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## Patent Search

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### Abstract:

The present invention relates to an apparatus (100) to evaluate rotational properties of a metamaterial during compression. The apparatus (100) comprises a metamaterial structure (102), a plurality of plates (104), a thrust roller bearing (106) and a laser source (108). The metamaterial structure (102) 10 is adapted to compress in a direct transverse to the longitudinal axis of the metamaterial structure (102). Further, the plurality of plates (104) are mechanically coupled to opposite ends of metamaterial structure (102). Furthermore, the thrust roller bearing (106) is provided between the metamaterial structure (102) and the plate (104) at a first end (103). Also, the 15 laser source (108) is connected at the plate (104) at a second end (105) and adapted to follow motion of the metamaterial structure (102) when a force is applied in the direction to deform metamaterial structure (102).

### Complete Specification

Description:AN APPARATUS TO EVALUATE ROTATIONAL PROPERTIES OF A METAMATERIAL

TECHNICAL FIELD

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[001] The present disclosure relates to an apparatus to evaluate properties of a metamaterial. More particularly, the disclosure relates to an apparatus to evaluate rotational properties of a metamaterial during compression.

10 BACKGROUND OF THE INVENTION

[002] Background description includes information that may be useful in understanding the present invention.

[003] Metamaterials are artificially created materials designed to exhibit properties that are not naturally occurring. These materials are engineered by manipulating their structure to achieve unique and tailored characteristics. These materials possess distinctive characteristics, enabling them to undergo twisting under compression. Some of the applications of metamaterials

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