

Xiaoyun Wei

Personal Information

- Marital status: married
- Nationality: P.R.China
- Age: 28
- Date of Birth: Dec. 15, 1978
- Gender: Female

Objective

- DC and RF measurement
- Noise measurement
- Device modeling

Education

08/2004 – present Auburn University. Auburn, AL. USA

Degree expected – Doctor of Philosophy

- Major: Microelectronics.
- Department of Electrical & Computer Engineering.
- Making DC and RF measurement of on-wafer devices and circuits. Familiar with programming tools used to control equipments and most of the measurement equipments, e.g. semiconductor parameter analyzer, vector network analyzer, spectrum analyzer from Agilent.
- Developing new on-wafer de-embedding techniques to retrieve accurate parameters for the desired devices and extract small signal model parameters.
- Nonlinearity analysis based on IIP3 measurement and analytical expressions using volterra series and the small signal equivalent circuit extracted from measurement.

09/2000 – 12/2003 Huazhong Univ. of Sci. & Tech. Wuhan, China

Degree received – Master of Science

- Major: Circuits & Systems.
- Department of Electronics & Information Engineering.
- Programming with MATLAB to visualize the fundamentals for the course of Signals and Systems. This platform is finished and now used in the Department's lab.
- Programming with C++ to build an IPSEC based secure tunnel between the server and the clients.

09/1996 – 07/2000 Huazhong Univ. of Sci. & Tech. Wuhan, China

Degree received - Bachelor

- Major: Communication Engineering.
- Department of Electronics & Information Engineering.
- Programming with C to realize data acquisition, playback and calculation in the single-chip systems using sound wave to plumb the depth of oil surface. This software is finished and now used in the Jiangnan Oil Field, Hubei,

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P.R.China.

Publication

- **X. Wei**, T. Zhang, G. Niu, M. Varadharajaperumal, J. D. Cressler, and P. W. Marshall, "3-D Mixed Mode Simulation of Single Event Transients in SiGe HBT Emitter Followers and Hardening Guidelines," in IEEE Trans. On Nuclear Science, 2008, submitted.
- Z. Xu, **X. Wei**, G. Niu, L. Luo, D. Thomas, and J. D. Cressler, "Modeling of Temperature Dependent of IC-VBE Characteristics of SiGe HBTs from 43-400K," in Proc. Of IEEE Bipolar/BiCMOS Circuits and Technology Meeting, 2008, accepted
- **X. Wei**, G. Niu, Y. Li, M. Yang, and S. S. Taylor, "Experimental Characterization and Simulation of RF Intermodulation Linearity in 1 90nm RF CMOS Technology," in Dig. IEEE Radio Frequency Integrated Circuits, pp. 251-154, 2008.
- M. Varadharajaperumal, G. Niu, **X. Wei**, T. Zhang, J. D. Cressler, R. A. Reed, and P. W. Marshall, "3-D Simulation of SEU Hardening of SiGe HBTs Using Shared Dummy Collector," in IEEE Trans. on Nuclear Science, vol. 54, pp. 2330-2337, Dec. 2007.
- **X. Wei**, G. Niu, S. L. Sweeney, Q. Liang, X. Wang, and S. S. Taylor, " A General 4-port Solution for 110 GHz On-wafer Transistor Measurements With or Without Impedance Standard Substrate (ISS) Calibration," in IEEE Trans. on Electron Devices, vol. 54, no. 10, pp. 2706-2714, Oct. 2007.
- **X. Wei**, G. Niu, S. L. Sweeney, and S. S. Taylor, "Singular-Value-Decomposition Based Four Port De-embedding and Single Step Error Calibration for On-Chip Measurement," in Dig. IEEE/MTT-S International Microwave Symposium, pp. 1497-1500, Jun. 2007.
- **X. Wei**, K. Xia, G. Niu, Y. Li, S. L. Sweeney, Q. Liang, X. Wang, and S. S. Taylor, "An Improved On-chip 4-Port Parasitics De-embedding Method with Application to RF CMOS," in Dig. IEEE Silicon Monolithic Integrated Circuits in RF Systems, pp. 24-27, Jan. 2007.
- G. Niu, J. Pan, **X. Wei**, S. S. Taylor, and D. Sheritan, "Intermodulation linearity characteristics of CMOS transistors in a 0.13 um process," in Dig. IEEE Radio Frequency Integrated Circuits, pp. 65-68, 2005.
- "Research and Implementation of Security Communication Based on IPSec in Local Area Network", thesis, Dec. 2003.
- **X. Wei** and T. Rong, "A Study of the Implementation of Tunnel Mode ESP", Journal of Huazhong Univ. of Sci and Tech., Nature Science, vol. 31, no. 6, pp 95-97, Jun. 2003.

Work experience

05/2007 – 08/2007 IBM Microelectronics Burlington, VT, USA

Summer Intern

- Department of transistor characterization.
- Measure on-wafer 110GHz S-parameters and 26GHz noise parameters.
- Write MATLAB program for multiple on-wafer de-embedding algorithms.

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- Perform 4-port de-embedding on measured S-parameters and noise parameters.

08/2004 – present Auburn University Auburn, AL, USA

Graduate Research Assistant

- Department of Electrical & Computer Engineering.

07/2000 – 07/2004 Huazhong Univ. of Sci. & Tech Wuhan, Hubei, China

Teaching Assistant

- Department of Electronics & Information Engineering
- 06/2001 – 08/2001, teach Analog Electronic Circuit
- 02/2002 – 07/2002, teach Signals and Systems
- 09/2002 – 07/2004, teach Program with MATLAB Language

07/1999 - 08/1999 LEGEND Computer agency Beijing, China

Salesperson & maintenance person