



Geoid for Austria – Regional gravity FIELD improved

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The project 'Geoid for Austria – Regional gravity FIELD improved' (GARFIELD) is a current initiative for the generation of a new high-quality gravity field solution for the Austrian region, which overcomes the inconsistencies between previous geoid solutions and geoid heights from GPS/leveling campaigns. The optimum combination of the complementary data types of satellite observations and all available terrestrial gravity field measurements in Austria and neighbouring countries will be essential.

The Least Squares Collocation (LSC) approach will serve as reference method for the gravity field computation. In this context, GOCE gradients should be used as in-situ observations. Alternatively to LSC, a Gauss-Markov model with parametrization as Radial Basis Functions will be implemented. For a successful data combination, the Remove-Compute-Restore technique will be revised to avoid a double consideration of the topographic masses when performing long- and short-wavelength signal reductions.

This contribution should give an overview about methods, developments and the current status of the project GARFIELD.