Abstracts

Single-Post Inductive Obstacle in Rectangular Waveguide

Y. Leviatan, P.G. Li, A.T. Adams and J. Perini. "Single-Post Inductive Obstacle in Rectangular Waveguide." 1983 Transactions on Microwave Theory and Techniques 31.10 (Oct. 1983 [T-MTT]): 806-812.

A rapidly converging moment solution for electromagnetic scattering by a single inductive post in a rectangular waveguide is obtained. The numerical results show good agreement with Marcuvitz's data as far as this data goes. Furthermore, Marcuvitz's curves are extended to cover data for large posts. This new data should aflow one to design a simply constructed new type of narrow bandpass filter, namely, a filter consisting of large single posts. The successful use of this straightforward moment solution in solving the single-post problem suggests that this technique should prove useful in solving a variety of microwave discontinuities such as those involving thin or thick irises and posts of arbitrary shape.

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