



## **On the solvability of downward continuation problem in geoid computations without applying Stokes formula**

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The problem of downward continuation of the gravity field from the Earth's surface to the reference ellipsoid arises from the fact that the solution to the boundary value problem for geoid determination without applying Stokes formula is sought in terms of the disturbing potential on the ellipsoid but the gravity observations are only available on the Earth's surface. Downward continuation is achieved via Abel-Poisson integral and its derivatives. Before solving downward continuation problem it should be checked the solvability of the problem. The solvability of the problem is guaranteed if Picard condition is satisfied. The topic of this paper is the study of solvability of downward continuation problem via Picard condition.