Release Note

<table>
<thead>
<tr>
<th>Sensor Name</th>
<th>PALSAR</th>
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</table>
| Processing Software Name | PALSAR Level 1.0 processing software  
PALSAR Core data processing software |
| Correction Parameter Name | PALSAR Correction parameter (Level 1.0)  
PALSAR Correction parameter (Core processing) |
| Other             | Install manual                              |
| New Version/Revision | V05 / L04                                   |
| Old Version/Revision | V05 / L03                                   |
| Release Date      | 9th Jan, 2009                               |
| Tar File Name     | ALOS-SW-PALSAR-V05L04.tar                   |
| ZIP File Name/Password | alos_20090109                              |

Modified Items:

1. PALSAR Core data processing software
   - Misalignment of PALSAR images due to a leap second corrected.
   - Tuning of Doppler center frequency estimation program.
   - PALSAR calibration factor updated.

   [Al_Psr_Core_SigmaSAR(9.02)]

Note:

Version 5.04 consists of changed files only.

Please install ”ALOS-SW-PALSAR-V05L04.tar.gz” according to [Captor 5.1-5) of “PALSAR Installation manual_V05L03.pdf” that released in Version 5.03.

Only next files are updated in ”/alos” directory.

   bin/palsar_cor/Al_Psr_Core_SigmaSAR
   bin/palsar_cor/version.kav
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 polarimetory mode was added.
- Parameters of Level 1.1 product for polarimetory mode were added.
- Support to GPS system / DMS system.

Product Editing
- Function for SIGMA-SAR polarimetory 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 charreplica 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).
    [Al_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. [Al_Psr_Core_SigmaSAR(8.04)]
  · Corrected an anomaly of geometric adjustment, which made some images of WB1/WB2 distorted. [Al_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. [Al_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.
[ Al_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.
  [Al_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.
[Al_Psr_Core_SigmaSAR(9.01)]
[palsar_ant.dat_f_a(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)]