



Field-Testing the Suitability of Microrain Radars to Describe the Spatial Gradients of the Vertical Structure of Rainfall in Mountainous Regions

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A Micro Rain Radar (MRR) was deployed twice in July/August and October/November 2008 for a total duration of three months at the top of a mountain ridge in the Great Smoky Mountains National Park in the Southern Appalachians. For the second period of observation, a second MRR was deployed at a lower altitude in a nearby valley. Observations from rain gauges and the MRR were used along with a microphysical model to simulate the rainfall events observed during the radar deployment. Results from an integrated analysis of the observations are presented here, with emphasis on characterizing the diurnal cycle of rainfall and ridge-valley gradients in vertical structure of rainfall with an emphasis on microphysical properties.