

Metadata

Dataset Name	KuKa Rothera 2023 Processed Waveforms
Dataset General Type	Polarimetric, Nadir-looking Ku/Ka-band Waveforms
Dataset Type	Dataset
Dataset Level	0
Program Website	https://defiant.ac.uk/
Keyword Vocabulary	Polar Data Catalogue
Keyword Vocabulary URL	https://www.polardata.ca/pdcinput/public/keywordlibrary
Theme	
Title	Cryosphere
URL	https://canwin-datahub.ad.umanitoba.ca/data/en/group/cryosphere
Dataset Status	In Progress
Maintenance and Update Frequency	Not planned
Dataset Last Revision Date	2024-11-28
Dataset DOI	10.34992/pqvf-q516
Metadata Creation Date	2025
Publisher	CanWIN
Dataset Authors	
Dataset Authors 1	
Name	Mallett, Robbie

Type of Name Personal
Email robbie.d.mallett@uit.no
Affiliation Centre for Earth Observation Science - University of Manitoba
ORCID ID 0000-0002-1069-6529
ORCID
<http://orcid.org/>

**Dataset
Authors 2**

Name Nandan, Vishnu
Type of Name Personal
Email vishnun@am.amrita.edu
Affiliation Centre for Earth Observation Science - University of Manitoba
ORCID ID 0000-0002-5133-2676
ORCID
<http://orcid.org/>

Contributors

Contributors 1

Name
Role
Email
Affiliation
ORCID ID

**Project Data
Curator** Stroeve, Julienne

**Project Data
Curator
email** julienne.stroeve@umanitoba.ca

**Project Data
Curator
Affiliation** Centre for Earth Observation Science - University of Manitoba

**Dataset
Collection
Start Date** 2023-03-17

**Dataset
Collection
End Date** 2023-10-09

Sample Collection

Sample Collection 1

Sampling Instrument Name

Prosensing KuKa

Standardized Sampling Instrument Name

Sample Collection Method Name

Polarimetric Radar Scanning

Comment

Method Link

Method Summary

This directory contains processed waveform data from the KuKa radar instrument from its deployment at Rothera Research Station during 2023. Data were collected over sea ice, open water, glacial ice and terrestrial snow. In addition, calibration experiments were performed on a metal sheet and over concrete inside the aircraft hanger. The data are therefore extremely diverse and contact should be made with the Rothera DEFIANT project team prior to any scientific analysis. Any such analysis will require auxiliary data concerning the nature of the target in the footprint (sea ice, land-ice, snow etc). Data are processed at full bandwidth (see Willatt et al., 2023 GRL for details on this) using the KuKaPy Python package (<https://doi.org/10.5281/zenodo.7967057>).

Method Description Type

Methods

Activity Collection Type

Field Measurement

Preferred citation

Analytical Instrument

Analytical Instrument 1

Analytical Instrument Name

Standardized Analytical Instrument Name

Analytical Instrument Identifier Id

Analytical Instrument Title Type

Alternative Title

Analytical
Instrument
Identifier Type

Analytical Method

Analytical Method 1

Analytical
Method Name

Method Link

Method
Summary

Laboratory

Comments

All data are geolocated with the exception of calibration measurements that occurred in the aircraft hangar where no GPS fix was available. Due to a persistent issue with the instrument clocks, the accuracy of timestamps are not always guaranteed.

Variables
Measured

License
Name

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Licence
Type

Open

Embargo
Date

Licence URL

<https://spdx.org/licenses>

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Awards

Awards 1

Award Title

Canada C150 Research Chairs

Website

Funder Name

NSERC

Funder
Identifier Code

Funder
Identifier Type

Funder
Identifier
Scheme

Grant Number

Related Resources

Related Resources 1

Related Resource Name

Resource Code

Identifier Type

Relationship To This Dataset

Resource Type Online Resource

Type

Series Name

Publications

Publications 1

Publication Name

Identifier Code

Identifier Type

Relationship to this dataset

Resource Type Online Resource

Publication Type

Spatial regions

antarctica

Spatial extent West Bound Longitude

Spatial extent East Bound Longitude

Spatial extent South Bound Latitude

**Spatial
extent North
Bound
Latitude**

Data and Resources

URL	https://canwinerddap.ad.umanitoba.ca/erddap/files/Defiant_Rothera_Campaign_0bb4_eeb0_9c06/KuKa_Data/
Name	KuKa data
Description	This dataset contains processed waveform data from the KuKa radar instrument from its deployment at Rothera Research Station during 2023.
Format	.nc
Resource Category	data