Abstracts

Equivalent Network of a Multimode Planar Grating

In this paper a plane-parallel, perfectly conducting, zero-thickness grating is analyzed by an integral equation procedure. This procedure generalizes the well-known single-mode method by taking multimode propagation into account. The grating is located in free space; viewed transversely to the plane of the structure, it is a zero-thickness shunt discontinuity in the free-space waveguide. The solution of the integral equation is obtained for E (or TM) mode excitation, when the spacing between conducting strips is small compared to a period, and it is interpreted in network terms. Finally, an explicit equivalent network is presented for the grating under multimode conditions.

❏ Return to main document.