Evaluation of Operational Rainfall Retrieval Algorithms over Brazil

C. Morales (1), L.A.T. Machado (2), and C.F. Angelis (2)

(1) Universidade de Sao Paulo, of Atmospheric Science, Sao Paulo, Brazil (morales@model.iag.usp.br), (2) Instituto Nacional de Pesquisas Espaciais, INPE, Cachoeira Paulista, Sao Paulo, Brazil (machado@cptec.inpe.br)

Over the past 2 years, two rainfall estimation algorithms (Hydroestimator and USProb) have been operational at the Satellite Division of the Brazilian Space Research Institute (INPE). Hydroestimator is an IR technique that was based on the NESDIS Autoestimator algorithm, while USProb is a continental microwave retrieval that was developed for the Amazon Region. Besides these two schemes, another algorithm that makes use of IR and VIS channels and a cloud tracking technique (Fortracc) have been developed. During the conference, two years of rainfall estimation over Brazil will be used to diagnose the performance of such algorithms. These analysis will be concentrated on instantaneous, hourly, daily and monthly statistics in addition to the diurnal cycle representation. As the ground thruth, quality control rain guages and weather radar rain maps are employed over most part of Brazil. Moreover, regional statistics will be employed due to different precipitating systems acting in Brazil, i.e., the nothern part hold most of tropical convection, while northeast show warm cloud systems and the south, southeast and center Brazil have a combination of tropical convection, cold fronts, mesoscale convective systems and localized convection. Finally at the end of the presention, few annoucements will be made on behalf of GPM-Brazil. In that opportunity it will be shown the 2010 calendar activity for the Brazilian Field Campaigns as part of the Precipitation Measuring Mission (PMM) validation program.