

Abstracts

New Explicit Expressions for the Coupling Matrix Elements Related to Scattering from a Planar Periodic Single-Strip Grating

D.N. Filipovic. "New Explicit Expressions for the Coupling Matrix Elements Related to Scattering from a Planar Periodic Single-Strip Grating." 1995 Transactions on Microwave Theory and Techniques 43.7 (Jul. 1995, Part I [T-MTT]): 1540-1544.

This paper presents an alternative approach for finding elements of the coupling matrix in the multimode equivalent network that describes plane-wave scattering from a planar periodic single-strip grating at a dielectric interface. After solving a Fredholm integral equation of the first kind whose kernel has a logarithmic singularity, the coupling matrix elements are obtained in an explicit analytical form, thus avoiding numerical integration. Numerical computations are carried out and the results are compared to some of the existing ones.

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