

Boundary layer and meteorology at T0 site

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A vertical profiling elastic lidar was set up at the T0 site along with a conventional meteorological station mounted on a tower atop one of the buildings. The instruments included a three dimensional sonic anemometer, fast measurements of water and CO₂ concentration, temperature, and the four components of net radiation. The meteorological data is available in averages, but the 10Hz time series data is also available. Of particular note are the unusually high u^* values found in the early mornings. This is indicative of enhanced mixing and vertical transport from the surface. The data is available from 03 March through 28 March.

The vertical profiling lidar provides a sounding of the relative particulate concentrations as a function of height above the ground and time. The vertical resolution of the system is 2.5 m while the time resolution is 2 s. This information has been used to obtain the height of the boundary and residual layers. A comparison of heights predicted by conventional theory and measured boundary layer heights will be presented. Of note is the existence of mechanically generated changes in the boundary layer height near midnight on several days. The data is available from 03 March through 28 March with the exception of rain events.