CHUVA Radar Measurements: Calibration and Attenuation Issues

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Although the Mobile X-Band Dual Polarization weather radar employed in the 3 CHUVA field campaigns has been calibrated by Gemmatronik, the transmitted power is not updated in the radar equation and the calibration curve (power x signal) needs to be checked frequently. Furthermore, radome wetting could also cause some attenuation especially at the X-band frequency. Due to these artifacts it is important to evaluate the quality of such measurements, thus in this study we employ the methodology developed by Anagnostou et al. (2001) to retrieve the performance of CHUVA weather radar against the consolidate measurements of TRMM-PR. Finally, we will check if the rain attenuation algorithm used in the Gemmatronik software is able to recover the signal during some moderate to severe raining systems.