Abstracts

Active Optomechanical Media for Nonlinear Microwave Processes

D. Rogovin and T.P. Shen. "Active Optomechanical Media for Nonlinear Microwave Processes." 1991 Microwave and Guided Wave Letters 1.12 (Dec. 1991 [MGWL]): 388-390.

Theory asserts that three-dimensional arrays of electrically small particles are excellent media for wave-mixing processes at microwave and millimeter wavelengths. As a specific example, spheres that are free to move on a stack of flat, transparent surfaces and that interact with incident radiation are examined. Electrostrictive forces move the spheres in such a way as to form density index gratings that can be used for controlling the propagation characteristics of coherent radiation. Phase conjugation in this medium is also examined.

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