

Abstract Submitted  
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**Holey Sheet! A Programmable Mechanical Metamaterial** BASTIAAN FLORIJN, CORENTIN COULAIS, MARTIN VAN HECKE, Leiden University — We probe the mechanics of BiHolar metamaterials, 2D elastic media with a square lattice of circular holes of two different sizes. Biaxial loading of these BiHolar structures leads to a wealth of mechanical responses, including mechanically switchable hysteresis and memory effects. We show that we can program the mechanical response with the loading force and the hole size ratios.<sup>1</sup>

<sup>1</sup>Bastiaan Florijn, Corentin Coulais, and Martin van Hecke, *Phy. Rev. Lett.* **113**, 175503 (2014)

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