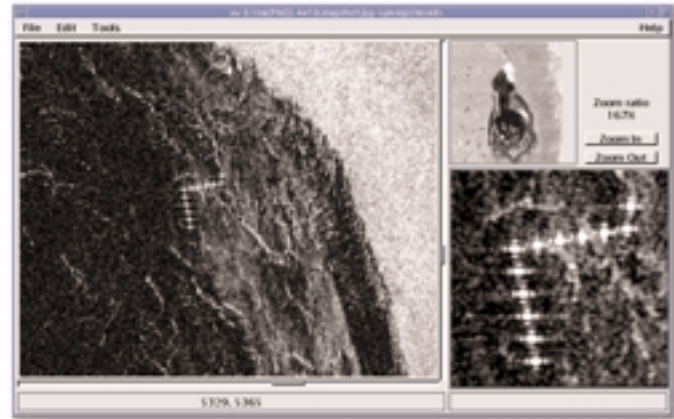


Swath™ ScanSAR Level 1 Processor Standalone System for Satellite-based SAR Sensors

Features

- ScanSAR Level 1 processor for Envisat-ASAR, ALOS-Palsar, Radarsat
- RSI-Certified Radarsat Processor
- Ingests Space Agency standard (CEOS and Envisat) Level 0 formats
- Produces Space Agency standard (CEOS and Envisat) output formats
- Ground range geometry, multi-looked and detected images for standard image processing
- Effectively utilizes multiple CPUs for maximum processing performance
- Sophisticated Doppler analyzer uses MLBF, MLCC, CDE, SDE and Ratio Algorithms for Doppler centroid accuracy of 25 Hz or better to avoid image scalloping.
- Performs all computations in floating point complex domain to preserve dynamic range and image quality.
- Updates doppler centroid both in range and azimuth dimensions for high precision image formation.
- Uses Chirp Transform SPECAN Algorithm for improved image resolution and sub-pixel registration of azimuth looks.
- User-friendly Java GUI for full control over all SAR processing parameters
- Convenient batch processor for large processing jobs
- Fast image viewer with point target and geo-location measurements
- User can select area to be processed in along track direction
- Along track processing window based on latitude, longitude, line number, burst cycle, UTC date, ground track distance
- Instructive image quality plots (Range spectrum, Doppler vs. Range)



Vexcel image viewer showing point target array at Lake Frome, Australia.

Overview

VEXCEL'S SWATH SCANSAR PROCESSOR is a high-performance and high-throughput SAR processor for satellite SAR sensors. As a disk-to-disk processor, Swath imports the space agency standard Level 0 formats (CEOS and Envisat) and produces the standard Level 1 formats (CEOS and Envisat).

A sophisticated Doppler analyzer exploits a suite of different algorithms for robust and high-accuracy Doppler estimation. The doppler estimation is accurate to within 25 Hz to prevent scalloping in processed images.

Efficiently using multiple hardware CPUs results in superior processing performance without sacrificing the outstanding image quality of the produced SAR imagery.

A user-friendly GUI allows for quick production of standard products, but also gives full control over all SAR processing parameters. An integrated batch processor facilitates the handling of large volume processing jobs.

The Swath processor has been certified by RSI in a number of international ground stations. Certification for Envisat/ASAR and ALOS/PALSAR are ongoing.

Swath is a part of Vexcel's APEX™ Ground System software and seamlessly integrates with Vexcel's SKY™ Level 0 processor and OrthoSAR™ ortho-rectification processor.

Options

- Low-resolution output (quicklook browse)

Supported Satellites

- Radarsat
- Envisat / ASAR
- ALOS / PALSAR

Related Products

- Satellite Receiving Terminals
- VxDCS™ Data Capture System
- Apex Commander™ Operations Management System
- EarthFinder™ Image Catalog System
- Sky™ Level 0 Processor
- Focus™ Level 1 SAR Processor
- OrthoSAR™ Ortho-Rectification Processor
- Phase™ SAR Interferometric Processor
- RadarStereo™ Stereo SAR Toolkit
- RaMS™ SAR Mosaic Formation Processor

Technical Specifications

Input Data

- Level Zero CEOS phase history data produced from
 - Vexcel Level 0 processor
 - RSI/CDPF standard CEOS format
 - Envisat / ASAR Level 0
- Vexcel SKY Telemetry Format (STF)

Output Data

- Level 1 CEOS product in RSI/CDPF SCN and SCW format
- Envisat / ASAR wide swath Level 1

Hardware Platform

- Intel Linux platforms
- SGI Octane, Fuel, O200, O300, O2X00, O3X00
- SUN Sparc and Enterprise
- Compaq Alpha servers

Hardware Requirements

- Minimum of 512 MB RAM
- Minimum 1 GB installation disk
- Minimum 1 GB processing disk (depending on input data size)

Radarsat

- Input: RSI CEOS L0, GERALD
- Output: RSI CEOS SCN, SCW

ALOS-PALSAR

- Input: CEOS L0
- Output: CEOS SN1/2, SM1/2, SW1/2

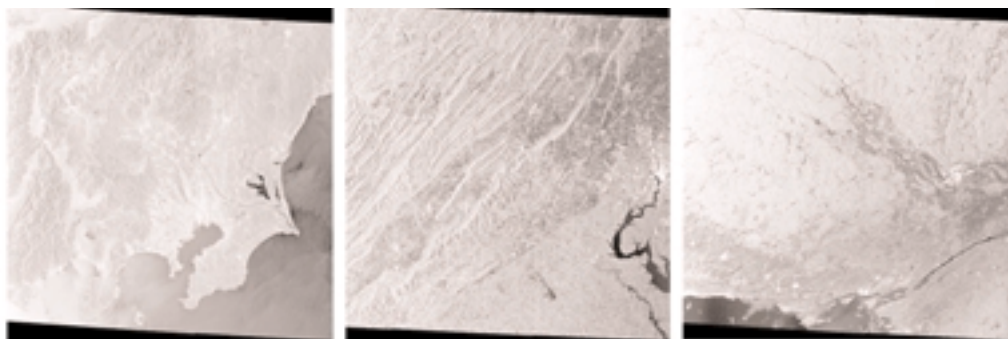
Envisat-ASAR

- Input: ESA L0
- Output: ESA L1B (wide swath)

All satellites and sensors

- Vexcel STF (archive format)

left: Tokyo Bay
center: SAR image
right: SAR image



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