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.

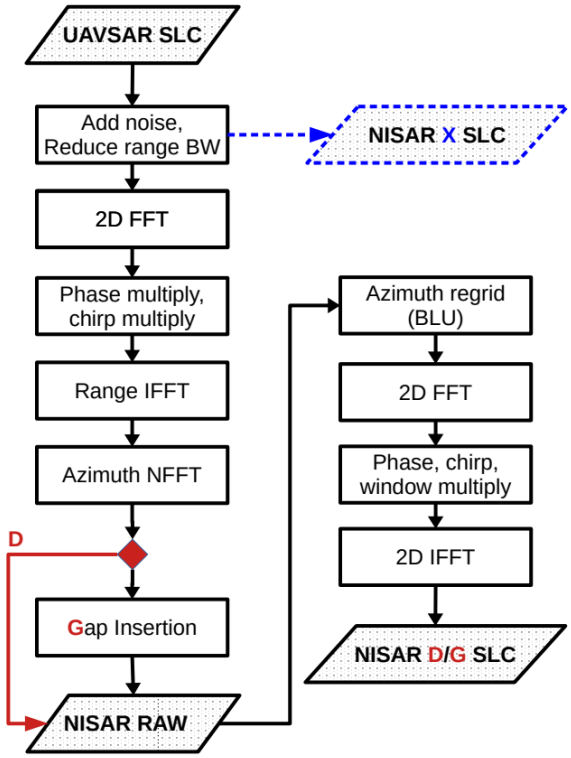
- Naming convention

Not dithered:	NISARP_03112_19049_003_190717_L090_C**X**_129_03.h5
Dithered with gaps:	NISARP_03112_19049_003_190717_L090_C**G**_129_03.h5
Dithered without gaps:	NISARP_03112_19049_003_190717_L090_C**D**_129_03.h5

File name character indicating dither simulation status

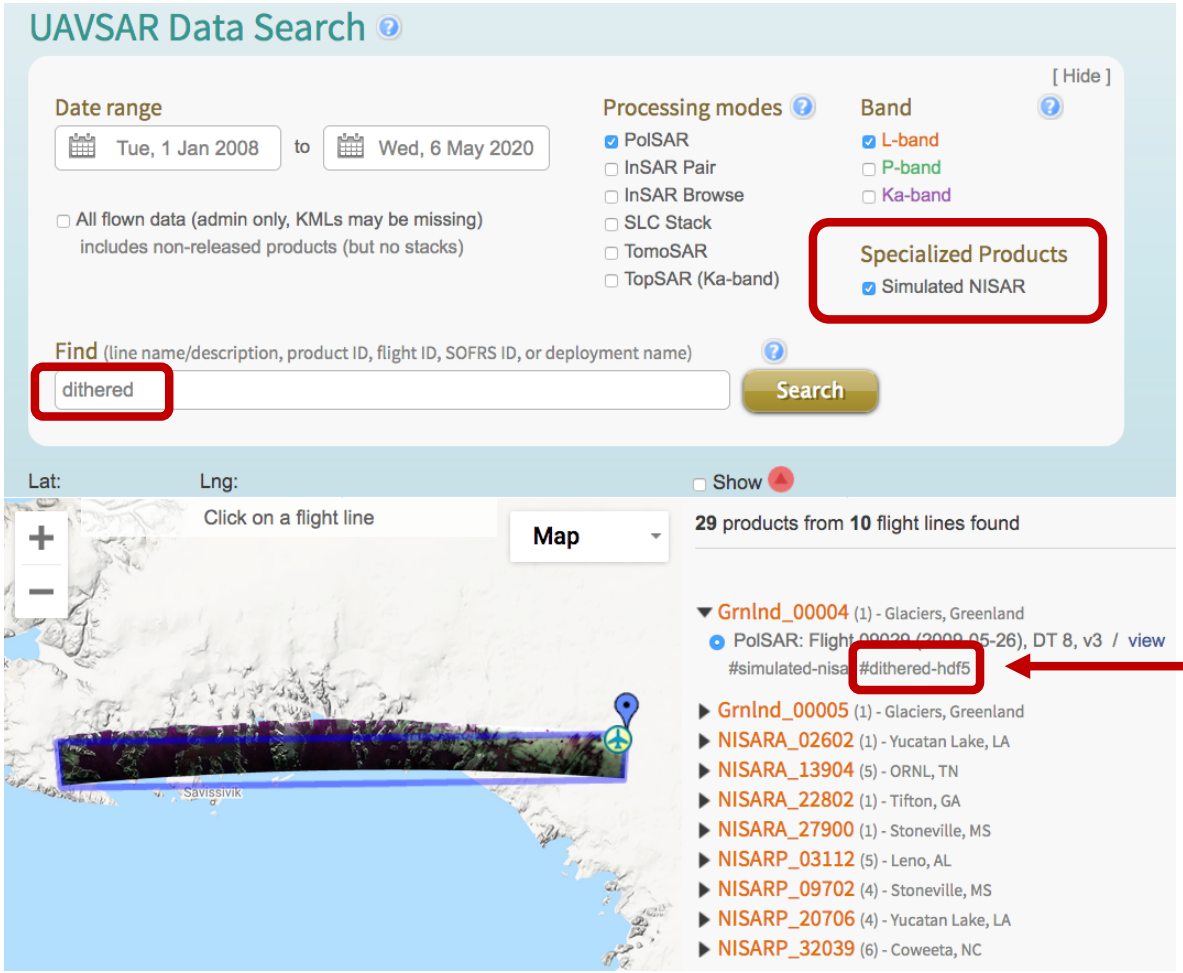
- Not all simulated NISAR products contain dithered files. The tag #dithered-hdf5 identifies products containing dithered HDF5 files.

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



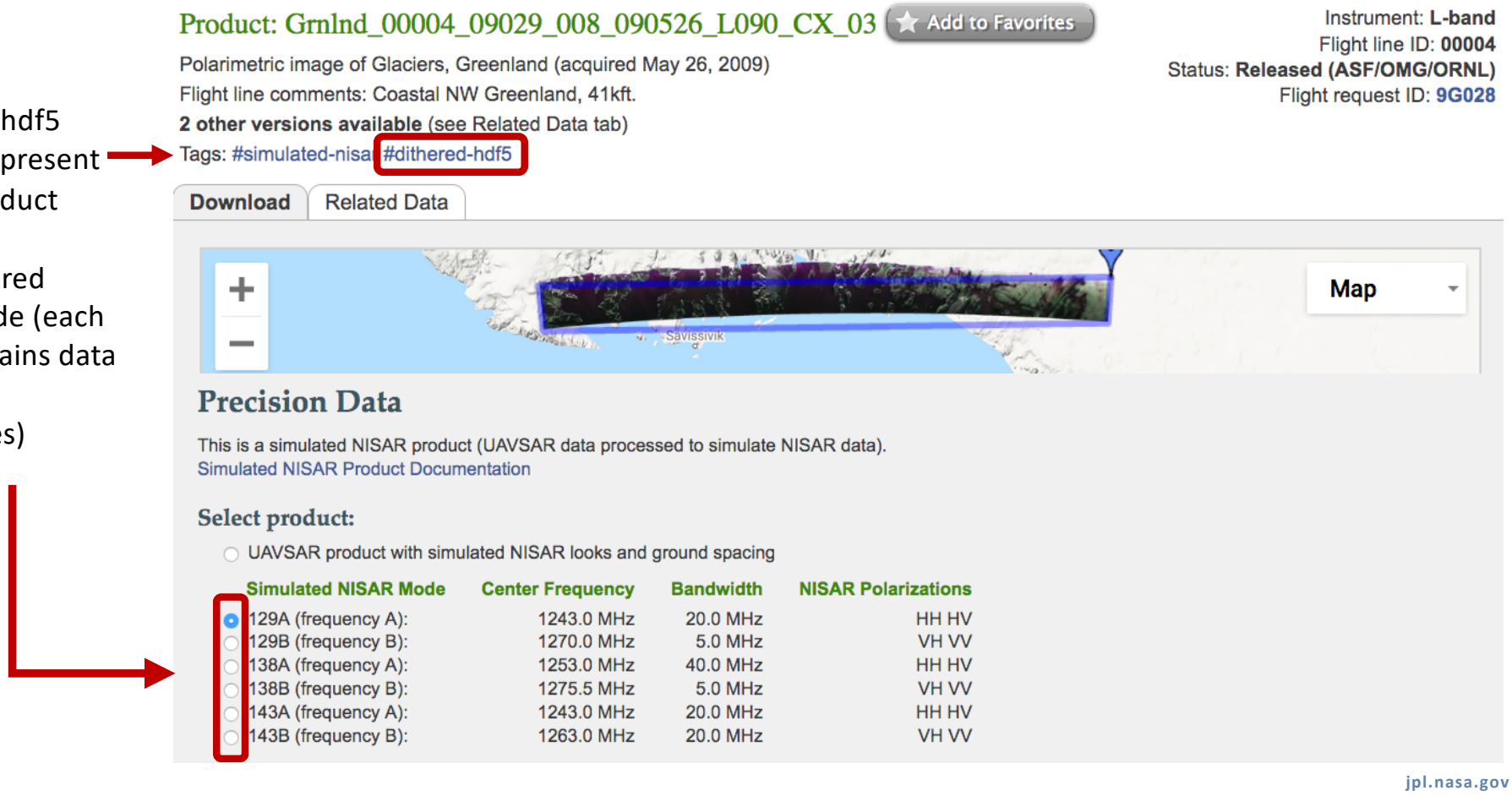
On UAVSAR Data Search page:

- 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

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/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090_CX_129A_03.ann
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090HH_CX_129A_03.slc
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090HV_CX_129A_03.slc
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090VH_CX_129A_03.slc
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090VV_CX_129A_03.slc
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090HHHH_CX_129A_03.mlc
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090HVHV_CX_129A_03.mlc
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090VVVV_CX_129A_03.mlc
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090HHHV_CX_129A_03.mlc
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090HHVV_CX_129A_03.mlc
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090HVVV_CX_129A_03.mlc
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090HHHH_CX_129A_03.grd
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090HVHV_CX_129A_03.grd
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090VVVV_CX_129A_03.grd
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090HHHV_CX_129A_03.grd
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090HHVV_CX_129A_03.grd
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090HVVV_CX_129A_03.grd
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090_CX_129A_03.inc
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090_CX_129A_03.flat.inc
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090_CX_129A_03.slope
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090_CX_129A_03.rtc
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090_CX_129A_03.hgt
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090_CX_129A_03.kmz
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090_CX_129_03.h5
```

OR

Use wget commands to download the data

```
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090_CG_129_03.h5
wget http://downloaduav.jpl.nasa.gov/Release2v/GrnInd_00005_09030_007_090527_L090_CX_03/GrnInd_00005_09030_007_090527_L090_CD_129_03.h5
```