Title: VORTEX-SE Meso18-19 UAH MoDLS Microwave Profile Radiometer Dataset

Authors:
Preston Pangle   preston.pangle@uah.edu   University of Alabama In Huntsville
Kevin Knupp(PI)   kevin.knupp@uah.edu   University of Alabama In Huntsville

1.0 Dataset Overview

The UAH Mobile Operated Doppler Lidar System (MoDLS) is housed within a trailer that also contains a Microwave Profile Radiometer. The lidar and MPR were operated each IOP often co-located with a sounding system. The locations for the MoDLS MPR is as follows:

IOP 1
Location: 34.632487, -85.972167; Bearing: 120 Deg

IOP 3
Location: 34.725, -86.657 (UAH) Bearing: 0 deg

IOP 4
Location: 34.725, -86.657 (UAH) Bearing: 0 deg

IOP 5
Location: 34.725, -86.657 (UAH) Bearing: 0 deg

IOP6
Location: 34.725, -86.657 (UAH) Bearing: 0 deg

UFO 7
Location: 34.725, -86.657 (UAH) Bearing: 0 deg

IOP 8
Location: 34.725, -86.657 (UAH) Bearing: 0 deg

IOP 9
Location: 34.725, -86.657 (UAH) Bearing: 0 deg

2.0 Instrument Description

UAH MoDLS utilizes a Radiometrics 12-channel Microwave Profile Radiometer.

3.0 Data Collection and Processing

Data was collected for each IOP at 1 minute intervals. No data processing was completed.

4.0 Data Format

The MoDLS MPR files are provided in a netCDF file format. The file naming convention is as follows:
YYYY-MM-DD_HH-SS.nc where:

YYYY -> Year
MM   -> Month
DD   -> Day
HH   -> Hour
SS   -> Seconds
.nc   -> file extension

Each data file contains the following parameters:

Identifier	Units	Description
decimalTime	UTC Hours	UTC Time in Decimal Hours from 0000 UTC
epochTime	seconds	Seconds Since 00 UTC 1970 01 01
eight	meters	Height AGL
IRTemp	Kelvin	IR Temp profile
VaporDensity	g/m^3	Water Vapor Density
RelatvieHumidty	%	Relative Humidity
LiquidWater	g/m^3	Liquid Water Content
sfcTemp	Kelvin	Surface Temperature
sfcRelativeHumidity	%	Surface Relative Humidity
sfcPressure	hPa	Surface Station Pressure
sfcIRTemp	Kelvin	Surface IR Temp
rainFlag	Binary	Rain Detected at Surface (0: no; 1: Yes)
IntegratedVapor	cm	Column Integrated Water Vapor
IntegratedLiquid	mm	Column Integrated Liquid Water