Shape Reconfigurable Materials And Structures For Shape Morphing, Energy Absorption And Tunable Phononic

Tech ID: 27071 / UC Case 2016-931-0

BRIEF DESCRIPTION

The invention is a structured material that can be reshaped into multiple stable configurations. The material can be used to create highly adaptable components that can be reconfigured on demand, or absorb energy and vibrations.

FULL DESCRIPTION

Shape reconfigurable materials could be used to produce highly adaptable components that are fully reconfigurable on demand. Applications for such materials include impact absorption, vibration dampening, and products whose size could be reduced for transport. Such materials have been produced, but have been lacking in key properties that would make them commercially viable. The inventors at UCI have designed a shape reconfigurable material whose qualities far surpass other state of the art materials. The produced materials exhibit increased strength and energy absorption capability, which are critical for use as an impact absorber or vibration dampener. The design also features a larger compressibility ratio and scalability, increasing its potential applications.

SUGGESTED USES

Impact absorption and vibration damping for automotive and aerospace applications.

ADVANTAGES

The easy to produce material displays greater energy absorption and deformation than other state of the art materials, while maintaining a low production cost.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20200025272	01/23/2020	2016-931

CONTACT

Ben Chu
ben.chu@uci.edu
tel: .

OTHER INFORMATION

CATEGORIZED AS

» **Materials & Chemicals**
» Composites
» Nanomaterials
» Polymers

RELATED CASES

2016-931-0

UCI Beall
Applied Innovation

5270 California Avenue / Irvine,CA
92697-7700 / Tel: 949.824.2683