Abstracts

Behavior of Bleustein-Gulyaev Waves in a Periodically Corrugated Piezoelectric Crystal

M. Tsutsumi and N. Kumagai. "Behavior of Bleustein-Gulyaev Waves in a Periodically Corrugated Piezoelectric Crystal." 1980 Transactions on Microwave Theory and Techniques 28.6 (Jun. 1980 [T-MTT]): 627-632.

The propagation characteristics of Bleustein-Gulyaev waves in a periodically corrugated piezoelectric crystal is investigated theoretically and numerically. The exact couple-mode equations governing the nature of Bleustein-Gulyaev wave interactions are derived with the aid of a singular perturbation procedure, and the interesting behavior of the filtering characteristics are shown numerically. It is found that the practically important characteristics such as wide stop-bandwidth and large wave-decay in the stopband can be achieved by choosing a value of the piezoelectric constant suitably, and/or coating the crystal surface with thin conducting material.

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