Abstracts

Ferrite-Loaded, Circularly Polarized Microwave Cavity Filters

W.L. Whirry and C.E. Nelson. "Ferrite-Loaded, Circularly Polarized Microwave Cavity Filters." 1958 Transactions on Microwave Theory and Techniques 6.1 (Jan. 1958 [T-MTT]): 59-65.

Circularly polarized cavities have made possible a group of compact, high-Q, microwave waveguide filters having useful directional properties. When these cavity filters are ferrite loaded, frequency sensitive circulators result and magnetic tuning becomes possible. This paper presents several new three- and four-port ferrite-loaded filters, some with 3-db waveguide couplers, which can be used as tunable band-pass filters, tunable band-rejection filters, or as passive, selective duplexers. As duplexers, they can be operated at a fixed frequency or can be magnetically tuned over a one to five per cent frequency range at X band depending upon the allowable loss. Experimental loss, bandwidth, isolation, and tuning data are presented. Temperature stability and power handling capacity are also discussed.

❑ Return to main document.