



The Retrieval of Thermodynamic Profiles Using a Combination of Raman Lidar and ASSIST

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Profiles of temperature and water vapor are retrieved using an integrated-physical retrieval algorithm from ASSIST and Raman Lidar. The vertical resolution of the Thermodynamic Profiles is enhanced. Comparison between radiosonde and retrievals for a 2-month observation is presented. In cloud-free situations, the mean bias errors with the radiosonde are about 0.2K and 0.25g/kg below 3km for temperature and water vapor mixing ratio, respectively. The maximum root-mean-square errors are less than 2K and 1.1g/kg. The combination of these two instruments have a considerable improvement of the thermodynamic profiles Retrievals.