Abstracts

Electric Field Distribution Measurement of Microstrip Antennas and Arrays Using Electro-Optic Sampling

Y. Imaizumi, M. Shinagawa and H. Ogawa. "Electric Field Distribution Measurement of Microstrip Antennas and Arrays Using Electro-Optic Sampling." 1995 Transactions on Microwave Theory and Techniques 43.9 (Sep. 1995, Part II [T-MTT] (Special Issue on Microwave and Millimeter Wave Photonics)): 2402-2407.

This paper proposes an electric field distribution measurement method for microwave integrated circuit arrays that uses Electro-optic sampling (EOS). The electric fields of a microstrip patch antenna are measured by EOS and compared with the theoretical results calculated by the spectral domain approach. Good agreement between measurement and theory is found. An array antenna composed of two microstrip patches is also assessed by the EOS method and the expected results are experimentally verified. The EOS proposed in this paper is promising to evaluate the electric field distribution of individual antenna elements in large scaled integrated array antennas.

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