Abstracts

Broadband Ferrite Microwave Isolator

P.H. Vartanian, J.L. Melchor and W.P. Ayres. "Broadband Ferrite Microwave Isolator." 1956 Transactions on Microwave Theory and Techniques 4.1 (Jan. 1956 [T-MTT]): 8-13.

A new type broadband unidirectional transmission line has been built utilizing the difference in energy distribution between two counter-rotating circularly polarized waves in a circular waveguide containing a ferrite. This principle of isolation is different from those which have been used previously. A large difference is observed in the energy distribution of two counter-rotating TE/sub 11/ modes in a ferrite loaded circular waveguide. A ferrite rod magnetized along its axis presents an effective rf permeability of approximately two for the mode rotating in a negative screw sense with respect to the direction of magnetization. For the positive sense of rotation the effective rf permeability becomes very small and negligible energy is transmitted through the ferrite rod.

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