

ENHANCED OPERATIONAL CAPABILITIES OF ICOS ATMOSPHERIC NETWORK

New standardized, fully automated algorithm for lidar characterization of PBL vertical structure at ICOS-atmospheric stations

Boundary layer height (BLH) measurements using Lidar are part of the ICOS level 1 stations and aim at providing information complementary to the in situ measurements. A correct representation of BLH in a tracer transport model is of key importance for interpreting mixing ratio measurements from atmospheric stations, as BLH is the first-order control on the relationship between trace gas fluxes at the surface and the resulting change in atmospheric tracer mixing ratio. Leading a collaboration between MPG (Max Planck Institute, Germany) and LMD (Ecole Polytechnique, France) ICOS INWIRE produces first diurnal Boundary Layer Height estimation using commercial ceilometers.

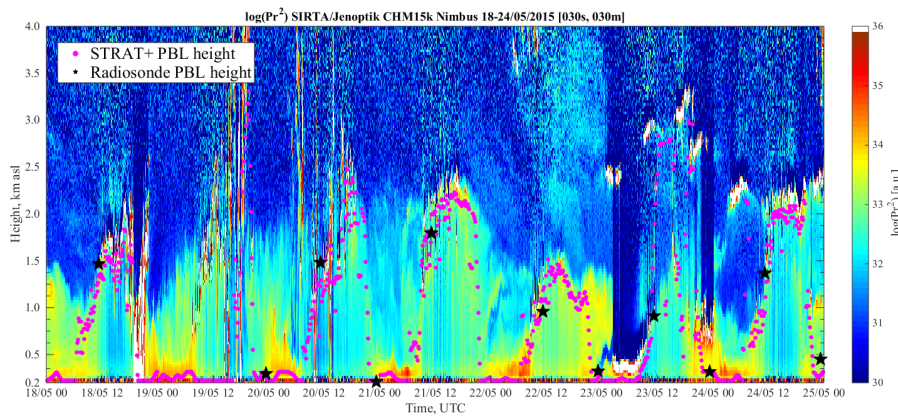


Figure 1: BLH estimation using a Jenoptik CHM15K at SIRTA station [pink dots] compared to BLH estimation from Trappes (~15km) radiosounding [black stars], one week in May 2015.

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