



## **Active remote sensing of the atmospheric boundary layer surface layer measurements over complex terrain: Seedorf Swiss Campaign**

Marc Parlange, Chad Higgins, Martin Froidevaux, Hendrik Huwald, and Valentin Simeonov  
School of Architecture, Civil and Environmental Engineering, EPFL, Switzerland

In the summer of 2008 a field campaign over the Swiss Plateau was performed where atmospheric boundary layer profiles of water vapor, temperature and wind velocity were obtained using a scanning raman lidar and a SODAR/RASS system. The Swiss Plateau landscape comprises mixed agricultural fields, small forests, villages and ponds. Simultaneous turbulent surface fluxes were obtained using four eddy covariance stations along with radiation and soil heat fluxes. We present first analyses of the boundary layer measurements that are studied in the context of similarity theory and comparisons are made with the surface flux stations. It is shown that the analysis of the profiles can provide reliable regional scale surface fluxes over the mixed terrain under unstable atmospheric stability with more challenges for stable atmospheric stability, especially in the vicinity of small lakes.