Abstracts

Near-field microwave microscopy of thin film resonators

J.A. Herbsommer, H. Safar, P.L. Gammel, B.P. Barber and M. Zierdt. "Near-field microwave microscopy of thin film resonators." 2001 MTT-S International Microwave Symposium Digest 01.3 (2001 Vol. III [MWSYM]): 2203-2206 vol.3.

We present phase-sensitive, high spatial resolution, near-field microwave microscopy images of the rf fields radiated by piezoelectric resonators operating in the vicinity of 2 GHz. Near the resonance our data show a complex distribution of fields. We fit our data to the Butterworth/Van-Dyke model that describes the behavior of these devices, and find very good qualitative agreement. In general, we show the potential of this phase-sensitive near-field imaging technique to study the behavior of complex rf devices, with potential impact on the optimization of the device's design.

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