



## **High resolution scanning Raman lidar validation field campaign and internal boundary layer measurement**

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Measurements using a new generation high resolution scanning Raman lidar are presented. The lidar was applied at an intensive field campaign over a small lake in Fribourg region, Switzerland. The unique optimized design of this lidar, from laser to polychromators, allowed for the measurement of water vapor and temperature profiles and high resolution scans with good signal to noise ratio during both night and day. Calibration, validation tests and first results, as well as comparisons with standards commercial instruments such as sonic anemometers, Licor humidity sensors, Sodar/Rass and scintillometers are discussed in this presentation. The internal boundary layer front at the edge of the lake is determined from lidar vertical scans and will be compared with classical diffusion theory of Sutton. Differences between temperature and water vapor behavior especially under stable conditions will be discussed.