Abstracts

Nonreciprocal Coupling with Single-Crystal Ferrites

H. Skeie. "Nonreciprocal Coupling with Single-Crystal Ferrites." 1964 Transactions on Microwave Theory and Techniques 12.6 (Nov. 1964 [T-MTT]): 587-594.

A calculation of nonreciprocal coupling in microwave circuits with small ferrite samples tuned to ferromagnetic resonance is presented. It is shown that this coupling may be applied to the construction of simple resonant isolators, gyrators and circulators. Experimental results for the coupling in rectangular and ridge guides, applying YIG spheres, are presented. The construction of a simple X-band waveguide junction, acting as a 4-port resonant circulator, is described. Such a filter circulator, which may act as a switch or a frequency selective power divider, can be made tunable over the waveguide frequency range, with a bandwidth in the order of 10 Mc, and with values of insertion loss and isolation, which are comparable to those of conventional circulators.

❑ Return to main document.