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## Simulation Topographical Surfaces Geographical and Geological Using Differential Geometry

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### ABSTRACT

By applying differential geometry to analogue models developed such a model is calculated for the geometrical shape. Dip measurements are critical data for geologists, and in particular for structural studies. They enable quantifying geologic features observed across the surface in order to model the sub-surface. Dip measurements are provided by direct or indirect sources: geological maps, fieldwork data, Digital Elevation Model (DEM). This quantification then allows for comparison of such models to measured field data and supplants the use interferometry Radar describes and compares 3-D deformations. This example supplements and is based on the material found in L.S.S.I.T. Theory as well as some of the experimental results with the new method are delineated.

### KEYWORDS

Structural Geology, Topography Surfaces, Differential Geometry, Modeling Images Optically

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