



## **Domain decomposition methods in FVM approach to gravity field modelling.**

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The finite volume method (FVM) as a numerical method can be straightforwardly implemented for global or local gravity field modelling. This discretization method solves the geodetic boundary value problems in a space domain. In order to obtain precise numerical solutions, it usually requires very refined discretization leading to large-scale parallel computations. To optimize such computations, we present a special class of numerical techniques that are based on a physical decomposition of the global solution domain. The domain decomposition (DD) methods like the Multiplicative Schwarz Method and Additive Schwarz Method are very efficient methods for solving partial differential equations. We briefly present their mathematical formulations and we test their efficiency. Presented numerical experiments are dealing with gravity field modelling. Since there is no need to solve special interface problems between neighbouring subdomains, in our applications we use the overlapping DD methods.