

Title: PERiLS 2022 UAH MAPNet Parsivel Disdrometer Dataset

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1.0 Dataset Overview

The UAH Mobile Atmospheric Profiling Network (MAPNet) had a parsivel that was deployed with the MoDLS platform for IOP1 and with the Rapidly Deployable Profiling System (RaDAPS) for the three other IOPs.

IOP 1: Deployed with MoDLS

Time Period: 2022/03/22 1350Z to 2022/03/22 2200Z

Location: 32.799110,-88.162043

IOP 2: Deployed with RaDAPS

Time Period: 2022/03/30 1430Z to 2022/03/31 0215Z

Location: 33.595558, -88.987904 elevation: 87 m

IOP 3: Deployed with RaDAPS

Time Period: 2022/04/05 1023Z to 2022/04/05 1747Z

Location: 32.1659, -86.9086 elevation: 126 m

IOP 4: Deployed with RaDAPS

Time Period: 2022/04/13 1445Z to 2022/04/13 2145Z

Location: 36.40374,-90.1161 elevation: 86 m

2.0 Instrument Description

UAH utilizes the OTT Hydromet Parsivel². For PERiLS 2022, the parsivel was deployed directly adjacent to the platform.

More information regarding the RaDAPS system can be found here:

<https://www.nsstc.uah.edu/mapnet/facilities/radaps.php>

3.0 Data Collection and Processing

Data is collected every 10 seconds in tabular format. No processing has been completed.

4.0 Data Format

The UAH Parsivel data files are standard CSV files and follow the naming convention: platform_YYYYMMDD_parsivel.dat, where:

platform -> platform parsivel is on

YYYY -> year

MM -> month

DD -> day

Column Identifiers:

COLUMN VARIABLE

0 -> Year

1 -> Julian Day

2 -> Hour & minute, Seconds(UTC)

3 -> sensor temperature (C)

4 -> total number of detected particles

5 -> rainfall intensity (mm/hr)

6-37 -> N(D) ($\log[m^{-1} mm^{-3}]$)

38-69 -> V(D) (m/s)