Abstracts

Characterization and Optimization of Electrooptic Sampling by Volume-Integral-Method and Application of Space-Harmonic Potential

M. Rottenkolber, W. Thomann and P. Russer. "Characterization and Optimization of Electrooptic Sampling by Volume-Integral-Method and Application of Space-Harmonic Potential." 1993 MTT-S International Microwave Symposium Digest 93.1 (1993 Vol. I [MWSYM]): 265-268.

The relationship between the electric field-components of planar microwave structures and optical fields of a Gaussian sampling-beam of an Electrooptic-Sampling-System for the case of direct probing or the use of an electrooptic probe tip are essential for the application of noncontact and non-invasive measurement of high-frequency integrated microwave circuits. The described volume-integral-method yields a rigorous treatment of the influence of the electrical field and the optical beam. In case of an external electrooptic probe tip a layered structure with a space-harmonic potential is investigated in detail and results on sensitivity and spatial resolution are presented.

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