Abstracts

Characterisation of Planar WYE Shaped Resonators for Use in Circulator Hardware

W.T. Nisbet and J. Helszajn. "Characterisation of Planar WYE Shaped Resonators for Use in Circulator Hardware." 1980 MTT-S International Microwave Symposium Digest 80.1 (1980 [MWSYM]): 244-249.

An important class of three port junction circulators consist of a network of six transmission lines alternatively terminated in 50 omega lines and magnetic walls (open-circuits). In general, this network has threefold symmetry, since consecutive transmission lines differ both in impedance and electrical length. Properly adjusted, it exhibits a frequency response normally associated with a quarter-wave coupled junction circulator. For circulators, for which the in-phase eigennetwork may be represented by an ideal short circuit, the equivalent circuit is a 1-port network which may be formed from the definition of the constituent resonator. This feature is used in this paper to study the equivalent circuit of junction circulators using microstrip WYE resonators on garnet substrates.

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