Abstracts

MEMS Orientational Optomechanical Media for Microwave Nonlinear Applications

B. Tsap, K.S.J. Pister and H.R. Fetterman. "MEMS Orientational Optomechanical Media for Microwave Nonlinear Applications." 1996 Microwave and Guided Wave Letters 6.12 (Dec. 1996 [MGWL]): 432-434.

The fabrication and testing of orientational optomechanical media suitable for microwave phase conjugation is described. It consists of metal-coated dielectric elongated beams 1 mm x 100 µm x 10 µm suspended by nonconductive torsional springs attached to a microwave transparent frame. Rotation of single elements, in a polarized electromagnetic field at 15 GHz, was measured and found to be in a good agreement with theory. This first experimental implementation of using microelectromechanical structures (MEMS) for nonlinear microwave devices demonstrates the potential of an entirely new class of devices.

❑ Return to main document.