

Curriculum Vitae

Dr. Zongwei Xu

Born April, 1978, China

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Education Experience

- 2003.09 -2007.01 Harbin Institute of Technology (Ph. D)
Major: Mechanical Manufacturing and Automation
- 2001.09 -2003.07 Harbin Institute of Technology (Master)
Major: Mechanical Manufacturing and Automation
- 1997.09 -2001.07 Liaoning Institute of Technology (Bachelor)
Major: Department of Chemistry & Mechanical Engineering

Work Experience

- 03/2009 - present, Associate Professor, College of Precision Instrument and Optoelectronics Engineering, Tianjin University, China
- 02/2016 - 01/2017, Visiting Scholar, Ruhr-Universität Bochum, Germany
- 06/2013 - 08/2013, Visiting Scholar, University of Strathclyde (Glasgow), UK
- 02/2013 - 06/2013, Visiting Scholar, University of Huddersfield, UK
- 09/2007 - 03/2009, Postdoctoral, Tianjin Micro-Nano Manufacturing Technology Engineering Center, China

Active research areas

My researches mainly focus on nanomanufacturing's fundamental research, technologies and applications basing on Focused Ion Beam/ Scanning Electron Microscope (FIB/SEM) dual-beam platform. Research interests include FIB nano-patterning method and technique, Micro/nanoscale optical devices, Diamond cutting tool's FIB machining, Diamond tool nano cutting mechanism under SEM online observation, Surface-Enhanced Raman Spectroscopy (SERS) substrate, FIB fabrication mechanism by Molecular Dynamics and Monte-Carlo, etc.

Course for undergraduate:

- *Advanced Manufacturing Technology*, 2013 - 2015
- *Precision Mechanical Design*, 2009 - 2015

Honors and awards

- **Guest editor**, Special issue of “*Nanomanufacturing-Recent advances*”, *Current Nanoscience*, 2016
- **Section Editor**, **Zongwei Xu**, Fengzhou Fang, 2014, Handbook of Manufacturing Engineering and Technology, SpringerReference
- **Scholarship** from China Scholarship Council (201506255003), **Visiting scholar of Ruhr-Universität Bochum (Germany)**, February 2016-February 2017
- **Elite Scholar Program** of Tianjin University, 2013-2014
- **Outstanding Education Supervisor** of Tianjin University, 2012.
- **Invited as a “Young Researcher”** in the *Third Asian Society for Precision Engineering and Nanotechnology (ASPEN2009)*, Kitakyushu, Japan, November 11-13, 2009
- **Keynote Speech:**
 1. **Zongwei Xu***, “*Focused Ion Beam Nanofabrication and Its Applications in Precision Metrology and Bio-sensing*”, 2nd International Conference on Sensors and Electronic Instrumental Advances, Spain, September 22-23, 2016, http://www.sensorsportal.com/SEIA_2016/
 2. Fengzhou Fang*, **Zongwei Xu**, “*Nanometric cutting mechanism*”, The 8th Manufacturing Institute for Research on Advanced Initiatives (MIRAI-2015), Kaohsiung, Taiwan, China, 25-26 March, 2015
- **Invited Presentations:**
 1. **Zongwei Xu***, “*Molecular Dynamics simulation of focused Ga ion beam induced nanoscale damage on silicon and its annealing recovery mechanism*”, *Energy Materials and Nanotechnology (EMN) Prague Meeting (2016)*, June 21-23, 2016
 2. **Zongwei Xu***, Fengzhou Fang, “*Removal of nanoscale damage induced by FIB nanofabrication on single-crystal diamond using femtosecond laser treatment*”, **Session Keynote**, European Society for Precision Engineering & Nanotechnology (EUSPEN)'s 16th International Conference, May 30-June 3, 2016, UK
 3. **Zongwei Xu***, “*Focused Ion Beam Nanofabrication and Applications*” in 2015 *China-America Frontiers of Engineering Symposium* (Organized by US National Academy of Engineering & Chinese Academy of Engineering), California USA, 1-3 June, 2015
 4. **Zongwei Xu***, “*Nanofabrication techniques for Nano-optics*” in the *INAE-CAE Young Engineering Leaders' Conclave (ICCON-1)*, organized by Indian National Academy of Engineering (INAE) & Chinese Academy of Engineering (CAE), Gujarat, India, 7-9 October, 2015
 5. **Zongwei Xu***, “*Nanofabrication combining focused ion beam with diamond tool nano cutting*”, *Energy Materials and Nanotechnology (EMN) Guangzhou Meeting*, Guangzhou, China, 3-6 December, 2015
 6. **Zongwei Xu***, “*Micro-nano optical elements' Nanofabrication technologies*” in the *6th International Conference of Asian Society for Precision Engineering and Nanotechnology (ASPEN2015)*, Harbin, China, 15-19 August, 2015
 7. **Zongwei Xu***, “*Fundamental of Focused Ion Beam's nanofabrication*” *286th Young Scientists Forum of China Science and Technology Association*, Beijing, 18-19 October, 2014

8. **Zongwei Xu***, "*Machining of micro/nano optical elements*", Ph.D. Candidates Symposium of Instrumentation and Bio-engineering, Hefei, China, 27-28 September, 2014.
9. **Zongwei Xu***, "*Application of Focused Ion Beam Technologies in Advanced Manufacturing*", National Seminar for Advanced Technologies and Application Progress of Scanning Electron Microscopy Spectroscopy, Electron Backscatter Diffraction and Focused Ion Beam, Harbin, China, 5-7 September, 2014
10. **Zongwei Xu***, "*Advanced technologies for micro/nano optics elements development*" in the 10th China International Nanotechnology conference, Hangzhou, China, 26-30 October, 2011
11. Fengzhou Fang*, **Zongwei Xu**, "*Fabrication of Nano Optics*", The Asia Conference on Precision Engineering and Nanotechnology (ASPEN2011), Hong Kong, China, 15-18 November, 2011
12. Fengzhou Fang*, **Zongwei Xu**, "*Mechanical processes for micro-optics*", SPIE-Phonics Europe, Brussels, Belgium, 12-16 April, 2010
13. Fengzhou Fang, **Zongwei Xu***, "*Nano Mask Fabrication by Focused Ion Beam Milling (FIBM)*", 3th International Conference of Asian Society for Precision Engineering and Nanotechnology (ASPEN2009), Kitakyushu, Japan, 11-13 November, 2009

➤ **International Journal's Peer Reviewer**

Nanotechnology

Applied Surface Science

Precision Engineering

Nanoscale Research Letters

Measurement Science and Technology

Biochemical Sciences

Scanning

International Journal of Advanced Manufacturing Technology

Current Nanoscience

Journal of Process Mechanical Engineering

Science China Technological Sciences

International Journal of Precision Engineering and Manufacturing

International Journal of Nanomanufacturing

IET Science Measurement & Technology

International Journal of Innovative Research in Science, Engineering and Technology

Journal of Lasers, Optics & Photonics

➤ **Project Reviewer**

1. National Natural Science Foundation of China (2010, 2011, 2013, 2015)

2. Beijing Natural Science Foundation of China (2013)

3. Guangxi Province Natural Science Foundation of China (2014)

➤ **Professional affiliations**

1. Committee member, Focused Ion Beam (FIB) Committee, Chinese Electron Microscope Society, 2012 till now.

2. Member of a council, Micro- and nano-fabrication Equipment Branch, Chinese Society of Micro-Nano Technology, 2015 till now.

3. Committee member, Micro and nano technology, Precision Engineering Branch, Production Engineering Mechanical Engineering Society of China, 2009 till now

- **Chairman**, the 4th National Conference on FIB Technology and Applications, Tianjin China, 20-22 November, 2013.
- **Session Chairman**
 1. 16th International Conference on Mechatronics Technology (ICMT2012), Tianjin China, 16-19 October, 2012.
 2. 4th International Conference on Nanomanufacturing (nanoMan2014), Bremen Germany, 7-11 July, 2014.
- **Scientific (Technical/Academic) Committee Member**
 1. 1st International Conference on Sensors Engineering and Electronics Instrumental Advances (SEIA' 2015), Dubai, UAE, 21-22 November, 2015
 2. Publication Review Committee, the 16th International Manufacturing Conference in China (IMCC 2015), Hangzhou, China, 22-25 October, 2015
 3. 2015 International Conference on Material Science and Environmental Engineering (MSEE 2015), Wuhan, China, 5-6 June, 2015
 4. The 2nd Annual International Conference on Material Science and Material Engineering (MSME2015), Chengdu, China, 25-27 December, 2015
 5. The 10th CHINA-JAPAN International Conference on Ultra- Precision Machining Process(CJUMP), Henan, China, 17-19 October, 2014
 6. International Symposium on Micro/Nano Mechanical Machining and Manufacturing, Guilin China, 18-20 August, 2010.
- **Organizing Committee Member**
 1. The 5th International Conference on Nanomanufacturing, Macau, China, 15-17 August, 2016
 2. The 3rd International Conference on Nanomanufacturing, Wako-shi, Japan, 25-27 July, 2012.
 3. The 2nd International Conference on Nanomanufacturing & 1st CIRP Conference on Nanomanufacturing, Tianjin, China, 24-26 September, 2010.
 4. The 1st International Conference on Nanomanufacturing, Singapore, 13-16 July, 2008.
- **Special contributor**, 1st International Conference on Nanomanufacturing (nanoMan2008, Singapore)
- The 4th *Inventor Award*, "Freeform optics surface nanofabrication's theory and method", *First Grade of Technology Invention Award*, Tianjin Science and Technology Award, 2013
- **Key Scientific Article**, "F.Z. Fang, B. Liu, **Z.W. Xu***, *Nanometric cutting in a scanning electron microscope*, *Precision Engineering*, 2015, Vol. 41:145-152", **Advances** **in** **Engineering**, <https://advanceseng.com/mechanical-engineering/nanometric-cutting-in-a-scanning-electron-microscope/>
- **Cover figure**, [F. Z. Fang, X. D. Zhang] [Nano machining mechanism and methods for generating complex surfaces] in *The Chinese Research Paradigm: Addressing Global Science Issues* (Science/AAAS, Washington, DC, 2014), p. [24-27]. https://www.sciencemag.org/site/products/collectionbooks/TJU_booklet_high%20res_19_Dec.pdf
- **Best Oral Presentation Award**, Wei Wu* & Zongwei Xu, "High Performance Micro Diamond Cutting Tools Developed by Focused Ion Beam Direct Writing", the 3rd International Conference on Nanomanufacturing, Wako-shi, Japan 2012.

➤ **Best Poster Awards**

1. Yinjing Xiao, Zongwei Xu, the 3rd *National Conference on FIB Technology and Applications*, Nanjing China, 15-16 November, 2012.
 2. Liyang Wang, Zongwei Xu, the 6th *National Conference on FIB Technology and Applications*, Beijing China, 18-20 November, 20125.
- “**Huawei Scholarship**” in Harbin Institute of Technology, China, 2005.
- “**Annual Merit Student**” of the Liaoning Province, China, 2000.

Research projects:

1. **Chair**, 2015.4-2017.3, [International Cooperation and Exchange Project, National Natural Science Foundation of China \(NSFC\) - the Royal Society \(RS\)](#) (No: 51511130074)
2. **Chair**, 2016.1-2019.12, [National Natural Science Foundation of China \(NSFC\)](#) (No: 51575389)
3. **Chair**, 2015.3-2017.4, [Natural Science Foundation of Tianjin](#) (No: 15JCYBJC19400),
4. **Chair**, 2013.1-2016.12, [National Natural Science Foundation of China \(NSFC\)](#) (No:51275559),
5. **Chair**, 2013.7-2015.8, [Open Foundation from Chinese Academy of Engineering Physics Laboratory](#) (No. KF13008)
6. **Co-Chair**, 2010.1-2013.12, [National Natural Science Foundation of China \(NSFC\)](#) (No: 50935001)
7. **Co-Chair**, 2010.1-2013.12, [National Science and Technology Major Project of China](#)(No: 2011ZX04014-071)
8. **Chair**, 2010.3-2013.4, [Natural Science Foundation of Tianjin](#) (No: 10JCYBJC06400),
9. **Chair**, 2010.1-2012.12, [National Natural Science Foundation of China \(NSFC\)](#) (No: 50905126)
10. **Principal investigator**, 2012.1-2014.12, [National High Technology Research and Development Program of China](#) (863 program, No. 2012AA040405)

Book & Book Chapters:

1. **Section Editor, Zongwei Xu**, Fengzhou Fang, 2014, *Handbook of Manufacturing Engineering and Technology*, SpringerReference, <http://www.springerreference.com/docs/board/215.html>
2. **Zongwei Xu**, Fengzhou Fang, Guosong Zeng, *Focused Ion Beam Nanofabrication Technology*. In: Nee A.(Ed.) *Handbook of Manufacturing Engineering and Technology*: SpringerReference. Springer, 2014. pp1-28, 07 April 2014, ISBN: 978-1-4471-4976-7, DOI: 10.1007/978-1-4471-4976-7_66-2 <http://www.springerreference.com/docs/html/chapterdbid/334961.html>
3. Fengzhou Fang, **Zongwei Xu**, *State-of-the-Art for Nanomanufacturing using Ion Beam Technology*. In: Nee A. (Ed.) *Handbook of Manufacturing Engineering and Technology*: SpringerReference. Springer, 2014. pp 1-31, 16 April 2014, ISBN: 978-1-4471-4976-7, DOI: 10.1007/978-1-4471-4976-7_62-1, <http://www.springerreference.com/docs/html/chapterdbid/334957.html>
4. Wei Wu, Wanli Li, Fengzhou Fang, **Zongwei Xu**, *Micro Tools Fabrication by Focused Ion Beam technology*. In: Nee A. (Ed.) *Handbook of Manufacturing*

Engineering and Technology: SpringerReference. Springer-Verlag Berlin Heidelberg, 2013. pp 1-33, 19 March 2014, ISBN: 978-1-4471-4976-7, DOI: 10.1007/978-1-4471-4976-7_67-3

<http://www.springerreference.com/docs/html/chapterdbid/334962.html>

5. **Zongwei Xu**, Fengzhou Fang and Shen Dong (2011). *Carbon Nanotube AFM Probe Technology*, Electronic Properties of Carbon Nanotubes, Jose Mauricio Marulanda (Ed.), ISBN: 978-953-307-499-3, July 27, 2011, InTech, DOI: 10.5772/17350, Available from: <http://www.intechopen.com/articles/show/title/carbon-nanotube-afm-probe-technology>
6. Yongqi Fu, Fengzhou Fang and **Zongwei Xu** (2011). *Nanofabrication and Characterization of Plasmonic Structures*, Nanofabrication, Yoshitake Masuda (Ed.), ISBN: 978-953-307-912-7, InTech, DOI: 10.5772/26612, Available from: <http://www.intechopen.com/articles/show/title/nanofabrication-and-characterization-of-plasmonic-structures>
7. Fengzhou Fang, **Zongwei Xu**, *Ion Beam Machining*, CIRP Encyclopedia of Production Engineering, Springer Berlin Heidelberg, 2014, Online ISBN: 978-3-642-20617-7, Print ISBN: 978-3-642-20616-0, pp 717-721, DOI: 10.1007/978-3-642-20617-7_6485
http://link.springer.com/referenceworkentry/10.1007%2F978-3-642-20617-7_6485

Journal papers:

1. **Zongwei Xu***, Liyang Wang, Fengzhou Fang, Yongqi Fu and Zhen Yin, *A review on colloidal self-assembly and their applications*, *Current Nanoscience*, Volume 12, DOI: [10.2174/1573413712666160530120807](https://doi.org/10.2174/1573413712666160530120807)
2. **Zongwei Xu***, Yongqi Fu, Wei Han, Dongguang Wei, Huisheng Jiao and Haifeng Gao, *Recent Developments in Focused Ion Beam and Its Application in Nanotechnology*, *Current Nanoscience*, Volume 12, DOI: [10.2174/1573413712666160530115305](https://doi.org/10.2174/1573413712666160530115305)
3. Shutong He, Jia Yu, Zongwei Xu and Minglie Hu*, *Femtosecond laser high precision fabrication for novel applications*, *Current Nanoscience*, Volume 12, DOI: [10.2174/1573413712666160530105310](https://doi.org/10.2174/1573413712666160530105310)
4. Zhen Tong*, Xiangqian Jiang, Xichun Luo, Qingshun Bai, Zongwei Xu, Liam Blunt and Yingchun Liang, *Review on FIB-induced damage in diamond materials*, *Current Nanoscience*, Volume 12, DOI: [10.2174/1573413712666160530105707](https://doi.org/10.2174/1573413712666160530105707)
5. Fengzhou Fang, Bing Liu, **Zongwei Xu***, *Nanometric cutting in a scanning electron microscope*, *Precision Engineering*, 2015, Vol. 41:145–152
6. Yingjing Xiao, Fengzhou Fang, **Zongwei Xu***, Xiaotang Hu, *Annealing recovery of nanoscale silicon surface damage caused by Ga focused ion beam*, *Applied Surface Science*, 2015, Vol. 343: 56–69
7. Xiaotang Hu, **Zongwei Xu***, Kang Li, Fengzhou Fang*, Liyang Wang, *Fabrication of a Au-Polystyrene Sphere Substrate with Three-Dimensional Nanofeatures for Surface-Enhanced Raman Spectroscopy*, *Applied Surface Science* 2015, Vol. 355: 1168-1174
8. Pengfei Yin, Tao Ling, Yiren Lu, **Zongwei Xu**, Shizhang Qiao, Xiwen Du*, *CdS nanoflake arrays for highly efficient light trapping*, *Advanced materials*, 2015, Vol. 27(4): 740-745
9. Qi Han, Yongqi Fu*, Lei Jin, Jingjing Zhao, **Zongwei Xu**, Fengzhou Fang, Jingsong Gao, Weixing Yu, *Evidencing of germanium nanopyramid arrays for near-100% absorption in visible regime*, *Nano research*, 2015, Vol.8(7): 2216–2222
10. Zhen Tong, **Zongwei Xu**, Wei Wu, Xichun Luo, *Molecular dynamic simulation of*

- low-energy FIB irradiation induced damage in diamond. *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, 2015, Vol. 358:38-44
11. Jing Wang, Qi Han, Yongqi Fu, **Zongwei Xu**, Fengzhou Fang, Weixing Yu, *Investigation of enhancement of near-field probing for sensing at terahertz waveband*, *Optik*, 2015, Vol.126: 4823–4826
 12. Jing Wang, Yongqi Fu, Zongwei Xu and Fengzhou Fang, *Near-field visualization of plasmonic lenses: an overall analysis of characterization errors*, *Beilstein Journal of Nanotechnology*, 2015, Vol. 6: 2069–2077
 13. Wei Wu, **Zongwei Xu***, Fengzhou Fang, et al., *Decrease of FIB-induced lateral damage for diamond tool used in nano cutting*, *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, 2014, Vol. 330: 91-98
 14. Qing Zhang, Fengzhou Fang*, **Zongwei Xu**, Tingting Gao, Wenlong Gao, *A novel method for SERS active substrates based on Au/PDMS self-assembled nanocracks*, *International Journal of Nanomanufacturing*, 2014, Vol.10(4):404-414
 15. Xiaodong Xing, **Zongwei Xu***, Haifeng Gao, Fengzhou Fang, Bing Liu, *Study on ringing artefacts of carbon nanotube probes of atomic force microscopy*, *International Journal of Nanomanufacturing*, 2014, Vol.10(3):215-228
 16. Haifeng Gao, **Zongwei Xu***, Lihua Xu, Xiaodong Xing, *Effective lateral stiffness enhancement of high-aspect-ratio carbon nanotube probe*, *International Journal of Nanomanufacturing*, 2013, Vol. 9(1):87-97
 17. Jing Wang, Yongqi Fu*, **Zongwei Xu**, and Fengzhou Fang, *Influence of Interaction Between Fiber Probe and Sample Surface on Near-Field Probing of Plasmonic Structures*, *Quantum Matter*, 2013, Vol. 2:1–7
 18. **Zongwei Xu**, Lihua Xu, Fengzhou Fang*, Haifeng Gao, Wanli Li, *Carbon Nanotube's Modification by Focused Ion Beam Irradiation and Its Healing Strategies*, *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, 2013, Vol.307: 203–206
 19. G H Li, **Z W Xu**, F Z Fang*, W Wu, et al. *Micro cutting of V-shaped cylindrical grating template for roller nano-imprint*, *Journal of Materials Processing Technology*, 2013, Vol. 213: 895-904
 20. Y.J. Xiao, F.Z. Fang*, **Z.W. Xu**, W. Wu, X.C. Shen, *The study of Ga⁺ FIB implanting crystal silicon and subsequent annealing*, *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, 2013, Vol.307: 253–256
 21. Xiaohu Zheng*, Zhiqiang Liu and Qinglong An, Xibin Wang, **Zongwei Xu**, Ming Chen, *Experimental investigation of microdrilling of printed circuit board*, *Circuit World*, 2013, Vol. 39(2): 82–94
 22. C. Xie, M.L. Hu*, **Z.W. Xu**, W. Wu, H.F. Gao, P. Qin, D.P. Zhang, B.W. Liu, and C.Y. Wang, *High power femtosecond Bessel-X pulses directly from a compact fiber laser system*, *Applied Physics Letters* 101, 151111 (2012)
 23. T. T. Gao, **Z. W. Xu**, F. Z. Fang*, W. L. Gao, Q. Zhang, X. Xu, *High performance surface-enhanced Raman scattering substrates of Si-based Au film developed by focused ion beam nanofabrication*, *Nanoscale Research Letters* 2012 7(1):399
 24. **Z. W. Xu**, F. Z. Fang*, H. F. Gao, Y. B. Zhu, W. Wu, A. Weckenmann, *Nano fabrication of star structure for precision metrology developed by focused ion beam direct writing*, *CIRP Annals - Manufacturing Technology*, 2012, Vol. 61(1): 511–514
 25. X. Tang, Y. Q. Fu*, **Z. W. Xu**, F. Z. Fang, J. M. Li, and X. T. Hu, *The Size Effect of Periodic Metallic Nanoholes Array in Surface Enhance Raman Scattering Substrate*,

26. Y. H. Chen, F. Z. Fang*, **Z. W. Xu**, X. D. Zhang, X. T. Hu, *Surface modification for brittle monocrystalline materials by MeV ions*, *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, 2012, Vol.272(1): 433-436
27. Y. Liu, Y. Q. Fu*, X. L. Zhou, **Z. W. Xu**, F. Z. Fang, X. T. Hu, *Experimental Study of Indirect Phase Tuning-Based Plasmonic Structures for Finely Focusing*, *Plasmonics*, DOI 10.1007/s11468-010-9192-1
28. **Z. W. Xu**, F. Z. Fang*, S. J. Zhang, Zhang X.D, X. T. Hu, Y. Q. Fu, and L. Li, *Fabrication of micro DOE using micro tools shaped with focused ion beam*, *Optics Express*, 2010, Vol.18:8025-8032
29. F. Z. Fang*, **Z. W. Xu**, X.T. Hu, et al, *Nano-photomask fabrication using focused ion beam direct writing*, *CIRP Annals - Manufacturing Technology*, 2010, Vol.59: 543-546
30. Y. Q. Fu, Y. Liu, X. L. Zhou, **Z. W. Xu**, F. Z. Fang*, *Experimental investigation of superfocusing of plasmonic lens with chirped circular nanoslits*, *Optics Express*, 2010, Vol.18(4): 3438-3443
31. **Z. W. Xu**, F. Z. Fang*, Y. Q. Fu, S. J. Zhang, T. Han, J. M. Li. *Fabrication of Micro/Nano Structures using Focused Ion Beam Implantation and XeF₂ Gas Assisted Etching*, *Journal of Micromechanics and Microengineering*, 2009, Vol.19: 054003(9pp)
32. F. Z. Fang*, **Z. W. Xu**, S. Dong. *Study on Phase Images of Carbon Nanotube Probe in Atomic Force Microscopy*, *Measurement Science and Technology*. 2008, Vol. 19:055501-7
33. Wang Jing-he*, Wang Hong-xiang, XU Zong-wei. *Theoretical Analysis and Experiment Study of Carbon Nanotube Probe and Conventional Atomic Force Microscopy Probe on Surface Characterization*. *Chinese Journal of Mechanical Engineering*. 2008, 21 (5) :62-64
34. **Z.W. Xu***, Q.L. Zhao, T. Sun, L.Q. Guo, R. Wang, S. Dong. *Welding Method for Fabricating Carbon Nanotube Probe of Atomic Force Microscopy*, *Journal of Material Processing Technology*. 2007, Vol.190: 397-401
35. X. Y. Deng*, L. Y. Zhang ,Y. Zhang, Y. D. Yan, **Z. W.Xu** , S. Dong , S. B. Fu. *Double minute chromosomes in mouse methotrexate-resistant cells studied by atomic force microscopy*, *Biochemical and Biophysical Research Communications*, 2006, Vol. 346(4):1228-1233
36. **Z. W. Xu***, Y. C. Liang, S. Dong, Y. Z. Cao, T. Q. Zhao, J. H. Wang and Q. L. Zhao. *Phase contrast imaging of SEBS triblock copolymer studied by carbon nanotubes probe*, *Ultramicroscopy*. 2005, Vol.105:72-78
37. L. Q. Guo*, J. Liang, S. Dong, **Z. W. Xu**, Q. L. Zhao. *Property of carbon nanotube tip for surface topography characterization*, *Applied Surface Science*, 2004, Vol.228:53-56
38. Bing Liu, Fengzhou Fang, **Zongwei Xu**, Xiaofeng Zhang, *Design of five-axis ultrasonic assistant compound machine tool*, *Transactions of Tianjin University*, Vol. 21(4), p 312-316, 2015
39. Bing Liu, **Zongwei Xu***, Wei Wu, Zhiqiang Wang, *Design and experiment on SEM based nanometric cutting device*, *Journal of Tianjin University(Science and Technology)*, Vol. 48(1), p 56-61, 2015 (In Chinese)
40. **Zongwei Xu***, Xuecen Shen, Yuntao Li, Kang Li, Feng Lin, Ruili Jia, *Divergence in focused ion beam fabricating micro cone structure*, *Journal of Tianjin University (Science and Technology)*, Vol. 48(9), p 827-833, 2015 (In Chinese)
41. Bing Liu, **Zongwei Xu***, Fengzhou Fang, Bing Zhao, *Experimental study on in-situ nanometric cutting based on*, *Journal of Tianjin University(Science and Technology)*,

- Vol.48(11), p 1035-1040, 2015 (In Chinese)
42. Wei Wu, Jinping Chen, **Zongwei Xu***, Ting Liu, Kexiong Cao, Wanli Li, Fundamental research on cylindrical grating template micromachining with diamond cutting tool, *Journal of Tianjin University(Science and Technology)*, Vol. 48(5), p 455-462, 2015 (In Chinese)
 43. **Zongwei Xu***, Bing Zhao, Hongguang Liu, Bing Liu, Chen Guo, Study on Nanometric Cutting of Monocrystalline Silicon Based on EBSD Technique, *Journal of Tianjin University(Science and Technology)*, In press (In Chinese)
 44. Wei Wu, **Zongwei Xu***, Wanli Li, Ting Liu, Kexiong Cao and Jinping Chen, Nondestructive measurement of amorphous layers in single-crystal diamond surface by laser microraman spectroscopy, *Chinese Journal of Analysis Laboratory*, Vol. 33(11), p 1276-1280, 2014 (In Chinese)
 45. **Zongwei Xu***, Fengzhou Fang, Jinghe Wang, Shen Dong, Tieqiang, Zhao, Cutting of circular DNA molecules by AFM probes, *Life Science Instruments*, Vol. 6, p37-39, 2008 (In Chinese)
 46. **Zongwei Xu**, Fengzhou Fang*, Shaojing Zhang, Tao Han, Jianming Li, Fabrication of complicated micronano structures using focused ion beam milling method, *Journal of Tianjin University*, Vol. 42(1), p 91-94, 2009 (In Chinese)
 47. **Zongwei Xu***, Gonghao Li, Wei Wu, Xiaodong Xing, Wanli Li, Hongzhong Liu, Ming Chen, Precise Micro-cutting Fabrication of Roller Imprint Cylindrical Grating Template, *Nanotechnology and Precision Engineering*, Vol. 11(6), p473-478, 2013 (In Chinese)
 48. **Zongwei Xu***, Wanli Li, Wei Wu, Ruili Jia, Boliang Xu, Experimental Research on Fabrication of Single Crystal Diamond Tool Based on Focused Ion Beam Technology, *Nanotechnology and Precision Engineering*, Vol. 12(6), p424-428, 2014 (In Chinese)
 49. Feng Lin, **Zongwei Xu***, Xuecen Shen. Micropore fabrication by focused ion beam for particle detection and development of its verification platform. *Nanotechnology and Precision Engineering*, 2015, 13(6): 443-447 (in Chinese)
 50. **Zongwei Xu***, Wei Wu, Shaojing Zhang, Bing Zhao, Research Progress of Manufacture of Diamond Cutting Tools Based on Focused Ion Beam (FIB)(Invited), *Materials China*, Vol. 32(12), 2013 (in Chinese)
 51. Fengzhou Fang*, **Zongwei Xu**, Technology and progress of nano machining using focused ion beam(Review, Invited) *Journal of Heilongjiang Institute of Science & Technology*, Vol.23(3), p211-221, 2013 (in Chinese)
 52. Shaojing Zhang, **Zongwei Xu**, Fengzhou Fang, Xiaotang Hu, Fabrication of Micro Tool Using Focused Ion Beam Milling Technique *Journal of Tianjin University*, Vol.43(5), p469-472, 2010 (in Chinese)