

Erratum

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Corrections to ‘Robustness analysis of geodetic horizontal networks’

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1. In Eq. (3) on p. 200, the subscript ‘ i ’ is missing from the symbols ‘ σ_i ’ and ‘ r ’. The equation should read

$$\Delta l_{\max,i} = \lambda_o(\alpha_o, \beta_o) \frac{\sigma_{li}}{\sqrt{r_i}} \quad (3)$$

2. In Eq. (19) on p. 202, ‘ $\mathbf{E} - \Delta_s \mathbf{E}$ ’ should read ‘ $\mathbf{E} + \Delta_s \mathbf{E}$ ’.

3. In Eqs. (21a) and (21b), the quantifier ‘ $\forall j = 0, 1, \dots, 4$ ’ should be replaced with ‘ $\forall i$ in the network’.

4. In Eq. (30) on p. 204, the dimensions are not consistent. The last term on the right-hand side should be expanded into a vector of dimension equal to the number of observations. The revised equation should read as follows.

$\forall i$ points and j observations in the network:

$$\text{vec}(\mathbf{E}_{ij}) = \lambda_o(\alpha_o, \beta_o)(\mathbf{L}_i)_j \frac{\sigma_{lj}}{\sqrt{r_j}} \quad (30)$$

where $(\mathbf{L}_i)_j$ is the j th column of the matrix \mathbf{L}_i in Eq. (25).

5. In the text following Eq. (30) on p. 204, the sentence beginning ‘At each point...’ should be replaced with ‘At each point the three values of the deformation parameters (primitives or measures) are computed from the maximum undetectable error in each observation; i.e. $3m$ values per point for all n points, where m is the total number of observations’.

6. In Eqs. (A5) and (A6) on p. 208, the symbol ‘ d ’ for total derivative should be replaced throughout with the symbol ‘ ∂ ’ for partial derivative.

7. In Eq. (A9) on p. 208, the minus sign on the right-hand side of the equation should be a plus sign. The correct equation should read

$$\begin{aligned} \partial u^* / \partial x^* = & \cos^2 \Omega \partial u / \partial x + \cos \Omega \sin \Omega \partial v / \partial x \\ & + \cos \Omega \sin \Omega \partial u / \partial y + \sin^2 \Omega \partial v / \partial y \end{aligned} \quad (\text{A9})$$

8. In Eqs. (A16) and (A17) on p. 209, the powers of 2 should be factors of 2; i.e. the terms ‘ $\cos^2 \Omega$ ’ and ‘ $\sin^2 \Omega$ ’ should be replaced throughout with ‘ $\cos 2\Omega$ ’ and ‘ $\sin 2\Omega$ ’, respectively. The correct equations should read

$$\tau^* = \frac{1}{2}(\partial u^* / \partial x^* - \partial v^* / \partial y^*) = \cos 2\Omega \tau + \sin 2\Omega v \quad (\text{A16})$$

$$v^* = \frac{1}{2}(\partial u^* / \partial y^* + \partial v^* / \partial x^*) = \cos 2\Omega v - \sin 2\Omega \tau \quad (\text{A17})$$

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