

# Metadata

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

Creative Commons Attribution 4.0 International

Licence  
Type

Open

Embargo  
Date

Licence URL

<https://spdx.org/licenses>

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Access

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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

|                              |   |
|------------------------------|---|
| <b>URL</b>                   | <a href="https://canwinerddap.ad.umanitoba.ca/erddap/files/Defiant_Rothera_Campaign_0bb4_eeb0_9c06/KuKa_Data/">https://canwinerddap.ad.umanitoba.ca/erddap/files/Defiant_Rothera_Campaign_0bb4_eeb0_9c06/KuKa_Data/</a> |
| <b>Name</b>                  | KuKa data   |
| <b>Description</b>           | This dataset contains processed waveform data from the KuKa radar instrument from its deployment at Rothera Research Station during 2023.   |
| <b>Format</b>                | .nc   |
| <b>Resource<br/>Category</b> | data  |