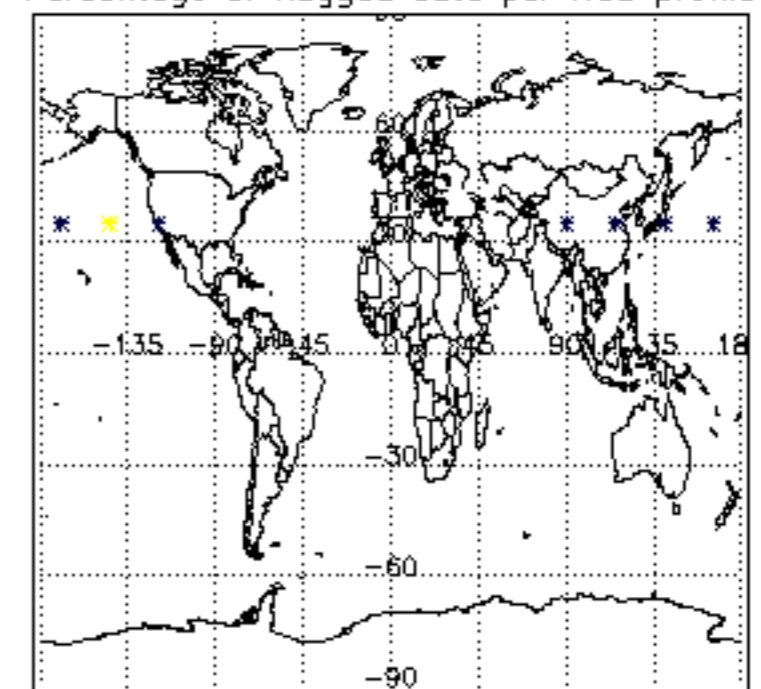
Percentage of flagged data per H2O profile

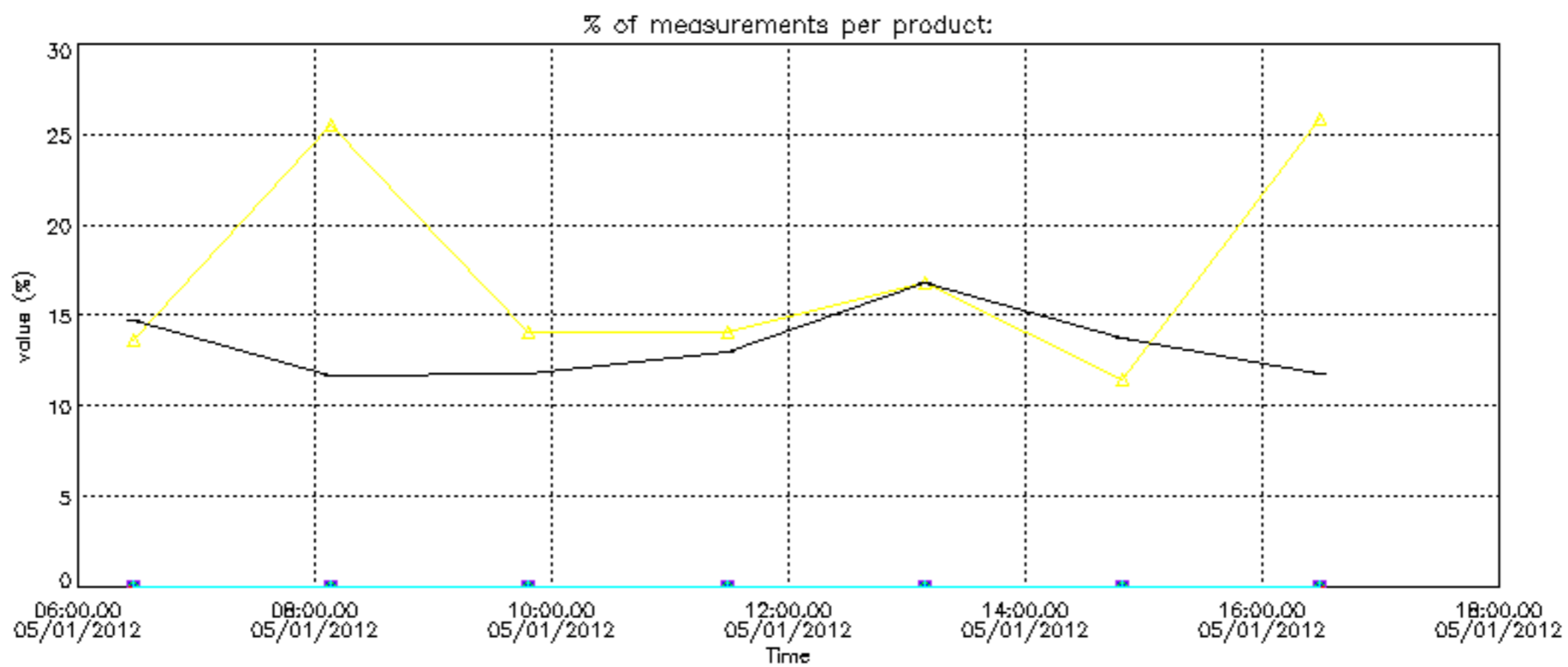


Percentage of flagged data per NO2 profile

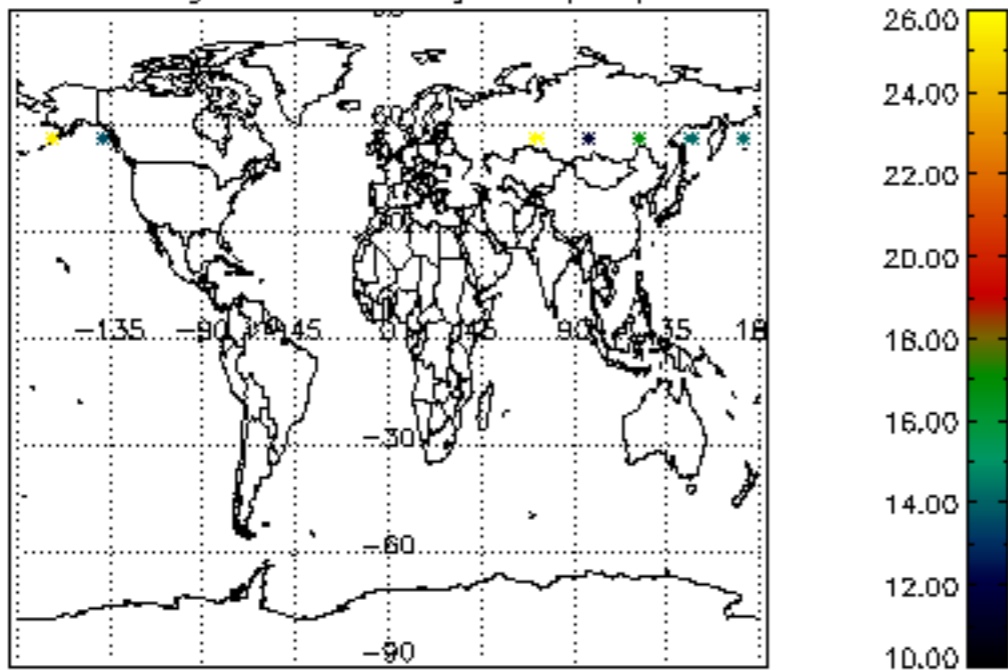


Percentage of flagged data per NO3 profile

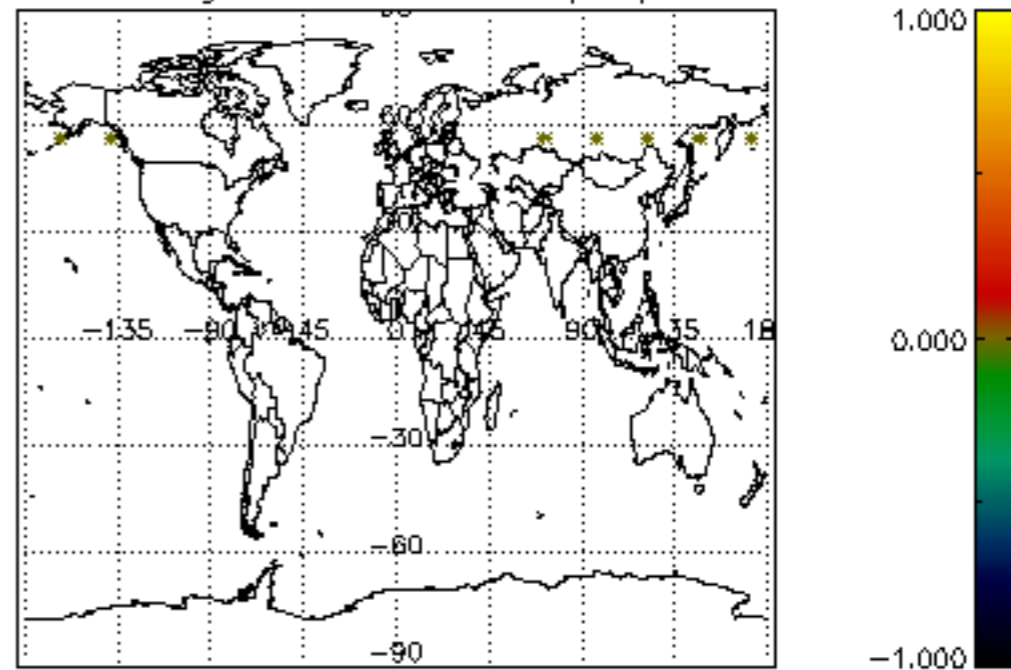




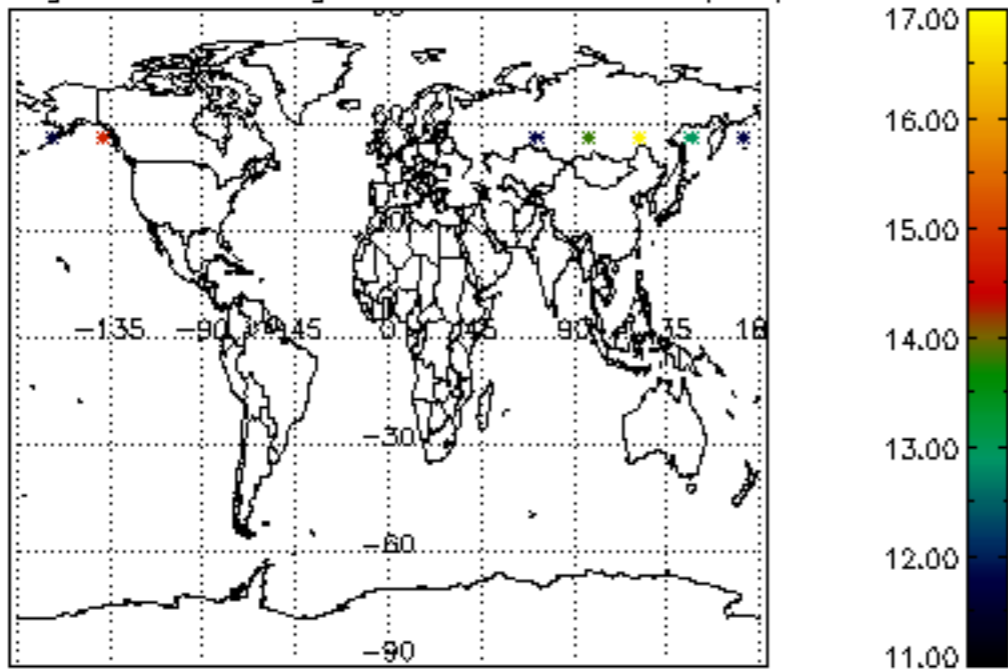
Percentage of cosmic ray hits per profile



Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile

