

## Release Note

<b>Sensor Name</b>	PALSAR
<b>Processing Software Name</b>	<del>PALSAR Level 1.0 processing software</del> PALSAR Core data processing software
<b>Correction Parameter Name</b>	<del>PALSAR Correction parameter (Level 1.0)</del> <del>PALSAR Correction parameter (Core processing)</del>
<b>Other</b>	<del>Install manual</del>
<b>New Version/Revision</b>	V05 / L04
<b>Old Version/Revision</b>	V05 / L03
<b>Release Date</b>	9 <sup>th</sup> Jan, 2009
<b>Tar File Name</b>	ALOS-SW-PALSAR-V05L04.tar
<b>ZIP File Name/Password</b>	alos_20090109
<p><b>Modified Items:</b></p> <p>(1) PALSAR Core data processing software</p> <ul style="list-style-type: none"> <li>- Misalignment of PALSAR images due to a leap second corrected.</li> <li>- Tuning of Doppler center frequency estimation program.</li> <li>- PALSAR calibration factor updated.</li> </ul> <p style="padding-left: 40px;">[AI_Psr_Core_SigmaSAR(9.02)]</p>	
<p><b>Note:</b></p> <p>Version 5.04 consists of changed files only.</p> <p>Please install "ALOS-SW-PALSAR-V05L04.tar.gz" according to [Captor 5.1-5] of "PALSAR Installation manual_V05L03.pdf" that released in Version5.03.</p> <p>Only next files are updated in "/alos" directory.</p> <p style="padding-left: 40px;">bin/palsar_cor/AI_Psr_Core_SigmaSAR</p> <p style="padding-left: 40px;">bin/palsar_cor/version.kav</p>	

## History:

### **Version 1.0 (2003.10.20)**

### **Version 1.1 (2003.12)**

- (1) ALOS Data Processing Core Software (Ver.1.1) (for PALSAR)
- (2) Change to media number(ALOS\_CoreSW\_PALSAR\_004N)
- (3) Change to Installation Manual

### **Version 1.2 (2004.5.28)**

- (1) ALOS Data Processing Core Software (Ver.1.2) (for PALSAR)
  - Correct geo-coded processing for ScanSAR mode
  - Accuracy of latitude/longitude of each corner in the scene
  - RedHat Advanced Server 2.1
  - Bug fix
- (2) Input Data Files (for processing check)
  - Level0 data
  - Deletion of sample data :
    - Direct downlink mode
    - Polarimetry mode
    - High resolution mode (single polarization)

### **Version 1.3 (2005.5.25)**

- (1) PALSAR 1.0 processing software
  - Handling for stopped GPSR
  - Bug fix
- (2) PALSAR core processing software
  - SIGMA-SAR
    - Data order of range direction type was changed from Near to Far for PALSAR level 1.1 record.
    - In the mode other than ScanSAR, it became possible to process PRF change.
    - Addition of polarimetry calibration function
  - Product Editing
    - Change of data order (Range direction: Near -> Far)
    - Auto-verification result when PRF change or calibration data was included or not was added.
  - Bug fix

### **Version 2.0 (2006.4.24)**

- (1) PALSAR 1.0 processing software
  - Level 1.0 product format (record length) was changed.
  - Bug fix
- (2) PALSAR core processing software
  - SIGMA-SAR

- Level 1.5 product for polarimetry mode was added.
- Parameters of Level 1.1 product for polarimetry mode were added.
- Support to GPS system / DMS system.
- Product Editing
  - Function for SIGMA-SAR polarimetry mode was updated.
- Bug fix

#### **Version 2.2 (2006.7.14)**

- (1) PALSAR 1.0 processing software
  - Standby4/calibration mode check flag is added.
  - Auxiliary data check does not need in standby4.
  - Bug fix
- (2) PALSAR core processing software
  - SIGMA-SAR
    - Tuning by real data.
    - Reflection of ScanSAR antenna pattern.
    - Update of calibration coefficients table of polarimetric.
    - Improvement of geometric correction accuracy.
  - Bug fix

#### **Version 2.3 (2006.7.28)**

- (1) PALSAR core processing software
  - SIGMA-SAR
    - Tuning of ScanSAR histogram.
  - Bug fix

#### **Version 2.4 (2006.9.29)**

- (1) PALSAR Level 1.0 processing software
  - Handling of slant range calculates value.
  - Handling of 1 second delay of satellite time.
  - Handling of off-nadir angle at ScanSAR mode is changed.
- (2) PALSAR Core data processing software
  - Handling of 1 second delay of satellite time.
  - Handling of illegal data size and illegal image for PALSAR WB1.
  - Handling of product setting value and format are changed.
  - Handling of transpose of line number and pixel number for level 1.1 product.

#### **Version 3.0 (2006.10.23)**

- (1) PALSAR Level 1.0 processing software
  - Handling of scene missing by performing 1 second delay of satellite time.
  - Deregistration of charpreplica nominal for direct downlink V receiving polarization.
  - Revision up to Ver.4.05( for Version Information Files[version.kav]of Processing Softwares and Correction Parameters )

(2) PALSAR Core data processing software

- Handling of FBS ascending illegal image.
- Accuracy improvement for geometric/radiometric correction.
- Reflection of the result of parameter calibration verification for product.
- Tuning #3 for polarimetric calibration coefficient.

**Version 4.0 (2007.04.13)**

(1) PALSAR Level 1.0 processing software

- Handling of platform position data record / facility related data record storage
- Revision up to Ver5.00
- Modification after Ver5.00 was released
  - Time change for judging the correction of satellite time 1 second delay
    - Use the scene start time (before modification)
    - Use the scene center time (after modification)

(2) PALSAR Core data processing software

- Handling of WB1 image error (white line is seen at the end of image)
- PLR processing error: handling in case of the processing (exceeding over two days) is incomplete.
- Handling of check miss when user is specified LCC Southern Hemisphere of WB1
- Handling of the lack of consideration if longitude exceeds over 180 degree at L1.5 processing
- Revision up to Ver8.00

**Version 4.01 (2007.08.08)**

(1) PALSAR Level 1.0 processing software

- Handling for 1.0 processing of sync cord error.
- Handling for 1.0 processing error. [Ver\_PSR10Prc(5.03)]

(2) PALSAR Core data processing software

- Handling for PALSAR compression processing error.
- Handling of map projection correction in L1.5 processing.
- Tuning of Doppler center frequency estimation program.
- Change of product size (reduction of range samples).
- Error in geometric correction corrected (Latitude/longitude calculation error about some products).

[AI\_Psr\_Core\_SigmaSAR(8.03)]

**Version 4.02 (2007.10.12)**

(1) PALSAR Core data processing software

- Corrected an anomaly of geometric adjustment, which made some images of WB1/WB2 distorted. [AI\_Psr\_Core\_SigmaSAR(8.04)]
- Corrected an anomaly of geometric adjustment, which made some images of WB1/WB2 distorted. [AI\_Psr\_Core\_SigmaSAR(8.05)]

- Specification change with ScanSAR; value checks with LCC Reference Latitude Line1/Line2 be abolished; these checks have stopped the program when the scene center latitude of a product does not lie between these latitudes. [AI\_Psr\_Core\_Supproduct(8.01)]

#### **Version 4.03 (2007.12.06)**

(1) PALSAR L1.0 Processing Software

- "Scene not-found error" fixed. [ Ver\_PSR10Prc (5.04) ]

(2) PALSAR Core Processing Software

- Processing errors of PLR and FBD fixed, and an image noise improved. [ AI\_Psr\_Core\_SigmaSAR (8.06) ]

#### **Version 5.00 (2008.04.21)**

(1) PALSAR L1.0 Processing Software

- "Scene not-found error" fixed.
- Revised to Ver6.10

(2) PALSAR Core Processing Software

- Improved image quality under the influence of unwanted radiation
- Corrected an anomaly in the image mapping of a scene across the longitude of 180 degrees.
- Revised to Ver9.00
- Additional updates are:
  - Corrected an anomaly in checking the validity of latitude range for PS mapping.

[AI\_Psr\_Core\_Supproduct (9.01)]

#### **Version 5.01 (2008.05.21)**

(1) PALSAR L1.0 Processing Software

- A bug fixed. The L1.0 processor failed when its workorder specifies only one Conventional Orbit Data while the processor is forced to use it because no Precision Orbit Data exists.

[Ver\_PSR10Prc(6.11)]

#### **Version 5.02 (2008.07.30)**

(1) PALSAR L1.0 Processing Software

- Corrected an anomaly to show "No applicable record" when part of mission telemetry level 0 data are missing outside of the observation data to be processed.

[Ver\_PSR10Prc(6.12)]

(2) PALSAR Core Processing Software

- Modification of calculation method and parameters used to obtain ScanSAR antenna pattern values.

[AI\_Psr\_Core\_SigmaSAR(9.01)]

[palsar\_ant.dat\_f\_a(9.01)]

[palsar\_ant.dat\_f\_b(9.01)]

**Version 5.03 (2008.12.18)**

(1) PALSAR L1.0 Processing Software

Handling of incident angle on SAR Leader file at ScanSAR mode is changed.

[Ver\_PSR10Prc(6.21)]