

Empirical Geoid Modelling Using Classical Gravimetric Method.

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SUMMARY

This paper presents Gravimetric geoid modelling using the remove-compute-restore approach for Lagos State. The direct method of computation of the Stokes integral was used in computing the geoidal undulation from archived gravity anomaly values obtained from BGI. The Stokes computation was implemented via a MATLAB program written by the author. An empirical geoid solution for the study area was thereafter developed from the resulting gravimetric geoid model using least squares technique. The obtained gravimetric geoid had a RMSE of 2.37cm when compared with GPS/Levelling geoid of the same area, while the empirical geoid model had a RMSE of 6.6mm when compared with the Gravimetric Geoid Model.

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