Abstracts

Fabrication of very weakly and weakly magnetized microstrip circulators

J. Helszajn. "Fabrication of very weakly and weakly magnetized microstrip circulators." 1998 Transactions on Microwave Theory and Techniques 46.5 (May 1998, Part I [T-MTT]): 439-449.

The synthesis of practical microstrip circulators in terms of a microwave specification remains in practice a difficult problem. If a very weakly magnetized model is adopted for its gyrator circuit, this task should in principle be (once the quality factor of the resonator is stipulated) a simple endeavor provided the substrate thickness can be varied. If it is not possible to do so, it is necessary to either alter the resonator shape or the minimum ripple level of the microwave specification or vary both quantities. This paper demonstrates that the very weakly magnetized model of a junction circulator using either a side- or an end-coupled triangular resonator is more restricted than may be at first supposed. A weakly magnetized solution for the design of such junction circulators which bridges the interval between the very weakly and the moderately magnetized regimes is the main contribution of this paper.

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