



A seamless quasigeoid surface for Central Europe by merging national solutions

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Detailed quasigeoid models are of primary importance not only for physical geodesy but also for practical applications in surveying. Nowadays, when a number of sophisticated global geopotential models (GPM) are available, the most frequently used approach to quasigeoid modelling is combining high frequency components from terrestrial gravity data with medium- and low frequency components from GPM. Such an approach provides "purely" gravimetric solution. In creating models for larger areas, e.g. for continents, the availability of terrestrial gravity data, their density and homogeneity may cause problems and influence the resulting product. On the other hand, national solutions are often based on much more better data sets coming from respective national territories, which helps to strengthen high frequency components, but suffer from the lack of high quality data from outside. An approach is submitted to creating a seamless quasigeoid model for a part of Central Europe by merging several national solutions. The approach is based on the analysis of along-border discrepancies of individual solutions and of discrepancies from overlapping areas and on their appropriate mitigation. The resulting model is superimposed on some quasigeoid models of continental or regional extent recently created for Europe.