



Study of pressure perturbations in the Nocturnal Atmospheric Boundary Layer during the field campaign SABLES2006

S. Viana (1), C. Yagüe, G. (1), Maqueda, G. (2) Morales, G. (3)

(1) Dpto. de Geofísica y Meteorología. Universidad Complutense de Madrid, Spain. (savianaj@fis.ucm.es). (2) Dpto. de Astrofísica y Ciencias de la Atmósfera. Universidad Complutense de Madrid, Spain.

(3) Instituto Nacional de Meteorología, Spain.

Six quartz-based microbarometers were available during the SABLES2006 field campaign, which took place from 19 June to 2 July 2006 in Spain at the CIBA (Research Centre for the Lower Atmosphere) site which is placed on a fairly homogeneous terrain in the centre of an extensive plateau (41°49' N, 4°56' W). These high precision instruments measured absolute pressure with temperature compensated output, and a sampling rate of 2Hz with a resolution better than 0.2 Pa, which is adequate for studying the perturbations due to turbulence and internal gravity waves in the Nocturnal Boundary Layer (NBL). Three microbarometers were installed on the 100-m meteorological tower at 20, 50 & 100m, and the other three were deployed on the surface in the vertices of a triangle of approximately 200 m side. This arrangement makes possible to study the horizontal and vertical propagation of coherent structures using wavelet methods based on the phase differences in the wavelet transform coefficients between the different records. In this work we present the characteristic parameters - wavelength, phase velocity, direction of propagation - from the most relevant events detected during SABLES2006. In addition, we will show the differences established in the spectra of the pressure records according to the present level of stability (evaluated through Richardson number).