

Survey of ISDAC Shortwave Spectroradiometer Data

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- 15 March 2010 update on ISDAC special issue manuscript
 - Survey all ASD spectra under single-layer clouds identified by ARSCL.
 - Thousands of spectra...
- Cloud scattering is basically conservative for $\lambda < 1100$ nm; then have differential absorption between liquid water and ice for 1200-2200 nm.
- From 1022-nm measurement, retrieve shortwave cloud optical depth τ_c .
- For that τ_c , calculated theoretical NIR spectrum under pure liquid water cloud.
- Evaluate *ice absorption excess* as difference between this theoretical irradiance and measurement throughout NIR.
- Most ISDAC spectra show strong influence of ice phase: ice absorption excess in the range 1-10 $W m^{-2}$.
- Eventual comparison with aircraft microphysical data is of great interest to us!

