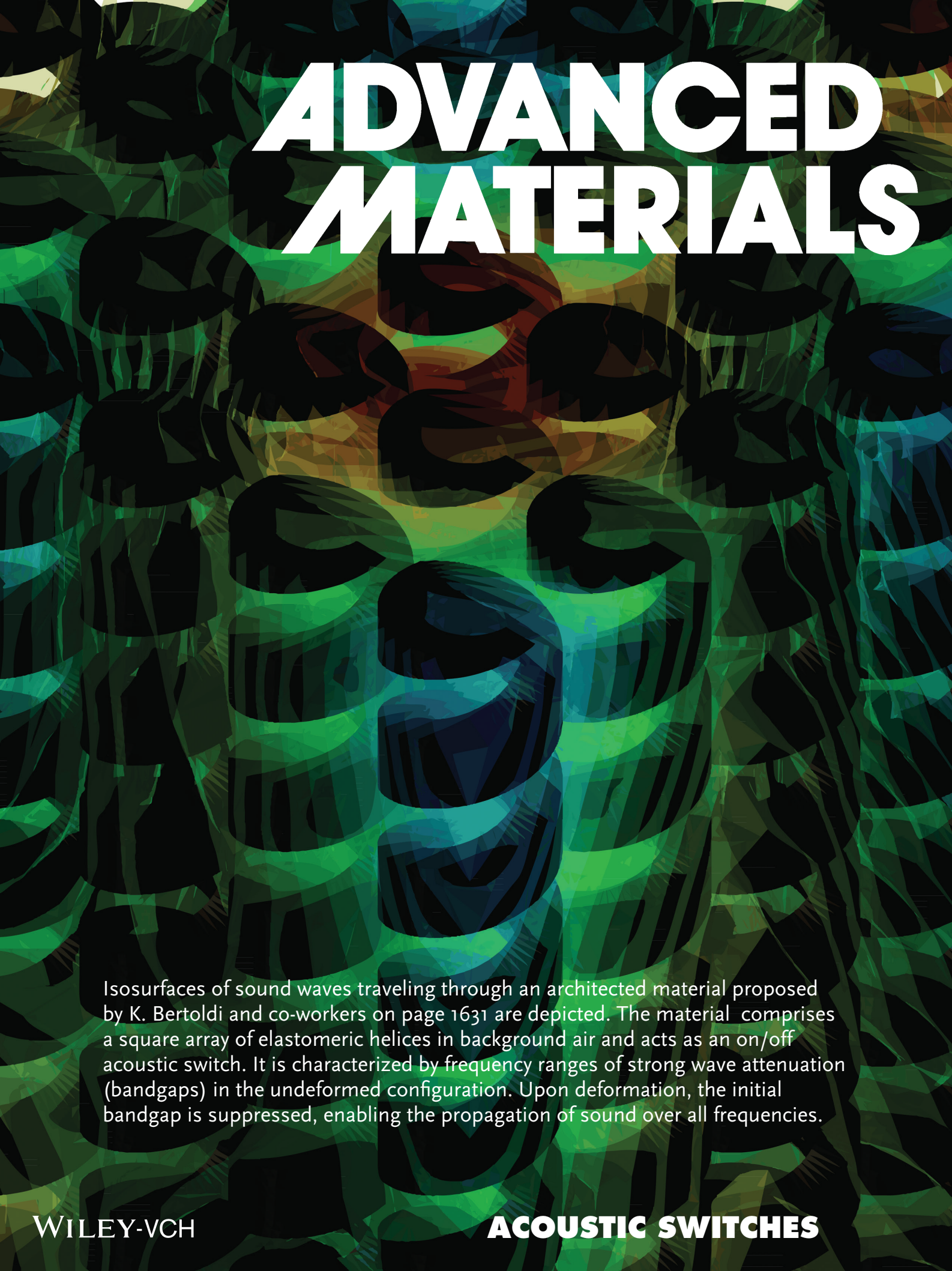
ADVANCED MATERIALS



Isosurfaces of sound waves traveling through an architected material proposed by K. Bertoldi and co-workers on page 1631 are depicted. The material comprises a square array of elastomeric helices in background air and acts as an on/off acoustic switch. It is characterized by frequency ranges of strong wave attenuation (bandgaps) in the undeformed configuration. Upon deformation, the initial bandgap is suppressed, enabling the propagation of sound over all frequencies.

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ACOUSTIC SWITCHES