Abstracts

Measurement of the phase and amplitude distributions of coupled oscillator arrays

P.F. Maccarini, T.-P. Dao, A.S. Nagra, A. Borgioli and R.A. York. "Measurement of the phase and amplitude distributions of coupled oscillator arrays." 2000 MTT-S International Microwave Symposium Digest 00.1 (2000 Vol. I [MWSYM]): 593-596.

This paper describes the analysis, design, implementation and characterization of a computer-controlled system that accurately measures the phase and amplitude distributions of a phased antenna array. The proposed setup allows 'on board' measurements and far field radiation pattern collection at the same time. We have measured the phase and amplitude distributions of a coupled oscillator array at 2.4-2.6 GHz. The results are coherent with the theoretical expectations. The amplitude error is less than 5% and the phase error is less than 5/spl deg/. This simple and inexpensive measurement system can be used for automated diagnostics of linear and nonlinear antenna arrays.

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