

## 师资队伍

### 师资介绍

双聘院士

博导介绍

优秀人才

特聘教授

招才纳贤

### 张志华

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学科、专业领域名称	材料科学与工程, 材料学
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研究方向	电子显微学

### 学习及工作经历

- 2004.9-2007.7 中国科学院物理研究所 博士
- 2007.7-2008.8 香港中文大学 副研究员
- 2008.8-2009.4 大连交通大学讲师
- 2009.5-2009.12 大连交通大学副教授
- 2010.1-至今 大连交通大学教授

### 进修及访学经历

- 2007.7-2008.8 香港中文大学 副研究员
- 2008.12-2009.3 香港中文大学 副研究员

### 承担科研项目情况

- LED用荧光粉的制备及性质研究, 大连市“杰出青年”基金, 2016.1-2018.12, 主持
- 非磁性元素掺杂稀磁半导体铁磁性机理研究的新方法, 国家自然科学基金(面上), 2014.1-2017.12, 主持
- EMCD和ALCHEMI研究单个DMS纳米结构的铁磁性内禀属性, 国家自然科学基金(青年), 2010.1-2012.12, 主持
- 辽宁省优秀人才支持计划(第一层次), 2015.1-2017.12 主持
- ZnO基稀磁半导体材料铁磁性判定研究, 大连市科学技术基金, 2013.1-2014.12, 主持
- 辽宁省“攀登学者”支持计划, 辽宁省教育厅, 2011.7-2014.7, 主持

### 发表论文、著作情况

共发表SCI收录论文80余篇(其中以第一作者发表Nature Nanotechnology 1篇)。发表文章包括Advanced Materials 1篇, J. Am. Chem. Soc. 1篇, Nano Letters 1篇, Nanoscale 1篇, Appl. Phys. Lett. 6篇, J. Phys.

Chem. C. 2篇, Scripta Materialia 4篇等。代表性论文如下:

1. **Z. H. Zhang**, X. F. Wang, J. B. Xu, S. Muller, C. Ronning and Q. Li. Evidence of intrinsic ferromagnetism in individual dilute magnetic semiconducting nanostructures. *Nature Nanotechnology*, 4, 523 (2009).
2. **Z. H. Zhang**, J. J. Yang, Ming He, X. F. Wang, and Q. Li. Electronic structure of a potential optical crystal YBa3B9O18: Experiment and theory. *Appl. Phys. Lett.*, 92, 171903 (2008).
3. **Z. H. Zhang**, X. Y. Qi, and X. F. Duan. Direct determination on the polarization direction of domain in BaTiO3 single crystal. *Appl. Phys. Lett.*, 89, 242905 (2006).
4. **Z. H. Zhang**, H. H. Liu, J. K. Jian, K. Zou and X. F. Duan. Transmission electron microscopy investigation of self assembly ZnO twinning nanostructures. *Appl. Phys. Lett.*, 88, 193101 (2006).
5. **Z. H. Zhang\***, H. L. Tao, Ming He, Quan Li, Origination of electron magnetic chiral dichroism in cobalt-doped ZnO dilute magnetic semiconductors. *Scripta Materialia*, 65, 367 (2011).
6. **Z. H. Zhang**, X. Y. Qi, J. K. Jian, and X. F. Duan. Investigation on optical properties of ZnO nanowires by electron energy loss spectroscopy. *Micron*, 37, 229 (2006).
7. **Z. H. Zhang**, X. Y. Qi, and X. F. Duan. Two step evolution mechanism of multi-domain in BaTiO3 single crystal investigated by in situ transmission electron microscopy. *Scripta Materialia*, 58, 441 (2008).
8. **Z. H. Zhang**, F. F. Wang, and X.F. Duan. Formation mechanism of pseudoperiodical multi-twinning nanostructures. *Journal of crystal growth*, 303, 612 (2007).
9. **Z. H. Zhang\***, M. He, Q. Li. Obtaining effective electron mass from valence electron energy-loss spectroscopy. *Solid State Communications*, 149, 1856 (2009).
10. **Z. H. Zhang\***, M. He, X. F. Duan. Optical Properties of Hexagonal and Cubic ZnS Nanoribbons: Experiment and Theory. *Chin. Phys. Lett.* 26, 066104 (2009).
11. M. He, **Z. H. Zhang\***, Interface Structures of La0.67Sr0.33MnO3/SrTiO3 Superlattices Studied by TEM and EELS. *J. Phys. Chem. C*, 114, 13068 (2010).
12. M. He, **Z. H. Zhang\***, X. L. Chen, M. H. Qiu, Y. K. Ji, J. L. Xiu. Luminescence Mechanism Study of a potential Scintillation Crystal YBa3B9O18. *International Journal of Modern Physics B*, 25, 1637 (2011).
13. M. He, G. L. Huang, H. L. Tao, **Z. H. Zhang\***, Synthesis and luminescence properties of europium doped YBa3B9O18. *Physics B*, 407, 2725 (2012).
14. H. L. Tao, **Z. H. Zhang\***, L. L. Pan, M. He, B. Song, Q. Li. Effects of oxygen vacancy on magnetic properties of cobalt-doped ZnO dilute magnetic semiconductors. *International Journal of Modern Physics B*, 27, 1350078 (2013).
15. **Z. H. Zhang\***, H. L. Tao, L. L. Pan, Lin Gu, M. He, B. Song, Q. Li. Observation of the defect states in individual Co doped ZnO dilute magnetic semiconducting nanostructures by electron energy-loss spectroscopy. *Scripta Materialia*, 69, 262-265 (2013).
16. M. He, **Z. H. Zhang\***, Y. Z. Zhu, Y. G. Tang, Z. Song, Luminescent properties of Eu-doped SmBa3B9O18, *Powder Diffraction* 28 (S1), S41-S44 (2013).
17. Ming He, Long Lin, Hualong Tao, Minghui Qiu, Binyan Zou, **Z. H. Zhang\***, Threading dislocations in La0.67Sr0.33MnO3/SrTiO3 superlattice, *Micro & Nano Letters*, 8, 512-514 (2013).
18. B. Song, X.L. Chen, J. C. Han, G. Wang, H.Q. Bao, L.B. Duan, K.X. Zhu, H. Li, **Z. H. Zhang**, W. Y. Wang, W. J. Wang, X. H. Zhang and S. H. Meng. Raman scattering and magnetizations studies of (Al, Cr)-codoped 4H-SiC. *Journal of Magnetism and Magnetic Materials* 323, 2876 (2011).
19. A. L. Zhang, **Z. H. Zhang**, H. L. Tao, R. Wu, J. Li, Y. F. Sun, J. K. Jian, Synthesis and characterization of GaN/ZnS core-shell nanowires. *Materials letters*, 87, 73 (2012).

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21. Y. Zhang, F. Liu, and Z. H. Zhang, Synthesis of hetero-structured helical carbon nanotubes by iron-catalyzed ethanol decomposition. *Micron*, 42, 547 (2011).
22. S. M. Wu, Y. Z. Xue, and Z. H. Zhang, Microanalysis on CuInSe<sub>2</sub> compound synthesized by mechanochemical processing. *Journal of Alloys and Compounds*, 491, 456-459 (2010).
23. B. Song, J. K. Jian, G. Wang, Z. H. Zhang, M. Lei, H. Q. Bao, X. L. Chen, Synthesis, optical and transport properties of single-crystal N-deficient InN nanowires. *Physica E*, 40, 579 (2008).
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27. J. K. Jian, Z. H. Zhang, Y. P. Sun, M. Lei, X. L. Chen, T. M. Wang, and Cong Wang, GaN nanorings: another example of spontaneous polarization-induced nanostructure. *Journal of crystal growth*, 303, 427 (2007).
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29. X. H. Zhang, C. L. Zhao, J. C. Han, Y. Wang, J. K. Jian, G. Wang, Z. H. Zhang, H. Li, W. J. Wang, Y. T. Song, Y. Liu, H. Q. Bao, X. L. Chen, B. Song, Observation of symmetrically decay of A<sub>1</sub>(longitudinal optical) mode in free-standing GaN bulk single crystal from Li<sub>3</sub>N flux method. *Applied Physics Letters*. 102, 011916 (2013).
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33. H. L. Tao, Z. H. Zhang\*, L. L. Pan, M. He, B. Song. Magnetic mechanism investigations on n-type ferromagnetic Li(Zn,Mn)As. *Solid State Communications*, 177, 113-116 (2014).
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48. D. Sun, M.X. Wang, Z.H. Zhang\*, H.L. Tao, M.He, B. Song, Q.Li, Effects of inverse degree on electronic structure and electron energy-loss spectrum in zinc ferrites, *Solid State Communications* **223** (2015) 12-15
49. Long Lin, Tiezheng Liu, Z.H. Zhang\*, Hualong Tao, Ming He, Bo Song, Zhanying Zhang. Vacancy induced magnetism in N-doped 4H-SiC by first-principle calculations, *Solid State Sciences*, **49**, (2015), 78-82.
50. Ming He, T. Z. Liu, J. L. Xiu, Y. G. Tang, and Z. H. Zhang, Optical transition probabilities of Er<sup>3+</sup> ions in ErBa<sub>3</sub>B<sub>9</sub>O<sub>18</sub> Crystal, *Journal of Spectroscopy*, **2015** (2015) 871320. (SCI收录)
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57. X. N. Wang, R. Tong, Y. Wang, H. L. Tao, Z. H. Zhang, H. Wang, Surface roughening of nickel cobalt phosphide nanowire arrays/Ni foam for enhanced hydrogen evolution activity, *ACS Appl. Mater. & Interfaces*, 8, 34270 (2016).
58. R. B. Lei, J. K. Jian, Z. H. Zhang, B. Song, R. Wu, Bifunctional Ag/C<sub>3</sub>N<sub>4</sub>.5 composite nanobelts for photocatalysis and antibacterium, *Nanotechnology*, 27 (2016) 395603.
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65. Ying Yin, Yumin Zhang, Tangling Gao, Tai Yao, Xinghong Zhang, Jiecai Han, Xianjie Wang, Z.H. Zhang, Ping Xu,\* Peng Zhang, Xingzhong Cao, Bo Song,\* and Song Jin\* . Synergistic Phase and Disorder Engineering in 1T-MoSe<sub>2</sub> Nanosheets for Enhanced Hydrogen-Evolution Reaction. *Advanced Materials*. 29(2017)1700311.
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69. D. D. Liang, S. M. Liu, Z.N. Wang, Y. Guo, W. W. Jiang, C. Q. Liu, W. Y. Ding, H. L. Wang, N. Wang, Z.H. Zhang, A facile synthesis of fully porous TAZO composite and its remarkable gas sensitive performance. *Surface review and letters*. 25(2018)1850087.
70. M. X. Wang, H. L. Tao, J. Cai, Y. X. Wang, M. He, B. Song, T. B. Yang, Z. H. Zhang, Investigations on magnetic properties of Cr-doped LiZnP by first principle calculations. *Journal of Alloys and Compounds* 735 (2018) 355–358.

71. Jiajie Li, Yumin Zhang, Tangling Gao, Jiecai Han, Xianjie Wang, Benjamin Hultman, Ping Xu, Zihua Zhang, Gang Wu, Bo Song, A confined microreactor synthesis strategy to three dimensional nitrogen-doped graphene for high-performance sodium ion battery anodes. *Journal of Power Sources* 378 (2018) 105–111.

#### 获奖及个人荣誉

- 2017年辽宁省自然科学奖二等奖（第一完成人）
- 2015年大连市“杰出青年”
- 2015年辽宁省优秀教师
- 2015年辽宁省百千万人才工程“百层次”人选
- 2014年辽宁省自然科学奖二等奖（第一完成人）
- 2011年入选辽宁省高等学校第二批“攀登学者”支持计划
- 2011年入选辽宁省百千万人才工程“千层次”人选

#### 社会兼职情况

中国材料学会青年委员会理事

中国晶体学会会员

#### 指导研究生情况

已指导毕业研究生人数	博士：3人；硕士：10人
正在指导研究生人数	博士：3人；硕士：4人
所指导研究生获奖情况	多名研究生获得国家奖学金
承担研究生课程名称	电子显微分析技术

学校概况	人才培养	师资队伍	科学研究	国际交流	招生就业	校园服务
学校简介	本科生教育	师资介绍	科研动态	国际合作与交流处	本科招生	视频转播
学校领导	研究生教育	双聘院士	科研平台	国际教育学院	硕博招生	网络中心
机构设置	继续教育	博导介绍	科研成果	中日友好大连人才培养中心	就业导航	电话查询
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