

Dithered HDF5 Files

- Dithered files

- Simulates radar mode where the pulses are staggered in order to shift the TX gaps around, which allows the processor to interpolate across them.
- Dithered with gaps (G) – see next page for more information
- Dithered without gaps (D) – see next page for more information
- Users should compare the G and D products to each other. Comparing X (🍊) with G (🍏) or D (🍏) products is not recommended since the nature of the dither simulation may contribute to the difference.

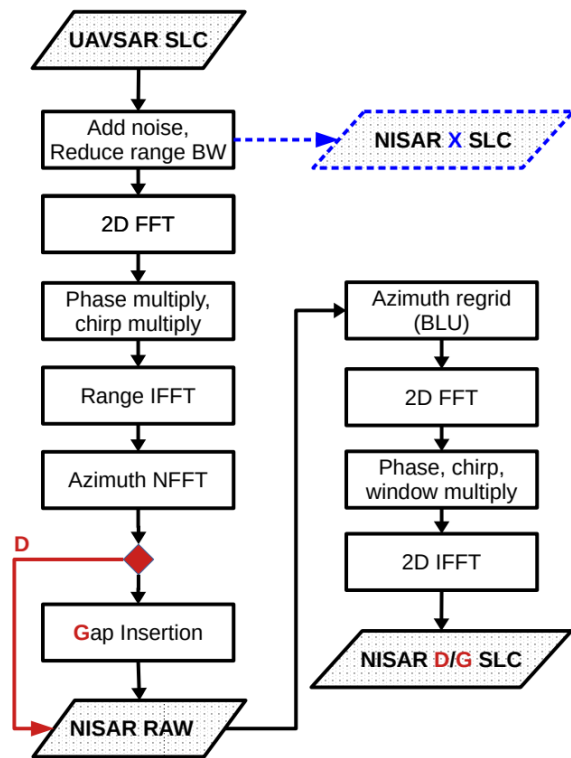
- Naming convention

Not dithered:	NISARP_03112_19049_003_190717_L090_CX_129_03.h5
Dithered with gaps:	NISARP_03112_19049_003_190717_L090_CG_129_03.h5
Dithered without gaps:	NISARP_03112_19049_003_190717_L090_CD_129_03.h5

File name character indicating dither simulation status 

- Not all simulated NISAR products contain dithered files. The tag #dithered-hdf5 identifies products containing dithered HDF5 files.

Distributed Target Dithering Simulation



- Start with UAVSAR scene.
- Add noise and filter to NISAR bandwidth.
 - **“Quick” version to avoid double-counting ambiguities.**
- Multiply by a fixed NISAR-like 2D impulse response function in 2D frequency domain.
- Use NFFT to get samples on irregular grid.
- Zero-out data where gaps exist
 - **Only in “G” products**
- Use BLU to resample/fill gaps.
- Focus data with FFTs & conjugate IRF

How to Find Dithered Simulated Products

The screenshot shows the UAVSAR Data Search interface. At the top, there's a search bar with the text "dithered" entered. To the right of the search bar is a "Search" button. Above the search bar, there are several filter sections: "Date range" (Tue, 1 Jan 2008 to Wed, 6 May 2020), "Processing modes" (PolSAR checked, InSAR Pair, InSAR Browse, SLC Stack, TomoSAR, TopSAR (Ka-band) unchecked), and "Band" (L-band checked, P-band, Ka-band unchecked). A "Specialized Products" section is highlighted with a red box, containing "Simulated NISAR" checked. Below the search bar, there's a "Find" field with a red box around the text "dithered". To the right of the search bar, there's a "Show" button with a red triangle icon. Below the search bar, there's a map showing a flight line over a satellite image of a coastal area. To the right of the map, there's a list of 29 products from 10 flight lines found. The first product is "GrnInd_00004 (1) - Glaciers, Greenland" with a sub-entry "PolSAR: Flight 00020 (2009-05-26), DT 8, v3 / view" and a hashtag "#dithered-hdf5" highlighted with a red box. Other products include "GrnInd_00005", "NISARA_02602", "NISARA_13904", "NISARA_22802", "NISARA_27900", "NISARP_03112", "NISARP_09702", "NISARP_20706", and "NISARP_32039".

On UAVSAR Data Search page:

- Check “Simulated NISAR” under Specialized Products
- Add “dithered” keyword in search box



#dithered-hdf5 hashtag indicates products contains dithered HDF5 files

How to Download Dithered HDF5 Files

Product: [Grnlnd_00004_09029_008_090526_L090_CX_03](#)

[★ Add to Favorites](#)

Instrument: **L-band**

Flight line ID: **00004**

Status: **Released (ASF/OMG/ORNL)**

Flight request ID: **9G028**

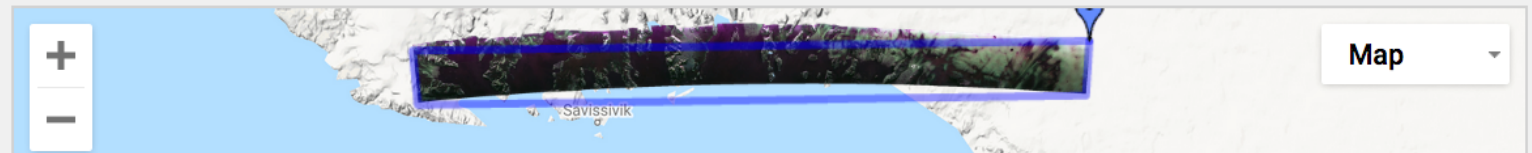
Polarimetric image of Glaciers, Greenland (acquired May 26, 2009)

Flight line comments: Coastal NW Greenland, 41kft.

2 other versions available (see Related Data tab)

Tags: [#simulated-nisar](#) [#dithered-hdf5](#)

[Download](#) [Related Data](#)



Precision Data

This is a simulated NISAR product (UAVSAR data processed to simulate NISAR data).

[Simulated NISAR Product Documentation](#)

Select product:

UAVSAR product with simulated NISAR looks and ground spacing

Simulated NISAR Mode	Center Frequency	Bandwidth	NISAR Polarizations
<input checked="" type="radio"/> 129A (frequency A):	1243.0 MHz	20.0 MHz	HH HV
<input type="radio"/> 129B (frequency B):	1270.0 MHz	5.0 MHz	VH VV
<input type="radio"/> 138A (frequency A):	1253.0 MHz	40.0 MHz	HH HV
<input type="radio"/> 138B (frequency B):	1275.5 MHz	5.0 MHz	VH VV
<input type="radio"/> 143A (frequency A):	1243.0 MHz	20.0 MHz	HH HV
<input type="radio"/> 143B (frequency B):	1263.0 MHz	20.0 MHz	VH VV

1. Make sure **#dithered-hdf5** hashtag is present on the product page
2. Select desired NISAR mode (each HDF5 contains data for both frequencies)

How to Download Dithered HDF5 Files

3. Use Downloads links to download dithered HDF5 files for selected mode



Downloads

...
HDF5 Data [NISAR HDF5 File \(4.5 GB\)](#)
Mission Evaluation Products [NISAR HDF5 File for Dithered Data With Gaps \(4.5 GB\)](#)
[NISAR HDF5 File for Dithered Data Without Gaps \(4.5 GB\)](#)

wget commands to download data: 20.3GB

```
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090_CX_129A_03.ann
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090HH_CX_129A_03.slc
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090HV_CX_129A_03.slc
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090VH_CX_129A_03.slc
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090VV_CX_129A_03.slc
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090HHHH_CX_129A_03.mlc
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090HVHV_CX_129A_03.mlc
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090VVVV_CX_129A_03.mlc
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090HHHV_CX_129A_03.mlc
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090HHVV_CX_129A_03.mlc
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090HVHV_CX_129A_03.mlc
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090HHHH_CX_129A_03.grd
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090HVHV_CX_129A_03.grd
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090VVVV_CX_129A_03.grd
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090HHHV_CX_129A_03.grd
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090HHVV_CX_129A_03.grd
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090HVHV_CX_129A_03.grd
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090_CX_129A_03.inc
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090_CX_129A_03.flat.inc
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090_CX_129A_03.slope
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090_CX_129A_03.rtc
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090_CX_129A_03.hgt
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090_CX_129A_03.kmz
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090_CX_129_03.h5
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090_CG_129_03.h5
wget http://downloaduav.jpl.nasa.gov/Release2v/Grnlnd_00005_09030_007_090527_L090_CX_03/Grnlnd_00005_09030_007_090527_L090_CD_129_03.h5
```

OR

Use wget commands to download the data

