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Logic Operations Demonstrated with Localized Vibrations in a Micromechanical Cantilever Array

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A method is presented for realizing logic operations in a micromechanical cantilever array based on the timed application of a lattice disturbance to control the properties of intrinsic localized modes (ILMs). The application of a specific inhomogeneous field destroys a driver-locked ILM, while the same operation can create an ILM if initially no-ILM exists. Logic states "1" and "0" correspond to "present" or "absent" ILM.

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