

## Curriculum Vitae

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### Wei Zhang

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School of Physics  
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### Academic Background

- **School of Physics,  
Georgia Institute of Technology** *PhD candidate* *August 2001-present*
  - **Areas of Concentration:** Quantum phase transition and quantum critical point in strong correlated electron systems
  - **Advisor:** Dr. Carlos A. R. Sá de Melo
  
- **Department of Physics,  
Peking University** *Bachelor of Science* *September 1997- July 2001*
  - **Area of Concentration:** Experimental high temperature superconductivity
  - **Advisor:** Dr. Han Zhang

### Research experience

- **Quantum phase transition and quantum critical point in low dimensional organic superconductors**  
School of Physics, Georgia Institute of Technology
  - Analyzed the quantum phase transition on P-T diagram between antiferromagnetic phase and triplet superconducting phase in quasi-1-dimensional organic superconductors, e.g. (TMTSF)<sub>2</sub>PF<sub>6</sub>. The methods we used are Ginzburg-Landau analysis (GL), functional integral method, and renormalization group (RG).
  
- **Convergence behavior of cycle expansion for 1-dimensional chaotic mapping**  
School of Physics, Georgia Institute of Technology
  - Calculate Lyapunov exponent, which is an important and basic parameter characterizing chaotic systems, of 1-dimensional maps by cycle expansion method, and discuss possible dependence among the convergence behavior or cycle expansion, forms of mappings, and their corresponding Lyapunov exponents.

- **Transport properties of BSCCO and YBCO superconductor**  
Department of Physics, Peking University, China
  - Measured electromagnetic transport properties of Zn and Pr-doped BSCCO and YBCO superconductors.

## Research Skills

- Many-particle physics, especially strong correlated electron system
- Quantum solid state physics
- Advanced mathematical methods in physics
- C and Mathematica programming

## Publications

- **Coexistence of antiferromagnetism and triplet superconductivity,**  
Wei Zhang and C. A. R. Sa de Melo, to be published on *J. Appl. Phys.*
- **Subtle structural changes in Pr-doped YBCO,**  
L. Zhang, W. Zhang and H. Zhang, *Physica C*, 364-365, **420** (2001).
- **Two phase transitions in Zn-doped YBCO superconductor,**  
L. Zhang, L. P. Yu, W. Zhang, Y. Z. Wang, H. Zhang and Y. Zhao, *Physica C*, **357-360**, **1**, 194 (2001).

## Honors and Awards

- **Henry S. Walk Award**, Georgia Institute of Technology, 2002.
- **GuangHua Scholarship**, Peking University, 1999.
- **Undergraduate Student Fellowship**, Peking University, 1998-2000

## Teaching Experience

- **Teaching Assistant**, Spring 2005  
Quantum Mechanics II (PHYS 6106)
- **Lecturer**, Fall 2004  
Statistical Mechanics (PHYS 4441), teaching few classes for Carlos Sá de Melo
- **Teaching Assistant**, Fall 2003  
Quantum Mechanics I (PHYS 6105)
- **Teaching Assistant**, Fall 2002  
Mathematical Method of Physics I (PHYS 6124)

- **Lab Instructor**, Fall 2001-Summer 2002, Spring 2003-Summer 2003, Summer 2004, Fall 2004  
Introduction to Physics I (PHYS 2211)

## Conferences

- **49<sup>th</sup> Conference of Magnetism and Magnetic Material (MMM)**, Nov. 2004, Jacksonville, FL.  
**Presentation:** Competition or Coexistence between Magnetic Order and Triplet Superconductivity.
- **Gordon Research Conference (GRC), Correlated Electron System Session**, Jun. 2004, South Hardley, MA.  
**Poster:** Coexistence of Spin Density Wave and Triplet Superconductivity.

## Personal

- **Language:** Fluent in English and Chinese;
- **Programming:** Numerical calculation with C, C and Mathematica;
- **Hobby:** Photography and swimming.