Abstracts

Exact Solution for a Gyromagnetic Sample and Measurements on a Ferrite

H.E. Bussey and L.A. Steinert. "Exact Solution for a Gyromagnetic Sample and Measurements on a Ferrite." 1958 Transactions on Microwave Theory and Techniques 6.1 (Jan. 1958 [T-MTT]): 72-76.

An outline of an exact solution for a gyromagnetic rod centered in a right circular cylindrical cavity resonator is given. This solution is applied in evaluating dielectric and tensor-magnetic measurements on a well-known ferrite. Complex frequencies and constitutive parameters are introduced and the solution is expanded in series to obtain a convenient calculational scheme. Comparisons are made of exact and perturbation calculations of results from a small and a large sample. The effect of insufficient symmetry of the cavity is discussed and the condition for sufficient symmetry is given. The g value of electrons was 2.02.

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