Size-dependent three-dimensional free vibration of rotating functionally graded microbeams based on a modified couple stress theory

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Highlights

- A three-dimensional model of rotating functionally graded microbeams is established.
- Modified couple stress theory and Hamilton's principle are used to derive the model.
- The size-dependent model contains the von Kármán geometric nonlinearity.
- The influence of size effect on dynamics is studied combined with other parameters.