Abstracts

Boundary Excitation of Waveguides Containing Anisotropic Media (Correspondence)

Several methods can be utilized to launch electromagnetic waves along an ionized column contained in a cylindrical duct. An often used one shown in Fig. 1 where the waveguide is aperture-coupled to a surrounding resonant cavity. In this configuration, the fields inside the waveguide are produced by boundary excitation, and the fields are uniquely determined by the assignment of the tangential component of E in the aperture. It is our purpose to present explicit equations for the various field components in terms of the value of E/sub tang/. The contribution from the volume sources J and J/sub m/ is also included for the sake of completeness. The detailed derivation follows the methods of Bresler and Marcuvitz and is given elsewhere.

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