CORRECTION

T. S. Jang

Correction to: A general method for analyzing moderately large deflections of a non-uniform beam: an infinite Bernoulli–Euler–von Kármán beam on a nonlinear elastic foundation

Published online: 12 August 2019
© Springer-Verlag GmbH Austria, part of Springer Nature 2019

Correction to: *Acta Mech* 225, 1967–1984 (2014)
<https://doi.org/10.1007/s00707-013-1077-x>

We correct an error in the calculation of Eq. (30) of the original article as follows:

$$\begin{aligned} K_a^n(\varphi) &= \frac{\beta_a^{n+1}}{2k_f} \int_{-\infty}^x e^{-\beta_a(x-\xi)/\sqrt{2}} \sin\left(\frac{\beta_a(x-\xi)}{\sqrt{2}} + \frac{(1+3n)\pi}{4}\right) \varphi(\xi) d\xi \\ &\quad + (-1)^n \cdot \frac{\beta_a^{n+1}}{2k_f} \int_x^{\infty} e^{-\beta_a(\xi-x)/\sqrt{2}} \sin\left(\frac{\beta_a(\xi-x)}{\sqrt{2}} + \frac{(1+3n)\pi}{4}\right) \varphi(\xi) d\xi, \quad n = 0, 1, 2, 3, \\ K_a^4(\varphi) &= \frac{\beta_a^5}{2k_f} \int_{-\infty}^x e^{-\beta_a(x-\xi)/\sqrt{2}} \sin\left(\frac{\beta_a(x-\xi)}{\sqrt{2}} + \frac{13\pi}{4}\right) \cdot \varphi(\xi) d\xi \\ &\quad + \frac{\beta_a^5}{2k_f} \int_x^{\infty} e^{-\beta_a(\xi-x)/\sqrt{2}} \sin\left(\frac{\beta_a(\xi-x)}{\sqrt{2}} + \frac{13\pi}{4}\right) \cdot \varphi(\xi) d\xi + \frac{\beta_a^4}{k_f} \varphi(x). \end{aligned} \quad (30)$$

Therefore, the corrected versions of Figs. 7, 8, 9, 10, 11, 12, 13 and 14 are provided in the following

The original article can be found online at <https://doi.org/10.1007/s00707-013-1077-x>.

T. S. Jang (✉)
Naval Architecture and Ocean Engineering, Pusan National University, Busan 46241, Republic of Korea
E-mail: taek@pusan.ac.kr

Fig. 7 Convergence behaviors of the proposed iterative method for the three cases: $\lambda_1 = 0.05, \lambda_2 = 0.1; \gamma_1 = 6, \gamma_2 = 1$

Fig. 8 Numerically converged solutions compared with exact solutions for the three cases

Fig. 9 Errors of the iterative solutions for the three cases

Fig. 10 Steady-state errors (SSE) with respect to the base point a for the three cases

Fig. 11 Convergence behaviors according to the parameters C : **a** $C = 3$, **b** $C = 6$ and **c** $C = 9$: $\lambda_1 = 0.05$, $\lambda_2 = 0.1$, $\gamma_1 = 6$, $\gamma_2 = 1$

Fig. 12 Nonlinear effects of elastic foundation on deflections for the four ratios γ_2/γ_1 : $\lambda_1 = 0.05$, $\lambda_2 = 0.1$, $\gamma_1 = 6$, $C = 6$

Fig. 13 The constant loading p_{const} ($C = 9$) and the non-uniform distributions of flexural rigidity for the three cases of the ratios λ_2/λ_1 : $\gamma_1 = 5$, $\gamma_2 = 1$, $\lambda_1 = 0.05$

Fig. 14 The non-uniform beam effects (large deflections of non-uniform beam for the three cases of the ratios λ_2/λ_1): $C = 9$, $\gamma_1 = 5$, $\gamma_2 = 1$, $\lambda_1 = 0.05$