Abstracts

A Semi-Infinite Array of Parallel Metallic Plates of Finite Thickness for Microwave Systems

R.I. Primich. "A Semi-Infinite Array of Parallel Metallic Plates of Finite Thickness for Microwave Systems." 1956 Transactions on Microwave Theory and Techniques 4.3 (Jul. 1956 [T-MTT]): 156-166.

An array of parallel metallic plates of finite thickness are useful in microwave lenses. The effect of finite thickness in the idealized situation of a semi-infinite array of perfect conductivity, is treated theoretically and experimentally for normal incidence of a uniform plane wave on the plane interface separating the medium from free space. The theoretical discussion involves the approximate variational method and a procedure is given for estimating the order of magnitude of the error in the final result. It is shown that it can be advantageous to use plates of finite thickness since the reflection from the interface can be reduced from that existing for infinitely thin plates.

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