

Abstracts

A Technique for Measuring Individual Modes Propagating in Overmoded Waveguide (Comments)

R.E. Puttre, D.S. Levinson and I. Rubinstein. "A Technique for Measuring Individual Modes Propagating in Overmoded Waveguide (Comments)." 1967 Transactions on Microwave Theory and Techniques 15.2 (Feb. 1967 [T-MTT]): 133-134.

In a recent paper, Levinson and Rubinstein presented a technique for measuring individual modes propagating in overmoded waveguide. Although the measurement technique described therein is practical and effective, one of the conclusions drawn from the results appears to be misleading. The measurement consists of sampling the voltage amplitude and relative phase of a propagating multimode 7 GHz signal by means of a series of probes located about the walls of a section of WR 650 waveguide. From this voltage data and the appropriate calculations, the relative power propagating in each mode through the WR 650 waveguide is determined. One advantage of measuring in oversized waveguide is that the modes of interest are far from cutoff for the tests performed at 7 GHz. According to Taub a maximum error of only six percent can occur in the calculations of relative power if, for simplicity, free-space impedance is assumed instead of the individual wave impedance for each mode.

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