Abstracts

Transverse Resonance Solution of Uniform Trapezoidal Waveguides (Correspondence)

Waveguides of nonconventional cross sections are of interest, and several approximate techniques are being developed. Yashkin approximated the complicated cross section of waveguides by a cluster of rectangles. For example, the lateral sides of a uniform isosceles trapezoidal waveguide were approximated by three steps, as shown in Fig. 1, thus forming five rectangular guides. The solution of the wave equation was sought by matching the five separate solutions at the boundaries of the adjacent rectangular guides. This led to a system of transcendental equations, which is often laborious to solve. Yashkin's theoretical calculations are verified experimentally as shown in Table I.

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