JERS-1/SAR
Level 2.1 product
Format description (summary)
<English Version>

October, 2015

1 Abstract

This document describes the products specifications for JERS-1 SAR data. The product specification formats are based on the CEOS (Committee on Earth Observation Satellites) standardized formats.

1.1 SAR Data Product Definitions

The definitions of SAR data products for processing levels are shown in Table 1-1.

Table 1-1   Processing Level and Its Definitions

Processing Level	Definition
2.1	After range and multi-look azimuth compression are performed, radiometric and geometric corrections are performed according to the map projection.

1.2 Scene Size

The definitions of the scene size (image frame size) are shown in Table 1-2.

Table 1-2 Image Sizes of Level 1.5 Data

Processing Level	Image Size Range direction	Image Size Azimuth direction
2.1	75 km	75 km

1.3 Processing Parameters

The processing parameters are given in Table 1-3.

Table 1-3 Summary of Processing Parameters

Items	Parameter Description
Map projection	UTM, PS
Framing	Geo-Coded
Resampling	Nearest Neighbor (NN)
Geodetic coordinate (Earth model)	ITRF97(GRS80)
Scene Shift	0
Window Function	rectangle
Multi-look Number	4
Pixel Spacing	12.5m

2   Product Formats

SAR product formats are based on the CEOS (Committee on Earth Observation Satellites) standardized formats.

2.1 Logical Volume

The image volume exists as a logical volume.

2.2 Order of Image Data

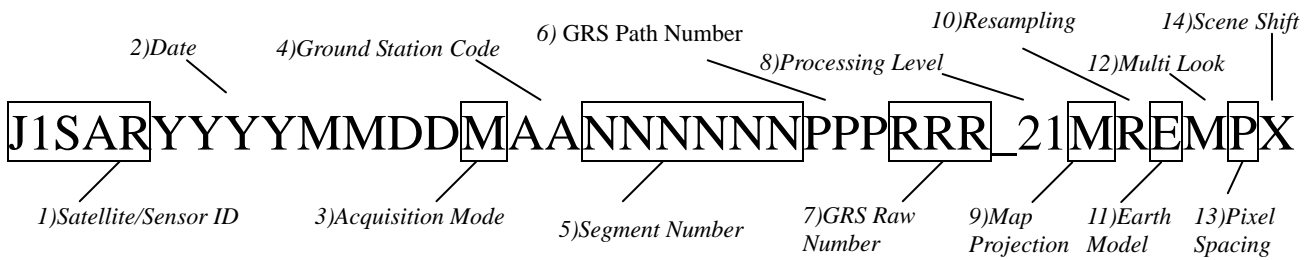The order of image data is BSQ format.

2.3 File Composition

An image volume consists of 5 kinds of files. The file names and their contents are shown in Table 2-1, エラー! 参照元が見つかりません。 and Figure 2-1.

Table 2-1 File Composition and Definitions of File Names

File Name	Definition of File Name	Contents
Volume Directory File	Granule ID[*1].01	This file is located at the beginning of the image volume and stores the volume and file management information.
Leader File	Granule ID.02	This file is located before image file and stores annotation data, ancillary data and other types of data related to the image data in the succeeding image file.
Image File	Granule ID.03	This file is located after the leader file and stores the image data.
Trailer File	Granule ID.04	This file is located after the image file and stores the final information related to the image data.
Null Volume Directory File	Granule ID.05	This file is located at the end of the format.

*1 Refer to Table 2-2.

Table 2-2 Granule ID Definitions

J1SARYYYYMMDDMAANNNNNNPPPRRR_21MREMPX

- 1)Satellite/Sensor ID
- 2)Date
- 3)Acquisition Mode
- 4)Ground Station Code
- 5)Segment Number
- 6) GRS Path Number
- 7)GRS Raw Number
- 8)Processing Level
- 9)Map Projection
- 10)Resampling
- 11)Earth Model
- 12)Multi Look
- 13)Pixel Spacing
- 14)Scene Shift

No.	Field Name	Definitions
1)	Satellite/Sensor ID	J1SAR (fixed)
2)	Date	Start date of the Observation Segment, YYYYMMDD
3)	Acquisition Mode	R: Real M: Mission Data Recorder (MDR)
4)	Ground Station Code	01: Hatoyama (Japan) 14: Maspalomas 15: Fucino 16:Tromso
5)	Segment Number	Observation Segment Number 000001～999999
6)	GRS Path Number	001～659
7)	GRS Raw Number	001～614
8)	Processing Level	21 (Level 2.1, fixed)
9)	Map Projection	U: UTM P: Polar Stereo (PS)
10)	Resampling	N: Nearest Neighbor (fixed))
11)	Earth Model	G: GRS80 (fixed)
12)	Multi Look	4 (fixed)
13)	Pixel Spacing	1: 12.5m (fixed)
14)	Scene Shift	6: (No Scene Shift, fixed)

Volume directory file

SAR leader file

SAR Image file

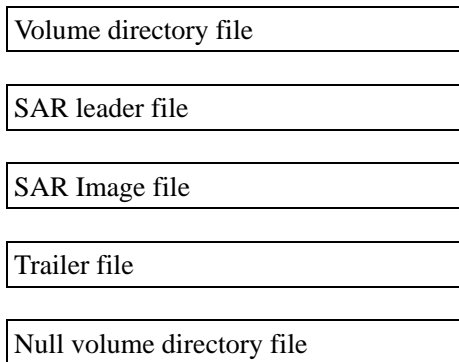| Trailer file |
|---|

Null volume directory file

Figure 2-1 File Composition of Product Format

2.4 Record Composition, Length and Record Number

Table 2-3 shows the record composition and lengths of records in each file.

Table 2-3   Record Composition, Lengths and The Number of Records of Each File

File/Record Name	Record length
a) Volume Directory File	
1) Volume descriptor	360
2) File pointer	360
3) Text	360
b) SAR Leader File	
1) File descriptor	720
2) Data set summary	4096
3) Map projection data	1620
4) Platform position data	4680
5) Attitude data	8192
6) Radiometric data	8600
7) Data quality summary	1620
8) Facility related data	2048
c) SAR Image File(s)	
1) File descriptor	720
2) Processed data	12196
d) Trailer File	
1) File descriptor	720
e) Null Volume Directory File	
1) Volume descriptor	360