



The Ellipsoidal Disturbing Gravity Vector

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The disturbing gravity vector reflects density variations directly and is therefore capable for geophysical interpretation as well as gravity field recovery. There exist different definitions which are related to the reference vertical at the level of the reference sphere, reference ellipsoid, or geoid. A new definition in three-dimensional space will be presented, which leads to significantly smaller deflections of the vertical. Thus, the model imperfections in geoid determination can be significantly reduced. A global case study tests the performance of the method.