Abstracts

Excitation of Surface Waves on a Perfectly Conducting Screen Covered with Anisotropic Plasma

S.R. Seshadri. "Excitation of Surface Waves on a Perfectly Conducting Screen Covered with Anisotropic Plasma." 1962 Transactions on Microwave Theory and Techniques 10.6 (Nov. 1962 [T-MTT]): 573-578.

The field due to a line source of magnetic current situated in a lossless plasma region above a perfectly conducting screen is considered when a uniform static magnetic field is impressed throughout the plasma region parallel to the direction of the line source. It is shown that under certain conditions surface waves are excited on the screen. The dependence of the efficiency of excitation of surface waves on the distance d of the line source from the ground screen is examined. Also, the asymptotic series for the radiation field is derived, and its leading term is shown to vanish for a particular value of d. Under these conditions a strong surface-wave field is maintained near the guiding surface.

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