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An Evaluation of Soil Moisture Retrievals Using Aircraft Passive Microwave Observations During SMEX02

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Abstract

The Soil Moisture Experiments conducted in Iowa in the summer of 2002 used many remote sensing instruments that were used to study the spatial distribution of soil moisture. The sensors used in this paper (a subset of the suite of instruments used on the AQUA satellite-based AMSR-E (Advanced Microwave Scanning Radiometer Earth Observing System) and the aircraft-based PSR C/X (Polarimetric Scanning Radiometer). The SMEX02 design focused on the collection of near-nadir brightness temperature observations from each of these instruments.

measurements at field- and domain- scale. This methodology provides quantitative analysis of the soil moisture remote sensing potential of *in situ* comparisons and retrieved soil moisture estimates through the algorithm transfer model. To this end, the two sensors are compared with respect to soil moisture.

Keywords: [remote sensing](#), [soil moisture](#), [microwave](#), [field experin](#)

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