Abstracts

Surface Wave Diffraction by a Finite Metal Grating and Numerical Model for Design of Leaky-Wave Antennas

The electrodynamics problem of surface wave diffraction by a finite grating made of thin metal rods and placed on the dielectric plate is studied. Green's function of a dielectric slab situated on a metal substrate is used for mathematics. The system of algebraic linear equations in unknown complex amplitudes of currents in the rods is obtained in a particular case of normal incidence of the traveling wave upon the grating. The effective algorithm for numerical investigation of all diffraction characteristics of the structure is also elaborated. An example of the diffraction model application for design of a leaky-wave antenna in millimeter waveband is presented.

❏ Return to main document.

Click on title for a complete paper.