

A large number of publications have discussed the accuracy and precision of RWP data based on comparisons with independent measurements (meteorological towers, tethered balloon sounding systems, Radiosondes, aircraft measurements and Doppler wind lidar), see e.g. [Larsen and Röttger \(1982\)](#), [Strauch et.al. \(1987\)](#), [Wuertz et.al. \(1988\)](#), [Weber and Wuertz \(1990\)](#), [Martner et.al. \(1993\)](#), [Angevine et.al. \(1998\)](#), [Daniel et.al. \(1999\)](#), [Cohn et.al. \(2001\)](#) or [Adachi et.al. \(2005\)](#).

Meanwhile, NWPM data are increasingly used in lieu of independent upper-air wind measurements to estimate the quality of a wind profiler, see [Steinhagen et.al. \(1994\)](#), [Panagi et.al. \(2001\)](#), [Hooper et.al. \(2008\)](#). This method is especially important for operational quality monitoring.

A long-term statistical intercomparison of data measured with the 482 MHz profiler at Lindenberg in 1997 with more than 1000 independent profiles measured with a collocated Radiosonde has shown, that the wind speed bias was usually less than 0.5 m/s, except for the tropopause region where it was about 0.7 m/s. Wind speed standard deviation was less than 1.5 m/s below 8 km and less than 2.2 m/s for all heights. With the exception of the lowest levels, the wind direction bias was determined as about 1 degree, with a standard deviation of less than 20 degrees in general and below 10 degrees above 4500-m height. The results are published in [Dibbern et.al. \(2001\)](#).

Back to [Radar wind profiler](#)