

2007 Symposium on Nano Device Technology

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NDL National Nano Device Laboratories
國家奈米元件實驗室



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地點: 新竹市科學工業園區展業一路26號 奈米電子研究大樓 國際會議廳

奈米元件技術研討會 2007

主題

- 》後矽奈米電子元件技術
- 》奈米生物技術
- 》功能性奈米材料技術
- 》奈米檢測技術
- 》高頻技術及應用
- 》奈米光晶元件技術

Challenges of High Power Device Modeling (GaN, HEMTs, and LDMOS)

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ABSTRACT

Challenges of characterizing and modeling of high power GaN HEMTs are discussed. A 30W device model was developed based on pulsed IV and pulsed S parameter measurement techniques. The data based on pulsed measurement has demonstrated a significant difference from CW data. Accuracy of the device model was verified against load pull data. A 30W device model was used as a basis of a 100W level GaN HEMTs. A scaled model was optimized and enhanced with thermal and load pull data. These models are applied to actual packaged devices and amplifiers. Simulated performance of the final products agreed very well to the actual 30W and 100W amplifiers.

Yusuke Tajima received B.S. and PhD degrees from Tokyo University in Electronics Engineering in 1970 and 1980 respectively. He continued his research and developmental work at Toshiba Central Lab in Japan and then at Raytheon Research Division in Massachusetts, USA, which he joined in 1979. He has contributed to many innovations in microwave devices and characterization methods.

Dr. Tajima's work on the pulsed IV measurement system, new circuit designs and device models has been published in many papers and patents. In 2000 he became the General Manager of ACCO USA, responsible for the USA operation of ACCO in France. Since 2004, he has been the Director of Modeling and Design for Auriga Measurement Systems, responsible for the business unit in the area of Modeling and Design.