

Abstracts

A Grating Formulation for Some Problems Involving Cylindrical Discontinuities in Rectangular Waveguides

R.B. Green. "A Grating Formulation for Some Problems Involving Cylindrical Discontinuities in Rectangular Waveguides." 1969 Transactions on Microwave Theory and Techniques 17.10 (Oct. 1969 [T-MTT]): 760-763.

A representation of the Green's function for a line current in a rectangular waveguide is given in terms of a rapidly converging series. One can obtain numerical results for a wide class of practical problems by combining this representation with the "method of moments." The technique is discussed in general and applied to the problem of computing the reflection coefficients of circular posts in waveguides. Post diameters from 0.14 to 0.97 times the guide width are considered and theoretical results are found to be in good agreement with experimental studies.

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