Abstracts

The Excitation of Surface Waveguides and Radiating Slots by Strip-Circuit Transmission Lines

A.D. Frost, C.R. McGeoch and C.R. Mingins. "The Excitation of Surface Waveguides and Radiating Slots by Strip-Circuit Transmission Lines." 1956 Transactions on Microwave Theory and Techniques 4.4 (Oct. 1956 [T-MTT]): 218-222.

A variety of methods for coupling between a shielded strip-circuit transmission line, operating in the TEM coaxial mode, and a surface waveguide have been investigated. The arrangements include phased dipole arrays, series ground-plane slots and Iongitudinal slot excited probes. Impedance and matching conditions for each are discussed together with their relative efficiency and bandwidth. In the case of a single radiating slot, measurements on the effective equivalent circuit have been made as a function of the orientation angle of the slot with respect to the axis of the strip-line guide. Slots used ranged in length from 0.3 to 0.6 lambda/sub g/, having length/width ratios from 5 to 16.

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