

Interactive comment on “Study of the overturning length scales at the Spanish planetary boundary layer” by P. López and J. L. Cano

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Received and published: 11 December 2015

The manuscript deals with an interesting subject and presents a set of very high resolution methods, wind velocity and temperature and local density.

About the wind and temperature results, maybe it could be possible to calculate the structure functions and the intermitency.

An alternative easier systems would be to present the evolution of Kurtosis in time or its statistical correlation with the Thorpe scale.

Questions and comments:

- In the figure 1: Why there is not data between approximately 12 - 15 hours?

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- Can you indicate the RMS error values in the figures?

- it should be interesting to define in the paper Ozmidov scale and present some formal relationships between this scale and Ellison scale and Monin - Obukhov lengthscale.

- As Thorpe scale is define here both in stable and unstable atmosphere boundary layer conditions, the situation of convective generation of turbulence in the atmosphere, Could you define the local Rayleigh number for the situation of negative Thorpe scale?.

It is interesting to see in Figures 1- 2; How the large values take care in the morning and at sunset? Can you compare the evolution of the Thorpe scale in the sunny or a cloudy day because the overturning effects should be related to the solar radiation.

Interactive comment on Nonlin. Processes Geophys. Discuss., 2, 1531, 2015.