# Abstracts

## Variational analysis of a gap in the central conductor of a rectangular coaxial line

*S. Chattopadhyay and P.K. Saha. "Variational analysis of a gap in the central conductor of a rectangular coaxial line." 1999 Transactions on Microwave Theory and Techniques 47.2 (Feb. 1999 [T-MTT]): 246-249.*

Rectangular coaxial line (RCL) discontinuity in the form of a gap in the central conductor and steps in the outer conductor in the planes of discontinuity has been analyzed by a variational method. The orthogonal-mode functions of an RCL required for numerical computation of the discontinuity parameters have been determined using the Ritz-Galerkin technique. The capacitances of the equivalent Pi-network are presented as function of gapwidth, normalized frequency, and ratio of outer conductor dimensions for complete characterization of the discontinuity. The low-frequency series and shunt capacitance values are verified against the static capacitances computed separately by the finite-difference technique.

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