



Spatial variability of detrended soil plow layer penetrometer resistance transect in a sugarcane field

Luis D. Pérez (1), Ramiro Cumbreira (1), Juan Mato (1), Humberto Millán (1), Ana M. Tarquis (2,3)

(1) University of Granma, Apdo. 21, 85100 Bayamo, Granma, Cuba, (2) CEIGRAM, ETSI Agrónomos, Universidad Politécnica de Madrid (UPM), Spain (anamaria.tarquis@upm.es), (3) Dpto de Matemática Aplicada, UPM, Ciudad Universitaria sn, 28040 Madrid, Spain

Spatial variability of soil properties is relevant for identifying those zones with physical degradation. In this sense, one has to face the problem of identifying the origin and distribution of spatial variability patterns (Brouder et al., 2001; Millán et al., 2012). The objective of the present work was to quantify the spatial structure of soil penetrometer resistance (PR) collected from a transect data consisted of 221 points equidistant. In each sampling, readings were obtained from 0 cm till 70 cm of depth, with an interval of 5 cm (Pérez, 2012). The study was conducted on a Vertisol (Typic Hapludert) dedicated to sugarcane (*Saccharum officinarum* L.) production during the last sixty years (Pérez et al., 2010).

Recently, scaling approach has been applied on the determination of the scaling data properties (Tarquis et al., 2008; Millán et al., 2012; Pérez, 2012). We focus in the Hurst analysis to characterize the data variability for each depth. Previously a detrended analysis was conducted in order to better study de intrinsic variability of the series. The Hurst exponent (H) for each depth was estimated showing a characteristic pattern and differentiating PR evolution in depth.

References

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