Personal Information:

Name: Luobiao

Date of Birth: 09/07/1983

Place of birth: NingXia province, P.R.China

Marital Status: Married

Health: Good

Gender: Male

Mobile :+086+13102379682

E-mail: luobiaook@yahoo.cn

Objective:

Making new break-through on the micro (or nano) device/material fabricated technology and micro (or nano) device/material application.

Education Background:

2001.9—2005.6: College of Optical & Electronic Information Engineering Chongqing University. Bachelor of Optical & Electronic Information Engineering

Major subjects: Optoelectronics, Digital Signal Processing, Optical Engineering, Circuit principle, Single Chip Computer Principle and Application, Digital Electronic Technology, Analog Electronic Technology, Interfacing and Application of Computer, College English

2006.9—2008.3: College of Optical & Electronic Information Engineering Chongqing University. post-graduate student of Precision instrument engineering

Major subjects: Wavelet analysis, Signal detection theory, Micro/Nano technology, English, Special English (MA), , C++, Information Optical, Precision instruments theory, Labview.

2008.3—Present:College of Optical & Electronic Information Engineering Chongqing University. Doctor candidate of Precision instrument engineering

Major subjects: Introduction to the structure of the intelligence system, Modern spectrum analysis, Spectral estimation introduction, English, Special

English (PhD)

2009.9—2010.9: Department of nanomechanics; Tohoku University (Sendai, Japan). Special research student in the department of nanomechanics (Supervisor is Professor Masayoshi Esashi)

Major subjects: Japanese

Work/Research Experiences:

2007.12–2008.5 As an Optical engineer, to participate in water quality testing project, Responsibilities includes:

1. Solving resolution problems on spectrometer. Design spectrometer on new computer arithmetic and standard to ensure resolution.
2. Improving design efficiency problems on spectrometer design process (co-design).
3. And responsible for System compatibility and integration test.

2008.4–2009.9 As a MEMS engineer, to participate in scanning micro mirror (with the integrate angle sensor) project, Responsibilities includes:

1. Solving high-tension problems of scanning micro mirror. Designed micro mirror with new structure
2. And responsible for System compatibility and integration test. Quickly detect angle causes to ensure highest operating efficiencies, reliability, and quality performance standards.

2008.5–2009.9 As a MOEMS engineer, in charge of the MOEMS-Based MIR Micro-Spectrometers project, Responsibilities includes:

1. Designed spectrometer with new optical structure and the new structure of the silicon blazed gratings micro mirror. Responsible for System compatibility (MEMS and optical structure) and ensure highest operating efficiencies, reliability, and quality performance standards.
2. Solving resolution problems with new scanning structure.

2009.9–2010.10 As a MEMS engineer, in charge of the MEMS-Based two-axis

gyroscope project, Responsibilities includes (Tohoku University, Sendai, Japan):

1. Designed two-axis gyroscope with new electromagnetic driving & electromagnetic/capacitance sensing two-axis gyroscope structure. Responsible for System compatibility, device designing, mask designing and making, device fabrication and test. Those works ensure highest operating efficiencies, reliability, and quality performance standards.
2. Solving two-axis problems with new structure.
3. Fabricating the device in the clean room:
   - Photoresister spinning coating and topside/backside alignment and expose.
   - Thermal oxidation, diffusion, implant, PECVD, Au/Cr and Pt/Ti Plating/sputtering/ EB evaporation, Anodic bonding, Thin Film Metrology, defect metrology equipment, and wafer handling equipment.
   - CMP.
   - Wet clean/etch and plasma etch/ash
4. Packaging the device
5. Design and build the vacuum test instruments, testing the device

2010.9–present As a MOEMS engineer, in charge of the MOEMS-Based IR Micro-Spectrometers project, Responsibilities includes:

1. Designed spectrometer with new optical structure and the new structure of the silicon phase gratings. Responsible for System compatibility (MEMS and optical structure) and ensure highest operating efficiencies, reliability, and quality performance standards.
2. Solving resolution problems with new scanning structure.
3. Design the MOEMS grating including device structure, the actuation/angle sensor method, and fabrication process:

- Ansys, Intellisuit, PCgrate, ZEMAX for mechanical optical, and electricity characteristic simulation.
- Diffusion, electroplate
- LPCVD (deposited the SiO_2 and Si_3N_4)
- RIE for SiO_2 and Si_3N_4 etching
- KOH Si etching

4. Designed and set the equipments for optical, mechanical and electricity characteristic testing of MOEMS grating.

Others

Independent and be able to work under pressure. Have coordination skills, teamwork spirit.

I will graduate in June of 2012.

National Service

2007.12–2008.5 **International Cooperation Program** Research and Development of Key Technologies for MOEMS-Based IR Micro-Spectrometers

2008.4–2009.9 **The Key Research Projects of Chong Qing city** Micro mirror integrated with angle sensor

2008.5–2009.9 **Projects of the 863 Plan** MOEMS-Based MIR Micro-Spectrometers project

2010.9–present **International Cooperation Program** MOEMS-Based IR Micro-Spectrometers project

College Service

2001.9-2002.2 Chongqing University Serve as a commissary in charge of science organization in my class

2002.4-2002.8 Chongqing University Serve as a commissary in charge of science organization in my class

2002.10-2002.2 Chongqing University Serve as a commissary in charge of science organization in my class

2003.4-2003.8 Chongqing University Serve as a monitor in charge of organization in my class

2003.9-2004.4 Chongqing University Serve as a commissary in charge of science organization in college

2008.4 Chongqing University Serve as Conference affair component member in The 9th China Chongqing Hi-tech Fair

2008.9-2009.8 Chongqing University Serve as an undergraduate counseling staff

2009.9-2010.9 Tohoku university (Japan) Serve as a member/volunteer of over seas student association in Tohoku University (Japan)

Honors and Awards

2001 **College of Optical & Electronic Information Engineering Scholarship**, Chong Qing University

2002 **Outstanding student leader**, College of Optical & Electronic Information Engineering,Chong Qing University

2003 **Excellent League member**, Chong Qing University

2004 **College of Optical & Electronic Information Engineering Scholarship**, Chong Qing University

2011 **Outstanding graduates**, Chong Qing University

Publications in refereed journals/Conference

[1]Biao.Luo, Zhi.Yu.Wen，Design of MOEMS based Electromagnetic Driven High Efficacious Phase Grating with Angle Sensor，International Symposium on Photoelectronic Detection and Imaging 2011，2011.3(ISPDI, Accepted)

[2]罗彪(Biao.Luo)，温志渝(Zhi.Yu.Wen)，陈李(LiChen)，钱蓉蓉(Rongrong Qian)，集成角度传感器的扫描微镜角度标定及分析(Calibration and analysis of MOEMS scanning mirror with angle sensor)，纳米技术与精密工程(Nano technology and Precision Engineering)，2011.4（Accepted）

[3]Biao.Luo1,2,3,a, Zhi.Yu.Wen1,2,3,a, Haitao Liu1,2,3,b, Li Chen1,2,3,b,

Rongrong Qian1,2,3,c, A Novel Micro Mirror Spectrometer and Test Experiment, The 13th Annual Conference of CSMNT,2011.9（Accepted, and oral report)

[4] Biao.Luo, Zhi.Yu.Wen, LiChen ,A NOVEL MOEMS GRATING WITH ANGLE SENSOR for NEAR INFRARED SPECTROMETER, IR Technology and Applications XXXVIII program for Baltimore 2012，2012.4(SPIE, Accepted and oral report)

[5]罗彪(Biao.Luo)，温志渝(Zhi.Yu.Wen)，温中泉(Zhongquan Wen)，陈李(LiChen)，钱蓉蓉(Rongrong Qian)，基于 MOEMS 扫描微镜的近红外光谱仪分光系统结构(Near infrared spectroscopy system structure with MOEMS scanning mirror array)，光谱学与光谱分析(Spectroscopy and Spectral Analysis)，2011.2（Accepted）

[6]罗彪(Biao.Luo)，温志渝(Zhi.Yu.Wen)，温中泉(Zhongquan Wen)，用于近紫外光谱的凹面光栅模拟与设计(Design of Concave Grating for ultraviolet-spectrum)，光谱学与光谱分析(Spectroscopy and Spectral Analysis)，2011.4（Accepted）

[7] Biao.Luo, Zhi.Yu.Wen, A SILICON ELECTROMAGNETIC DRIVEN SCAANING GRATING with ANGLE SENSOR FOR SPECTRAL DIFFERENTIATION, JOURNAL OF MICRO ELECTROMECHANICAL SYSTEMS, 2011.11(Revising)

[8] Biao.Luo, Zhi.Yu.Wen, Closed-loop control of a MOEMS grating integrated with electromagnetic angle sensor, Nano technology and Precision Engineering，2011.11（Revising）

[9] Biao.Luo, Zhi.Yu.Wen, Analysis and Experiment of Resolution Characteristic for MOEMS Grating with Angle Sensor, Spectroscopy and Spectral Analysis, 2011.11（Revising）

[10] QIAN Rong-rong , WEN Zhi-yu , CHEN Li * , Wen Zhong-quan , LUO Biao, Closed-loop control of a MOEMS mirror integrated with angle sensor, International Symposium on Photoelectronic Detection and Imaging 2011，2011.3(ISPDI, Accepted)

Patent

[1] Near infrared spectroscopy system structure with MOEMS scanning mirror array, ID: 200910103679.6

[2] Piezoelectric driven MOEMS mirror with angle sensor, ID: 200910104403.x

[3] MOEMS based electromagnetic driven high efficacious phase grating with angle sensor, ID: 2011101624865