Abstracts

Direct parameter extraction on RF-CMOS (2002 [RFIC])

F.X. Pengg. "Direct parameter extraction on RF-CMOS (2002 [RFIC])." 2002 Radio Frequency Integrated Circuits (RFIC) Symposium 02. (2002 [RFIC]): 355-358.

A good knowledge of all parameters of the models used with circuit simulation is one of the major prerequisites for a successful design. This is particularly true for the design of analog 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 model and the simulation results compared with measurements. Excellent agreement between simulations and measurements up to 50 GHz is achieved.

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