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Precipitation properties observed during CHUVA Field Campaign

C. Morales (1), L.A. Machado (2), C.F Angelis (2), M.A.F. Silva Dias (1), G. Fisch (3), I.C Carvalho (2), T. Biscaro (2), J. Sakuragi (2), J.R. Neves (1), E.M. Anselmo (1), and M. Lacerda (4)

(1) University of Sao Paulo, Atmospheric Science, São Paulo, Brazil (morales@model.iag.usp.br), (2) Instituto de Pesquisas Espaciais - INPE, Cachoeira Paulista, Brazil, (3) Instituto de Aeronáutica e Espaço - IAE, CTA, São José dos Campos, Brazil, (4) Unversidade Federal do Mato Grosso do Sul, Campo Grande, Brazil

CHUVA is a Brazilian research program that seeks to depict the main precipitating systems observed in Brazil as a support for the Global Precipitation Measurement (GPM) mission. CHUVA is conducting a series of field campaigns in the time frame of 2010-2013 to sample raining systems that vary from maritime to continental regime and in polluted and clean environments. For this study, we will present initially the drop size distribution (DSD) variability observed in the field experiments of Alcantara (March/2010), Fortaleza (April/2011), Belém (June/2011) and Vale do Paraiba (November-December/2011). Secondly, with the help of the mobile X-Band and MRR-2, we will show the DSD differences observed on warm and cold phase clouds, and convective and stratiform precipitation. Finally, by employing the vertical electrical field and lightning measurements together with the weather radar, we will present the main vertical precipitation features observed in thunderstorms and non-thunderstorms, in addition to the different raining systems observed during the four field campaigns.