Abstracts

Non-Linear Threshold in Remanent Ferrite

E. Stern. "Non-Linear Threshold in Remanent Ferrite." 1967 G-MTT International Microwave Symposium Program and Digest 67.1 (1967 [MWSYM]): 103-106.

The onset of non-linear loss in remanent ferrite devices is a complicated problem which has interested several workers in the past half decade. The essential difficulty with the problem is that ferrite in the remanent state possesses localized areas (domains) wherein the effective fields can be as low as the anisotropy field, H/sub A/, and as high as 4 pi M/sub s/ + H/sub A/. Recently, Betts measured the threshold power in a helical phase shifter on a wide variety of substituted garnet materials. Betts observed non-linear thresholds which had escaped the notice of other workers by using measurement procedures sensitive to attenuation changes of .01 db. He was able to show that the threshold field varied roughly as m/sub s//sup -2/ even for m/sub s/ values of less than .35.

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