

Metamaterial Nanomachines driven by heat, sound, electric and magnetic fields, and light

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We review recent advances in the physics and technology of plasmonic and dielectric nanomechanical metamaterials, wherein optical and mechanical resonances can be coupled to provide a plethora of dynamic photonic functionalities. External electric, magnetic, thermal, acoustic and optical stimuli drive pico/nanometric displacements of the metamaterial building blocks, modulating optical properties at MHz frequencies.