

# CLAMPS Remote Sensing Instrumentation



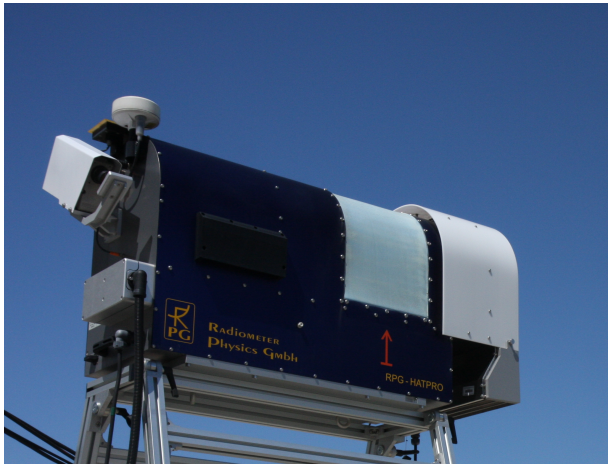
## Doppler Lidar (DL)

Measures the radial velocity of atmospheric scatterers, which are primarily small aerosol particles that trace atmospheric motion, as a function of distance from the lidar.

Measurements along different azimuth and elevation directions using the 3d scanner allow horizontal wind speed and direction to be derived. Turbulence profiles can also be derived using repeated vertically pointing measurements.

## Atmospheric Emitted Radiance Interferometer (AERI)

Measures downwelling infrared radiance from 3-19  $\mu\text{m}$  at high spectral resolution. Profiles of temperature and water vapor are retrieved from these observations, as well as cloud properties and trace gas information. Two blackbody targets maintain calibration to better than 1%.



## Microwave Radiometer (MWR)

Measures downwelling microwave radiance from 22 to 60 GHz in 10-20 channels (depending on model/configuration).

Profiles of temperature and water vapor are retrieved from these observations. The MWR has lower vertical resolution than the AERI, but is able to get some information through clouds.

CLAMPS also includes a surface meteorological tower, a flux tower, and a radiosonde ground station.