

13.51 PARAMETERIZING RAINDROP SIZE DISTRIBUTIONS USING MICROWAVE LINKS

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We present a novel method of using three collocated microwave link instruments to estimate the three parameters of a raindrop size distribution (DSD) model. This allows path-average DSD measurements over a path-length of several kilometers as opposed to the point measurements of conventional disdrometers. Our model is validated in a round-trip manner using a simulated DSD field as well as an array of laser disdrometers aligned along a path. Different potential link configurations are investigated. We also present results from the application of this method to an experimental setup of collocated microwave links measuring at 26 GHz and 38 GHz along a 2.2 km path.