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研究领域：宽禁带半导体器件，半导体器件的可靠性

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个人主页：

院士介绍

人员构成

科研/教育经历

博士毕业于北京大学，从事半导体器件特性表征和可靠性物理及应用研究，于2000年 - 2001年在新加坡国立大学进行学术访问，并于2002年从北京大学博士后站出站，同年校工作。

主要研究方向

目前主要研究领域包括宽禁带半导体微波/开关功率器件理论、结构电路设计、关键工艺、可靠性及其新型系统集成技术

研究成果概况

长期从事化合物半导体器件物理、结构设计、工艺和器件特性表征等方面的研究工作，也一直承担半导体器件物理方面的教学工作。作为项目负责人，承担“973”预研项目、国家电子预研项目、国家自然科学基金、教育部博士点基金等科研项目。作为核心成员参加了国家核高基项目、国家重点基础研究发展规划(973项目)子课题。发表学术论文国内外期刊30多篇，并与他人合译教材一部，参与教材编制一部。

Selected Publications

1. Locally nonuniform oxidation in self-terminating thermal oxidation assisted wet etching technique for AlGaIn/GaN heterostructure, Liu, J.; Wang, J.; Xu, Z.; Jiang, H.; Yang, Z.; Wang, M.; Yu, M.; Xie, B.; Wu, W.; Ma, X.; Zhang, J.; Hao, Y., *Electronics Letters*, Vol.51, No. 23, 2015, pp. 1932
2. Investigation of oxidation process in self-terminating gate recess wet etching technique for AlGaIn/GaN normally-off MOSFETs, Jingqian Liu, Jinyan Wang, Zhe Xu, Haisang Jiang, Zhenchuan Yang, Maojun Wang, Min Yu, Bing Xie, Wengang Wu, Xiaohua Ma, Jincheng Zhang and Yue Hao, *ELECTRONICS LETTERS*, Vol.50, No. 25, 2014, pp. 1980-1982
3. Demonstration of Normally-Off Recess-Gated AlGaIn/GaN MOSFET Using GaN Cap Layer as Recess Mask, Zhe Xu, Jinyan Wang, Jingqian Liu, Chunyan Jin, Yong Cai, Zhenchuan Yang, Maojun Wang, Min Yu, Bing Xie, Wengang Wu, Xiaohua Ma, Jincheng Zhang, and Yue Hao, *IEEE ELECTRON DEVICE LETTERS*, VOL. 35, NO. 12, DECEMBER 2014, pp.1197
4. Enhancement Mode (E-Mode) AlGaIn/GaN MOSFET With 10^{13} A/mm Leakage Current and 1012 ON/OFF Current Ratio, Zhe Xu, Jinyan Wang, Yong Cai, Jingqian Liu, Chunyan Jin, Zhenchuan Yang, Maojun Wang, Min Yu, Bing Xie, Wengang Wu, Xiaohua Ma, Jincheng Zhang, and Yue Hao, *IEEE ELECTRON DEVICE LETTERS*, VOL. 35, NO. 12, DECEMBER 2014, pp.1200
5. High Temperature Characteristics of GaN-Based Inverter Integrated With Enhancement-Mode (E-Mode) MOSFET and Depletion-Mode (D-Mode) HEMT, Zhe Xu, Jinyan Wang, Yong Cai, Jingqian Liu, Zhen Yang, Xiaoping Li, Maojun Wang, Min Yu, Bing Xie, Wengang Wu, Xiaohua Ma, Jincheng Zhang, and Yue Hao, *IEEE ELECTRON DEVICE LETTERS*, VOL. 35, NO. 1, JANUARY 2014, pp.33
6. 300°C operation of normally off AlGaIn/GaN MOSFET with low leakage current and high on/off current ratio, Zhe Xu, Jinyan Wang, Yong Cai, Jingqian Liu, Zhen Yang, Xiaoping Li, Maojun Wang, Zhenchuan Yang, Bin Xie, Min Yu, Wengang Wu, Xiaohua Ma, Jincheng Zhang and Yue Hao, *ELECTRONICS LETTERS*, February 2014, Vol. 50, No. 4, pp. 315–316
7. A novel method for measuring parasitic resistance in high electron mobility transistors, Zhen Yang, Jinyan Wang, Xiaoping Li, Bo Zhang, Jian Zhao, Zhe Xu, Maojun Wang, Min Yu, Zhenchuan Yang, Wengang Wu, Yuming Zhang, Jincheng Zhang, Xiaohua Ma, and Yue Hao, *Solid-State Electronics*, Volume 100, October 2014, Pages 27–32
8. Fabrication of Normally Off AlGaIn/GaN MOSFET Using a Self-Terminating Gate Recess Etching Technique, Zhe Xu, Jinyan Wang, Yang Liu, Jinbao Cai, Jingqian Liu, Maojun Wang, Min Yu, Bing Xie, Wengang Wu, Xiaohua Ma, and Jincheng Zhang, *IEEE ELECTRON DEVICE LETTERS*, VOL. 34, NO. 7, JULY 2013, pp.855
9. Enhanced device performance of AlGaIn/GaN high electron mobility transistors with thermal oxidation treatment, Shenghou Liu, Jinyan Wang, Rumin Gong, Shuxun Lin, Zhihua Dong, Min Yu, C. P. Wen, Chunhong Zeng, Yong Cai, Baoshun Zhang, Fujun Xu, Jincheng Zhang, and Bo Shen, *Japanese Journal of Applied Physics*, vol. 50 no. 4, 04DF10-1, 2011
10. High temperature induced failure in Ti/Al/Ni/Au Ohmic contacts on AlGaIn/GaN heterostructure, Zhihua Dong, Jinyan Wang, C.P. Wen, Shenghou Liu, Rumin Gong, Min Yu, Yilong Hao, Fujun Xu, Bo Shen, Yangyuan Wang, *Microelectronics Reliability*, 24 October 2011, ISSN 0026-2714, 10.1016
11. A High Breakdown Voltage AlGaIn/GaN MOSHEMT Using Thermal Oxidized Al-Ti as the Gate Insulator, Zhou Bin and Wang Jin-Yan and Meng Di and Lin Shu-Xun and Fang Min and Dong Zhi-Hua and Yu Min and Hao Yi-Long and Cheng P. Wen, *Chinese Physics Letters*, Vol.28, No.10, pp.107303, 2011

12. Analysis of surface roughness in Ti/Al/Ni/Au Ohmic contact to AlGaIn/GaN high electron mobility transistors, Rumin Gong, Jinyan Wang, Shenghou Liu, Zhihua Dong, Min Yu, Cheng P. Wen, Yong Cai, and Baoshun Zhang, APPLIED PHYSICS LETTERS 97, 062115, 2010
13. Analysis on the new mechanisms of low-resistance stacked Ti/Al Ohmic contact structure on AlGaIn/GaN HEMTs, Rumin Gong, Jinyan Wang, Zhihua Dong, Shenghou Liu, Min Yu, Cheng P. Wen, Yong Cai, Baoshun Zhang and Jincheng Zhang, Journal of Physics D: Applied Physics, 43(2010) 395102
14. Enhanced Device Performance of AlGaIn/GaN MOSHEMT with Thermal Oxidation, S. Liu, J. Wang, R. Gong, Z. Dong, M. Yu, C. P. Wen, C. Zeng, Y. Cai, B. Zhang, 2010 International Conference on Solid State Devices and Materials (SSDM2010), Tokyo Japan
15. High breakdown AlGaIn/GaN MOSHEMT with thermal oxidized Ni/Ti as gate insulator, Zhihua Dong, Jinyan Wang, C.P. Wen, Dalian Gong, Ying Li, Min Yu, Yilong Hao, Fujun Xu, Bo Shen, Yangyuan Wang, Solid-State Electronics 54 (2010) 1339–1342
16. The Leakage Current of the Schottky Contact on the Mesa Edge of AlGaIn/GaN Heterostructure, Chuan Xu, Jinyan Wang, Hongwei Chen, Fujun Xu, Zhihua Dong, Yilong Hao, and Cheng P. Wen, IEEE ELECTRON DEVICE LETTERS, VOL. 28, NO. 11, NOVEMBER 2007, p. 942
17. Reeves's circular transmission line model and its scope of application to extract specific contact resistance, Xu, Chuan; Wang, Jinyan; Wang, Maojun; Jin, Haiyan; Hao, Yilong; Wen, Cheng P., Solid-State Electronics, v 50, n 5, May, 2006, p 843-847
18. Persistent Photoconductivity in n-type GaN, DENG Dong-mei, WANG Jin-yan, ZHAO De-gang, WEN Zheng, SEMICONDUCTOR PHOTONICS AND TECHNOLOGY, Vol.12 No.2 P.77-80, 2006

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