Abstracts

Improvements on a MOSFET model for non-linear RF simulations

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As the gate lengths of silicon MOSFETs become smaller and smaller, these devices are usable to frequencies in the GHz range. The non-linear MOSFET model presented in this paper is based on S-parameter measurements over a large bias range and has been implemented in a SPICE simulator. The improvements consist of new equations for the non-linear capacitances and output conductance of the MOS transistor. This new large signal model shows very good agreement between measurement and simulation up to 10 GHz.

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