

Comparisons of TOWDL Soundings with MM5, Microwave Sounders, Towers, and Other Wind Sensors

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Abstract

Comparisons were made with microwave sounders, CTI ground lidars, NOAA BAO towers, NOAA Buoys, rawinsondes, NAST winds, and the MM5 model. NPOESS Aircraft Sounder Testbed (NAST) is an aircraft capable of fast flight at altitudes up to 64,000 ft. NAST wind data didn't compare well to the lidar wind data; although wind direction compared well, velocity didn't. MM5 wind data with 4-km resolution was hard to compare with the high-resolution lidar data. MM5 comparisons were OK at 1500 m over water, but not good over land. Comparisons were not very good at lower altitudes. Conclusions about comparisons require caution because of differences in integration times, resolution, and sampling conditions among different instruments and models