Abstracts

A Study on Circular Disk Resonators on a Ferrite Substrate

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In this paper, an exact analysis of a circular disk resonator on a magnetized ferrite substrate which can be used for tunable filters and circular polarizing radiators is presented. The method makes use of Galerkin's method applied in the Hankel transform domain and is quite suitable for numerical calculation. The calculated values of the resonant frequencies and unloaded Q's are shown to be in good agreement with the measured data and the validity of the present theory is confirmed. Furthermore, the characteristics of the traveling wave filters are investigated theoretically and experimentally, and their advantages over the standing wave filters are demonstrated in terms of reflection and sensitivity of the Q/sub L/ on the coupling strength.

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