Abstracts

Distributed Components in Microwave Elastic Surface Wave Circuits

R.M. Knox and D.B. Owen. "Distributed Components in Microwave Elastic Surface Wave Circuits." 1970 G-MTT International Microwave Symposium Digest of Technical Papers 70.1 (1970 [MWSYM]): 370-374.

Research in the past several years on bulk acoustic devices, notably on delay lines, is now broadening to include a much larger family of devices because of recent developments in surface wave acoustics. Publications by White and Tiersten have shown that the elastic surface wave (Rayleigh wave) can be guided by a superficial layer which is about one wavelength thick. Tiersten provided a theoretical analysis for two types of guides, a strip guide in which a narrow film is deposited in the desired direction of propagation and a slot guide in which the film is deposited everywhere except in the desired direction of propagation. Tiersten's theoretical dispersion curves are presented along with a description of the useful single mode region which establishes a bandwidth limitation much as in conventional waveguide.

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