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Impact and blast mitigation using locally resonant woodpile metamaterials

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Highlights

- Nonlinear elastic metamaterials are investigated for impact/blast mitigation purposes.
- An optimized configuration of nonlinear elastic metamaterials is obtained using a genetic algorithm
- An efficient impact attenuation mechanism is reported based on local resonances of nonlinear elastic metamaterials.
- This resonance-based impact mitigation mechanism is verified computationally and experimentally.

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