ENVISAT ASAR MONTHLY REPORT

MARCH 2006

PUBLIC SUMMARY

prepared by/*préparé par*	DPQC SAR Team
reference/*réference*	ENVI-CLVL-EOPG-TN-04-0009
issue/*édition*	1
revision/*révision*	0
date of issue/*date d'édition*	10-05-2006
status/*état*	Approved
Document type/*type de document*	Technical Note
Distribution/*distribution*	

European Space Agency
Agence spatiale européenne

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1 EXECUTIVE SUMMARY

This document summarizes the instrument and product quality status as derived from data acquired during March 2006.

No major anomalies have been experienced during this period. The list of unavailability periods is provided in Chapter 2 together with details of any data disclaimers issued during the reporting period. Chapter 3 provides information on the background regional mission (BRM) planning. Details on the Doppler Centroid evolution are provided in chapter 4. Radiometric stability is measured by means of ASAR and Radarsat transponders. Detailed results are provided in chapter 5. An updated list of auxiliary data files is provided in chapters 6 and 7.

2 INSTRUMENT STATUS

No major anomalies experienced during the reporting period.
The following Antenna Transmit/Receive Modules (TRMs) have failed since launch:

- TRM-01 to 04 in tile C1: H & V polarisation transmit failed since May 2002
- TRM-01 to 04 in tile D2: H & V polarisation transmit and receive failed since 18th February 2003
- TRM-14 in tile B2: H polarization transmit failed since 12th April 2004
- TRM-15 in tile A1: failed to transmit in V polarization since 17th May 2004
- TRM-06 in tile A1: failed to transmit in V polarization since 17th November 2004
- TRM-12 in tile C4: failed to transmit in H polarization since 16th January 2005
- TRM-02 in tile D3: failed to transmit in V polarization since 20th November 2005

Please note that a single TRM transmit failures have no significant impact on the instrument performance nor on the antenna pattern radiation shape. The impact of multiple TRM failures is mitigated by the generation of new antenna patterns.

2.1 Instrument Unavailability

The new events with respect to the previous report are given in the table below. Please note that the full unavailability list is available in Appendix A.

Unavailability report reference	Start	Stop
EN-UNA-2006/0102	20/03/2006 07:03:30.000 Orbit = 21188	20/03/2006 07:20:49.559 Orbit = 21188
EN-UNA-2006/0108	28/03/2006 00:39:22.000 Orbit = 21298	28/03/2006 13:13:20.000 Orbit = 21306

2.2 Data Disclaimer

A data quality disclaimer is issued each time that ASAR data of degraded quality is acquired between specific time intervals. Details on the available disclaimers are provided online at **http://earth.esa.int/pcs/envisat/asar/disclaimer**. Please note that the full disclaimer list is also available in Appendix B.

During March 2006 one new disclaimer was issued:

- From 20-MAR-2006 02:12:44 to 20-MAR-2006 07:20:50

Warning: ASAR antenna gain problem
Problem Description:
Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna

pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:

All ASAR products, including level 0 products

3 LOW RATE BACKGROUND REGIONAL MISSION

The current Low Rate BRM definition is provided below:

Mode	Where	Swath	Polarisation
Wave	Over the sea (~15 sec from the coast line), including the Mediterranean Sea.	IS2	VV

Figure 3.1. WV Background Mission

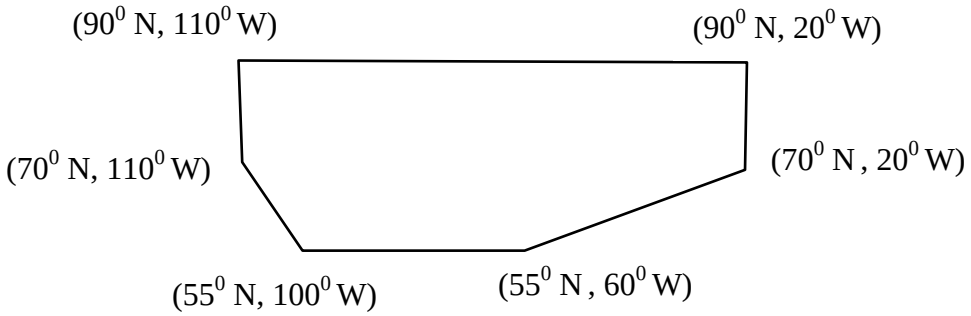
Mode	Where	Polarization
Global Monitoring	Everywhere else	**HH:** over land, ice and sea-ice including the following areas: - Europe - Antarctica extended (1) - Artic (2) - Greenland and Greenland Sea (4) - Labrador Sea and North of Canada (3,4) - Kara Sea (4) - Baffin Bay (4) - Golf of Mexico & Caribbean Sea (5) **VV:** None. All GM acquisitions in HH

Figure 3.2. GM Europe Background Mission

(1) The Antarctic area is here defined as the Antarctica continent plus a circle covering different latitudes depending on the season, since the sea ice coverage changes throughout the year.
The following extended areas are defined:
- circle around 65^0 latitude South: during January, February and March
- circle around 60^0 latitude South: during April, May, June and November, December
- circle around 55^0 latitude South: during July, August, September, October

(2) Artic area is here defined as all areas above 70^0 latitude North

(3) Labrador Sea, Hudson Bay and North of Quebec are not completely in the Artic definition. They have been added separately as an area defined within the following coordinates:



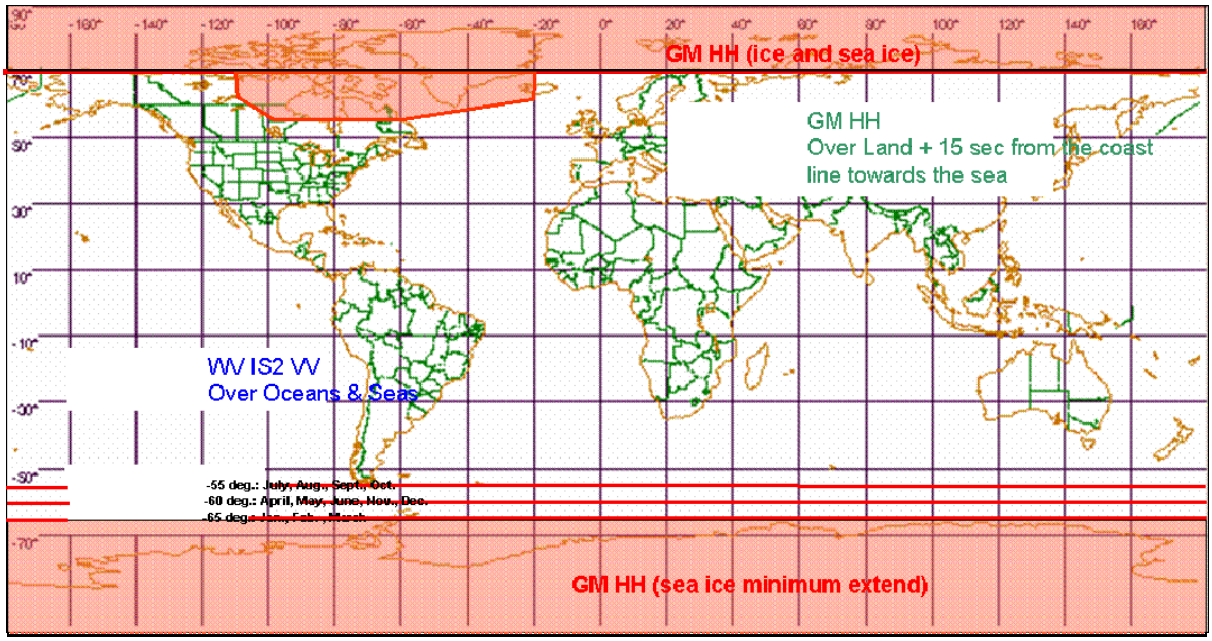


Figure 3.3. GM Antarctic, Arctic, and Labrador Sea, Hudson Bay and North of Quebec Background Mission

(4) The complete area to be covered around the Artic.

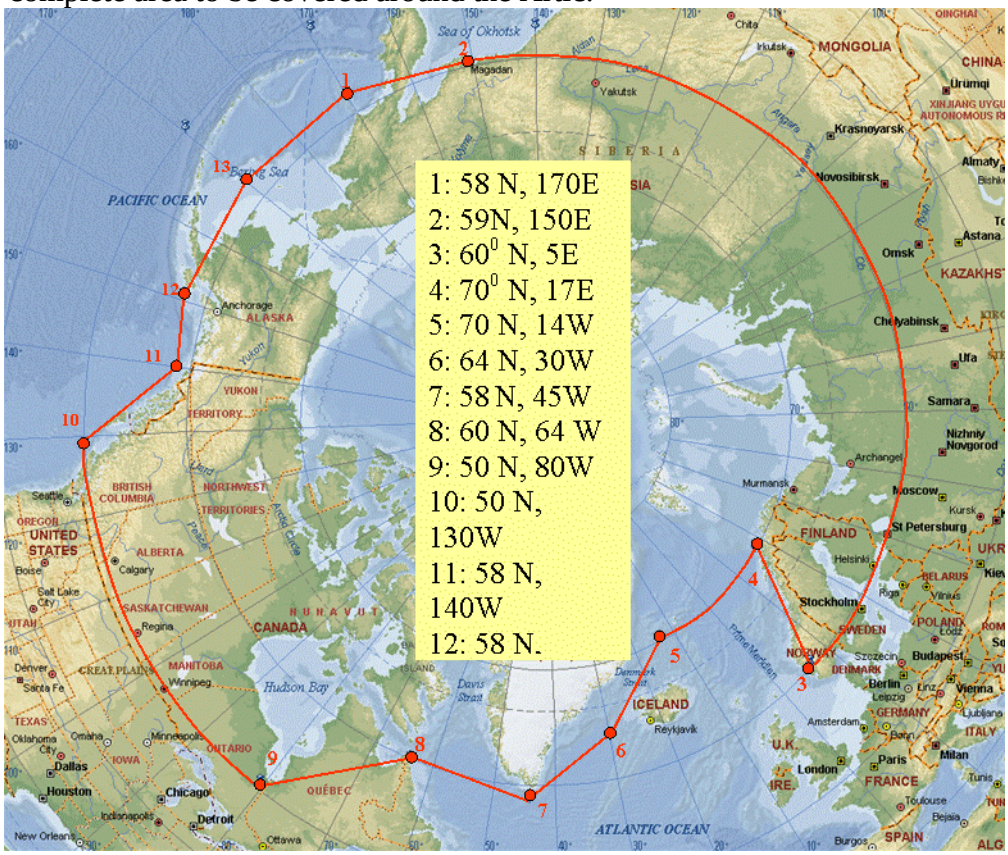


Figure 3.4. GM Full Arctic Background Mission

(5) This area shall be covered in GM HH every year from 15th July until 1st November.

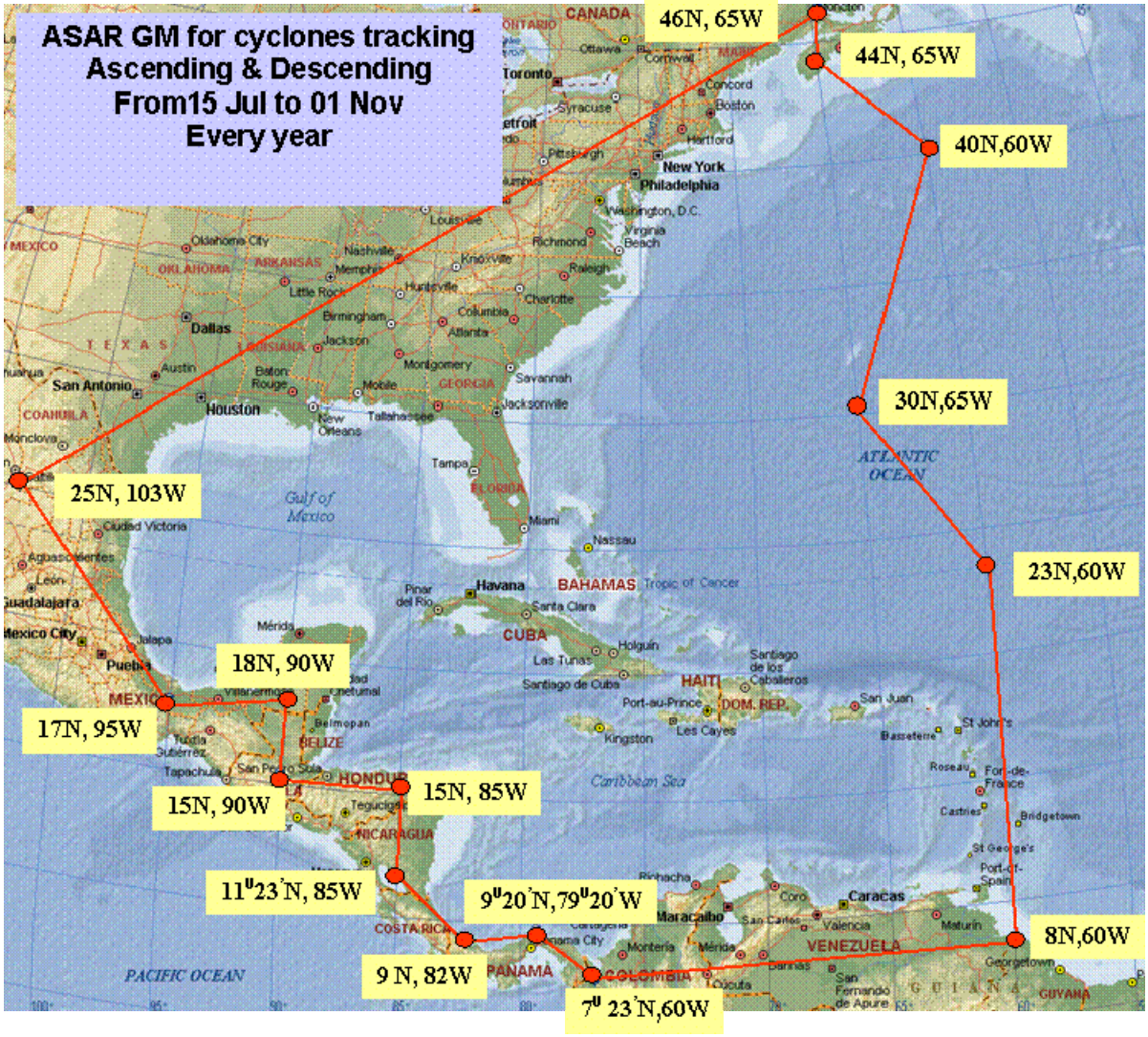


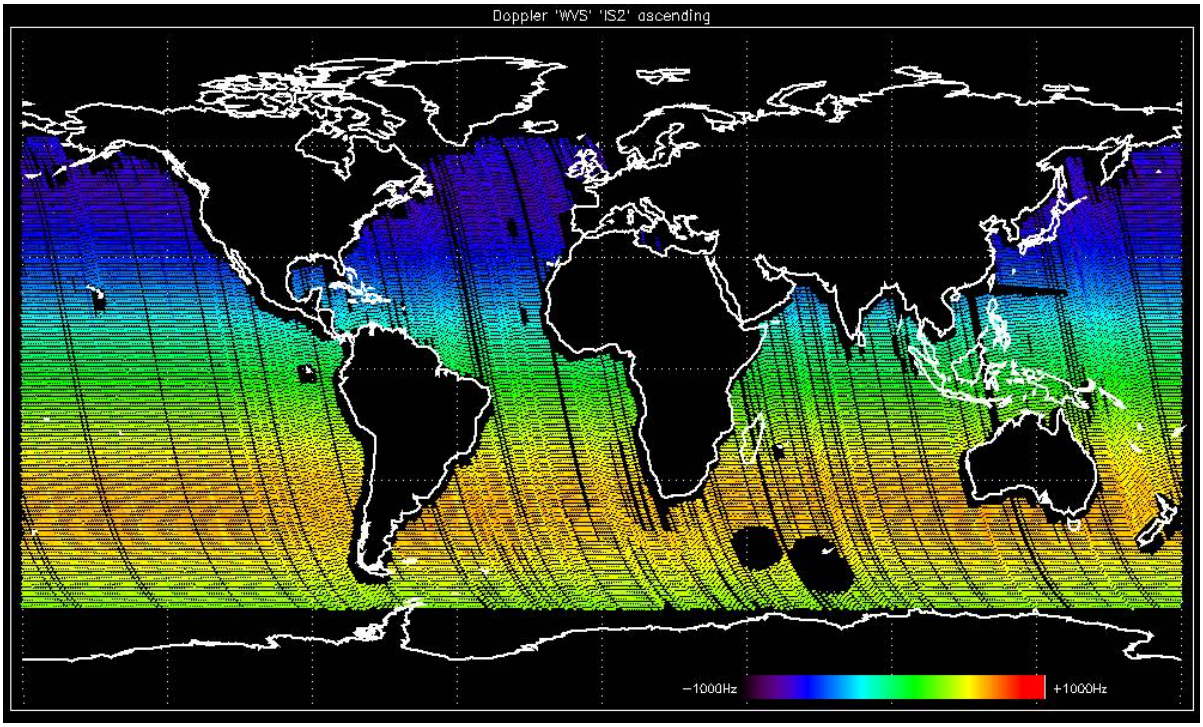
Figure 3.5. GM Gulf of Mexico and Caribbean Sea Background Mission

4 DOPPLER MONITORING

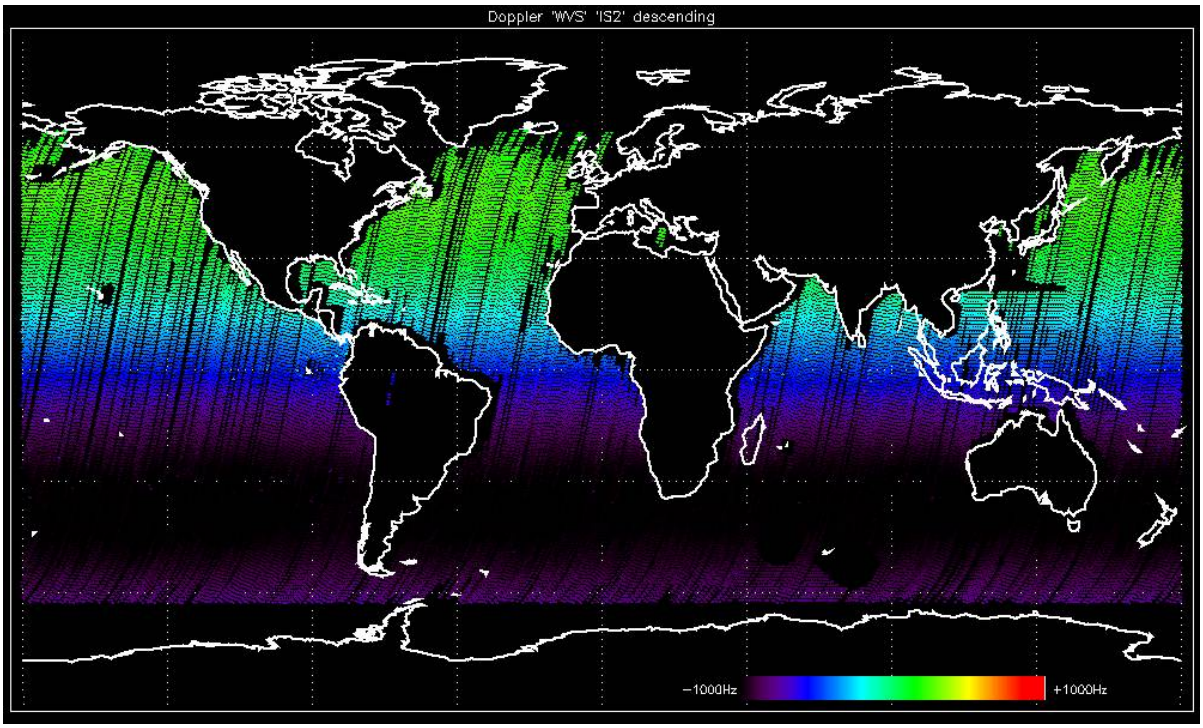
The Envisat Orbit Control Manoeuvres (OCM) can affect the platform attitude stability even a hours after the burst with a direct impact on the Doppler centroid frequency evolution. An updated list of the OCM can be found at **http://nng.esoc.esa.de/envisat/ENVmano.html**.

The plots of the Figure 4.1 and Figure 4.2 show the evolution of the Doppler centroid over the world for the 35 days prior to the end of the reporting period. No anomaly on the Doppler centroid distribution is noticed.

4.1 Absolute WV-IS2 Doppler Centroid Evolution



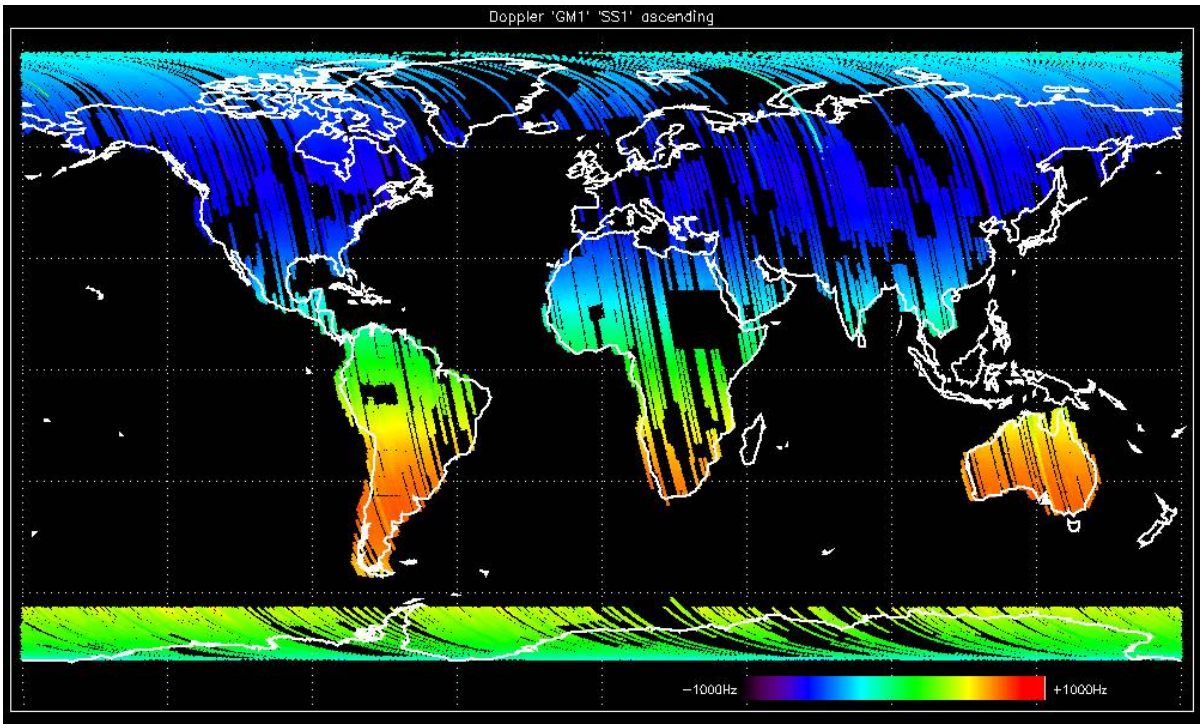
(a) absolute Doppler in ascending passes



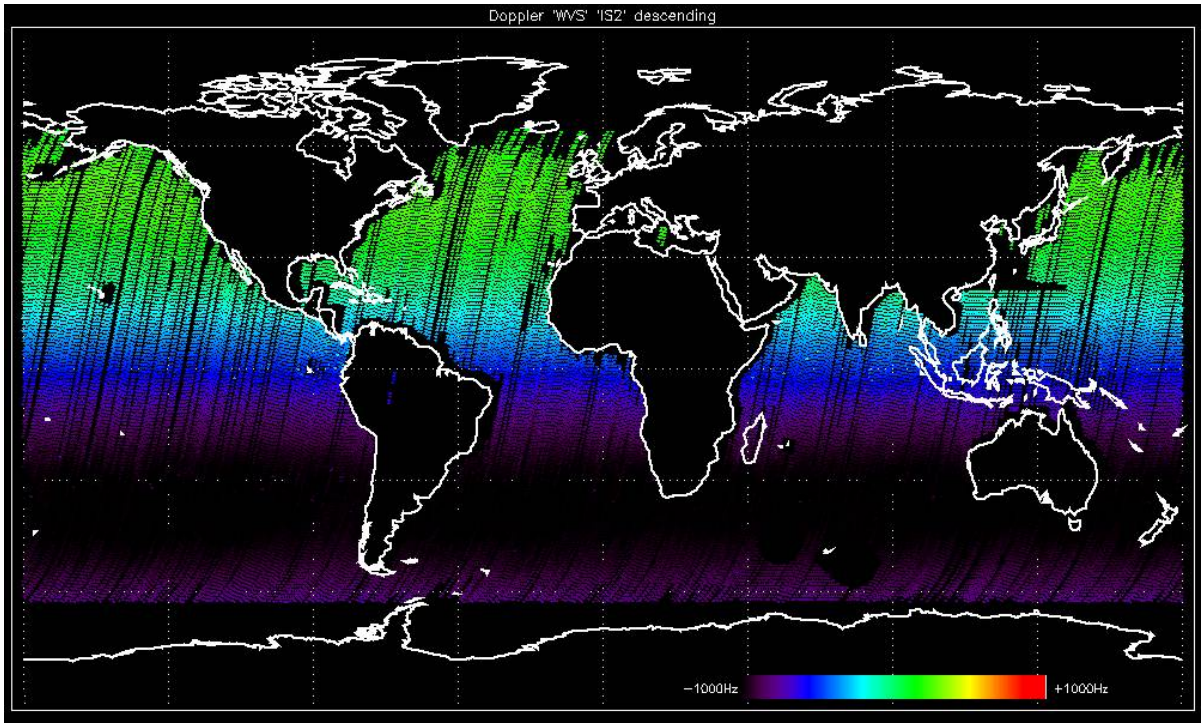
(b) absolute Doppler in descending passes

Figure 4.1: Absolute Wave mode Doppler evolution over the world

4.2 Absolute GM SS1 Doppler Centroid Evolution



(a) absolute Doppler in ascending passes

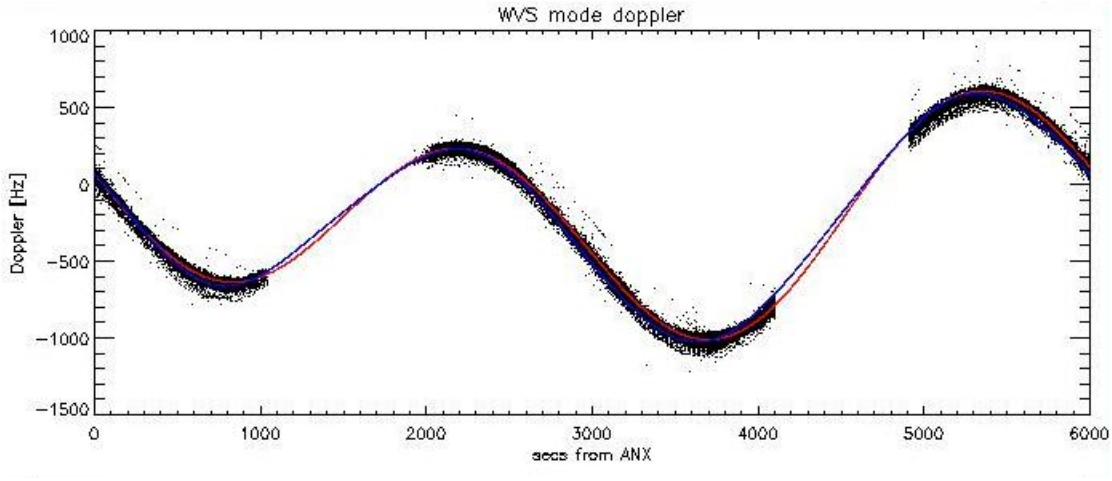


(b) absolute Doppler in descending passes

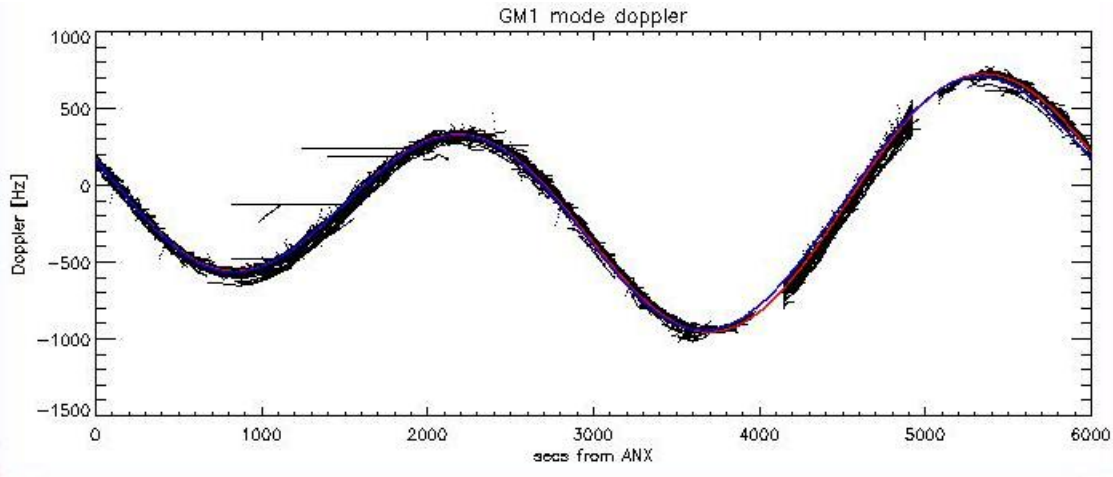
Figure 4.2: Absolute GM mode Doppler evolution over the world

4.3 Absolute Doppler Centroid Evolution vs ANX

Figure 4.3(a) shows the wave mode Doppler evolution (IS2, VV) against the elapsed seconds from the ascending node (ANX) for data acquired during the current month. Theoretical Doppler is in red while the blue curve stands for Doppler evolution model obtained by Fourier series decomposition. Figure 4.3(b) shows a similar plot derived from global monitoring data.



(a)Wave mode Doppler

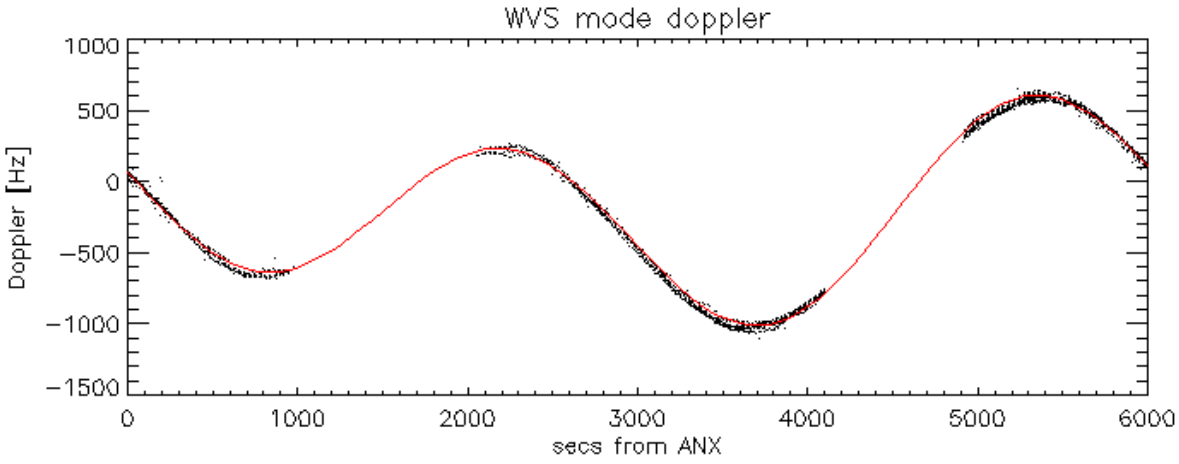


(b)GM1 Doppler

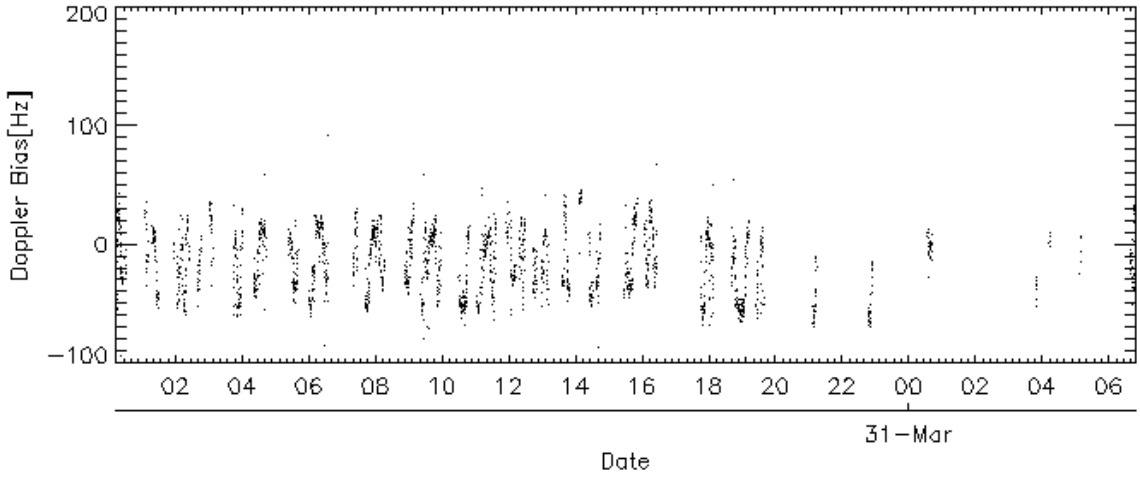
Figure 4.3: Absolute Doppler Centroid evolution wrt elapsed seconds since ANX

4.4 Residual Doppler Centroid Evolution vs. Time of Day

Figure 4.4 shows the WV mode Doppler frequency (a) with respect to the expected frequency (in red) and the residual Doppler (b) versus the time of the day (UTC time) during the last day of the reporting period.



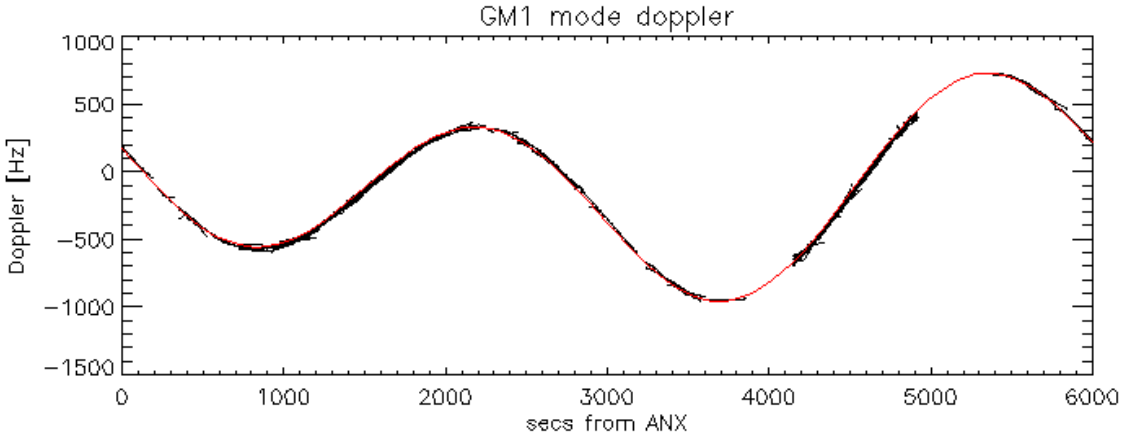
(a) Doppler evolution vs elapsed seconds since ANX



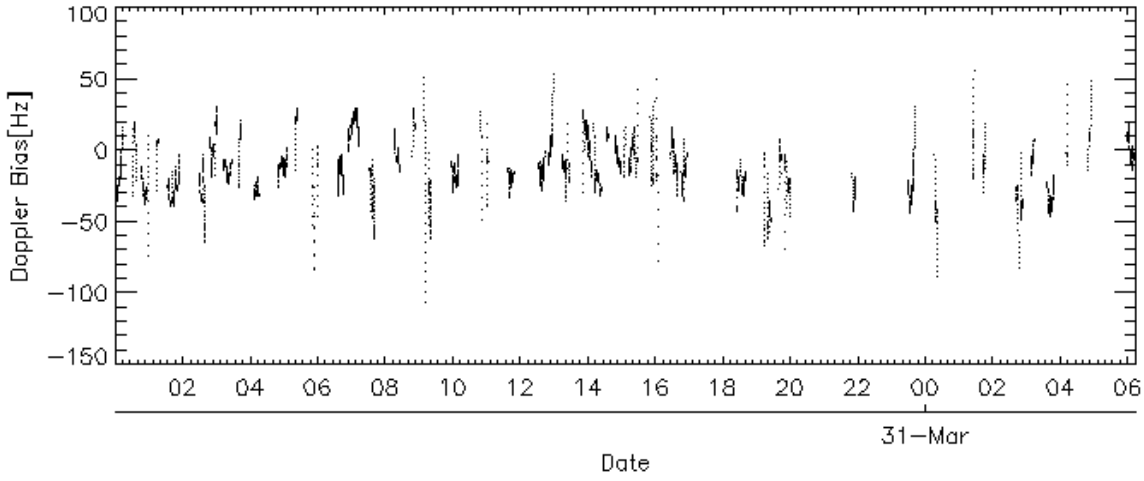
(b) residual Doppler evolution versus time of day

Figure 4.4: Residual Doppler centroid evolution for WVS data

Figure 4.5 shows the same information but for data acquired in GM1 mode.



(a) Doppler evolution versus elapsed seconds since ANX



(b) residual Doppler evolution versus time of day

Figure 4.5: Residual Doppler centroid evolution for GM1 data

5 IMAGE QUALITY AND RADIOMETRIC ANALYSIS

The analysis of the ASAR and Radarsat transponders is used to characterise ASAR products in term of:

- ✓ spatial resolution,
- ✓ Impulse Response Function (IRF) parameters (ISLR, PSLR, SSLR) and
- ✓ Absolute calibration factor.

The analysis is performed for all the modes, beams and polarisations.

Table 5.1 shows the relative Radar Cross Section (RCS)[1] per mode, beam and set of transponders. The values provided per sub-swath correspond to the mean absolute calibration error. Values provided per all swaths correspond to the mean error value and the corresponding standard deviation. All values are in dB.

Product type	Transponder	Relative RCS [dB]							
		All Swaths	IS1	IS2	IS3	IS4	IS5	IS6	IS7
IMP	All	0.98±1.20	1.43	0.07	1.37	0.31	1.44	0.84	1.02
	ASAR	0.25±0.41	0.22	0.08	0.15	0.25	0.29	0.48	0.37
	RSAT	1.29±1.28	1.71	0.04	1.66	0.34	1.77	1.06	1.19
IMG	All	0.94±1.16							
IMS	All	0.80±1.49							
IMM	ASAR	0.94 ± 1.10							
	RSAT	1.65 ± 3.01							
APP	All	0.27±1.39	0.14	0.31	0.13	0.73	0.05	0.77	-0.03
	ASAR	-0.65±0.41	-0.16	-0.64	-0.81	-0.47	-0.71	-0.65	-1.19
	RSAT	0.34±1.42	0.16	0.51	0.18	0.87	0.09	0.86	0.03
APG	All	-0.10±1.65							
APS	All	-0.03±1.66							
APM	ASAR	-0.10 ± 0.95							
	RSAT	1.66 ± 3.08							
WSM	ASAR	0.03 ± 0.94							
	RSAT	1.56 ± 1.66							

Table 5.1: ASAR Image Relative Radar Cross-Sections per mode and beam.

Table 5.2 gives the relative RCS for the full resolutions products as a function of the polarization. All values are in dB.

[1]The relative RCS is defined as the difference between the nominal RCS and the measured RCS.

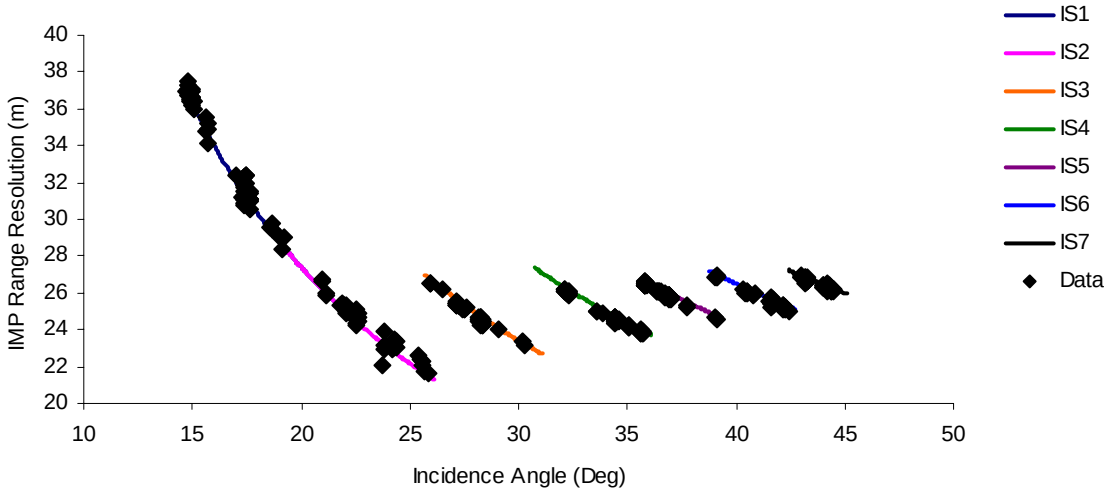
Product type	Transponder	Relative RCS [dB]			
		VV	HH	VH	HV
IMP	All	1.36±1.04	0.35±1.17		
	ASAR	0.41±0.39	-0.01±0.28		
	Radarsat	1.75±0.97	0.50±1.36		
APP	All	0.77±0.86	-0.34±1.51	0.33±1.18	0.34±2.00
	ASAR	-0.56±0.43	-0.62±0.43	-0.69±0.38	-0.79±0.60
	Radarsat	0.79±0.85	-0.32±1.57	0.50±1.18	0.38±2.02

Table 5.2: ASAR Image Relative Radar Cross-Sections per mode and polarization

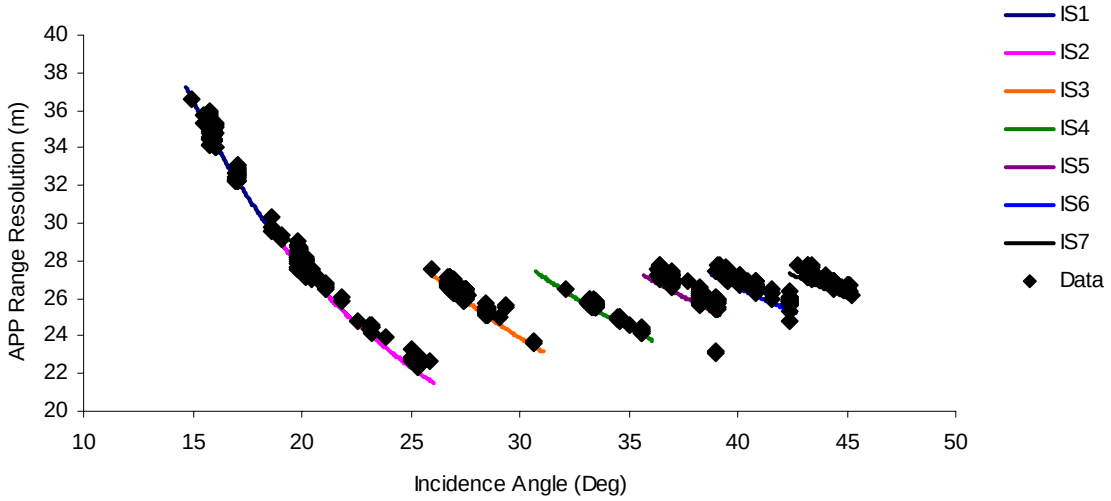
The Table 5.3 shows the IRF parameters measured per different product types. Please note that the performance for WSM products are given only for transponders reprocessed with 40m pixel spacing.

Product Type	Azimuth Res (m)	Range Res (m)	ISLR (dB)	PSLR (dB)	SSLR (dB)	No of Results
IMP	22.05±0.42	(figure 5.1a)	-12.95±1.67	-16.63±0.91	-22.37±1.83	360
IMG	22.44±0.52	22.7 - 35.4	-13.15±1.72	-16.98±0.88	-23.16±1.71	122
IMS	4.74±0.02 5.53±0.06	9.44±0.05	-14.25±0.68	-18.99±0.50	-27.90±1.36	187
IMM	150.97±18.65	(figure 5.2a)	-5.11 ± 5.82	-14.67 ± 4.49	-14.25 ± 5.07	112
APP	27.64±0.63	(figure 5.1b)	-12.54±1.74	-18.95±0.90	-25.32±2.81	826
APG	27.76±0.66	23.2 - 30.3	-12.44±1.45	-19.14±1.02	-25.14±3.10	206
APS	5.30±1.58	8.36±0.07	2.58±2.20	-2.72±1.18	-18.33±3.92	348
APM	145.59±4.53	(figure 5.2b)	-6.41±5.18	-15.79±2.70	-16.12±5.60	101
WSM	107.45±2.80	(figure 5.2c)	-8.93±3.68	-18.56±1.51	-17.29±4.90	83

Table 5.3: ASAR IRF parameters per product type

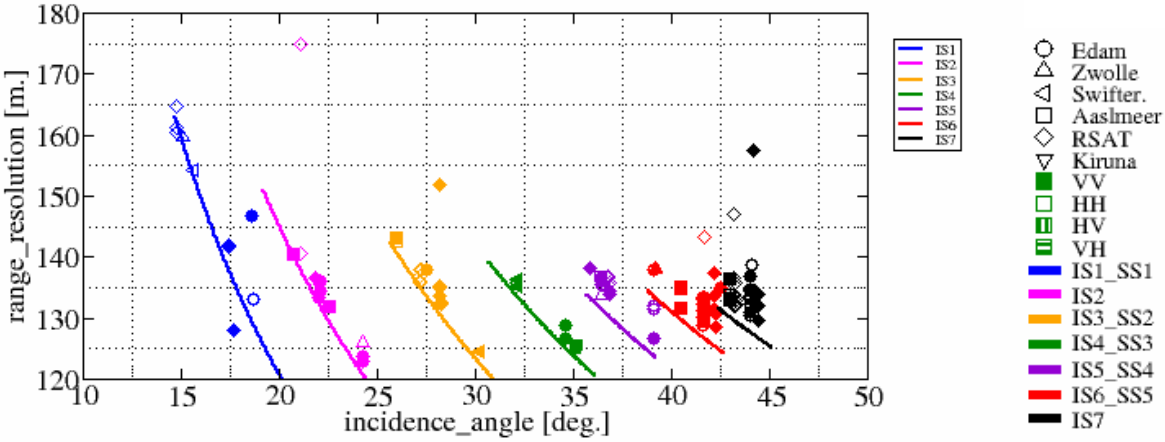


(a) IMP products

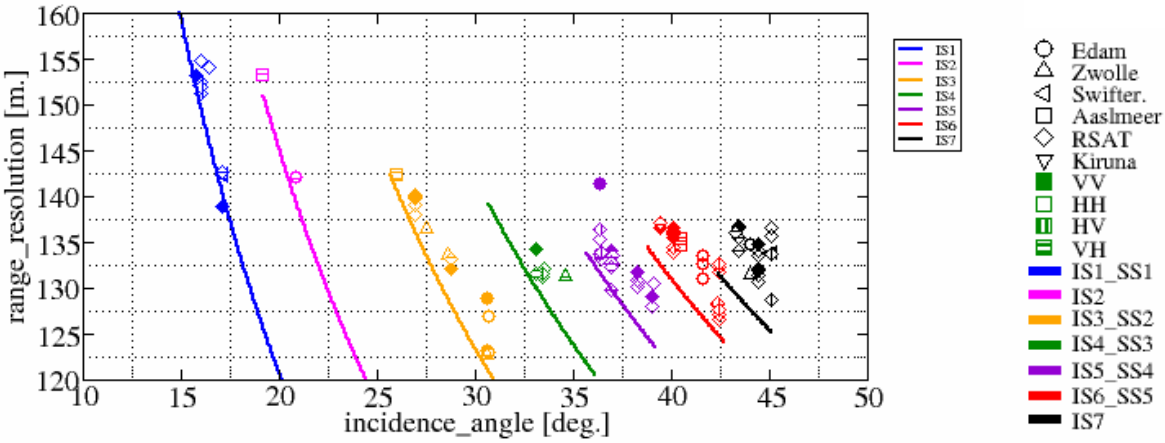


(b) APP products

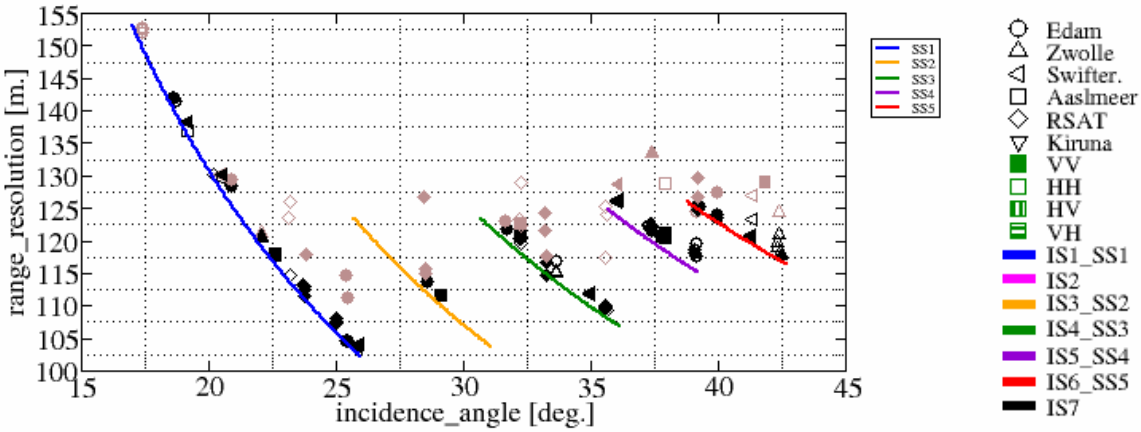
Figure 5.1: Range resolution as a function of the incidence angle for the full resolution products



(a) IMM products



(b) APM products



(c) WSM products. Black symbols stand for the 40m pixel spacing data while brown are for 75m pixel spacing

Figure 5.2: Range resolution as a function of the incidence angle for the medium resolution products.

The noise equivalent radar cross-section (Nesigma0) has been used to estimate using AP products of The Netherlands acquired since September 2005, as shown in Figure 5.3. The ocean regions from the HV or VH scenes were used for the measurements. All measurements are at or lower than predicted NESigma0 values.

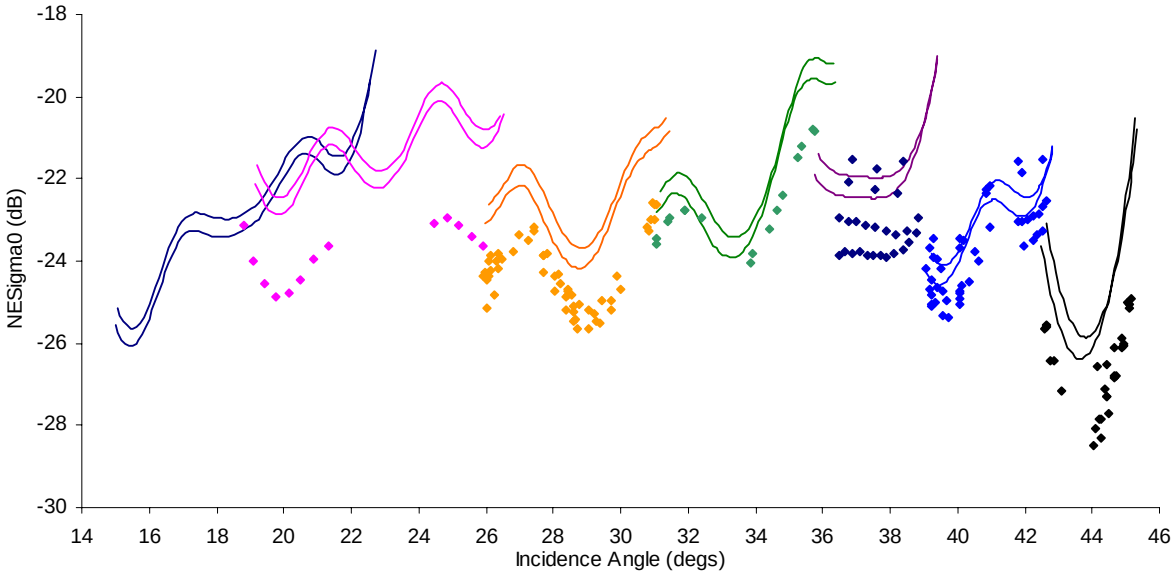


Figure 5.3. NESigma0 measurements from AP products (HV or VH polarisation).

6 ELEVATION ANTENNA PATTERN MONITORING

6.1 Recent Elevation Antenna Pattern Updates

During the reporting period there were no updates to the ASAR elevation antenna patterns. The table below show the most recent updates (since August 2003) for each beam and polarisation.

BEAM	POL	RECENT ELEVATION ANTENNA PATTERN UPDATES									
SS1	HH	27/08/03		06/04/04	12/08/04		13/10/05	13/10/05		19/12/05	
SS1	VV	27/08/03		06/04/04			13/10/05	13/10/05		19/12/05	
IS1	HH		09/12/03								
IS1	VV		09/12/03	06/04/04							
IS1	HV										23/02/06
IS1	VH		09/12/03	06/04/04							23/02/06
IS2	HH			06/04/04					03/11/05		
IS2	VV		09/12/03	06/04/04					03/11/05		
IS2	HV			06/04/04							23/02/06
IS2	VH			06/04/04							23/02/06
IS3_SS2	HH	27/08/03	09/12/03		12/08/04	27/10/04		13/10/05			
IS3_SS2	VV	27/08/03			12/08/04		13/10/05	13/10/05			
IS3_SS2	HV										23/02/06
IS3_SS2	VH										23/02/06
IS4_SS3	HH				12/08/04		13/10/05	13/10/05			
IS4_SS3	VV					27/10/04	13/10/05	13/10/05			
IS4_SS3	HV			06/04/04							23/02/06
IS4_SS3	VH			06/04/04							23/02/06
IS5_SS4	HH	27/08/03		06/04/04		27/10/04		13/10/05			
IS5_SS4	VV	27/08/03					13/10/05	13/10/05			
IS5_SS4	HV			06/04/04							23/02/06
IS5_SS4	VH			06/04/04							23/02/06
IS6_SS5	HH					27/10/04	13/10/05	13/10/05			
IS6_SS5	VV						13/10/05	13/10/05			
IS6_SS5	HV			06/04/04							23/02/06
IS6_SS5	VH			06/04/04							23/02/06
IS7	HH										
IS7	VV										
IS7	HV										23/02/06
IS7	VH										23/02/06

6.2 History of Elevation Antenna Pattern Updates

The table below summarizes the evolution of the elevation antenna pattern used for processing since August 2002. The files are available on line at **http://earth.esa.int/services/auxiliary_data/asar/.**

The source information indicates whether the pattern has been derived from data acquired over the Rain Forest (“RF”) or whether it has been derived from antenna synthesis using results from Module Stepping acquisitions (“SYN”).

Please note that pre-launch antenna pattern where used before the first ASA_XCA_AX update.

Please note that the table indicates for each beam, in which file the update took place. Any file created after this date will include that update unless a new file is specified for the beam. For instance, the pattern for IS3_SS2 VV was updated on 27 August 2003. The file created on 9 December 2003 (when the IS1 VV pattern was updated) will include the same pattern for IS3_SS2 VV as in the file of 27 August 2003, since the table does no indicate any further update for the IS3_SS2 VV pattern.

ASAR ELEVATION ANTENNA PATTERNS UPDATES IN THE ASAR EXTERNAL CALIBRATION FILE					
Swath & polarization	**Source**	**Update time** (file used in operations since 1 day after this date)	**File Name**	**Applicable to data acquired between:**	
				Start	**Stop**
IS1 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
	NA[1]	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20021122	ASA_XCA_AXVIEC20021122_130838_20020413_000000_20021231_00000[2]	20020413	20021231
	RF	20031209	ASA_XCA_AXVIEC20031209_113559_20030211_000000_20041231_000000	20030211	20041231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
IS1 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20031209	ASA_XCA_AXVIEC20031209_113559_20030211_000000_20041231_000000	20030211	20041231
IS1 HV	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231

[1] A corrupted IS1 VV pattern was included into the ASA_ XCA_ 1P file updated of 11 Nov. 2002

[2] The corrupted IS1 VV pattern in the operational ASA_ XCA_ 1P file was corrected on 22 Nov. 2002. Please note that the IS1 VV pattern in ASA_ XCA_ AXVIEC20021122_ 130838_ 20020413_ 000000_ 20021231_ 00000 is the same as in ASA_ XCA_ AXVIEC20020813_ 080042_ 20020413_ 000000_ 20021231_ 000000

	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
IS1 VH	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20031209	ASA_XCA_AXVIEC20031209_113559_20030211_000000_20041231_000000	20030211	20041231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
IS2 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
	RF	20031209	ASA_XCA_AXVIEC20031209_113559_20030211_000000_20041231_000000	20030211	20041231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20051103	ASA_XCA_AXVIEC20051103_160021_20050101_000000_20050914_080040	20050101	20050914
IS2 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20051103	ASA_XCA_AXVIEC20051103_160021_20050101_000000_20050914_080040	20050101	20050914
IS2 HV	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
IS2 VH	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231

	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
IS3_SS2 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
	RF	20021018	ASA_XCA_AXVIEC20021018_121708_20020413_000000_20021231_000000	20020413	20021231
	RF	20030801	ASA_XCA_AXVIEC20030801_133024_20030428_000000_20031231_000000	20030428	20031231
	RF	20030801	ASA_XCA_AXVIEC20030801_134802_20020413_000000_20030211_000000	20020413	20030211
	RF	20030827	ASA_XCA_AXVIEC20030827_140210_20030211_000000_20031231_000000	20030211	20031231
	RF	20040812	ASA_XCA_AXVIEC20040812_170224_20040412_000000_20041231_000000	20040412	20041231
	RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914
	RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231
IS3_SS2 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20030801	ASA_XCA_AXVIEC20030801_133024_20030428_000000_20031231_000000	20030428	20031231
	RF	20030801	ASA_XCA_AXVIEC20030801_134802_20020413_000000_20030211_000000	20020413	20030211
	RF	20030827	ASA_XCA_AXVIEC20030827_140210_20030211_000000_20031231_000000	20030211	20031231
	RF	20031209	ASA_XCA_AXVIEC20031209_113559_20030211_000000_20041231_000000	20030211	20041231
	RF	20040812	ASA_XCA_AXVIEC20040812_170224_20040412_000000_20041231_000000	20040412	20041231
	RF	20041027	ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	20040412	20051231
	RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231

IS3 HV	SYN.	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
IS3 VH	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
IS4_SS3 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
	RF	20021018	ASA_XCA_AXVIEC20021018_121708_20020413_000000_20021231_000000	20020413	20021231
	RF	20041027	ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	20040412	20051231
	RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914
	RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231
IS4_SS3 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20040812	ASA_XCA_AXVIEC20040812_170224_20040412_000000_20041231_000000	20040412	20041231
	RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914
	RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231
IS4 HV	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
IS4 VH	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231

	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
IS5_SS4 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
	RF	20021018	ASA_XCA_AXVIEC20021018_121708_20020413_000000_20021231_000000	20020413	20021231
	RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914
IS5_SS4 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20041027	ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	20040412	20051231
	RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231
IS5 HV	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
IS5 VH	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
IS6_SS5 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
	RF	20021018	ASA_XCA_AXVIEC20021018_121708_20020413_000000_20021231_000000	20020413	20021231

	RF	20030801	ASA_XCA_AXVIEC20030801_133024_20030428_000000_20031231_000000	20030428	20031231
	RF	20030801	ASA_XCA_AXVIEC20030801_134802_20020413_000000_20030211_000000	20020413	20030211
	RF	20030827	ASA_XCA_AXVIEC20030827_140210_20030211_000000_20031231_000000	20030211	20031231
	RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914
IS6_SS5 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20030801	ASA_XCA_AXVIEC20030801_133024_20030428_000000_20031231_000000	20030428	20031231
	RF	20030801	ASA_XCA_AXVIEC20030801_134802_20020413_000000_20030211_000000	20020413	20030211
	RF	20030827	ASA_XCA_AXVIEC20030827_140210_20030211_000000_20031231_000000	20030211	20031231
	RF	20041027	ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000	20040412	20051231
	RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914
	RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231
IS6 HV	SYN.	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
IS6 VH	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914

IS7 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
IS7 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
IS7 HV	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
IS7 VH	RF	20021217	ASA_XCA_AXVIEC20021217_150852_20020413_000000_20031231_000000	20020413	20031231
	RF	20060223	ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000	20050101	20050914
SS1 VV	RF	20020813	ASA_XCA_AXVIEC20020813_080042_20020413_000000_20021231_000000	20020413	20021231
	RF	20021018	ASA_XCA_AXVIEC20021018_121708_20020413_000000_20021231_000000	20020413	20021231
	RF	20030801	ASA_XCA_AXVIEC20030801_133024_20030428_000000_20031231_000000	20030428	20031231
	RF	20030801	ASA_XCA_AXVIEC20030801_134802_20020413_000000_20030211_000000	20020413	20030211
	RF	20030827	ASA_XCA_AXVIEC20030827_140210_20030211_000000_20031231_000000	20030211	20031231
	RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
	RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914
	RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231
	RF	20051219	ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	20050916	20061231
SS1 HH	RF	20021107	ASA_XCA_AXVIEC20021107_144746_20020413_000000_20021231_000000	20020413	20021231
	RF	20030801	ASA_XCA_AXVIEC20030801_133024_20030428_000000_20031231_000000	20030428	20031231

RF	20030801	ASA_XCA_AXVIEC20030801_134802_20020413_000000_20030211_000000	20020413	20030211
RF	20030827	ASA_XCA_AXVIEC20030827_140210_20030211_000000_20031231_000000	20030211	20031231
RF	20040406	ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000	20030211	20041231
RF	20040812	ASA_XCA_AXVIEC20040812_170224_20040412_000000_20041231_000000	20040412	20041231
RF	20051013	ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040	20050101	20050914
RF	20051013	ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000	20050916	20061231
RF	20051219	ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000	20050916	20061231

7 AUXILIARY FILES UPDATE

7.1 Operational Auxiliary Data Files

The ASAR auxiliary data files contain information on calibration and instrument parameters. The auxiliary files used at the end of the reporting period for the operational processing of ASAR data in the ENVISAT Ground Segment, are listed below. The three dates in the auxiliary file name are the creation date, start acquisition date and end acquisition date respectively. **During the reported period no new auxiliary file has been disseminated.**

Processor configuration file
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000
ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000
ASA_CON_AXVIEC20041215_180008_20021017_130000_20030601_000000

External calibration data
ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000
ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000
ASA_XCA_AXVIEC20051013_151933_20040412_000000_20050101_000000
ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000
ASA_XCA_AXVIEC20050803_151945_20030804_000000_20040412_000000
ASA_XCA_AXVIEC20050803_151318_20030601_000000_20030804_000000
ASA_XCA_AXVIEC20050803_150715_20030211_000000_20030601_000000
ASA_XCA_AXVIEC20050803_151858_20020413_000000_20030211_000000

Instrument auxiliary file
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000
ASA_INS_AXVIEC20031209_113259_20021030_110000_20030211_000000
ASA_INS_AXVIEC20031212_105841_20021017_162400_20021030_110000
ASA_INS_AXVIEC20031212_122530_20020815_131000_20021017_162400

External characterization file
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000

These files as well as the previous versions of them can be downloaded from:
http://earth.esa.int/services/auxiliary_data/asar/.

7.2 Recent Auxiliary File Updates and Description of Changes

Details of auxiliary file updates are listed below (most recent changes at the end) and those from the current period are boxed:

ASA_XCA_AXVIEC20041129_173057_20020413_000000_20030211_000000

✓ Absolute calibration constant values updated for data acquired during this period. Major changes affect AP IS5 and IS7 products.
✓ Other parameters are the same as previous XCA file covering this time period (file created on 20030801).

ASA_XCA_AXVIEC20041028_154000_20030804_000000_20040412_000000

✓ The SS2-VV elevation antenna pattern used for data acquired after 12 April 2004 is also applied now to data acquired after 4 August 2004.
✓ New calibration constant (K) for WV IS2 VV after the DSS change in May 2003. Due to the drift observed in the WV K after May2003, the new value is valid since 1 June 2003 till 12 April 2004. The K value for WV IS2 VV for this period is 51571.6
✓ Updated elevation antenna pattern for SS3 VV. Valid since 4 Aug 2003.

ASA_CON_AXVIEC20041027_165251_20021017_130000_20051231_000000

✓ File consistent with updated format in PF-ASAR v4.0 (additional parameters in spare fields included and parameters for the new WSS product included).
✓ Normalization for WSM products changed to Reference Energy.
✓ Updated reference energy values for WSM products (values in dB):
✓ HH (from SS1 to SS5): 1.08, 6.96, 7.5, 7.95, 9.13
✓ VV (from SS1 to SS5): 1.11, 6.9, 7.5, 7.95, 9.1

ASA_XCA_AXVIEC20041027_164238_20040412_000000_20051231_000000

✓ Updated calibration constant (K) for WV IS2 VV to follow an observed drift. The new K is valid since 12 April 2004.with a value of 50222.9
✓ Updated elevation antenna patterns for: SS2 HH, SS4 HH, SS5 HH. They are valid since 12 April 2004.
✓ Updated elevation antenna pattern for SS3 VV. Valid since 4 Aug 2003 (this is the same pattern as in file valid from 4-Aug-04 to 12-Apr-04).

ASA_XCA_AXVIEC20041027_163611_20030601_000000_20030804_000000

✓ New calibration constant (K) for WV IS2 after the DSS change in May 2003. Due to the drift observed in the WV K after May2003. The new K is valid since 1 June 2003 till 12 April 2004 with a value of 51571.6

ASA_XCA_AXVIEC20041027_162907_20030211_000000_20030601_000000

✓ Created to use a different K for WV (IS2 VV) before and after May 2003.
✓ No changes with respect to the previous XCA file covering this time period.

ASA_XCA_AXVIEC20040812_170224_20040412_000000_20041231_000000
✓ Update of elevation antenna pattern for: SS1_HH, SS2_IS3_HH, SS3_IS4_HH and SS2_IS3_VV.

ASA_INS_AXVIEC20040521_160843_20030211_000000_20041231_000000
✓ GM ISG increased by 1 for all sub-swaths

ASA_CON_AXVIEC20040407_173947_20021017_130000_20041231_000000
✓ Increased GM SS3 HH gain (by decreasing 0.5 dB the Eq. Energy for GM SS3 HH)

ASA_XCA_AXVIEC20040406_160451_20030211_000000_20041231_000000
✓ Updated elevation patterns for: SS1 HH-VV, IS1 VV-VH, IS2 HH-VV-HV-VH, IS4 HV-VH, IS5 HH-HV-VH, IS6 HV-VH

ASA_XCA_AXVIEC20040326_190217_20030211_000000_20041231_000000
✓ Inserted calibration constant for GMM products: 73.4 dB for HH and 74.0 dB for VV.

ASA_CON_AXVIEC20040322_164757_20021017_130000_20041231_000000
✓ Same as last update (20040308): Updated AP Eq. Energy values (different per each polarization).
✓ Changed AP normalization method from reference energy to equivalent energy.
✓ Enable DAR for GM.

ASA_CON_AXVIEC20040308_103426_20021017_130000_20041231_000000
✓ Updated AP Eq. Energy values (different per each polarization).
✓ Changed AP normalization method from reference energy to equivalent energy.
✓ Enable DAR for GM.

ASA_INS_AXVIEC20031212_122530_20020815_131000_20021017_162400
✓ SWST bias updated.

ASA_CON_AXVIEC20031212_122409_20021017_130000_20041231_000000
✓ End validity date extended till 31-12-2004

ASA_INS_AXVIEC20031212_105841_20021017_162400_20021030_110000
✓ SWST bias updated

ASA_CON_AXVIEC20031212_105603_20021017_130000_20031231_000000
✓ Dates adjusted to previous ASA_CON_AX version from 09-09-03.

ASA_XCA_AXVIEC20031209_113559_20030211_000000_20041231_000000
✓ End validity time extended until 31 December 2004.
✓ Elevation antenna patterns updated for: IS1 VV, IS1 HH, IS1 VH, IS2 VV and SS2_IS3 HH.

ASA_INS_AXVIEC20031209_113421_20030211_000000_20041231_000000
- ✓ SWST Bias updated.
- ✓ End validity time extended until 31 December 2004.

ASA_INS_AXVIEC20031209_113259_20021030_110000_20030211_000000
- ✓ SWST Bias updated

ASA_XCH_AXVIEC20031209_112947_20020301_000000_20041231_000000
- ✓ End validity time extended until 31 December 2004

ASA_CON_AXVIEC20031209_112721_20020301_000000_20041231_000000
- ✓ End validity time extended until 12 December 2004

ASA_CON_AXVIEC20041215_175442_20030601_000000_20051231_000000
- ✓ Image mode (IM) Reference Energy updated for data acquired after the DSS redundancy change in May 2003. IM Reference Energy before the DSS redundancy change can be found in the ASA_CON_AXVIEC20041215_180008_20021017_130000_20030601_000000 file.
- ✓ End validity time extended to 31-DEC-2005.

ASA_CON_AXVIEC20041215_180008_20021017_130000_20030601_000000
- ✓ File created to have different reference energy values before/after the DSS change after May 2003.

ASA_XCH_AXVIEC20041215_180350_20020301_000000_20051231_000000
- ✓ End validity time extended to 31-DEC-2005.

ASA_INS_AXVIEC20041215_180208_20030211_000000_20051231_000000
- ✓ End validity time extended to 31-DEC-2005.

ASA_CON_AXVIEC20050324_172815_20030601_000000_20051231_000000
- ✓ WSS processing gain values set.

ASA_XCA_AXXIEC20050803_151858_20020413_000000_20030211_000000
- ✓ Inserted calibration constant values for ASA_WSS_1P product HH & VV (=80.28 dB)

ASA_XCA_AXXIEC20050803_150715_20030211_000000_20030601_000000
- ✓ Inserted calibration constant values for ASA_WSS_1P product HH & VV (=80.28 dB)

ASA_XCA_AXXIEC20050803_151318_20030601_000000_20030804_000000
- ✓ Inserted calibration constant values for ASA_WSS_1P product HH & VV (=80.28 dB)

ASA_XCA_AXXIEC20050803_151945_20030804_000000_20040412_000000
- ✓ Inserted calibration constant values for ASA_WSS_1P product HH & VV (=80.28 dB)

ASA_XCA_AXXIEC20050803_152145_20040412_000000_20051231_000000
✓ Inserted calibration constant values for ASA_WSS_1P product HH & VV (=80.28 dB)

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000
✓ Update after the antenna maintenance, refinement operation performed on 16 Sep.2005. Eq.Energy updated for WS HH SS1,SS5 and GM HH SS1 Change in Eq. Energy for: WS HH SS1: from 1.08 dB to 1.15 dB, WS HH SS3: from 9.13 dB to 9.20 dB, GM HH SS1: from 16.43 dB to 16.73 dB

ASA_XCA_AXVIEC20051013_151933_20040412_000000_20050101_000000
✓ Same content as:ASA_XCA_AXVIEC20050803_152145_20040412_000000_20051231_000000 but split due to changes in the antenna patterns from Jan05

ASA_XCA_AXVIEC20051013_152245_20050101_000000_20050914_080040
✓ Changes in the ScanSAR elevation antenna patterns. New patterns valid from Jan 2005 till 14 Sep.2005. Updated elevation patters: IS3_SS2 VV, IS4_SS3 HH &VV, IS5_SS4 VV, IS6_SS5 HH & VV, SS1 HH & VV

ASA_XCA_AXVIEC20051013_152531_20050916_195733_20061231_000000
✓ Updated ScanSAR elevation antenna patterns since antenna maintenance refinement on 16 Sep.05. K for WS HH & VV updated as well. Updated elevation patters: IS3_SS2 HH &VV, IS4_SS3 HH & VV, IS5_SS4 HH, IS6_SS5 HH, SS1 HH & VV. Updated K: WSM HH K: 6309573.44, WSM VV K: 7413102.41

ASA_XCA_AXVIEC20051103_160021_20050101_000000_20050914_080040
✓ Updated of elevation antenna patterns for: IS2 HH and IS2 VV before the antenna maintenance. New patterns valid from Jan 2005 till 14 Sep.2005. Updated elevation patters: IS2 HH & VV

ASA_XCA_AXVIEC20051219_162245_20050916_195733_20061231_000000
✓ User description: Elevation antenna patterns for SS1 HH & VV updated

ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000
✓ User description: End validity date extended till December 2006

ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000
✓ User description: End validity date extended till December 2008

ASA_XCA_AXVIEC20060223_133247_20050101_000000_20050914_000000
✓ User description: elevation antenna pattern update for beams IS1 to IS7 and polarisation HV and VH

APPENDIX A : INSTRUMENT UNVAILABILITIES LIST

Unavailability report reference	Start	Stop
EN-UNA-2004/0111	14/04/2004 02:45:00	14/04/2004 13:40:00
EN-UNA-2004/0114	20/04/2004 08:15:46	20/04/2004 08:23:31
EN-UNA-2004/0118	20/04/2004 10:00:54	20/04/2004 11:56:40
EN-UNA-2004/0124	26/04/2004 21:32:03	27/04/2004 09:41:43
EN-UNA-2004/0125	29/04/2004 08:32:08	29/04/2004 10:18:18
EN-UNA-2004/0129	02/05/2004 21:32:47	03/05/2004 09:41:44
EN-UNA-2004/0176	12/07/2004 11:21:46	12/07/2004 18:01:40
EN-UNA-2004/0191	04/08/2004 09:19:00	04/08/2004 09:26:00
EN-UNA-2004/0193	05/08/2004 23:07:33	05/08/2004 23:43:27
EN-UNA-2004/0229	12/09/2004 10:54:47	12/09/2004 11:12:40
EN-UNA-2004/0246	23/09/2004 06:13:17	23/09/2004 09:55:38
EN-UNA-2004/0252	26/09/2004 21:24:58	27/09/2004 11:02:04
EN-UNA-2004/0261	17/10/2004 02:28:31	17/10/2004 07:45:11
EN-UNA-2004/0265	01/11/2004 05:00:40	01/11/2004 05:01:40
EN-UNA-2004/0268	03/11/2004 09:59:30 Orbit = 14004	03/11/2004 10:04:58 Orbit = 14004
EN-UNA-2004/0270	07/11/2004 03:41:28 Orbit=14054	07/11/2004 08:00:03 Orbit=14060
EN-UNA-2004/0276	12/11/2004 21:46:59 Orbit = 14140	12/11/2004 23:43:46 Orbit = 14141
EN-UNA-2004/0281	16/11/2004 02:34:15 Orbit = 14185	16/11/2004 03:16:49 Orbit = 14186
EN-UNA-2004/0290	21/11/2004 19:36:58 Orbit = 14267	21/11/2004 22:19:32 Orbit = 14269
EN-UNA-2004/0299	29/11/2004 00:42:03 Orbit = 14370	29/11/2004 03:09:35 Orbit = 14372
EN-UNA-2004/0307	05/12/2004 15:06:14 Orbit = 14465	05/12/2004 15:35:42 Orbit = 14465
EN-UNA-2004/0309	09/12/2004 00:32:56 Orbit=14513	09/12/2004 00:56:03 Orbit=14514
EN-UNA-2004/0314	27/12/2004 01:50:26 Orbit=14772	27/12/2004 07:10:58 Orbit=14775

EN-UNA-2005/0002	01/01/2005 20:17:59 Orbit=14854	01/01/2005 22:37:38 Orbit=14856
EN-UNA-2005/0005	07/01/2005 03:00:00 Orbit=14936	07/01/2005 13:00:00 Orbit=14936
EN-UNA-2005/0010	07/01/2005 13:00:00 Orbit=14936	07/01/2005 18:20:00 Orbit=14939
EN-UNA-2005/0011	09/01/2005 06:39:29 Orbit=14961	09/01/2005 06:45:03 Orbit=14961
EN-UNA-2005/0020	20/01/2005 16:49:16 Orbit = 15124	20/01/2005 17:05:23 Orbit = 15125
EN-UNA-2005/0032	27/01/2005 19:59:57 Orbit = 15226	27/01/2005 22:52:29 Orbit = 15228
EN-UNA-2005/0039	05/02/2005 06:12:44 Orbit = 15347	05/02/2005 09:46:32 Orbit = 15349
EN-UNA-2005/0009	09/02/2005 08:38:15 Orbit = 15406	10/02/2005 00:17:26 Orbit = 15415
EN-UNA-2005/0054	21/02/2005 14:07:52 Orbit=15581	21/02/2005 15:53:57 Orbit=15582
EN-UNA-2005/0071	10/03/2005 10:38:15 Orbit = 15822	10/03/2005 10:49:45 Orbit = 15822
EN-UNA-2005/0072	10/03/2005 20:02:46 Orbit = 15828	10/03/2005 22:00:18 Orbit = 15829
EN-UNA-2005/0073	12/03/2005 15:51:15 Orbit = 15854	12/03/2005 15:56:28 Orbit = 15854
EN-UNA-2005/0078	17 Mar 2005 01:00:00 Orbit = 15917	17 Mar 2005 13:00:00 Orbit = 15924
EN-UNA-2005/0093	22/03/2005 09:03:10 Orbit = 15993	22/03/2005 09:09:10 Orbit = 15993
EN-UNA-2005/0103	02/04/2005 02:48:28 Orbit = 16147	02/04/2005 06:35:25 Orbit = 16149
EN-UNA-2005/0109	06/04/2005 02:53:21 Orbit = 16204	06/04/2005 06:10:08 Orbit = 16206
EN-UNA-2005/0113	13 /04/ 2005 20:21:40 Orbit = 16315	13 /04/ 2005 20:21:40 Orbit = 16315
EN-UNA-2005/0125	21/04/2005 04:17:47 Orbit = 16419	21/04/2005 04:17:47 Orbit = 16419
EN-UNA-2005/0149	12 /05/ 2005 10:50:00 Orbit = 16724	12 /05/ 2005 10:50:00 Orbit = 16724

EN-UNA-2005/0159	18/05/2005 01:49:01 Orbit = 16804	18/05/2005 01:49:01 Orbit = 16804
EN-UNA-2005/0161	18 /05/ 2005 13:57:30 Orbit = 16812	18 /05/ 2005 13:57:30 Orbit = 16812
EN-UNA-2005/0164	20/05/2005 12:09:50 Orbit = 16839	20/05 2005 12:09:50 Orbit = 16839
EN-UNA-2005/0182	01/06/2005 16:44:17 Orbit = 17014	01/06/2005 16:51:19 Orbit = 17014
EN-UNA-2005/0188	06/06/2005 08:11:25 Orbit = 17080	06/06/2005 09:42:14 Orbit = 17081
EN-UNA-2005/0190	11/06/2005 03:19:14 Orbit = 17149	11/06/2005 06:35:30 Orbit = 17151
EN-UNA-2005/0212	01/07/2005 13:54:40 Orbit = 17442	01/07/2005 16:14:21 Orbit = 17443
EN-UNA-2005/0216	04/07/2005 02:55:43 Orbit = 17478	04/07/2005 06:13:02 Orbit = 17480
EN-UNA-2005/0223	5/07/2005 17:16:39 Orbit = 17501	5/07/2005 17:27:11 Orbit = 17501
EN-UNA-2005/0231	10/07/2005 11:15:25 Orbit = 17569	10/07/2005 11:22:12 Orbit = 17569
EN-UNA-2005/0239	16/07/2005 21:03:12 Orbit = 17661	16/07/2005 21:09:19 Orbit = 17661
EN-UNA-2005/0258	24/07/2005 07:22:41 Orbit = 17767	24/07/2005 07:31:40 Orbit = 17767
EN-UNA-2005/0269	03/08/2005 22:01:30 Orbit = 17919	03/10/2005 22:08:56 Orbit = 17919
EN-UNA-2005/0285	15/08/2005 03:41:02 Orbit = 18080	15/08/2005 07:33:52 Orbit = 18082
EN-UNA-2005/0305	22/08/2005 01:25:33 Orbit = 18178	22/08/2005 08:50:14 Orbit = 18183
EN-UNA-2005/0325	24/08/2005 07:50:16 Orbit = 18211	24/08/2005 07:55:55 Orbit = 18211
EN-UNA-2005/0350	31/08/2005 04:11:27 Orbit = 18309	31/08/2005 07:37:21 Orbit = 18309
EN-UNA-2005/0357	06/09/2005 21:02:54 Orbit = 18405	06/09/2005 21:33:29 Orbit = 18405
EN-UNA-2005/0355	07/09/2005 04:20:00 Orbit = 18409	07/09/2005 13:40:00 Orbit = 18415
EN-UNA-2005/0365	14/09/2005 07:51:31 Orbit = 18511	14/09/2005 12:53:26 Orbit = 18514
EN-UNA-2005/0440	21/10/2005 09:22:00 Orbit = 19042	21/10/2005 09:34.58 Orbit = 19042

EN-UNA-2005/0441	23/10/2005 14:46:45 Orbit = 19074	23/10/2005 14:46:55 Orbit = 19074
EN-UNA-2005/0465	20/11/2005 23:20:25 Orbit = 19480	20/11/2005 23:28:50 Orbit = 19480
EN-UNA-2005/0473	11/12/2005 14:04:37.000 Orbit = 19775	11/12/2005 14:14:52.000 Orbit = 19775
EN-UNA-2005/0477	18/12/2005 03:45:26.000 Orbit = 19869	18/12/2005 07:11:19.000 Orbit = 19871
EN-UNA-2006/0009	9 Jan 2006 07:22:23.000 Orbit = 20186	9 Jan 2006 09:05:12.000 Orbit = 20187
EN-UNA-2006/0022	25 Jan 2006 20:24:55.000 Orbit = 20423	25 Jan 2006 20:31:34.000 Orbit 20423
EN-UNA-2006/0038	07/02/2006 01:34:22.000 Orbit = 20598	07/02/2006 05:19:30.000 Orbit = 20600
EN-UNA-2006/0052	17/02/2006 02:45:18.000 Orbit = 20741	17/02/2006 06:41:47.000 Orbit = 20744
EN-UNA-2006/0060	19/02/2006 15:08:07.273 Orbit = 20777	19/02/2006 15:10:44.706 Orbit = 20778
EN-UNA-2006/0069	22/02/2006 11:00:16.000 Orbit = 20818	22/02/2006 11:21:32.000 Orbit = 20818
EN-UNA-2006/0073	24/02/2006 02:19:08.441 Orbit = 20841	24/02/2006 02:23:14.554 Orbit = 20841
EN-UNA-2006/0084	28/02/2006 07:39:56.000 Orbit = 20902	28/02/2006 07:49:38.000 Orbit = 20902
EN-UNA-2006/0102	20/03/2006 07:03:30.000 Orbit = 21188	20/03/2006 07:20:49.559 Orbit = 21188
EN-UNA-2006/0108	28/03/2006 00:39:22.000 Orbit = 21298	28/03/2006 13:13:20.000 Orbit = 21306

APPENDIX B : DATA DISCLAIMER LIST

Below are given, in date order, ASAR data disclaimer details. Disclaimers from the current reporting period are boxed. The disclaimer list is also available at http://earth.esa.int/pcs/envisat/asar/disclaimer/.

- From 10-Jul-2003 20:20 UTC to 11-Jul-2003 16:57 UTC.

Problem description:
Degraded radiometric quality due to an instrument anomaly.
Affected products:
All ASAR products, including level 0 products, acquired during this period.

- From 03-Aug-2003 21:15 UTC to 04-Aug-2003 12:43 UTC.

Problem description:
Degraded radiometric quality due to an instrument anomaly.
Affected products:
All ASAR products, including level 0 products, acquired during this period.

- From 19-Oct-2003 12:50:59 UTC to 20-Oct-2003 15.37.47.000 UTC

Problem description:
Degraded radiometric quality due to an instrument anomaly.
Affected products:
All ASAR products, including level 0 products, acquired during this period.

- From 28-Oct-2003 06:26:28 UTC to 28-Oct-2003 13:10:01 UTC

Problem description:
Data not acquired in Yaw Steering Mode but in Fine Pointing Mode (FPM).Large Doppler frequency values are expected.
Affected products:
All ASAR products, including level 0 products, acquired during this period.

- From 4-Dec-2003 21:5:23 UTC to 4-Dec-2003 22:03:31UTC

Problem description:
Data not acquired in Yaw Steering Mode but in Fine Pointing Mode (FPM).Large Doppler frequency values are expected.
Affected products:
All ASAR products, including level 0 products, acquired during this period.

- From 11-Dec-2003 01:45:00 UTC to 11-Dec-2003 15:11:15 UTC

Problem description:
Degraded radiometric quality due to an instrument anomaly.
Affected products:

All ASAR products, including level 0 products, acquired during this period.

- From 04-Jan-2004 09:15:00 UTC to 05-Jan-2003 15:25:20 UTC.

Problem description:
Degraded radiometric quality due to an instrument anomaly.
Affected products
All ASAR products, including level 0 products, acquired during this period.

- From 13-Feb-2004 13:38 UTC to 14-Feb-2004 11:06:01 UTC.

Problem description:
Degraded radiometric quality due to an instrument anomaly.
Affected products:
All ASAR products, including level 0 products, acquired during this period.

- From 20-Feb-2004 18:00 UTC to 23-Feb-2004 13:08 UTC.

Problem description:
Degraded radiometric quality due to an instrument anomaly.
Affected products:
All ASAR products, including level 0 products, acquired during this period.

- From 18-Nov-2003 until 22-May-2004 00:00:00 UTC

Problem description:
Degraded ASAR GM products location accuracy.
Affected products:
All ASAR GM level 1 products (ASA_GM1_1P), acquired during this period.
Correction:
The location error in ASA_GM1_1P products acquired before 22nd of May 2004 can be corrected by the user multiplying the line numbers in the Geolocation Grid ADS by 0.97169.

- From 21-Jun-2004 07:56:33 UTC to 22-Jun-2004 11:50:18 UTC

Problem description:
Degraded Attitude Stability. Instrument operating in Yaw Steering Mode (YSM) rather than in Stellar YSM. A positive Doppler bias of about 300 Hz is observed on data acquired during this period.
Affected products:
All ASAR products, including level 0 products, acquired during this period.

- From 04-Aug-2004 02:00 UTC to 04-Aug-2004 09:26:00 UTC.

Problem description:
Degraded radiometric quality due to an instrument anomaly.
Affected products:
All ASAR products, including level 0 products, acquired during this period.

- From 16-Sep-2004 03:36:39UTC to 16-Sep-2004 08:53:15 UTC

Problem Description:
Degraded radiometric quality due to an instrument anomaly.
Affected products:
All ASAR products, including level 0 products

- From 12-Sep-2004 03:46:00 UTC to 12-Sep-2004 12:40:00 UTC

Problem Description:
Degraded radiometric quality due to an instrument anomaly.
Affected products:
All ASAR products, including level 0 products

- From 12-Aug-2004 13:53:54 UTC to 12-Aug-2004 19:09:50 UTC

Problem Description:
Degraded radiometric quality due to an instrument anomaly.
Affected products:
All ASAR products, including level 0 products

- From 14-AUG-2004 07:36:00 UTC to 17-AUG-2004 10:57:45 UTC

Problem Description:
Degraded radiometric quality due to an instrument anomaly.
Affected products:
All ASAR products, including level 0 products

- From 02-NOV-2004 14:17:25 UTC to 03-NOV-2004 10:04:58 UTC

Problem Description:
Degraded radiometric quality due to an instrument anomaly.
Affected products:
All ASAR products, including level 0 products

- From 05-DEC-2004 10:03:48 UTC to 05-DEC-2004 15:35:45 UTC

Problem Description:
Degraded radiometric quality due to an instrument anomaly.
Affected products:
All ASAR products, including level 0 products

- From 13-APR-2002 to 11-FEB-2003

Problem Description:
The absolute calibration factor annotated in all ASAR level 1 products acquired between 13-APR-2002 and 11-FEB-2003 and processed between 01-AUG-2003 and 29-NOV-2004 is not correct. These products with incorrect calibration factor annotated in the Main Processing Parameters ADS can be identified by checking the auxiliary files used for processing. The name of the auxiliary files used in the processing is provided in the product SPH (use “view as HTML” in EnviView to

visualise them). Products with incorrect calibration factor have been processed with the following external calibration auxiliary file:
ASA_XCA_AXVIEC20030801_134802_20020413_000000_20030211_000000
The correct calibration factors for these products are provided in the following auxiliary file:
ASA_XCA_AXVIEC20041129_173057_20020413_000000_20030211_000000
available on line at: http://earth.esa.int/services/auxiliary_data/asar/
Affected products:
All ASAR level1 products.

- From 09-JAN-2005 03:13:21 to 09-JAN-2005 06:45:03 UTC

Problem Description:
Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products

- From 25-JAN-2005 to 02-FEB-2005

Problem Description:
Due to a problem on the ESRIN Low Bit Rate acquistion chain, the ASAR Wave and GM data could be of bad quality.
Affected products:
All ASAR Low bit rate products (Wave and GM), including level 0 products acquired at PDHS-E (ESRIN)

- From 22-MAR-2005 00:54:10 to 22-MAR-2005 00:54:10

Problem Description:
Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products

- From 12-MAY-2005 07:26:02 to 12-MAY-2005 10:50:00

Problem Description:
Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products

- From 18-MAY-2005 10:58:16 to 18-MAY-2005 13:58:00

Problem Description:
Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products

- From 01-JUN-2005 13:29:28 to 01-JUN-2005 16:45:00

Problem Description:
Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products

- From 05-JUL-2005 14:16:58 to 05-JUL-2005 17:27:11

Problem Description:
Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products

- From 24-JUL-2005 02:22:42 to 24-JUL-2005 07:31:40

Problem Description:
Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products

- From 03-AUG-2005 17:09:54 to 03-AUG-2005 22:08:56

Problem Description:
Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).

Affected products:
All ASAR products, including level 0 products

- From 24-AUG-2005 01:09:08 to 03-AUG-2005 07:55:55

Problem Description:
Due to an on-board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 product is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products

- From 14-SEP-2005 08:00:40 to 16-SEP-2005 19:57:33

Problem Description:
Quality of ASAR Level-1 and Level-2 products is slightly degraded due to a temporal modification of the antenna radiation patterns. Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products are clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products

From 16-SEP-2005 19:57:33 to 14-OCT-2005 00:00:00
Problem Description:
Quality of ASAR Level-1 and Level-2 products acquired between 16-09-2005 19:57:33 UTC and 14-10-2005 00:00:00 is slightly degraded for NRT products while it is nominal products generated on-request after 14-10-2005 00:00:00. Quality of products acquired after 14-10-2005 00:00:00 is nominal.
Affected products:
All ASAR level 1 and level 2 products

- From 21-OCT-2005 07:34:39 to 21-OCT-2005 09:34:58

Problem Description:
Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products

- From 01-MAR-2002 00:00:00 to 10-FEB-2006 00:00:00

Warning: Deagraded geolocation accuracy
Problem Description:
There is a shift in the zero-Doppler azimuth times annotated in the AP Level-1 products (this applies to the product zero-Doppler times and does not apply to other external times, such as the state vectors azimuth times). Full details on the impact on the product geolocation accuracy and the strategy for correcting products 'a-posteriory' can be found on http://envisat.esa.int/dataproducts/availability/disclaimers/PQD_0082ASA_all.pdf.
Affected products:
All ASAR Alternating Polarisation (AP) Level-1 products processed with PF-ASAR version lower than 4.02. The PF-ASAR 4.02 is available at the following centres for which the installation date is reported: PDHSK (02-02-2006), PDHSE (02-02-2006), I-PAC (02-02-2006), LRAC (02-02-2006), UK-PAC (07-02-2006), D-PAC (09-02-2006).

- From 20-NOV-2005 20:15:13 to 20-NOV-2005 23:28:50

Warning: ASAR antenna gain problem
Problem Description:
Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products

- From 11-DEC-2005 10:53:54 to 11-DEC-2005 14:14:52

Warning: ASAR antenna gain problem
Problem Description:
Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products

- From 25-JAN-2006 17:10:27 to 25-JAN-2006 20:31:34

Warning: ASAR antenna gain problem
Problem Description:
Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products

- From 22-FEB-2006 00:43:46 to 22-FEB-2006 11:21:32

Warning: ASAR antenna gain problem
Problem Description:
Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products

- From 22-FEB-2006 10:12:25 to 22-FEB-2006 15:14:13

Warning: Degraded ASAR Global Monitoring Mode radiometric quality
Problem Description:
Radiometric quality of ASAR Global Monitoring Mode (GMM) data acquired on 22 February from 10:12:25 UTC until 15:14:13 UTC, corresponding to orbits 20818, 20819 and 20820 may be degraded since a test with the ASAR instrument will be performed during this time. Data acquired during this time interval in modes other than GMM is NOT affected. GMM data acquired immediately before and after this period is NOT affected.
Affected products:
ASAR Global Monitoring Mode (GMM) products

- From 28-FEB-2006 02:37:34 to 28-FEB-2006 07:49:38

Warning: ASAR antenna gain problem
Problem Description:
Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products

- From 20-MAR-2006 02:12:44 to 20-MAR-2006 07:20:50

Warning: ASAR antenna gain problem
Problem Description:
Due to an on board anomaly, data acquired during this period is affected by a change of the antenna radiation pattern. The overall quality of these data is degraded. Radiometric normalisation of level 1 products is clearly corrupted, with significant residual antenna pattern modulation and differences from sub-swath to sub-swath in the ScanSAR cases (WS and GM).
Affected products:
All ASAR products, including level 0 products