



A new generation high resolution Raman lidar to measure temperature and humidity at the land-atmosphere interface

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To understand the structure of the atmospheric boundary layer over complex terrain at local and regional scales poses interesting instrumentation challenges. We have developed a lidar that is capable of simultaneous temperature and humidity measurements with 'almost' constant signal to noise ratio in the ABL from 15 m up to 500 m with 1.2 m and 1 second resolution. In this talk we describe the technical system itself and show the first results obtained from the TABLES-08 field campaign in Switzerland. We discuss then further applications for understanding the adjustment of the local atmosphere to changes in boundary conditions (e.g. wet-dry or smooth-rough) and similarities between the two scalars.