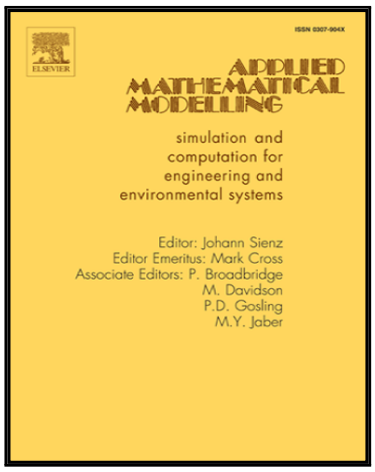

An exact transfer matrix expression for bending vibration analysis of a rotating tapered beam

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Highlights

- We developed an exact transfer matrix expression to analyze various phenomena of rotating tapered beams.
- The contribution rate of the additional strain energy generated by centrifugal force was examined.
- The increase in the eigenfrequencies due to centrifugal stiffening was analyzed by varying the strain energy.
- The theory in this study is able to produce accurate results irrespective of the number of subdivisions.