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# Gravimetric Geoid for Egypt Implementing Seismic Moho Information

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The paper studies the effect of implementing seismically estimated Moho depths in gravimetric geoid computation in Egypt. The window remove-restore technique (Abd-Elmotaal and Kühtreiber, 2003) has been proposed to avoid the double consideration of the topographic-isostatic masses in the neighbourhood of the computational point. Both constant and variable (depending on the Moho depths) density contrast between the lower crust and the upper mantle have been tested. The tailored geopotential model EGTGM2014 (Abd-Elmotaal, 2014) has been used for the long wavelength contributions of the earth's gravity field. A comparison with a geoid computed using the EGM2008 and Airy floating hypothesis has been made. For all cases, a gravimetric geoid for Egypt has been computed using Stokes' integral in the frequency domain by 1-D FFT technique. The computed geoids are fitted to the GPS-levelling derived geoid using the optimum geoid fitting technique for Egypt (Abd-Elmotaal and Makhloof, 2014). The results show that using the seismic Moho depths with variable density contrast between the lower crust and upper mantle improves the accuracy of the computed Egyptian geoid.