
Lan Sun

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OBJECTIVE A position in microelectronics and nanoelectronics industry:
material/device design, modeling, processing, and characterization.

EXPERTISE

- **Nanoelectronics Preprocessing and Fabrication**
 - E-Beam Lithography, Focused E-Beam Induced Deposition/
Etching process, Focused Ion-Beam process of milling and
deposition.
- **Microelectronics CMOS IC Processing and Fabrication**
 - CMOS IC fabrication processes, Plasmas Etching (RIE / ICP)
and Deposition, CVDs, etc.
 - Process Design and Simulation with SSUPREM.
 - Circuit Design and Simulation with Agilent ADS.
- **Material/Device Characterization**
 - I-V, Auger, XRD, SEM, etc.

EDUCATION Aug.2004-present, PhD candidate of Solid State Physics, Georgia
Institute of Technology.

Sept.2000-Jul.2003, Master of Engineering of Microelectronics &
Solid State Electronics, Nanjing University, China P.R.
THESIS: Epitaxial Growth and Studies of SiC Thin Film Material

Sept.1996-Jul.2000, Bachelor of Engineering of Microelectronics &
Solid State Electronics, Nanjing University, China P.R.
THESIS: Investigations on SiGeC/Si system near infrared detectors,
with Zhiyun Luo

RESEARCH EXPERIENCE

Fabricate and characterize SiC and SiO₂ nano structure and patterns
with E-Beam Lithography, Focused E-Beam Induced Deposition
and Focused Ion-Beam process of milling and deposition.
Epitaxially grow SiC thin film on Si with the CVD techniques, and
design and fabricate SiC/Si devices;
Design and fabricate SiGe/Si infrared detectors using different
buffer layers and material structures.

PROFESSIONAL AFFILIATIONS

Student Member of the Materials Research Society (MRS)

PUBLICATIONS

- 3C-SiC Heteroepitaxial Growth by Low Pressure Chemical Vapor Deposition on Si(111) substrates, F. Yan, Y.D. Zheng, P. Chen, L. Sun, etc., High Tech. Letters, 12(2002), 65-66.
- Single-crystalline 6H-SiC heteroepitaxial growth by chemical vapor deposition on sapphire substrate at reduced temperatures, L. Sun, P. Chen, P. Han, Y.D. Zheng, etc., Journal of Functional Materials, 35(2004), 192-194
- High hole mobility in p-strained Si grown on relaxed SiC virtual substrate by low pressure chemical vapor deposition, L. Sun, P. Han, Y.D. Zheng, P. Chen, etc., Optical Materials 23(2003) 109-112
- Staircase Band-gap Si_{1-x}Ge_x/Si Photodiodes, Z. Luo, R. Jiang, Y.D. Zheng, etc., Appl. Phys. Lett., vol.77, pp.1548-1550, 2000.