



Downward continuation problem in geoid computation without applying Stokes formula

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Downward continuation problem in geoid computations based on gravity intensity and astronomical observations without applying Stokes formula have been studied in details. The continues downward continuation problem is an inverse problem. Inverse problems are ill-posed, therefore, like any ill-posed problem it must be regularized. For the regularization of the problem various regularization methods, e.g., Tikhonov, DSVD, LSQR, and Conjugate Gradient, are applied and the results are compared. Based on final results Tikhonov regularization has the minimum bias on computed parameters. Therefore, it is recommended for the aforementioned geoid computation problem.