Energy absorption in lattice structures in dynamics: Nonlinear FE simulations

Zuhal Ozdemir, Andrew Tyas, Russell Goodall, Harm Askes

PII: S0734-743X(16)30281-0
DOI: 10.1016/j.ijimpeng.2016.11.016
Reference: IE 2783

To appear in: *International Journal of Impact Engineering*

Received date: 19 May 2016
Revised date: 3 November 2016
Accepted date: 26 November 2016

Please cite this article as: Zuhal Ozdemir, Andrew Tyas, Russell Goodall, Harm Askes, Energy absorption in lattice structures in dynamics: Nonlinear FE simulations, *International Journal of Impact Engineering* (2016), doi: 10.1016/j.ijimpeng.2016.11.016

Highlights

- A numerical analysis framework has been developed that captures the experimentally observed dynamic response of micro-lattices
- The framework has been demonstrated to be accurate and robust across two lattice geometries and two loading rates, with responses monitored at both the impact face and the distal face of the sample
- The results suggest that simple MDoF models can be developed to capture the response of such geometries under fast loading regimes