Vibration of Mechanically-Assembled 3D Microstructures Formed by Compressive Buckling

Heling Wang , Xin Ning , Haibo Li , Haiwen Luan , Yeguang Xue , Xinge Yu , Zhichao Fan , Luming Li , John A. Rogers , Yihui Zhang , Yonggang Huang

PII: S0022-5096(17)31001-3
DOI: 10.1016/j.jmps.2017.12.002
Reference: MPS 3244

To appear in: *Journal of the Mechanics and Physics of Solids*

Received date: 4 November 2017
Revised date: 6 December 2017
Accepted date: 6 December 2017

Please cite this article as: Heling Wang , Xin Ning , Haibo Li , Haiwen Luan , Yeguang Xue , Xinge Yu , Zhichao Fan , Luming Li , John A. Rogers , Yihui Zhang , Yonggang Huang , Vibration of Mechanically-Assembled 3D Microstructures Formed by Compressive Buckling, *Journal of the Mechanics and Physics of Solids* (2017), doi: 10.1016/j.jmps.2017.12.002

Highlights

- Analytic solution of vibration modes & linear natural frequency of a buckled ribbon
- Mode change as the static deflection amplitude of buckled ribbon increases
- Scaling law of linear natural frequency for general, complex 3D structures
- Reduced vibration nonlinearity as deflection amplitudes of 3D structures increase