

Abstracts

The Sinusoidal Variation of Dissipation Along Uniform Waveguides

G. Persky. "The Sinusoidal Variation of Dissipation Along Uniform Waveguides." 1962
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Standing waves in a waveguide with dielectric and/or metal wall losses generally give rise to expressions for power dissipation per unit length containing a term which is a sinusoidal function of the distance along the waveguide. In the present paper this phenomenon is explained and expressions for the dissipation are derived. The development is carried out for TE and TM modes in a uniform dielectric filled waveguide of arbitrary cross section, and then again from the standpoint of transmission line theory. The practical implications of the results are discussed.

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