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Variance components estimation in geoid computations based on heterogeneous boundary values

Case study: southern coast of Iran

A. Safari, A.A. Ardalan, A. Jomegi

Department of Surveying and Geomatics Engineering, University of Tehran

(asafari@ut.ac.ir / Fax: +98-21-88008837 / Phone: +98-21-88008837)

Since geodetic observables are made under the influence of the Earth gravity field modeling. Ergo these observables can be used for Erath gravity field computations. The combination of different observables in boundary value problem of geoid computations as boundary data increases the validity of the problem. Before solving the problem, it have to be determined the relative weights of data of different types. In this paper based on Koch and Kusche method, variance components for boundary values of the type modulus of gravity vactor, GPS/leveling geoid and derived geoid from satellite altimetry data has successfully determined at the test area.