



## **The effect of advective fluxes on the surface energy budget: a field study**

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Effective closure of the surface energy budget has rarely been achieved in field experiments for the past four decades. Typically an attempt that fully resolves all radiation components, vertical turbulent fluxes and ground heat flux yields only 80% of the total available energy. Most studies attribute this 'missing energy' to advective fluxes, short term energy storage, or sensor errors. In this study we investigate the role of advective fluxes on the energy budget. In the summer of 2008, the Turbulent Atmospheric Boundary- layer Lidar and Evaporation experiment (TABLE experiment) provided a unique opportunity to investigate the nature of advective fluxes and their role in the closure of the energy budget. Specifically we measure the horizontal (spatial) gradients of humidity using a fast response temperature and humidity Raman Lidar. This additional information is then coupled with an existing fully functional energy budget closure experiment.