Abstracts

Comments on "On the mode coupling in longitudinally magnetized waveguiding structures" [and reply]

V. Dmitriev. "Comments on "On the mode coupling in longitudinally magnetized waveguiding structures" [and reply]." 1999 Transactions on Microwave Theory and Techniques 47.5 (May 1999 [T-MTT]): 661-663.

The above paper gives theoretical explanation of the operation of nonreciprocal devices based on coupled ferrite lines (CFL's) with longitudinal magnetization. A CFL in a nonreciprocal device must be a phase nonreciprocal structure. Some new variants of a CFL [Fig. 1(a) and (c)] have been also proposed. Those differ in symmetry from the existing CFL (Fig. 2). Since there were no theoretical and experimental confirmation of the capacity for work of the new structures, a question arises in this connection: is it possible to construct novel four-port circulators using such symmetrical CFL? A more general question is: Do there exist other symmetries of a CFL which will allow one to realize the nonreciprocal devices?

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