Data Processing, Archiving and Distributing of ALOS/PALSAR and ALOS-2/PALSAR-2

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Abstract

Process bulk of ALOS/PALSAR and ALOS-2/PALSAR-2 data to Analysis Ready Data (ARD) and make the ARD available to users.

Ref. URL: http://global.jaxa.jp/projects/sat/alos2/index.html

Reasons for using JSS2

In order for enhancing availability of JAXA's Earth observation data as Open and Free, it is necessary to process and archive vast amoung of the ALOS/PALSAR and the ALOS-2/PALSAR-2 data to Analysis Ready Data (ARD) and make them available to users as quick as possible.

Achievements of the Year

Based on the feasibility study conducted in JFY 2017, in JFY 2018 ALOS/PALSAR Level 0 data (700TB in total) was sent from Tsukuba Space Center to JSS-2 at Chofu. In JSS-2 at Chofu, Level1.1 and Level 2.2 processing software as well as a Sftp API for external users to access to these data were implemented in the JSS-2. A feasibility study for ALOS-2/PALSAR-2 bulk processing was also conducted for effective and low cost implementation. In JFY 2019, bulk processing of ALOS/PALSAR L1.1 and L2.2 will be executed throughout 2019 year end. It is also expected to implement ALOS-2/PALSAR-2 bulk processing system based on the feasibility study conducted in JFY 2018.

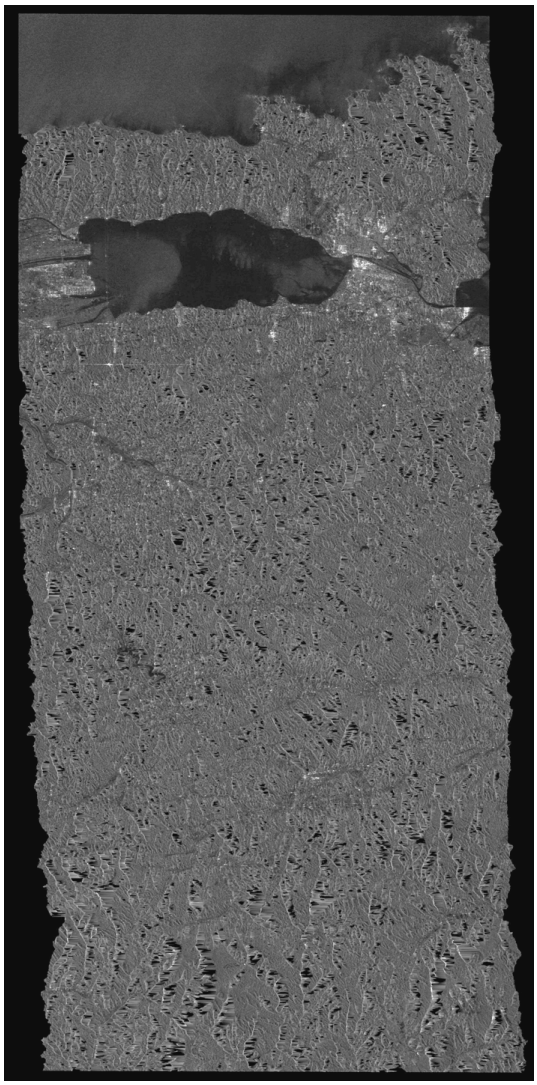

Fig. 1: ALOS/PALSAR Level1.1 data processed by JSS-2

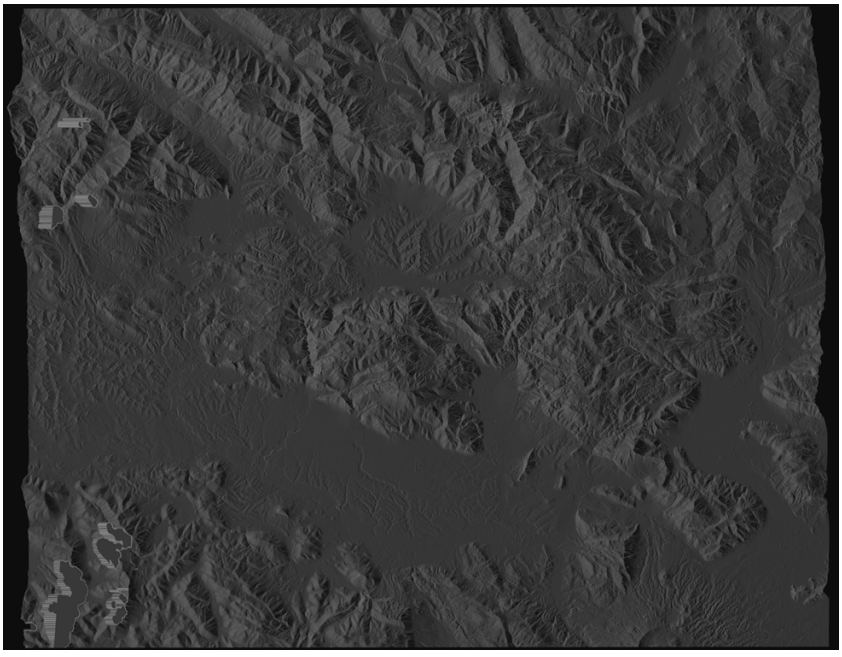

Fig. 2: ALOS/PALSAR Level2.2 data processed by JSS-2

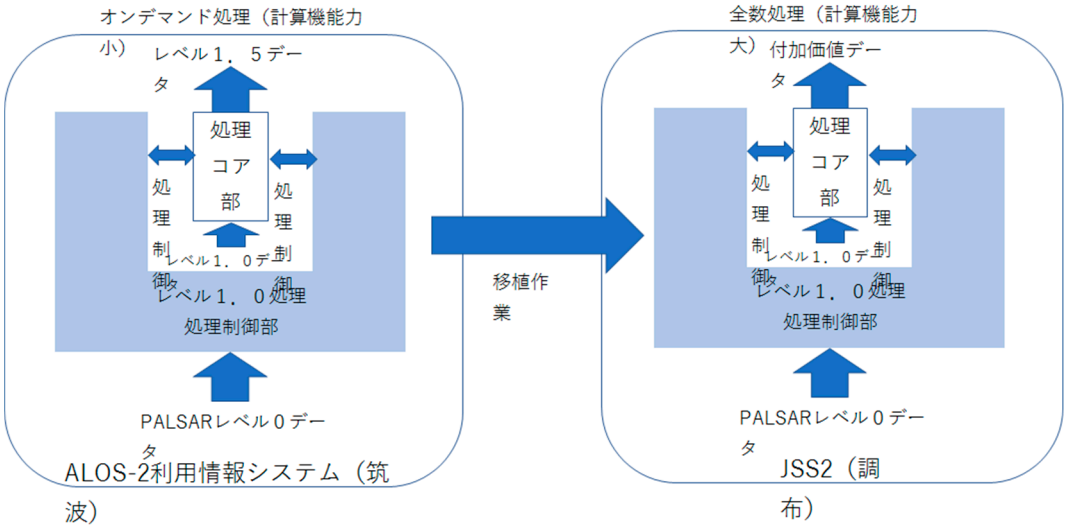

Fig. 3: ALOS/PALSAR porcessing software overview

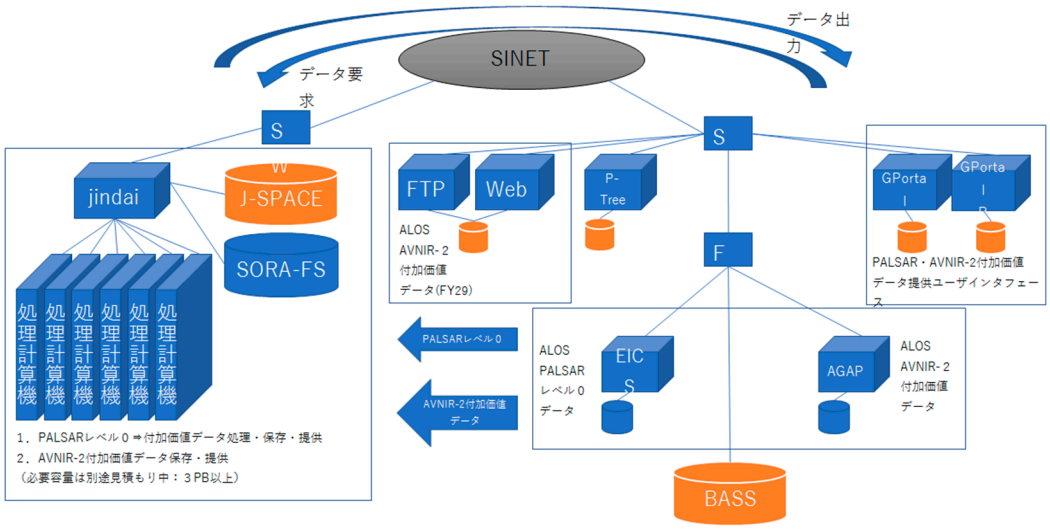

Fig. 4: ALOS/PALSAR bulk processing system overview

Publications

N/A

Usage of JSS2

Computational Information

Process Parallelization Methods	core parallelization by jxsub
Thread Parallelization Methods	pthread, boost: : thread
Number of Processes	1 - 10
Elapsed Time per Case	20 Minute (s)

- **Resources Used**

Fraction of Usage in Total Resources[*1] (%): 0.07

Details

Computational Resources		
System Name	Amount of Core Time (core x hours)	Fraction of Usage[*2] (%)
SORA-MA	0.00	0.00
SORA-PP	10,631.80	0.08
SORA-LM	0.00	0.00
SORA-TPP	0.00	0.00

File System Resources		
File System Name	Storage Assigned (GiB)	Fraction of Usage*2 (%)
/home	435.51	0.45
/data	52,865.37	0.93
/ltmp	41,341.16	3.54

Archiver Resources		
Archiver Name	Storage Used (TiB)	Fraction of Usage*2 (%)
J-SPACE	0.67	0.02

[*1]: Fraction of Usage in Total Resources: Weighted average of three resource types (Computing, File System, and Archiver).

[*2]: Fraction of Usage: Percentage of usage relative to each resource used in one year.