SnowEx20 Grand Mesa IOP Ground-Based Passive Microwave Radiometer Measurements, Version 1 Technical Reference

1 INTRODUCTION

1.1 Data Set Overview

The dataset consists of passive microwave measurements collected between 4 February and 12 February 2020 as part of the NASA SnowEx 2020 field campaign at the Grand Mesa, Colorado IOP study site. The measurements were taken at v- and h-polarization at both 19 and 37 GHz using two radiometers mounted on a sled. The radiometers measure emission of passive microwave radiation and record voltage for each radiometer. The voltage is converted to microwave brightness temperature using calibrations based on measurements of absorbers of known brightness temperature.

Measurements were collected in two different configurations; along transects adjacent to snow pits or in a grid pattern. Transect data was collected at five sampling locations spaced one meter apart along each transect. Grid data was collected by dragging the radiometers behind a snowmobile in a grid pattern, with measurements taken approximately every half meter along the grid lines.

1.2 File Information

1.2.1 Format

The data are available in two `.csv` files, organized into one multi-file granule formatted as a compressed archived file (`.tgz`).

1.2.2 Naming Convention

The two files are named:

`SNEX20_GM_GBPM_PIT_20200204-20200212_V01.0.csv, and`
`SNEX20_GM_GBPM_GRID_20200204-20200212_V01.0.csv,`

where `SNEX20_GM_GBPM` is the short-name for the data set title, `PIT` indicates the file contains data collected along snow pit adjacent transects, `GRID` indicates the file contains data collected in a grid pattern, and `20200204-20200212` is the temporal range of data acquisition.

2 RELATED DATA SETS

SnowEx at NSIDC | Data Sets

SnowEx20 Time Series Snow Pit Measurements, Version 2