

# 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	24APR2013 17:49:45
Data source version	GOMOS/6.01
Start time of products	21-09-2011 (21SEP2011 00:00:00)
Stop time of products	22-09-2011 (22SEP2011 00:00:00)
Store outputs in DB	Yes
Nb of level 2 prods	126
Nb of prods with errors	0

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

Nr	Filename	UTC Start time	Limb	Duration	Star Id	Star Name	Star Mag	Star Temp	Nb Meas	Orbit	Prod. error
1	GOM_NL__2PRFIN20110921_000649_000000403106_00404_49987_7710.N1	21-SEP-2011 00:06:49	Bright	39.500	74	11Bet Cas	2.2680	6600.0	79	49987	No
2	GOM_NL__2PRFIN20110921_000826_000000393106_00404_49987_7711.N1	21-SEP-2011 00:08:26	Bright	39.000	76	27Gam Cas	2.3000	30000.	78	49987	No
3	GOM_NL__2PRFIN20110921_003144_000000473106_00404_49987_7712.N1	21-SEP-2011 00:31:44	Bright	47.000	24	66Alp Gem	1.5800	10200.	94	49987	No
4	GOM_NL__2PRFIN20110921_004103_000000643106_00404_49987_7713.N1	21-SEP-2011 00:41:03	Dark	63.500	8	10Alp CMi	0.40000	6500.0	127	49987	No
5	GOM_NL__2PRFIN20110921_005334_000000493106_00404_49987_7714.N1	21-SEP-2011 00:53:34	Dark	48.500	117	Pi Pup	2.7060	3800.0	97	49987	No
6	GOM_NL__2PRFIN20110921_005719_000000493106_00404_49987_7715.N1	21-SEP-2011 00:57:19	Dark	48.500	161	Tau Pup	2.9310	4500.0	97	49987	No
7	GOM_NL__2PRFIN20110921_005920_000000513106_00405_49988_7718.N1	21-SEP-2011 00:59:20	Dark	51.000	108	Alp Col	2.6520	15200.	102	49988	No
8	GOM_NL__2PRFIN20110921_011539_000000443106_00405_49988_7719.N1	21-SEP-2011 01:15:39	Straylight	43.500	84	Alp Phe	2.3970	4500.0	87	49988	No
9	GOM_NL__2PRFIN20110921_012256_000000553106_00405_49988_7720.N1	21-SEP-2011 01:22:56	Twilight_stray	54.500	52	16Bet Cet	2.0370	4500.0	109	49988	No
10	GOM_NL__2PRFIN20110921_013708_000000393106_00405_49988_7721.N1	21-SEP-2011 01:37:08	Bright	39.000	93	53Bet Peg	2.5200	3100.0	78	49988	No
11	GOM_NL__2PRFIN20110921_013837_000000453106_00405_49988_7722.N1	21-SEP-2011 01:38:37	Bright	45.000	58	21Alp And	2.0730	11000.	90	49988	No
12	GOM_NL__2PRFIN20110921_014702_000000403106_00405_49988_7723.N1	21-SEP-2011 01:47:02	Bright	40.000	74	11Bet Cas	2.2680	6600.0	80	49988	No
13	GOM_NL__2PRFIN20110921_014839_000000423106_00405_49988_7724.N1	21-SEP-2011 01:48:39	Bright	41.500	76	27Gam Cas	2.3000	30000.	83	49988	No
14	GOM_NL__2PRFIN20110921_021158_000000473106_00405_49988_7725.N1	21-SEP-2011 02:11:58	Bright	46.500	24	66Alp Gem	1.5800	10200.	93	49988	No
15	GOM_NL__2PRFIN20110921_022118_000000643106_00405_49988_7726.N1	21-SEP-2011 02:21:18	Dark	63.500	8	10Alp CMi	0.40000	6500.0	127	49988	No
16	GOM_NL__2PRFIN20110921_023155_000000523106_00405_49988_7727.N1	21-SEP-2011 02:31:55	Dark	51.500	37	25Del CMa	1.8300	5900.0	103	49988	No
17	GOM_NL__2PRFIN20110921_023348_000000543106_00405_49988_7728.N1	21-SEP-2011 02:33:48	Dark	54.000	117	Pi Pup	2.7060	3800.0	108	49988	No
18	GOM_NL__2PRFIN20110921_023734_000000423106_00405_49988_7729.N1	21-SEP-2011 02:37:34	Dark	41.500	161	Tau Pup	2.9310	4500.0	83	49988	No
19	GOM_NL__2PRFIN20110921_023935_000000533106_00406_49989_7735.N1	21-SEP-2011 02:39:35	Dark	52.500	108	Alp Col	2.6520	15200.	105	49989	No
20	GOM_NL__2PRFIN20110921_025553_000000443106_00406_49989_7736.N1	21-SEP-2011 02:55:53	Straylight	43.500	84	Alp Phe	2.3970	4500.0	87	49989	No
21	GOM_NL__2PRFIN20110921_030310_000000513106_00406_49989_7737.N1	21-SEP-2011 03:03:10	Twilight_stray	51.000	52	16Bet Cet	2.0370	4500.0	102	49989	No
22	GOM_NL__2PRFIN20110921_031337_000000393106_00406_49989_7738.N1	21-SEP-2011 03:13:37	Bright	38.500	90	54Alp Peg	2.4870	11000.	77	49989	No
23	GOM_NL__2PRFIN20110921_031722_000000553106_00406_49989_7739.N1	21-SEP-2011 03:17:22	Bright	55.000	93	53Bet Peg	2.5200	3100.0	110	49989	No
24	GOM_NL__2PRFIN20110921_031851_000000443106_00406_49989_7740.N1	21-SEP-2011 03:18:51	Bright	43.500	58	21Alp And	2.0730	11000.	87	49989	No
25	GOM_NL__2PRFIN20110921_032716_000000413106_00406_49989_7741.N1	21-SEP-2011 03:27:16	Bright	40.500	74	11Bet Cas	2.2680	6600.0	81	49989	No
26	GOM_NL__2PRFIN20110921_032852_000000383106_00406_49989_7742.N1	21-SEP-2011 03:28:52	Bright	37.500	76	27Gam Cas	2.3000	30000.	75	49989	No
27	GOM_NL__2PRFIN20110921_035212_000000493106_00406_49989_7743.N1	21-SEP-2011 03:52:12	Bright	48.500	24	66Alp Gem	1.5800	10200.	97	49989	No
28	GOM_NL__2PRFIN20110921_040133_000000683106_00406_49989_7744.N1	21-SEP-2011 04:01:33	Dark	67.500	8	10Alp CMi	0.40000	6500.0	135	49989	No
29	GOM_NL__2PRFIN20110921_041210_000000563106_00406_49989_7745.N1	21-SEP-2011 04:12:10	Dark	55.500	37	25Del CMa	1.8300	5900.0	111	49989	No
30	GOM_NL__2PRFIN20110921_041403_000000503106_00406_49989_7746.N1	21-SEP-2011 04:14:03	Dark	49.500	117	Pi Pup	2.7060	3800.0	99	49989	No
31	GOM_NL__2PRFIN20110921_041748_000000413106_00406_49989_7747.N1	21-SEP-2011 04:17:48	Dark	40.500	161	Tau Pup	2.9310	4500.0	81	49989	No
32	GOM_NL__2PRFIN20110921_041950_000000573106_00407_49990_7777.N1	21-SEP-2011 04:19:50	Dark	56.500	108	Alp Col	2.6520	15200.	113	49990	No
33	GOM_NL__2PRFIN20110921_043608_000000433106_00407_49990_7778.N1	21-SEP-2011 04:36:08	Straylight	43.000	84	Alp Phe	2.3970	4500.0	86	49990	No
34	GOM_NL__2PRFIN20110921_044324_000000563106_00407_49990_7779.N1	21-SEP-2011 04:43:24	Twilight_stray	55.500	52	16Bet Cet	2.0370	4500.0	111	49990	No
35	GOM_NL__2PRFIN20110921_045351_000000383106_00407_49990_7780.N1	21-SEP-2011 04:53:51	Bright	38.000	90	54Alp Peg	2.4870	11000.	76	49990	No
36	GOM_NL__2PRFIN20110921_045736_000000393106_00407_49990_7781.N1	21-SEP-2011 04:57:36	Bright	38.500	93	53Bet Peg	2.5200	3100.0	77	49990	No
37	GOM_NL__2PRFIN20110921_045904_000000433106_00407_49990_7782.N1	21-SEP-2011 04:59:04	Bright	42.500	58	21Alp And	2.0730	11000.	85	49990	No
38	GOM_NL__2PRFIN20110921_050729_000000413106_00407_49990_7783.N1	21-SEP-2011 05:07:29	Bright	40.500	74	11Bet Cas	2.2680	6600.0	81	49990	No
39	GOM_NL__2PRFIN20110921_050906_000000423106_00407_49990_7784.N1	21-SEP-2011 05:09:06	Bright	41.500	76	27Gam Cas	2.3000	30000.	83	49990	No
40	GOM_NL__2PRFIN20110921_053226_000000483106_00407_49990_7785.N1	21-SEP-2011 05:32:26	Bright	48.000	24	66Alp Gem	1.5800	10200.	96	49990	No
41	GOM_NL__2PRFIN20110921_054148_000000633106_00407_49990_7786.N1	21-SEP-2011 05:41:48	Dark	63.000	8	10Alp CMi	0.40000	6500.0	126	49990	No
42	GOM_NL__2PRFIN20110921_055225_000000543106_00407_49990_7787.N1	21-SEP-2011 05:52:25	Dark	54.000	37	25Del CMa	1.8300	5900.0	108	49990	No

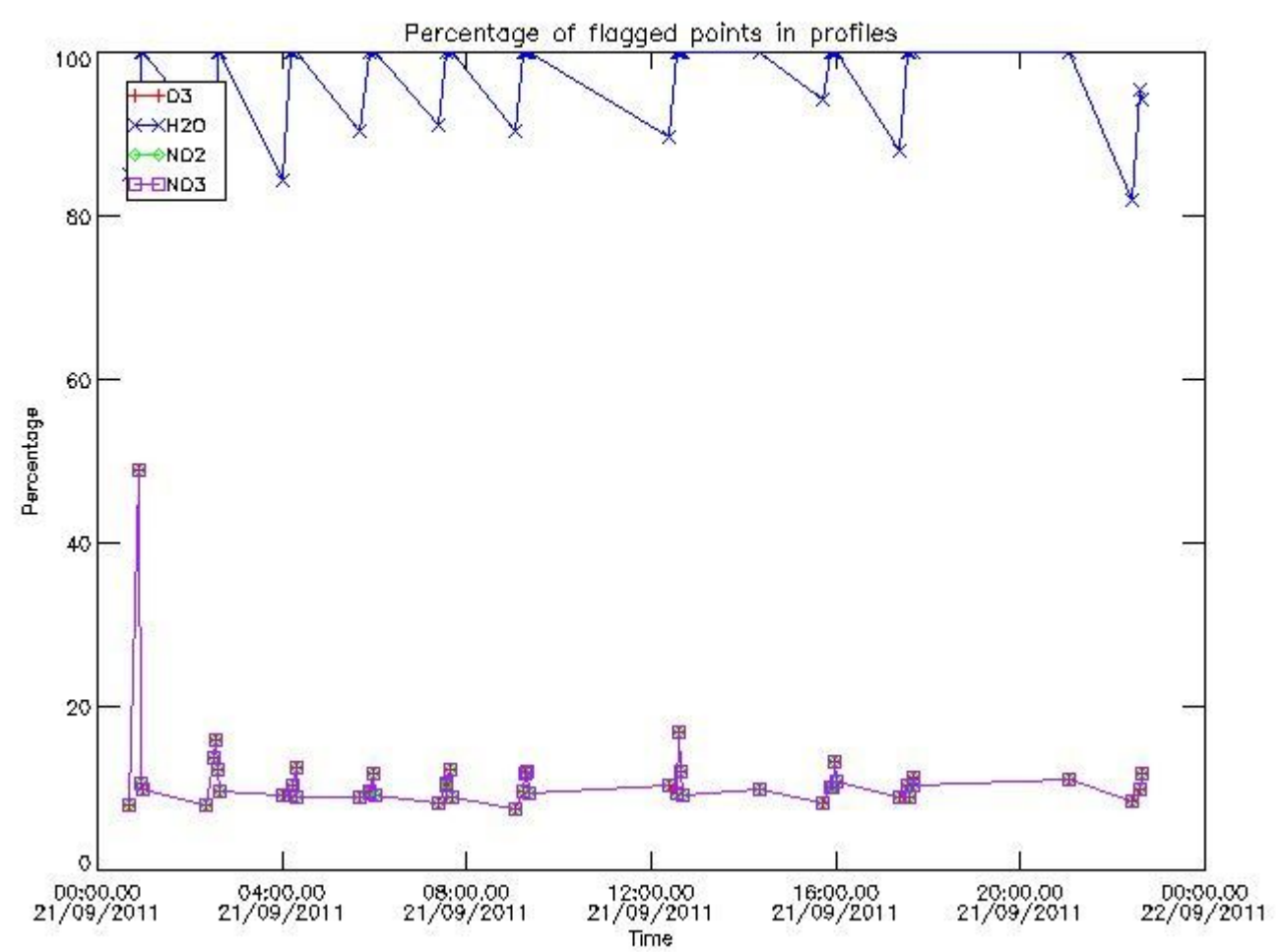


102	GOM_NL__2PRFIN20110921_162503_000000533106_00414_49997_8010.N1	21-SEP-2011 16:25:03	Twilight	52.500	52	16Bet Cet	2.0370	4500.0	105	49997	No
103	GOM_NL__2PRFIN20110921_163913_000000413106_00414_49997_8011.N1	21-SEP-2011 16:39:13	Bright	40.500	93	53Bet Peg	2.5200	3100.0	81	49997	No
104	GOM_NL__2PRFIN20110921_164039_000000443106_00414_49997_8012.N1	21-SEP-2011 16:40:39	Bright	44.000	58	21Alp And	2.0730	11000.	88	49997	No
105	GOM_NL__2PRFIN20110921_164905_000000403106_00414_49997_8013.N1	21-SEP-2011 16:49:05	Bright	40.000	74	11Bet Cas	2.2680	6600.0	80	49997	No
106	GOM_NL__2PRFIN20110921_165040_000000423106_00414_49997_8014.N1	21-SEP-2011 16:50:40	Bright	42.000	76	27Gam Cas	2.3000	30000.	84	49997	No
107	GOM_NL__2PRFIN20110921_171405_000000493106_00414_49997_8015.N1	21-SEP-2011 17:14:05	Bright	48.500	24	66Alp Gem	1.5800	10200.	97	49997	No
108	GOM_NL__2PRFIN20110921_172330_000000633106_00414_49997_8016.N1	21-SEP-2011 17:23:30	Dark	62.500	8	10Alp CMi	0.40000	6500.0	125	49997	No
109	GOM_NL__2PRFIN20110921_173409_000000493106_00414_49997_8017.N1	21-SEP-2011 17:34:09	Dark	49.000	37	25Del CMa	1.8300	5900.0	98	49997	No
110	GOM_NL__2PRFIN20110921_173601_000000573106_00414_49997_8018.N1	21-SEP-2011 17:36:01	Dark	56.500	117	Pi Pup	2.7060	3800.0	113	49997	No
111	GOM_NL__2PRFIN20110921_173945_000000493106_00414_49997_8019.N1	21-SEP-2011 17:39:45	Dark	49.000	161	Tau Pup	2.9310	4500.0	98	49997	No
112	GOM_NL__2PRFIN20110921_174153_000000493106_00415_49998_8037.N1	21-SEP-2011 17:41:53	Dark	49.000	108	Alp Col	2.6520	15200.	98	49998	No
113	GOM_NL__2PRFIN20110921_175802_000000443106_00415_49998_8038.N1	21-SEP-2011 17:58:02	Straylight	44.000	84	Alp Phe	2.3970	4500.0	88	49998	No
114	GOM_NL__2PRFIN20110921_180517_000000523106_00415_49998_8039.N1	21-SEP-2011 18:05:17	Twilight	51.500	52	16Bet Cet	2.0370	4500.0	103	49998	No
115	GOM_NL__2PRFIN20110921_210224_000000463106_00417_50000_8099.N1	21-SEP-2011 21:02:24	Dark	45.500	108	Alp Col	2.6520	15200.	91	50000	No
116	GOM_NL__2PRFIN20110921_211831_000000433106_00417_50000_8100.N1	21-SEP-2011 21:18:31	Straylight	43.000	84	Alp Phe	2.3970	4500.0	86	50000	No
117	GOM_NL__2PRFIN20110921_212545_000000533106_00417_50000_8101.N1	21-SEP-2011 21:25:45	Twilight	52.500	52	16Bet Cet	2.0370	4500.0	105	50000	No
118	GOM_NL__2PRFIN20110921_213610_000000393106_00417_50000_8102.N1	21-SEP-2011 21:36:10	Bright	38.500	90	54Alp Peg	2.4870	11000.	77	50000	No
119	GOM_NL__2PRFIN20110921_213954_000000403106_00417_50000_8103.N1	21-SEP-2011 21:39:54	Bright	40.000	93	53Bet Peg	2.5200	3100.0	80	50000	No
120	GOM_NL__2PRFIN20110921_214119_000000443106_00417_50000_8104.N1	21-SEP-2011 21:41:19	Bright	43.500	58	21Alp And	2.0730	11000.	87	50000	No
121	GOM_NL__2PRFIN20110921_214946_000000413106_00417_50000_8105.N1	21-SEP-2011 21:49:46	Bright	40.500	74	11Bet Cas	2.2680	6600.0	81	50000	No
122	GOM_NL__2PRFIN20110921_215121_000000423106_00417_50000_8106.N1	21-SEP-2011 21:51:21	Bright	41.500	76	27Gam Cas	2.3000	30000.	83	50000	No
123	GOM_NL__2PRFIN20110921_221447_000000493106_00417_50000_8107.N1	21-SEP-2011 22:14:47	Bright	48.500	24	66Alp Gem	1.5800	10200.	97	50000	No
124	GOM_NL__2PRFIN20110921_222414_000000613106_00417_50000_8108.N1	21-SEP-2011 22:24:14	Dark	60.500	8	10Alp CMi	0.40000	6500.0	121	50000	No
125	GOM_NL__2PRFIN20110921_223454_000000573106_00417_50000_8109.N1	21-SEP-2011 22:34:54	Dark	56.500	37	25Del CMa	1.8300	5900.0	113	50000	No
126	GOM_NL__2PRFIN20110921_223645_000000433106_00417_50000_8110.N1	21-SEP-2011 22:36:45	Dark	43.000	117	Pi Pup	2.7060	3800.0	86	50000	No

### 3. Quality information per product

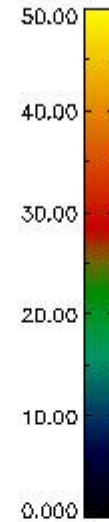
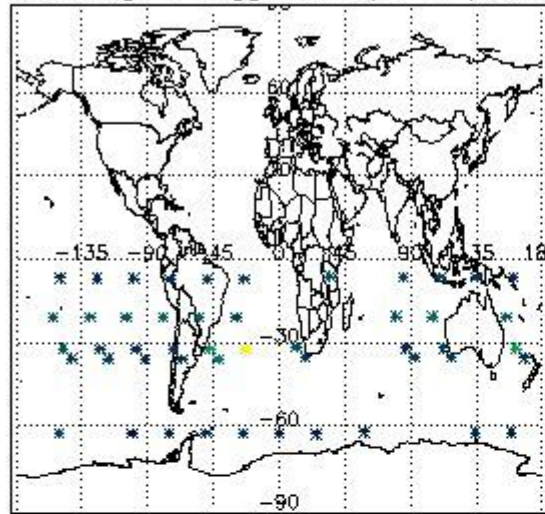
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

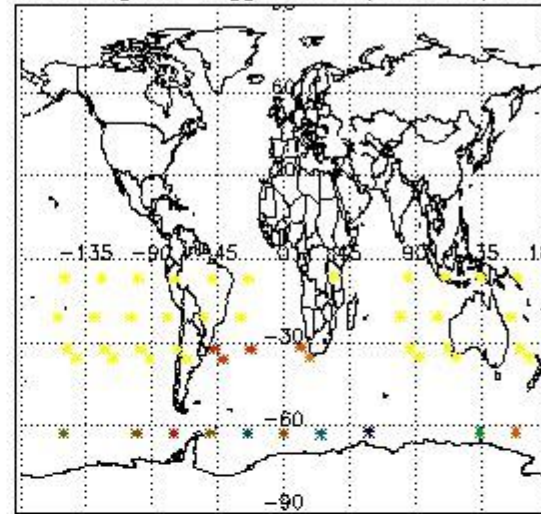


3.2 Plot quality information per product (world map)

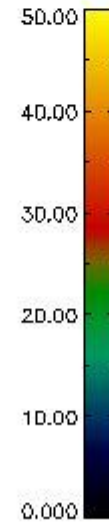
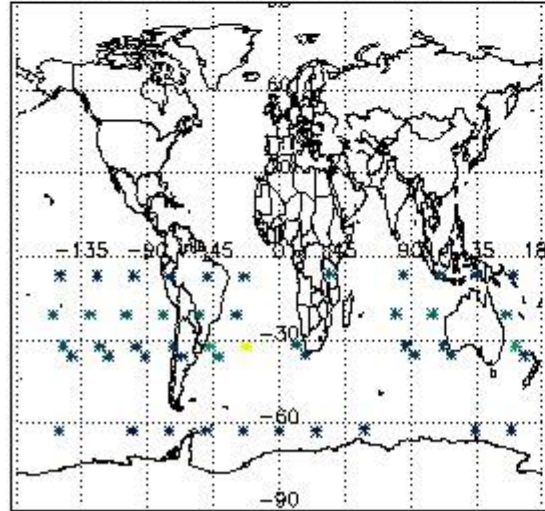
Percentage of flagged data per O3 profile



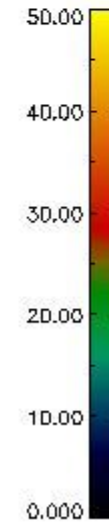
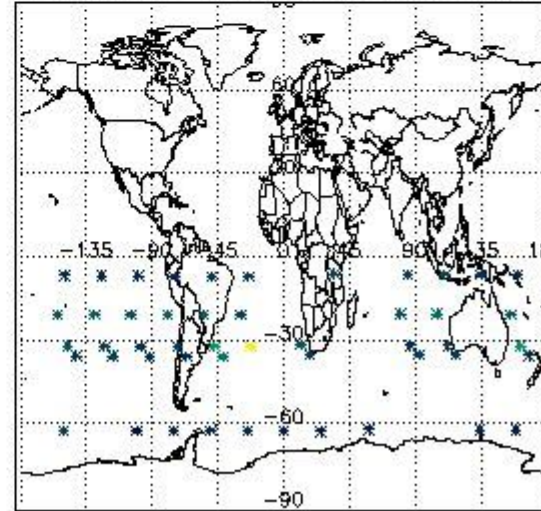
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

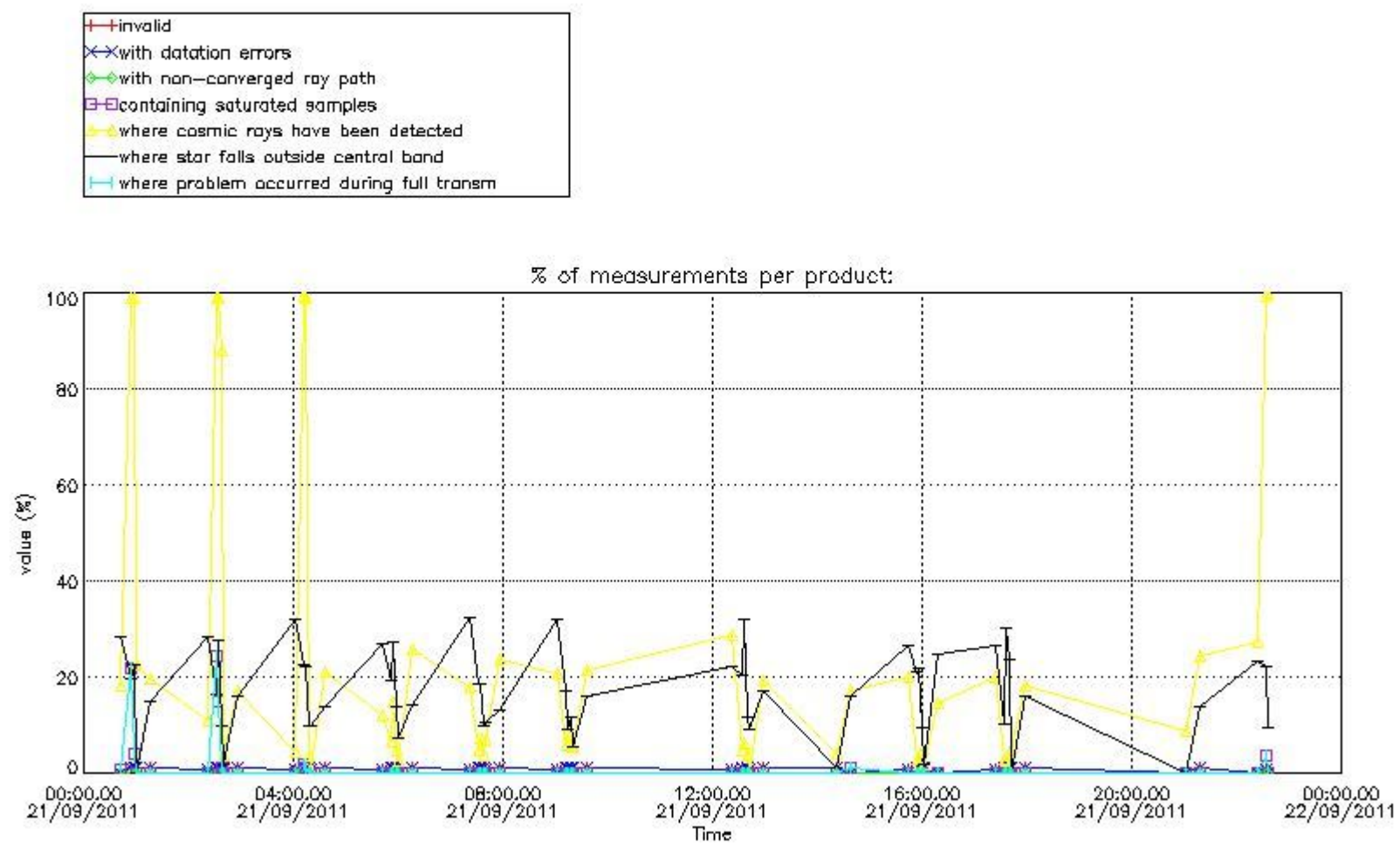


#### 4. Level 1 quality information per product

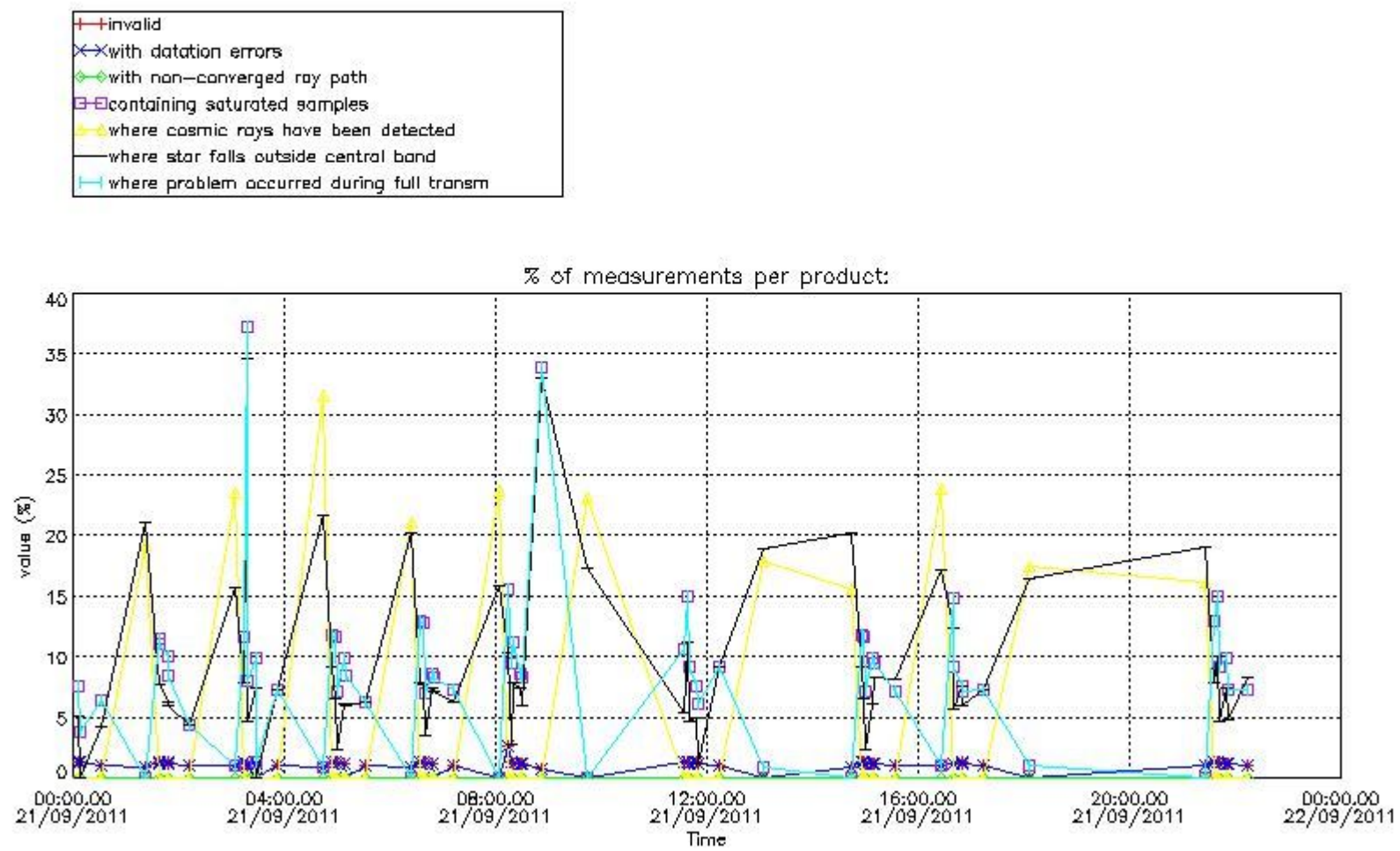
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

##### 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

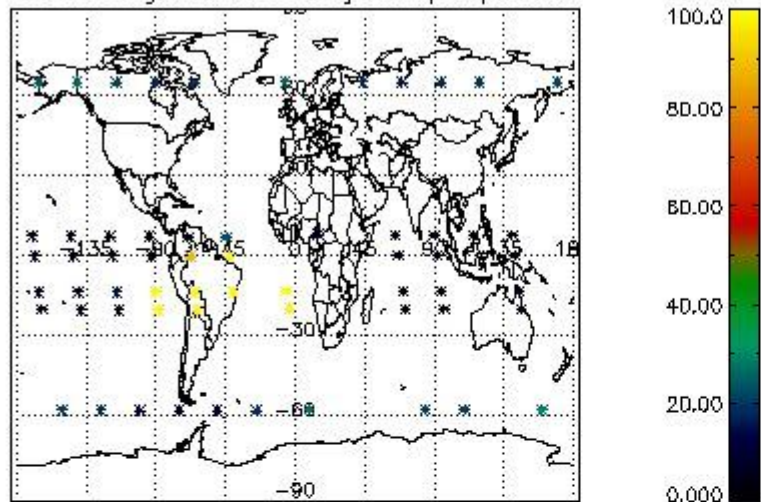


#### 4.2 Plot quality information per product coming from level 1b processing (world map)

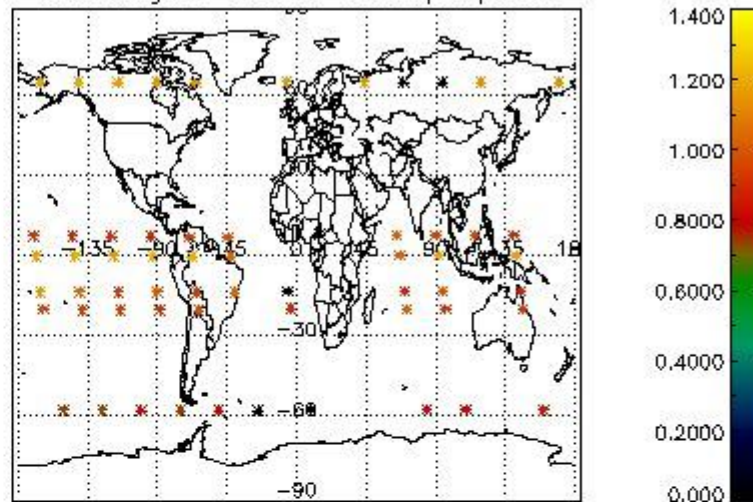
##### 4.2.1 Plot level 1 quality information per product (world map): ENVISAT ASCENDING passes



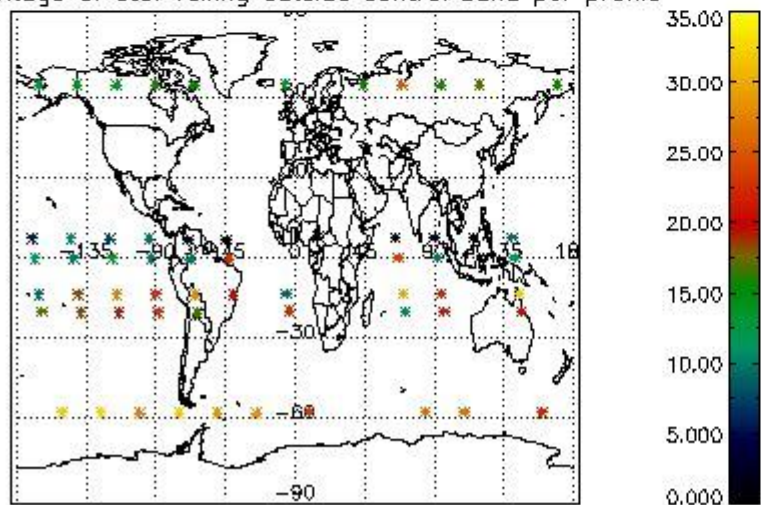
Percentage of cosmic ray hits per profile



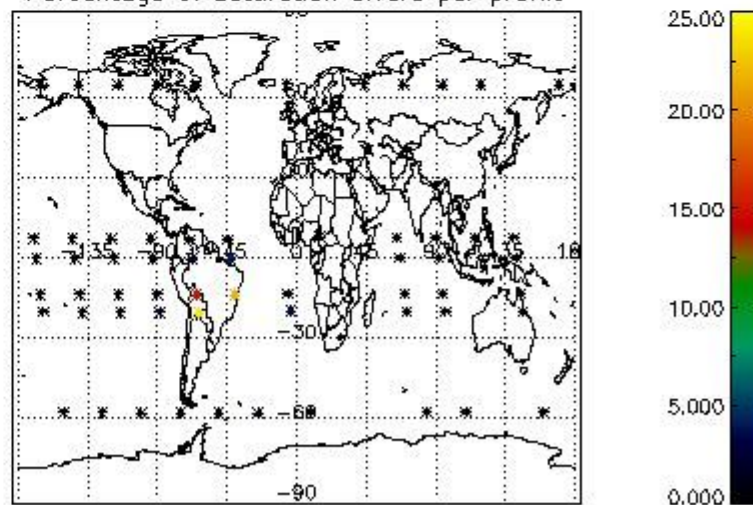
Percentage of datation errors per profile



Percentage of star falling outside central band per profile

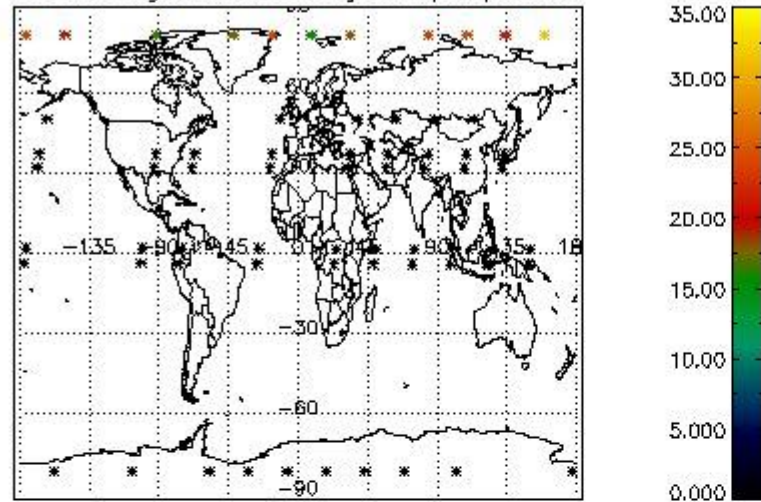


Percentage of saturation errors per profile

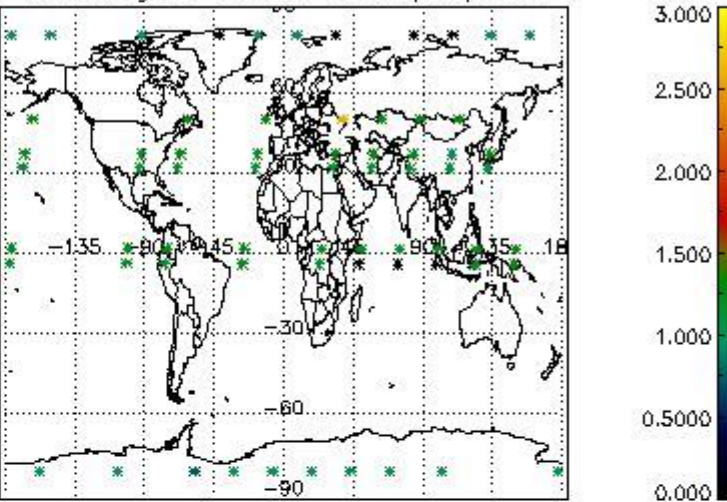


4.2.2 Plot level 1 quality information per product (world map): ENVISAT DESCENDING passes

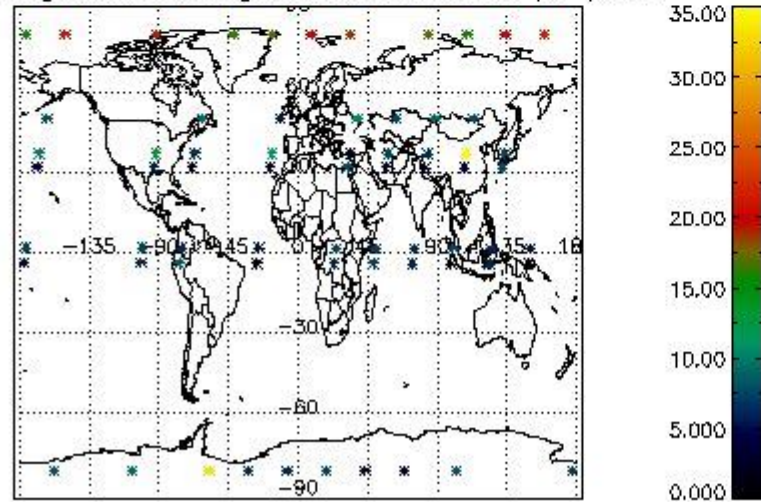
Percentage of cosmic ray hits per profile



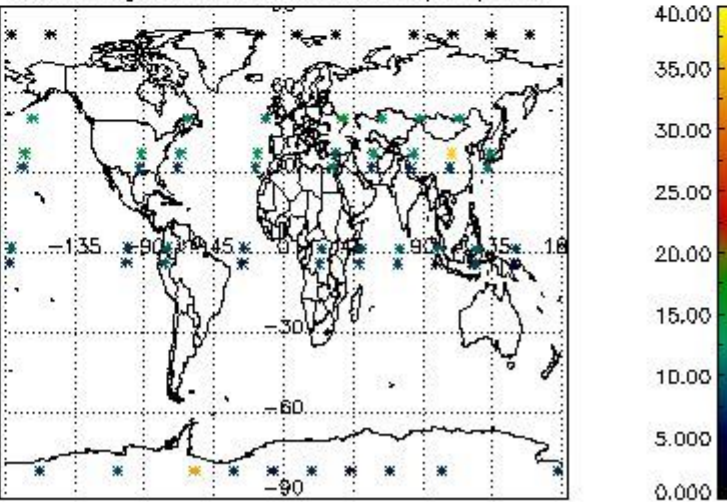
Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile



## 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

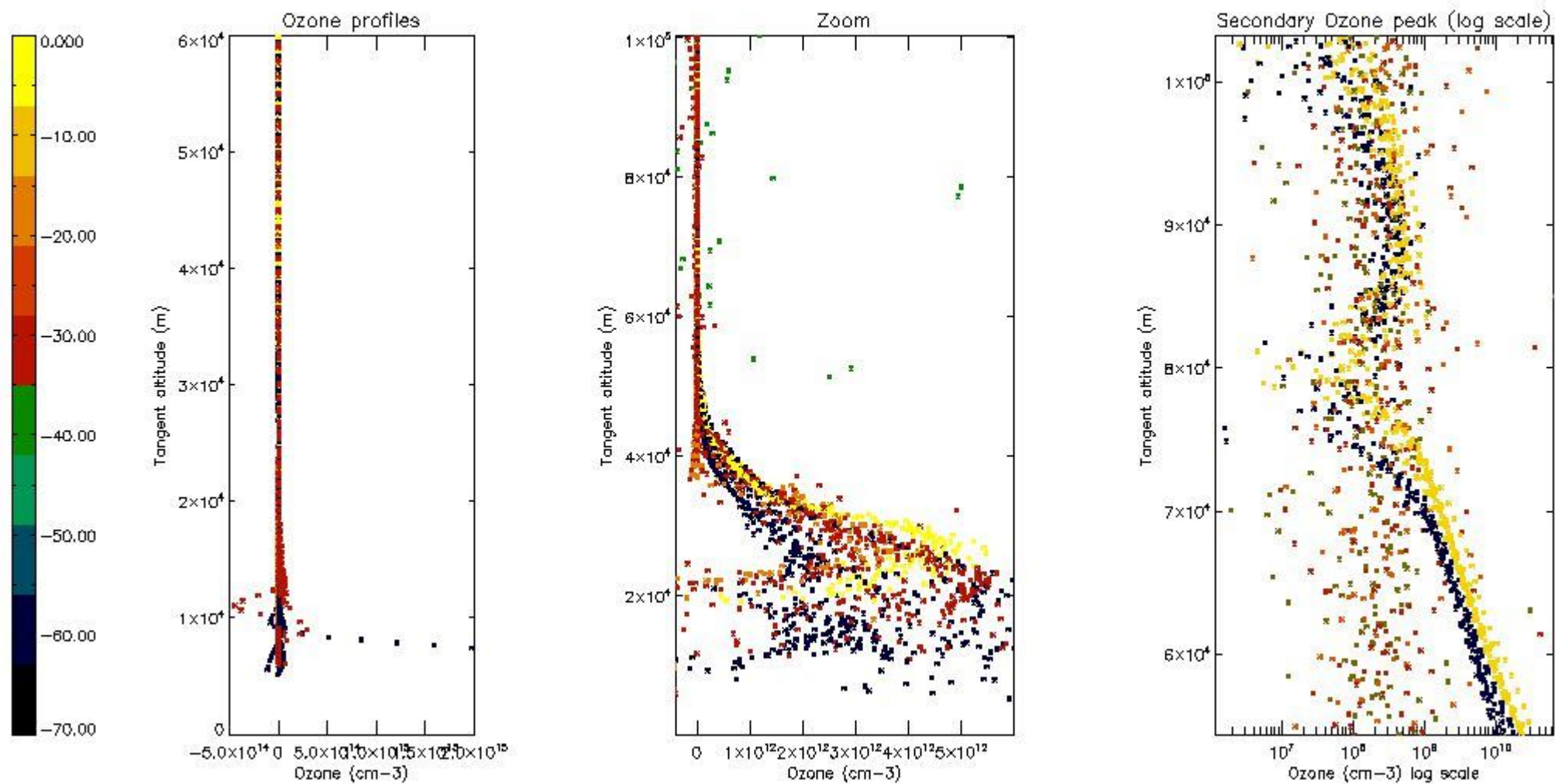
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	44
STD < 20	19

STD < 10	13
STD < 5	9

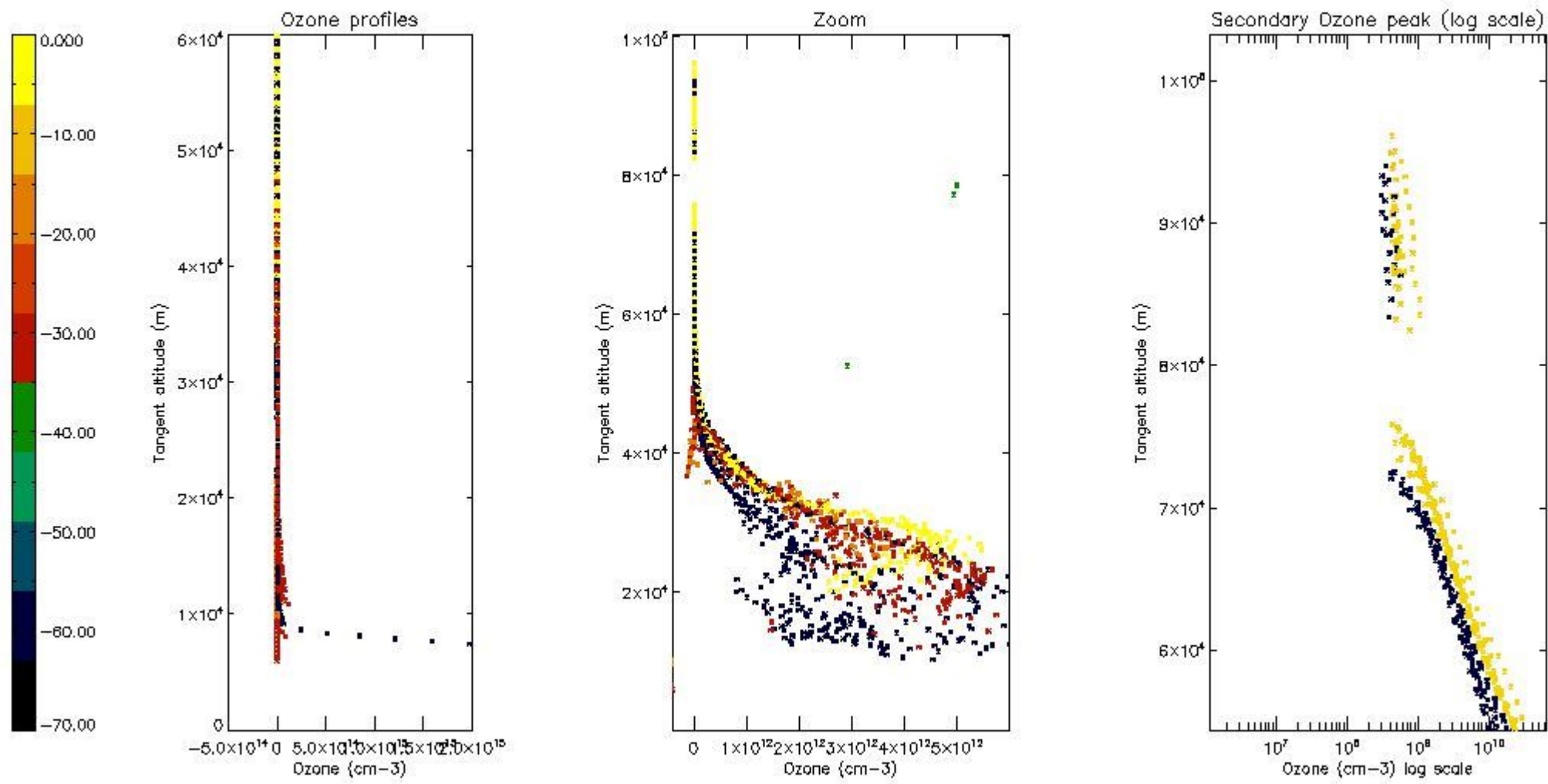
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



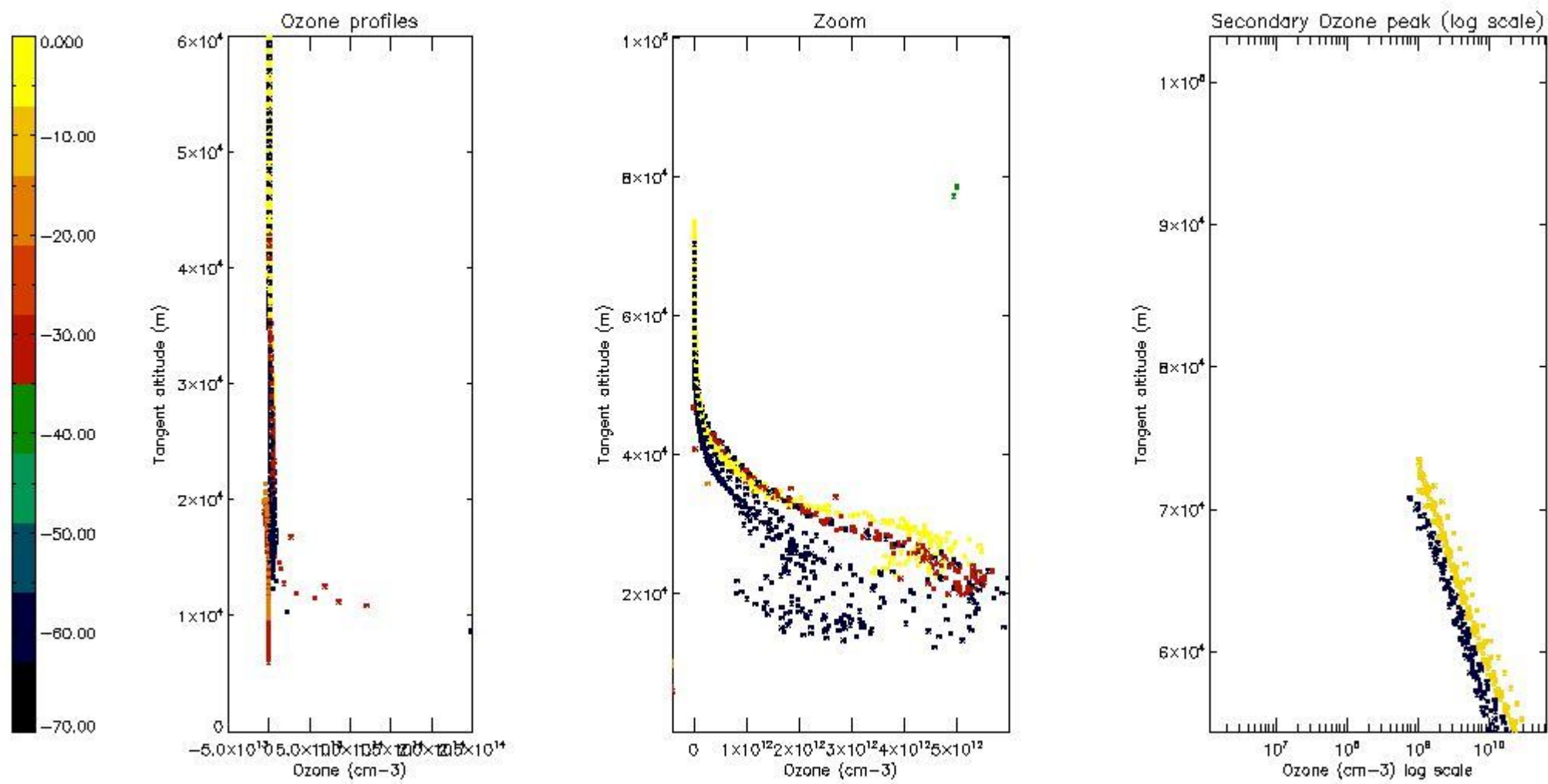
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



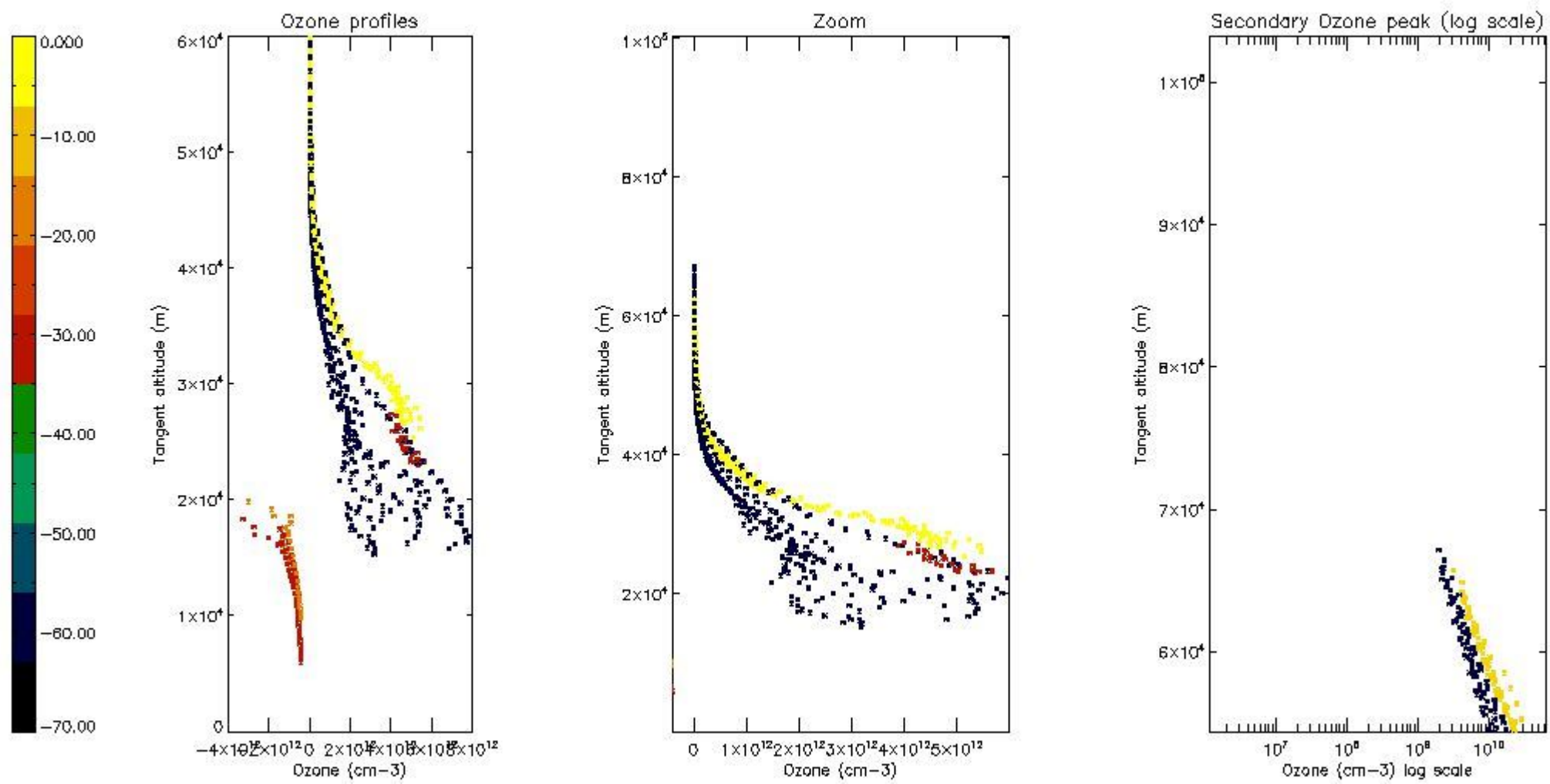
*5.4 Plot ozone profiles where STD < 10% (dark without errors)*

The colorbar represents the latitude.



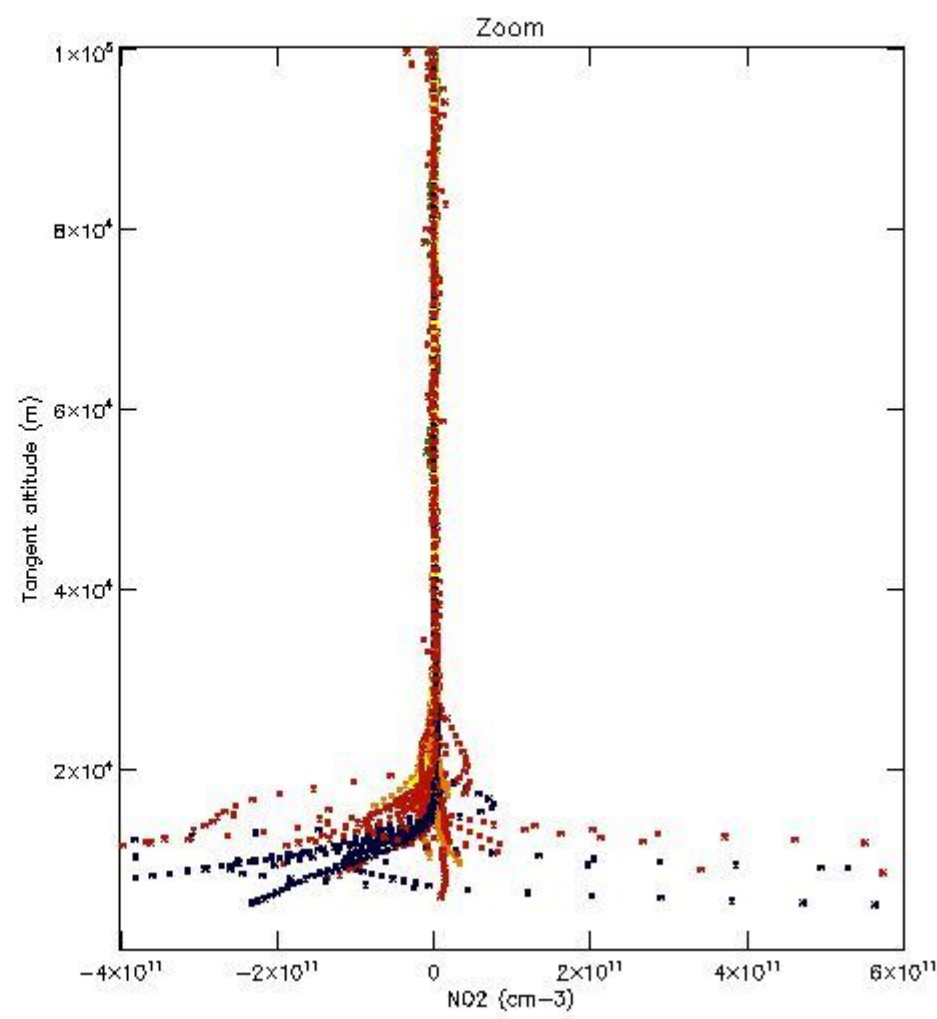
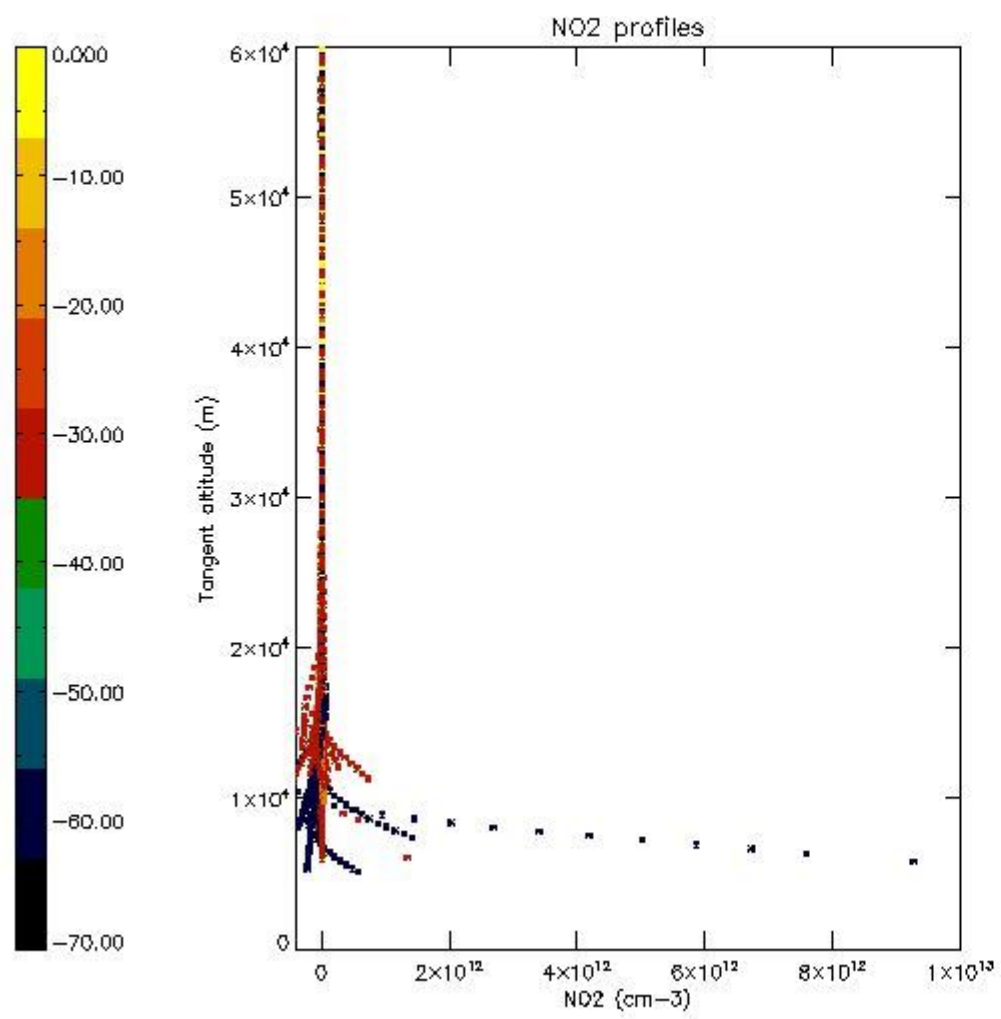
*5.5 Plot ozone profiles where  $STD < 5\%$  (dark without errors)*

The colorbar represents the latitude.



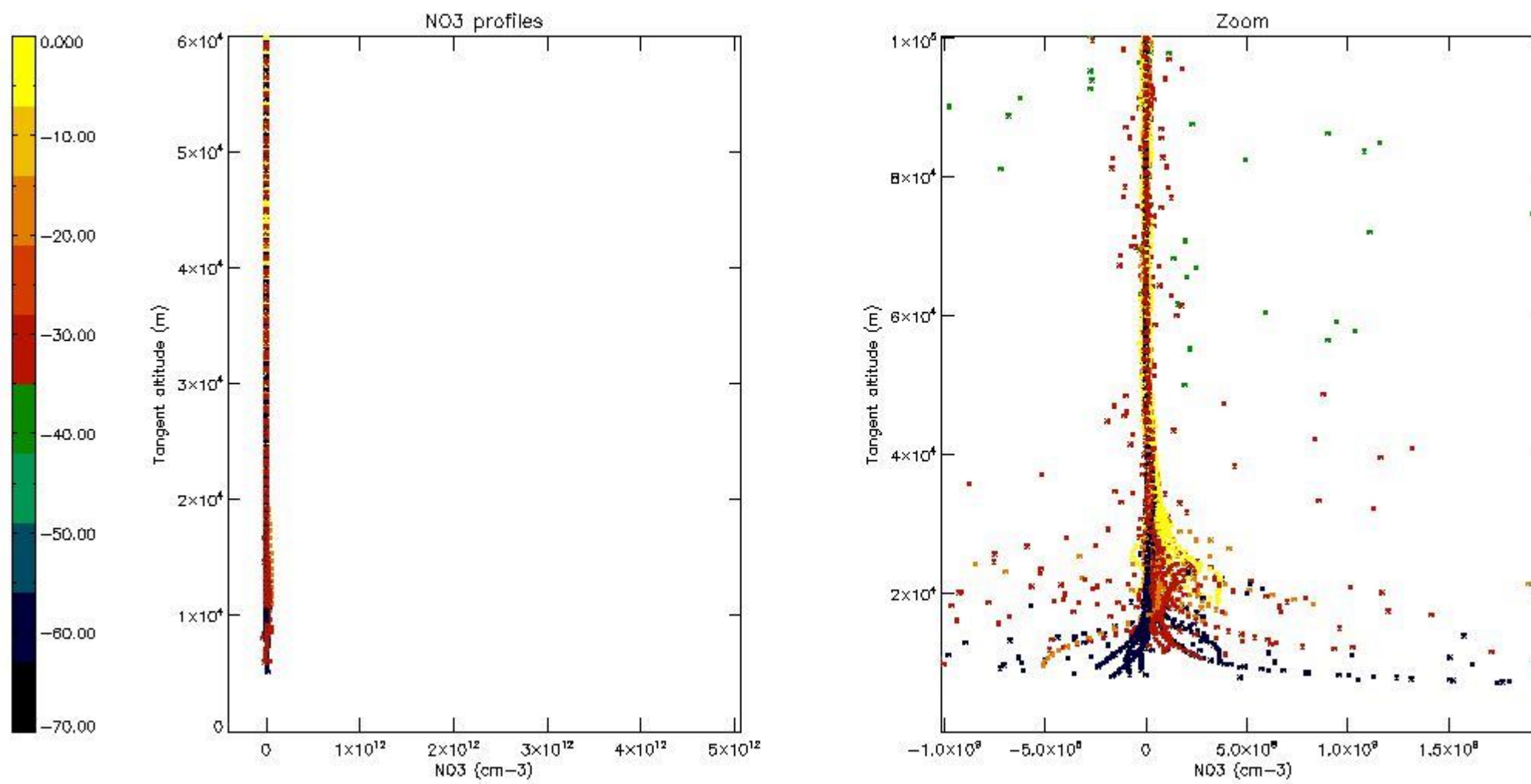
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

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	21-SEP-2011 00:06:49
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	21-SEP-2011 00:06:49
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	21-SEP-2011 00:06:49



# GOMOS Level 2 Daily Report

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

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

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

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	24APR2013 17:49:45
Data source version	GOMOS/6.01
Start time of products	21-09-2011 (21SEP2011 00:00:00)
Stop time of products	22-09-2011 (22SEP2011 00:00:00)
Store outputs in DB	Yes
Nb of level 2 prods	126
Nb of prods with errors	0

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

Nr	Filename	UTC Start time	Limb	Duration	Star Id	Star Name	Star Mag	Star Temp	Nb Meas	Orbit	Prod. error
1	GOM_NL__2PRFIN20110921_000649_000000403106_00404_49987_7710.N1	21-SEP-2011 00:06:49	Bright	39.500	74	11Bet Cas	2.2680	6600.0	79	49987	No
2	GOM_NL__2PRFIN20110921_000826_000000393106_00404_49987_7711.N1	21-SEP-2011 00:08:26	Bright	39.000	76	27Gam Cas	2.3000	30000.	78	49987	No
3	GOM_NL__2PRFIN20110921_003144_000000473106_00404_49987_7712.N1	21-SEP-2011 00:31:44	Bright	47.000	24	66Alp Gem	1.5800	10200.	94	49987	No
4	GOM_NL__2PRFIN20110921_004103_000000643106_00404_49987_7713.N1	21-SEP-2011 00:41:03	Dark	63.500	8	10Alp CMi	0.40000	6500.0	127	49987	No
5	GOM_NL__2PRFIN20110921_005334_000000493106_00404_49987_7714.N1	21-SEP-2011 00:53:34	Dark	48.500	117	Pi Pup	2.7060	3800.0	97	49987	No
6	GOM_NL__2PRFIN20110921_005719_000000493106_00404_49987_7715.N1	21-SEP-2011 00:57:19	Dark	48.500	161	Tau Pup	2.9310	4500.0	97	49987	No
7	GOM_NL__2PRFIN20110921_005920_000000513106_00405_49988_7718.N1	21-SEP-2011 00:59:20	Dark	51.000	108	Alp Col	2.6520	15200.	102	49988	No
8	GOM_NL__2PRFIN20110921_011539_000000443106_00405_49988_7719.N1	21-SEP-2011 01:15:39	Straylight	43.500	84	Alp Phe	2.3970	4500.0	87	49988	No
9	GOM_NL__2PRFIN20110921_012256_000000553106_00405_49988_7720.N1	21-SEP-2011 01:22:56	Twilight_stray	54.500	52	16Bet Cet	2.0370	4500.0	109	49988	No
10	GOM_NL__2PRFIN20110921_013708_000000393106_00405_49988_7721.N1	21-SEP-2011 01:37:08	Bright	39.000	93	53Bet Peg	2.5200	3100.0	78	49988	No
11	GOM_NL__2PRFIN20110921_013837_000000453106_00405_49988_7722.N1	21-SEP-2011 01:38:37	Bright	45.000	58	21Alp And	2.0730	11000.	90	49988	No
12	GOM_NL__2PRFIN20110921_014702_000000403106_00405_49988_7723.N1	21-SEP-2011 01:47:02	Bright	40.000	74	11Bet Cas	2.2680	6600.0	80	49988	No
13	GOM_NL__2PRFIN20110921_014839_000000423106_00405_49988_7724.N1	21-SEP-2011 01:48:39	Bright	41.500	76	27Gam Cas	2.3000	30000.	83	49988	No
14	GOM_NL__2PRFIN20110921_021158_000000473106_00405_49988_7725.N1	21-SEP-2011 02:11:58	Bright	46.500	24	66Alp Gem	1.5800	10200.	93	49988	No
15	GOM_NL__2PRFIN20110921_022118_000000643106_00405_49988_7726.N1	21-SEP-2011 02:21:18	Dark	63.500	8	10Alp CMi	0.40000	6500.0	127	49988	No
16	GOM_NL__2PRFIN20110921_023155_000000523106_00405_49988_7727.N1	21-SEP-2011 02:31:55	Dark	51.500	37	25Del CMa	1.8300	5900.0	103	49988	No
17	GOM_NL__2PRFIN20110921_023348_000000543106_00405_49988_7728.N1	21-SEP-2011 02:33:48	Dark	54.000	117	Pi Pup	2.7060	3800.0	108	49988	No
18	GOM_NL__2PRFIN20110921_023734_000000423106_00405_49988_7729.N1	21-SEP-2011 02:37:34	Dark	41.500	161	Tau Pup	2.9310	4500.0	83	49988	No
19	GOM_NL__2PRFIN20110921_023935_000000533106_00406_49989_7735.N1	21-SEP-2011 02:39:35	Dark	52.500	108	Alp Col	2.6520	15200.	105	49989	No
20	GOM_NL__2PRFIN20110921_025553_000000443106_00406_49989_7736.N1	21-SEP-2011 02:55:53	Straylight	43.500	84	Alp Phe	2.3970	4500.0	87	49989	No
21	GOM_NL__2PRFIN20110921_030310_000000513106_00406_49989_7737.N1	21-SEP-2011 03:03:10	Twilight_stray	51.000	52	16Bet Cet	2.0370	4500.0	102	49989	No
22	GOM_NL__2PRFIN20110921_031337_000000393106_00406_49989_7738.N1	21-SEP-2011 03:13:37	Bright	38.500	90	54Alp Peg	2.4870	11000.	77	49989	No
23	GOM_NL__2PRFIN20110921_031722_000000553106_00406_49989_7739.N1	21-SEP-2011 03:17:22	Bright	55.000	93	53Bet Peg	2.5200	3100.0	110	49989	No
24	GOM_NL__2PRFIN20110921_031851_000000443106_00406_49989_7740.N1	21-SEP-2011 03:18:51	Bright	43.500	58	21Alp And	2.0730	11000.	87	49989	No
25	GOM_NL__2PRFIN20110921_032716_000000413106_00406_49989_7741.N1	21-SEP-2011 03:27:16	Bright	40.500	74	11Bet Cas	2.2680	6600.0	81	49989	No
26	GOM_NL__2PRFIN20110921_032852_000000383106_00406_49989_7742.N1	21-SEP-2011 03:28:52	Bright	37.500	76	27Gam Cas	2.3000	30000.	75	49989	No
27	GOM_NL__2PRFIN20110921_035212_000000493106_00406_49989_7743.N1	21-SEP-2011 03:52:12	Bright	48.500	24	66Alp Gem	1.5800	10200.	97	49989	No
28	GOM_NL__2PRFIN20110921_040133_000000683106_00406_49989_7744.N1	21-SEP-2011 04:01:33	Dark	67.500	8	10Alp CMi	0.40000	6500.0	135	49989	No
29	GOM_NL__2PRFIN20110921_041210_000000563106_00406_49989_7745.N1	21-SEP-2011 04:12:10	Dark	55.500	37	25Del CMa	1.8300	5900.0	111	49989	No
30	GOM_NL__2PRFIN20110921_041403_000000503106_00406_49989_7746.N1	21-SEP-2011 04:14:03	Dark	49.500	117	Pi Pup	2.7060	3800.0	99	49989	No
31	GOM_NL__2PRFIN20110921_041748_000000413106_00406_49989_7747.N1	21-SEP-2011 04:17:48	Dark	40.500	161	Tau Pup	2.9310	4500.0	81	49989	No
32	GOM_NL__2PRFIN20110921_041950_000000573106_00407_49990_7777.N1	21-SEP-2011 04:19:50	Dark	56.500	108	Alp Col	2.6520	15200.	113	49990	No
33	GOM_NL__2PRFIN20110921_043608_000000433106_00407_49990_7778.N1	21-SEP-2011 04:36:08	Straylight	43.000	84	Alp Phe	2.3970	4500.0	86	49990	No
34	GOM_NL__2PRFIN20110921_044324_000000563106_00407_49990_7779.N1	21-SEP-2011 04:43:24	Twilight_stray	55.500	52	16Bet Cet	2.0370	4500.0	111	49990	No
35	GOM_NL__2PRFIN20110921_045351_000000383106_00407_49990_7780.N1	21-SEP-2011 04:53:51	Bright	38.000	90	54Alp Peg	2.4870	11000.	76	49990	No
36	GOM_NL__2PRFIN20110921_045736_000000393106_00407_49990_7781.N1	21-SEP-2011 04:57:36	Bright	38.500	93	53Bet Peg	2.5200	3100.0	77	49990	No
37	GOM_NL__2PRFIN20110921_045904_000000433106_00407_49990_7782.N1	21-SEP-2011 04:59:04	Bright	42.500	58	21Alp And	2.0730	11000.	85	49990	No
38	GOM_NL__2PRFIN20110921_050729_000000413106_00407_49990_7783.N1	21-SEP-2011 05:07:29	Bright	40.500	74	11Bet Cas	2.2680	6600.0	81	49990	No
39	GOM_NL__2PRFIN20110921_050906_000000423106_00407_49990_7784.N1	21-SEP-2011 05:09:06	Bright	41.500	76	27Gam Cas	2.3000	30000.	83	49990	No
40	GOM_NL__2PRFIN20110921_053226_000000483106_00407_49990_7785.N1	21-SEP-2011 05:32:26	Bright	48.000	24	66Alp Gem	1.5800	10200.	96	49990	No
41	GOM_NL__2PRFIN20110921_054148_000000633106_00407_49990_7786.N1	21-SEP-2011 05:41:48	Dark	63.000	8	10Alp CMi	0.40000	6500.0	126	49990	No
42	GOM_NL__2PRFIN20110921_055225_000000543106_00407_49990_7787.N1	21-SEP-2011 05:52:25	Dark	54.000	37	25Del CMa	1.8300	5900.0	108	49990	No

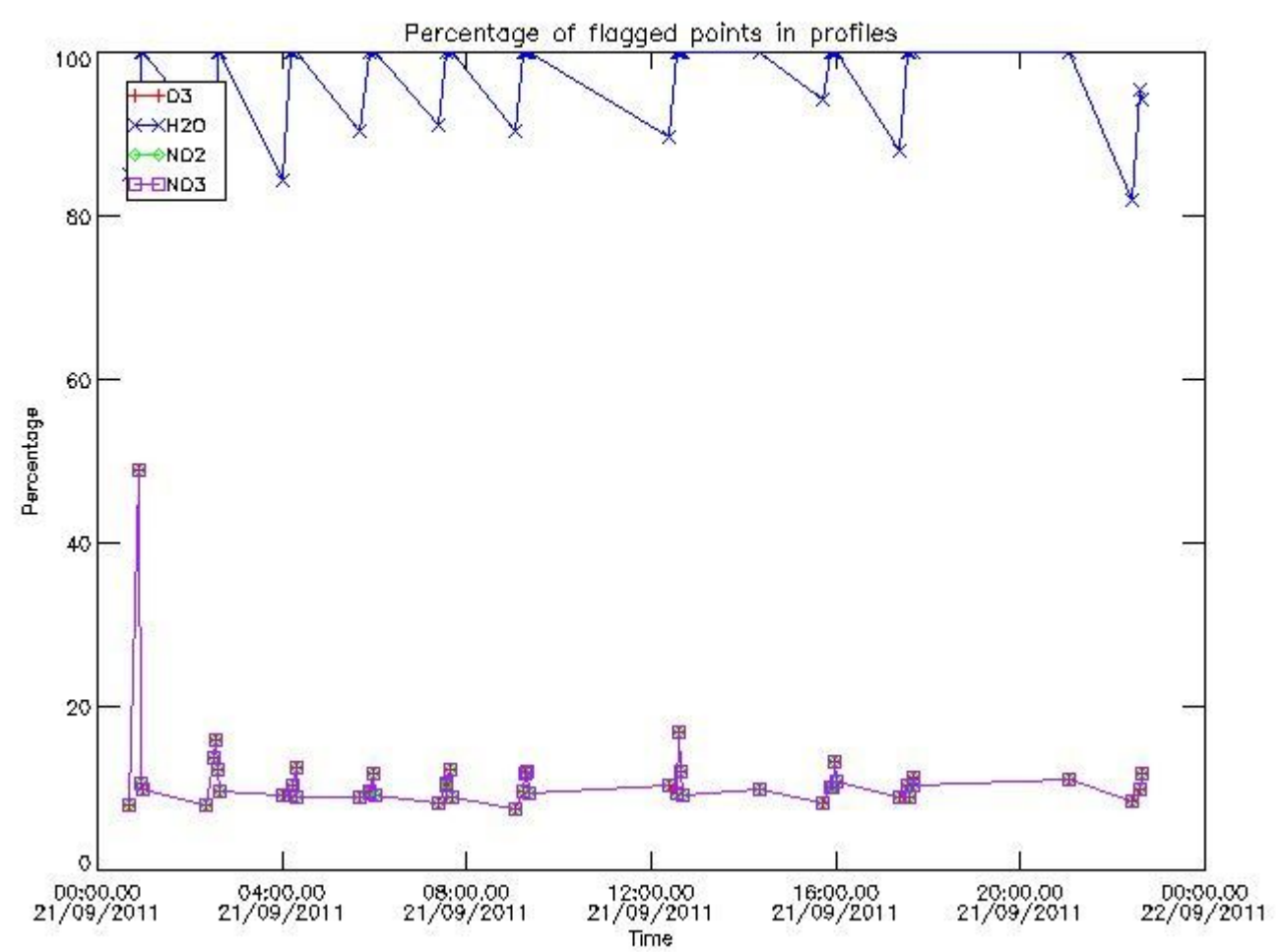


102	GOM_NL__2PRFIN20110921_162503_000000533106_00414_49997_8010.N1	21-SEP-2011 16:25:03	Twilight	52.500	52	16Bet Cet	2.0370	4500.0	105	49997	No
103	GOM_NL__2PRFIN20110921_163913_000000413106_00414_49997_8011.N1	21-SEP-2011 16:39:13	Bright	40.500	93	53Bet Peg	2.5200	3100.0	81	49997	No
104	GOM_NL__2PRFIN20110921_164039_000000443106_00414_49997_8012.N1	21-SEP-2011 16:40:39	Bright	44.000	58	21Alp And	2.0730	11000.	88	49997	No
105	GOM_NL__2PRFIN20110921_164905_000000403106_00414_49997_8013.N1	21-SEP-2011 16:49:05	Bright	40.000	74	11Bet Cas	2.2680	6600.0	80	49997	No
106	GOM_NL__2PRFIN20110921_165040_000000423106_00414_49997_8014.N1	21-SEP-2011 16:50:40	Bright	42.000	76	27Gam Cas	2.3000	30000.	84	49997	No
107	GOM_NL__2PRFIN20110921_171405_000000493106_00414_49997_8015.N1	21-SEP-2011 17:14:05	Bright	48.500	24	66Alp Gem	1.5800	10200.	97	49997	No
108	GOM_NL__2PRFIN20110921_172330_000000633106_00414_49997_8016.N1	21-SEP-2011 17:23:30	Dark	62.500	8	10Alp CMi	0.40000	6500.0	125	49997	No
109	GOM_NL__2PRFIN20110921_173409_000000493106_00414_49997_8017.N1	21-SEP-2011 17:34:09	Dark	49.000	37	25Del CMa	1.8300	5900.0	98	49997	No
110	GOM_NL__2PRFIN20110921_173601_000000573106_00414_49997_8018.N1	21-SEP-2011 17:36:01	Dark	56.500	117	Pi Pup	2.7060	3800.0	113	49997	No
111	GOM_NL__2PRFIN20110921_173945_000000493106_00414_49997_8019.N1	21-SEP-2011 17:39:45	Dark	49.000	161	Tau Pup	2.9310	4500.0	98	49997	No
112	GOM_NL__2PRFIN20110921_174153_000000493106_00415_49998_8037.N1	21-SEP-2011 17:41:53	Dark	49.000	108	Alp Col	2.6520	15200.	98	49998	No
113	GOM_NL__2PRFIN20110921_175802_000000443106_00415_49998_8038.N1	21-SEP-2011 17:58:02	Straylight	44.000	84	Alp Phe	2.3970	4500.0	88	49998	No
114	GOM_NL__2PRFIN20110921_180517_000000523106_00415_49998_8039.N1	21-SEP-2011 18:05:17	Twilight	51.500	52	16Bet Cet	2.0370	4500.0	103	49998	No
115	GOM_NL__2PRFIN20110921_210224_000000463106_00417_50000_8099.N1	21-SEP-2011 21:02:24	Dark	45.500	108	Alp Col	2.6520	15200.	91	50000	No
116	GOM_NL__2PRFIN20110921_211831_000000433106_00417_50000_8100.N1	21-SEP-2011 21:18:31	Straylight	43.000	84	Alp Phe	2.3970	4500.0	86	50000	No
117	GOM_NL__2PRFIN20110921_212545_000000533106_00417_50000_8101.N1	21-SEP-2011 21:25:45	Twilight	52.500	52	16Bet Cet	2.0370	4500.0	105	50000	No
118	GOM_NL__2PRFIN20110921_213610_000000393106_00417_50000_8102.N1	21-SEP-2011 21:36:10	Bright	38.500	90	54Alp Peg	2.4870	11000.	77	50000	No
119	GOM_NL__2PRFIN20110921_213954_000000403106_00417_50000_8103.N1	21-SEP-2011 21:39:54	Bright	40.000	93	53Bet Peg	2.5200	3100.0	80	50000	No
120	GOM_NL__2PRFIN20110921_214119_000000443106_00417_50000_8104.N1	21-SEP-2011 21:41:19	Bright	43.500	58	21Alp And	2.0730	11000.	87	50000	No
121	GOM_NL__2PRFIN20110921_214946_000000413106_00417_50000_8105.N1	21-SEP-2011 21:49:46	Bright	40.500	74	11Bet Cas	2.2680	6600.0	81	50000	No
122	GOM_NL__2PRFIN20110921_215121_000000423106_00417_50000_8106.N1	21-SEP-2011 21:51:21	Bright	41.500	76	27Gam Cas	2.3000	30000.	83	50000	No
123	GOM_NL__2PRFIN20110921_221447_000000493106_00417_50000_8107.N1	21-SEP-2011 22:14:47	Bright	48.500	24	66Alp Gem	1.5800	10200.	97	50000	No
124	GOM_NL__2PRFIN20110921_222414_000000613106_00417_50000_8108.N1	21-SEP-2011 22:24:14	Dark	60.500	8	10Alp CMi	0.40000	6500.0	121	50000	No
125	GOM_NL__2PRFIN20110921_223454_000000573106_00417_50000_8109.N1	21-SEP-2011 22:34:54	Dark	56.500	37	25Del CMa	1.8300	5900.0	113	50000	No
126	GOM_NL__2PRFIN20110921_223645_000000433106_00417_50000_8110.N1	21-SEP-2011 22:36:45	Dark	43.000	117	Pi Pup	2.7060	3800.0	86	50000	No

### 3. Quality information per product

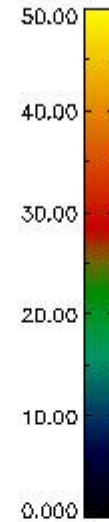
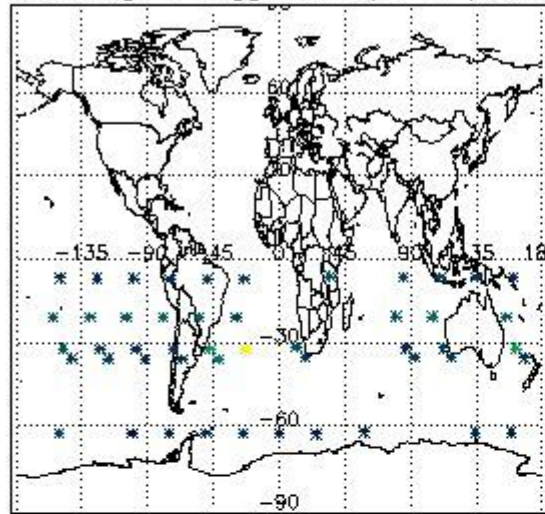
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products. Only products in dark limb conditions and without errors (error flag in the MPH set to "0") are used.

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

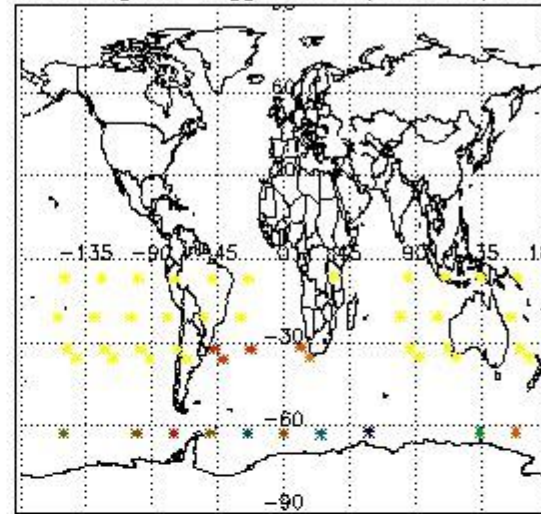


3.2 Plot quality information per product (world map)

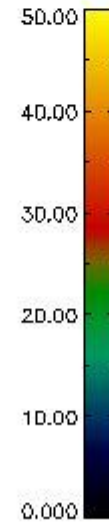
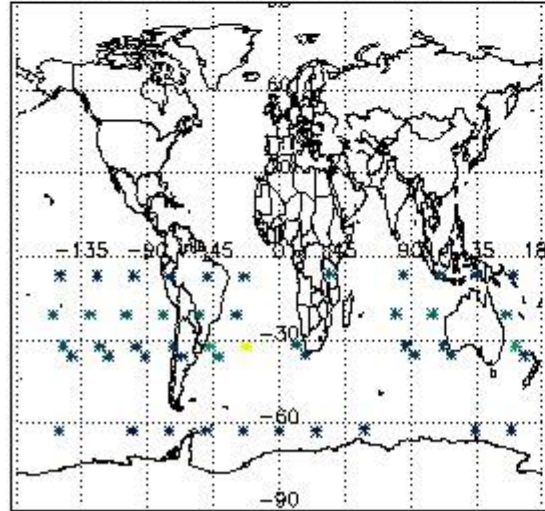
Percentage of flagged data per O3 profile



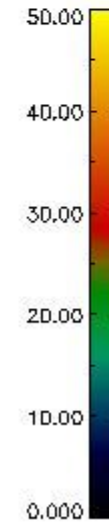
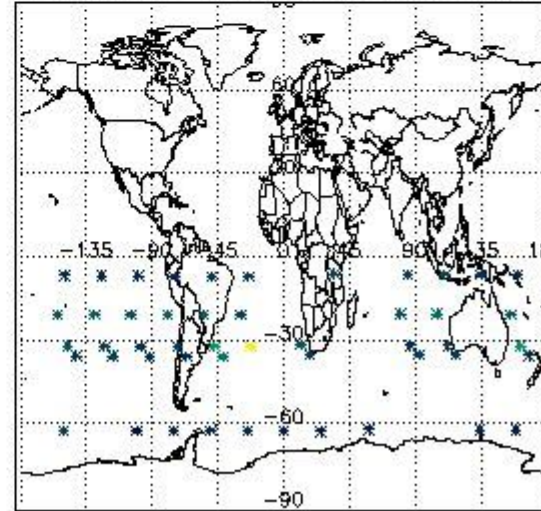
Percentage of flagged data per H2O profile



Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

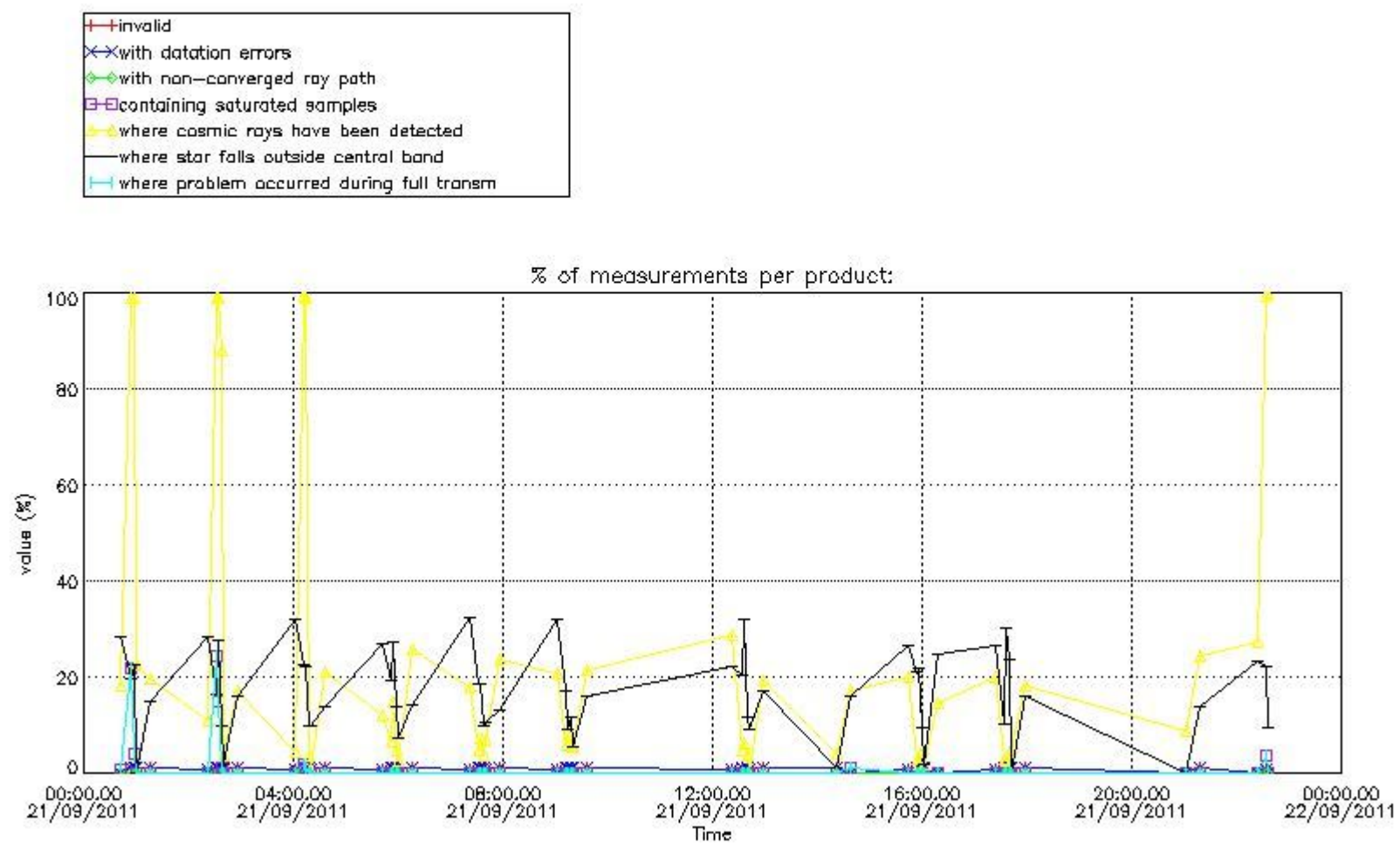


#### 4. Level 1 quality information per product

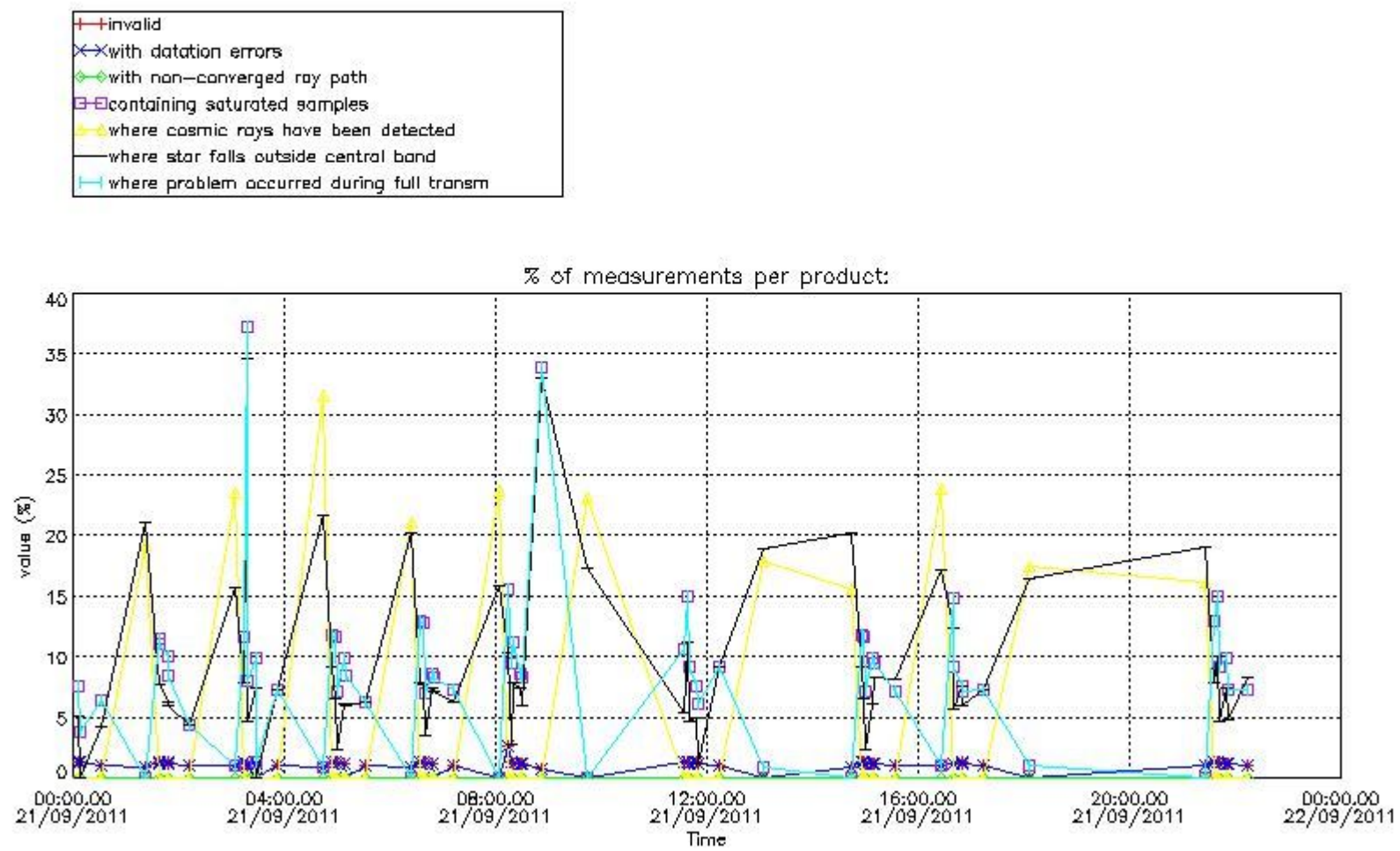
In this section it is plotted some information contained in the Quality Summary data set of the level 2 products that comes from the level 1b processing. Products without errors (error flag in the MPH set to "0") are used.

##### 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

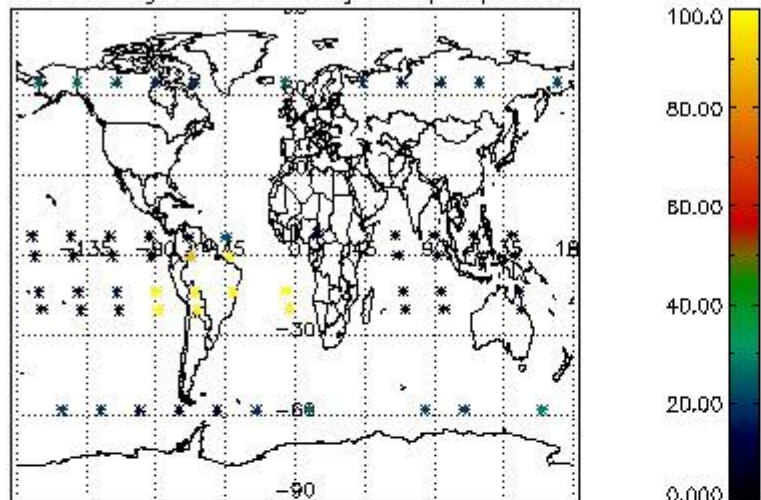


4.2 Plot quality information per product coming from level 1b processing (world map)

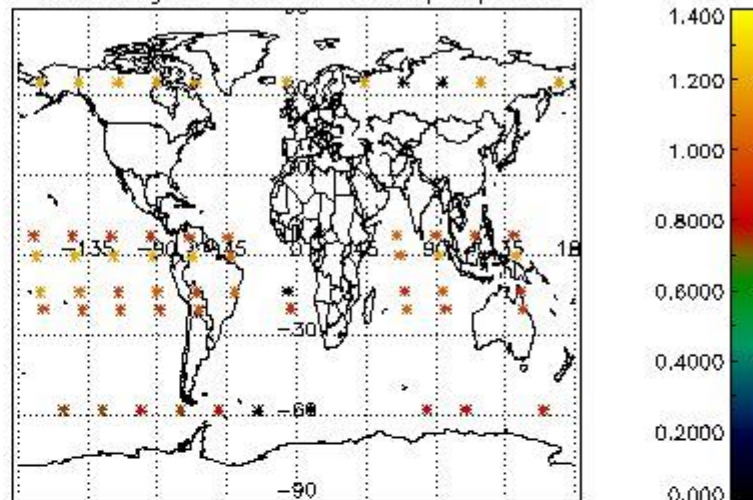
4.2.1 Plot level 1 quality information per product (world map): ENVISAT ASCENDING passes



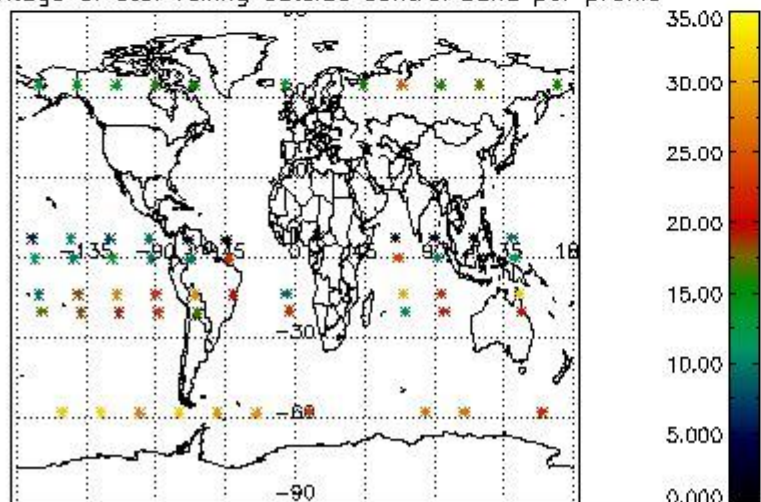
Percentage of cosmic ray hits per profile



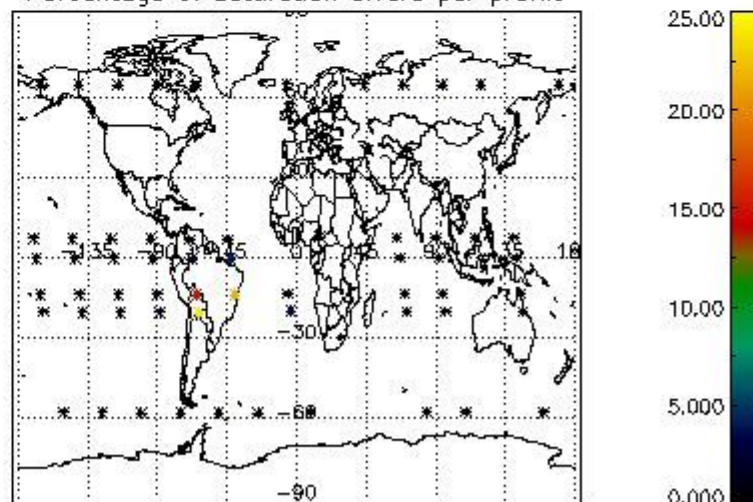
Percentage of datation errors per profile



Percentage of star falling outside central band per profile

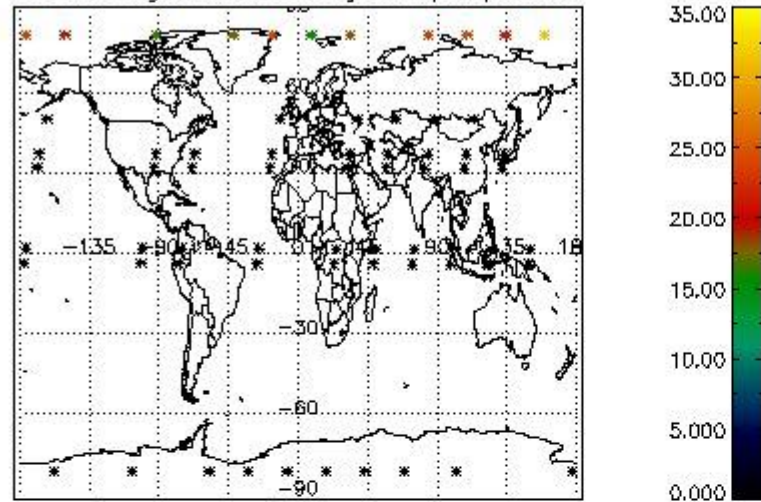


Percentage of saturation errors per profile

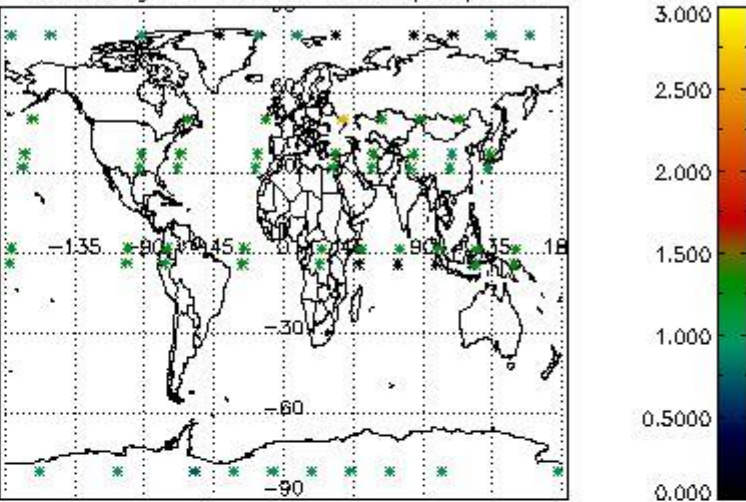


4.2.2 Plot level 1 quality information per product (world map): ENVISAT DESCENDING passes

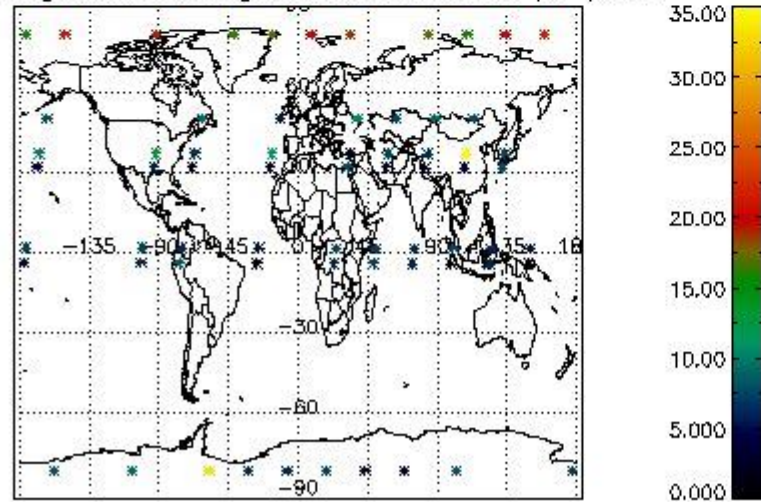
Percentage of cosmic ray hits per profile



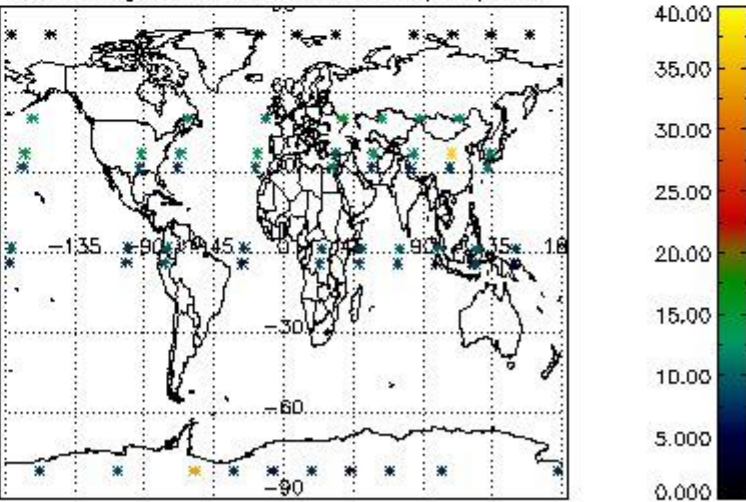
Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile



## 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

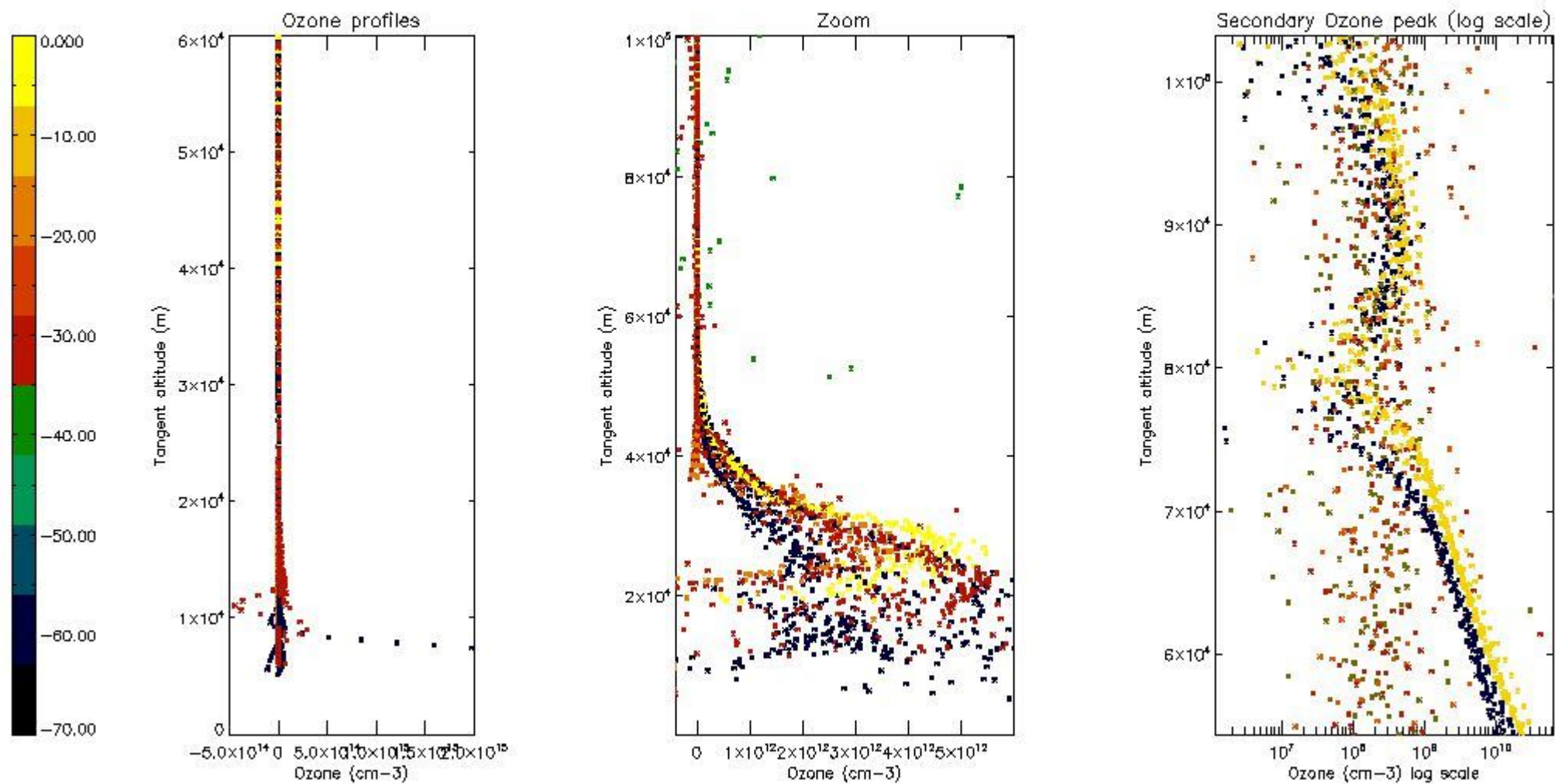
So, the table below shows the percentage of dark limb and valid observations for each criteria with respect to the overall valid daily observations.

Criteria	% of total production
All STD	44
STD < 20	19

STD < 10	13
STD < 5	9

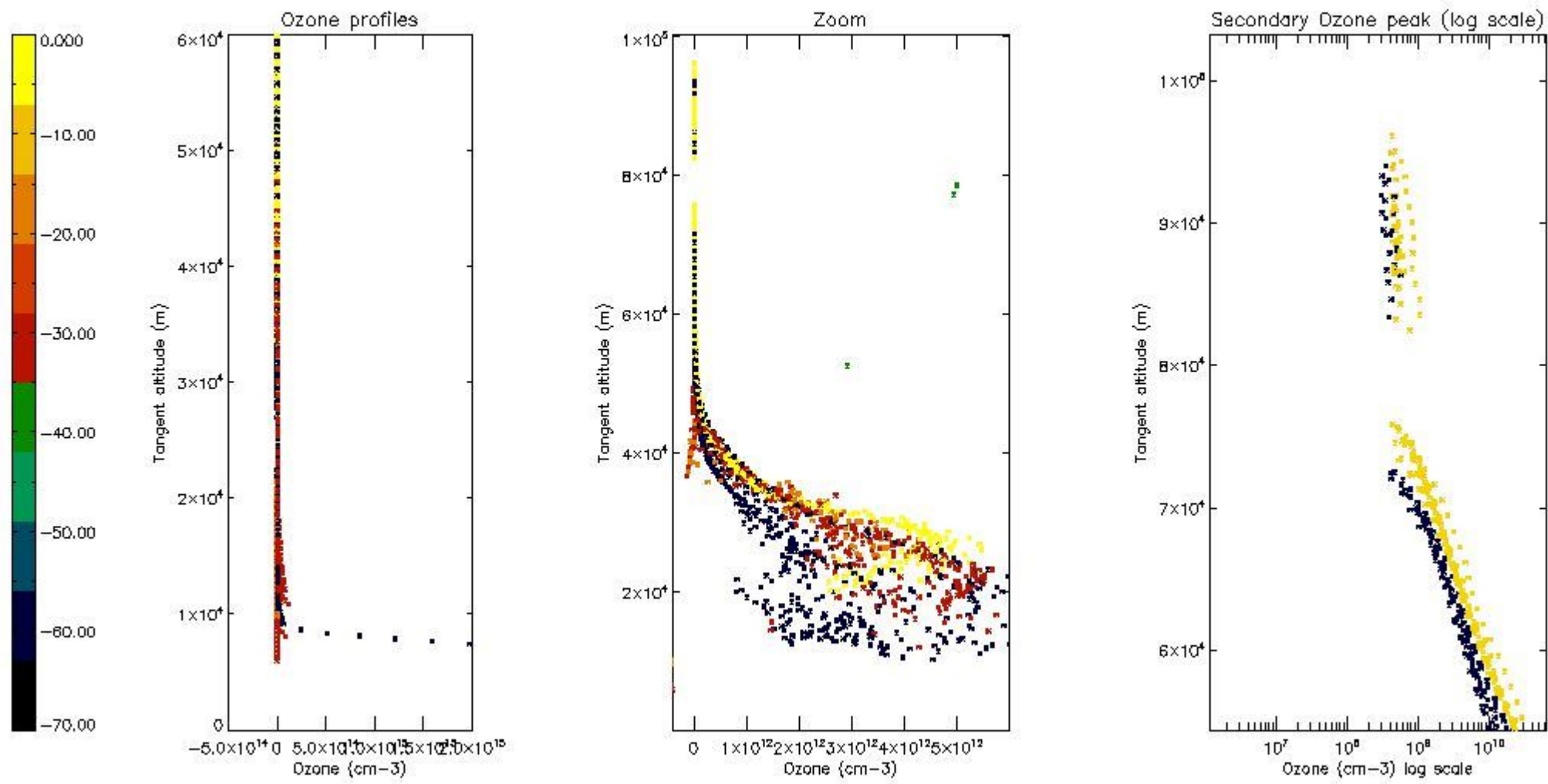
5.2 Plot ozone profiles for all STD (dark without errors)

The colorbar represents the latitude.



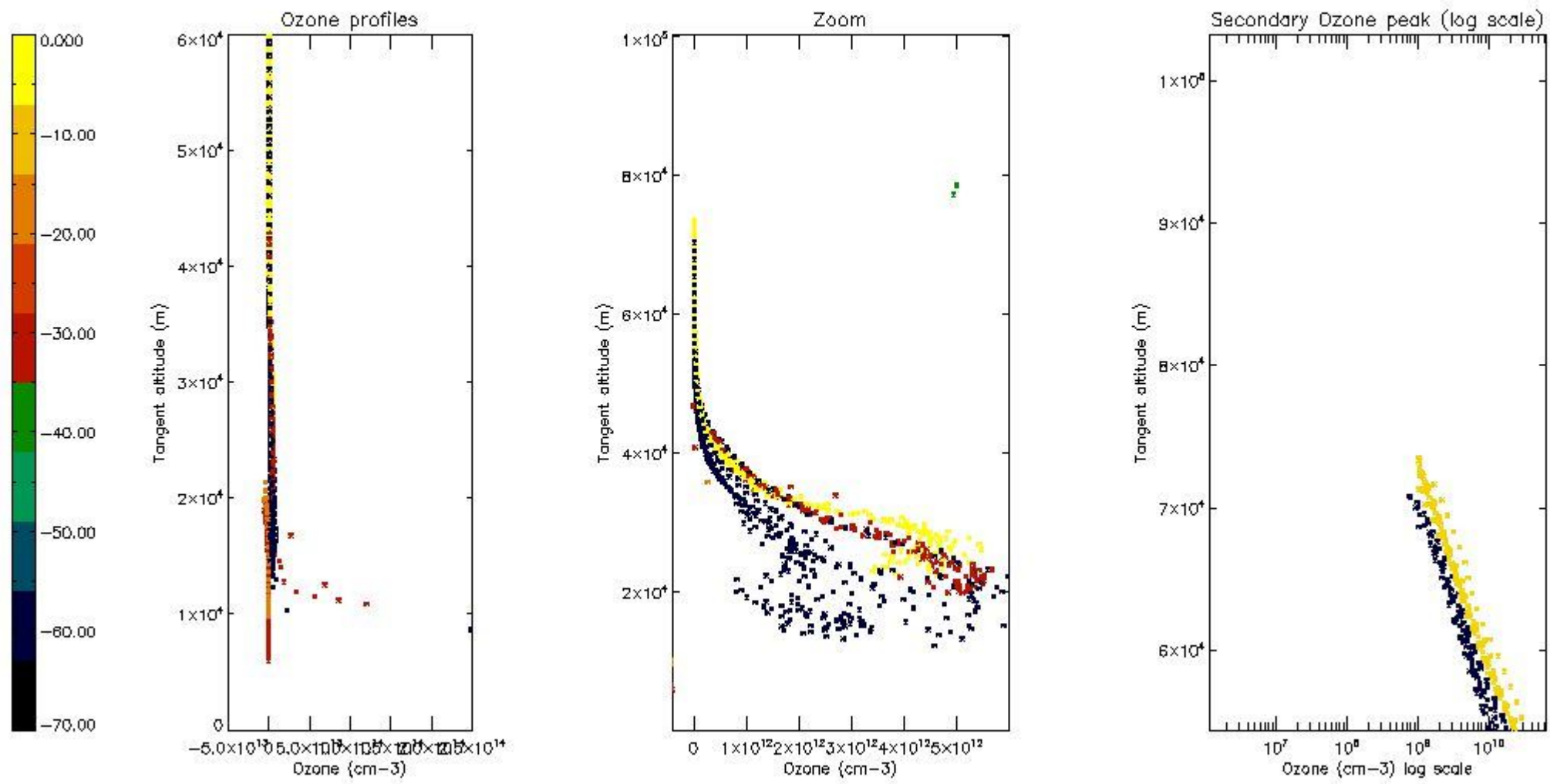
5.3 Plot ozone profiles where STD < 20% (dark without errors)

The colorbar represents the latitude.



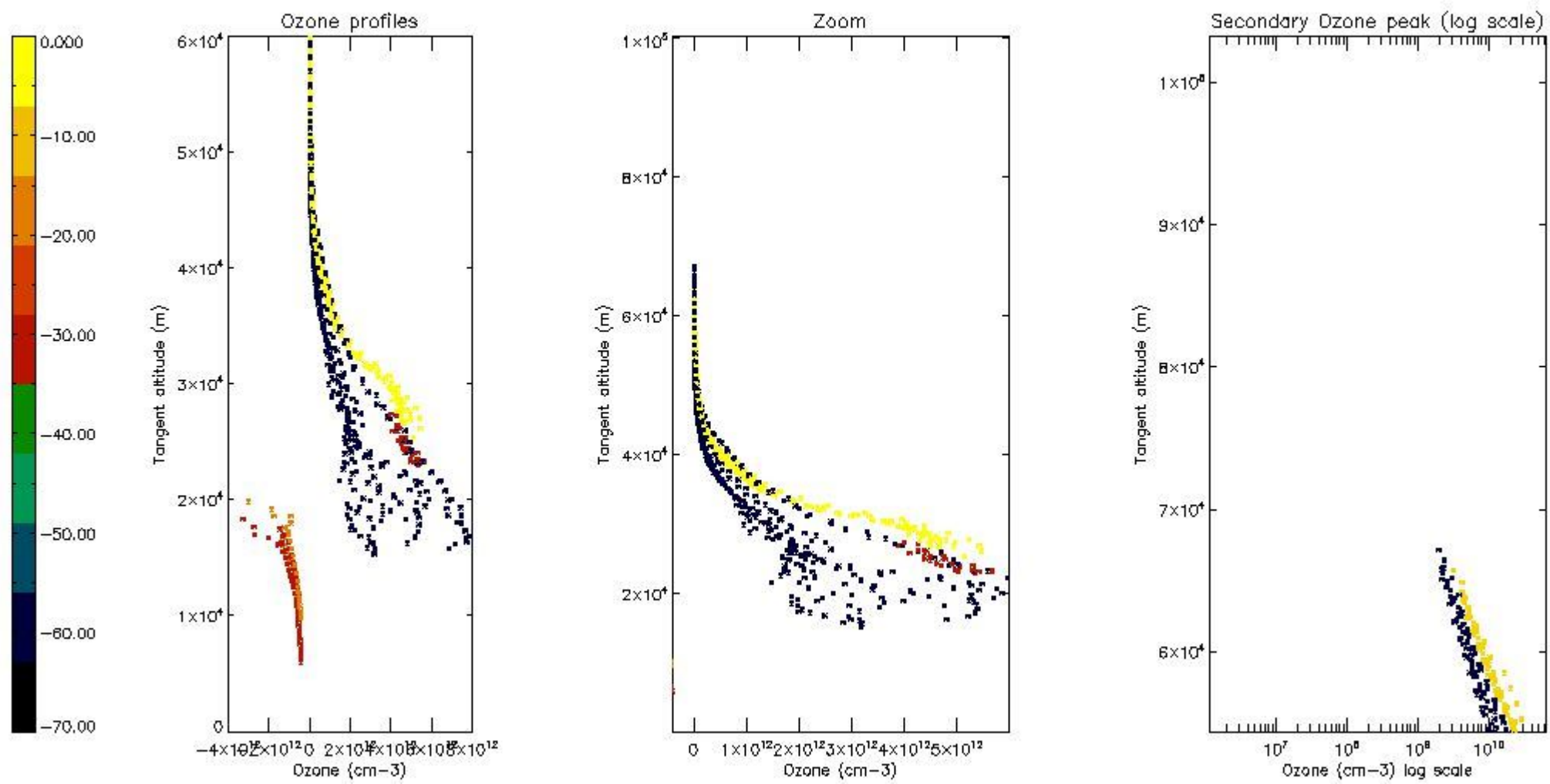
5.4 Plot ozone profiles where  $STD < 10\%$  (dark without errors)

The colorbar represents the latitude.



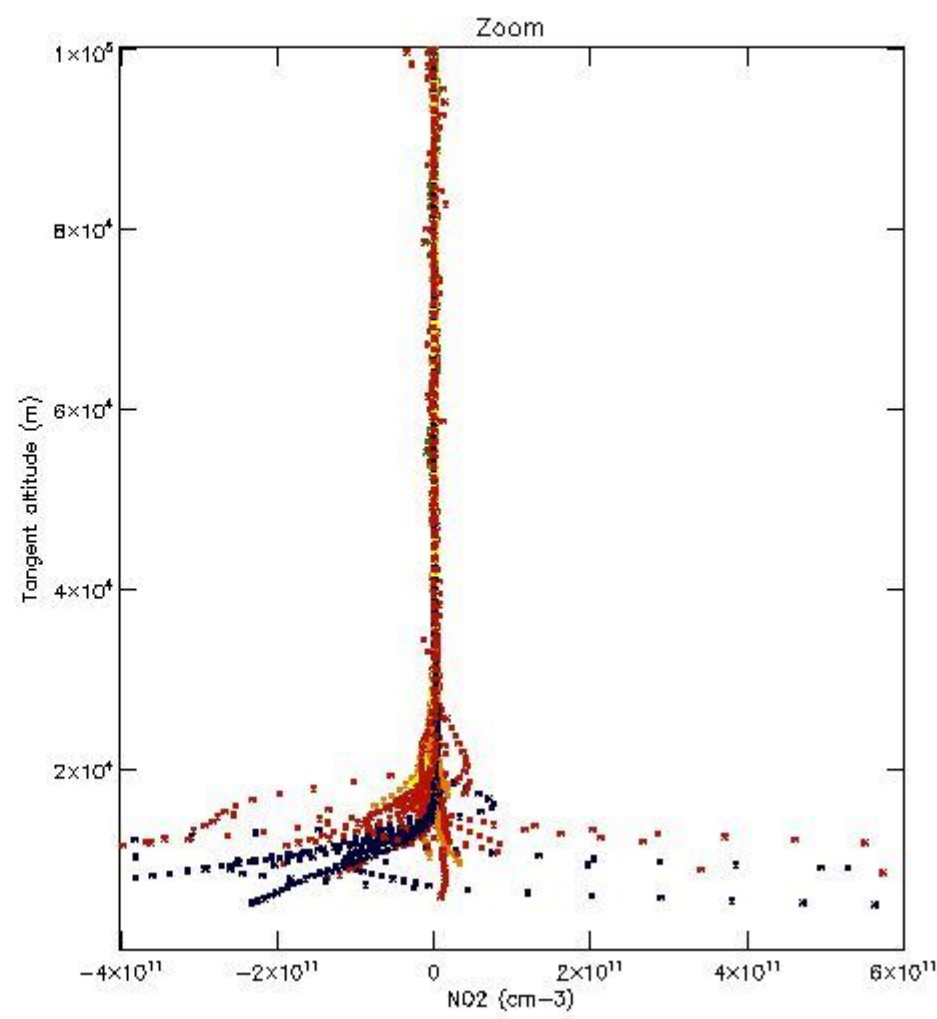
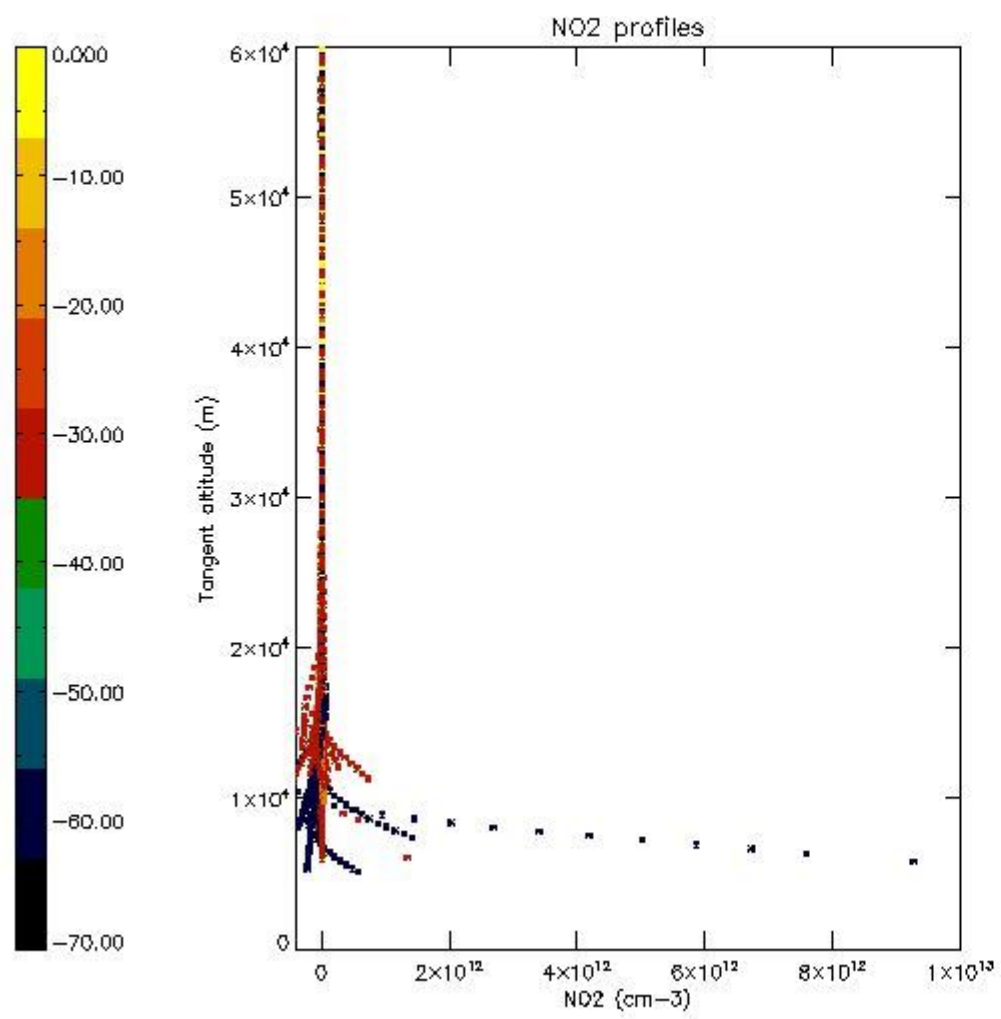
*5.5 Plot ozone profiles where STD < 5% (dark without errors)*

The colorbar represents the latitude.



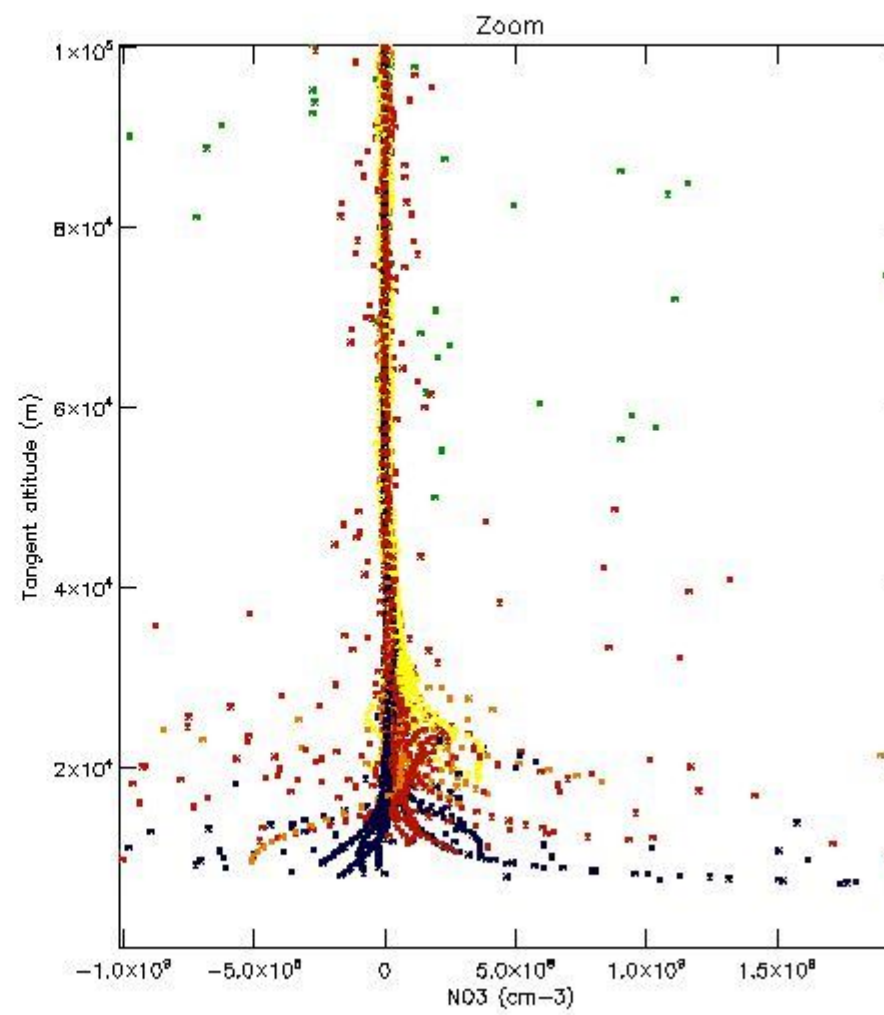
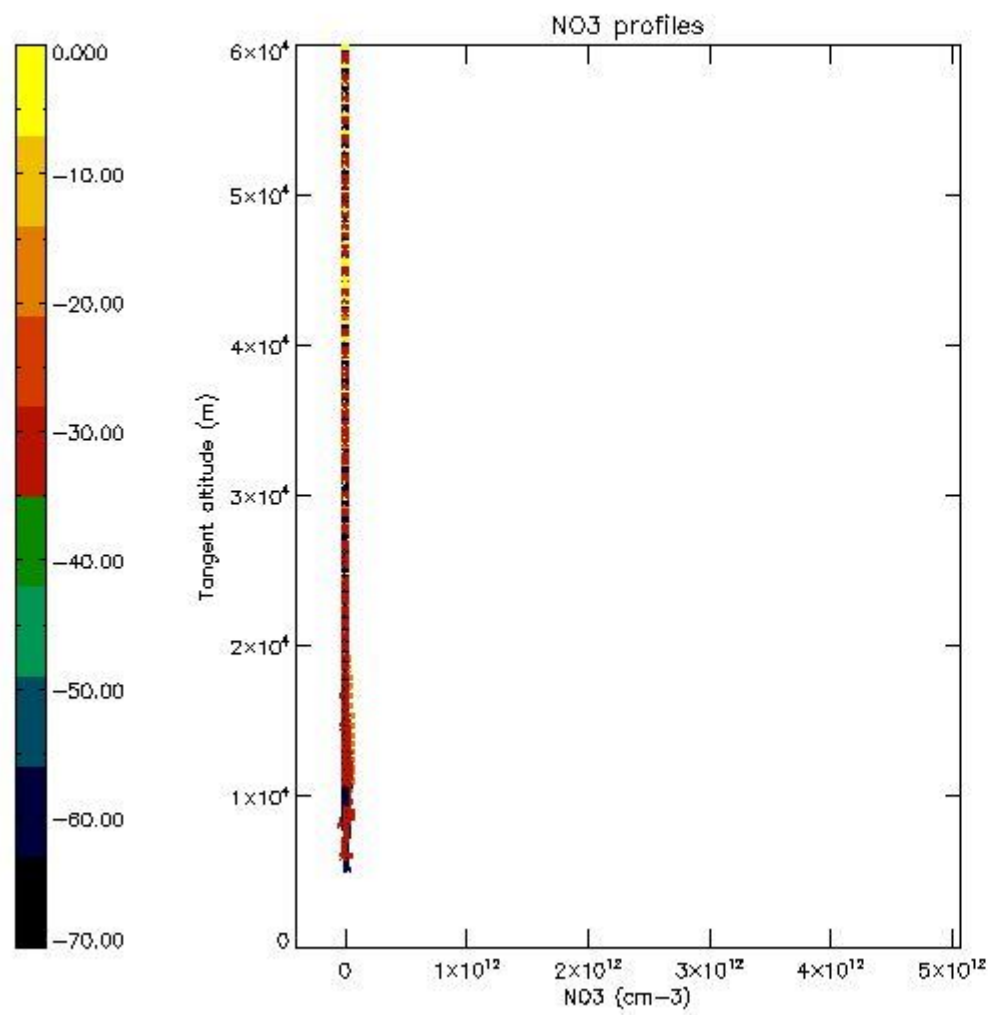
*5.6 Plot NO<sub>2</sub> profiles for all STD (dark without errors)*

The colorbar represents the latitude.



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

The colorbar represents the latitude.

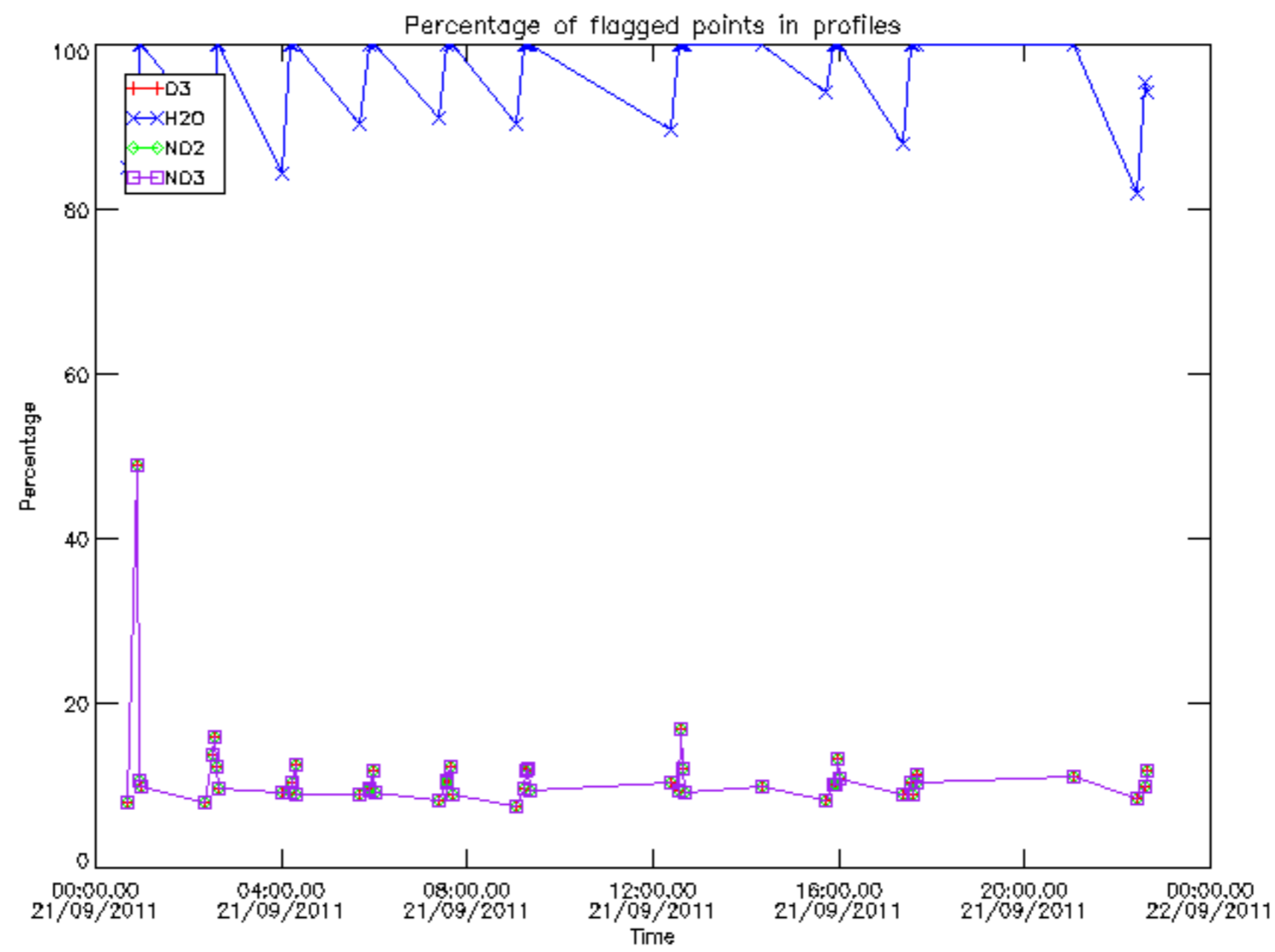


## 6. Auxiliary Data Files used for the production reported in section 2

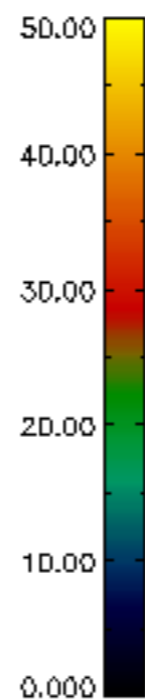
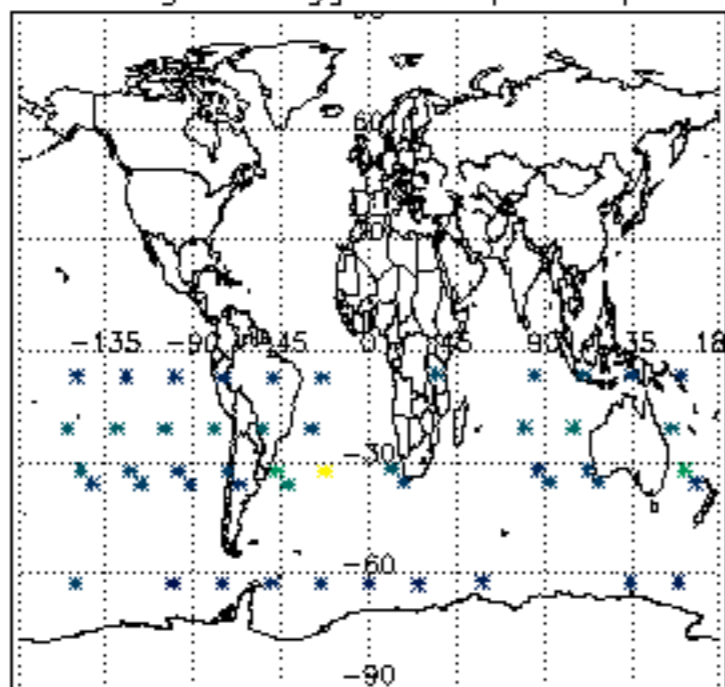
The number reported in the third column indicates since which file (see list in section 2) the corresponding auxiliary file has been used. The fourth column is the date of those product files.

Type	Auxiliary Filename	Used since product	Used since product date
INST_PHYS_CHARACTERISTICS	GOM_INS_AXVIEC20091111_143220_20030716_120000_20500101_000000	1	21-SEP-2011 00:06:49
LEVEL-2_PROC_CONFIG	GOM_PR2_AXVIEC20091111_152718_20020301_000000_20500101_000000	1	21-SEP-2011 00:06:49
CROSS_SECTIONS_FILE	GOM_CRS_AXVIEC20091111_154832_20020301_000000_20500101_000000	1	21-SEP-2011 00:06:49

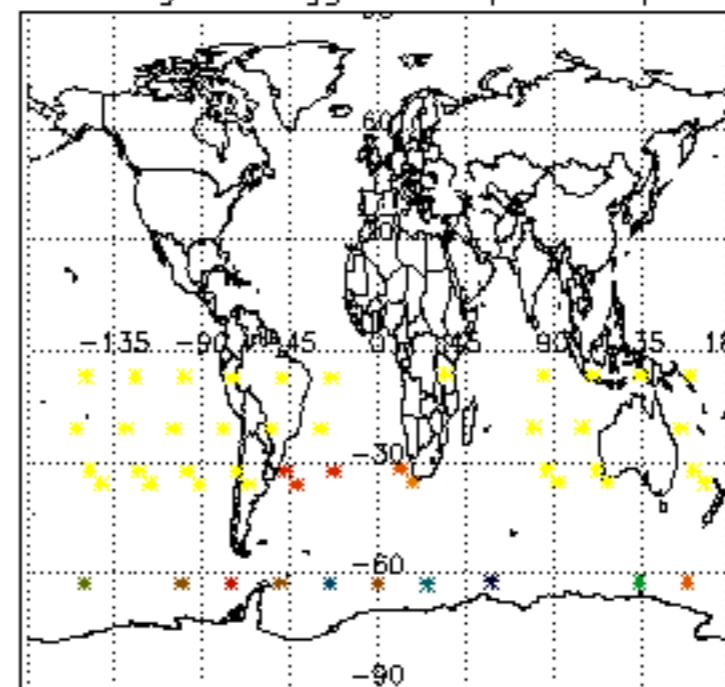




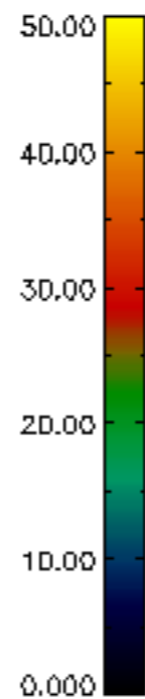
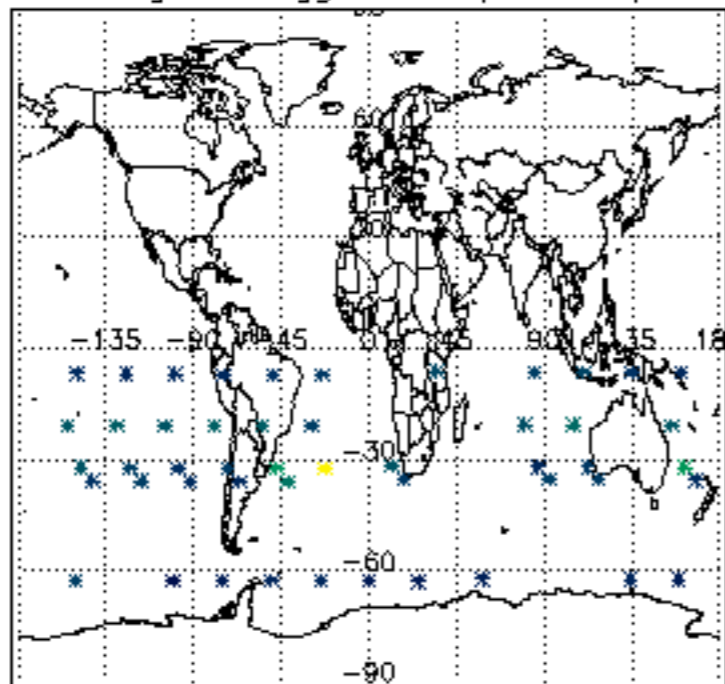
Percentage of flagged data per D3 profile



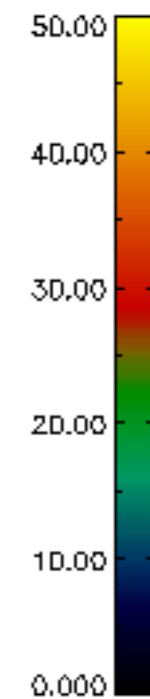
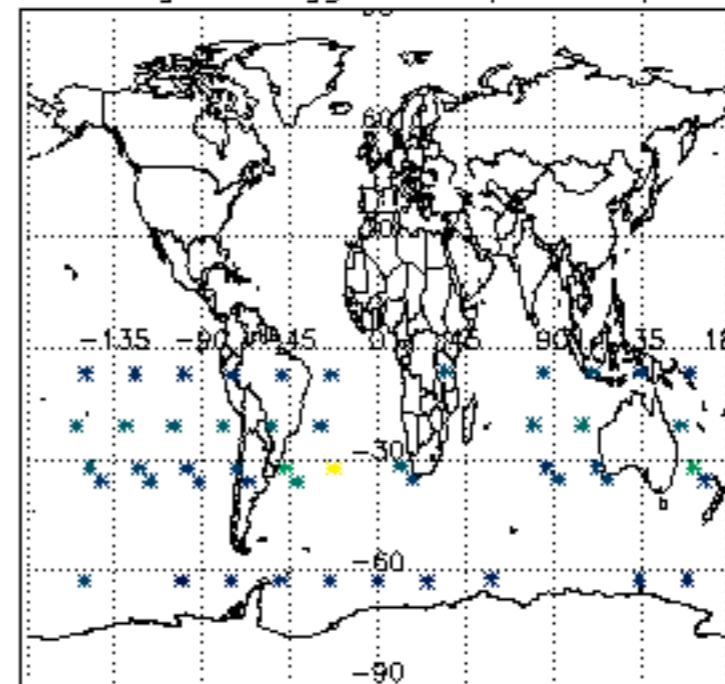
Percentage of flagged data per H2O profile

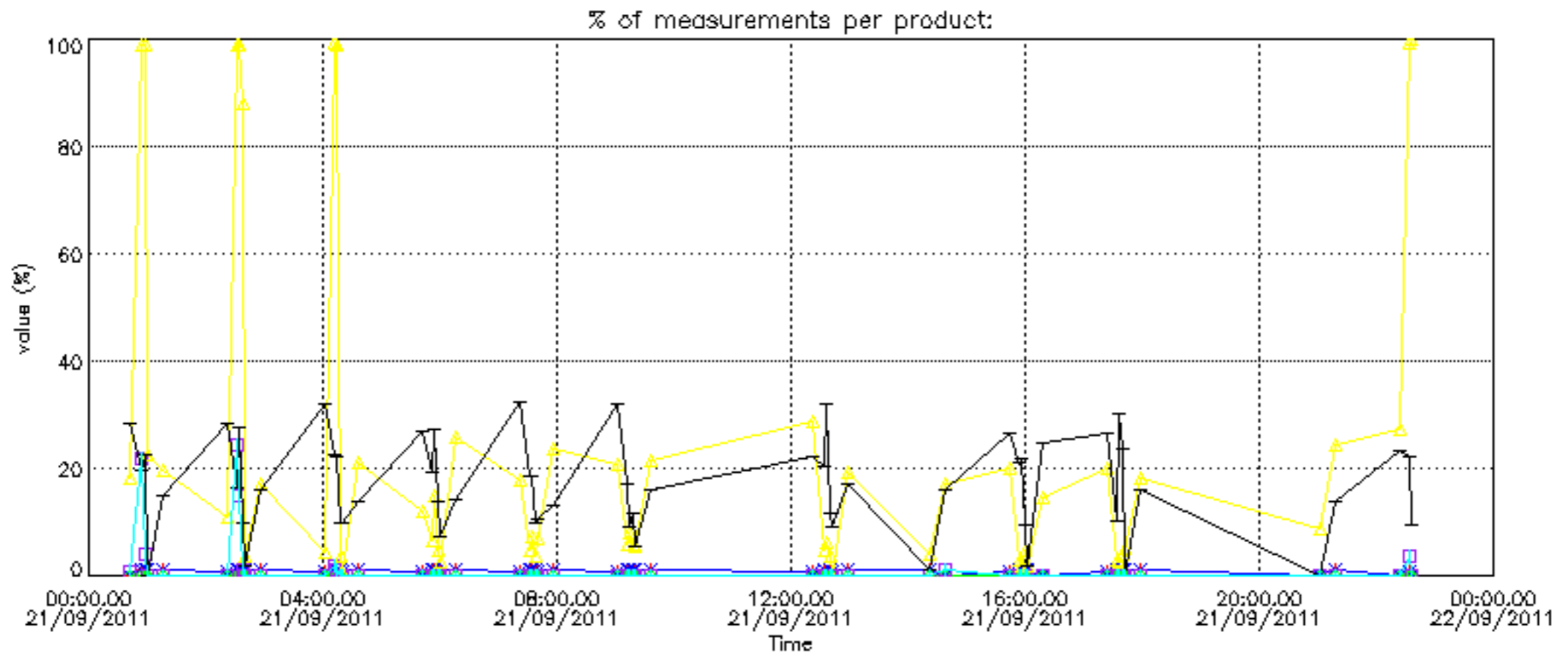


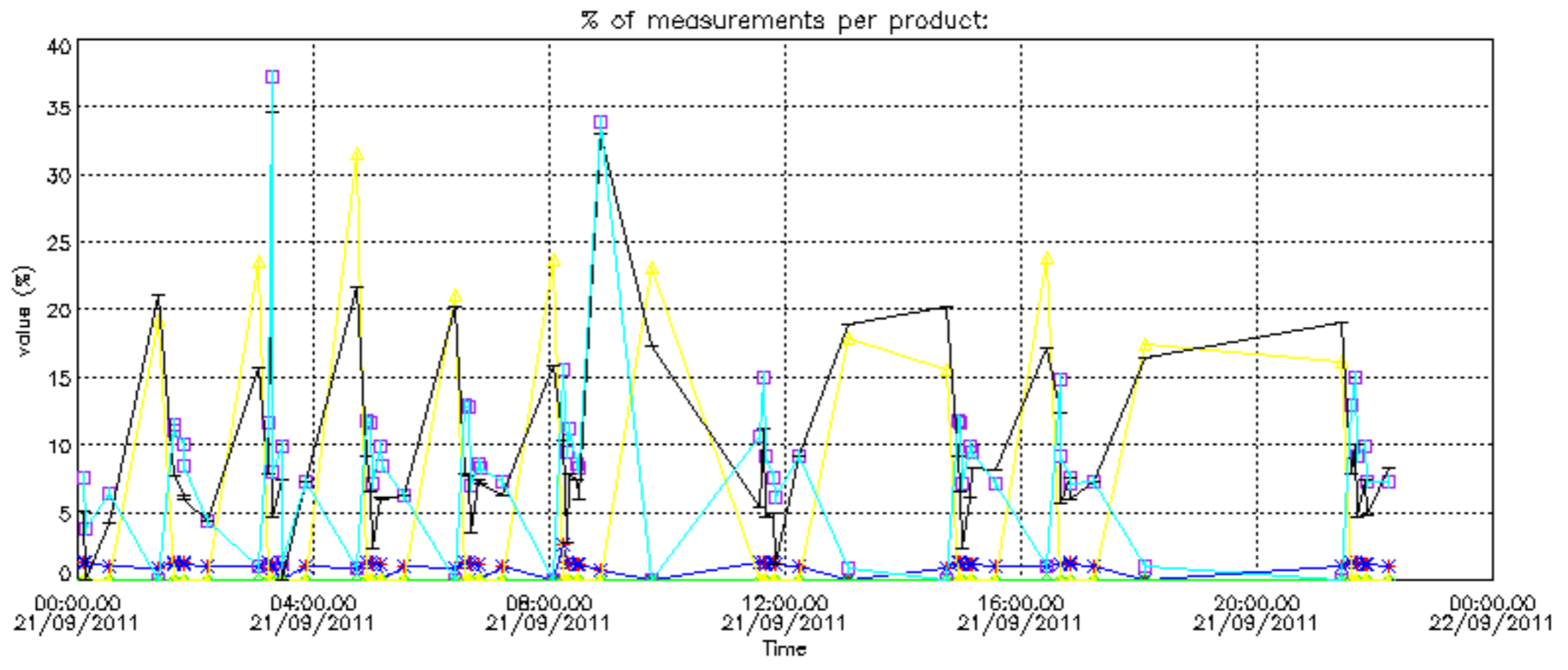
Percentage of flagged data per NO2 profile



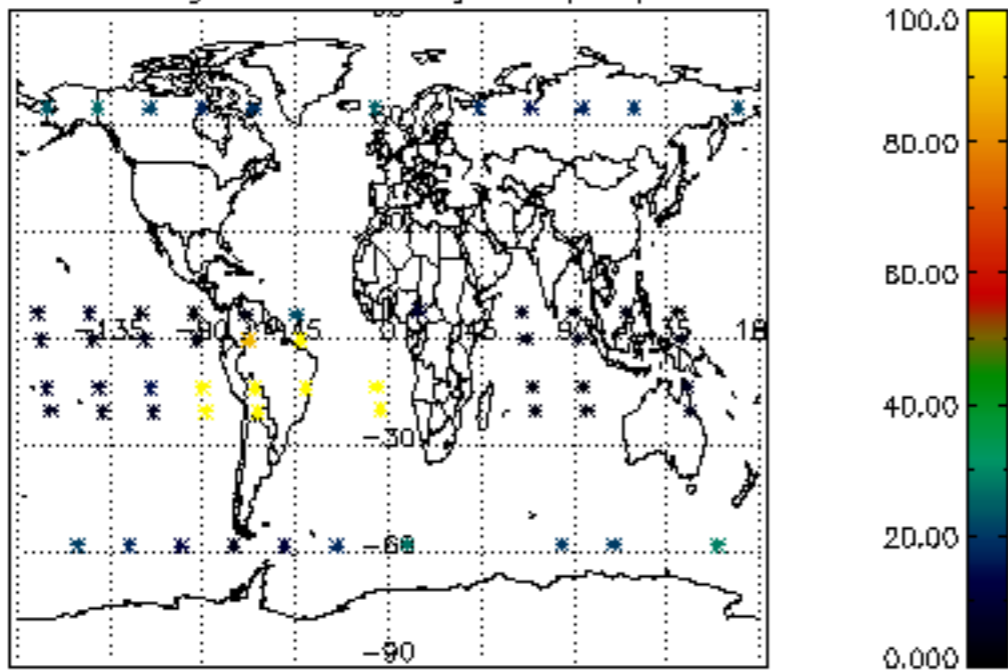
Percentage of flagged data per NO3 profile



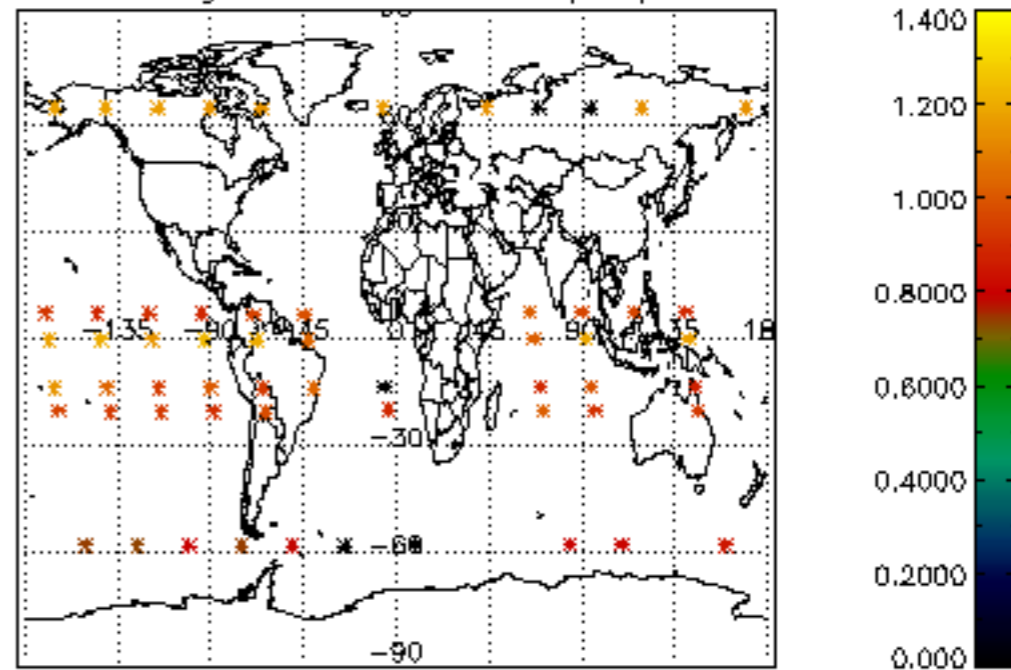




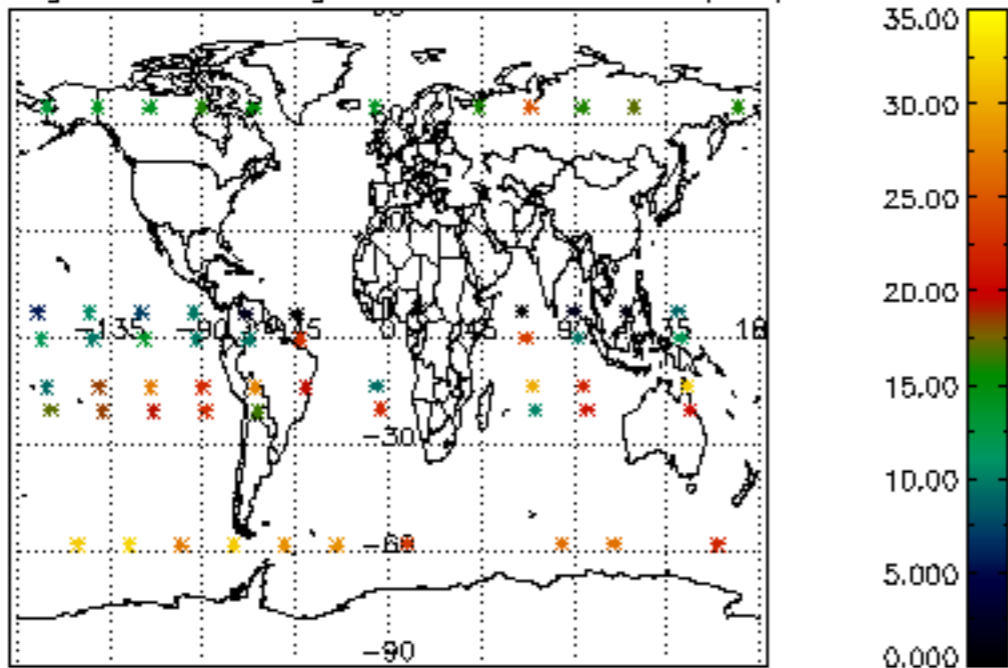
Percentage of cosmic ray hits per profile



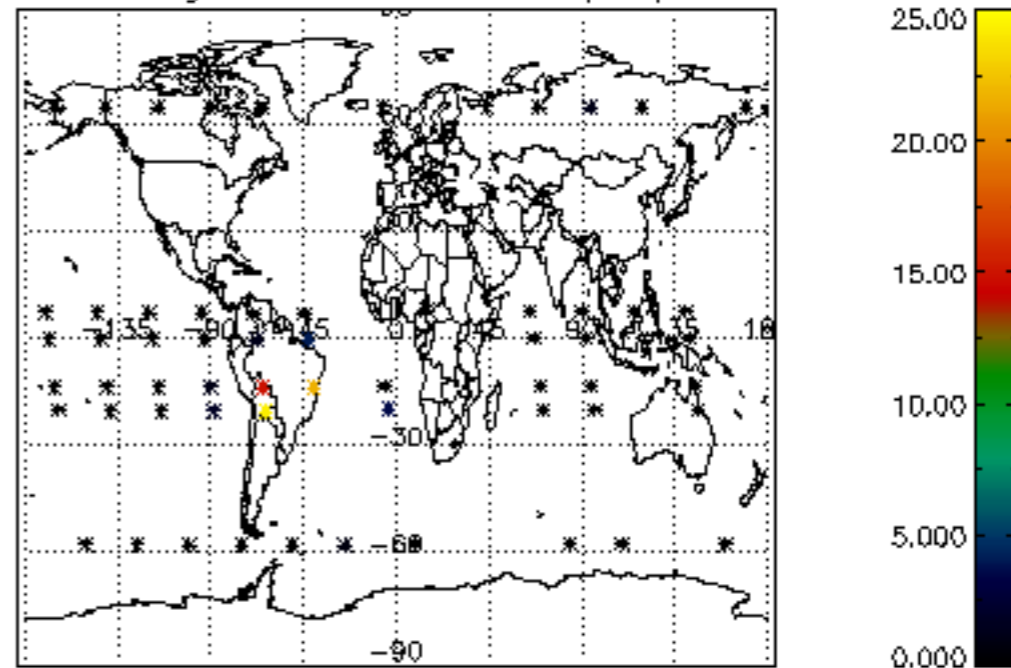
Percentage of datation errors per profile



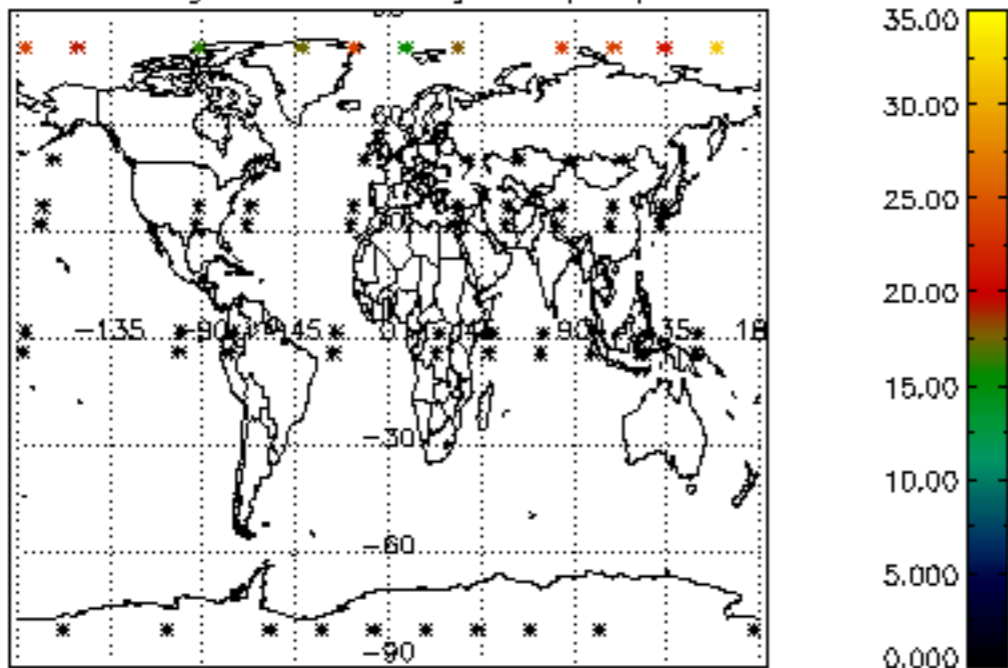
Percentage of star falling outside central band per profile



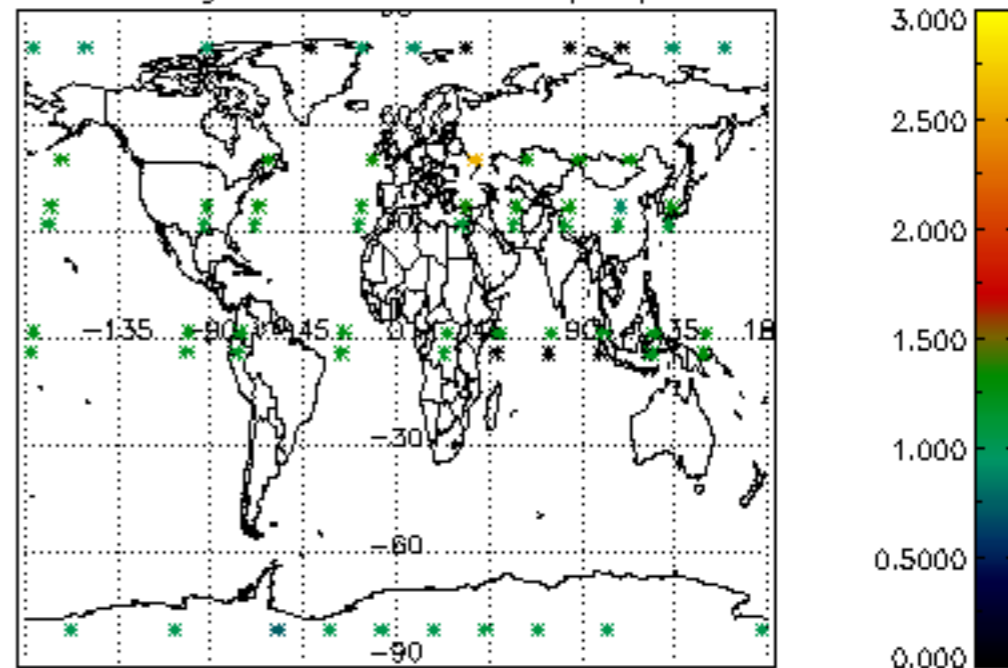
Percentage of saturation errors per profile



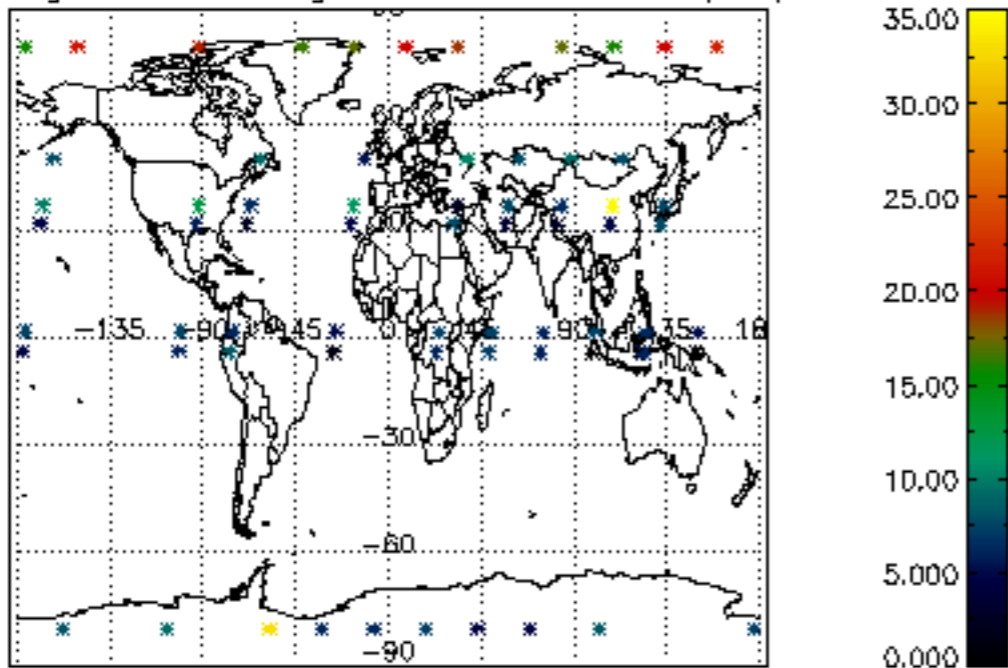
Percentage of cosmic ray hits per profile



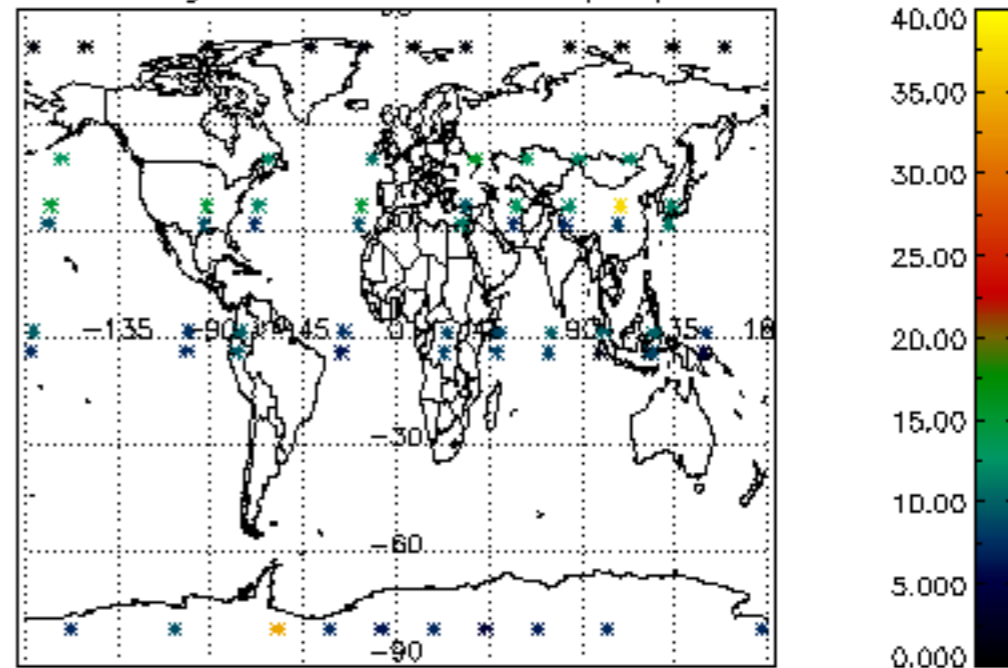
Percentage of datation errors per profile

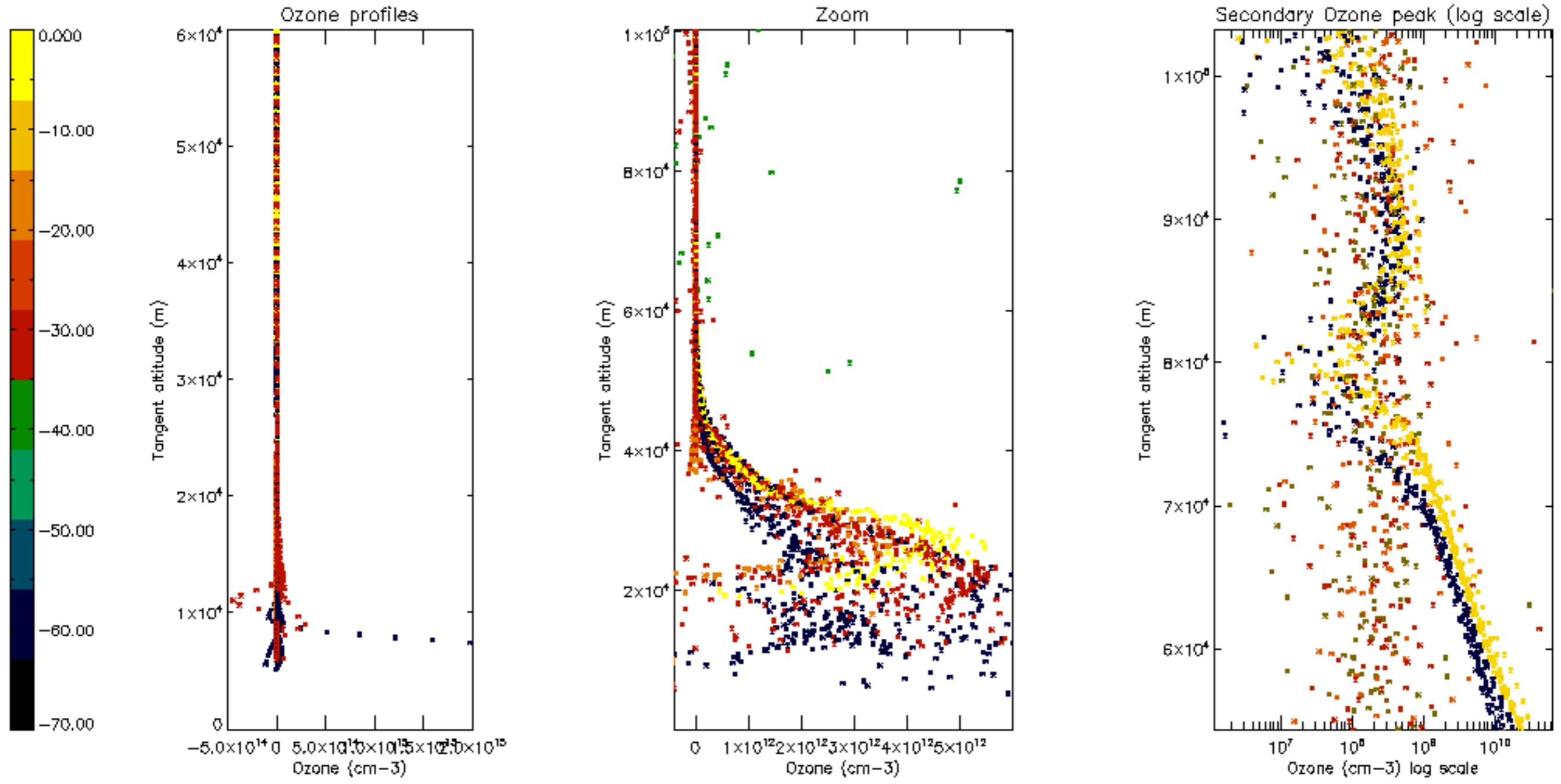


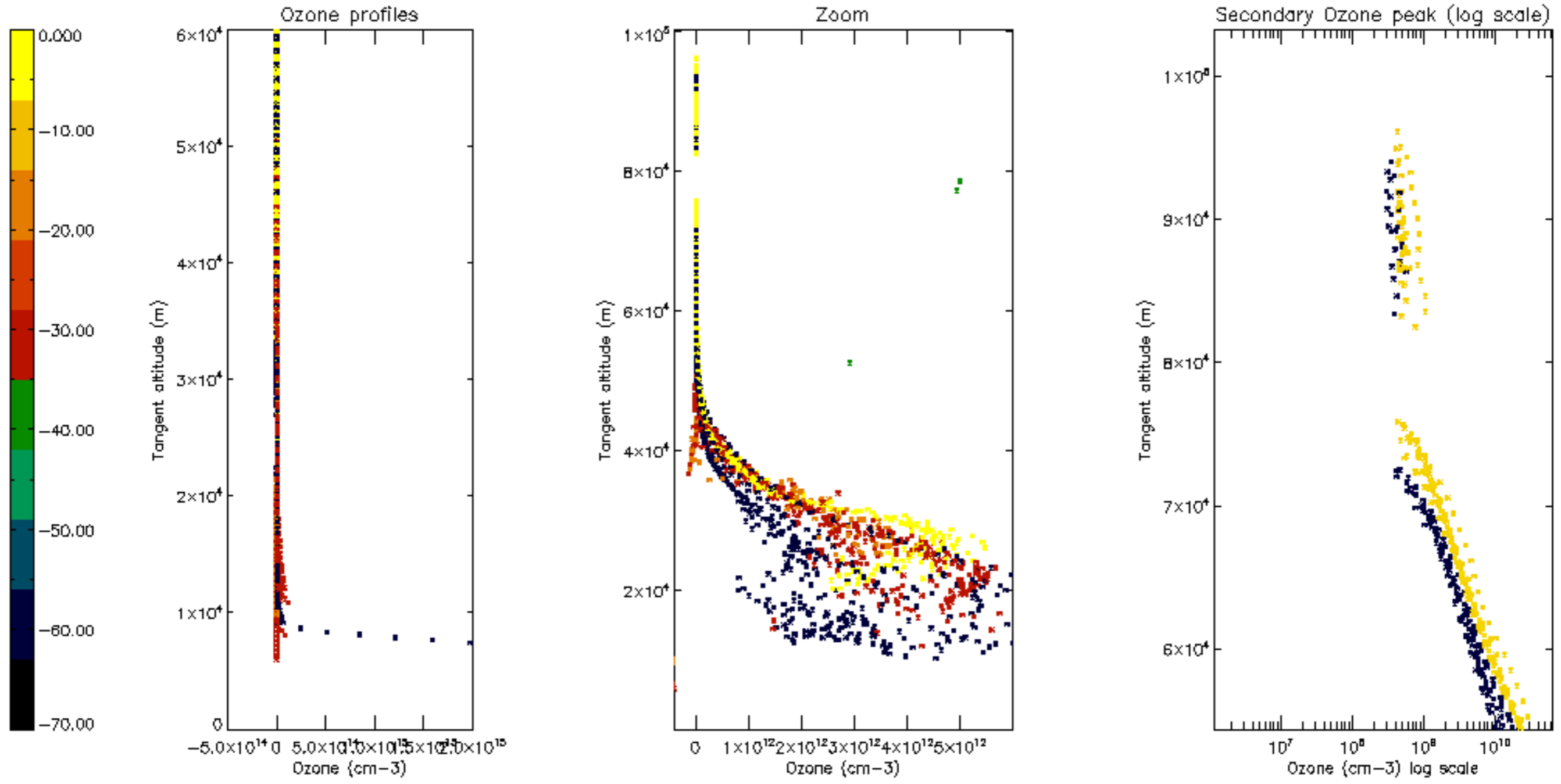
Percentage of star falling outside central band per profile



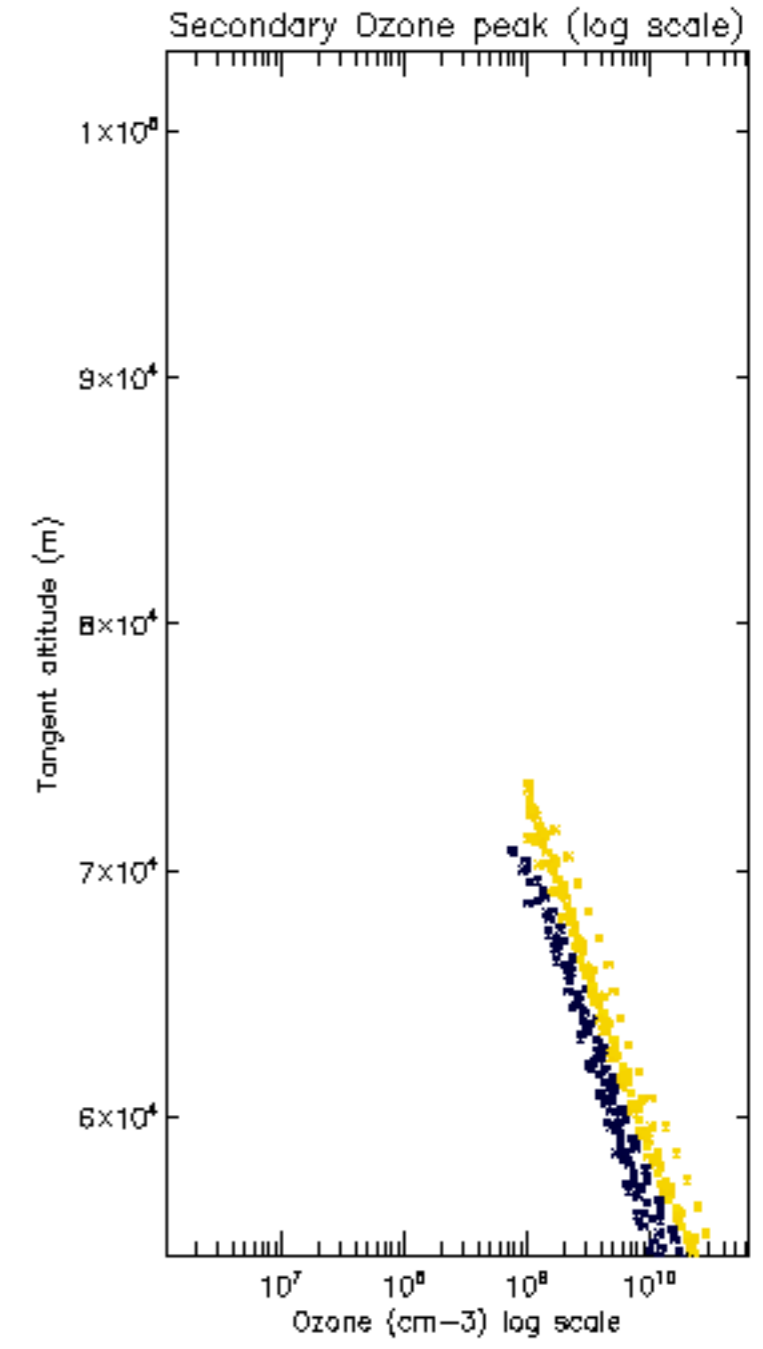
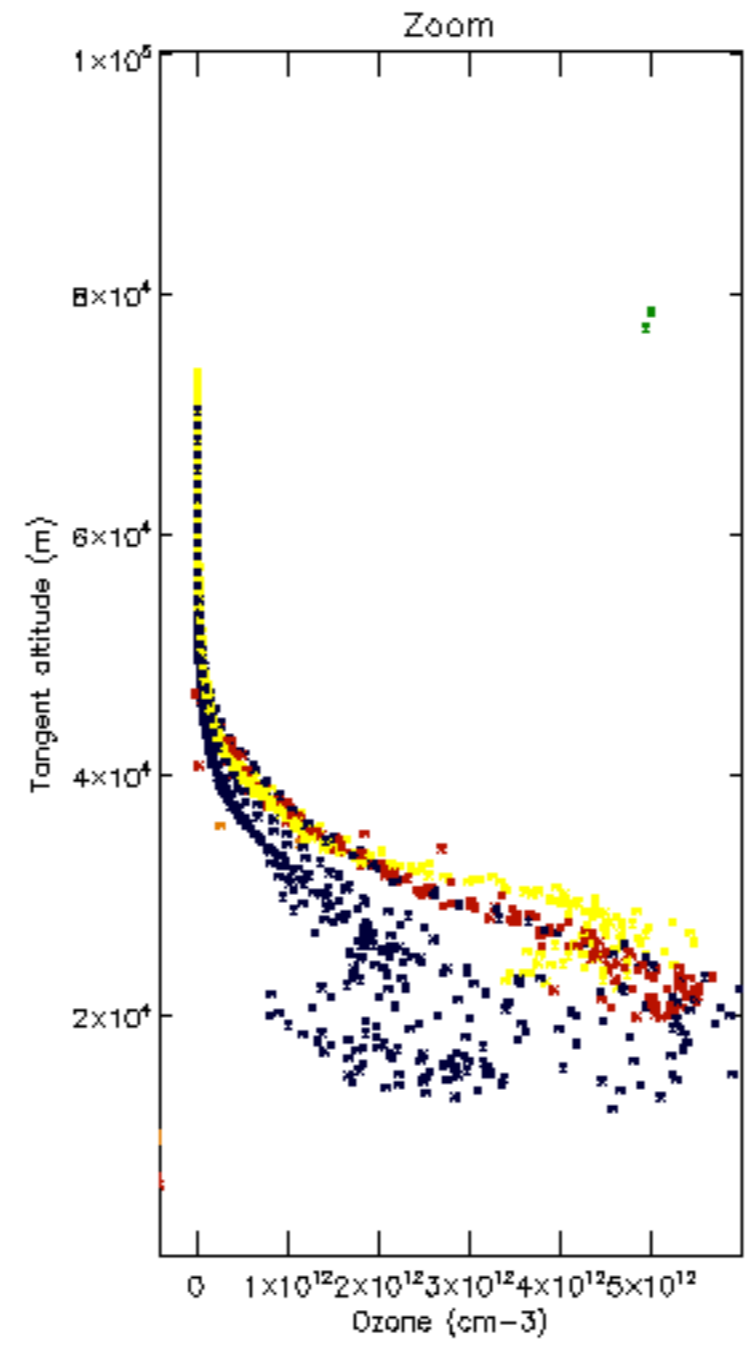
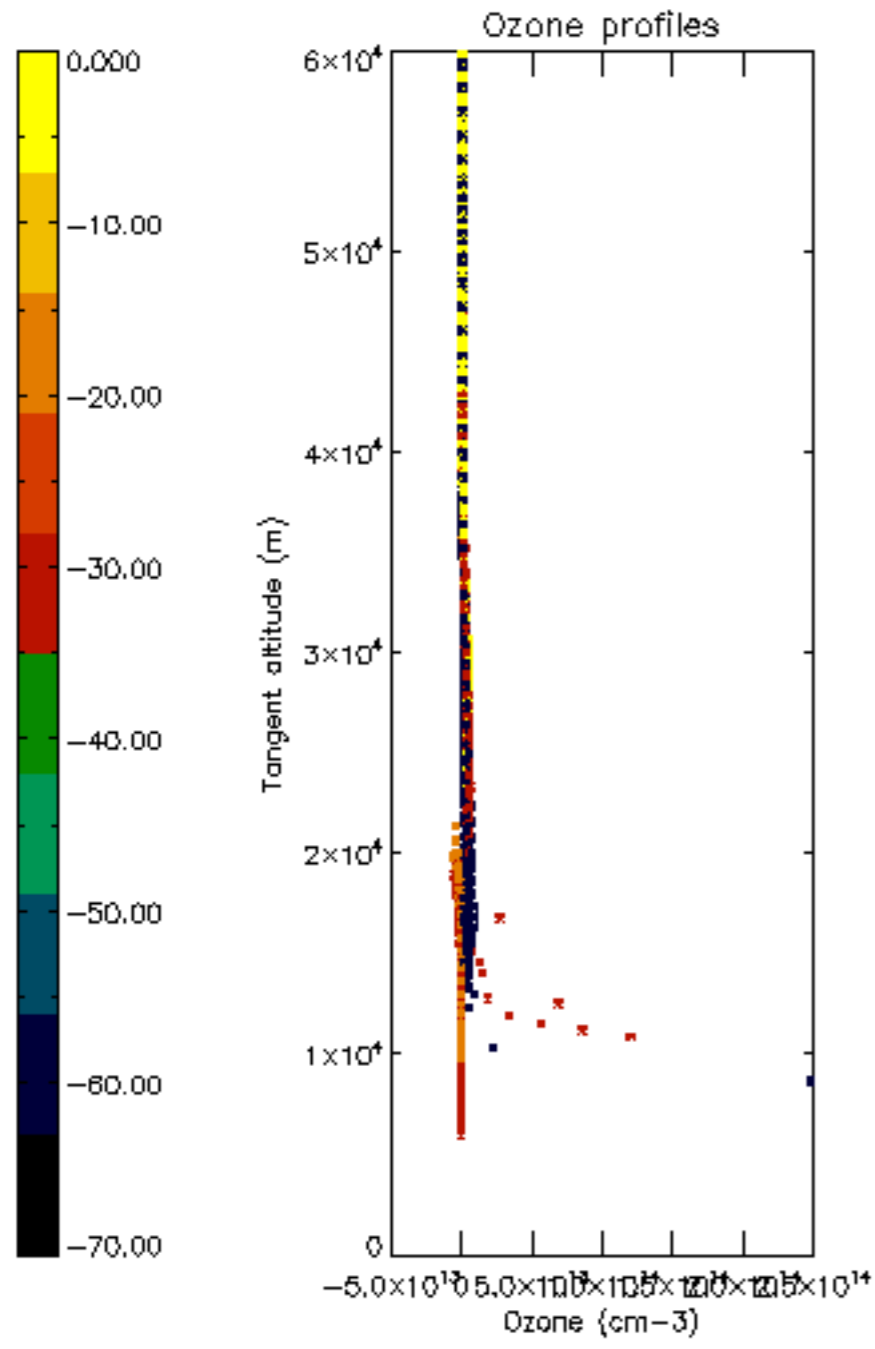
Percentage of saturation errors per profile

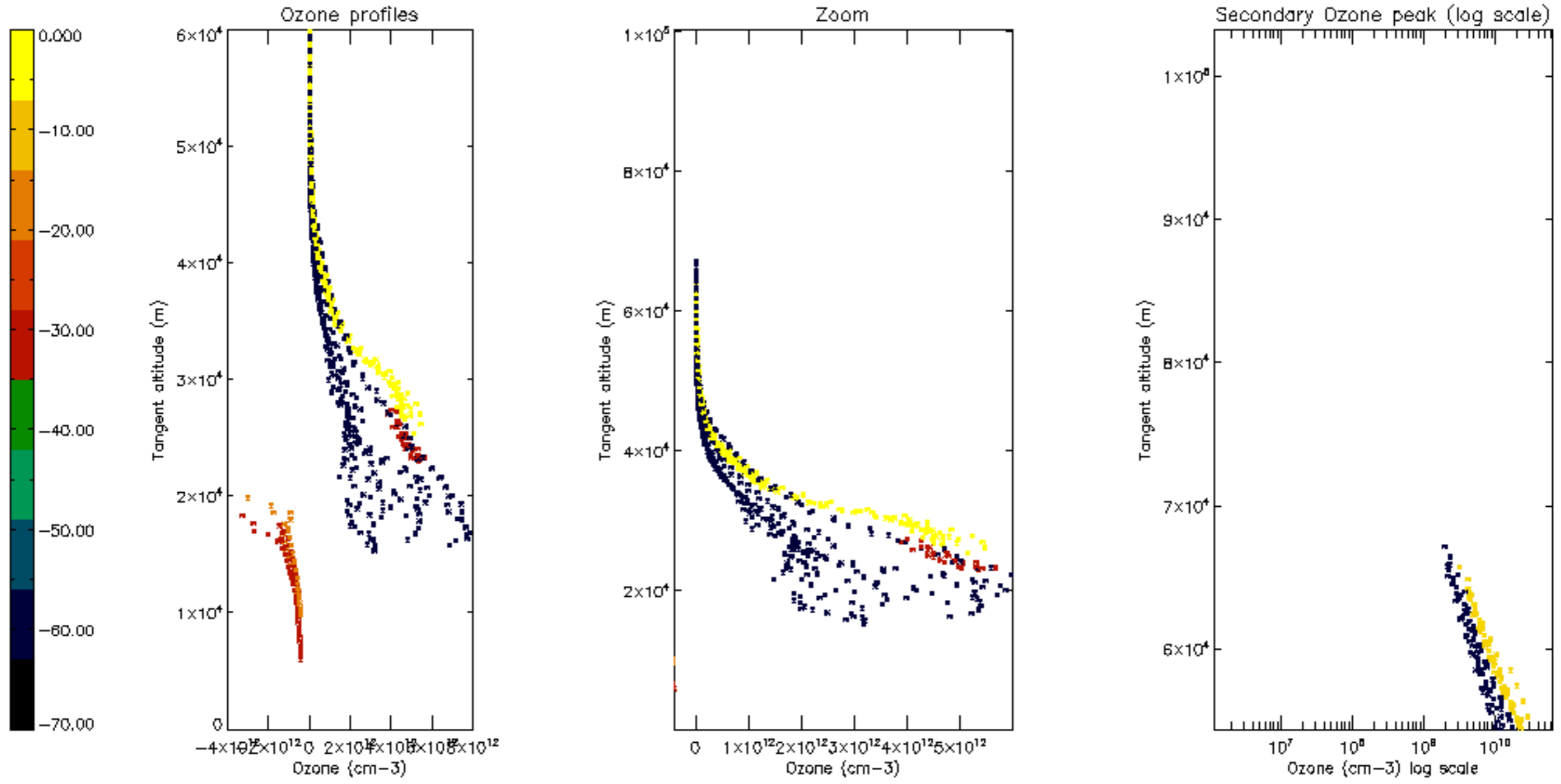


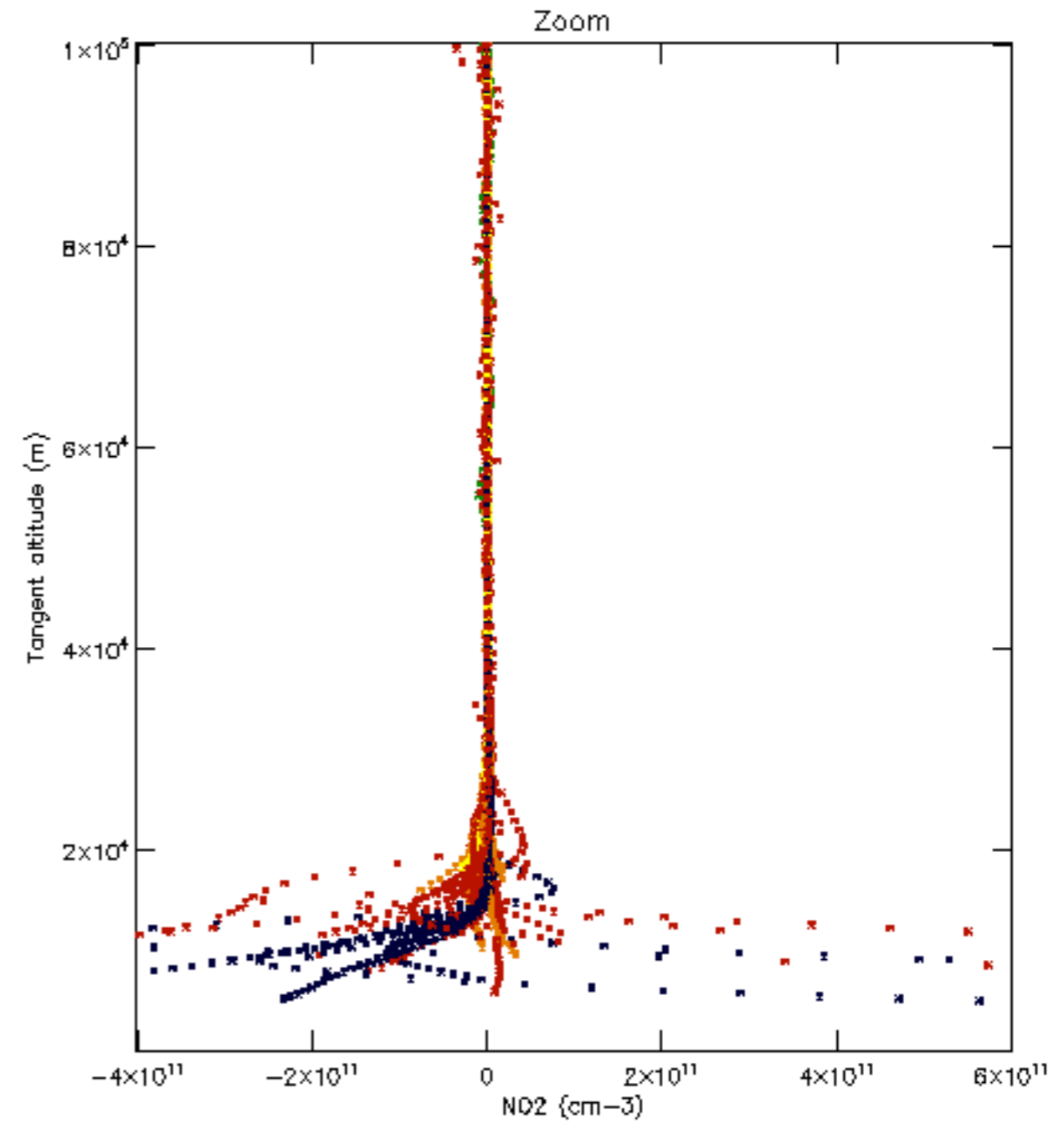
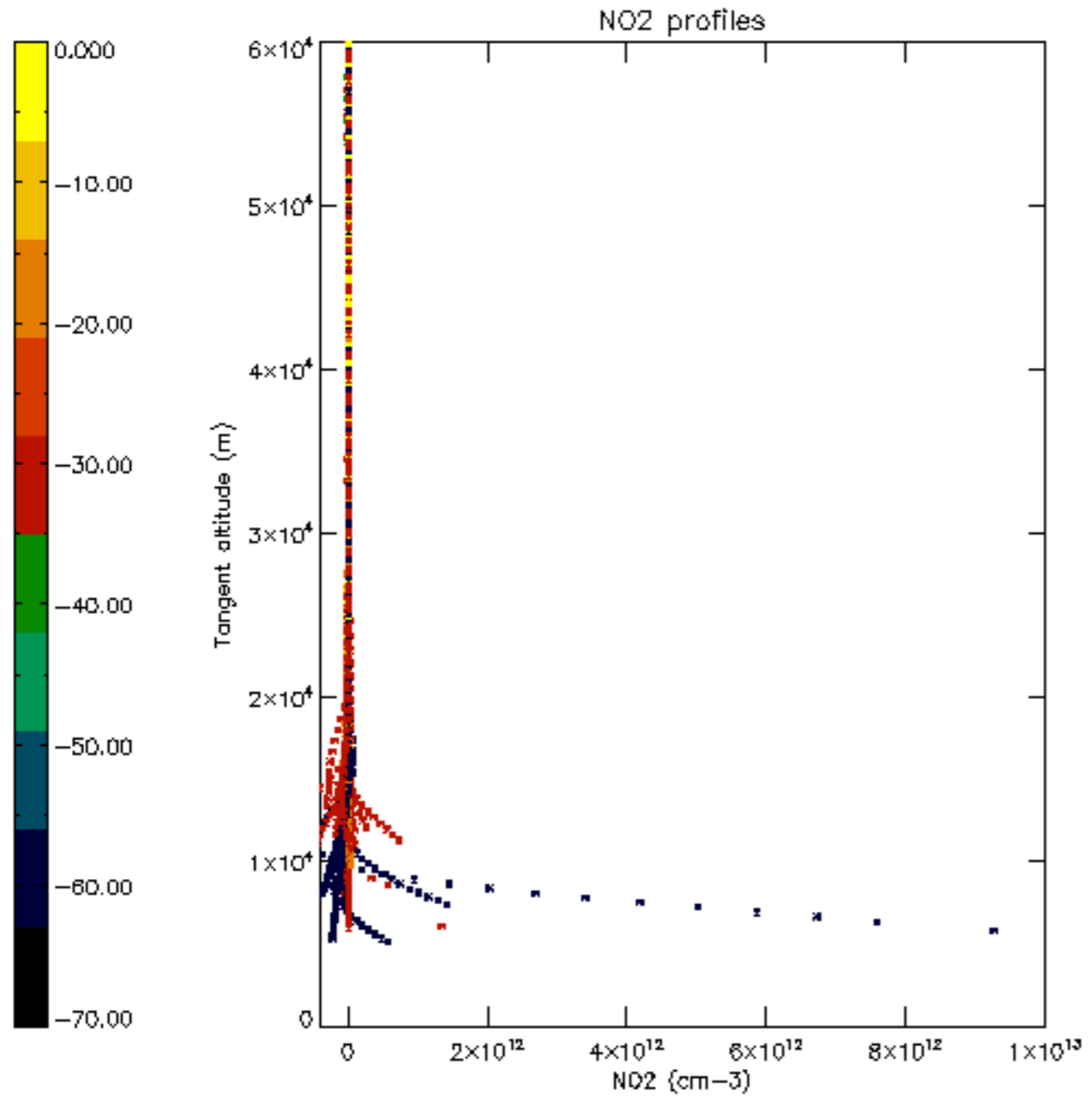


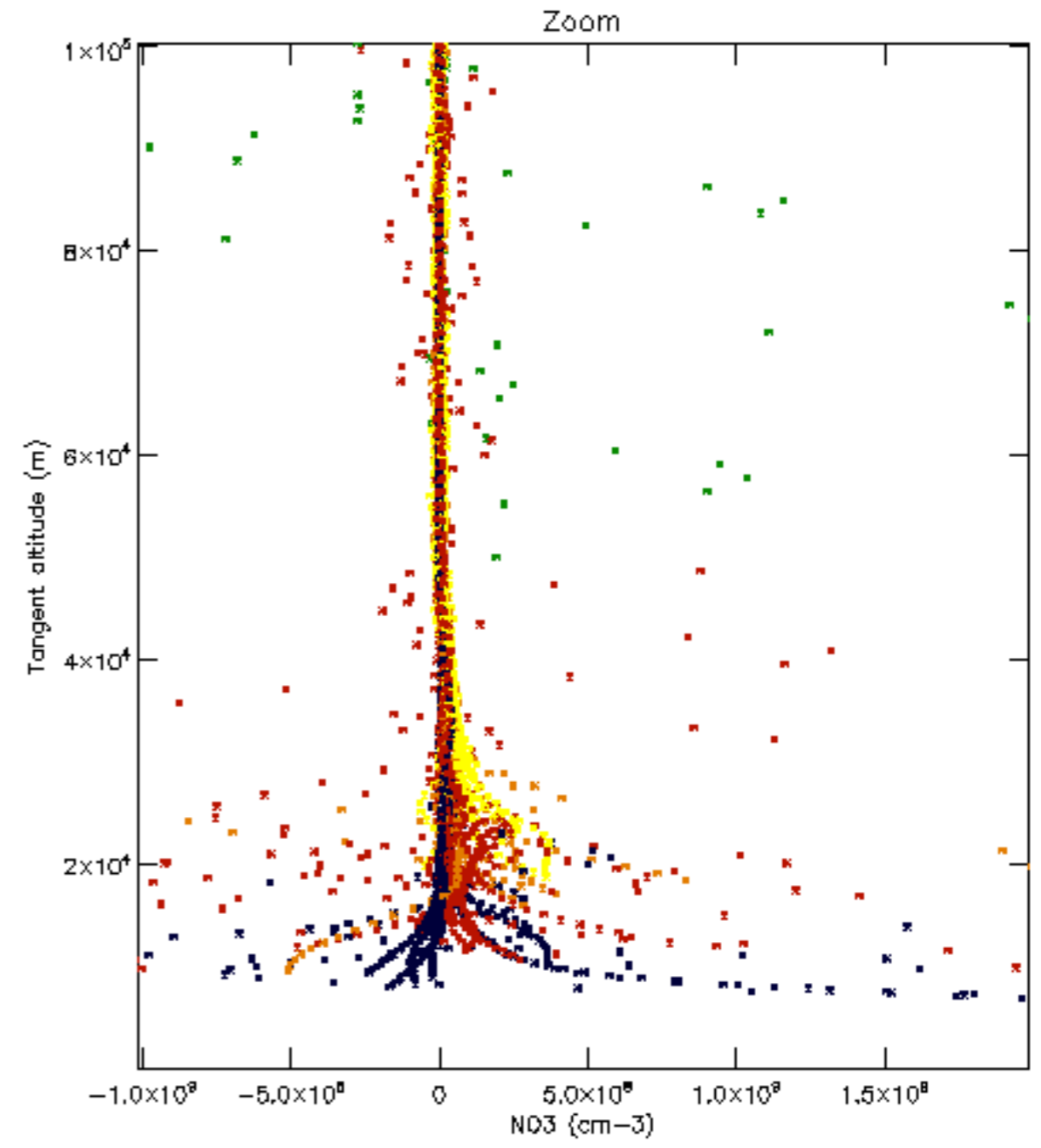
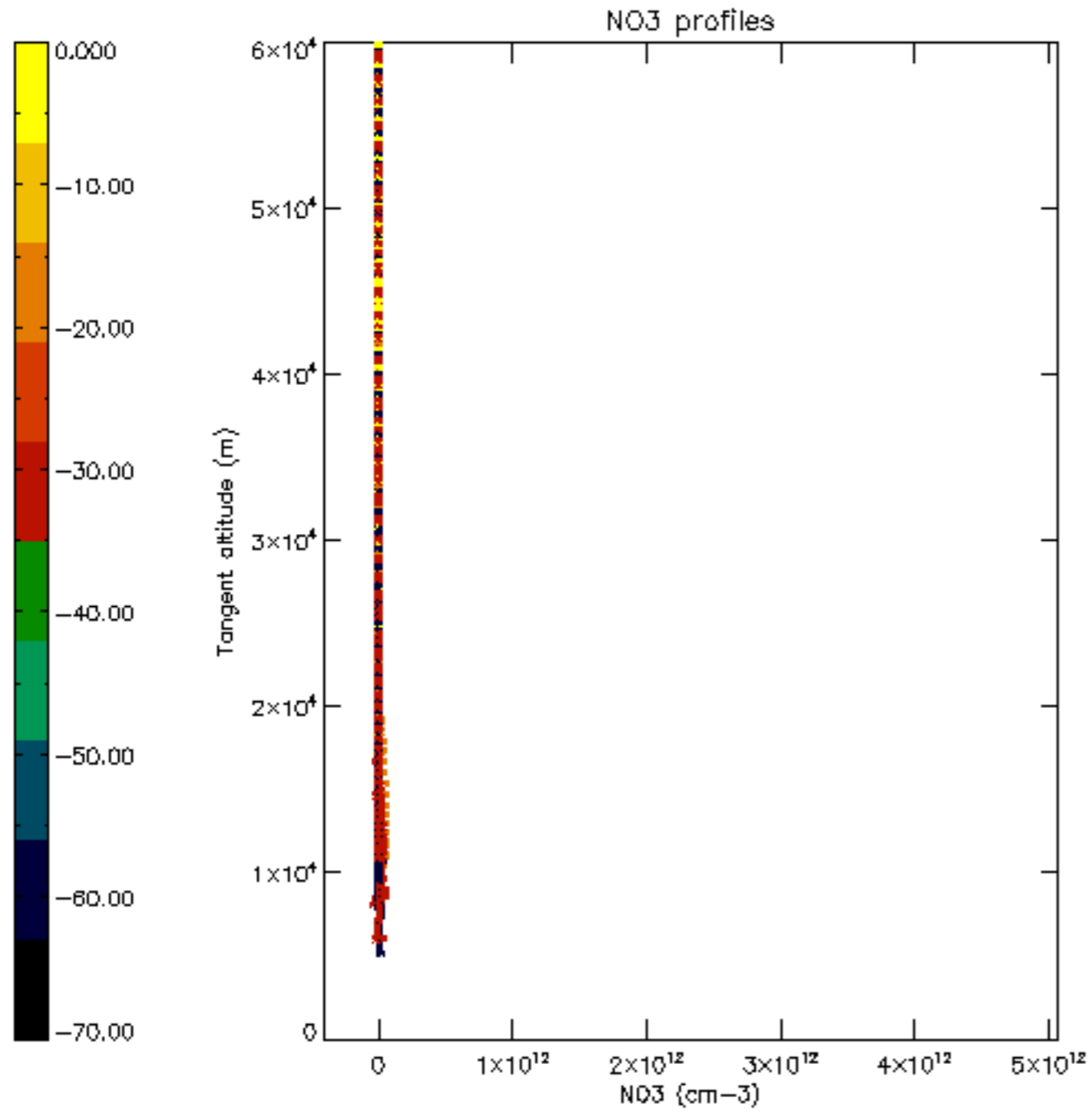


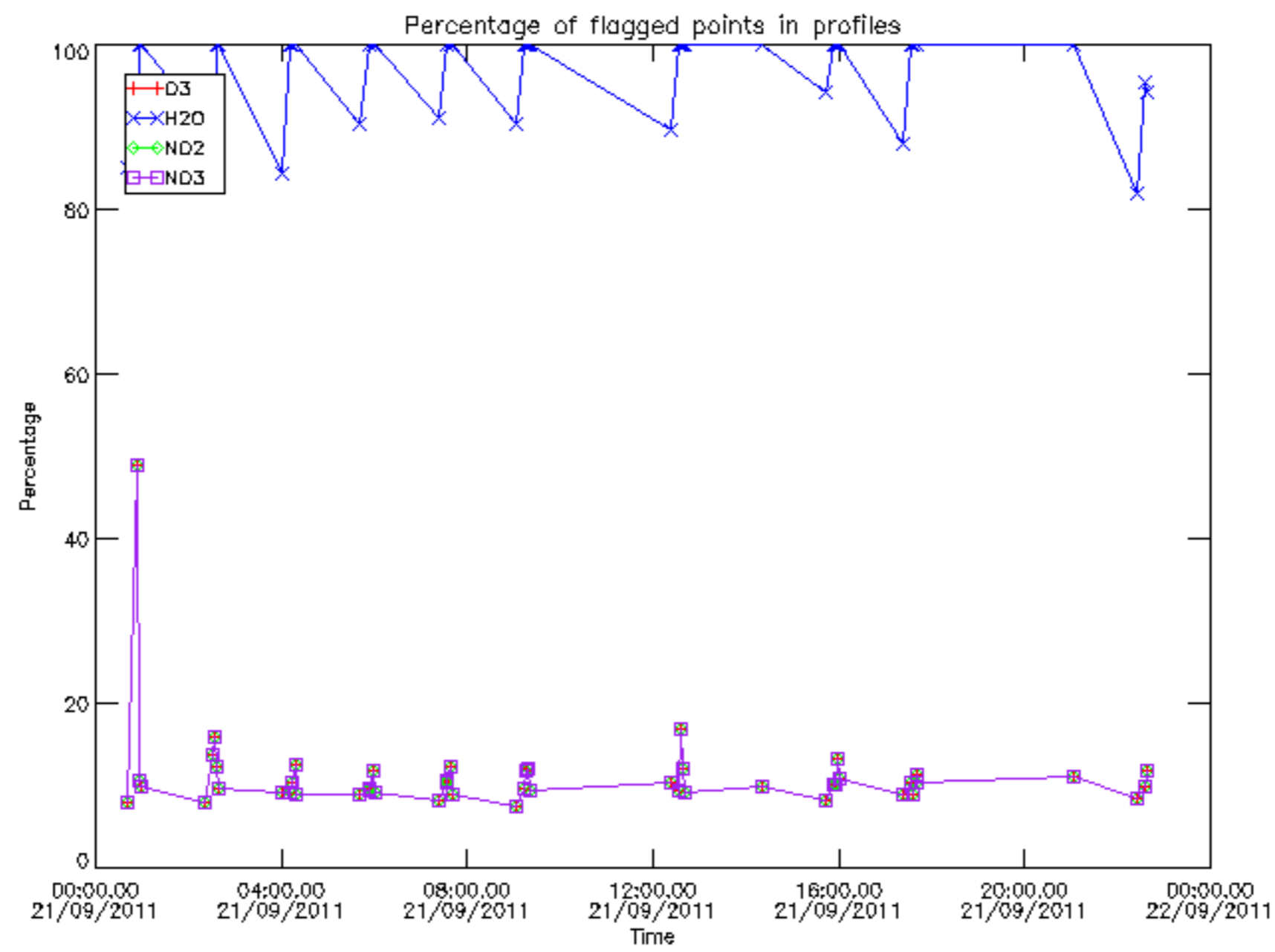




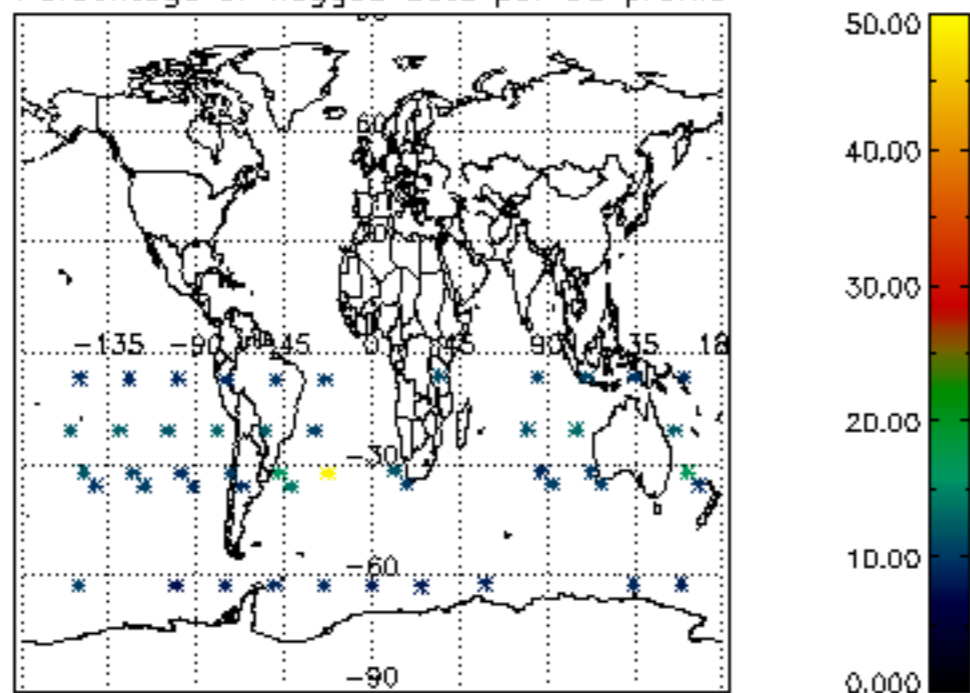




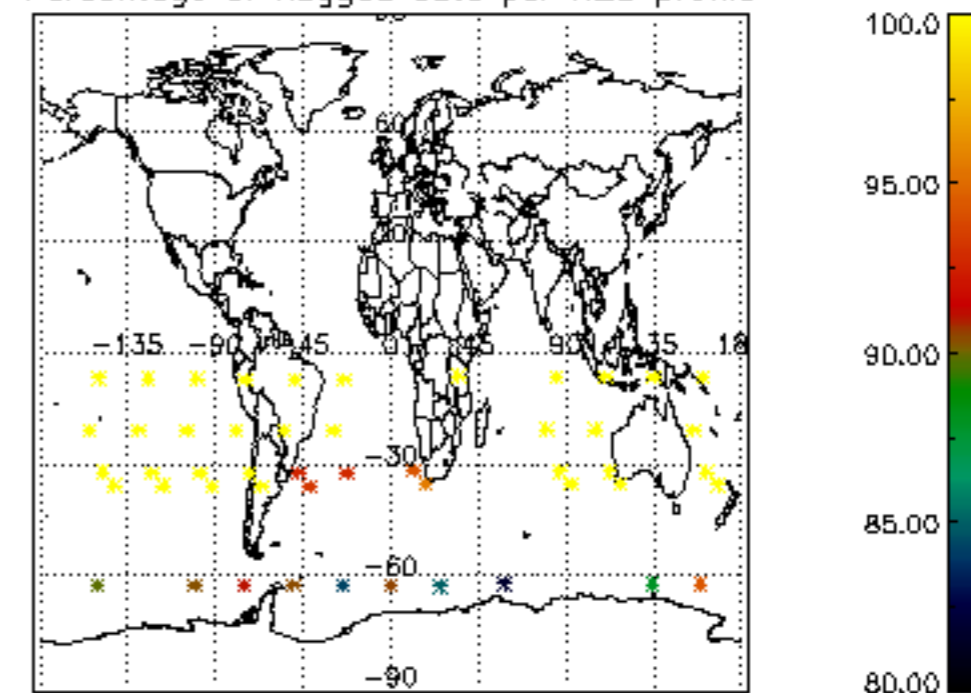




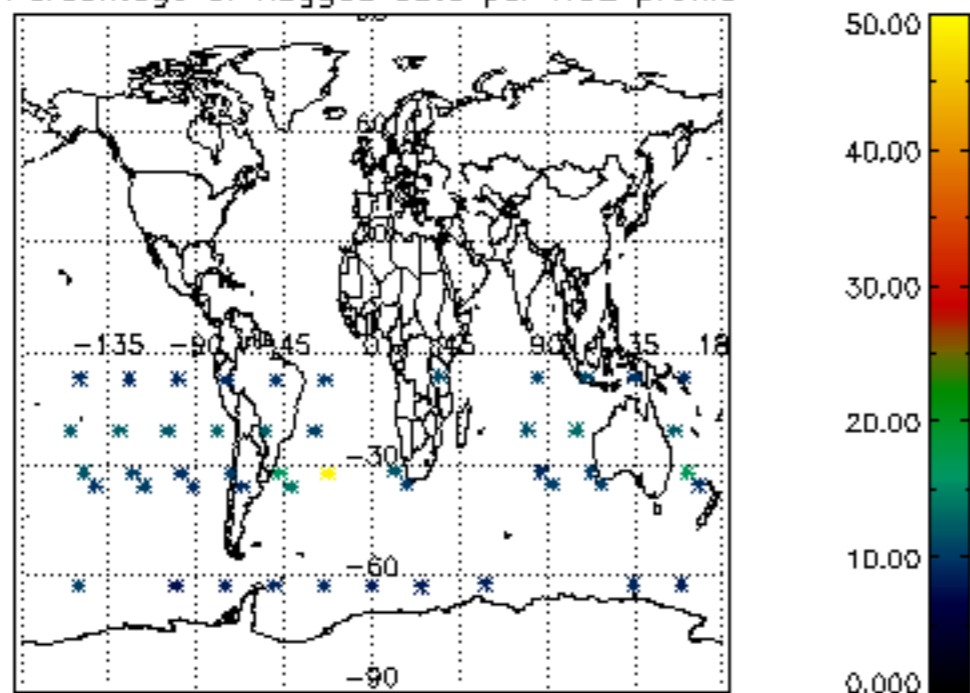
Percentage of flagged data per D3 profile



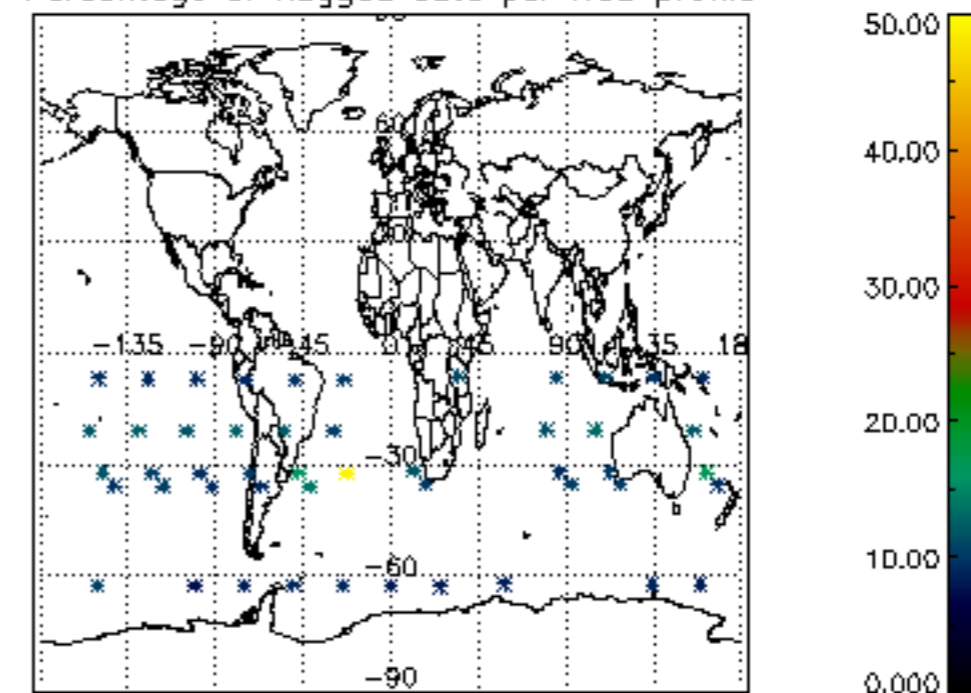
Percentage of flagged data per H2O profile

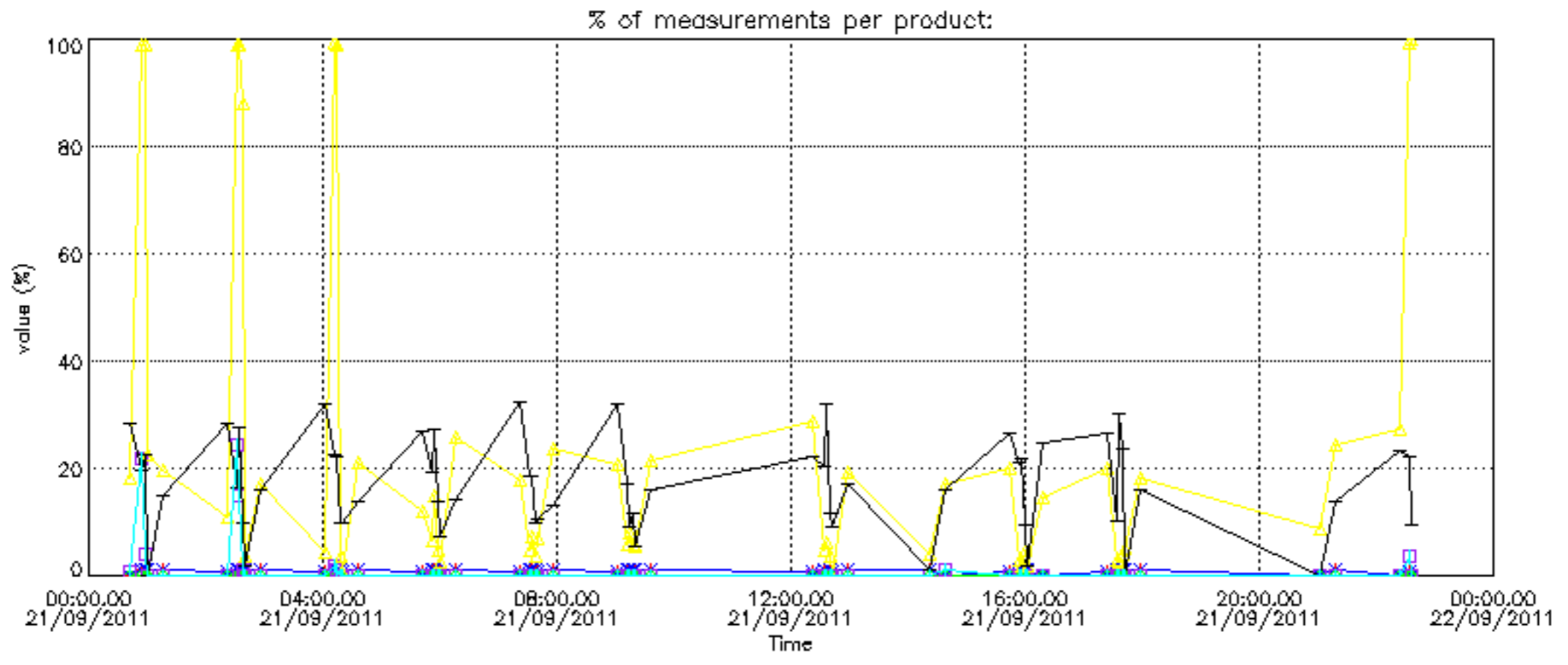


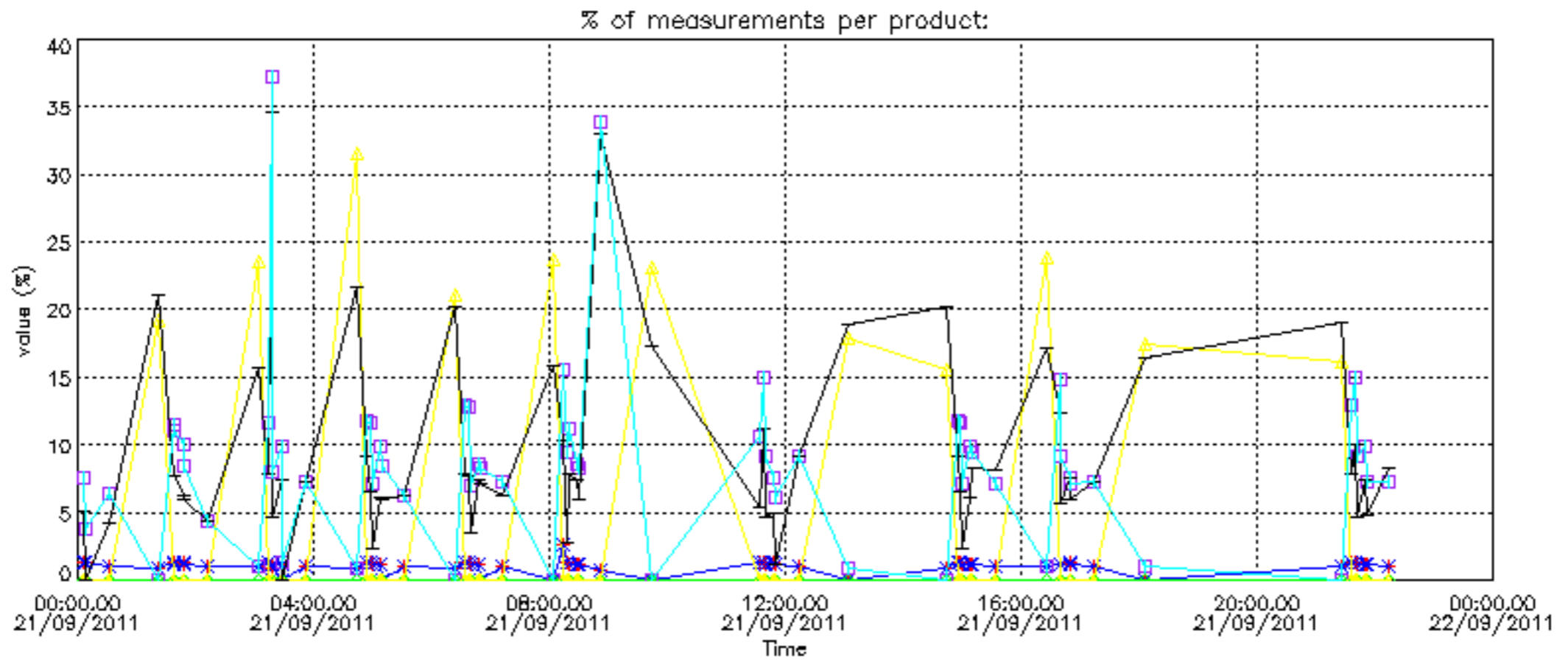
Percentage of flagged data per NO2 profile



Percentage of flagged data per NO3 profile

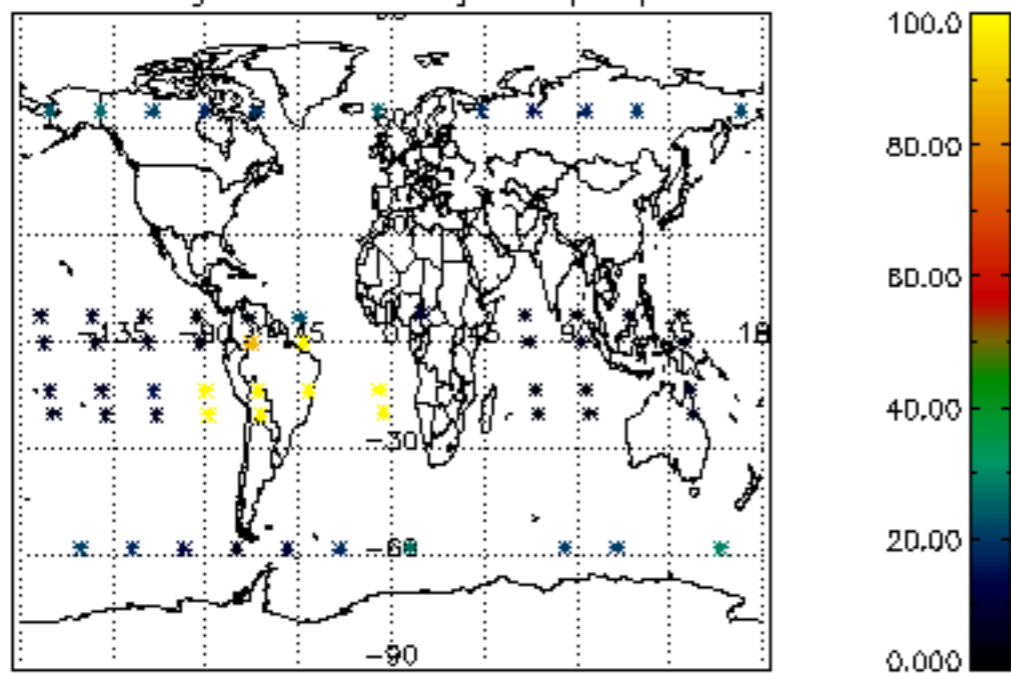




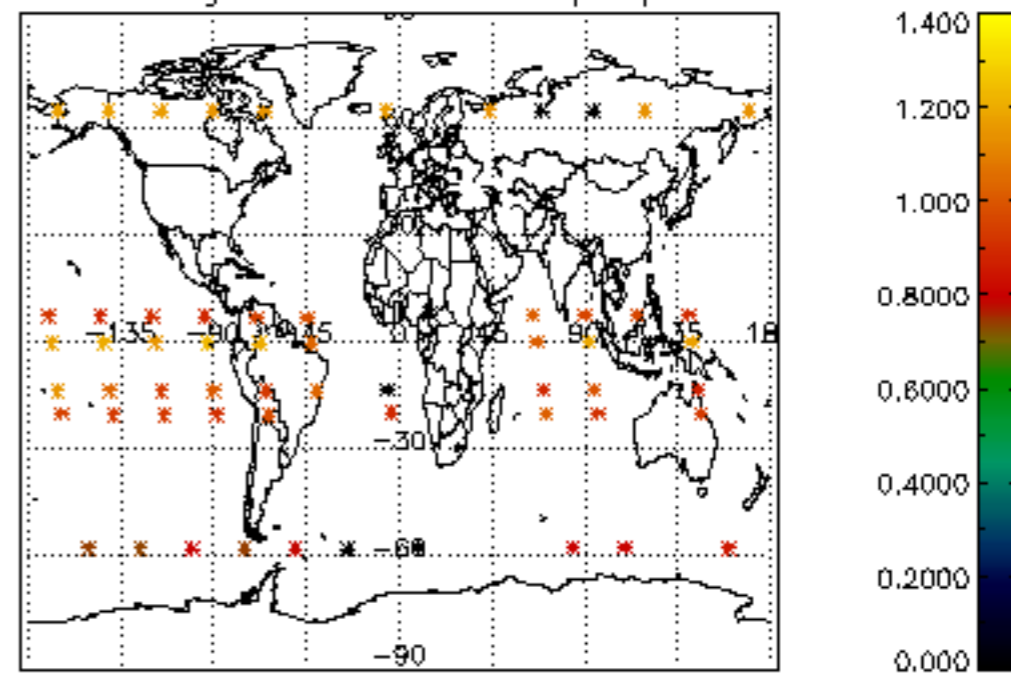




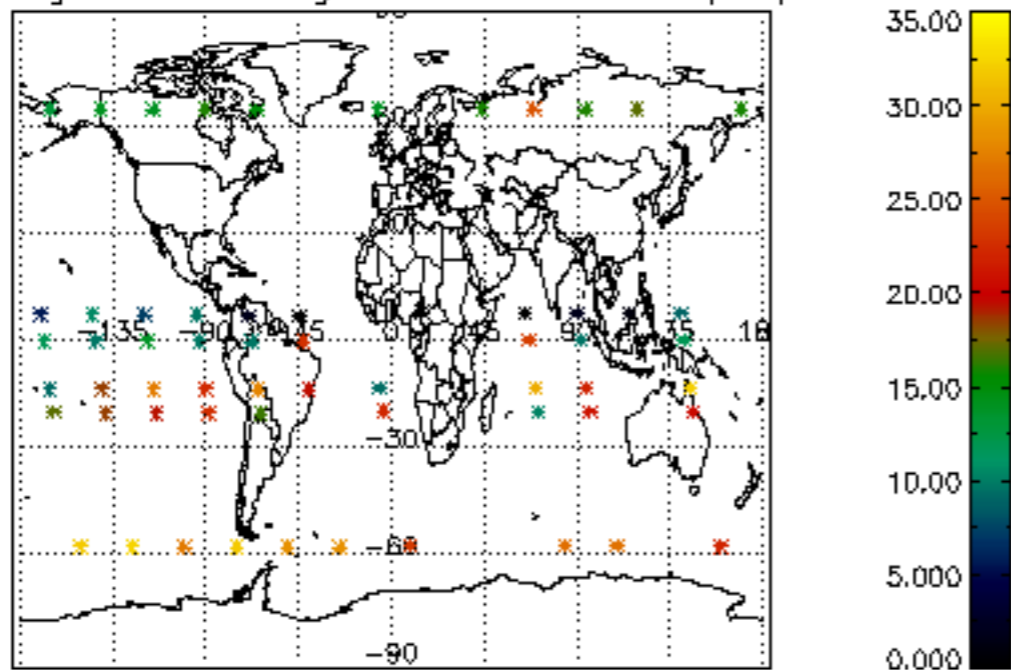
Percentage of cosmic ray hits per profile



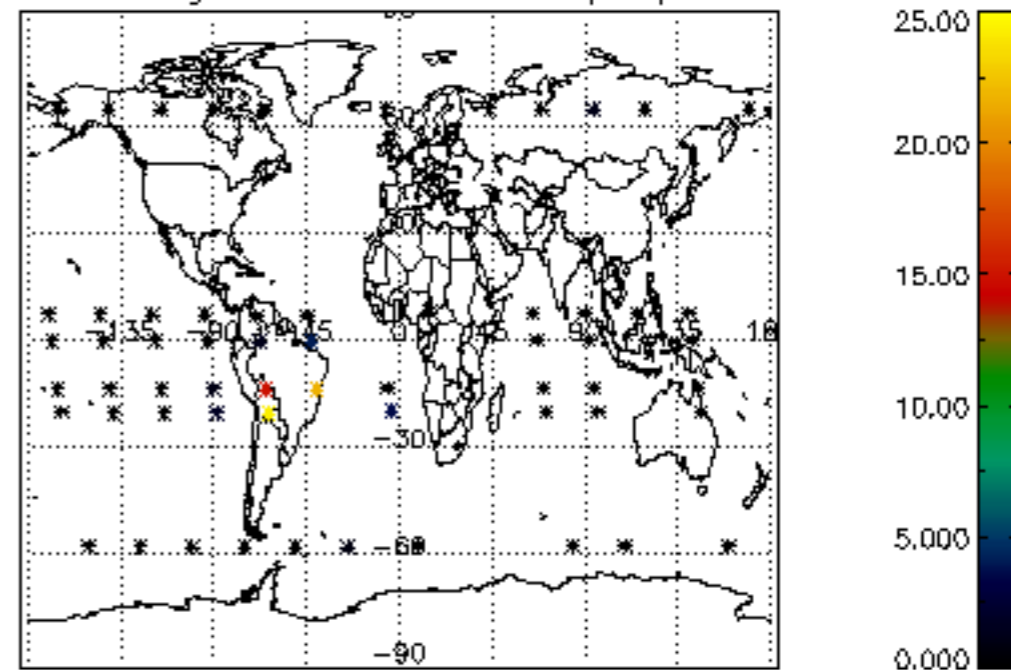
Percentage of datation errors per profile



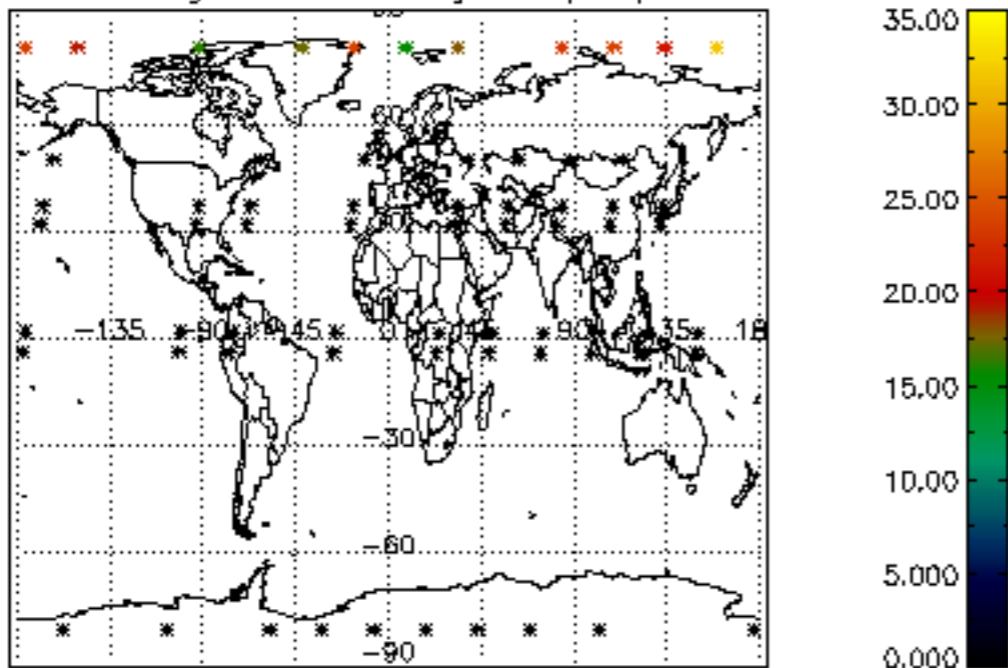
Percentage of star falling outside central band per profile



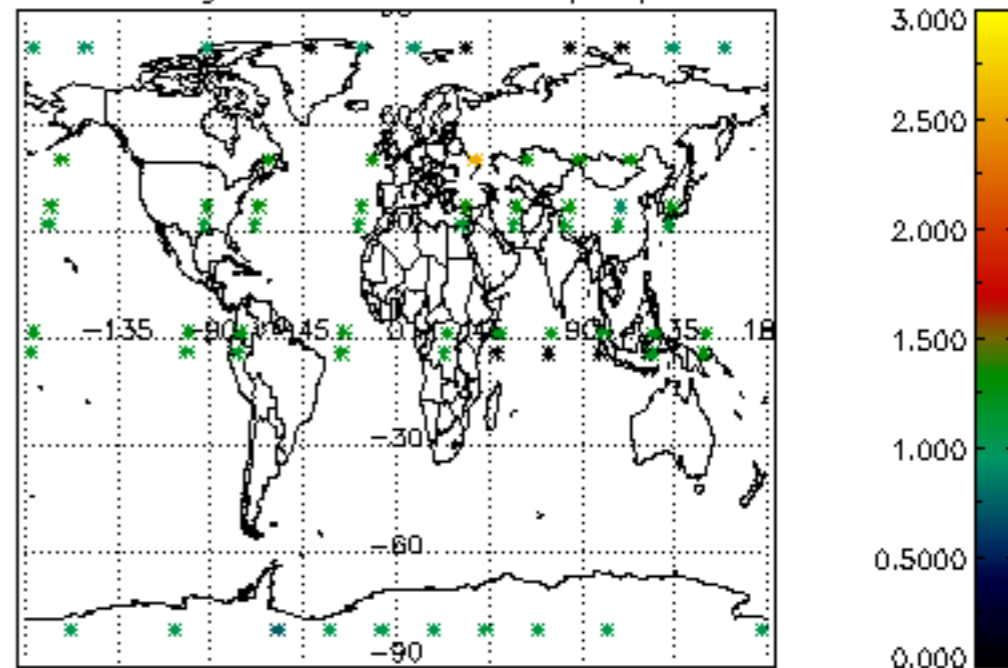
Percentage of saturation errors per profile



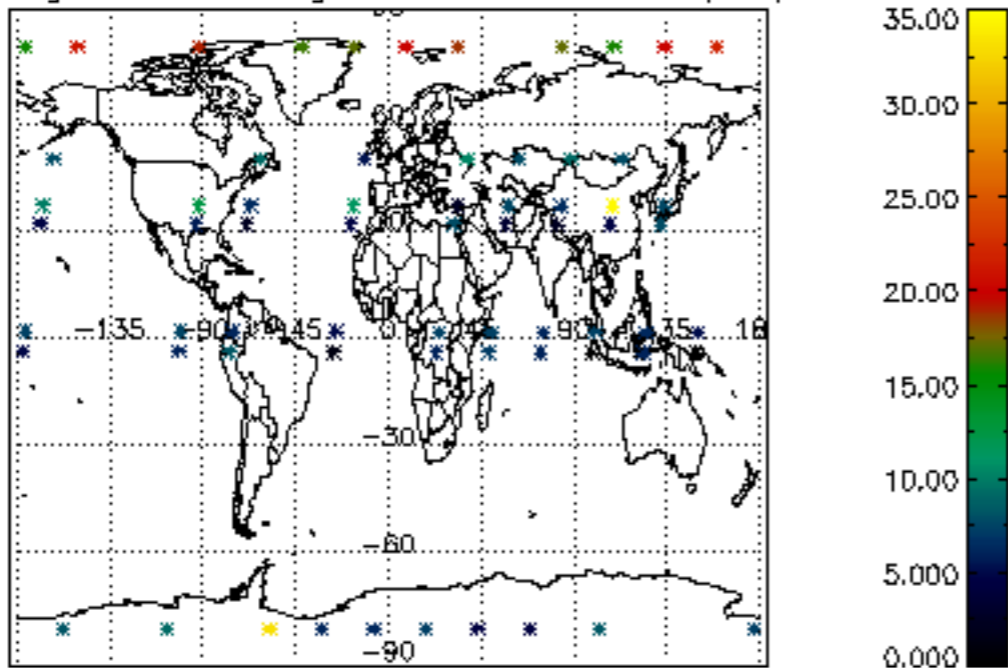
Percentage of cosmic ray hits per profile



Percentage of datation errors per profile



Percentage of star falling outside central band per profile



Percentage of saturation errors per profile

