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Experimental and numerical investigations on collapse properties of capped-end frusta tubes with circular triggers under axial quasi-static loading

S. Chahardoli , A. Alavi Nia

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Highlights

- Perforated energy absorbers have more crush force efficiency than similar type with no hole.
- Creating hole in the capped-end cones leads to reduction in maximum force, decreasing in specific energy and increasing in crush force efficiency. So that by increasing hole number, F_m and CFE increase and SEA decreases.
- Hole location is the collapse starting point in perforated absorbers with low thicknesses. But in similar type, with high thicknesses, regardless of the hole location, collapse starting point is near to small base of cone.
- In low thicknesses the holes location predicts the collapse starting point.

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