Single-axis Tracking Bifacial Testfield and Ground Irradiance Data in Golden, Colorado

This data was collected for Choi *et al.*

Text

Description automatically generated with medium confidence

* Location: 39.739963°, -105.173965°, at NREL Laboratory in Golden, Colorado.
* Type of data: Irradiance, PAR.
* Data quality: Sensors were calibrated pre-deployment. Data has been cleaned to remove days
* where the reflective fabric below the array moved or any other maintenance events.
* Resolution: 1-minute sensor data.
* Instrument details
  + Datalogger details: CRX1000.
  + Ground irradiance sensors details: Five Apogee SP-215-SS
  + PAR sensors details: Two Apogee SQ 615
  + Calibration date: August 2023
* Period of data: 2023-11-17 to 2024-05-29
* Array orientation is indicated by the ‘Array Azimuth’ column in degrees in the data file.
  + E-W from Nov. 17 - Jan. 24, high-albedo tarp
  + N-S from Jan. 24 - Apr.3, high-albedo tarp
  + E-W from Apr. 3 - Mar. 29, seasonal albedo
* A weather data file is included, downloaded from NREL’s Solar Radiation Research Laboratory (SRRL) [Measurement and Instrumentation Data Center (MIDC)](https://midcdmz.nrel.gov/apps/sitehome.pl?site=BMS). SRRL is located <60 m from the testbed site. Data, including DNI, DHI, GHI, is provided at the 15-minute resolution of the study. Increased resolutions can be downloaded directly from SRRL. Please note albedo in this weather file has been set to be the soiled tarp average reflectivity (0.60) for all timestamps where the measured albedo is below 0.6. When fresh snow covers the tarp, these values (>0.6) are used. The reflective tarp was removed from the array on April 3rd. Starting from this date, the Albedo column in the provided weather data file reflects seasonal SRRL measurements.