

Characteristics of mechanical metamaterials based on buckling elements

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Highlights

- Metamaterials composed of unstable elements are studied on different length scales. (85)
- Energy dissipation relies on transformation of external work to vibrations. (77)
- Dissipation shows neither viscoelastic nor plastic characteristics. (69)
- Effective properties can be programmed within the same graded microstructure. (77)
- Programming is triggered by loading history only without additional manipulation. (83)

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