Abstracts

TE and TM Modes of Some Triangular Cross-Section Waveguides Using Superposition of Plane Waves (Short Papers)

P.L. Overfelt and D.J. White. "TE and TM Modes of Some Triangular Cross-Section Waveguides Using Superposition of Plane Waves (Short Papers)." 1986 Transactions on Microwave Theory and Techniques 34.1 (Jan. 1986 [T-MTT]): 161-167.

Exact transverse electric and magnetic mode solutions of four triangular cross-section waveguides have been found via a new general method using Snell's law and superposition of plane waves. This paper presents results for 1) equilateral, 2) 30°, 30°, 120°, 3) isosceles right, and 4) 30°, 60° right triangular waveguides. The electric and magnetic field solutions form finite sums of separable rectangular harmonics and are the only waveguides of triangular cross section for which such solutions have been found.

❑ Return to main document.