Abstracts

Transmission Characteristics of Dielectric Tube Leaky Waveguide

M. Miyagi and S. Nishida. "Transmission Characteristics of Dielectric Tube Leaky Waveguide." 1980 Transactions on Microwave Theory and Techniques 28.6 (Jun. 1980 [T-MTT]): 536-541.

Loss formula of the dielectric tube leaky waveguide is derived by using a transverse transmission-line model which carries most of the transmitted power in air inside a dielectric tube. It is shown that low-loss leaky waveguide can be realized in optical through submillimiter wavelengths with moderate guide parameters and the transmission loss does not depend strongly on the material losses. It is also shown that the attenuation constant of this leaky waveguide is smaller than that of the hollow waveguide by several orders of magnitude.

❑ Return to main document.