

Thermodynamic Trends and Longwave Feedbacks from 20 years of AIRS Observations

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Abstract : We use radiance trends derived from 20 years of AIRS L1c de-seasonalized radiance anomalies to derive thermodynamic trends (surface and atmospheric temperature and water vapor) using an Optimal Estimation retrieval. Globally averaged Longwave Feedback values are computed from these trends. Our work is compared to trends and feedback values computed using monthly ERA5/MERRA2 and AIRS L3/CLIMCAPS L3 model and data fields.