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个人简介

刘畅，南方科技大学物理系副教授。主要研究方向是新型材料中的高温超导现象和不寻常拓扑现象，以及各种新型材料的电子学性质，研究手段主要是角分辨光电子能谱仪（ARPES）。刘畅博士对铁基超导体的能带结构和超导性质进行了开创性的研究，完成了国际上对铁基超导体能带结构及超导能隙的几个最初测量，包括用ARPES研究铁基超导体的第一份文献，受到了国际同行的高度评价。他对新型材料的各种不寻常拓扑性质也进行了广泛深入的探讨。刘畅博士在Science、Nature Physics、Physical Review Letters等SCI杂志发表论文约40篇，共被引用超过3500次，h-index为27（Google Scholar）。

研究领域

1. 角分辨光电子能谱学（ARPES）、超高真空技术；
2. 单晶生长技术；
3. 拓扑绝缘体和凝聚态系统中不寻常拓扑现象的电子学机理；
4. 铁基高温超导体的电子学性质。

工作经历

2015年5月-：南方科技大学物理系副教授；

2014年8月-2015年4月：南方科技大学物理系助理教授；

2011年7月-2014年7月：美国普林斯顿大学物理系博士后。

学习经历CHN (<http://phy.sustc.edu.cn?lang=zh>) / ENG (<http://phy.sustc.edu.cn?lang=en>)

2006-2011 : 美国爱荷华州立大学物理与天文学系, 获博士学位 ;

2003-2006 : 中山大学物理系, 获学士学位 ;

2001-2003 : 中山大学城市规划专业。

所获荣誉

2014 : 入选深圳市海外高层次人才“孔雀计划”

代表文章

1. Xiao-Bo Wang*, Xiao-Ming Ma* et al., Topological surface electronic states in candidate nodal-line semimetal CaAgAs. Phys. Rev. B 96, 161112(R) (2017) (刘畅为通讯作者)
2. Qiangsheng Lu et al., Unexpected large hole effective masses in SnSe revealed by angle-resolved photoemission spectroscopy. Phys. Rev. Lett. 119, 116401 (2017) (刘畅为通讯作者)
3. N. Alidoust, **Chang Liu** et al., Observation of metallic surface states in the strongly correlated Kitaev-Heisenberg candidate Na₂IrO₃. Phys. Rev. B 93, 245132 (2016)
4. S. Jiang*, **Chang Liu*** et al., Structural and magnetic phase transitions in Ca_{0.73}La_{0.27}FeAs₂ with electron-overdoped FeAs layers. Phys. Rev. B 93, 054522 (2016)
5. **Chang Liu** et al., Tunable spin helical Dirac quasiparticles on the surface of three-dimensional HgTe. Phys. Rev. B 92, 115436 (2015)
6. Su-Yang Xu*, **Chang Liu*** et al., Observation of Fermi arc surface states in a topological metal. Science 347, 294 (2015)
7. Yang Xu, Ireneusz Miotkowski, **Chang Liu** et al., Observation of topological surface state quantum Hall effect in an intrinsic three-dimensional topological insulator. Nature Physics 10, 956 (2014)
8. **Chang Liu** et al., Spin-correlated electronic state on the surface of a spin-orbit Mott system. Phys. Rev. B 90, 045127 (2014)
9. Su-Yang Xu, **Chang Liu** et al., Observation of a topological crystalline insulator phase and topological phase transition in Pb_{1-x}Sn_xTe. Nature Communications 3, 1192 (2012)
10. Su-Yang Xu, M. Neupane, **Chang Liu** et al., Hedgehog spin texture and Berry's phase tuning in a magnetic topological insulator. Nature Physics 8, 616 (2012)
11. M. Neupane*, **Chang Liu*** et al., Fermi-surface topology and low-lying electronic structure of the iron-based superconductor Ca₁₀(Pt₃As₈)(Fe₂As₂)₅. Phys. Rev. B 85, 094510 (Editor's suggestion) (2012)
12. R. S. Dhaka, **Chang Liu** et al., What controls the phase diagram and superconductivity in Ru-substituted BaFe₂As₂? Phys. Rev. Lett. 107, 267002 (2011)
13. **Chang Liu** et al., Importance of Fermi surface topology to the superconducting state of the electron-doped pnictide Ba(Fe_{1-x}Cox)₂As₂. Phys. Rev. B 84, 020509(R) (2011)
14. **Chang Liu** et al., Metallic surface electronic state in half-Heusler compounds RPtBi (R = Lu, Dy, Gd). Phys. Rev. B 83, 205133 (2011)
15. **Chang Liu** et al., Surface-driven electronic structure in LaFeAsO studied by angle-resolved photoemission spectroscopy. Phys. Rev. B 82, 075135 (Editor's suggestion) (2010)
16. **Chang Liu***, Takeshi Kondo* et al., Evidence for a Lifshitz transition in electron-doped iron arsenic superconductors at the onset of superconductivity. Nature Physics 6, 419 (2010)
17. Takeshi Kondo, R. M. Fernandes, R. Khasanov, **Chang Liu** et al., Unexpected Fermi-surface nesting in the pnictide parent compounds BaFe₂As₂ and CaFe₂As₂ revealed by angle-resolved photoemission spectroscopy. Phys. Rev. B 81, 060507(R) (2010)
18. **Chang Liu** et al., Electronic properties of iron arsenic high temperature superconductors revealed by angle resolved photoemission spectroscopy (ARPES). Physica C 469, 491 (2009)
19. **Chang Liu** et al., Three- to two-dimensional transition of the electronic structure in CaFe₂As₂: A parent compound for an iron arsenic high-temperature superconductor. Phys. Rev. Lett. 102, 167004 (2009)
20. **Chang Liu** et al., K-Doping dependence of the Fermi surface of the iron-arsenic Ba_{1-x}K_xFe₂As₂ superconductor using angle-resolved photoemission spectroscopy. Phys. Rev. Lett. 101, 177005 (2008)
21. Takeshi Kondo, A. F. Santander-Syro, O. Copie, **Chang Liu** et al., Momentum dependence of the superconducting gap in NdFeAsO_{0.9}F_{0.1} single crystals measured by angle resolved photoemission spectroscopy. Phys. Rev. Lett. 101, 147003 (2008)

* 同等贡献的第一作者。

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友情链接

- 量子科学与工程研究院 (<http://siqse.sustc.edu.cn/Zh/Index/index>)
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