Abstracts

Some Results for Thin-Iris Loaded Periodic Waveguides

D. Rosenberg and D.J.R. Stock. "Some Results for Thin-Iris Loaded Periodic Waveguides." 1966 Transactions on Microwave Theory and Techniques 14.3 (Mar. 1966 [T-MTT]): 145-153.

The planar waveguide holding planar obstacles is a prototype structure--its fields correspond to some sets of lowest modes in circular and coaxial line waveguides that use coaxial iris loading and in inductive iris loaded rectangular guides. An analysis of a periodically thin-iris loaded planar waveguide is offered, the procedure for which can also be applied to the other waveguides mentioned. A particular example for small iris separation is considered. Among the results of this study are adjustments to some formulas of Brillouin so as to allow consideration of large phase shifts per cell of periodic guide. The procedure, which can be recommended as a formula deriving technique, can find use with such other planar obstacles as the thick periodic iris, the interdigitally placed irises, or the single iris in a multimode guide. Some consideration is given to interdigital loading.

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