Abstracts

Microwave Network Representation of Discontinuity in Open Dielectric Waveguides and its Applications to Periodic Structures

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A network approach is proposed for analyzing the interaction of discontinuities in open dielectric waveguides by taking account of the continuous spectrum accurately. This approach develops an unprecedented method to investigate the effect of finite length of periodic structures on their transmission characteristics. This paper discusses this effect on the radiation patterns when a finite periodic structure is operated in the leaky wave region, while in a different regime of operation, we present a new and completely theoretical accurate procedure for the design of grating filters on a dielectric image waveguide, demonstrating successful experiments.

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