Abstracts

On the Complex Nature of Higher Order Modes in Lossless Nonreciprocal Transversely Magnetized Waveguides

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Propagation of nonreciprocal modes in transversely magnetized lossless nonreciprocal waveguides is analyzed. It is shown that purely evanescent modes cannot exist if the wave propagation is nonreciprocal. As a consequence of this all the modes which do not support a net average power flux must be complex. These modes are called here pseudo-evanescent complex modes. The meaning of the cutoff frequency concept of such pseudo-evanescent complex modes is also discussed.

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