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ERRATUM

Erratum to: The effect of EGM2008-based normal, normal-orthometric and Helmert orthometric height systems on the Australian levelling network

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An error appears in Eq. (36), where the second term in the free-air gravity correction is added, but should be subtracted. This is a typographical error contained in the paper's original submission, which unfortunately was not detected during the review and revision process. However, it does not affect the scientific results presented, because the correct Eq. (36), as shown below, was used in all computations.

Equation (36) to compute the second-order free-air gravity correction (δg_{F2}) should read

$$\delta g_{\mathrm{F2}} = \frac{2\gamma}{a}\left(1 + f + m - 2f\sin^2\phi\right)h_{\mathrm{D}} - \frac{3\gamma}{a^2}h_{\mathrm{D}}^2 \quad (36)$$

where γ is normal gravity on the ellipsoid at the geodetic latitude ϕ of the computation point, a is the semi-major axis of the reference ellipsoid, f is the geometrical flattening of the ellipsoid, m is the ratio of gravitational and centrifugal forces at the equator, and h_{D} is the derived ellipsoidal height (with respect to the GRS80 ellipsoid). This form of the second-order free-air gravity correction is for positive heights and is taken from Hackney and Featherstone (2003a,b, 2006). Equations for positive and negative heights can be found in Featherstone (1995). All originate from Heiskanen and Moritz (1967).

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