S-POL measurements and DSD estimates of reflectivity during the WET AMC and TRMM-LBA field experiment in Rondônia, Brazil

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Several convective and stratiform rainfall events were measured by the S-POL weather radar (Lutz et al. 1995) and by DSD (Tokay et al. 1999) during the wet season of the Amazon region (WET AMC) as part of the Large Scale Biosphere Atmosphere Experiment in Amazonia (LBA) and Tropical Rainfall Measurement Mission (TRMM) field experiment carried out in January and February of 1999. Results indicate better correlation between the S-POL measurements and DSD estimates of reflectivity for convective events. The parameters of the ZR relationship tend to vary during the life span of the convective systems, characterized by three distinct phases: convective, transitional and decaying phases, as pointed out by Atlas et al. (1999). Furthermore, measurements and estimates of reflectivity of stratiform systems are not well correlated. Since stratiform precipitation accounted for half of the total rainfall accumulation (Rickenbach et al. 2000), radar estimates tend to be more susceptible to larger errors in this case.

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