

# ***ADEN ALOS – PRISM CYCLIC REPORT***

## ***CYCLIC REPORT #36***

***15 JUNE 2010 TO 30 JULY 2010***



This is a PRISM image taken on the 12<sup>th</sup> of November 2009 (processed on July 09<sup>th</sup> 2010) Orbit 20250, frame 3050 and path 237 (Product: PSM\_MMC\_TP\_\_0009769002, scene: ALPSMF202503050).

---

prepared by/*préparé par* IDEAS Optical Team  
reference/*référence* PRISM\_CR\_36\_100615\_100730  
issue/*édition* 1  
revision/*révision* 1  
date of issue/*date d'édition* 10 August 2010  
status/*état*  
Document type/*type de document* Technical Note  
Distribution/*distribution*

## A P P R O V A L

Title <i>Titre</i>	ADEN ALOS PRISM Cyclic Report – Cycle 36	issue 1 <i>issue</i>	revision 1 <i>revision</i>
-----------------------	------------------------------------------	-------------------------	-------------------------------

author <i>auteur</i>	IDEAS Optical Team	date <i>date</i>	10 August 2010
-------------------------	--------------------	---------------------	-------------------

approved by <i>approuvé par</i>	date <i>date</i>
------------------------------------	---------------------

## C H A N G E L O G

reason for change /raison du changement	issue/issue	revision/revision	date/date
Initial issue	1	0	10 August 2010
Some formatting corrections were made + The first image of the report, displaying a PRISM scene processed and analysed during cycle 36 time period has been forgotten by the engineer in charge of service at the date of the cyclic report #36 delivery.	1	1	16 August 2010

T A B L E O F C O N T E N T S

<b>PRISM CYCLIC REPORT # 36</b> .....	<b>1</b>
<b>1 INTRODUCTION</b> .....	<b>1</b>
1.1 Acronyms and Abbreviations .....	1
1.2 Reference Documents .....	2
1.3 Background information .....	2
<b>2 SUMMARY</b> .....	<b>4</b>
<b>3 SOFTWARE &amp; AUX FILE VERSION CONFIGURATION</b> .....	<b>6</b>
3.1 PDS Status .....	6
3.2 Planned Instrument Unavailability .....	6
3.3 Unplanned Instrument Unavailability .....	7
3.4 Current Platform Status .....	7
3.5 Upcoming Instrument Unavailability .....	7
3.6 ADEN PDS Unavailability .....	8
3.7 Periods of missing precision orbit data .....	8
3.8 Periods of missing precision attitude data .....	8
3.9 Periods lacking Yaw steering .....	9
3.10 JAXA Observation Strategy .....	9
3.11 Artefact repositories .....	9
<b>4 DATA QUALITY CONTROL</b> .....	<b>10</b>
4.1 Instrument Related Anomalies .....	10
4.2 Processor Related Anomalies .....	10
4.3 Daily Report Issues .....	10
4.4 User Information .....	11
<b>5 CALIBRATION/VALIDATION ACTIVITIES &amp; RESULTS</b> .....	<b>11</b>
<b>6 DISCLAIMERS</b> .....	<b>12</b>
<b>7 EVENTS</b> .....	<b>13</b>
7.1 Past Events:.....	13
Appendix a Instrument Anomalies .....	18
Appendix b Processor Update Summary .....	21

# PRISM CYCLIC REPORT # 36

## 1 INTRODUCTION

The PRISM Cyclic Report is distributed by the IDEAS PRISM team to keep the PRISM community informed of any modification regarding quality control, instrument performance, the data production chain and the results of calibration and validation campaigns at the end of each ALOS cycle, which represents 671 orbits, or 46 days.

The PRISM instrument is part of the Japanese JAXA ALOS mission and its products are received and processed via ESA's ADEN ground segment across Europe. This is done through an agreement between JAXA and ESA, where ALOS is classed as an ESA Third Party Mission, for which it is responsible for data reception and product dissemination across the European and African regions. A series of quality checks are undertaken in order to assess the ground segment, the instrument performance and the product quality

Checks are currently made on a weekly (header parameters, PDS status) or bi-monthly (visual report) basis to have a constant view on the mission status. The cyclic report presents the results of the analysis for the different part of the chain, from satellite to end-user product.

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

### 1.1 *Acronyms and Abbreviations*

ADEN	ALOS Data European Node
ALOS	Advanced Land Observing Satellite
AVNIR-2	Advanced Visible and Near Infra-red Radiometer Type-2
CEOS	Committee on Earth Observation Satellites
DoM	Day of Mission
EO Help	Earth Observation Help Desk
GCP	Ground Control Points
IDEAS	Instrument Data quality Evaluation and Analysis Service
JAXA	Japan Aerospace Exploration Agency
OCM	Orbit Control Manoeuvre
PCS	Product Control Service
PDS	Payload Data Segment
PI	Principal Investigator
PRISM	Panchromatic Remote-sensing Instrument Stereo Mapping
QC	Quality Control
SPPA	Sensor Performance Products Algorithms
TOA	Top of Atmosphere
UT	Universal Time

## 1.2 Reference Documents

- RD.1 ALOS/AVNIR-2 Level 1 product format description Rev J - October, 2006 JAXA (NEB 00016)
- RD.2 Bouvet M., Goryl. P., Santer R., Chander G., Saunier S, Preliminary radiometric calibration assessment of ALOS AVNIR-2 IGARSS 2007 proceedings
- RD.3 Saunier S., Goryl. P and al  
The contribution of ESA to the ALOS PRISM / AVNIR-2 commissioning phase  
IGARSS 2007 proceedings.
- RD.4 Saunier S., Goryl P  
Final calibration / Validation report: PRISM Instrument  
Issue 1 Rev 0 – July 2007
- RD.5 JAXA  
ALOS User Handbook  
November, 03, 2007 (NDX 070015)
- RD.6 Gruen A., Kocaman S., Wolff K., 2007. Calibration and Validation of Early ALOS/PRISM Images. The Journal of the Japan Society of Photogrammetry and Remote Sensing, Vol 46, No. 1, pp. 24-38.
- RD.7 J Takaku, T Tadono And M Shimada, "High Resolution DSM Generation From ALOS PRISM Calibration Updates", Proc Of Igarss08, Boston, 2008.
- RD.8 Saunier S., Chander G., Goryl P. et al. Radiometric, Geometric and Image Quality Assessment of the ALOS AVNIR-2 and PRISM sensors. 2008
- RD.9 Saunier S., IDEAS Team, ALOS PRISM & AVNIR2 Data, ADEN Product Quality Status. 2008.  
[http://www.gael.fr/eoqc/alos\\_optical\\_mission/GAEL\\_PRES\\_003-ALOS-RHODES-QC.VF\\_exportable.pdf](http://www.gael.fr/eoqc/alos_optical_mission/GAEL_PRES_003-ALOS-RHODES-QC.VF_exportable.pdf)
- RD.10 Saunier S., IDEAS Team, PRISM in flight MTF assessment, 2008.  
[http://www.gael.fr/eoqc/alos\\_optical\\_mission/GAEL\\_PRES\\_004-ALOS-RHODES-MTF.pdf](http://www.gael.fr/eoqc/alos_optical_mission/GAEL_PRES_004-ALOS-RHODES-MTF.pdf)

## 1.3 Background information

The PRISM instrument is an optical instrument which forms part of the ALOS mission built by the Japan Aerospace eXploration Agency (JAXA).

The ALOS mission data is produced and disseminated through geographical nodes. The European node (ADEN) was set up and is operated by ESA through the Tromso, Matera, Mas Palomas and Frascati ground stations. As a third party mission (TPM), only the ground segment and data processing are dealt with by ESA, the platform being the responsibility of the owner: JAXA. Each node operates their ground segment independently and shares results with JAXA when required in the frame of the Calibration Validation Science Team (CVST).

The ADEN team is responsible for the operation and maintenance of the node that receives data acquired over Europe and North Africa. The ADEN team took part in the Calibration/Validation activities during the ALOS commissioning phase (January to October 2006). The methodologies used and results obtained are documented (RD.3 and RD.4) and made available to the user through the site:  
<http://earth.esa.int/object/index.cfm?fobjectid=3738>

As part of the ADEN operations, a series of quality checks are undertaken in order to assess the ground segment and instrument performance and the product quality for products requested by European users. Checks are currently made on a weekly basis (header parameters, PDS status) to have a constant view on the mission status.

## 2 SUMMARY

**Cyclic Report:** 36

**Cycle Start:** 15 June 2010

**Cycle End:** 30 July 2010

The main issues during the cycle have been as follows:

### 1. Observation Information for PRISM relating to AVNIR-2 pointing change

Path	Observation date and time(UT) of PRISM simultaneous with changing AVNIR-2 pointing angles		Information Updated
63	16/06/2010	16/06/2010	22/06/2010
74	19/06/2010	19/06/2010	22/06/2010
74	19/06/2010	19/06/2010	22/06/2010
61	28/06/2010	28/06/2010	06/07/2010
53	30/06/2010	30/06/2010	06/07/2010
64	03/07/2010	03/07/2010	06/07/2010
64	03/07/2010	03/07/2010	06/07/2010
56	05/07/2010	05/07/2010	13/07/2010
75	06/07/2010	06/07/2010	13/07/2010
75	06/07/2010	06/07/2010	13/07/2010
75	06/07/2010	06/07/2010	13/07/2010
48	07/07/2010	07/07/2010	13/07/2010
59	10/07/2010	10/07/2010	13/07/2010
59	10/07/2010	10/07/2010	13/07/2010
78	11/07/2010	11/07/2010	21/07/2010
78	11/07/2010	11/07/2010	21/07/2010
78	11/07/2010	11/07/2010	21/07/2010
78	11/07/2010	11/07/2010	21/07/2010
51	12/07/2010	12/07/2010	21/07/2010
70	13/07/2010	13/07/2010	21/07/2010
73	18/07/2010	18/07/2010	27/07/2010
73	18/07/2010	18/07/2010	27/07/2010
92	19/07/2010	19/07/2010	27/07/2010
92	19/07/2010	19/07/2010	27/07/2010
65	20/07/2010	20/07/2010	27/07/2010
65	20/07/2010	20/07/2010	27/07/2010
84	21/07/2010	21/07/2010	27/07/2010
84	21/07/2010	21/07/2010	27/07/2010
57	22/07/2010	22/07/2010	27/07/2010



76	23/07/2010	23/07/2010	27/07/2010
76	23/07/2010	23/07/2010	27/07/2010
76	23/07/2010	23/07/2010	27/07/2010
49	24/07/2010	24/07/2010	27/07/2010
49	24/07/2010	24/07/2010	27/07/2010
160	25/07/2010	25/07/2010	03/08/2010
10	25/07/2010	25/07/2010	03/08/2010
60	27/07/2010	27/07/2010	03/08/2010
52	29/07/2010	29/07/2010	03/08/2010
71	30/07/2010	30/07/2010	03/08/2010

## 2. Extended Matera station antenna maintenance

### I-PAF/PAC - Extended Matera station antenna maintenance

”The previously announced antenna maintenance at the Matera station has been extended and re-scheduled for the period 26 May - 18 June 2010. Operations may be affected for the Landsat-5 and ALOS missions whenever there is an acquisition conflict with other missions.” The following information has been noted in the EO Weekly Newsletter (28 May 2010 - Week 21/2010).

## 3. Notifications of emergency observation plan

During cycle 36, several notifications of emergency observation plan due to severe natural events and PRISM sensor operation have been done. Acquired data found either "Urgent Observation Data" or AUIG Archive Data Search (Table 21).

Observation Date	Observation Start Time	Observation Area	Alert Type	Sensor
July 16, 2010	UT 02:03	Hiroshima	Flood	PRISM (OB2)

**Table 21: Observation plan emergency notifications for PRISM sensor.**



### 3 SOFTWARE & AUX FILE VERSION CONFIGURATION

Current Optical Processor Version	ESRIN	Matera	Tromso
5.08	09/12/2009	09/12/2009	09/12/2009

Table 3-2 : PRISM Processing Versions

**Information in June 2010:** The ALOS core software processors Version 6.01 for AVNIR-2/ PRISM (PRISM Pointing Alignment parameter) are now available in the ALOS Mission Operation Site. (Source: Hiroshi, Earth Observation Dept., Remote Sensing Technology Centre of Japan (RESTEC)).

#### 3.1 PDS Status

Please note; the major source of information for this document is the ALOS monthly report provided by JAXA. The monthly reporting timescale means that data concerning events conducted within this cycle may not be available at the time of writing. In this event, information will be included in the next cyclic report.

Instrument information provided by JAXA during the period 15 June 2010 to 30 July 2010 is reported in this document.

#### 3.2 Planned Instrument Unavailability

For the periods described in Table 3-3, JAXA has announced planned instrument unavailability.

From (UT)		To (UT)		Reason
Date	Time	Date	Time	
Jul. 23 <sup>rd</sup> , 2010	21:35:00.000000	Jul. 23 <sup>rd</sup> , 2010	22:39:00.000000	Due to orbit maneuvering
Jul. 11 <sup>th</sup> , 2010	18:28:00	Jul. 11 <sup>th</sup> , 2010	18:51:00	Suspension of observations due to the power supply of ALOS lowered by an eclipse made by the moon.
Jul. 3 <sup>rd</sup> , 2010	09:43:00.000000	Jul. 3 <sup>rd</sup> , 2010	10:47:00.000000	Due to orbit manoeuvring
Jun. 22 <sup>Th</sup> , 2010.	11:30:00	Jun. 23 <sup>Th</sup> , 2010	14:30:00	Suspension of Data Relay Satellite Communication Subsystem (only Direct Transmission was conducted.)

From (UT)		To (UT)		Reason
Date	Time	Date	Time	
Jun. 18 <sup>th</sup> , 2010	17:38:00.000000	Jun. 18 <sup>th</sup> , 2010	18:42:00.000000	Due to orbit manoeuvring
Jun. 17 <sup>th</sup> , 2010	08:30:00	Jun. 17 <sup>th</sup> , 2010	17:30:00	Suspension of Data Relay Satellite Communication Subsystem (only Direct Transmission was conducted.)
Jun. 17 <sup>th</sup> , 2010	23:00:00	Jun. 18 <sup>th</sup> , 2010	03:00:00	Suspension of Data Relay Satellite Communication Subsystem (only Direct Transmission was conducted.)

**Table 3-3 : Planned Instrument unavailability**

### 3.3 *Unplanned Instrument Unavailability*

For the periods described in Table 3-4, JAXA announced unplanned instrument unavailability.

From (UT)		To (UT)		Reason
Date	Time	Date	Time	
Jun. 23 <sup>Rd</sup> , 2010.	04:30:00	Jun. 23 <sup>Rd</sup> , 2010.	05:00:00	Maintenance of ADIS/ADDS*
Jun 23 <sup>Rd</sup> , 2010.	08:00:00	Jun. 23 <sup>Rd</sup> , 2010.	08:30:00	Maintenance of ADIS/ADDS*

**Table 3-4 : Unplanned instrument unavailability**

\* Consequently to the maintenance of ALOS Data Distribution System (ADDS) and ALOS Data Node Interface System (ADIS): Interface of Mission Operation Information File and distribution of Ancillary Information Files were suspended during the period.

### 3.4 *Current Platform Status*

Information on the platform provided by JAXA:

Current platform status: **Normal**

### 3.5 *Upcoming Instrument Unavailability*

For the periods described in Table 3-5, JAXA has announced planned instrument unavailability.

From (UT)		To (UT)		Reason
Date	Time	Date	Time	
None				

**Table 3-5 : Upcoming instrument unavailability**

### **3.6 ADEN PDS Unavailability**

None reported during this cycle.

### **3.7 Periods of missing precision orbit data**

For the periods described in Table, JAXA has announced that precision orbit data is missing.

From (UT)		To (UT)		Reason
Date	Time	Date	Time	
Jul. 23, 2010	21:35:00.000000	Jul. 23, 2010	22:39:00.000000	Due to orbit manoeuvring
Jul. 3, 2010	09:43:00.000000	Jul. 3, 2010	10:47:00.000000	Due to orbit manoeuvring
Jun. 18, 2010	17:38:00.000000	Jun. 18, 2010	18:42:00.000000	Due to orbit manoeuvring

**Table 3-6: Missing Precision Orbit Data**

### **3.8 Periods of missing precision attitude data**

For the periods described in Table 3-7, JAXA has announced that precision attitude data is missing.

(UT)		Reason
Date	Time	
None		

**Table 3-7 : Missing Precision Attitude Data**

### 3.9 *Periods lacking Yaw steering*

For the periods described in Table 3-8, JAXA has announced that Yaw steering was not available.

From (UT)		To (UT)		Reason
Date	Time	Date	Time	
None				

Table 3-8 : Yaw steering

### 3.10 *JAXA Observation Strategy*

The JAXA observation strategy can be found at:  
<http://www.eorc.jaxa.jp/ALOS/en/obs/overview.htm>

### 3.11 *Artefact repositories*

A number of image artefacts are not due to instrument or processing chain malfunctions. These are fully documented in the following JAXA web pages.

<http://www.eorc.jaxa.jp/en/about/distribution/info/alos/characteristics.html>

## 4 DATA QUALITY CONTROL

The following sections in this Cyclic Report do not contain inputs from the ALOS SPPA scientific experts.

### 4.1 *Instrument Related Anomalies*

No reported anomalies during this cycle.

### 4.2 *Processor Related Anomalies*

No reported anomalies during this cycle.

### 4.3 *Daily Report Issues*

During the past cycle, daily checks have been undertaken on all PRISM products generated by ADEN, although these are reported on a weekly basis due to current data volumes.

Browse products for all optical images are visually inspected and reported on in each daily report.

57 products have been examined during the course of this cycle. One anomaly was highlighted by the browse inspections impacting three products (Table 4.3-1).

Scene ID	Inspection Date	Cloud %	Gain	Summary
ALPSMN178302950	21/7/2010	21-30	0,501	CCD Boundaries. Striping. Slight Saturation of Ground Features.
ALPSMF178302895	21/7/2010	4-10	0,501	CCD Boundaries. Striping. Slight Saturation of Ground Features.
ALPSMN178302940	21/7/2010	4-10	0,501	CCD Boundaries. Severe Saturation of Ground Features.

**Table 4.3-2 Anomalous products identified during browse inspections**

## 4.4 User Information

A PRISM FAQ containing common user requests can be found on the ESA PCS website. The most recent version of this document can be found at:  
<http://earth.esa.int/pcs/alos/prism/userinfo/>

## 5 CALIBRATION/VALIDATION ACTIVITIES & RESULTS

- AVNIR-2 calibration values can be found in annex E of the FAQ. FAQ link is:

[http://earth.esa.int/download/alos/IDEAS-VEG-OQC-REP-0124\\_20ALOS\\_20OPTICAL\\_20FAQ.pdf](http://earth.esa.int/download/alos/IDEAS-VEG-OQC-REP-0124_20ALOS_20OPTICAL_20FAQ.pdf)

FAQ (previous update: 15 January 2010).

- One paper has been written by Jaxa calibration team ([http://www.eorc.jaxa.jp/en/hatoyama/satellite/data\\_tekyo\\_setsumei/alos\\_hyouka\\_e.html](http://www.eorc.jaxa.jp/en/hatoyama/satellite/data_tekyo_setsumei/alos_hyouka_e.html)). The reference is: T. Tadono, M. Shimada, H. Murakami, and J. Takaku, "Calibration of PRISM and AVNIR-2 Onboard ALOS "Daichi", " IEEE Trans. Geoscience and Remote Sensing, Vol. 47, No. 12, Dec. 2009, in press.
- The geometric and radiometric calibration accuracy has been assessed from observation date from Jun. 22, 2007 to Jun. 4, 2009.
- Geometric calibration

### 1. Absolute accuracy

	Pixel direction (cross track)	Line direction (along track)	Distance	No of GCPs	No of Scenes
Nadir view (RMS)	5.6 m	5.3 m	7.8 m	5,499	586
Forward view (RMS)	4.9 m	6.1 m	7.8 m	1,771	225
Backward view (RMS)	5.0 m	7.1 m	8.7 m	4,839	525

Measurements: Statistical evaluation of the worldwide ground control points (GCPs) and calculation of the root mean square (RMS) of the distance between the position of GCPs, that were identified in the each PRISM image and obtained from the coordination conversion formula, and their true location on the GRS 80 that were

calculated from the GCPs true measurement by GPS and the PRISM observation geometry.

For reference: CE90, Nadir view: 11.8 m, Forward view: 12.4 m, Backward view: 13.4 m.

## 2. Relative accuracy (three radiometers)

	Pixel direction	Line direction	Distance
Std. dev. in a scene( $1\sigma$ )	1.4 m	1.8 m	2.4 m

Measurements: Averaged value of standard deviation of geometric errors in a scene in evaluating absolute accuracy.

- Radiometric calibration accuracy

### 1. Absolute accuracy (Nadir-looking radiometer)

Similar to that of AVNIR-2 (better than 3%, RMS). Measurements: Compared with calibrated AVNIR-2 as cross calibration over deserts, salt lakes, ocean etc.

### 2. Relative Accuracy (three radiometers)

Better than 0.4 % (better than 1DN) (RMS)

## 6 DISCLAIMERS

A list of known product errors caused by image processing algorithm errors is listed on the JAXA site at:

[http://www.eorc.jaxa.jp/hatoyama/satellite/data\\_tekyo\\_setsumeii/alos\\_renraku\\_e.html](http://www.eorc.jaxa.jp/hatoyama/satellite/data_tekyo_setsumeii/alos_renraku_e.html)



## 7 EVENTS

The following section details events that may be of interest to ALOS data users.

- Nov. 15 - 17, 2010: 4th Joint PI Symposium of ALOS Data Nodes for ALOS Science Program 2010 Tokyo.
- ALOS simulation#19 (Cycle 38 –41) - Submission of Request files was due on Jul. 19<sup>th</sup>. Result files and statistics will be available in the middle of August.
- Maintenance on MUIS/EOLI-SA system 22 July 2010. Due to a planned maintenance related to the transfer to operations of the new server supporting the MUIS/EOLI-SA infrastructure, the EOLI-SA catalogue and ordering tool will be unavailable from 12:00 UTC / 14:00 CET to 18:00 UTC / 20:00 CET on Monday 26 July 2010. Use of EOLI-SA UserSets and ShopCarts created with the previous infrastructure will no longer be supported after the switch to the new server. (Information from EO Weekly Newsletter - 23 July 2010 - Week 29/2010).
- June 28<sup>th</sup> - July 2<sup>nd</sup> 2010: ESA living Planet Symposium IDEAS Altimetry Team Meeting to be held in Bergen.
  - Symposium web site: <http://www.congrex.nl/10a04/>
- A new release of EOLI-SA (v 7.0.6) is available for download on the EOLI-SA web pages. From then on, users will be requested to perform the update in order to continue working with EOLI-SA. Further information on changes and new features will be available in the Release Notes for the new version (source: ESA EO Weekly Newsletter - 14 May 2010 - Week 19/2010).
  - <http://earth.esa.int/EOLi/EOLi.html>

### 7.1 *Past Events:*

- Nov. 15 - 17, 2010: The 4th Joint PI Symposium of ALOS Data Nodes for ALOS Science Program 2010 Tokyo. Registration deadline: August 31st 2010.
- AUIG information:
  - [2010.06.17] System maintenance of AUIG : 23 May, 2010 4:00 ~ 6:00(UT)
  - [2010.06.11] Upgraded Processing Software Release Information
  - [2010.05.14] System maintenance of AUIG: 18 May, 2010 6:00 ~ 8:30(UT).
- The following information has been noted in the EO Weekly Newsletter (28 May 2010 - Week 21/2010): I-PAF/PAC - Extended Matera station antenna maintenance "The previously announced antenna maintenance at the Matera station has been extended and re-scheduled for the period 26 May - 18 June 2010. Operations may

be affected for the Landsat-5 and ALOS missions whenever there is an acquisition conflict with other missions.”

- ALOS simulation#18 (Cycle 36 –39)  
Result files and statistics were delivered on May 27th.
- 2010.05.27: The ALOS core software processors Version 6.01 for AVNIR-2/ PRISM (PRISM Pointing Alignment parameter) are now available in the ALOS Mission Operation Site. (Source: Hiroshi, Earth Observation Dept., Remote Sensing Technology Centre of Japan (RESTEC)). ALOS core software processor v6.01 for AVNIR2/PRISM was released on June 9<sup>th</sup>, 2010.
- Operational events: ALOS Ancillary Information:  
ALOS Precision Orbit Data (POD) of May 2<sup>nd</sup> and 3<sup>rd</sup>, 2010 were replaced by modified one on May 13<sup>th</sup>. Then, precision orbit data (POD) for May 2<sup>nd</sup> and 3<sup>rd</sup> were re-distributed on May 13<sup>th</sup>. The POD for May 2<sup>nd</sup> have turned out to hold an error which was caused not by any equipment on the spacecraft but by a leap on the data provided by a GPS. (Information K. Toh (Earth Observation Dept., RESTEC)). No impact on precise orbit for a use of these POD (May 02 and 03) after May 13<sup>th</sup> 2010.
- April 14<sup>th</sup>, 2010: ALOS images cooperative with NASA are now available. The data sources are down-linked to NASA through its data-relay satellites TDRS.
- The EXTPS software at Kiruna has been changed, to the recently validated version (Information from Instrument Data quality Evaluation and Analysis Service):
- Starting from March 25, 2010 (absolute orbit 42176) Kiruna station is operating with a new version of EXTPS system. They have been validated by IDEAS team. The current Acquisition Systems at Kiruna-Salmijarvi Station is in version reference KSPT\_L0/4400. Previous one is referred as KSPT\_L0/4303. Starting from March 25, 2010, products are provided from the new system only (ref 4400). Considering that the switch to KSPT\_L0/4400 has been performed at Kiruna-Salmijarvi Station (PDHS-K) only. Matera and PDHS-E station are still using the KSPT\_L0/4303 version. Information will be given from Instrument Data quality Evaluation and Analysis Service after the EXTPS systems switch at those stations.
- The second stage of ALOS Simulation #18 for Cycle 36 – 39 has been cancelled as a result of coordination within JAXA. Currently, the simulation is running and the result files and statistics will be available in mid May. (Information from RESTEC Centre, 27th April 2010). For this simulation, following sensors and areas are added in the BOS for Simulation#18. <AVNIR-2> Cycle 36: E4, 5, 6 & 7.
- Apr. 20, 2010: ALOS Systematic Observation Strategy "PRISM" was updated (CYCLE35).
- Acquisition plan at MATERA: (ref. MATE00000139073D, X1503287001-01 (AVNIR-2)) has been cancelled due to an emergency observation for floods in Hungary (March 6, 2010. Information provided by RESTEC Centre).

- Acquisition plan at MATERA: (ref. (MSPS00000139466D, X1506252001-01, Path 252, AVNIR-2 has been cancelled due to an emergency observation for the wind storm in France (March 9, 2010. Information provided by RESTEC Centre).
- Operational restriction: (information source: Masanobu Morioka, Earth Observation Dept. Remote Sensing Technology Centre of Japan (RESTEC))
  - Maintenance of data receiving facility at EOC (From 00:00 on Dec. 22<sup>nd</sup> to 23:59 on Dec. 23<sup>rd</sup> (UT).
- Request files are due on January, 8<sup>th</sup>. Result files will be available in late January.
- Result files and statistics of second stage of ALOS simulation #16 (Cycle 32 – 35) have been released on November 9th.
- Adoption/Rejection Information of Sim#16 Last Updated: November 17, 2009
- Two publications of Jaxa team concerning the AVNIR calibration are foreseen on IEEE, December 2009.
- ALOS simulation #17 (cycle 34 – 37) has been conducted. Otherwise, no change is made other than an exception for PRISM as follows:
  - <Cycle 35>: C2 of PRISM changed from OB1 into OB2 from Sim#15.
- ALOS Core Processing Software v5.08 for AVNIR-2/PRISM (PRISM Pointing Alignment Parameter) was released on December 09th. V5.08 includes an update to the PRISM Pointing Alignment Parameter in comparison to v5.04, the previous ALOS Core processing.
- ALOS Symposium:  
Nov. 9 - 13, 2009: 3rd Joint PI symposium of ALOS Data Nodes for ALOS Science Program in Kona, Hawaii, US.  
Details are available on site: [http://www.asf.alaska.edu/pi\\_symp/](http://www.asf.alaska.edu/pi_symp/)  
Presentations in session dedicated to Calibration/Validation (November 9th 2009)
- ALOS simulation#15 (Cycle 31 – 40): Result files are available since Sep. 14th.
- ALOS Core Processing Software v5.09 for AVNIR-2/PRISM (PRISM Pointing Alignment Parameter) was released on October 15<sup>th</sup>.
- Modified Items:
  - (1) Update of Processing Software - PRISM image abnormality appeared in GeoCoded images of ascending passes are resolved.  
*[Ver\_PSM\_SW\_Resamp(6.41)]*
  - (2) Update of Correction Parameter - PRISM Pointing Alignment parameter file (Update version of September30, 2009) (for PRISM)  
*[Ver\_PSM\_PR\_AlignmentParameter (6.44)]*

(3) Update of DEM data directory – None.

- Submission of the request files for the first stage simulation #15 (Cycle 31 – 40) was due to the end of August
- ALOS Core Processing Software v5.08 for AVNIR-2/PRISM (PRISM Pointing Alignment Parameter) was released on August 12<sup>th</sup>.
- Submission of request files for the first stage of simulation #15 (Cycle 30 – 33) was due towards the end of June.
- The simulation #15 is given because #14 is assigned to ALOS Long-term Full Simulation Cycle31–70
- Result files and statistics of second stage simulation #13 were released on May 22<sup>nd</sup>. Analysis report was released on May 28<sup>th</sup>
- The results of first stage simulation #13 were available from April 6<sup>th</sup>
- Submission of request files for the first stage simulation#13 (Cycle28 - 31) was due on March 12<sup>th</sup>
- ALOS Core Processing Software PRISM/AVNIR-2 Version 5.05 (PRISM Pointing Alignment Parameter) was released on Feb. 6<sup>th</sup>
- ADN-15 meeting was held on Feb. 24<sup>th</sup> and 25<sup>th</sup> in Tokyo
  - The result files and statistics for the second stage simulation#12 were released on Feb. 13<sup>th</sup>.
  - Analysis Report and Adoption/Rejection Information for simulation#12 was released on Feb. 20<sup>th</sup>.
- The submission of request files for the second stage simulation#12 is due on Jan. 19<sup>th</sup>.
- 11th Science Team meeting for ALOS Kyoto and Carbon Initiative, January 13 - 16, 2009 (Tue. - Fri.), JAXA.  
[http://www.eorc.jaxa.jp/ALOS/kyoto/jan2009\\_kc11/kyoto\\_meeting\\_2009jan.htm](http://www.eorc.jaxa.jp/ALOS/kyoto/jan2009_kc11/kyoto_meeting_2009jan.htm)
- The result files of first stage simulation#12 will be available on Jan. 3<sup>rd</sup>
- ALOS Core Processing Software (Version 5.03 for PALSAR and Version 5.04 for PRISM/AVNIR-2) was provided Dec. 19<sup>th</sup>.
- Result files and statistics for simulation#11 were released on Nov. 21<sup>st</sup>
- Analysis Report and Adoption/Rejection Information for simulation#11 were released on Nov. 29<sup>th</sup>.
- The submission of request files for the first stage of simulation#12 was due Dec. 16<sup>th</sup>.
- The second ALOS PI Symposium took place from the 3<sup>rd</sup> to the 7<sup>th</sup> of November in Rhodes, Greece.

- Results of first stage simulation#11 made available on Oct. 15th.
- The submission of request files for the second stage simulation#11 was due on Oct. 28<sup>th</sup>.
- Analysis report and Adoption/Rejection information of simulation#10 were released by JAXA on 21/08/2008.
- The due date of Observation/Acquisition request files for ALOS simulation 11 was 25/09/2008. This simulation covers the period 10/12/2008 to 11/06/2008.
- ADN-14 meeting was held at ASF from Sep. 9<sup>th</sup> to 11<sup>th</sup>
- Analysis report and Adoption/Rejection information of simulation#10 were released by JAXA on 21/08/2008.
- The submission of request files for ALOS simulation number 10 was due by 20<sup>th</sup> of June.
- The submission of request files for ALOS simulation number 9 was due by March 21, 2008.
- The ALOS PCS Site is now available at: <http://earth.esa.int/pcs/alos/>
- ALOS simulation #8 for Cycle 18-21
  - The results of the second stage simulation were made available by JAXA on Feb.4<sup>th</sup>.
  - The Analysis Report on ALOS simulation #8 was delivered by JAXA on Feb.12<sup>th</sup>.
- 29 January 2008: Users are now able to submit orders for ALOS future acquisitions via EOLI-SA (email [eohelp@esa.int](mailto:eohelp@esa.int) for more information)

## APPENDIX A INSTRUMENT ANOMALIES

Below is a list of ALOS anomalies that may have an impact on image quality, radiometric calibration or localisation accuracy (from 24th October 2006).

- Orbit manoeuvres conducted on June 4, 2010
- Orbit manoeuvres conducted on May 29, 2010
- Orbit manoeuvres conducted on May 22, 2009
- Orbit manoeuvres conducted on May 15, 2010
- Orbit manoeuvres conducted on May 07, 2010
- Orbit manoeuvres conducted on Apr. 30, 2010
- Orbit manoeuvres conducted on Apr. 23, 2010
- Orbit manoeuvres conducted on Apr. 17, 2010
- Orbit manoeuvres conducted on Apr. 10, 2010
- Orbit manoeuvres conducted on Mar. 26, 2010
- Orbit manoeuvres conducted on Mar. 19, 2010
- Orbit manoeuvres conducted on Mar. 12, 2010
- Orbit manoeuvres conducted on Feb. 27, 2010
- Orbit manoeuvres conducted on Feb. 20, 2009
- Orbit manoeuvres conducted on Feb. 12, 2010
- Data deficits (LSSR data acquisition 98.36%) on Feb. 10, 2010
- Orbit manoeuvres conducted on Jan. 29, 2010
- Due to calibration of STT/Precise Positioning Determination System on Jan. 27, 2010
- Orbit manoeuvres conducted on 5 and 12 December 2009
- Orbit manoeuvres conducted on 6, 13, 20, 28 November 2009
- Orbit manoeuvres conducted on 31 October 2009
- Orbit manoeuvres conducted on 2<sup>nd</sup>, 9 and 17 October 2009
- Orbit manoeuvres conducted on 25<sup>th</sup> September 2009
- Orbit manoeuvres conducted on 14<sup>th</sup> and 28<sup>th</sup> August 2009
- Orbit manoeuvres conducted on 20<sup>th</sup> June, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> 7<sup>th</sup>, 10<sup>th</sup> and 13<sup>th</sup> July 2009
- Orbit manoeuvre conducted on 16<sup>th</sup> May 2009
- Orbit manoeuvres conducted on 13<sup>th</sup> and 28<sup>th</sup> March 2009
- Orbit manoeuvres conducted on 14<sup>th</sup> February 2009



- Orbit manoeuvres conducted on 3<sup>rd</sup>, 10<sup>th</sup>, 16<sup>th</sup> and 30<sup>th</sup> of January 2009
- Orbit manoeuvres conducted on 15<sup>th</sup>, 29<sup>th</sup> November 2008
- Orbit manoeuvres conducted on 11<sup>th</sup>, 18<sup>th</sup>, 24<sup>th</sup> October 2008
- Orbit manoeuvres conducted on 12<sup>th</sup>, 26<sup>th</sup> September 2008
- Orbit manoeuvres conducted on 5<sup>th</sup>, 8<sup>th</sup> August 2008
- Orbit manoeuvres conducted from 2<sup>nd</sup> August 2008 14:27 – 3<sup>rd</sup> August 2008 06:05
- Inclination and related in plane orbit manoeuvres conducted from 29<sup>th</sup> July 22:26 – 31<sup>st</sup> July 05:42
- Orbit manoeuvres conducted on 19<sup>th</sup> July 2008,
- LSSR acquisition failure 11<sup>th</sup> June 2008,
- Orbit manoeuvres conducted on 19<sup>th</sup> July 2008,
- Orbit manoeuvres conducted on 11<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup>, 20<sup>th</sup>, 23<sup>rd</sup> June 2008,
- Calibration operations for Star Tracker conducted on 11<sup>th</sup> and 13<sup>th</sup> of May 2008,
- Orbit manoeuvres conducted on 16<sup>th</sup> May 2008,
- Orbit manoeuvres conducted on 26<sup>th</sup> April 2008,
- Orbit manoeuvres conducted on 4<sup>th</sup> April 2008.
- Orbit manoeuvres conducted on 26<sup>th</sup> January and 2<sup>nd</sup>, 15<sup>th</sup>, 29<sup>th</sup> February 2008.
- YAW steering was suspended on 28<sup>th</sup> January 2008
- Orbit manoeuvres conducted on 15<sup>th</sup> December 2007, 4<sup>th</sup>, 11<sup>th</sup> & 18<sup>th</sup> January 2008.
- Observation, yaw steering, and precision attitude system suspended on 31<sup>st</sup> October 2006 between 03:50 and 15:50 UT due to change AOCS on-board orbit model to that of 15<sup>th</sup> order.
- Yaw steering suspended during 23<sup>rd</sup> February 00:12 UT to 24<sup>th</sup> February 2007 23:01 UT (yaw steering suspended due to calibrating operations for Star Tracker (STT) and Precision Attitude Determination).
- Yaw steering suspended during 22<sup>nd</sup> March 00:24 UT to 23<sup>rd</sup> March 2007 23:17 UT (yaw steering suspended due to calibrating operations for Star Tracker (STT) and Precision Attitude Determination).
- Yaw steering on/off switching on 10<sup>th</sup> April 2007:
  - Yaw steering on to off: 12:57 – 13:22 UT (data unavailable)
  - No yaw steering operation: 13:22 – 14:42 UT (data available)
  - Yaw steering off to on: 14:42 – 15:45 UT (data unavailable)
- Orbit manoeuvres on 25<sup>th</sup>, 27<sup>th</sup> and 29<sup>th</sup> April 2007.
- Orbit manoeuvres on 8<sup>th</sup> and 22<sup>nd</sup> June 2007.
- Orbit manoeuvres conducted on 7<sup>th</sup> and 20<sup>th</sup> July 2007.



- Yaw steering on/off switching on 31st July 2007:  
Switching in progress: 00:00 – 00:30, 21:57 – 22:46 UT (Observation suspended)  
No yaw steering observation: 00:30 – 21:57UT (Data available)
- Orbit manoeuvres conducted on 3rd and 25th August 2007.
- Orbit manoeuvres conducted on 6th, 12th and 26th October 2007.
- Orbit manoeuvres conducted on 10th and 23rd November 2007.
- Orbit manoeuvres conducted on 7th and 15th December 2007.
- Orbit manoeuvres conducted on 4th, 11th, 18th and 26th January 2008.
- Orbit manoeuvres conducted on 2nd, 15th and 29th February 2008.
- Orbit manoeuvres conducted on 8th March 2008.

## APPENDIX B PROCESSOR UPDATE SUMMARY

**Upgrade Version:** 6.01

**Previous Version:** 5.04

**Modifications:**

- Update of Processing Software: version 6.01
- Update of Correction Parameter: PRISM Pointing alignment parameters updated (Update version of May 26, 2010).
- Update of DEM data directory: None

The ALOS core software processors Version 6.01 for AVNIR-2/PRISM (PRISM Pointing Alignment parameter) are now available in the ALOS Mission Operation Site.

**Processor past events:**

- A history of the ADEN optical processor release notes will be made available on the ALOS ADEN PCS website, location: <http://earth.esa.int/pcs/alos/prism/userinfo/>
- Recent information: on April 26th 2010, PRISM Pointing alignment parameters have been updated (Update version of Feb 3, 2010) Information from <https://auig.eoc.jaxa.jp/auigs>.
- 2010.04.27: Upgrade of processing software release at Kiruna station. The EXTPS software at Kiruna has been changed, to the recently validated version (Information from Instrument Data quality Evaluation and Analysis Service). Current Acquisition System at Kiruna - Salmijarvi station is in version KSPT\_L0/4400 (refer to section 7 in this report for more details).
- CFI version changed in processor version 5.08 for processing PRISM products. Current CFI is in configuration 6.4. Previous one was version 6.1.
- 2010.04.26: Sensor alignment parameters of the current geometric model have changed.
- 2010.04.15: System maintenance of AUIG: 22 April, 2010 7:00 ~ 22 April, 2010 8:00(UT).
- 2010.02.04 (CP) PRISM Pointing alignment parameters updated (Update version of February 3, 2010)
- 2010.03.31: Upgraded Processing Software Release Information.
- 2010.03.30 (CP) PRISM Pointing alignment parameters updated (Update version of March 24, 2010).