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Mechanical topological matter LISA NASH, DUSTIN KLECKNER, University of Chicago, VINCENZO VITELLI, Instituut-Lorentz, Leiden University, ARI M. TURNER, Johns Hopkins University, WILLIAM T.M. IRVINE, University of Chicago — Topologically protected states can arise in electronic systems with broken time-reversal symmetry. We present a classical mechanical model for a solid in which broken time-reversal symmetry gives rise to topologically protected edgemodes, analogous to the edge modes in the quantum Hall effect. We will discuss numerical and experimental observations of these chiral edge-modes, their topological characterization, robustness and broader phenomenology.

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