A Unique Airborne Multi-angular Dataset for Calibration and Validation of Earth Satellite Products

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The Cloud Absorption Radiometer (CAR) Science Team, and the NASA Goddard Earth Sciences Data and Information Services Center (GES DISC) recently released a unique dataset of bidirectional reflectance-distribution function (BRDF) of different surface types including clouds, snow/ice, vegetation, ocean, lakes, desert, city scape, smoke and other mixed surface types. The data were acquired during numerous field campaigns around the world, with measurements spanning 1991 to 2017. This presentation will address several uses of these data including developing new methods that define important surface and atmosphere radiative transfer functions, improve remote sensing retrievals of multiple geophysical parameters such as aerosols, clouds and surface albedo, and support satellite remote sensing activities. CAR data are archived at GES DISC: https://disc.gsfc.nasa.gov/datasets?keywords=car.