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## A Model to Estimate Horizontal Errors within Existing Manually Digitized Maps

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Georgios A. Achilleos

Technical University of Crete Sternes Akrotiriou, Chania 73100, GREECE  
E-mail: georgiosachilleos@yahoo.com

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### Abstract

A vast majority of the spatial linear data, which is converted to a digital format by means a manual digitizing process, is used regularly, without properly verifying the reliability of such converted data. It is essential to identify this level of reliability as such data is employed in numerous big projects, which continue to be designed and implemented without knowing the uncertainty and/or risk associated with the outcome. A posteriori knowledge of the level of uncertainty might be enabled using the data per se. In this paper, an effort is made to predict the horizontal accuracy of digitized contours by means of their given digital geometry. This forecast is made by developing a model which makes use of contour geometry indices and provides an estimate of their horizontal accuracy. Subsequently, this knowledge can be utilized to interpolate the surface represented by these digitized contours.

### Keywords

contours, horizontal errors, digitizing, model, simulation

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