Abstracts

Mode Charts for Magnetized Ferrite Cylinders

C. Schieblich. "Mode Charts for Magnetized Ferrite Cylinders." 1989 Transactions on Microwave Theory and Techniques 37.10 (Oct. 1989 [T-MTT]): 1555-1561.

Waveguide junction circulators in E-and H-plane technique usually employ height-dependent ferrite modes. The most crucial parameter is the frequency splitting between two angle-dependent modes. It rises with the magnetic bias field until there is a maximum at about saturation. In this contribution, mode charts are given which help the designer to look up the resonance frequencies of the most important modes as a function of the external, measurable field. Also, the unsaturated state of the ferrite material is covered. These diagrams are in good accordance with experimental experience and have been helpful in interpreting circulator performance, especially for the identification of spurious resonances.

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