Abstracts

Ferrite Shape Considerations for UHF High-Power Isolators (Correspondence)

E. Stern. "Ferrite Shape Considerations for UHF High-Power Isolators (Correspondence)." 1960 Transactions on Microwave Theory and Techniques 8.5 (Sep. 1960 [T-MTT]): 565-565.

Ferrite isolators deteriorate at high microwave power levels due to the gyromagnetic saturation phenomena described by Suhl. The onset of this deterioration is particularly detrimental to isolator performance when the main and subsidiary resonances coincide. At microwave frequencies the coincidence effect can generally be avoided if thin transversely magnetized ferrite slabs are used. However, at frequencies below 1 kMc, the finite slab thickness can con tribute to main-subsidiary resonance coincidence unless care is taken to choose the proper length and width dimensions of the slab. The following calculations specify the ferrite slab shape needed to avoid this coincidence in UHF ferrite isolators.

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