

Geophysical Research Abstracts,  
Vol. 10, EGU2008-A-12132, 2008  
SRef-ID: 1607-7962/gra/EGU2008-A-12132  
EGU General Assembly 2008  
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## **Intercomparison of Airborne APR-2 Precipitation Retrievals with Corresponding Satellite Retrievals from TRMM and CloudSat**

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The JPL Airborne Dual-Frequency Precipitation Radar (APR-2) is a prototype 2<sup>nd</sup>-generation precipitation radar instrument for test-bedding future satellite precipitation missions. The APR-2 makes simultaneous reflectivity and Doppler profile measurements at Ku-band (14 GHz) and Ka-band (35 GHz), including the co-polarized and cross-polarized states. Its relatively high sensitivity enables measurements of both rainfall and snowfall. The APR-2 viewing geometry and operating frequencies were selected for near-equivalence to the Dual Frequency Precipitation Radar (DPR) under development for the Global Precipitation Measurement (GPM) Mission. During the summer 2007, the APR-2 was deployed on the NASA DC-8 aircraft for the TC4 experiment out of Costa Rica. A suite of algorithms, including profile and hydrometeor classification, and Bayesian retrieval of two moments of the particle size distribution (PSD) has been applied to the observed dual frequency profiles. The objective of this study is to analyze the APR-2 retrievals in conjunction with precipitation retrievals from Tropical Rainfall Measuring Mission (TRMM) and CloudSat satellites, in order to determine similarities and differences and to identify the potential cause of differ-

ences.