Abstracts

On the Properties of Warm-Plasma-Filled Rectangular Waveguide with Strong Transverse Magnetic Field (Correspondence)

H.-S. Tuan. "On the Properties of Warm-Plasma-Filled Rectangular Waveguide with Strong Transverse Magnetic Field (Correspondence)." 1969 Transactions on Microwave Theory and Techniques 17.3 (Mar. 1969 [T-MTT]): 164-165.

Characteristics of electromagnetic wave propagation in a reetangular waveguide filled with uniaxial anisotropic warm plasma are investigated. The static magnetic field is assumed to be transverse to the guide axis. It is found that propagating modes are conveniently classified into TE and TM modes with respect to the direction of static magnetic field. The properties of TE modes are found to be the same as those of ordinary hybrid modes in air-filled guide. However, the uniaxial warm plasma has a significant effect on the propagation characteristics of TM modes.

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