Abstracts

Exact Design of Band-Stop Microwave Filters (Jan. 1964 [T-MTT])

B.M. Schiffman and G.L. Matthaei. "Exact Design of Band-Stop Microwave Filters (Jan. 1964 [T-MTT])." 1964 Transactions on Microwave Theory and Techniques 12.1 (Jan. 1964 [T-MTT]): 6-15.

An exact method for the design of band-stop filters which adapts synthesis techniques due to Ozaki and Ishii is discussed. This method places no theoretical limit on the width of the stop-band, although, for practical reasons, different (but equivalent) circuit configurations are used for stop-bands of different widths.These configurations include a form having open-circuited shunt stubs separated by lengths of line; a second form using resonators which are separate from the main line but parallel to it, so that coupling takes place by way of fringing fields; and a third form in which the resonators are attached directly to the main line, but are folded parallel to it so that coupling is both by direct connection and by fringing fields. Easy to use formulas are given for the exact design of band-stop filters from low-pass prototype filters and equations are given for converting from one form of filter structure to any of the other equivalent forms. The experimental results of trial designs are presented.

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