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# **ENVISAT - AATSR**

## **CYCLIC REPORT #49**

	START	END
<i>DATE</i>	<i>26 JUNE 2006</i>	<i>31 JULY 2006</i>
<i>TIME</i>	<i>21:59:29</i>	<i>21:59:29</i>
<i>ORBIT #</i>	<i>22600</i>	<i>23100</i>



*Italy, 21 July 2006 – The white features to the right of the image are sun glint*

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## AATSR CYCLIC REPORT # 49

### 1 INTRODUCTION

The AATSR Cyclic Report is distributed by the AATSR DPQC team to keep the AATSR community informed of any modification regarding instrument performances, the data production chain and the results of calibration and validation campaigns at the end of each Envisat cycle, which consists of 501 complete orbits over the course of 35 days.

This document is available online at: <http://earth.esa.int/pcs/envisat/aatsr/reports/cyclic/>

#### 1.1 *Acronyms and Abbreviations*

AATSR	Advanced Along Track Scanning Radiometer
APC	Antenna Pointing Controller
CR	Cyclic Report
DDS	Data Dissemination System
DMOP	Detailed Mission Operation Plan
DMS	Data Management System
DPQC	Data Product Quality Control
EN-UNA-YYYY/#	Envisat Unavailability (plus year and number)
ESOC	European Space Operation Centre
HSM	High Speed Multiplexer
IECF	Instrument Engineering and Calibration Facilities
IPF	Instrument Processing Facilities
MPS	Mission Planning Schedule
NRT	Near Real Time
OCM	Orbit Control Manoeuvre
OBDAH	On-board Data Handling
PDS	Payload Data Segment
PMC	Payload Management Computer
SPR	Software Problem Reporting
SW	Software
VISCAL	Visible Calibration

The AATSR list of acronyms and abbreviation is in the following site:  
<http://envisat.esa.int/dataproducts/aatsr/CNTR5.htm#eph.aatsr.glossary>

## 2 SUMMARY

**Cyclic Report:** 49  
**Cycle Start:** 26 June 2006, 21:59:29, Orbit #: 22600  
**Cycle End:** 31 July 2006, 21:59:29 Orbit #: 23100

The main activities during the cycle have been as follows:

- **L0 Processor and IPF Version:**

L0 Processor – no change (5.22)

Level 1b & Level 2 processor – no change (5.59)

- **Visible channel calibration:**

The visible calibration data supplied as an aux file (ATS\_VC1\_AX) continued to be regularly updated throughout the cycle.

- **Jitter:**

At the start of the reporting period the jitter rates were high, consistent with previous reporting periods. By the end of the reporting period the jitter rate had more or less returned to normal. See section 5.1.1 for further details.

- **CRC errors:**

As reported previously, a significant increase in the number of orbits affected per day was noticed from 16 June. Since 20 July the CRC errors have returned to the levels seen before the increase occurred. The cause of this trend is still under investigation.

- **Blackbody Crossover Test:**

The blackbody crossover test initiated on Monday 26 June 2006 at 07:32 UTC; was completed on Wednesday 28 June at 07:59 UTC. Scientific data for orbits 22591-22620 will not be optimally calibrated as a result.

### 3 SOFTWARE & AUX FILE VERSION CONFIGURATION

#### 3.1 Software Version

AATSR IPF for Level 1 and Level 2: Version 5.59

#### 3.2 Auxiliary Files

AATSR processing uses the following auxiliary files:

- Browse Product Lookup Data (ATS\_BRW\_AX)
- L1b Characterisation Data (ATS\_CH1\_AX)
- Cloud Lookup Table Data (ATS\_CL1\_AX)
- General Calibration Data (ATS\_GC1\_AX)
- AATSR Instrument Data (ATS\_INS\_AX)
- Visible Calibration Coefficients Data (ATS\_VC1\_AX)
- L1b Processing Configuration Data (ATS\_PC1\_AX)
- L2 Processing Configuration Data (ATS\_PC2\_AX)
- SST Retrieval Coefficients Data (ATS\_SST\_AX)
- LST Land Surface Temperature Coefficients Data (ATS\_LST\_AX)

The latest filename for each auxiliary file in use in the PDS is as follows:

Product name
ATS_BRW_AXVIEC20020123_072338_20020101_000000_20200101_000000
ATS_CH1_AXVIEC20021114_113144_20020301_000000_20070801_235959
ATS_CL1_AXVIEC20020123_073044_20020101_000000_20200101_000000
ATS_GC1_AXVIEC20020123_073430_20020101_000000_20200101_000000
ATS_INS_AXVIEC20030731_092706_20020301_000000_20070801_235959
See below for VC1 files
ATS_LST_AXVIEC20040311_095537_20020301_000001_20070801_235959
ATS_PC1_AXVIEC20040812_063722_20020301_000000_20070801_235959
ATS_PC2_AXVIEC20020123_074151_20020101_000000_20200101_000000
ATS_SST_AXVIEC20051205_102103_20020101_000000_20200101_000000

Table 3-1 Latest auxiliary files currently in use by the PDS

### 3.2.1 STATUS OF DAILY VISIBLE CALIBRATION FILES

#### *3.2.1.1 VC1 File Availability*

Reflectance channel calibration files were available for all dates, except:

- 2<sup>nd</sup> July 2006
- 26<sup>th</sup> July 2006

### 3.2.2 STATUS OF OTHER AUXILIARY FILES

The following list highlights any of the other auxiliary files changed during this cycle.

<b>Product name</b>	<b>Date Introduced</b>	<b>Validity Range</b>	<b>Reason for Change</b>
No changes during this cycle			

## 4 PDS STATUS

### 4.1 Instrument Unavailability

There were no planned or unplanned instrument unavailabilities during the cycle.

### 4.2 L0 Data Acquisition and L1b Processing Status

The L0 data were available for 99.51% of the time during the cycle.  
The L1b data were available for 99.51% of the time during the cycle.

The following L0 and L1b data were missing from this cycle:

NB Missing L0 data are automatically also missing at L1b. Therefore the missing L1b data specifically reported in Table 4-2 represent additional data gaps where the start time does not coincide with L0 data already known to be missing.

UTC Start	UTC Stop	Duration (s)	Orbit Start	Orbit End
26-Jun-2006 23:22	26-Jun-2006 23:27	257	22600	22600
29-Jun-2006 23:34	30-Jun-2006 01:14	6002	22643	22644
07-Jul-2006 00:55	07-Jul-2006 01:58	3778	22744	22745
07-Jul-2006 01:58	07-Jul-2006 02:05	429	22745	22745
07-Jul-2006 07:02	07-Jul-2006 07:07	330	22748	22748
23-Jul-2006 19:44	23-Jul-2006 20:52	4050	22985	22985

Table 4-1 ATS\_NL\_\_OP missing data during cycle 49

UTC Start	UTC Stop	Duration (s)	Orbit Start	Orbit End
23-Jul-2006 20:52	23-Jul-2006 20:52	20	22985	22985

Table 4-2 ATS\_TOA\_1P missing data during cycle 49

#### 4.2.1 ORBITS AFFECTED BY POOR DATA QUALITY

The information reported in Table 4-1 & Table 4-2 does not consider the quality of data, only whether or not it is available.

In the following orbits, a few frames suffered from bad/missing telemetry:

- 22605-12 (27<sup>th</sup> June 2006)
- 22619-27 (28<sup>th</sup> June 2006)
- 22633/4/7 (29<sup>th</sup> June 2006)
- 22641/4 (29<sup>th</sup> June 2006)
- 22647-55 (30<sup>th</sup> June 2006)
- 22662-69 (1<sup>st</sup> July 2006)



- 22672 (2<sup>nd</sup> July 2006)
- 22676-84 (2<sup>nd</sup> July 2006)
- 22690-96 (3<sup>rd</sup> July 2006)
- 22705-10 (4<sup>th</sup> July 2006)
- 22719 (5<sup>th</sup> July 2006)
- 22721-24 (5<sup>th</sup> July 2006)
- 22727 (5<sup>th</sup> July 2006)
- 22733/4 (6<sup>th</sup> July 2006)
- 22747 (7<sup>th</sup> July 2006)
- 22749-54 (7<sup>th</sup> July 2006)
- 22762-68 (8<sup>th</sup> July 2006)
- 22776-78 (9<sup>th</sup> July 2006)
- 22781/3 (9<sup>th</sup> July 2006)
- 22792-94 (10<sup>th</sup> July 2006)
- 22796 (10<sup>th</sup> July 2006)
- 22808-10 (11<sup>th</sup> July 2006)
- 22820-27 (12<sup>th</sup> July 2006)
- 22838 (13<sup>th</sup> July 2006)
- 22851 (14<sup>th</sup> July 2006)
- 22853/4 (14<sup>th</sup> July 2006)
- 22864 (15<sup>th</sup> July 2006)
- 22866-69 (15<sup>th</sup> July 2006)
- 22878/81 (16<sup>th</sup> July 2006)
- 22921/2 (19<sup>th</sup> July 2006)
- 22948 (21<sup>st</sup> July 2006)

As stated in section 2, the large number of orbits with telemetry issues is due to higher than usual CRC errors, which is currently under investigation.

### **4.3 L0 and L1b Backlog Processing Status**

The list of data missing during the previous cycle has not changed.

## 5 DATA QUALITY CONTROL

### 5.1 *Monitoring of Instrument Parameters*

#### 5.1.1 JITTER

The mean jitter-rate has been above nominal in recent cycles. At the start of this cycle, the mean rate was still somewhat high, but by the end of the cycle the rate was more-or-less back to normal. The plot below shows the mean and maximum jitter rate as measured over the cycle. Users should check the jitter rate during the period covered by their products by checking the Scan Quality Annotation Data Sets (using EnviView, for example).

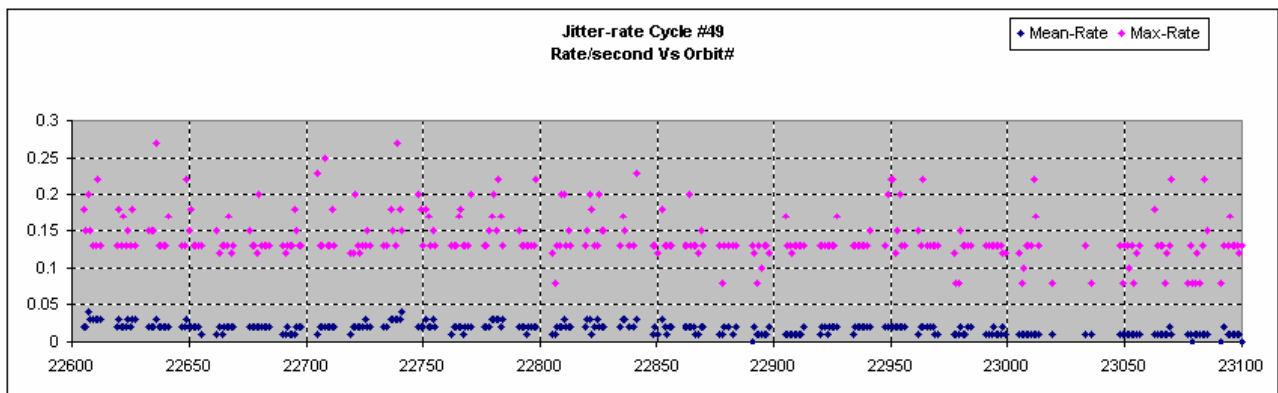


Figure 5-1 - Jitter rates for Cycle 49

#### 5.1.2 SENSOR TEMPERATURE

All sensors maintained their nominal orbital and seasonal ranges in this cycle.

#### 5.1.3 VISCAL

Reflectance channel calibration files are available for most days in this cycle, except:

- July 02
- July 26

#### 5.1.4 NEΔT

Data for this cycle is currently unavailable; results will be included in the next cyclic report.

## **5.2 User Rejections**

There were no user rejections during this cycle.

## **5.3 Software Problem Reporting**

This section describes the open SPRs, their potential impact on the data quality, and SPRs that have been closed.

### **5.3.1 EXISTING SPRS THAT ARE STILL OPEN**

#### **Unphysical sea surface temperature values in Level 2 AATSR products from PDHS-E at intervals of 480 rows:**

Open – The investigation shows that the problem does not happen using the IPF 5.59 with respect to the IPF 5.52 on which the problem was detected. No further instances of the problem have been reported. Original OAR (OAR-193) closed. Investigation will continue as a background task and a new OAR opened if necessary.

#### **Inconsistent values in AST confidence word, 17 km cell:**

Open - Investigation completed (an error has been found in the setting of the flag indicating the use of ir37 channel). To be corrected in IPF V6.0 to be released Spring 2007.

### **5.3.2 NEW SPRS SINCE THE LAST CYCLIC REPORT**

There are no new SPRs since the last Cyclic Report.

### **5.3.3 CLOSED SPRS**

No new SPRs have been closed since the last Cyclic Report.

## **6 CALIBRATION/VALIDATION ACTIVITIES & RESULTS**

### **6.1 Calibration**

Data for this cycle is currently unavailable; results will be included in the next cyclic report.

### **6.2 Validation**

Data for this cycle is currently unavailable; results will be included in the next cyclic report.

## **7      DISCLAIMERS**

No new disclaimers have been issued during this cycle.