Abstracts

A two zero fourth order microwave waveguide filter using a simple rectangular quadruple-mode cavity

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In order to reduce the size of microwave waveguide filters, triple and quadruple mode filters in circular waveguide have been investigated intensively. However, the research for such filters in rectangular waveguide is still poor and the rare trials have led to complicated sensible structures with loaded cavities. This paper describes a fourth order filter with two transmission zeroes obtained with only one basic rectangular cavity and two irises. Neither coupling nor tuning screws are needed. The analysis at the discontinuities is performed by the moment method. The synthesis lies on an optimization method based on the genetic algorithm.

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