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The effect of anomalous density of crust in geoid computations without applying Stokes formula

Case study: Southern coast of Iran

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Geoid is determined based on remove-compute-restore method. For computing the effect of topography in remove and restore steps, the density of the topographical masses is usually modeled by the mean crustal density (2/67 gr/cm^3) but the real density of crust in different regions differs from the value of 2/67 gr/cm^3. Ergo, using a mean value for density decreases the validity of the computations. In this paper the effect of this assumption is examined on geoid height. The results show that using real density in has increased accuracy of geoid computations.