Abstracts

Novel electromagnetic field probe using electro/magneto-optical crystals mounted on optical fiber facets for microwave circuit diagnosis

S. Wakana, T. Ohara, M. Abe, E. Yamazaki, M. Kishi and M. Tsuchiya. "Novel electromagnetic field probe using electro/magneto-optical crystals mounted on optical fiber facets for microwave circuit diagnosis." 2000 MTT-S International Microwave Symposium Digest 00.3 (2000 Vol. III [MWSYM]): 1615-1618.

We propose a new class of electromagnetic field probing scheme for microwave planar circuit diagnosis. The measurement principle is based on electro-optic/magneto-optic crystals mounted on optical fiber facets. Combining those fiber edge probes with a CW semiconductor laser source, a fast photodetector and an RF spectrum analyzer, electromagnetic field intensity on a microstrip transmission line has been measured in the frequency domain, where voltage and current amplitudes have been independently investigated with sensitivities of 30 mV and 0.6 mA, respectively.

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