



Mountain Heavy Rainfall Measurement Experiments in a Subtropical Monsoon Environment

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Quantitative rainfall measurement experiments have been conducted in Taiwan area for the past 5 years (since 2008), especially over the complex terrain region. In this paper, results from these experiments will be analyzed and discussed, especially those associated with heavy rain events in the summer monsoon season. Observations from s-band polarimetric radar (SPOL of NCAR) and also x-band vertically-pointing radar are analyzed to reveal the high resolution temporal and spatial variation of precipitation structure. May and June, the Meiyu season in the area, are months with subtropical frontal rainfall events. Mesoscale convective systems, i.e., pre-frontal squall lines and frontal convective rainbands, are very active and frequently produce heavy rain events over mountain areas. Accurate quantitative precipitation measurements are needed in order to meet the requirement for landslide and flood early warning purpose. Using ground-based disdrometers and vertically-pointing radar, we have been trying to modify the quantitative precipitation estimation in the mountain region by using coastal operational radar. In this paper, the methodology applied will be presented and the potential of its application will be discussed.

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