Ge He

Personal Information

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Scientific Career

Since 2021.9	**Postdoctoral Researcher at the Department of Physics, University College Cork, Cork, Ireland**
2019.4-2021.8	**Alexander von Humboldt Postdoctoral Fellowship at the Walther Meissner Institute, Bavarian Academy of Sciences and Humanities, Garching, Germany**
2013.9-2019.3	**M. S. and Ph. D, Condensed Matter Physics** **Institute of Physics, Chinese Academy of Sciences, Beijing, China**
2009.9–2013.6	**B. S., Materials Physics** **Wuhan University of Science and Technology, Wuhan, Hubei Province, China**

Areas of Research

- Unconventional superconductivity
- Correlated electron system
- Magnetism
- Nontrivial topological system
- Ultra-low temperature scanning tunneling microscopy and spectroscopy
- Raman spectroscopy
- Tip-enhanced Raman spectroscopy

Selected Key Publications

[1] Jie Yuan, Qihong Chen, Kun Jiang, Zhongpei Feng, Zefeng Lin, Heshan Yu, **Ge He**, Jinsong Zhang, Xingyu Jiang, Xu Zhang, Yujun Shi, Yanmin Zhang, Mingyang Qin, Zhi Gang Cheng, Nobumichi Tamura, Yi-feng Yang, Tao Xiang, Jiangping Hu, Ichiro Takeuchi, Kui Jin, Zhongxian Zhao. **Scaling of the strange-metal scattering in unconventional superconductors**, Nature 602, 431(2022).

[2] **Ge He**, Leander Peis, Ramona Stumberger, Lilian Prodan, Vladimir Tsurkan, Nico Unglert, Liviu Chioncel, István Kézsmárki, Rudi Hackl. **Phonon anomalies associated with spin reorientation in the Kagome ferromagnet Fe_3Sn_2.** Physica Status Solidi (b), 2100196(2021).

[3] S Djurdjić Mijin, A Baum, J Bekaert, A Šolajić, J Pešić, Y Liu, **Ge He**, MV Milošević, C Petrovic, ZV Popović, R Hackl, N Lazarević, **Probing charge density wave phases and the Mott transition in 1-T TaS_2 by inelastic light scattering**, Phys. Rev. B **24**, 245133 (2021).

[4] **Ge He**, Dong Li, Daniel Jost, Andreas Baum, Peipei Shen, Xiaoli Dong, Zhongxian Zhao and Rudi Hackl. Raman study of Cooper pairing instabilities in $(Li_{1-x}Fe_x)$OHFeSe, Phys. Rev. Lett. 125, 217002 (2020).

[5] **Ge He**, Zhongxu Wei, Zhongpei Feng, Xiaodong Yu, Beiyi Zhu, Li Liu, Kui Jin, Jie Yuan, and Qing Huan. **Combinatorial laser molecular beam epitaxy system integrated with specialized low-temperature scanning tunneling microscopy**, Rev. Sci. Instrum. 91, 013904 (2020).

[6] Zhongxu Wei*, **Ge He***, Wei Hu*, Zhongpei Feng, Xinjian Wei, Chun Yuen Ho, Qian Li, Jie Yuan, Chuanying Xi, Zhaosheng Wang, Qihong Chen, Beiyi Zhu, Fang Zhou, Xiaoli Dong, Li Pi, A. Kusmartseva, F. V. Kusmartsev, Zhongxian Zhao, and Kui Jin. **Anomalies of upper critical field in the spinel superconductor $LiTi_2O_{4-\delta}$**, Phys. Rev. B **100**, 184509 (2019). (**Co-first author**)

[7] **Ge He**, Zhongxu Wei, Jeremy Brisbois, Yanli Jia, Yulong Huang, Huaxue Zhou, Shunli Ni, Alejandro V. Silhanek, Lei Shan, Beiyi Zhu, Jie Yuan, Xiaoli Dong, Fang Zhou, Zhongxian Zhao and Kui Jin, **Distinction between critical current effects and intrinsic anomalies in the point-contact Andreev reflection spectra of unconventional superconductors**, Chin. Phys. B **27**, 047403 (2018)

[8] Yanli Jia*, **Ge He***, Wei Hu, Hua Yang, Zhenzhong Yang, Heshan Yu, Qinghua Zhang, Jinan Shi, Zefeng Lin, Jie Yuan, Beiyi Zhu, Lin Gu, Hong Li, and Kui Jin. **The effects of oxygen in spinel oxide $Li_{1+x}Ti_{2-x}O_{4-\delta}$** thin films, Sci. Rep. 8, 3995 (2018).(**Co-first author**)

[9] Zhongpei Feng, Jie Yuan, **Ge He**, Wei Hu, Zefeng Lin, Dong Li, Xingyu Jiang, Yulong Huang, Shunli Ni, Jun Li, Beiyi Zhu, Xiaoli Dong, Fang Zhou, Huabing Wang, Zhongxian Zhao and Kui Jin. **Tunable critical temperature for superconductivity in FeSe thin films by pulsed laser deposition**, Sci. Rep. 8, 4039 (2018).

[10] **Ge He**, Yanli Jia, Xingyuan Hou, Zhongxu Wei, Haidong Xie, Zhenzhong Yang, Jie Yuan, Lei Shan, Beiyi Zhu, Hong Li, Lin Gu, Kai Liu, Tao Xiang and Kui Jin, **Anisotropic electron-phonon coupling in the spinel oxide superconductor $LiTi_2O_4$**, Phys. Rev. B **95**, 054510 (2017).

[11] **Ge He**, Xinjian Wei, Xu Zhang, Lei Shan, Jie Yuan, Beiyi Zhu, Yuan Lin and Kui Jin, **Normal-state gap in the parent cuprate $Pr_2CuO_{4\pm\delta}$**, Phys. Rev. B **96**, 104518 (2017).

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[13] Xu Zhang, Heshan Yu, **Ge He**, Wei Hu, Jie Yuan, Beiyi Zhu and Kui Jin, **Transport anomalies and quantum criticality in electron-doped cuprate superconductors**, Physica C **525**, 18 (2016) (Invited review article).

[14] Jiangdong Ji, Jie Yuan, **Ge He**, Biaobing Jin, Beiyi Zhu, Xiangdong Kong, Xiaoqing Jia, Lin Kang, Kui Jin and Peiheng Wu, **Vortex ratchet effects in a superconducting asymmetric ring-shaped device**, Appl. Phys. Lett. **109**, 242601 (2016).

[15] Kui Jin, **Ge He**, Xiaohang Zhang, S. Maruyama, S. Yasui, R. Suchoski, J. Shin, Y. Jiang, Heshan Yu, Jie Yuan, Lei Shan, F.V. Kusmartsev, R. L. Greene and I. Takeuchi. **Anomalous magnetoresistance in the spinel superconductor $LiTi_2O_4$**, Nat. Commun. **6**, 7183 (2015).