

EVALUATION OF COMBINED TMI-PR RAINFALL RETRIEVALS

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An algorithm for the estimation of near-surface rainfall has been developed to be used with combined data from the Tropical Rainfall Measuring Mission (TRMM) Microwave Imager (TMI) and the Precipitation Radar (PR). The algorithm consists of an independent physical passive microwave component developed using extensive radiative transfer simulations based on mesoscale cloud model experiments. The inversion module utilizes a simplified Bayesian estimator with empirical orthogonal functions as predictors. TMI and PR estimates are unified with respect to spatial resolution and sensing altitude over their common swath. These estimates are accumulated in a dynamic database serving as a calibration tool for the TMI retrievals over the full swath. This study presents an assessment of algorithm performance vs. standard products, the influence of version 4 vs. version 5 PR data used for calibration, and the dependence of the calibration dynamics on cloud type and observed region.