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物理教学



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教育经历

清华大学材料系本科毕业 (1989年)

清华大学核研院材料专业硕士学位 (1992年)

清华大学物理系凝聚态物理专业博士学位 (2011年)

工作经历

1992 - 现在, 清华大学物理系, 从事教学研究工作, 1998年被聘为副教授。目前主要从事大学物理、基础物理实验的教学工作。

2002年: 美国 The Pennsylvania State University 物理系访问学者

教学

大学本科“金属物理” (清华大学1995秋季学期), 大学本科“固体缺陷” (清华大学1996秋季学期)。

大学本科“大学物理” (2000、2001、2003、2004 春季学期)

研究领域

从事凝聚态物理应用基础研究。 目前主要研究兴趣：新型氧化物薄膜物性及应用研究。

1. 超导物理与超导电子学应用研究：主要从事航天用高温超导天线及移动通信用高温超导滤波器的应用研究。

2. 新型氧化物磁性薄膜及纳米磁性材料的制备和物性研究

a) 锰氧化物巨磁电阻薄膜及稀磁氧化物薄膜

b) 锰氧化物巨磁电阻材料纳米结构的制备、尺寸效应及纳米颗粒的耦合

3. 功能氧化物薄膜复合结构的制备、物性研究及可能的器件应用（自旋电子学）

奖励、荣誉和学术兼职

“GSM移动通信用高温超导滤波器研究”获北京市科技三等奖，第二完成人。

主要论著

1. M. H. Zhu, B. S. Cao, X. X. Zhang, W. H. Li, L. W. Zhang, D. J. Dong , M. L. Liu, D. F. Cui, M. He , Y. L. Zhou and T. J. Liu; Design and Performance of a 4.5GHz Circularly Polarized YBa₂Cu₃O₇ Microstrip Antenna ; Physica C; 282- 287(1997); 2515
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4. X. X. Zhang, M. H. Zhu, Y. J. Wang, N. Li, B. S. Cao, D. J. Dong, Y. G. Zhao, L. W. Zhang, X. P. Wang, T. J. Liu; Research and Design of High T_c Superconducting Microstrip Antenna Array; Physica C; 282-287(1997); 2517

5. M. H. Zhu, B. S. Cao, H. S. Huang and et al.; Effect of ‘Microwave Window’ on the Performance of High Temperature Superconducting Antenna, Physica C; 341-348(2000); 2655.

6. T. Liu, Y.G. Zhao, T.B. Li, M.H. Zhu, L. W. Zhang, H.S. Huang, M.L. Liu, Y.L. Zhou, M. He, H.B. Lu, and B.S. Cao; Correlation Between the Morphology of Ag and the Contact Resistivity of the Ag/YBa₂Cu₃O_{7-d} Thin Film Contact; Journal of Superconductivity; 14(2001); 455.

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9. Guoyong Zhang, Meihong Zhu, Bisong Cao, Wenjun He, Xubo Guo, Shan He, Bangchang Liu, Yumei Wang, Xiaoping Zhang, Yonggang Zhao , Menglin Liu, Zhenghe Han, and Baoxin Gao; Design and Performance of a Compact Forward- Coupled HTS Microstrip Filter for a GSM System; IEEE Transactions on Applied Superconductivity, 12 (4) ,1897-1901 (2002)

10. Kun Liu, Bisong Cao, Meihong Zhu, Bin Wei, Bang-chang Liu, Xiaoping Zhang, Longma Gao, Guoyong Zhang, Wenjun He and Baoxin Gao; Hongcheng Li, Fabrication and laboratory testing of a high-temperature superconducting subsystem for DCS1800 mobile communications; Superconductor Science and Technology, 15, 1741-1743(2002).

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- 13.X. P. Zhang, Y. G. Zhao, P. T. Qiao, Z. S. Yin, S. L. Jia, B. S. Cao, M. H. Zhu, Z. H. Han, X. L. Wang, B. L. Gu, Investigation on the Structure and Superconducting Properties of $\text{Mg}_{1-x}\text{M}_x\text{B}_2$ (M=deficiency or Ca), J. Supercond., 15,N2, 159 (2002).
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专利: 有五项专利 (其中一项为第一完成人, 余为第二完成人) , 一项已被授权 (专利号: 01229099.8) 。