



Optimization of solving the boundary-value problems related to physical geodesy.

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Our aim is to present different approaches for optimization of solving the boundary-value problem related to physical geodesy in spatial domain. In physical geodesy, efficient numerical methods like the finite element method, boundary element method or finite volume method represent alternatives to classical approaches (e.g. the spherical harmonics). They lead to a solution of the linear system and in this context, we focus on three tasks. First task is to choose the fastest solver with respect to the number of iteration and computational time. The second one is to use parallel techniques (MPI or OpenMP) and the third one is to implement advance method like Multigrid and Domain decomposition. All presented examples deal with the gravity field modelling.