Abstracts

A Self-Calibration Concept for Establishing the Complex Measurement Ability of Homodyne Network Analyzers

H.-J. Eul and B. Schiek. "A Self-Calibration Concept for Establishing the Complex Measurement Ability of Homodyne Network Analyzers." 1990 Transactions on Microwave Theory and Techniques 38.3 (Mar. 1990 [T-MTT]): 284-289.

A homodyne phase shifter controlled double reflectometer is presented. Its ability to make complex measurements of a network depends on a knowledge of the phase shifter characteristics. This knowledge is established using fully unknown standards merely by exploiting reciprocity. If a system error correction is performed, the data needed for error correction contain enough information to determine the behavior of the phase shifter and no additional standards are needed. It is shown by simulation that the measurement of the parameters of the device under test is only weakly influenced by errors in the phase shifter behavior.

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