Intercomparison of PBL height estimations in the framework of HyMeX-SOP1

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This paper reports results from an inter-comparison effort involving different sensors/techniques used to measure the Planetary Boundary Layer (PBL) height. The effort took place in the framework of the first Special Observing Period of the Hydrological cycle in the Mediterranean Experiment. The PBL is directly influenced by the Earth's surface, responding to combined action of mechanical and thermal forcing factors. The evolution of the PBL structure and height has important meteorological role. Accurate measurements of the PBL height are important to validate forecast models or support their development through the improvement of the physical representations embedded in, for example, their boundary layer turbulence and shallow convection parameterizations. Elastic backscatter signals and rotational Raman signals collected by lidar systems can be used to characterize the PBL height and its internal structure. In the present research effort, this technique is compared with measurements from a co-located wind profiler and a potential temperature computed from radio-sounding system. Comparisons involving the different sensors will be discussed at the conference.