Abstracts

Acoustic Surface Waveguides--Analysis and Assessment

P.E. Lagasse, I.M. Mason and E.A. Ash. "Acoustic Surface Waveguides--Analysis and Assessment." 1973 Transactions on Microwave Theory and Techniques 21.4 (Apr. 1973 [T-MTT] (Special Issue on Microwave Acoustic Signal Processing)): 225-236.

The properties of acoustic surface waveguides are reviewed, with particular reference to topographic structures in which guiding is achieved by drastic deformation of the substrate surface. A numerical technique, capable of computing efficiently and with high accuracy the mode spectrum of an anisotropic piezoelectric heterogeneous waveguide of arbitrary cross section, is described. Characteristics of both the ridge guide and the recently discovered wedge waveguide are discussed in some detail. Techniques for the fabrication of and transduction onto acoustic surface waveguides are discussed, and a preliminary assessment is made of potential linear and nonlinear waveguide applications. A number of experimental devices are described.

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