Abstracts

Wave Propagation in Multilayered Drifted Solid-State Plasmas (Short Papers)

A.C. Baynham, A.D. Boardman, M.R.B. Dunsmore and J. Tierney. "Wave Propagation in Multilayered Drifted Solid-State Plasmas (Short Papers)." 1973 Transactions on Microwave Theory and Techniques 21.2 (Feb. 1973 [T-MTT]): 111-113.

The problem of the propagation of transverse magnetoplasma waves in drifted, stratified, media consisting of periodically distributed homogeneous slabs of solid-state plasmas is investigated. The action of the drifting carriers is to introduce an asymmetry into the propagation characteristics while the influence of the periodic structure introduces space harmonics. A detailed assessment of the possibility of a synchronous space-harmonic interaction for on-axis waves, which leads to wave amplification, has been performed. It is found that, contrary to the results of some prior work in the field, the gain that occurred could not be attributed directly to the periodic structure.

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