Abstracts

Circular TE/sub 0n/ Mode Filters for Guided Millimeter-Wave Transmission (Jan. 1976 [T-MTT])

K. Hashimoto. "Circular TE/sub 0n/ Mode Filters for Guided Millimeter-Wave Transmission (Jan. 1976 [T-MTT])." 1976 Transactions on Microwave Theory and Techniques 24.1 (Jan. 1976 [T-MTT]): 25-31.

A millimeter-wave circular TE/sub 01/ mode waveguide generates undesired circularly symmetric modes (TE/sub 02/, TE/sub 03/ modes, etc.) in bends or at discontinuities along a waveguide line. This paper describes the theory and experiment on the TE/sub 02/ and TE/sub 03/ mode filters developed for guided millimeter-wave transmission. The experimental results of two improved TE/sub 03/ mode filters show that the attenuation of the TE/sub 03/ mode is more than 16 dB for one type over the 40-70-GHz range. The TE/sub 01/-mode insertion loss of another type is about 0.2 dB over the 40-80-GHz range. The present mode filters can be applied to various high-speed guided rnillimeter-wave systems currently under development.

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