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Journal of Sound and Vibration

journal homepage: www.elsevier.com/locate/jsvi



Discussion

Exact solutions for the longitudinal vibration of non-uniform rods: Author's reply

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We have not been able to contact B.M. Kumar, the Lead Author of the paper under discussion [1]. As the Co-Author, the writer is therefore responding to Prof. Yardimoglu's discussion.

We wish to thank Prof. Yardimoglu for pointing out the mistake in Eq. (37), i.e., the transcendental equation for the eigenfrequency for a sinusoidal rod with a free-free boundary condition. Eq. (1) given by Prof. Yardimoglu is the correct equation. We apologize for this mistake. Further, we apologize for the typing error in Eq. (34); the coefficient of $J_{-1/2}$ is c_2 .

The correct expression for $J_{-1/2}$, i.e. $J_{-1/2}(z) = \sqrt{2/\pi z} \cos z$, is used to obtain Eq. (34).

Reference

- [1] B.M. Kumar, R.I. Sujith, Exact solutions for the longitudinal vibration of non-uniform rods, *Journal of Sound and Vibration* 207 (5) (1997) 721–729.

DOI of original article: 10.1016/j.jsv.2010.03.026

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