Abstracts

Suppression of Higher Order Modes in Waveguide-Junction Circulators Using Coupled Open Dielectric Resonators (Letters)

F.C.F. Tan and J. Helszajn. "Suppression of Higher Order Modes in Waveguide-Junction Circulators Using Coupled Open Dielectric Resonators (Letters)." 1976 Transactions on Microwave Theory and Techniques 24.5 (May 1976 [T-MTT]): 271-273.

It is well known that some waveguide circulators exhibit an unwanted spurious mode within their passband, which limits their insertion loss and bandwidth. This mode is identified as the TE/sub 0,1,delta/ one in the case of the waveguide junction which relies on the TM/sub 1,1delta,/ mode for its operation. The influence of the saturation magnetization on the separation between the two modes is studied in detail. A mode suppressor is also described which decouples the coupled TE/sub 0,1,delta/ mode without altering the frequency of the circulation ones. This suppressor consists of a thin metal ring placed on the open face of one of the ferrite disks.

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