Abstracts

Direct parameter extraction on RF-CMOS (2002 Vol. I [MWSYM])

F.X. Pengg. "Direct parameter extraction on RF-CMOS (2002 Vol. I [MWSYM])." 2002 MTT-S International Microwave Symposium Digest 02.1 (2002 Vol. I [MWSYM]): 271-274 vol.1.

The good knowledge of all parameters of the models used with the circuit simulations is one of the major prerequisites for a successful design. This is particularly true for the design of analog radio-frequency (RF) circuits. An efficient and accurate method to directly extract the parameters needed for accurate modeling of transistors in a standard CMOS sub-micron technology for RF-applications is presented. The paper concentrates on the extraction procedure, with emphasis on its simplicity, hence excluding fitting or optimization, and on the accuracy of its results. The extracted parameters are applied to a first order nonquasistatic (NQS) model and the simulation results compared with measurements. Excellent agreement between simulations and measurements up to 50GHz is achieved.

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