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Corporate Author : ARMY ENGINEER TOPOGRAPHIC LABS FORT BELVOIR VA

Personal Author(s) : Mandel,Betty A. ; Wizgall,Christoph ; Bernal,Javier

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Abstract : A technical approach to teh task of performing a contour to grid conversion using nonlinear interpolation has been studied. The approach consists of reconstructing a terrain surface from the digitized contour lines on a map. The approximating surface is defined in terms of a partition of the region into irregular triangles obtained by a Voronoi method. The vertices of the triangles are selected by sampling a large set of digitized contour data with a tolerance band technique. The result is a smooth synthetic surface with which the elevation of any given point can be calculated. Therefore, grids of any given dimensions can be generated.

Descriptors : *CONTOURS, *CONVERSION, *GRIDS, *MAPPING(TRANSFORMATIONS), ELEVATION, INTERPOLATION, METHODOLOGY, NONLINEAR SYSTEMS, SAMPLING, DIGITAL SYSTEMS, SURFACES, TERRAIN, TRIANGLES

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