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凝聚态物理



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个人简历

工作经历:

2021-今	清华大学物理系	教授
2018-2021	清华大学物理系	副教授
2015-2018	清华大学物理系	助理教授
2015-今	日本理化研究所RIKEN	兼职研究员
2013-2015	斯坦福大学物理系	研究学者

2010-2013

德国马普所

洪堡学者

教育经历:

2005-2010

清华大学高等研究院

博士

2001-2005

清华大学物理系

学士

教学

第一性原理计算方法

研究领域

理论和计算凝聚态物理、第一性原理材料计算与设计、拓扑绝缘体、拓扑量子物态

We are a research group on theoretical and computational condensed-matter and materials physics. Our main research interest is to understand/predict unusual quantum phenomena and novel material properties, based on first-principles electronic structure calculations. In particular, we focus on exploring the electronic, thermal, optical and magnetic properties of low-dimensional systems (e.g. layered materials, materials surfaces and interfaces) as well as materials with non-trivial topological order. The primary goal of our research is to design advanced functional materials that can be used for low-dissipation electronics, high-performance thermoelectricity and high-efficiency solar cell. We are also interested in developing theoretical methods for studying quantum thermal, electronic, and thermoelectric transport at the mesoscopic scale.

奖励、荣誉和学术兼职

2011-2013 德国洪堡学者

2018 学术新人奖 清华大学

2020 国家杰出青年科学基金

主要论著

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<https://publons.com/researcher/2364833/yong-xu/> (<https://publons.com/researcher/2364833/yong-xu/>)

1. Yang Li[#], Jiaheng Li[#], Yang Li, Meng Ye, Fawei Zheng, Zetao Zhang, Jingheng Fu, Wenhui Duan^{*}, and **Yong Xu^{*}**

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2. Joseph Falson, **Yong Xu**, Menghan Liao, Yunyi Zang, Kejing Zhu, Chong Wang, Zetao Zhang, Hongchao Liu, Wenhui Duan, Ke He, Haiwen Liu^{*}, Jurgen H. Smet^{*}, Ding Zhang^{*}, Qi-Kun Xue

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3. Chang Liu[#], Yongchao Wang[#], Hao Li[#], Yang Wu, Yaoxin Li, Jiaheng Li, Ke He, **Yong Xu^{*}**, Jinsong Zhang^{*}, and Yayu Wang^{*}

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4. Jiaheng Li, Yang Li, Shiqiao Du, Zun Wang, Bing-Lin Gu, Shou-Cheng Zhang, Ke He^{*}, Wenhui Duan^{*}, and **Yong Xu^{*}**

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5. Chong Wang[#], Biao Lian[#], Xiaomi Guo, Jiahao Mao, Zetao Zhang, Ding Zhang, Bing-Lin Gu, **Yong Xu***, and Wenhui Duan

Type-II Ising superconductivity in two-dimensional materials with spin-orbit coupling

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6. Jialiang Deng[#], Bingyu Xia[#], Xiaochuan Ma[#], Haoqi Chen, Huan Shan, Xiaofang Zhai, Bin Li, Aidi Zhao*, **Yong Xu***, Wenhui Duan, Shoucheng Zhang, Bing Wang*, and J. G. Hou

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7. Yunyi Zang, Tian Jiang, Yan Gong, Zhaoyong Guan, Chong Liu, Menghan Liao, Kejing Zhu, Zhe Li, Lili Wang, Wei Li, Canli Song, Ding Zhang, **Yong Xu***, Ke He*, Xucun Ma, Shou-Cheng Zhang, and Qi-Kun Xue

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8. Jian Gou[#], Bingyu Xia[#], Hang Li[#], Xuguang Wang, Longjuan Kong, Peng Cheng, Hui Li, Weifeng Zhang, Tian Qian, Hong Ding, **Yong Xu***, Wenhui Duan, Kehui Wu*, and Lan Chen*

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Phys. Rev. Lett. 121, 126801 (2018).

9. Menghan Liao[#], Yunyi Zang[#], Zhaoyong Guan, Yan Gong, Kejing Zhu, Ding Zhang*, **Yong Xu***, Ke He, Xucun Ma, Shou-Cheng Zhang, and Qi-Kun Xue*

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Nature Phys. 14, 344 (2018).

10. Yizhou Liu, Chao-Sheng Lian, Yang Li, **Yong Xu***, and Wenhui Duan*

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Phys. Rev. Lett. 119, 255901 (2017).

11. Alessandro Molle, Joshua Goldberger, Michel Houssa, **Yong Xu**, Shou-Cheng Zhang, and Deji Akinwande

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12. Fengfeng Zhu[#], Wei-Jiong Chen[#], **Yong Xu[#]**, Chun-Lei Gao, Dan-Dan Guan, Canhua Liu, Dong Qian*, Shou-Cheng Zhang, Jin-Feng Jia*.

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Nature Mater. 14, 1020 (2015).

13. **Yong Xu**, Zhongxue Gan, Shou-Cheng Zhang.

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14. Hongtao Yuan, Xinqiang Wang, Biao Lian, Haijun Zhang, Xianfa Fang, Bo Shen, Gang Xu, **Yong Xu**, Shou-Cheng Zhang, Harold Y. Hwang*, Yi Cui*.

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15. Haijun Zhang, **Yong Xu**, Jing Wang, Shou-Cheng Zhang.

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16. Haijun Zhang, Jing Wang, Gang Xu, **Yong Xu**, Shou-Cheng Zhang.

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17. **Yong Xu***, Zuanyi Li*, Wenhui Duan*.

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18. Jing Wang, Biao Lian, Haijun Zhang, **Yong Xu**, Shou-Cheng Zhang.

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19. **Yong Xu***, Oliver T. Hofmann, Raphael Schlesinger, Stefanie Winkler, Johannes Frisch, Jens Niederhausen, Antje Vollmer, Sylke Blumstengel, Fritz Henneberger, Norbert Koch, Patrick Rinke, Matthias Scheffler.

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20. **Yong Xu**, Binghai Yan, Hai-Jun Zhang, Jing Wang, Gang Xu, Peizhe Tang, Wenhui Duan, Shou-Cheng Zhang.

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