



Disturbing potential and its geometrical properties

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Disturbing potential is probably the most crucial quantity in gravity field modelling. Therefore the geometry of surfaces with the equal value of disturbing potential and direction of its gradient is the topic of our interest. Usually the disturbing potential is converted into the geoid height or height anomaly and presented as a contour map of one particular equipotential surface of gravity potential – geoid or its approximation - quasigeoid. In our contribution we present the spatial geometry of equipotential surfaces of disturbing potential around the Earth. The presented models are solutions of mixed boundary value problem, combining the Neumann and Dirichlet boundary conditions, obtained using the Finite Element Method. The boundary values are generated from EGM2008 geopotential model. However the combination of terrestrial measurement and the satellite gravity gradiometry originated data can be used in the future. The model of disturbing potential and gradient of disturbing potential is presented in form of several 2D models in chosen meridian planes and in form of 3D model up to the altitude of 20000 km above the Earth surface.