Abstracts

Electrooptic mapping of near-field distributions in integrated microwave circuits

K. Yang, G. David, S.V. Robertson, J.F. Whitaker and L.P.B. Katehi. "Electrooptic mapping of near-field distributions in integrated microwave circuits." 1998 Transactions on Microwave Theory and Techniques 46.12 (Dec. 1998, Part II [T-MTT] (1998 Symposium Issue)): 2338-2343.

A field mapping system based on external electrooptic sampling has been developed in order to determine the vectorial components of the electric near-field distribution within microwave integrated circuits. The capabilities of the setup are demonstrated by two-dimensional measurements of normal and tangential fields in a coplanar microwave distribution network at frequencies up to 15 GHz. Results obtained on a functioning power-distribution network, as well as on two nonfunctioning networks, show the ability of the technique to interrogate internal circuit operation and to isolate faults through investigation of the field distributions.

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