Abstracts

Circular Waveguides Lined with Artificial Anisotropic Dielectrics

C.T.M. Chang. "Circular Waveguides Lined with Artificial Anisotropic Dielectrics." 1972 Transactions on Microwave Theory and Techniques 20.8 (Aug. 1972 [T-MTT]): 517-523.

The propagation of electromagnetic waves inside circular waveguides lined with artificial anisotropic dielectric is investigated. Our investigation shows that the dominant hybrid electromagnetic (HEM/sub 11/) mode possesses a transverse deflecting field over the aperture of the structure and can be used as a transverse deflecting mode in a particle separator with ultrahigh energy. Expressions for power, attenuation, and transverse shunt impedance are obtained, and the effects of changing in loading on these various quantities are studied and presented in graphs.

❑ Return to main document.