Abstracts

A finite element-generalized network analysis of finite thickness photonic crystals

R. Coccioli, T. Itoh and G. Pelosi. "A finite element-generalized network analysis of finite thickness photonic crystals." 1997 MTT-S International Microwave Symposium Digest 1. (1997 Vol. I [MWSYM]): 195-198.

A Generalized Network Formulation for the analysis electromagnetic diffraction from a photonic crystal is proposed. The Finite Element method is employed to compute the impedance matrix which characterizes propagation through the unit cell. From this matrix, the bulk dispersion characteristic for the infinitely extending crystal, as well as the transmission and reflection coefficients for the case of a finite thickness sample of the crystal can be derived.

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