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教授

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## 个人简介：

1995- 1999 B.S. in Lanzhou-University

1999- 2004 Ph.D in Lanzhou-University

2004- 2006 Post-Doc in SungKyunKwan-University, Korea

2006- 2008 Research Fellow in Korea Institute for Advanced Study

2008- ... Research Scientist in Martin-Luther-University Halle-Wittenberg, Germany

2010- ... Professor in Lanzhou-University

## 研究方向：

凝聚态理论：强关联电子系统，量子磁学

(1). 量子相变；非费米液体理论

(2). 量子(自旋)Hall效应, 氧化物 interfaces 的基态及其输运性质

(3). 多铁性材料的耦合机制及电磁响应

(4). Spin caloritronics

## 研究工作：

1. - “Magnetic dynamics driven by the spin-current generated via spin-Seebeck effect” , Chenglong Jia and Jamal Berakdar, arXiv: 1012.3552 (2011);

2. - “ Electric field-effect on thermodynamics of multiferroic spin chain” Cheng-Long Jia and Jamal Berakdar, arXiv: 1101.2067, J. Superconductivity and Novel Magnetism (2011) (to be published).

3. - “ Finite-size effects on the magnetoelectric response of field-driven ferroelectric/ferromagnetic chains” Chenglong Jia , Alexander Sukhov, Paul Horley, and Jamal Berakdar, J. Phys.: Conf. Series. (2011) (to be published).

4. - “ Thermoelectric effect of multiferroic oxide interfaces” , Cheng-Long Jia and Jamal Berakdar, Appl. Phys. Lett. 98, 042110 (2011)

5. - “ Magnetotransport and spin dynamics in an electron gas formed at oxide interfaces” , Cheng-Long Jia and Jamal Berakdar, Phys. Rev. B 83, 045309 (2011)

6. - “Proposal for fast optical control of spin dynamics in a quantum wire” , Zhen-Gang Zhu, Cheng-Long Jia, and Jamal Berakdar, Phys. Rev. B 82, 235304 (2010)

7. - “z = 3 antiferromagnetic quantum criticality driven by the Kondo Effect” , Ki-Seok Kim and Cheng-Long Jia, Phys. Rev. Lett. 104, 156403 (2010)

8. - “Magnetization/polarization response to electric/magnetic fields in a one-dimensional

interface”, Alexander Sukhov, Chenglong Jia, Paul Horley, and Jamal Berakdar, J. Phys.: Cond. Matt. (IOP FTC) 22, 352201(2010)

9. - “Functionalization of multiferroic oxide structures for spintronic devices”, Cheng-Long Jia and Jamal Berakdar, Proc. SPIE 7603: 760300 (2010)

10.- “Coupled Spin-Phonon Excitations in Helical Multiferroics”, Cheng-Long Jia and Jamal Berakdar, Phys. Status. Solidi. B 247, No.3, 662-664 (2010)

11. - “Tunneling Anisotropic Magnetoresistance of Helimagnetic Tunnel Junctions”, Cheng-Long Jia and Jamal Berakdar, Phys. Rev. B 81, 052406 (2010)

12.- “Electrically controlled persistent spin currents at the interface of multiferroic oxides”, Cheng-Long Jia and Jamal Berakdar, Phys. Rev. B. 80, 014432 (2009)

13.- “Multiferroic oxides-based flash memory and spin-field-effect transistor” Cheng-Long Jia and Jamal Berakdar, Appl. Phys. Lett. 95, 012105 (2009)

14. - “Dynamical magnetoelectric effects induced by the Dzyaloshinskii-Mariya interaction in multiferroics, Cheng-Long Jia and Jamal Berakdar, Eur. Phys. Lett. 85, 57004 (2009)

发表论文:

15.- “A slave-fermion gauge-theory approach of the t-J model: Doping-induced complex magnetic structure and Z2 spin-gapped anomalous metal in an antiferromagnetic doped Mott insulator”, Cheng-Long Jia and Ki-Seok Kim, arXiv:0811.2626

16. - “Spin-polarization coupling in multiferroic transition-metal”, Cheng-Long Jia, Shigeki Onoda, Naoto Nagaos and Jung Hoon Han, Phys. Rev. B. 76, 14424 (2007) 17.- “Bond electronic polarization induced by spin”, Cheng-Long Jia, Shigeki Onoda, Naoto Nagaos and Jung Hoon Han, Phys. Rev. B. 74, 224444 (2006)

18.- “Phases of Mott-Hubbard bilayers: Theoretical model”, Jung Hoon Han and Cheng-Long Jia, Phys. Rev. B 74, 075105 (2006)

19.- “Valence-bond-solid order in antiferromagnets with spin-lattice coupling”, Cheng-Long Jia and Jung Hoon Han, Phys. Rev. B 73, 172411 (2006)

20.- “Spin-lattice interaction effect in frustrated antiferromagnets”, Cheng-Long Jia and Jung Hoon Han, Physica. B 378-380, 884-885 (2006)

21.- “Lattice-coupled antiferromagnet on frustrated lattices”, Cheng-Long Jia, Jung Ho Nam, June Seo Kim, and Jung Hoon Han, Phys. Rev. B 71, 212406 (2005)

22.- “Dark and bright solitons in two-component BEC in quasi-one-dimensional”, Cheng-Long Jia, Shun-Jin Wang, Hong-Gang Luo, Dun Zhao, Int. J. Mod. Phys. B (2005)

23.- “Electron spin transport through an AB ring- as a spin switch”, Cheng-Long Jia, Shun-Jin Wang, Hong-Gang Luo, and Jun-Hong An, J. Phys.: Condens. Matter 16, 2043 (2004)

24.- “Spin switch and qubit register made from a spin particle controlled by a time-dependent magnetic field”, Shun-Jin Wang, Cheng-Long Jia, Jun-Hong An, and Hong-Gang Luo, Chin. Phys. Lett, Vol. 21, No.5, 778 (2004)

25.- “Dynamical symmetry and analytical solutions of the non-autonomous quantum master equation of the dissipative two-level system: decoherence of the quantum register” Shun-Jin Wang, Jun-Hong An, Hong-Gang Luo, and Cheng-Long Jia, J. Phys. A: Math. Gen. 36 No 3, 829 (2003)

26.- “Dark and bright solitons in a quasi-one-dimensional Bose-Einstein condensate”, Shun-Jin Wang, Cheng-Long Jia, Dun Zhao, Hong-Gang Luo, and Jun-Hong An, Phys. Rev. A 68, 15601 (2003)

27.- “Magnetic flux effects in an Aharonov-Bohm ring with an inserted quantum dot”, HongGang Luo, ShunJin Wang, and ChengLong Jia, Phys. Rev. B. 66, 235311 (2002)

28.- “Nonlocal effects in the metal-insulator transition beyond the Hubbard III approximation”, Hong-Gang Luo, Cheng-Long Jia, Shun-Jin Wang, and Wei Zuo, Phys. Rev. B. 65, 75108 (2002)

29.- “Exact solution to the von Neumann equation of the quantum characteristic function of the two-level Jaynes-Cummings model”, Shun-Jin Wang, Dun Zhao, Hong-Gang Luo, Li-Xiang Cen, and Cheng-Long Jia, Phys. Rev. A 64, 52102 (2001)

研究成果:

研究组成员:

