# Abstracts

## The Radiation Properties of a Parallel-Plane Waveguide in a Transversely Magnetized, Homogeneous Plasma

*E.L. Johansen. "The Radiation Properties of a Parallel-Plane Waveguide in a Transversely Magnetized, Homogeneous Plasma." 1965 Transactions on Microwave Theory and Techniques 13.1 (Jan. 1965 [T-MTT]): 77-83.*

The Wiener-Hopf technique is used to study the radiation from a parallel-plane waveguide embedded in a homogeneous anisotropic plasma in which the external magnetic field is perpendicular to the direction of propagation and parallel to the perfectly conducting planes of the guide. The incident field in the guide is a TEM wave, which propagates in the positive z direction. The parallel-plane guide terminates at z = 0, causing a reflected field in the waveguide, a radiation field, and a surface wave that is guided along the outer surface of one of the perfect conductors. Expressions are found for these field components, and the results are discussed for the different frequency ranges.

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