



Turbulence-wave interactions associated to drainage flows observed during the BLLAST field campaign

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Gravity waves are often observed in the Nocturnal Stable Atmospheric Boundary Layer (SBL). One of the main topics in SBL studies, which is still far from being well understood, is the interaction between these waves and the turbulence present at the lower troposphere [1]. However it is not easy to establish the origin of these waves and how they interact with turbulence. Following the case study occurred along the evening transition of 2nd July 2011 over the area of Lannemezan (France) during the Boundary Layer Late Afternoon and Sunset Turbulence (BLLAST) field campaign [2], in the present work we have extended the study to all the cases found along the campaign, where the evening transition of the Atmospheric Boundary Layer was followed by the formation of drainage flows. Different multiscale techniques (Wavelet Transform -WT- and MultiResolution Flux Decomposition -MRFD-) have been applied to the extensive records of instrumentation deployed at BLLAST. In this way, we can underline the different features related to surface turbulent parameters in the SBL, where several of the studied processes showed an interaction, producing important variations in turbulence with height and between sites along the steep terrain.

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