

# Abstracts

## Variational Analysis of Ridged Waveguide Modes

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*Y. Utsumi. "Variational Analysis of Ridged Waveguide Modes." 1985 Transactions on Microwave Theory and Techniques 33.2 (Feb. 1985 [T-MTT]): 111-120.*

Brief expressions of eigenvalue problems, normal modes, and electric-field profiles for all odd TE and TM modes of ridged waveguides, and the guide wavelength and characteristic impedance for the TE<sub>10</sub> dominant mode, are presented in this paper. In this analysis, the computation time can be reduced by getting simple approximated variational expressions for eigenvalue equations by using a trial function which satisfies the right-angled edge condition of a ridge. These theoretical results are in good agreement with the experimental results and the several references employed.

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