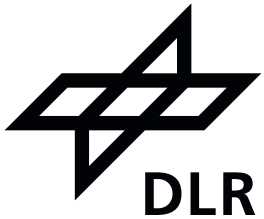
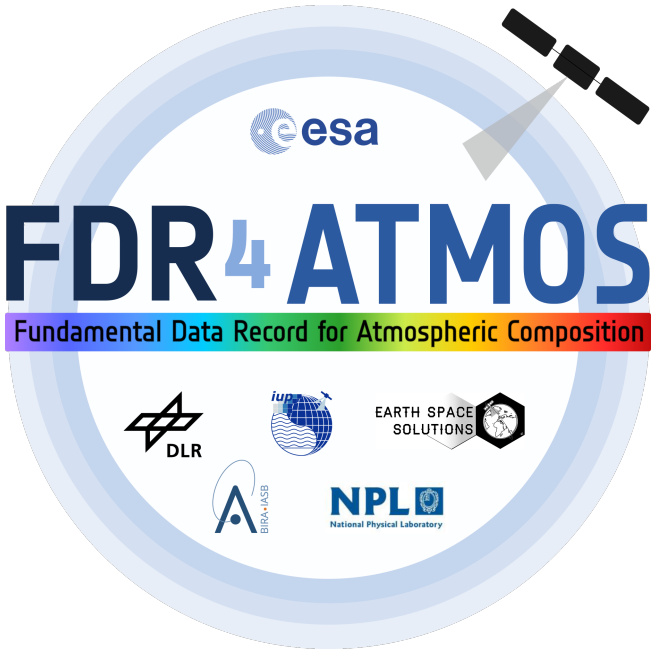
Level-1b Quality Report

FDR4ATMOS Task A D-A-10

Issue 2



Deutsches Zentrum
für Luft- und Raumfahrt e.V.
in der Helmholtz-Gemeinschaft



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Change Record

Issue	Date	Page	Description of Change
1	30.05.2023		completely new
2	13.10.2023	6	Introduction: Correction of typos and clarifications
		6	Updated references with document numbers
		7	Clarification and improvement of the explanation why the nummber of L2 products increased
		8	Corrected number of missing L2 products
		8	Sec. 3: Clarifcations
		9	Added explanation for the mismatch to table 1
		9	Corrected total number of files in result in Sec. 3.3
		10	Typos corrected
		11	Typo corrected
		12	Typo corrected
		20	Added version numbers

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1 Introduction

1.1 Purpose and Scope of the Document

The project FDR4ATMOS (Fundamental Data Records in the domain of satellite Atmospheric Composition) has been initiated by the European Space Agency (ESA). A Fundamental Data Record (FDR) is a long-term record of selected Earth observation Level 1 parameters (radiance, irradiance, reflectance), possibly multi-instrument, which provides improvements of performance with respect to the individual mission datasets. In Task A of the project a correction of the SCIAMACHY Level 1 processing was added to the Level 0-1 processor to prevent erroneous trends in the total Ozone column. All data were reprocessed. In this document we present tests to ensure the quality of the new Level 1 products. The Verification Report ([2]) and the Calibration Data Base Quality Report [4] and this report give a full assessment of the quality of the version 10 Level 1 data products:

1. The verification report confirmed the correct implementation of new and changed algorithms for the version 10
2. The Calibration Data Base report showed that the calibration data are complete and the calibration parameters are as expected.

The goal of this report is

- ➢ Check of the number of products processed from Level 0 to Level 2 (see Sect. 2)
- ➢ Check for the completeness of the netcdf groups available in the product for all files (see Sect. 3)
- ➢ Comparison of the calibration parameters and radiance for selected products (see Sect. 4)

1.2 Tracing to SoW Requirements

The following requirement from [1] applies to this document:

SoW-R-13	The Contractor shall perform quality control on the resulting SCIAMACHY Level 1b dataset. Results shall be described in a Level 1 Quality Control technical note [D-A-10].

1.3 Documents

1.3.1 Applicable Documents

[1] EOP-GMQ. *Fundamental Data Records for ATMOSpheric composition (FDR4ATMOS) Statement of work*. 2019.

1.3.2 References

[2] G. Lichtenberg, K. Aman and M. Krijger. *Verification Report SCIAMACHY L01 V.10 (FDR4ATA-VRP-DLR-004)*. TN issue 2. DLR-IMF, Nov. 2021.

[3] G. Lichtenberg. *SCIAMACHY Level 1 netCDF Product User Guide (ENV-IODD-DLR-SCIA-0136)*. TN issue 3. DLR-IMF.

[4] G. Lichtenberg. *Quality Report Calibration Database SCIAMACHY (ENV-TN-DLR-SCIA-0117)*. Tech. rep. issue 6. DLR-IMF, Dec. 2021.

1.4 Abbreviations

FDR	Fundamental Data Record
GOME	Global Ozone Monitoring Experiment
SCIAMACHY	Scanning Imaging Absorption spectroMeter for Atmospheric CHartographY
SoW	Statement of Work
UV	Ultraviolet (spectral range)
VIS	Visible (spectral range)

2 Completeness of the Dataset

The table below shows the number of products per year. Over the course of the mission there are 48600 Level 0 products were processed.

Table 1: *Products per year and in total for the previous and new processor versions.*

Year	# L0 orbits	# L1b orbits v9.01	# L1b orbits v10	# orbits L2 v7.0 (2018)	# L2 orbits v7.1
2002	2142	1991	2057	1604	1547
2003	4776	4757	4707	4544	4495
2004	5075	5051	4982	4633	4853
2005	5120	5098	5061	4618	4969
2006	4839	4822	4791	4720	4707
2007	5033	5016	4978	4915	4885
2008	5156	5152	5131	5053	5033
2009	5046	5030	4998	4927	4912
2010	4977	4975	4971	4870	4872
2011	5072	5066	5037	4967	4946
2012	1364	1354	1352	1333	1324
total	48600	48312	48065	46184	46543

The Level 1 processor in version 10 generates fewer Level 1 products. However, the number of Level 2 products in the new processor chain is larger by 359 products. The increase in Level 2 products was achieved by improving the Level 0-1 processing. Incomplete states and data or where the geolocation calculation failed are now skipped the remainder of data in the product are processed. In the previous processor version the processing was aborted completely for some cases.

The relative numbers of processed Level 1 files for version 10 are within the requirements with only 1.1% failure rate. Table 8 shows a detailed list of orbits that failed to generate a Level 2 product. A quick inspection showed that many of the Level 0 products that could not further be processed do not contain complete orbits and have incomplete data packets. If the processor encounters these products it will stop processing, since the data quality is degraded and resulting Level 1 or Level 2 products cannot be trusted.

Table 2: *Percentages of processed files for previous and new processor version.*

Product	% of L0	% of L1
Level 1b V9.01	99.41	N/A
Level 1b V10	98.90	N/A
Level 2 V7.0	95.03	95.60
Level 2 V.7.1	95.77	96.83

In order to understand the difference between the processed Level 1 and Level 2 files we generated a list of products that failed to process to Level 2 V. 7.1 by checking for each Level 1b file if the associated Level 2 file exists. For all those files we also checked

- ➢ if a Level 2 version 6.01 exist
- ➢ if a Level 2 version 7.0 exist
- ➢ the number of nadir and limb states
- ➢ if the measurement was done during a instrument anomaly or decontamination

The full list is available in Sect. 6. We found 1522 missing Level 2 products. The following table shows a summary of the parameters:

Table 3: *Statistics on orbits that failed to process to Level2.*

	#	Comment
Missing in version 6.01	887	means 887 files of that are missing in V7.1 are also missing in V.601
Missing in version 7.0	1215	
Measured during anomaly	50	
Measured during decontamination	31	
No Nadir and no Limb States	469	
All filters	498	(No Limb and Nadir states) or (measured during anomaly or decontamination)

In total 498 files do not contain any limb and nadir states or were measured during non-nominal conditions. In these cases it can be expected that no Level 2 product is generated. We checked for some of the remaining files the cause for the failure to process the data further. Most of the time in these cases we had incomplete state data. We also found that the new EO CFI library used for determining the line of sight produces some failures in edge cases.

3 Completeness of the Product

3.1 Method

In order to see if the generated Level 1 products are complete, we check that all expected groups are available in the files. We defined 5 flags to check separately:

CAL_PATHS All sub-groups of the netCDF `CALIBRATION` group

DB_PATHS All sub-groups of the netCDF `INSTRUMENT` group

NADIR_PATHS Checks the existence of the `MODE_NADIR` group

LIMB_PATHS Checks the existence of the `MODE_LIMB` group

OCC_PATHS Checks the existence of the `MODE_OCCULTATION` group

For each of the flags above we give out a 0 (incomplete) or a 1 (complete). For the Earth observation modes nadir, limb and occultation we do another check: If the flag for one of these groups is 0, we look up the source Level 0 file and determine if the states for the failed flag are actually available in the Level 0 file. If no state for that observation mode is available in the Level 0 file, we change the flag to 1, since then the missing of these observation groups is not an error but an expected behaviour. From the individual flags an overall flag is determined, which is 1 (OK) only if all other flags are also 1. The results are written to a text file together with the file name and orbit.

The quality check is implemented in python.

3.2 Results

For a first overview we use a shell script that filters the output of the quality check and summarises the result. The summary for version 10 of the processor is

```
File -rw-r----- 1 xyz dlr_xyz_p 9797860 Feb 17 09:31 L1repro_QA.txt
==SUMMARY=============================================
Date              : Mon 21 Feb 16:05:18 CET 2022
Processed         : 48065 L1repro_QA.txt
-----------------------------------------------------
Failed CAL_PATH   : 19
Failed DB_PATH    : 33
Failed NADIR_PATH: 200
Failed LIMB_PATH  : 116
Failed OCC_PATH   : 1254
-----------------------------------------------------
TOTAL FAILED      : 1453
=====================================================
```

In total 48065 files could be processed to Level 1. The number of files where one of the groups is missing is 1453. For the previous processor version the number was

```
File -rw-r----- 1 xyz eoc_file.modify_mf-atp_b 9027333 Mar 14 2019 L1repro_QA.txt
==SUMMARY=============================================
Date              : Mon 21 Feb 16:10:55 CET 2022
Processed         : 48313 L1repro_QA.txt
-----------------------------------------------------
Failed CAL_PATH   : 39
Failed DB_PATH    : 114
Failed NADIR_PATH: 270
Failed LIMB_PATH  : 120
Failed OCC_PATH   : 1307
-----------------------------------------------------
TOTAL FAILED      : 1576
=====================================================
```

The quality check check shows 48313 processed products. The number is derived from a list that was generated in 2018 after the processing of Level 0 files. Table 1 shows one less processed file. The likely reason is that duplicate orbits were not removed for the test. The list used for the result above contains 3 duplicate orbits: 14314 14319 14320, The difference of 1 dile is possibly caused by a removal of a duplicate orbit from the list used for table 1. However, since these checks were carried out 5 years ago, the original list (and files) do not exist anymore.

For version 9.1, In total 248 more files could be processed to Level 1. However, Version 9 had 123 more incomplete products, i.e. total number of failures is larger than for version 10. An overview of failed orbits is given in Sect. 2

3.3 Filtering out the decontamination and anomaly periods

```
File -rw-r--r-- 1 xyz dlr_xyz_p 9797878 Mar 7 2022 L1brepro_QA_ano-to-1.txt
==SUMMARY=============================================
Date              : Wed 24 May 10:42:05 CEST 2023
Processed         : 48065 L1brepro_QA_ano-to-1.txt
-----------------------------------------------------
Failed CAL_PATH   : 19
Failed DB_PATH    : 33
Failed NADIR_PATH: 199
Failed LIMB_PATH  : 113
Failed OCC_PATH   : 1224
-----------------------------------------------------
TOTAL FAILED      : 1420
=====================================================
```

Of the 1453 products that failed the test 33 are in decontamination or periods with reported anomalies.

4 Check on Radiances and Calibration Parameters

4.1 Method

The test for the correct application of the calibration parameters is done in three steps (always comparing version 9.01 with version 10 data):

1. Checks on the basis of Level 1b
   a) Are the calibration parameter values stored in the file as expected? (see Sec. 4.2.1)
   b) Do the variables related to the radiance change in Level 1b (the values should be identical since no calibrations are applied in Level 1b, see Sec. 4.2.3 to 4.2.5)
2. Repeat the comparison of the radiance related variables after all calibrations except corrections for the polarisation and the radiometric parameters are applied. The values should still be identical (see Sec. 4.3).
3. Repeat above comparison but now with data where only the radiometric calibration is *not* applied (see Sec. 4.4)

For the radiance related values we check the relevant bands for the FDR generation (bands 9,10,15 and 26). We use the following libraries for the comparison:

Table 4: *Tools used for testing.*

Tool	Version	Used For
python	3.9.10	Generic methods like size determination etc
python-numpy	1.22.4	Comparison of data
pyhton-scipy	1.8.1	Linear regression
python-netCDF4	1.5.8	Reading netCDF data
python-xarray	2022.3.0	Reading and comparison of data

The checks are automated and the code is part of the orgmode master document that is the source of this report. In this way the results are reproducible. The orgmode document is attached to the pdf. The results of the code calculations are directly inserted into this document and set in `type writer font`.

4.2 Level1b (not calibrated)

4.2.1 Regression Test for Calibration Group

The following table shows the differences of entries for the orbit 8449. The changed degradation correction will change the values for the polarisation and radiometric sensitivities as well as the SMR entries. Note that for small absolute values the relative difference can be high without indicating a problem.

Table 5: *Entries for group CALIBRATION comparison for orbit 8449. Shown are the value, the maximum relative difference and the absolute difference at the index of the maximum relative difference.*

Parameter	Value (V10)	Max Rel. Diff	Abs. Diff. @ max RD
./DARK_AVERAGES/solar_straylight	0.000103853905	26.734188	0.0027764498
./DARK_AVERAGES/solar_straylight_error	1.6406581	0.031294126	0.051342964
./DARK_AVERAGES/pmd_straylight	0.18733263	0.0018719058	0.00035066903
./DARK_AVERAGES/pmd_straylight_error	2.6353672	3.6549405e-05	9.6321106e-05
./LEAKAGE_VARIABLE/leakage_current	5.34009759576293e-05	697.2513556588291	0.03723390287996157
./LEAKAGE_VARIABLE/leakage_current_error	0.340125	0.8542133039323778	0.2905393
./LEAKAGE_VARIABLE/pmd_offset	0.000202440245649817	1.549634000863897	0.00031370828780219603
./LEAKAGE_VARIABLE/pmd_offset_error	3.85328	0.00011418843167373612	0.0004399999999997739
./MEAN_SUN_REFERENCE/lambda_mean_sun	383.5203787434	6.30891368838583e-11	2.4195969672291 54e-08
./MEAN_SUN_REFERENCE/mean_sun_reference	714439909742.298	19.144554586850266	13677633851085.8

Continued on next page

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Parameter	Value (V10)	Max Rel. Diff	Abs. Diff. @ max RD
./MEAN_SUN_REFERENCE/mean_sun_precision	0.000673212	1.951343707479962	0.001313668
./MEAN_SUN_REFERENCE/mean_sun_accuracy	0.00270958	19.39629758117494	0.052555819999999996
./MEAN_SUN_REFERENCE/mean_sun_pmd	789961.509967141	2.365273634809712e-06	1.8684751320397481
./MEAN_SUN_REFERENCE/mean_sun_out_of_band_signal_nd_out	0.028261911045429	0.18268653972030524	0.0051630707347724986
./MEAN_SUN_REFERENCE/mean_sun_out_of_band_signal_nd_in	0.0283047949390112	0.188102822164565	0.005324211808817304
./MEAN_SUN_REFERENCE/doppler_shift	0.010304153	0.00023174258	2.387911e-06
./NEW_LEAKAGE/orbit_phase	0.1386	0.0014429183	0.00019998848
./POLARISATION_SENSITIVITY_LIMB_OCCULTATION/			
polarisation_sensitivity_limb_mu2	0.00013411245199878088	5.9289064329461194e-06	7.951401793937496e-10
polarisation_sensitivity_limb_mu3	3.248999689431896e-06	4.153937811137014e-05	1.3496142658303567e-10
./POLARISATION_SENSITIVITY_LIMB_OCCULTATION_NDF/			
polarisation_sensitivity_limb_mu2_NDF	2.4919461922652455e-06	3.319283207419033e-05	8.27147514977783e-11
polarisation_sensitivity_limb_mu3_NDF	3.943342406295584e-08	5.824977201151029e-06	2.2969879613003816e-13
./POLARISATION_SENSITIVITY_NADIR/			
polarisation_sensitivity_nadir_mu2	0.0016941900152281364	1.023014252738774e-05	1.733180532426104e-08
polarisation_sensitivity_nadir_mu3	4.455703629345541e-06	5.69607985014274e-06	2.5380043661323015e-11
./RADIANCE_SENSITIVITY_LIMB_OCCULTATION/			
radiance_sensitivity_limb	1.6691302227017468e-10	2.1314075838366806	3.5575968150775105e-10
./RADIANCE_SENSITIVITY_LIMB_OCCULTATION_NDF/			
radiance_sensitivity_limb_ndf	1.669136567851282e-10	2.1314075838366806	3.5576103391773506e-10
./RADIANCE_SENSITIVITY_NADIR/radiance_sensitivity_nadir	3.252191007564905e-12	3.444443384806569	1.1201987802134347e-11
./SPECTRAL_CALIBRATION/spectral_coefficients	3.1122804231991e-06	2.546212590176612e-07	7.924527597709743e-13
./SPECTRAL_CALIBRATION/wavelength	383.52037874339993	6.308780295012727e-11	2.4195458081521792e-08

The only large difference can be seen in the variable leakage current. It occurs when the instrument enters the eclipse. Generally the differences are small (see Fig. 1).

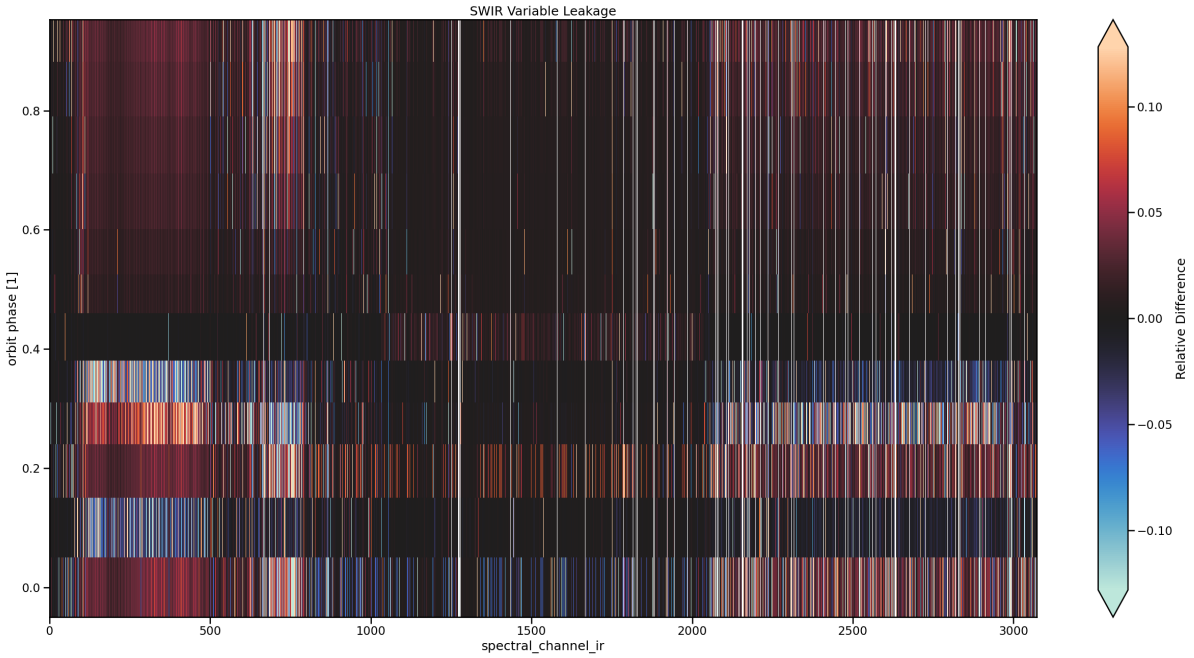


Figure 1: *Relative difference of the variable leakage in the SWIR channels as a function of pixel and orbit phase. Orbit phase 0 is defined as entry into eclipse. The colormap is truncated at the 2nd and 98th quantile. Values in this range have extreme color values.*

4.2.2 Data set

For the test of radiance related values we use 2 orbits, one early in the mission and one late in the mission.

Version 10.0 files:

EN1_RPRO_SCI_____1P_20031012T074712_20031012T092727_008449_01_100000_20220206T170831.nc
EN1_RPRO_SCI_____1P_20110111T135150_20110111T153233_046361_01_100000_20220129T054328.nc

Version 9.01 files:

ENV_RPRO_SCI_L1B____20031012T074712_20031012T092727_08449_01_090100_20181031T142725.nc
ENV_RPRO_SCI_L1B____20110111T135150_20110111T153233_46361_01_090100_20181021T000740.nc

4.2.3 Check of radiances

We check the following bands

- BAND_09
- BAND_10
- BAND_15
- BAND_26

The check is done by summing up the differences between both versions, leaving out NaN values using `numpy.nansum()`. This value will only be 0 if all values are identical. Additionally to the radiance we also check the memory effect and stray light values. The radiance values are copied from the Level 0 data packet. The memory and stray light values are calculated in the Level 0-1 processing and stored for each observation. The algorithms for the calculation of these values have not been changed and we expect them to be identical for Level 1b products of both versions.

```
Sum of differences for BAND_09  radiance: 0.0 for orbit 8449
Sum of differences for BAND_09  radiance: 0.0 for orbit 46361
Sum of differences for BAND_10  radiance: 0.0 for orbit 8449
Sum of differences for BAND_10  radiance: 0.0 for orbit 46361
Sum of differences for BAND_15  radiance: 0.0 for orbit 8449
Sum of differences for BAND_15  radiance: 0.0 for orbit 46361
Sum of differences for BAND_26  radiance: 0.0 for orbit 8449
Sum of differences for BAND_26  radiance: 0.0 for orbit 46361
```

As expected the values for the radiance are identical

4.2.4 Check of memoryeffect

For the memory effect we use the same procedure and bands as for the radiance check.

```
Sum of differences for BAND_09  memoryeffect: 0.0 for orbit 8449
Sum of differences for BAND_09  memoryeffect: 0.0 for orbit 46361
Sum of differences for BAND_10  memoryeffect: 0.0 for orbit 8449
Sum of differences for BAND_10  memoryeffect: 0.0 for orbit 46361
Sum of differences for BAND_15  memoryeffect: 0.0 for orbit 8449
Sum of differences for BAND_15  memoryeffect: 0.0 for orbit 46361
Sum of differences for BAND_26  memoryeffect: 0.0 for orbit 8449
Sum of differences for BAND_26  memoryeffect: 0.0 for orbit 46361
```

All values are identical.

4.2.5 Check of straylight

For the stray light we use the same procedure and bands as for the radiance check.

```
Sum of differences for BAND_09  straylight: 0.0 for orbit 8449
Sum of differences for BAND_09  straylight: 0.0 for orbit 46361
Sum of differences for BAND_10  straylight: 0.0 for orbit 8449
Sum of differences for BAND_10  straylight: 0.0 for orbit 46361
Sum of differences for BAND_15  straylight: 0.0 for orbit 8449
Sum of differences for BAND_15  straylight: 0.0 for orbit 46361
Sum of differences for BAND_26  straylight: 0.0 for orbit 8449
Sum of differences for BAND_26  straylight: 0.0 for orbit 46361
```

All values are identical.

4.3 Level 1c All Calibrations Except Polarisation & Radiometric

4.3.1 Data set

We only check the radiance, since the memory effect and stray light values are not changed in the Level 1b-c processing. The data were generated from the Level 1b files with the command `scial1c -cal 0,1,2,3,4,5` , i.e. we applied all calibrations except the polarisation correction and the radiometric correction. After the processing the values should still be identical, since the m-factors are not used in the applied corrections.

Version 10.0 files:

EN1_RPRO_SCI_____1C_20031012T074712_20031012T092727_008449_01_041000_20220718T143207.nc
EN1_RPRO_SCI_____1C_20110111T135150_20110111T153233_046361_01_041000_20220718T144241.nc

Version 9.01 files:

EN1_RPRO_SCI_____1C_20031012T074712_20031012T092727_008449_01_041000_20220718T141958.nc
EN1_RPRO_SCI_____1C_20110111T135150_20110111T153233_046361_01_041000_20220718T142425.nc

4.3.2 Check of radiances

The check of the radiance variable gives

```
Sum of differences for BAND_09  radiance: 0.0 for orbit 8449
Sum of differences for BAND_09  radiance: 0.0 for orbit 46361
Sum of differences for BAND_10  radiance: 0.0 for orbit 8449
Sum of differences for BAND_10  radiance: 0.0 for orbit 46361
Sum of differences for BAND_15  radiance: 0.0 for orbit 8449
Sum of differences for BAND_15  radiance: 0.0 for orbit 46361
Sum of differences for BAND_26  radiance: 0.0 for orbit 8449
Sum of differences for BAND_26  radiance: 0.0 for orbit 46361
```

The values are identical as expected.

4.4 Level 1c All Calibrations Except Radiometric

Data produced by the command `scial1c -cal 0,1,2,3,4,5,6`, i.e. all calibrations except radiance were applied . For this test we expect some differences, since the polarisation algorithms use look-up tables that contain the reflectance or radiance as a parameter. In the processor this is implemented in the following way:

1. Calculate the radiance or reflectance for a given observation
2. Use the radiance or reflectance to derive the correction terms for the polarisation
3. Discard the radiance and reflectance

Thus, even if the overall radiometric calibration is not used in scial1c, the m-factors go into the results via the polarisation correction and some differences between version 9.01 and version 10 radiances are expected as soon as the polarisation correction is used. The size of the change cannot be predicted, since it is scene dependent.

4.4.1 Data set

The following data sets are used for this test:

Version 10.0 files:

EN1_RPRO_SCI_____1C_20031012T074712_20031012T092727_008449_01_041000_20220718T154314.nc
EN1_RPRO_SCI_____1C_20110111T135150_20110111T153233_046361_01_041000_20220718T155143.nc

Version 9.01 files:

EN1_RPRO_SCI_____1C_20031012T074712_20031012T092727_008449_01_041000_20220718T153014.nc
EN1_RPRO_SCI_____1C_20110111T135150_20110111T153233_046361_01_041000_20220718T153651.nc

4.4.2 Comparison of Radiance Data

Since we now that the radiance parameter in the product will be different, we calculate the median of the differences between both versions

```
Median of differences for BAND_09  radiance: -0.25390625 for orbit 8449
Median of differences for BAND_09  radiance: 0.0048217773 for orbit 46361
Median of differences for BAND_10  radiance: -0.17541504 for orbit 8449
Median of differences for BAND_10  radiance: 0.1587143 for orbit 46361
Median of differences for BAND_15  radiance: 0.22167969 for orbit 8449
Median of differences for BAND_15  radiance: 13.742676 for orbit 46361
Median of differences for BAND_26  radiance: -7.6604004 for orbit 8449
Median of differences for BAND_26  radiance: 0.07922363 for orbit 46361
```

The differences are relative small compared to the typical signals (a few 1000 BU). The median of the *relative* differences is below 0.1%.

```
Median of absolute relative differences for BAND_09  radiance: 0.0% for orbit 8449
Median of absolute relative differences for BAND_09  radiance: 0.0% for orbit 46361
Median of absolute relative differences for BAND_10  radiance: 0.0% for orbit 8449
Median of absolute relative differences for BAND_10  radiance: 0.0% for orbit 46361
Median of absolute relative differences for BAND_15  radiance: 0.0% for orbit 8449
Median of absolute relative differences for BAND_15  radiance: 0.0% for orbit 46361
Median of absolute relative differences for BAND_26  radiance: 0.0% for orbit 8449
Median of absolute relative differences for BAND_26  radiance: 0.0% for orbit 46361
```

A linear regression calculated from the radiances for version 10, and version 9 shows a near perfect correlation of the values.

Table 6: *Linear regression for radiance values between version 9.01 and version 10 for orbit 8449.*

Parameter	# matches	Slope	Intercept	R^2
BAND_09	3080960	1.0009 +- 8.081e-07	-3.323 +- 0.004873	1
BAND_10	436160	1.0004 +- 5.896e-07	-0.1074 +- 0.0009082	1
BAND_15	3470560	0.9999 +- 4.728e-07	0.3829 +- 0.008934	1
BAND_26	898880	1.0011 +- 8.678e-07	0.4222 +- 0.01234	1

Table 7: *Linear regression for radiance values between version 9.01 and version 10 for orbit 46361.*

Parameter	# matches	Slope	Intercept	R^2
BAND_09	4402320	0.9975 +- 1.692e-06	3.824 +- 0.005941	1
BAND_10	623220	0.9987 +- 2.836e-06	0.04369 +- 0.001826	1
BAND_15	4676100	0.9979 +- 2.803e-06	1.289 +- 0.05042	1
BAND_26	1570920	0.9994 +- 3.618e-07	0.8607 +- 0.004017	1

In the following we show facet plots for each ground pixel, separately for each orbit and band:

- The plot shows all ground pixels from index 0 top left to the last ground pixel bottom right. The ground pixels are sorted along rows, i.e. the 5th ground pixel can be found at the end of the top row, the 6th at start of the 2nd row and so on.
- For each ground pixel the relative difference is coded in a colour map. We used an inverted colour map to make small difference better visible: black indicates values that are 0 or near zero. We also exclude the 2nd and 98th percentile values in order to make structures visible. If this is not done, a few outliers determine the colour map values, making details invisible
- The y-axis of the individual plots shows the scan line dimension. This is the index that grows along the orbit, thus it represents the orbit phase.
- The x-axis of the individual plots shows the spectral pixel dimension in ascending order, i.e. higher pixel numbers indicate larger wavelengths
- Values without data appear white (in the SCIAMCHY product the dimensions are calculated for the minimum integration time in the orbit; bands with larger integration times have fill values, see the product user guide [3]).

4.4.2.1 Band 09

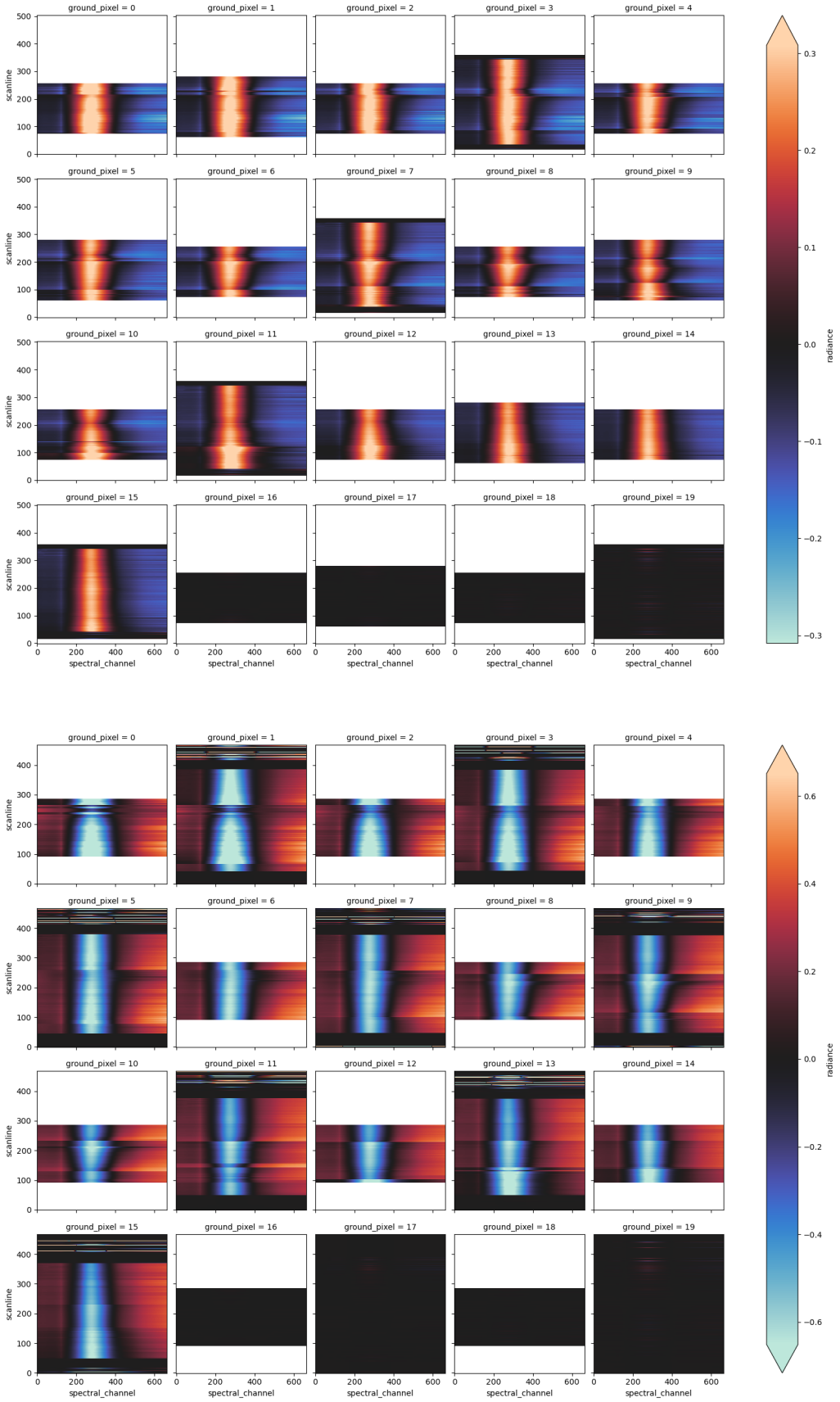


Figure 2: *Band 09 relative difference of the radiances. Top: Orbit 8449. Bottom: Orbit 46361.*

4.4.2.2 Band 10

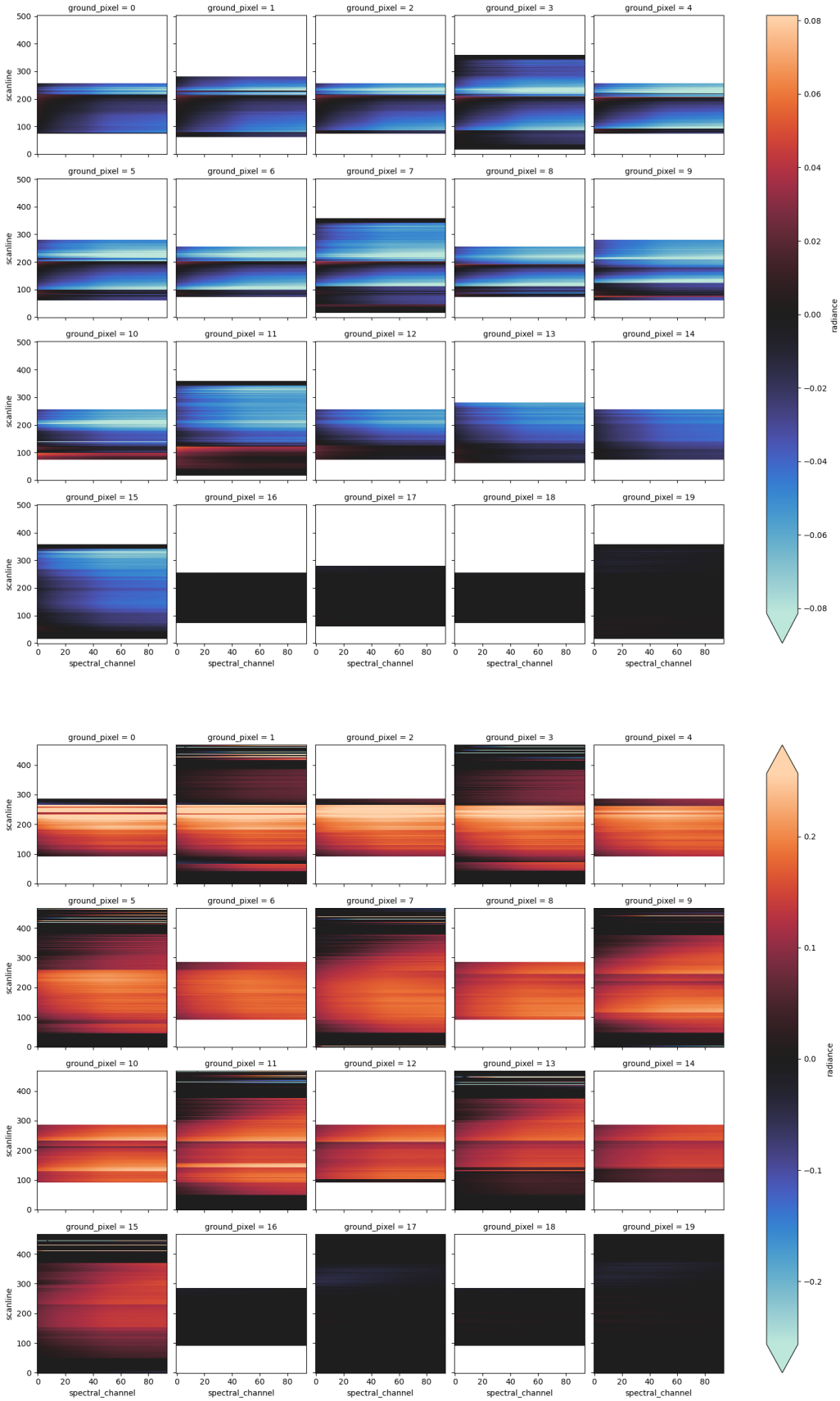


Figure 3: *Band 10 relative difference of the radiances. Top: Orbit 8449. Bottom: Orbit 46361.*

4.4.2.3 Band 15

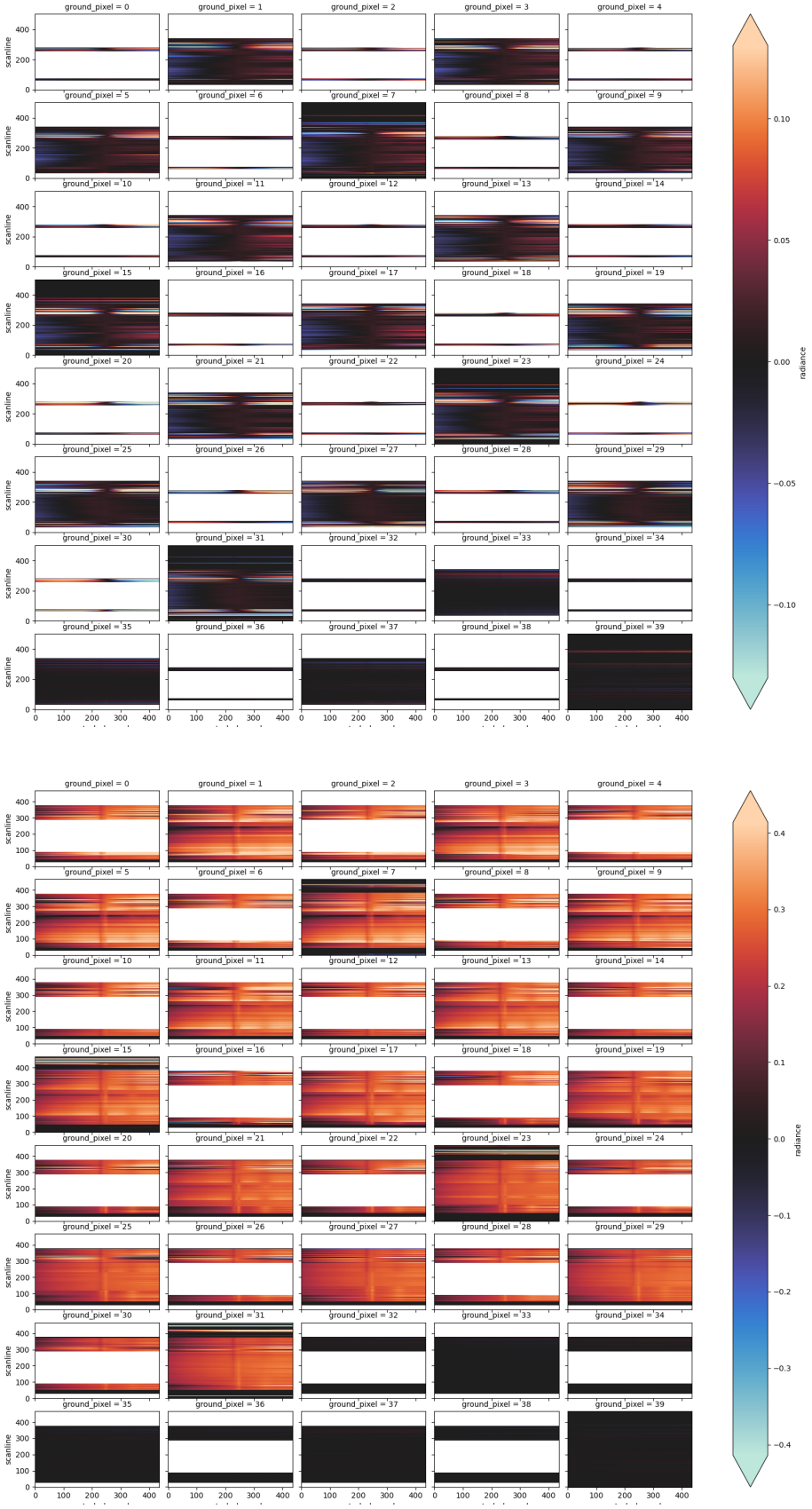


Figure 4: *Band 15 relative difference of the radiances. Top: Orbit 8449. Bottom: Orbit 46361.*

4.4.2.4 Band 26

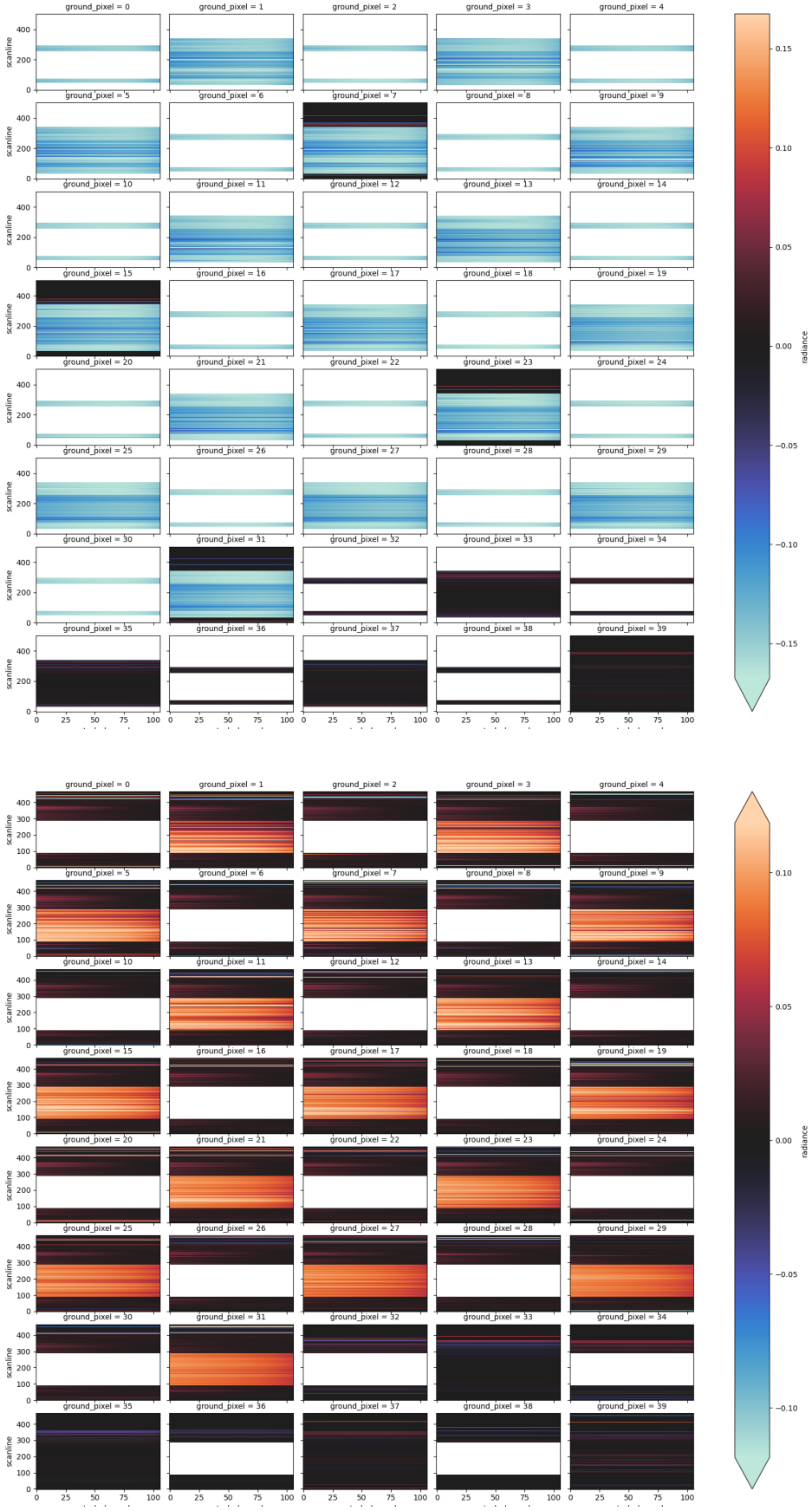


Figure 5: *Band 26 relative difference of the radiances. Top: Orbit 8449. Bottom: Orbit 46361.*

5 Summary

The number of generated Level 1 version 10 and Level 2 version 7.1 products are within the requirements with 98.9% and 96.8% of the available data, respectively. The numbers are comparable to the results of the previous re-processing. From the available version 10 Level 1b data we generated 359 more Level 2 products than for the previous version.

The check on the content of the version 10 products (groups in netCDF files) showed similar results as the check on version 9.01. In version 10 1453 Level-1 products some content was missing (3.02% of the total number of products). 33 products of those files were measured during instrument anomalies or decontamination periods. For version 9.01 1576 products did not show all expected groups (3.26%). Most of the time the `Occultation` group was missing from the product (V9.01: 83%, V10: 86%). Summarising we can say that both versions behave similar and that the relative number of products that have groups missing is a bit lower in version 10. Note that the fact that groups are missing from a product does not point to a an erroneous processing. The processor has numerous checks on the data quality and data that do not pass these checks, because e.g. a data packet is incomplete, will not be further processed and thus not be present in the Level 1b product.

We also tested the differences in content for Level 1 products of version 9.01 and version 10. Several tests were done. A comparison of the calibration parameters in the `CALIBRATION` group showed only small differences. The comparison of the radiance related values shows that

- ➢ the values for the variable radiance, memory effect and stray light are identical in Level 1b products
- ➢ the values change only when the polarisation correction is used, but are still relatively small

The observed difference between the two product versions is expected, since the polarisation algorithms makes use of absolutely calibrated data that are changed in version 10 due to the updated degradation correction.

We can conclude that the number of products and their content is comparable or better than in the previous re-processing. Detailed checks on the calibration parameters and radiance related values showed there is no compelling reason not to use the Level 1 products for the generation of FDRs.

6 List of Failed Level 2 Processings

Table 8: *List of orbits that could not be processed to Level 2 version 7.1. See Sect. 2 for details.*

Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2002/06/18	1572	no	no	0	0	no	no
2002/06/18	1573	no	no	0	0	no	no
2002/06/19	1574	no	no	0	0	no	no
2002/06/19	1575	no	no	0	0	no	no
2002/06/19	1576	no	no	0	0	no	no
2002/06/19	1577	no	no	0	0	no	no
2002/06/19	1578	no	no	0	0	no	no
2002/06/19	1587	no	no	31	29	no	no
2002/06/20	1591	no	no	12	19	no	no
2002/06/20	1597	no	no	0	0	no	no
2002/06/20	1598	no	no	31	28	no	no
2002/06/20	1602	no	no	31	28	no	no
2002/06/21	1603	no	no	31	29	no	no
2002/06/21	1604	no	no	31	29	no	no
2002/06/21	1605	no	no	31	29	no	no
2002/06/21	1606	no	no	0	0	no	no
2002/06/21	1609	no	no	0	0	no	no
2002/06/21	1610	no	no	0	0	no	no
2002/06/21	1611	no	no	0	0	no	no
2002/06/21	1613	no	no	25	26	no	no
2002/06/21	1614	no	no	0	4	no	no
2002/06/21	1615	no	no	0	4	no	no
2002/06/21	1616	no	no	31	29	no	no
2002/06/22	1617	no	no	31	29	no	no
2002/06/22	1618	no	no	31	25	no	no
2002/06/22	1619	no	no	31	29	no	no
2002/06/22	1620	no	no	31	29	no	no
2002/06/22	1621	no	no	0	0	no	no
2002/06/22	1622	no	no	0	0	no	no
2002/06/22	1623	no	no	0	0	no	no
2002/06/22	1624	no	no	0	0	no	no
2002/06/22	1625	no	no	0	0	no	no
2002/06/22	1626	no	no	0	0	no	no
2002/06/22	1627	no	no	25	26	no	no
2002/06/22	1628	no	no	31	28	no	no
2002/06/22	1629	no	no	31	27	no	no
2002/06/22	1630	no	no	31	29	no	no
2002/06/23	1631	no	no	31	29	no	no
2002/06/23	1633	no	no	31	29	no	no
2002/06/23	1634	no	no	31	29	no	no
2002/06/23	1635	no	no	0	0	no	no
2002/06/23	1638	no	no	0	0	no	no
2002/06/23	1639	no	no	0	0	no	no
2002/06/23	1640	no	no	0	0	no	no
2002/06/23	1641	no	no	31	28	no	no
2002/06/23	1642	no	no	31	27	no	no
2002/06/23	1643	no	no	31	29	no	no
2002/06/23	1644	no	no	31	29	no	no
2002/06/24	1646	no	no	31	29	no	no
2002/06/24	1647	no	no	31	29	no	no
2002/06/24	1648	no	no	31	29	no	no
2002/06/24	1649	no	no	0	0	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2002/06/24	1650	no	no	0	0	no	no
2002/06/24	1651	no	no	0	0	no	no
2002/06/24	1652	no	no	0	0	no	no
2002/06/24	1653	no	no	0	0	no	no
2002/06/24	1654	no	no	0	0	no	no
2002/06/24	1657	no	no	0	4	no	no
2002/06/24	1658	no	no	0	4	no	no
2002/06/24	1659	no	no	26	25	no	no
2002/06/25	1660	no	no	31	29	no	no
2002/06/25	1663	no	no	31	28	no	no
2002/06/25	1664	no	no	0	0	no	no
2002/06/25	1667	no	no	0	0	no	no
2002/06/25	1668	no	no	0	0	no	no
2002/06/25	1669	no	no	0	0	no	no
2002/06/26	1675	no	no	31	29	no	no
2002/06/26	1676	no	no	31	29	no	no
2002/06/26	1680	no	no	31	29	no	no
2002/06/26	1681	no	no	31	29	no	no
2002/06/26	1684	no	no	0	0	no	no
2002/06/26	1686	no	no	0	0	no	no
2002/06/27	1691	no	no	31	29	no	no
2002/06/27	1692	no	no	31	29	no	no
2002/06/27	1693	no	no	0	0	no	no
2002/06/27	1695	no	no	2	0	no	no
2002/06/27	1697	no	no	0	0	no	no
2002/06/27	1698	no	no	0	0	no	no
2002/06/27	1699	no	no	0	0	no	no
2002/06/27	1700	no	no	0	0	no	no
2002/06/27	1701	no	no	0	0	no	no
2002/06/28	1705	no	no	30	28	no	no
2002/06/28	1706	no	no	31	29	no	no
2002/06/28	1707	no	no	31	29	no	no
2002/06/28	1708	no	no	31	29	no	no
2002/06/28	1709	no	no	31	29	no	no
2002/06/28	1710	no	no	31	29	no	no
2002/06/28	1711	no	no	0	0	no	no
2002/06/28	1712	no	no	31	29	no	no
2002/06/28	1713	no	no	31	29	no	no
2002/06/28	1714	no	no	0	0	no	no
2002/06/29	1723	no	no	0	4	no	no
2002/06/29	1724	no	no	0	4	no	no
2002/06/29	1725	no	no	0	4	no	no
2002/06/29	1726	no	no	0	4	no	no
2002/06/29	1727	no	no	0	4	no	no
2002/06/29	1728	no	no	0	4	no	no
2002/06/29	1729	no	no	31	28	no	no
2002/06/30	1736	no	no	31	29	no	no
2002/06/30	1737	no	no	0	0	no	no
2002/06/30	1738	no	no	31	29	no	no
2002/06/30	1739	no	no	31	29	no	no
2002/06/30	1740	no	no	31	29	no	no
2002/06/30	1744	no	no	31	29	no	no
2002/07/01	1747	no	no	0	0	no	no
2002/07/01	1749	no	no	31	29	no	no
2002/07/01	1756	no	no	0	0	no	no
2002/07/01	1757	no	no	0	0	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2002/07/01	1759	no	no	0	0	no	no
2002/07/02	1764	no	no	0	0	no	no
2002/07/02	1765	no	no	0	0	no	no
2002/07/02	1768	no	no	0	0	no	no
2002/07/06	1819	no	no	0	0	no	no
2002/07/06	1830	no	no	0	0	no	no
2002/07/07	1832	no	no	0	0	no	no
2002/07/07	1833	no	no	0	0	no	no
2002/07/07	1834	no	no	0	0	no	no
2002/07/07	1837	no	no	0	0	no	no
2002/07/07	1838	no	no	0	0	no	no
2002/07/07	1839	no	no	0	0	no	no
2002/07/07	1840	no	no	0	0	no	no
2002/07/07	1841	no	no	0	0	no	no
2002/07/08	1846	no	no	0	0	no	no
2002/07/08	1847	no	no	0	0	no	no
2002/07/08	1849	no	no	0	0	no	no
2002/07/08	1850	no	no	0	0	no	no
2002/07/08	1851	no	no	0	0	no	no
2002/07/08	1852	no	no	0	0	no	no
2002/07/08	1853	no	no	0	0	no	no
2002/07/08	1854	no	no	0	0	no	no
2002/07/08	1855	no	no	0	0	no	no
2002/07/08	1856	no	no	0	0	no	no
2002/07/08	1857	no	no	0	0	no	no
2002/07/08	1858	no	no	0	0	no	no
2002/07/08	1859	no	no	0	0	no	no
2002/07/09	1860	no	no	0	0	no	no
2002/07/09	1861	no	no	0	0	no	no
2002/07/09	1862	no	no	0	0	no	no
2002/07/09	1863	no	no	0	0	no	no
2002/07/09	1864	no	no	0	0	no	no
2002/07/09	1865	no	no	0	0	no	no
2002/07/09	1866	no	no	0	0	no	no
2002/07/09	1867	no	no	0	0	no	no
2002/07/09	1868	no	no	0	0	no	no
2002/07/09	1869	no	no	0	0	no	no
2002/07/09	1870	no	no	0	0	no	no
2002/07/09	1871	no	no	0	0	no	no
2002/07/09	1872	no	no	0	0	no	no
2002/07/09	1873	no	no	0	0	no	no
2002/07/10	1876	no	no	0	0	no	no
2002/07/10	1878	no	no	0	0	no	no
2002/07/10	1879	no	no	0	0	no	no
2002/07/10	1880	no	no	0	0	no	no
2002/07/10	1883	no	no	0	0	no	no
2002/07/10	1885	no	no	0	0	no	no
2002/07/11	1894	no	no	0	0	no	no
2002/07/12	1908	no	no	0	0	no	no
2002/07/13	1922	no	no	0	0	no	no
2002/07/14	1937	no	no	0	0	no	no
2002/07/18	1990	no	no	0	0	no	no
2002/07/18	1992	no	no	46	29	no	no
2002/07/18	1994	no	no	46	29	no	no
2002/07/18	1996	no	no	46	29	no	no
2002/07/18	2002	no	no	46	29	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2002/07/19	2004	no	no	46	29	no	no
2002/07/19	2010	no	no	46	29	no	no
2002/07/19	2017	no	no	46	29	no	no
2002/07/20	2019	no	no	46	29	no	no
2002/07/20	2021	no	no	46	29	no	no
2002/07/20	2025	no	no	46	29	no	no
2002/07/20	2027	no	no	46	29	no	no
2002/07/20	2029	no	no	43	28	no	no
2002/07/21	2033	no	no	46	29	no	no
2002/07/21	2035	no	no	46	29	no	no
2002/07/21	2043	no	no	44	27	no	no
2002/07/22	2048	no	no	29	28	no	no
2002/07/22	2051	no	no	44	28	no	no
2002/07/22	2052	no	no	29	28	no	no
2002/07/22	2053	no	no	44	28	no	no
2002/07/22	2054	no	no	29	28	no	no
2002/07/22	2055	no	no	44	28	no	no
2002/07/22	2056	no	no	29	28	no	no
2002/07/22	2057	no	no	43	27	no	no
2002/07/24	2080	no	no	29	25	no	no
2002/07/24	2082	no	no	30	25	no	no
2002/07/24	2085	no	no	25	24	no	no
2002/07/24	2086	no	no	0	4	no	no
2002/07/24	2087	no	no	0	4	no	no
2002/07/24	2088	no	no	0	4	no	no
2002/07/25	2091	no	no	29	27	no	no
2002/07/25	2095	no	no	29	26	no	no
2002/07/25	2097	no	no	29	26	no	no
2002/07/25	2102	no	no	0	0	no	no
2002/07/26	2103	no	no	0	0	no	no
2002/07/26	2105	no	no	0	0	no	no
2002/07/26	2106	no	no	0	0	no	no
2002/07/27	2118	no	no	0	0	no	no
2002/07/27	2119	no	no	0	0	no	no
2002/07/28	2131	no	no	0	0	no	no
2002/07/31	2174	no	no	0	0	no	no
2002/07/31	2175	no	no	0	0	no	no
2002/07/31	2176	no	no	0	0	no	no
2002/07/31	2177	no	no	0	0	no	no
2002/08/01	2190	no	no	0	0	no	no
2002/08/01	2191	no	no	0	0	no	no
2002/08/02	2203	no	no	0	0	no	no
2002/08/02	2215	yes	yes	31	28	no	no
2002/08/02	2216	no	no	0	4	no	no
2002/08/03	2229	yes	yes	46	28	no	no
2002/08/04	2243	yes	yes	46	28	no	no
2002/08/06	2273	yes	yes	46	29	no	no
2002/08/07	2287	yes	yes	45	29	no	no
2002/08/08	2301	yes	yes	31	28	no	no
2002/08/09	2315	yes	yes	45	28	no	no
2002/08/10	2329	yes	yes	45	28	no	no
2002/08/12	2359	yes	yes	45	29	no	no
2002/08/13	2373	yes	yes	45	29	no	no
2002/08/14	2387	yes	yes	45	28	no	no
2002/08/15	2401	yes	yes	31	28	no	no
2002/08/16	2415	yes	yes	45	24	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2002/08/17	2430	yes	yes	30	26	no	no
2002/08/17	2431	yes	yes	44	26	no	no
2002/08/18	2433	yes	yes	44	26	no	no
2002/08/18	2435	yes	yes	44	26	no	no
2002/08/18	2437	yes	yes	44	27	no	no
2002/08/18	2439	yes	yes	44	27	no	no
2002/08/18	2444	yes	yes	30	24	no	no
2002/08/19	2450	no	no	0	0	no	no
2002/08/19	2458	yes	yes	31	26	no	no
2002/08/20	2472	yes	yes	31	26	no	no
2002/08/21	2486	yes	yes	32	26	no	no
2002/08/21	2489	yes	yes	43	27	no	no
2002/08/22	2500	yes	yes	28	25	no	no
2002/08/22	2501	no	no	0	4	no	no
2002/08/22	2502	no	no	0	4	no	no
2002/08/22	2503	no	yes	0	4	no	no
2002/08/23	2504	no	yes	13	0	no	no
2002/08/23	2507	yes	yes	32	27	no	no
2002/08/23	2509	yes	yes	31	27	no	no
2002/08/23	2511	yes	yes	31	27	no	no
2002/08/23	2513	yes	yes	31	27	no	no
2002/08/23	2514	yes	yes	42	26	no	no
2002/08/23	2515	yes	yes	31	27	no	no
2002/08/24	2530	yes	yes	44	29	no	no
2002/08/25	2537	no	no	9	14	no	no
2002/08/25	2544	yes	yes	44	29	no	no
2002/08/26	2558	yes	yes	44	29	no	no
2002/08/27	2572	yes	yes	44	28	no	no
2002/08/28	2586	yes	yes	26	28	no	no
2002/08/29	2596	no	no	13	0	no	no
2002/08/29	2600	yes	yes	31	28	no	no
2002/08/30	2616	yes	yes	44	29	no	no
2002/08/31	2630	yes	yes	44	29	no	no
2002/09/01	2633	no	no	2	0	no	no
2002/09/01	2634	no	yes	13	4	no	no
2002/09/01	2635	no	yes	2	4	no	no
2002/09/01	2636	no	yes	13	4	no	no
2002/09/01	2637	no	yes	2	4	no	no
2002/09/01	2638	no	yes	13	4	no	no
2002/09/01	2639	no	yes	2	4	no	no
2002/09/01	2640	no	yes	13	4	no	no
2002/09/01	2641	no	yes	2	4	no	no
2002/09/01	2642	no	yes	13	4	no	no
2002/09/01	2643	no	yes	2	4	no	no
2002/09/01	2644	no	yes	0	4	no	no
2002/09/01	2645	no	yes	0	4	no	no
2002/09/01	2646	no	yes	13	4	no	no
2002/09/01	2647	no	no	2	4	no	no
2002/09/02	2648	no	yes	13	4	no	no
2002/09/02	2649	no	yes	2	4	no	no
2002/09/02	2650	no	yes	13	4	no	no
2002/09/02	2651	no	yes	2	4	no	no
2002/09/02	2652	no	yes	13	4	no	no
2002/09/02	2653	no	yes	2	4	no	no
2002/09/02	2654	no	yes	13	4	no	no
2002/09/02	2655	no	yes	2	4	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2002/09/02	2656	no	yes	12	4	no	no
2002/09/02	2657	no	yes	3	4	no	no
2002/09/02	2658	no	yes	12	4	no	no
2002/09/02	2659	no	yes	3	4	no	no
2002/09/02	2660	no	yes	12	4	no	no
2002/09/02	2661	no	yes	3	4	no	no
2002/09/03	2674	yes	yes	43	29	no	no
2002/09/04	2688	yes	yes	43	29	no	no
2002/09/05	2702	yes	yes	43	28	no	no
2002/09/06	2716	yes	yes	31	28	no	no
2002/09/07	2730	yes	yes	46	28	no	no
2002/09/11	2781	no	no	0	0	no	no
2002/09/11	2788	yes	yes	43	29	no	no
2002/09/12	2802	yes	yes	43	28	no	no
2002/09/13	2816	yes	yes	31	28	no	no
2002/09/14	2819	no	yes	4	4	no	no
2002/09/14	2820	no	yes	11	4	no	no
2002/09/14	2821	no	yes	4	4	no	no
2002/09/14	2822	no	yes	11	4	no	no
2002/09/14	2823	no	yes	4	4	no	no
2002/09/14	2824	no	yes	11	4	no	no
2002/09/14	2825	no	yes	4	4	no	no
2002/09/14	2826	no	yes	11	4	no	no
2002/09/14	2827	no	yes	4	4	no	no
2002/09/14	2828	no	yes	11	4	no	no
2002/09/14	2829	no	yes	4	4	no	no
2002/09/14	2830	no	yes	11	4	no	no
2002/09/14	2831	no	yes	4	4	no	no
2002/09/14	2832	no	yes	11	4	no	no
2002/09/15	2845	yes	yes	40	26	no	no
2002/09/15	2846	yes	yes	34	26	no	no
2002/09/16	2852	yes	yes	33	27	no	no
2002/09/16	2854	yes	yes	33	27	no	no
2002/09/16	2856	yes	yes	34	27	no	no
2002/09/16	2859	yes	yes	40	27	no	no
2002/09/17	2868	yes	yes	34	27	no	no
2002/09/17	2873	yes	yes	41	26	no	no
2002/09/18	2879	yes	yes	42	29	no	no
2002/09/18	2887	yes	yes	41	27	no	no
2002/09/18	2890	yes	yes	34	27	no	no
2002/09/19	2891	yes	yes	41	27	no	no
2002/09/19	2892	yes	yes	34	27	no	no
2002/09/19	2893	yes	yes	41	27	no	no
2002/09/19	2895	yes	yes	41	27	no	no
2002/09/19	2901	yes	yes	40	27	no	no
2002/09/20	2915	yes	yes	26	25	no	no
2002/09/20	2916	no	no	0	4	no	no
2002/09/20	2917	no	no	0	4	no	no
2002/09/20	2918	no	yes	0	4	no	no
2002/09/20	2919	no	no	0	0	no	no
2002/09/21	2930	yes	yes	33	27	no	no
2002/09/22	2939	yes	yes	41	27	no	no
2002/09/22	2941	yes	yes	40	27	no	no
2002/09/22	2944	yes	yes	35	28	no	no
2002/09/23	2955	no	no	0	0	no	no
2002/09/23	2960	yes	yes	35	29	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2002/09/24	2974	yes	yes	35	29	no	no
2002/09/25	2988	yes	yes	36	28	no	no
2002/09/25	2989	no	no	0	4	no	no
2002/09/26	3002	yes	yes	36	28	no	no
2002/09/27	3016	yes	yes	36	28	no	no
2002/09/28	3030	yes	yes	36	28	no	no
2002/09/28	3033	yes	yes	29	31	no	no
2002/09/29	3034	no	yes	0	4	no	no
2002/09/29	3044	yes	yes	36	28	no	no
2002/09/30	3048	yes	yes	36	29	no	no
2002/09/30	3058	yes	yes	36	28	no	no
2002/10/01	3074	yes	yes	34	28	no	no
2002/10/02	3088	yes	yes	34	29	no	no
2002/10/03	3102	yes	yes	34	29	no	no
2002/10/04	3116	yes	yes	35	28	no	no
2002/10/05	3130	yes	yes	35	28	no	no
2002/10/06	3144	yes	yes	35	28	no	no
2002/10/07	3160	yes	yes	35	28	no	no
2002/10/08	3174	yes	yes	35	28	no	no
2002/10/09	3188	yes	yes	35	29	no	no
2002/10/10	3204	yes	yes	35	29	no	no
2002/10/11	3218	yes	yes	35	29	no	no
2002/10/12	3224	no	no	155	107	no	no
2002/10/12	3230	yes	yes	35	28	no	no
2002/10/13	3244	yes	yes	35	28	no	no
2002/10/14	3251	no	no	229	185	no	no
2002/10/14	3260	yes	yes	35	28	no	no
2002/10/15	3275	yes	yes	35	27	no	no
2002/10/15	3276	no	no	4	3	no	no
2002/10/16	3287	yes	yes	35	26	no	no
2002/10/16	3288	yes	yes	36	29	no	no
2002/10/18	3319	yes	yes	37	27	no	no
2002/10/19	3332	yes	yes	36	29	no	no
2002/10/20	3346	no	no	0	4	no	no
2002/10/20	3347	no	no	0	4	no	no
2002/10/20	3348	no	yes	0	4	no	no
2002/10/21	3360	yes	yes	39	26	no	no
2002/10/22	3366	no	no	6	0	no	no
2002/10/22	3374	yes	yes	36	28	no	no
2002/10/22	3376	no	no	0	2	no	no
2002/10/23	3390	yes	yes	36	29	no	no
2002/10/24	3393	no	no	2	0	no	no
2002/10/24	3404	yes	yes	36	29	no	no
2002/10/25	3418	yes	yes	36	28	no	no
2002/10/26	3432	yes	yes	36	28	no	no
2002/10/26	3433	no	no	5	0	no	no
2002/10/27	3435	no	no	12	2	no	no
2002/10/27	3446	yes	yes	31	28	no	no
2002/10/28	3460	yes	yes	36	28	no	no
2002/10/29	3474	yes	yes	36	28	no	no
2002/10/30	3488	yes	yes	36	28	no	no
2002/10/31	3496	no	no	192	146	no	no
2002/10/31	3498	yes	yes	36	28	no	no
2002/11/01	3517	yes	yes	36	28	no	no
2002/11/02	3523	no	no	231	179	no	no
2002/11/02	3531	yes	yes	36	28	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2002/11/03	3546	yes	yes	36	29	no	no
2002/11/04	3559	yes	yes	36	28	no	no
2002/11/05	3574	yes	yes	36	28	no	no
2002/11/06	3588	yes	yes	36	28	no	no
2002/11/07	3603	yes	yes	36	28	no	no
2002/11/08	3617	yes	yes	36	28	no	no
2002/11/09	3632	yes	yes	31	28	no	no
2002/11/14	3697	no	no	0	0	no	no
2002/11/14	3703	yes	yes	35	26	no	no
2002/11/14	3704	yes	yes	36	29	no	no
2002/11/15	3719	yes	yes	36	29	no	no
2002/11/16	3733	yes	yes	31	25	no	no
2002/11/16	3734	no	no	0	4	no	no
2002/11/17	3735	no	no	0	4	no	no
2002/11/17	3736	no	yes	5	4	no	no
2002/11/17	3737	no	yes	5	0	no	no
2002/11/20	3789	yes	yes	31	29	no	no
2002/11/21	3803	yes	yes	37	28	no	no
2002/11/22	3817	yes	yes	37	28	no	no
2002/11/23	3833	yes	yes	31	29	no	no
2002/11/25	3861	yes	yes	37	28	no	no
2002/11/26	3866	no	yes	4	4	no	no
2002/11/26	3867	no	yes	6	4	no	no
2002/11/26	3868	no	yes	4	4	no	no
2002/11/26	3869	no	yes	6	4	no	no
2002/11/26	3870	no	yes	4	4	no	no
2002/11/26	3871	no	yes	6	4	no	no
2002/11/26	3872	no	yes	4	4	no	no
2002/11/26	3873	no	yes	6	4	no	no
2002/11/26	3874	no	yes	4	4	no	no
2002/11/26	3875	no	yes	6	4	no	no
2002/11/26	3876	no	yes	4	4	no	no
2002/11/26	3877	no	yes	6	4	no	no
2002/11/26	3878	no	no	4	4	no	no
2002/11/27	3879	no	yes	6	4	no	no
2002/11/27	3880	no	yes	4	4	no	no
2002/11/27	3881	no	yes	6	4	no	no
2002/11/27	3882	no	yes	4	4	no	no
2002/11/27	3883	no	yes	6	4	no	no
2002/11/27	3884	no	yes	4	4	no	no
2002/11/27	3885	no	yes	6	4	no	no
2002/11/27	3886	no	yes	4	4	no	no
2002/11/27	3887	no	yes	6	4	no	no
2002/11/27	3888	no	yes	4	4	no	no
2002/11/27	3889	no	yes	6	4	no	no
2002/11/27	3890	no	yes	4	4	no	no
2002/11/27	3891	no	yes	6	4	no	no
2002/11/28	3893	no	yes	6	4	no	no
2002/11/28	3894	no	no	0	4	no	no
2002/11/28	3895	no	no	0	0	no	no
2002/11/28	3896	no	no	0	4	no	no
2002/11/28	3897	no	no	0	4	no	no
2002/11/28	3898	no	no	0	4	no	no
2002/11/28	3899	no	no	0	4	no	no
2002/11/28	3900	no	no	0	4	no	no
2002/11/28	3901	no	no	0	4	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2002/11/28	3902	no	no	0	4	no	no
2002/11/28	3903	no	no	0	4	no	no
2002/11/28	3904	no	no	0	4	no	no
2002/11/28	3905	no	no	0	4	no	no
2002/11/28	3906	no	no	0	4	no	no
2002/11/29	3907	no	no	0	4	no	no
2002/11/29	3908	no	no	0	4	no	no
2002/11/29	3909	no	no	0	4	no	no
2002/11/29	3910	no	no	0	4	no	no
2002/11/29	3911	no	no	0	4	no	no
2002/11/29	3912	no	no	0	4	no	no
2002/11/29	3913	no	no	0	4	no	no
2002/11/29	3914	no	no	0	4	no	no
2002/11/29	3915	no	no	0	0	no	no
2002/11/29	3916	no	no	0	4	no	no
2002/11/29	3917	no	no	0	4	no	no
2002/11/29	3918	no	no	0	4	no	no
2002/11/29	3919	no	no	0	4	no	no
2002/11/29	3920	no	no	0	4	no	no
2002/11/29	3921	no	no	0	4	no	no
2002/11/30	3922	no	no	0	0	no	no
2002/12/02	3958	no	no	0	0	no	no
2002/12/02	3959	no	no	0	0	no	no
2002/12/02	3960	no	no	0	0	no	no
2002/12/02	3961	no	no	0	0	no	no
2002/12/02	3962	no	no	0	0	no	no
2002/12/03	3974	no	no	0	0	no	no
2002/12/03	3975	no	no	0	0	no	no
2002/12/03	3976	no	no	0	0	no	no
2002/12/03	3977	no	no	0	0	no	no
2002/12/03	3978	no	no	0	0	no	no
2002/12/11	4084	no	no	6	0	no	no
2002/12/11	4085	no	no	0	0	no	no
2002/12/11	4086	no	no	0	0	no	no
2002/12/11	4087	no	no	0	0	no	no
2002/12/11	4088	no	no	0	0	no	no
2002/12/11	4089	no	no	0	0	no	no
2002/12/11	4090	no	no	0	0	no	no
2002/12/11	4091	no	no	0	0	no	no
2002/12/11	4092	no	no	0	0	no	no
2002/12/13	4110	no	no	0	0	no	no
2002/12/13	4111	no	no	0	0	no	no
2002/12/13	4112	no	no	0	0	no	no
2002/12/13	4113	no	no	0	0	no	no
2002/12/13	4114	no	no	0	0	no	no
2002/12/13	4115	no	no	0	0	no	no
2002/12/13	4116	no	no	0	0	no	no
2002/12/13	4118	no	no	0	0	no	no
2002/12/13	4119	no	no	0	0	no	no
2002/12/13	4120	no	no	0	0	no	no
2002/12/13	4121	no	no	0	0	no	no
2002/12/14	4134	no	no	6	0	no	no
2002/12/15	4143	no	no	0	0	no	no
2002/12/15	4144	no	yes	0	4	no	no
2002/12/15	4146	no	yes	0	4	no	no
2002/12/15	4148	no	yes	0	4	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2002/12/15	4149	no	no	0	0	no	no
2002/12/16	4162	no	no	0	4	no	no
2002/12/16	4163	no	no	0	4	no	no
2002/12/16	4164	no	yes	3	4	no	no
2002/12/17	4165	no	yes	7	0	no	no
2002/12/17	4167	no	no	7	0	no	yes
2002/12/24	4276	no	no	0	0	no	yes
2002/12/25	4282	yes	yes	33	29	no	yes
2002/12/26	4296	yes	yes	33	29	no	yes
2002/12/26	4298	yes	yes	33	29	no	yes
2003/01/01	4387	yes	yes	39	29	no	yes
2003/01/06	4457	no	no	0	0	yes	no
2003/01/16	4605	no	no	0	4	no	no
2003/01/16	4606	no	no	0	4	no	no
2003/01/16	4607	no	yes	3	4	no	no
2003/01/16	4608	no	no	7	0	no	no
2003/01/17	4622	no	no	7	4	no	no
2003/01/18	4632	no	no	7	4	no	no
2003/01/22	4686	no	no	0	0	no	no
2003/01/28	4772	yes	yes	38	29	no	no
2003/02/02	4847	no	no	6	4	no	no
2003/02/03	4862	no	no	0	3	no	no
2003/02/12	4991	no	no	6	4	no	no
2003/02/18	5073	no	no	4	0	yes	no
2003/02/19	5090	no	no	6	0	no	no
2003/02/27	5206	yes	yes	31	25	no	no
2003/02/27	5207	no	no	0	4	no	no
2003/02/27	5208	no	no	0	4	no	no
2003/02/27	5209	no	yes	4	4	no	no
2003/02/28	5210	no	yes	6	0	no	no
2003/03/21	5517	no	no	5	0	yes	no
2003/03/26	5593	no	no	0	4	no	no
2003/03/26	5594	no	no	0	4	no	no
2003/03/26	5595	no	yes	6	4	no	no
2003/03/27	5596	no	yes	4	0	no	no
2003/04/04	5714	no	no	0	0	no	no
2003/04/07	5764	no	no	3	11	yes	yes
2003/04/15	5879	no	no	0	4	no	no
2003/04/15	5880	no	no	0	4	no	no
2003/04/15	5881	no	yes	7	4	no	no
2003/04/15	5882	no	no	0	0	no	no
2003/04/16	5883	no	no	3	10	no	no
2003/04/18	5924	no	no	2	9	no	no
2003/04/23	5983	no	no	0	0	no	no
2003/04/23	5984	no	no	0	0	no	no
2003/04/23	5985	no	no	0	0	no	no
2003/04/23	5986	no	no	0	0	no	no
2003/04/23	5987	no	no	0	0	no	no
2003/04/23	5988	no	no	0	0	no	no
2003/04/23	5989	no	no	0	0	no	no
2003/04/23	5990	no	no	0	0	no	no
2003/04/23	5991	no	no	0	0	no	no
2003/04/23	5992	no	no	0	0	no	no
2003/04/23	5993	no	no	0	0	no	no
2003/04/23	5994	no	no	0	0	no	no
2003/04/23	5995	no	no	0	0	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2003/04/23	5996	no	no	0	0	no	no
2003/04/24	5997	no	no	0	0	no	no
2003/04/24	5998	no	no	0	0	no	no
2003/04/24	5999	no	no	0	0	no	no
2003/04/24	6000	no	no	0	0	no	no
2003/04/30	6090	no	no	0	0	no	no
2003/04/30	6091	no	no	0	0	no	no
2003/04/30	6092	no	no	0	0	no	no
2003/04/30	6093	no	no	0	0	no	no
2003/04/30	6094	no	no	0	0	no	no
2003/04/30	6095	no	no	0	0	no	no
2003/04/30	6096	no	no	0	0	no	no
2003/05/01	6097	no	no	0	0	no	no
2003/05/01	6098	no	no	0	0	no	no
2003/05/01	6099	no	no	0	0	no	no
2003/05/01	6100	no	no	0	0	no	no
2003/05/01	6101	no	no	0	0	no	no
2003/05/01	6102	no	no	0	0	no	no
2003/05/01	6103	no	no	0	0	no	no
2003/05/01	6104	no	no	0	0	no	no
2003/05/01	6105	no	no	0	0	no	no
2003/05/01	6106	no	no	0	0	no	no
2003/05/01	6107	no	no	0	0	no	no
2003/05/01	6108	no	no	0	0	no	no
2003/05/01	6109	no	no	0	0	no	no
2003/05/03	6130	no	yes	0	0	no	no
2003/05/03	6131	no	yes	7	0	no	no
2003/05/03	6132	no	yes	0	0	no	no
2003/05/03	6133	no	yes	7	0	no	no
2003/05/03	6134	no	yes	0	0	no	no
2003/05/03	6135	no	yes	7	0	no	no
2003/05/03	6136	no	yes	0	0	no	no
2003/05/03	6137	no	yes	7	0	no	no
2003/05/03	6138	no	yes	0	0	no	no
2003/05/03	6139	no	yes	7	0	no	no
2003/05/04	6140	no	yes	0	0	no	no
2003/05/04	6141	no	yes	7	0	no	no
2003/05/04	6142	no	yes	0	0	no	no
2003/05/04	6143	no	yes	7	0	no	no
2003/05/04	6144	no	yes	0	0	no	no
2003/05/04	6145	no	yes	7	0	no	no
2003/05/04	6146	no	yes	0	0	no	no
2003/05/04	6147	no	yes	7	0	no	no
2003/05/04	6148	no	yes	0	0	no	no
2003/05/04	6149	no	yes	7	0	no	no
2003/05/04	6150	no	yes	0	0	no	no
2003/05/04	6151	no	yes	7	0	no	no
2003/05/04	6152	no	yes	0	0	no	no
2003/05/04	6153	no	yes	7	0	no	no
2003/05/04	6154	no	no	0	0	no	no
2003/05/05	6155	no	yes	7	0	no	no
2003/05/05	6156	no	yes	0	0	no	no
2003/05/05	6157	no	yes	7	0	no	no
2003/05/05	6158	no	yes	0	0	no	no
2003/05/05	6159	no	yes	7	0	no	no
2003/05/05	6160	no	yes	0	0	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2003/05/05	6161	no	yes	7	0	no	no
2003/05/05	6162	no	yes	0	0	no	no
2003/05/05	6163	no	yes	7	0	no	no
2003/05/05	6164	no	yes	0	0	no	no
2003/05/05	6165	no	yes	7	0	no	no
2003/05/05	6166	no	yes	0	0	no	no
2003/05/05	6167	no	yes	7	0	no	no
2003/05/05	6168	no	yes	0	0	no	no
2003/05/06	6169	no	yes	7	0	no	no
2003/05/06	6170	no	yes	0	0	no	no
2003/05/06	6171	no	yes	7	0	no	no
2003/05/06	6172	no	yes	0	0	no	no
2003/05/06	6173	no	yes	7	0	no	no
2003/05/06	6174	no	yes	0	0	no	no
2003/05/14	6294	no	no	0	4	no	no
2003/05/14	6295	no	no	0	4	no	no
2003/05/14	6296	no	yes	7	4	no	no
2003/05/14	6297	no	yes	0	0	no	no
2003/05/21	6383	no	no	7	0	no	no
2003/05/25	6449	no	no	3	11	no	yes
2003/05/28	6497	no	no	3	10	no	no
2003/06/02	6564	no	no	3	10	no	no
2003/06/10	6678	yes	yes	28	29	no	no
2003/06/11	6692	no	no	14	15	no	no
2003/06/13	6723	yes	yes	23	27	no	no
2003/06/13	6724	no	no	0	4	no	no
2003/06/13	6725	no	no	0	4	no	no
2003/06/13	6726	no	yes	0	4	no	no
2003/06/14	6727	no	yes	7	0	no	no
2003/06/26	6907	yes	yes	38	29	no	no
2003/07/03	7007	yes	yes	38	29	no	no
2003/07/05	7034	yes	yes	31	29	no	no
2003/07/06	7054	no	no	5	11	no	no
2003/07/13	7153	no	no	0	4	no	no
2003/07/13	7154	no	no	0	4	no	no
2003/07/13	7155	no	yes	7	4	no	no
2003/07/14	7156	no	yes	0	0	no	no
2003/07/14	7169	no	no	6	10	no	no
2003/07/16	7193	no	no	0	0	no	no
2003/07/16	7194	no	no	0	0	no	no
2003/07/24	7309	no	no	4	10	no	no
2003/07/28	7363	no	no	0	0	no	no
2003/08/01	7415	yes	yes	31	29	no	no
2003/08/07	7510	yes	yes	36	26	no	no
2003/08/09	7540	yes	yes	38	26	no	no
2003/08/11	7568	no	no	0	4	no	no
2003/08/11	7569	no	no	0	4	no	no
2003/08/11	7570	no	yes	7	4	no	no
2003/08/11	7571	no	yes	0	0	no	no
2003/08/16	7633	no	no	0	1	no	yes
2003/08/18	7664	no	no	7	0	no	yes
2003/08/21	7706	no	no	0	0	no	yes
2003/08/27	7792	no	no	5	13	no	yes
2003/08/28	7805	no	no	6	13	no	yes
2003/09/02	7882	yes	yes	39	28	no	no
2003/09/09	7984	no	no	0	4	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2003/09/09	7985	no	no	0	4	no	no
2003/09/09	7986	no	yes	7	4	no	no
2003/09/10	7987	no	yes	0	0	no	no
2003/09/10	7988	yes	yes	38	29	no	no
2003/09/11	8006	no	no	0	0	no	no
2003/09/13	8041	yes	yes	32	29	no	no
2003/09/17	8098	no	no	0	0	no	no
2003/09/26	8226	no	no	0	0	no	no
2003/10/09	8413	no	no	0	4	no	no
2003/10/09	8414	no	no	0	4	no	no
2003/10/09	8415	no	yes	4	4	no	no
2003/10/10	8416	no	yes	3	0	no	no
2003/10/15	8489	no	no	4	0	no	no
2003/10/15	8498	yes	yes	35	30	no	no
2003/10/16	8512	yes	yes	35	28	no	no
2003/10/17	8522	yes	yes	35	30	no	no
2003/10/17	8526	yes	yes	35	28	no	no
2003/10/21	8584	yes	yes	35	28	no	no
2003/10/22	8598	yes	yes	35	28	no	no
2003/10/23	8612	yes	yes	35	28	no	no
2003/10/27	8668	no	no	0	0	no	no
2003/10/28	8675	no	no	0	0	no	no
2003/10/31	8722	no	no	3	0	no	no
2003/10/31	8727	no	no	0	0	no	no
2003/11/08	8841	yes	yes	26	26	no	no
2003/11/08	8842	no	no	0	4	no	no
2003/11/08	8843	no	no	0	4	no	no
2003/11/08	8844	no	yes	4	4	no	no
2003/11/08	8845	no	no	3	0	no	no
2003/11/12	8899	yes	yes	35	28	no	no
2003/11/13	8913	yes	yes	35	28	no	no
2003/11/14	8927	yes	yes	35	28	no	no
2003/11/15	8942	yes	yes	36	28	no	no
2003/11/16	8956	yes	yes	32	28	no	no
2003/11/17	8970	yes	yes	36	28	no	no
2003/11/22	9042	yes	yes	35	28	no	no
2003/11/23	9056	yes	yes	32	28	no	no
2003/11/24	9070	yes	yes	35	28	no	no
2003/11/28	9128	yes	yes	35	28	no	no
2003/11/29	9142	yes	yes	35	28	no	no
2003/11/30	9156	yes	yes	35	28	no	no
2003/12/07	9256	yes	yes	30	27	no	no
2003/12/07	9257	no	no	0	4	no	no
2003/12/07	9258	no	no	0	4	no	no
2003/12/07	9259	no	yes	3	4	no	no
2003/12/07	9260	no	no	4	0	no	no
2003/12/10	9294	yes	yes	35	31	no	no
2003/12/19	9426	no	no	0	0	no	yes
2003/12/19	9431	no	no	0	1	no	yes
2003/12/23	9482	no	no	0	0	no	yes
2004/01/05	9667	no	no	0	4	no	yes
2004/01/06	9687	no	no	0	4	yes	no
2004/01/06	9688	no	no	0	4	yes	no
2004/01/06	9689	no	yes	2	4	yes	no
2004/01/07	9690	no	yes	5	0	yes	no
2004/01/19	9865	no	no	16	12	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2004/02/04	10102	no	no	0	4	no	no
2004/02/04	10103	no	no	0	4	no	no
2004/02/04	10104	no	yes	4	4	no	no
2004/02/05	10105	no	yes	3	0	no	no
2004/02/06	10128	yes	yes	35	31	no	no
2004/02/20	10322	yes	yes	36	30	no	no
2004/03/05	10531	no	no	0	4	no	no
2004/03/05	10532	no	no	0	4	no	no
2004/03/05	10533	no	yes	4	4	no	no
2004/03/05	10534	no	yes	3	0	no	no
2004/03/06	10548	yes	yes	35	31	no	no
2004/03/10	10596	yes	yes	35	31	no	no
2004/03/12	10622	yes	yes	34	31	no	no
2004/03/13	10636	yes	yes	34	31	no	no
2004/03/21	10750	no	no	2	4	no	no
2004/03/22	10767	yes	yes	38	30	no	no
2004/03/22	10768	yes	yes	33	31	no	no
2004/03/22	10769	yes	yes	38	30	no	no
2004/03/22	10771	yes	yes	38	30	no	no
2004/03/22	10772	no	yes	33	31	no	no
2004/03/22	10773	yes	yes	38	30	no	no
2004/03/22	10774	yes	yes	32	30	no	no
2004/03/22	10775	yes	yes	38	30	no	no
2004/03/22	10776	yes	yes	33	31	no	no
2004/03/22	10777	yes	yes	38	30	no	no
2004/03/23	10778	yes	yes	33	31	no	no
2004/03/23	10779	yes	yes	38	30	no	no
2004/03/23	10780	yes	yes	33	31	no	no
2004/03/23	10781	yes	yes	38	30	no	no
2004/03/23	10782	yes	yes	33	31	no	no
2004/03/23	10783	yes	yes	38	30	no	no
2004/03/24	10806	yes	yes	33	31	no	no
2004/03/25	10810	yes	yes	33	31	no	no
2004/04/04	10960	yes	yes	23	27	no	no
2004/04/04	10961	no	no	0	4	no	no
2004/04/04	10962	no	no	0	4	no	no
2004/04/04	10963	no	yes	7	4	no	no
2004/04/05	10964	no	yes	0	0	no	no
2004/04/07	11003	yes	yes	39	28	no	no
2004/04/08	11017	yes	yes	39	28	no	no
2004/04/09	11031	yes	yes	39	28	no	no
2004/04/13	11089	yes	yes	39	28	no	no
2004/04/14	11094	no	no	0	0	no	no
2004/04/14	11100	no	no	0	0	no	no
2004/04/14	11103	yes	yes	39	28	no	no
2004/04/19	11169	yes	yes	39	30	no	no
2004/04/19	11171	yes	yes	39	30	no	no
2004/04/19	11175	yes	yes	32	28	no	no
2004/04/22	11218	yes	yes	39	28	no	no
2004/04/23	11232	yes	yes	39	28	no	no
2004/04/24	11246	yes	yes	39	28	no	no
2004/04/25	11260	yes	yes	39	28	no	no
2004/05/04	11389	yes	yes	27	27	no	no
2004/05/04	11390	no	no	0	4	no	no
2004/05/04	11391	no	no	0	4	no	no
2004/05/04	11392	no	yes	7	4	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2004/05/04	11393	no	no	0	0	no	no
2004/05/08	11449	no	no	0	4	no	no
2004/05/10	11471	no	no	7	0	yes	no
2004/05/13	11519	yes	yes	39	30	no	no
2004/05/16	11561	yes	yes	39	28	no	no
2004/06/02	11805	no	no	0	4	no	no
2004/06/02	11806	no	no	0	4	no	no
2004/06/02	11807	no	yes	0	4	no	no
2004/06/03	11808	no	yes	0	0	no	no
2004/06/18	12026	no	no	12	8	no	no
2004/06/18	12036	no	no	0	0	no	yes
2004/06/19	12050	no	no	0	0	no	yes
2004/06/20	12053	no	no	20	1	no	yes
2004/06/24	12115	yes	yes	42	30	no	yes
2004/07/01	12221	no	no	0	4	no	no
2004/07/01	12222	no	no	0	4	no	no
2004/07/01	12223	no	yes	7	4	no	no
2004/07/02	12224	no	yes	0	0	no	no
2004/07/06	12286	no	no	0	0	yes	no
2004/07/15	12416	no	no	5	12	no	no
2004/07/31	12650	no	no	0	4	no	no
2004/07/31	12651	no	no	0	4	no	no
2004/07/31	12652	no	yes	7	4	no	no
2004/08/01	12653	no	yes	0	0	no	no
2004/08/12	12820	no	yes	42	30	no	no
2004/08/21	12947	yes	yes	34	31	no	no
2004/08/29	13065	no	no	0	4	no	no
2004/08/29	13066	no	no	0	4	no	no
2004/08/29	13067	no	yes	7	4	no	no
2004/08/30	13068	no	yes	0	0	no	no
2004/09/06	13172	no	no	0	0	no	no
2004/09/21	13384	no	no	0	4	no	no
2004/09/21	13393	no	no	0	0	no	no
2004/09/24	13430	no	no	0	0	yes	no
2004/09/27	13480	no	no	0	4	no	no
2004/09/27	13481	no	no	0	4	no	no
2004/09/27	13482	no	yes	0	4	no	no
2004/09/28	13483	no	yes	0	0	no	no
2004/10/01	13526	no	no	0	4	no	no
2004/10/02	13546	no	no	0	0	yes	no
2004/10/05	13595	no	no	0	4	no	no
2004/10/16	13752	no	no	0	2	no	no
2004/10/17	13765	no	no	0	4	no	no
2004/10/27	13910	no	no	0	4	no	no
2004/10/27	13911	no	no	0	4	no	no
2004/10/27	13912	no	yes	0	4	no	no
2004/10/28	13913	no	yes	0	0	no	no
2004/11/16	14185	no	no	4	0	no	no
2004/11/18	14217	no	no	0	0	yes	no
2004/11/23	14285	no	no	3	0	no	no
2004/11/25	14325	no	no	0	4	no	no
2004/11/25	14326	no	no	0	4	no	no
2004/11/25	14327	no	yes	0	4	no	no
2004/11/26	14328	no	yes	0	0	no	no
2004/11/28	14362	yes	yes	34	31	no	no
2004/12/09	14526	no	no	0	0	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2004/12/11	14554	no	no	5	0	no	no
2004/12/14	14597	no	no	2	0	no	no
2004/12/16	14625	no	no	0	4	no	no
2004/12/16	14626	no	no	0	4	no	no
2004/12/16	14627	no	yes	0	4	no	no
2004/12/16	14628	no	no	0	0	no	no
2004/12/17	14640	no	no	2	0	no	no
2004/12/20	14681	no	no	0	0	no	yes
2004/12/22	14712	no	no	3	0	no	yes
2004/12/27	14783	no	no	6	0	no	yes
2004/12/29	14812	no	no	0	0	no	yes
2004/12/29	14813	no	no	0	0	no	yes
2004/12/31	14841	no	no	0	0	no	yes
2005/01/01	14842	no	no	0	0	no	yes
2005/01/07	14928	no	no	1	0	no	no
2005/01/07	14930	no	no	0	4	no	no
2005/01/07	14936	no	no	0	0	no	no
2005/01/11	14998	yes	yes	35	30	no	no
2005/01/13	15027	yes	yes	34	31	no	no
2005/01/23	15169	no	no	0	4	no	no
2005/01/23	15170	no	no	0	4	no	no
2005/01/23	15171	no	yes	0	4	no	no
2005/01/23	15172	no	no	0	0	no	no
2005/01/25	15198	yes	yes	34	31	no	no
2005/01/29	15244	no	no	1	0	no	no
2005/01/31	15284	no	no	4	4	no	no
2005/02/01	15288	no	yes	18	8	no	no
2005/02/01	15289	no	no	28	24	no	no
2005/02/01	15290	no	no	34	31	no	no
2005/02/05	15356	no	no	0	0	no	no
2005/02/06	15370	no	no	0	3	no	no
2005/02/11	15442	no	no	0	4	no	no
2005/02/12	15456	no	no	0	1	no	no
2005/02/13	15471	no	no	0	0	no	no
2005/02/22	15599	no	no	0	4	no	no
2005/02/22	15600	no	no	0	4	no	no
2005/02/22	15601	no	yes	0	4	no	no
2005/02/23	15602	no	yes	0	0	no	no
2005/03/08	15796	yes	yes	0	0	no	no
2005/03/11	15838	no	no	18	21	no	no
2005/03/16	15908	no	no	0	0	no	no
2005/03/17	15924	no	no	0	0	no	no
2005/03/23	16014	no	no	0	4	no	no
2005/03/23	16015	no	no	0	4	no	no
2005/03/23	16016	no	yes	0	4	no	no
2005/03/24	16017	no	yes	0	0	no	no
2005/03/27	16073	yes	yes	0	0	no	no
2005/04/09	16254	yes	yes	0	0	no	no
2005/04/24	16468	no	no	6	12	no	no
2005/04/24	16472	no	no	0	4	no	no
2005/04/24	16473	no	no	0	4	no	no
2005/04/24	16474	no	yes	0	4	no	no
2005/04/25	16475	no	yes	0	0	no	no
2005/05/13	16739	no	no	0	0	yes	no
2005/05/20	16840	yes	yes	31	31	no	no
2005/05/23	16887	no	no	0	4	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2005/05/23	16888	no	no	0	4	no	no
2005/05/23	16889	no	yes	0	4	no	no
2005/05/24	16890	no	yes	0	0	no	no
2005/06/21	17302	no	no	0	4	no	no
2005/06/21	17303	no	no	0	4	no	no
2005/06/21	17304	no	yes	0	4	no	no
2005/06/22	17305	no	yes	0	0	no	no
2005/06/30	17419	no	no	0	0	no	no
2005/07/21	17732	no	no	0	4	no	no
2005/07/21	17733	no	no	0	4	no	no
2005/07/21	17734	no	yes	0	4	no	no
2005/07/22	17735	no	yes	0	0	no	no
2005/08/19	18147	no	no	0	4	no	no
2005/08/19	18148	no	no	0	4	no	no
2005/08/19	18149	no	yes	0	4	no	no
2005/08/20	18150	no	yes	0	0	no	no
2005/09/04	18364	no	no	0	0	no	no
2005/09/07	18409	no	no	0	4	no	no
2005/09/07	18415	no	no	0	0	no	no
2005/09/15	18527	no	no	0	0	no	no
2005/09/17	18562	no	no	0	4	no	no
2005/09/17	18563	no	no	0	4	no	no
2005/09/17	18564	no	yes	0	4	no	no
2005/09/18	18565	no	yes	0	0	no	no
2005/09/25	18669	yes	yes	35	30	no	no
2005/09/26	18684	no	no	0	0	no	no
2005/09/26	18685	no	no	0	0	no	no
2005/10/16	18977	no	no	0	4	no	no
2005/10/16	18978	no	no	0	4	no	no
2005/10/16	18979	no	yes	0	4	no	no
2005/10/17	18980	no	yes	0	0	no	no
2005/10/19	19020	no	no	4	3	no	no
2005/11/03	19235	no	no	0	0	no	no
2005/11/15	19406	no	no	0	4	no	no
2005/11/15	19407	no	no	0	4	no	no
2005/11/15	19408	no	yes	0	4	no	no
2005/11/15	19409	no	no	0	0	no	no
2005/11/26	19564	no	no	1	0	no	no
2005/11/26	19565	no	no	1	0	no	no
2005/12/11	19779	no	no	3	0	no	no
2005/12/14	19821	no	no	0	4	no	no
2005/12/14	19822	no	no	0	4	no	no
2005/12/14	19823	no	yes	0	4	no	no
2005/12/14	19824	no	no	0	0	no	no
2005/12/20	19907	no	no	0	4	no	no
2005/12/20	19908	no	no	0	4	no	no
2005/12/24	19965	no	no	0	1	no	no
2005/12/24	19966	no	no	1	0	no	no
2006/01/12	20237	no	no	0	4	no	no
2006/01/12	20238	no	no	0	4	no	no
2006/01/12	20239	no	yes	0	4	no	no
2006/01/13	20240	no	yes	0	0	no	no
2006/01/24	20410	no	no	0	0	no	no
2006/02/05	20570	no	no	0	0	no	no
2006/02/06	20588	no	no	0	0	yes	no
2006/02/11	20666	no	no	0	4	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2006/02/11	20667	no	no	0	4	no	no
2006/02/11	20668	no	yes	0	4	no	no
2006/02/12	20669	no	yes	0	0	no	no
2006/02/13	20689	yes	yes	35	30	no	no
2006/03/06	20996	no	no	0	4	no	no
2006/03/12	21081	no	no	0	4	no	no
2006/03/12	21082	no	no	0	4	no	no
2006/03/12	21083	no	yes	0	4	no	no
2006/03/13	21084	no	yes	0	0	no	no
2006/03/15	21112	no	no	0	0	no	no
2006/03/25	21262	no	no	0	0	no	no
2006/03/28	21306	no	no	0	0	no	no
2006/04/11	21511	no	no	0	4	no	no
2006/04/11	21512	no	no	0	4	no	no
2006/04/11	21513	no	yes	0	4	no	no
2006/04/12	21514	no	yes	0	0	no	no
2006/04/12	21525	no	no	0	5	no	no
2006/04/13	21534	no	no	0	3	no	no
2006/04/14	21547	no	no	0	0	yes	no
2006/04/20	21634	no	no	0	0	yes	no
2006/05/10	21921	yes	yes	32	31	no	no
2006/05/12	21954	no	no	0	4	no	no
2006/05/12	21955	no	no	0	0	no	no
2006/05/12	21956	no	yes	0	4	no	no
2006/05/12	21957	no	no	0	0	no	no
2006/05/27	22163	no	no	0	0	yes	no
2006/06/11	22384	no	no	0	4	no	no
2006/06/11	22385	no	no	0	4	no	no
2006/06/11	22386	no	yes	0	4	no	no
2006/06/12	22387	no	yes	0	0	no	no
2006/06/30	22644	no	no	0	0	no	no
2006/07/10	22799	no	no	0	4	no	no
2006/07/10	22800	no	no	0	4	no	no
2006/07/10	22801	no	yes	0	4	no	no
2006/07/11	22802	no	yes	0	0	no	no
2006/08/08	23214	no	no	0	4	no	no
2006/08/08	23215	no	no	0	4	no	no
2006/08/08	23216	no	yes	0	4	no	no
2006/08/09	23217	no	yes	0	0	no	no
2006/08/12	23260	no	no	0	0	no	no
2006/09/06	23629	no	no	0	4	no	no
2006/09/06	23630	no	no	0	4	no	no
2006/09/06	23631	no	yes	0	4	no	no
2006/09/07	23632	no	yes	0	0	no	no
2006/09/11	23697	no	no	0	0	no	no
2006/09/13	23725	no	no	0	0	no	no
2006/09/25	23898	no	no	0	0	no	no
2006/09/26	23916	no	no	0	4	no	no
2006/09/27	23930	no	no	0	4	no	no
2006/09/28	23944	no	no	0	4	no	no
2006/09/29	23959	no	no	0	4	no	no
2006/09/30	23973	no	no	0	4	no	no
2006/10/05	24044	no	no	0	4	no	no
2006/10/05	24045	no	no	0	4	no	no
2006/10/05	24046	no	yes	0	4	no	no
2006/10/06	24047	no	yes	0	0	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2006/10/23	24303	no	no	0	1	no	no
2006/11/01	24433	no	no	0	4	no	no
2006/11/04	24474	no	no	0	4	no	no
2006/11/04	24475	no	no	0	4	no	no
2006/11/04	24476	no	yes	0	4	no	no
2006/11/05	24477	no	yes	0	0	no	no
2006/11/05	24490	no	no	0	5	no	no
2006/11/10	24551	no	no	13	9	no	no
2006/11/21	24706	no	no	3	0	no	no
2006/11/23	24740	no	no	0	0	no	no
2006/11/24	24754	no	no	0	0	yes	no
2006/12/03	24889	no	no	0	4	no	no
2006/12/03	24890	no	no	0	4	no	no
2006/12/03	24891	no	yes	0	4	no	no
2006/12/04	24892	no	yes	0	0	no	no
2006/12/12	25016	no	no	0	3	no	no
2006/12/16	25072	no	no	0	0	no	no
2006/12/18	25104	no	no	2	0	no	no
2006/12/18	25105	no	no	3	0	no	no
2006/12/25	25203	no	no	0	1	no	no
2007/01/02	25318	no	no	0	4	no	no
2007/01/02	25319	no	no	0	4	no	no
2007/01/02	25320	no	yes	0	4	no	no
2007/01/03	25321	no	yes	0	0	no	no
2007/01/06	25377	yes	yes	35	30	no	no
2007/01/12	25461	yes	yes	35	30	no	no
2007/01/13	25475	yes	yes	35	30	no	no
2007/01/21	25579	no	no	3	0	no	no
2007/01/22	25605	no	no	1	0	no	no
2007/01/23	25614	no	no	0	0	no	no
2007/01/23	25619	no	no	0	1	no	no
2007/01/27	25676	no	no	3	2	no	no
2007/01/31	25733	no	no	0	4	no	no
2007/01/31	25734	no	no	0	4	no	no
2007/01/31	25735	no	yes	0	4	no	no
2007/01/31	25736	no	no	0	0	no	no
2007/02/09	25862	no	no	0	2	no	no
2007/02/17	25965	no	no	0	0	no	no
2007/02/18	25991	no	no	0	3	no	no
2007/02/19	25994	no	no	0	0	no	no
2007/03/01	26148	no	no	0	4	no	no
2007/03/02	26163	no	no	0	4	no	no
2007/03/02	26164	no	no	0	4	no	no
2007/03/02	26165	no	yes	0	4	no	no
2007/03/03	26166	no	yes	0	0	no	no
2007/03/04	26191	no	no	0	4	no	no
2007/03/12	26303	no	no	0	0	no	no
2007/03/30	26563	no	no	0	4	no	no
2007/03/30	26564	no	no	0	4	no	no
2007/03/30	26565	no	yes	0	4	no	no
2007/03/30	26566	no	yes	0	0	no	no
2007/04/02	26608	no	no	0	5	no	no
2007/04/02	26609	no	no	0	4	no	no
2007/04/06	26658	no	no	0	0	no	no
2007/04/17	26810	no	no	0	0	no	no
2007/04/21	26878	no	no	0	5	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2007/05/01	27022	no	no	0	4	no	no
2007/05/01	27023	no	no	0	4	no	no
2007/05/01	27024	no	yes	0	4	no	no
2007/05/02	27025	no	yes	0	0	no	no
2007/05/03	27044	yes	yes	34	31	no	no
2007/05/30	27437	no	no	0	4	no	no
2007/05/30	27438	no	no	0	4	no	no
2007/05/30	27439	no	yes	0	4	no	no
2007/05/31	27440	no	yes	0	0	no	no
2007/06/30	27873	no	no	0	0	yes	no
2007/07/04	27939	no	no	0	0	no	no
2007/07/06	27966	no	no	0	0	no	no
2007/07/12	28052	no	no	0	4	no	no
2007/07/12	28053	no	no	0	4	no	no
2007/07/12	28054	no	yes	0	4	no	no
2007/07/13	28055	no	yes	0	0	no	no
2007/07/14	28081	yes	yes	34	31	no	no
2007/07/16	28111	no	no	0	4	no	no
2007/07/25	28232	no	no	0	0	no	no
2007/07/29	28295	no	no	0	4	no	no
2007/07/29	28296	no	no	0	4	no	no
2007/07/29	28297	no	yes	0	4	no	no
2007/07/29	28298	no	yes	0	0	no	no
2007/07/30	28304	no	no	1	7	no	no
2007/07/31	28318	no	no	0	0	yes	no
2007/08/13	28504	yes	yes	35	30	no	no
2007/08/18	28570	no	no	0	0	no	no
2007/08/27	28711	no	no	0	4	no	no
2007/08/27	28712	no	no	0	4	no	no
2007/08/27	28713	no	yes	0	4	no	no
2007/08/28	28714	no	yes	0	0	no	no
2007/10/01	29206	yes	yes	34	31	no	no
2007/10/01	29212	no	no	0	4	no	no
2007/10/01	29213	no	no	0	4	no	no
2007/10/01	29214	no	yes	0	4	no	no
2007/10/02	29215	no	yes	0	0	no	no
2007/10/15	29411	yes	no	34	30	no	no
2007/10/17	29429	no	no	0	0	no	no
2007/10/25	29555	no	no	0	4	no	no
2007/10/25	29556	no	no	0	4	no	no
2007/10/25	29557	no	yes	0	4	no	no
2007/10/26	29558	no	yes	0	0	no	no
2007/10/30	29615	no	no	0	0	no	no
2007/11/09	29768	yes	yes	35	30	no	no
2007/11/19	29901	no	no	0	0	no	no
2007/11/23	29970	no	no	0	4	no	no
2007/11/23	29971	no	no	0	4	no	no
2007/11/23	29972	no	yes	0	4	no	no
2007/11/23	29973	no	no	0	0	no	no
2007/12/11	30223	no	no	0	5	no	no
2007/12/13	30249	no	no	0	0	no	no
2007/12/14	30264	no	no	0	0	yes	no
2007/12/22	30385	no	no	0	4	no	no
2007/12/22	30386	no	no	0	4	no	no
2007/12/22	30387	no	yes	0	4	no	no
2007/12/22	30388	no	no	0	0	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2007/12/24	30414	no	no	3	0	no	no
2008/01/05	30582	no	no	0	0	no	no
2008/01/12	30686	yes	yes	35	30	no	no
2008/01/13	30700	yes	yes	35	30	no	no
2008/01/21	30815	no	no	0	4	no	no
2008/01/21	30816	no	no	0	4	no	no
2008/01/21	30817	no	yes	0	4	no	no
2008/01/22	30818	no	yes	0	0	no	no
2008/02/18	31216	no	no	0	4	no	no
2008/02/18	31217	no	no	0	4	no	no
2008/02/18	31218	no	yes	0	4	no	no
2008/02/19	31219	no	yes	0	0	no	no
2008/03/05	31433	no	no	0	0	no	no
2008/03/15	31585	yes	yes	32	31	no	no
2008/03/16	31594	yes	yes	30	29	no	no
2008/03/18	31622	yes	yes	32	30	no	no
2008/03/19	31642	yes	yes	32	31	no	no
2008/03/20	31659	no	no	0	4	no	no
2008/03/20	31660	no	no	0	4	no	no
2008/03/20	31661	no	yes	0	4	no	no
2008/03/20	31662	no	no	0	0	no	no
2008/03/21	31664	yes	yes	34	29	no	no
2008/03/22	31677	no	yes	34	29	no	no
2008/03/22	31680	yes	yes	33	29	no	no
2008/03/27	31750	yes	yes	33	29	no	no
2008/03/30	31794	yes	yes	33	30	no	no
2008/03/31	31808	yes	yes	33	29	no	no
2008/04/01	31820	yes	yes	33	30	no	no
2008/04/03	31849	yes	yes	34	28	no	no
2008/04/04	31864	yes	yes	33	30	no	no
2008/04/06	31894	yes	yes	33	30	no	no
2008/04/14	32011	no	no	0	0	no	no
2008/04/17	32048	no	no	0	0	no	no
2008/04/18	32074	no	no	0	4	no	no
2008/04/18	32075	no	no	0	4	no	no
2008/04/18	32076	no	yes	0	4	no	no
2008/04/18	32077	no	yes	0	0	no	no
2008/04/20	32100	no	no	5	11	no	no
2008/04/21	32119	no	no	0	0	no	no
2008/04/22	32127	no	no	0	0	no	no
2008/04/29	32224	no	no	13	1	no	no
2008/05/05	32315	yes	yes	34	31	no	no
2008/05/15	32457	yes	yes	31	31	no	no
2008/05/16	32478	yes	no	31	31	no	no
2008/05/19	32518	no	no	0	4	no	no
2008/05/19	32519	no	no	0	4	no	no
2008/05/19	32520	no	yes	0	4	no	no
2008/05/20	32521	no	yes	0	0	no	no
2008/05/21	32547	yes	yes	34	31	no	no
2008/05/28	32641	no	no	0	0	no	no
2008/06/18	32943	yes	yes	34	31	no	no
2008/06/18	32948	no	no	0	4	no	no
2008/06/18	32949	no	no	0	4	no	no
2008/06/18	32950	no	yes	0	4	no	no
2008/06/19	32951	no	yes	0	0	no	no
2008/06/30	33121	no	no	0	4	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2008/07/01	33129	no	no	0	0	no	no
2008/07/12	33285	no	no	0	0	no	no
2008/07/17	33363	no	no	0	4	no	no
2008/07/17	33364	no	no	0	4	no	no
2008/07/17	33365	no	yes	0	4	no	no
2008/07/18	33366	no	yes	0	0	no	no
2008/08/15	33778	no	no	0	4	no	no
2008/08/15	33779	no	no	0	4	no	no
2008/08/15	33780	no	yes	0	4	no	no
2008/08/16	33781	no	yes	0	0	no	no
2008/08/23	33890	no	no	0	0	yes	no
2008/08/27	33949	yes	yes	34	29	no	no
2008/09/08	34123	no	no	0	0	no	no
2008/09/11	34165	no	no	0	5	no	no
2008/09/12	34167	no	no	0	0	no	no
2008/09/14	34205	yes	no	35	30	no	no
2008/09/14	34207	no	no	0	4	no	no
2008/09/14	34208	no	no	0	4	no	no
2008/09/14	34209	no	yes	0	4	no	no
2008/09/14	34210	no	no	0	0	no	no
2008/09/17	34252	no	no	0	0	no	no
2008/10/14	34637	no	no	0	4	no	no
2008/10/14	34638	no	no	0	4	no	no
2008/10/14	34639	no	yes	0	4	no	no
2008/10/15	34640	no	yes	0	0	no	no
2008/10/15	34651	no	no	0	4	no	no
2008/10/15	34652	no	no	0	4	no	no
2008/10/16	34665	no	no	0	4	no	no
2008/10/16	34666	no	no	0	4	no	no
2008/11/02	34906	no	no	0	0	yes	no
2008/11/12	35052	no	no	0	4	no	no
2008/11/12	35053	no	no	0	4	no	no
2008/11/12	35054	no	yes	0	4	no	no
2008/11/13	35055	no	yes	0	0	no	no
2008/11/17	35125	no	no	0	0	no	no
2008/11/22	35184	yes	yes	34	31	no	no
2008/11/30	35310	no	no	0	0	no	no
2008/12/11	35467	no	no	0	4	no	no
2008/12/11	35468	no	no	0	4	no	no
2008/12/11	35469	no	yes	0	4	no	no
2008/12/12	35470	no	yes	0	0	no	no
2008/12/13	35493	no	no	0	4	no	no
2008/12/31	35741	no	no	0	0	no	yes
2009/01/02	35782	no	no	6	1	no	yes
2009/01/06	35835	no	no	0	0	no	yes
2009/01/09	35882	no	no	0	4	no	no
2009/01/09	35883	no	no	0	4	no	no
2009/01/09	35884	no	no	0	4	no	no
2009/01/10	35885	no	yes	0	0	no	no
2009/01/11	35911	yes	yes	35	30	no	no
2009/01/15	35968	no	no	5	0	no	no
2009/01/26	36128	no	no	0	0	no	no
2009/01/27	36135	no	no	0	0	no	no
2009/02/07	36297	no	no	0	4	no	no
2009/02/07	36298	no	no	0	4	no	no
2009/02/08	36300	no	no	0	0	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2009/02/13	36382	no	no	2	4	no	no
2009/03/01	36603	yes	yes	34	31	no	no
2009/03/05	36664	no	no	4	0	yes	no
2009/03/08	36704	yes	yes	33	31	no	no
2009/03/09	36725	yes	yes	34	30	no	no
2009/03/09	36727	no	no	0	4	no	no
2009/03/09	36728	no	no	0	4	no	no
2009/03/09	36729	no	yes	0	4	no	no
2009/03/10	36730	no	yes	0	0	no	no
2009/03/19	36870	no	no	2	4	no	no
2009/04/06	37130	no	no	0	0	no	no
2009/04/07	37142	no	no	0	4	no	no
2009/04/07	37143	no	no	0	4	no	no
2009/04/07	37144	no	no	0	4	no	no
2009/04/08	37145	no	yes	0	0	no	no
2009/05/08	37585	no	no	0	4	no	no
2009/05/08	37586	no	no	0	4	no	no
2009/05/08	37587	no	yes	0	4	no	no
2009/05/08	37588	no	yes	0	0	no	no
2009/06/07	38010	yes	yes	35	30	no	no
2009/06/07	38015	no	no	0	4	no	no
2009/06/07	38016	no	no	0	4	no	no
2009/06/07	38017	no	yes	0	4	no	no
2009/06/08	38018	no	yes	0	0	no	no
2009/06/15	38131	no	no	4	11	no	no
2009/06/17	38153	no	no	0	0	yes	no
2009/06/22	38230	no	no	0	0	yes	no
2009/07/06	38430	no	no	0	4	no	no
2009/07/06	38431	no	no	0	4	no	no
2009/07/06	38432	no	yes	0	4	no	no
2009/07/07	38433	no	yes	0	0	no	no
2009/07/12	38507	yes	yes	35	30	no	no
2009/07/20	38626	yes	no	34	31	no	no
2009/07/21	38637	no	no	0	0	no	no
2009/07/27	38727	no	no	7	13	no	no
2009/08/05	38859	no	no	0	4	no	no
2009/08/05	38860	no	no	0	4	no	no
2009/08/05	38861	no	yes	0	4	no	no
2009/08/05	38862	no	yes	0	0	no	no
2009/08/11	38938	no	no	0	0	yes	no
2009/08/20	39063	no	no	0	0	no	no
2009/09/03	39275	no	no	0	4	no	no
2009/09/03	39276	no	no	0	4	no	no
2009/09/03	39277	no	yes	0	4	no	no
2009/09/04	39278	no	yes	0	0	no	no
2009/09/08	39344	no	no	0	0	no	no
2009/09/28	39634	no	no	0	0	no	no
2009/09/29	39639	no	no	0	0	no	no
2009/10/03	39704	no	no	0	4	no	no
2009/10/03	39705	no	no	0	4	no	no
2009/10/03	39706	no	yes	0	4	no	no
2009/10/04	39707	no	yes	0	0	no	no
2009/10/09	39781	yes	yes	34	31	no	no
2009/10/12	39828	yes	yes	35	30	no	no
2009/10/27	40048	no	no	0	0	no	no
2009/10/28	40058	yes	yes	35	30	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2009/11/01	40119	no	no	0	4	no	no
2009/11/01	40120	no	no	0	4	no	no
2009/11/01	40121	no	yes	0	4	no	no
2009/11/02	40122	no	yes	0	0	no	no
2009/11/02	40123	yes	yes	33	29	no	no
2009/11/19	40371	no	no	0	0	yes	no
2009/11/25	40463	no	no	0	0	no	no
2009/11/30	40534	no	no	0	4	no	no
2009/11/30	40535	no	no	0	4	no	no
2009/11/30	40536	no	yes	0	4	no	no
2009/12/01	40537	no	yes	0	0	no	no
2009/12/01	40540	yes	yes	35	30	no	no
2009/12/08	40641	no	no	0	0	no	no
2009/12/30	40964	no	no	0	4	no	no
2009/12/30	40965	no	no	0	4	no	no
2009/12/30	40966	no	yes	0	4	no	no
2009/12/31	40967	no	yes	0	0	no	no
2010/01/12	41150	yes	yes	35	30	no	no
2010/01/16	41201	no	no	0	0	yes	no
2010/01/28	41379	no	no	0	4	no	no
2010/01/28	41380	no	no	0	4	no	no
2010/01/28	41381	no	yes	0	4	no	no
2010/01/29	41382	no	yes	0	0	no	no
2010/01/30	41409	no	no	0	4	no	no
2010/02/01	41430	no	no	0	0	yes	no
2010/02/05	41494	no	no	1	1	no	no
2010/02/16	41643	no	no	0	0	no	no
2010/02/22	41733	no	no	0	0	yes	no
2010/02/26	41794	no	no	0	4	no	no
2010/02/26	41795	no	no	0	4	no	no
2010/02/26	41796	no	yes	0	4	no	no
2010/02/27	41797	no	yes	0	0	no	no
2010/03/03	41867	no	no	0	4	no	no
2010/03/05	41887	no	no	0	0	yes	no
2010/03/08	41929	yes	yes	34	31	no	no
2010/03/17	42055	yes	yes	34	31	no	no
2010/03/23	42148	yes	yes	35	30	no	no
2010/03/28	42223	no	no	0	4	no	no
2010/03/28	42224	no	no	0	4	no	no
2010/03/28	42225	no	yes	0	4	no	no
2010/03/28	42226	no	no	0	0	no	no
2010/04/14	42462	no	no	0	4	no	no
2010/04/15	42476	no	no	0	0	yes	no
2010/04/26	42640	no	no	0	0	no	no
2010/04/28	42667	no	no	0	4	no	no
2010/04/28	42668	no	no	0	4	no	no
2010/04/28	42669	no	yes	0	4	no	no
2010/04/29	42670	no	yes	0	0	no	no
2010/05/26	43068	no	no	0	4	no	no
2010/05/26	43069	no	no	0	4	no	no
2010/05/26	43070	no	yes	0	4	no	no
2010/05/27	43071	no	yes	0	0	no	no
2010/06/17	43384	yes	yes	35	30	no	no
2010/06/25	43497	no	no	0	4	no	no
2010/06/25	43498	no	no	0	4	no	no
2010/06/25	43499	no	yes	0	4	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2010/06/26	43500	no	yes	0	0	no	no
2010/07/05	43643	no	no	0	4	no	no
2010/07/06	43647	no	no	0	0	no	no
2010/07/09	43693	yes	yes	35	30	no	no
2010/07/25	43927	no	no	0	4	no	no
2010/07/25	43928	no	no	0	4	no	no
2010/07/25	43929	no	yes	0	4	no	no
2010/07/26	43930	no	yes	0	0	no	no
2010/08/10	44148	no	no	0	0	yes	no
2010/08/23	44340	no	no	0	0	no	no
2010/08/24	44353	no	no	4	12	yes	no
2010/08/24	44356	no	no	0	4	yes	no
2010/08/24	44357	no	no	0	4	yes	no
2010/08/24	44358	no	yes	0	4	no	no
2010/08/25	44359	no	yes	0	0	no	no
2010/08/25	44364	no	no	0	0	no	no
2010/09/22	44771	no	no	0	4	no	no
2010/09/22	44772	no	no	0	4	no	no
2010/09/22	44773	no	yes	0	4	no	no
2010/09/22	44774	no	no	0	0	no	no
2010/10/06	44968	no	no	0	0	yes	no
2010/10/18	45143	no	no	0	4	no	no
2010/10/18	45144	no	no	0	4	no	no
2010/10/18	45145	no	yes	0	4	no	no
2010/10/18	45146	no	no	0	0	no	no
2010/10/19	45158	no	no	0	4	no	no
2010/10/19	45159	no	no	0	4	no	no
2010/10/19	45160	no	yes	0	4	no	no
2010/10/20	45161	no	yes	0	0	no	no
2010/10/20	45172	no	no	0	4	no	no
2010/10/20	45173	no	no	0	4	no	no
2010/10/20	45174	no	yes	0	4	no	no
2010/10/21	45187	no	no	0	1	no	no
2010/10/27	45272	no	no	0	4	no	no
2010/10/27	45273	no	no	0	4	no	no
2010/10/27	45274	no	yes	0	4	no	no
2010/10/27	45275	no	no	0	0	no	no
2010/10/28	45287	no	no	0	4	no	no
2010/10/28	45288	no	no	0	4	no	no
2010/10/28	45289	no	yes	0	4	no	no
2010/10/29	45290	no	yes	0	0	no	no
2010/10/29	45301	no	no	0	4	no	no
2010/10/29	45302	no	no	0	4	no	no
2010/10/29	45303	no	yes	0	4	no	no
2010/10/30	45304	no	yes	0	0	no	no
2010/11/02	45356	no	no	0	0	no	no
2010/11/04	45379	no	no	0	0	no	no
2010/11/05	45396	no	no	0	0	yes	no
2010/11/20	45617	no	no	0	4	no	no
2010/11/20	45618	no	no	0	4	no	no
2010/11/20	45619	no	no	0	4	no	no
2010/11/22	45641	no	no	0	0	yes	no
2010/11/26	45704	no	no	2	0	no	no
2010/12/02	45791	no	no	1	0	no	no
2010/12/18	46014	yes	yes	36	30	no	no
2010/12/20	46048	no	no	0	4	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2010/12/20	46049	no	no	0	4	no	no
2010/12/20	46050	no	yes	0	4	no	no
2010/12/20	46051	no	no	0	0	no	no
2010/12/28	46154	yes	yes	35	31	no	no
2011/01/12	46379	no	no	0	0	no	no
2011/01/12	46380	no	no	0	0	no	no
2011/01/13	46394	no	no	0	0	no	no
2011/01/15	46412	yes	yes	35	31	no	no
2011/01/15	46414	yes	yes	35	31	no	no
2011/01/15	46418	yes	yes	35	31	no	no
2011/01/15	46420	yes	yes	35	31	no	no
2011/01/15	46424	yes	yes	35	31	no	no
2011/01/16	46426	yes	yes	35	31	no	no
2011/01/16	46428	yes	yes	35	31	no	no
2011/01/16	46430	yes	yes	35	31	no	no
2011/01/18	46465	no	no	0	4	no	no
2011/01/18	46466	no	no	0	4	no	no
2011/01/18	46467	no	yes	0	4	no	no
2011/01/19	46468	no	yes	0	0	no	no
2011/01/26	46574	yes	yes	35	31	no	no
2011/02/16	46881	no	no	0	4	no	no
2011/02/16	46882	no	no	0	4	no	no
2011/02/16	46883	no	no	0	0	no	no
2011/02/16	46884	no	yes	0	0	no	no
2011/03/18	47312	no	no	0	4	no	no
2011/03/18	47313	no	no	0	4	no	no
2011/03/18	47314	no	yes	0	4	no	no
2011/03/18	47315	no	yes	0	0	no	no
2011/03/24	47393	no	no	0	0	yes	no
2011/03/27	47430	no	no	0	0	no	no
2011/03/29	47472	no	no	0	0	no	no
2011/03/31	47499	no	no	1	5	no	no
2011/04/03	47531	yes	yes	35	31	no	no
2011/04/03	47540	no	no	3	10	no	no
2011/04/05	47567	no	no	0	0	yes	no
2011/04/16	47723	yes	yes	32	31	no	no
2011/04/16	47729	no	no	0	4	no	no
2011/04/16	47730	no	no	0	4	no	no
2011/04/16	47731	no	yes	0	4	no	no
2011/04/17	47732	no	yes	0	0	no	no
2011/04/21	47790	yes	yes	36	30	no	no
2011/04/27	47887	yes	yes	35	31	no	no
2011/05/16	48160	no	no	0	4	no	no
2011/05/16	48161	no	no	0	4	no	no
2011/05/16	48162	no	yes	0	4	no	no
2011/05/17	48163	no	yes	0	0	no	no
2011/05/18	48187	yes	yes	35	31	no	no
2011/05/23	48262	no	no	0	0	no	no
2011/05/26	48302	no	no	6	12	no	no
2011/05/28	48325	no	no	0	0	yes	no
2011/06/03	48407	no	no	0	0	no	no
2011/06/14	48566	yes	yes	33	30	no	no
2011/06/15	48591	no	no	0	4	no	no
2011/06/15	48592	no	no	0	4	no	no
2011/06/15	48593	no	yes	0	4	no	no
2011/06/16	48594	no	yes	0	0	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2011/07/04	48854	yes	yes	36	30	no	no
2011/07/14	49008	no	no	0	4	no	no
2011/07/14	49009	no	no	0	4	no	no
2011/07/14	49010	no	yes	0	4	no	no
2011/07/15	49011	no	yes	0	0	no	no
2011/07/19	49072	no	no	0	0	yes	no
2011/07/20	49088	yes	yes	36	30	no	no
2011/08/11	49406	yes	yes	35	30	no	no
2011/08/13	49439	no	no	0	4	no	no
2011/08/13	49440	no	no	0	4	no	no
2011/08/13	49441	no	yes	0	4	no	no
2011/08/14	49442	no	yes	0	0	no	no
2011/08/20	49542	yes	no	35	31	no	no
2011/09/09	49820	no	no	0	0	yes	no
2011/09/11	49855	no	no	0	4	no	no
2011/09/11	49856	no	no	0	4	no	no
2011/09/11	49857	no	yes	0	4	no	no
2011/09/11	49858	no	no	0	0	no	no
2011/09/20	49979	no	no	0	0	no	no
2011/09/23	50021	no	no	0	0	yes	no
2011/09/24	50042	yes	yes	36	30	no	no
2011/10/07	50226	yes	yes	35	31	no	no
2011/10/11	50286	no	no	0	4	no	no
2011/10/11	50287	no	no	0	4	no	no
2011/10/11	50288	no	yes	0	4	no	no
2011/10/11	50289	no	no	0	0	no	no
2011/10/29	50544	yes	yes	36	30	no	no
2011/11/01	50580	yes	yes	36	30	no	no
2011/11/10	50717	no	no	0	4	no	no
2011/11/10	50718	no	no	0	4	no	no
2011/11/10	50719	no	yes	0	4	no	no
2011/11/21	50874	yes	yes	36	30	no	no
2011/11/22	50890	yes	yes	36	30	no	no
2011/11/23	50904	yes	yes	36	30	no	no
2011/12/09	51134	no	no	0	4	no	no
2011/12/09	51135	no	no	0	4	no	no
2011/12/09	51136	no	yes	0	4	no	no
2011/12/10	51137	no	yes	0	0	no	no
2011/12/24	51344	yes	yes	36	30	no	no
2012/01/08	51565	no	no	0	4	no	no
2012/01/08	51566	no	no	0	4	no	no
2012/01/08	51567	no	yes	0	4	no	no
2012/01/15	51664	yes	yes	0	0	no	no
2012/01/17	51687	no	no	0	0	yes	no
2012/01/24	51788	no	no	0	0	yes	no
2012/02/01	51905	yes	yes	35	31	no	no
2012/02/02	51919	yes	yes	35	31	no	no
2012/02/06	51982	no	no	0	4	no	no
2012/02/06	51983	no	no	0	4	no	no
2012/02/06	51984	no	yes	0	4	no	no
2012/02/08	52013	yes	no	36	30	no	no
2012/02/20	52183	yes	yes	36	30	no	no
2012/02/23	52219	no	no	0	0	yes	no
2012/02/25	52246	yes	yes	35	31	no	no
2012/02/29	52313	no	no	0	4	no	no
2012/03/01	52318	no	no	0	0	no	no

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Date	orbit	L2_v7.0	L2_v6.01	# nadir	# limb	anomaly	decontamination
2012/03/04	52369	no	no	0	4	no	no
2012/03/07	52413	no	no	0	4	no	no
2012/03/07	52414	no	no	0	4	no	no
2012/03/07	52415	no	yes	0	4	no	no
2012/03/08	52416	no	yes	0	0	no	no
2012/03/23	52632	yes	yes	35	31	no	no
2012/03/30	52742	yes	yes	34	29	no	no
2012/04/06	52844	no	no	0	4	no	no
2012/04/06	52845	no	no	0	4	no	no
2012/04/06	52846	no	yes	0	4	no	no
2012/04/07	52847	no	yes	0	0	no	no