# Curriculum Vitae

(Huiqiu Yuan, Ph.D)

Department of Physics
Zhejiang University
38 ZheDa Rd., Hangzhou 310027
China

Email: hqyuan@zju.edu.cn
Tel/Fax: +86 571 8898 1363

## Education

10.1999-10.2003: Ph.D, Max-Planck Institute for Chemical Physics of Solids, Germany.
Dr. rer. Nat. in Physics, October 6, 2003, Technische Universität Dresden
(grade: magna cum laude). Supervisor: Prof. Frank Steglich

09.1996-12.1998: Graduate, Xiangtan University, Hunan, China.
M. Sc. in Physics, January 25, 1999 (grade: excellent).
Supervisor: Prof. Jianxin Zhong.

09.1992-06.1996: Undergraduate, Xiangtan University, Hunan, China.
B. S. in Physics, June 20, 1996 (grade: excellent).

## Work Experience

04.2012 - present: Executive Deputy Director, Center for Correlated Matter, Zhejiang University.

08.2008 - present: Full Professor, School of Physics, Zhejiang University.

05.2007 - 08. 2008: Director's Postdoctoral Fellow, Los Alamos National Laboratory.

08.2004 - 05.2007: Postdoctoral research associate, Department of Physics, University of Illinois at Urbana and Champaign.

10.1999 - 08.2004: Research assistant, Max-Planck Institute for Chemical Physics of solids.

06.1999 - 09.1999: visitor, Theoretische Physik III, Technische Universitat Chemnitz.

## Honors / Awards

Mar. 2023：浙江省有突出贡献中青年专家。

Nov. 2022：中国物理学会，叶企孙物理奖。

Oct. 2021： American Physical Society, Fellow。

Dec.2020：国务院政府特殊津贴。

Feb.2019：国家万人计划科技创新领军人才。

Sept. 2018: 科技部中青年科技创新领军人才。

Mar. 2008：长江学者特聘教授，教育部

Nov. 2006-Aug. 2008: Director's Postdoctoral Fellowship, Los Alamos National Laboratory.

Jul. 2004- Jun. 2007: ICAM Postdoctoral Fellowship.

## Professional Services

1. Editorial Board Member:

   Reviews in Physics (Elsevier); Frontiers in Electronic Materials; Science China (MPA); Chinese Physics Letters; Physics(Chinese); Low Temperature Physics (Chinese); High Pressure Physics (Chinese).

2. Committee Member:
   - 中国物理学会高压物理专业委员会，委员 (2010-)
   - 中国物理学会低温物理专业委员会， 委员 (2016-2024)

3. Member of International Advisory and/ or Program Committee:
   - International Conference on Strongly Correlated Electron System (SCES),
   - International Conference on Materials and Mechanism of Superconductivity (M2S);

## Conferences Organizations

1. 2014-present: Heavy Fermion Forum (annual meeting), Co-Chair.
2. 2024: 3rd Zhejiang Workshop on Correlated Matter (International), Chair.
3. 2019: 2nd Zhejiang Workshop on Correlated Matter (International), Chair.
4. 2017: 1st Zhejiang Workshop on Correlated Matter (International), Chair.
5. 2020：Young Investigators Online Workshop on Unconventional Superconductivity in Heavy Fermions (online)， Co-chair
6. 2016: International Conference on Strongly Correlated Electron Systems (SCES 2016), Co-Chair.
7. 2015: International Workshop on Heavy Fermions and Quantum Phase Transitions, Co-Chair.
8. 2013: Sino-German Workshop on Kondo and Mott Physics in Correlated Matter, Co-Chair.
9. 2012: Sino-German Bilateral Workshop on Emergent Phases in Correlated and Topological Matter, Co-Chair.
10. 2010: Hangzhou Workshop on Quantum Matter, Co-Chair.
11. Sino-German Meeting on Emergent Correlated Materials: Hangzhou (2016.05; 2017. 03), Berlin (2017.10), Augsburg (2018.06).

## Research Grants

1. 国家自然科学基金重大项目/课题：12494592，镍氧化物高压下超导电性研究，2025/01-2029/12，400万元，在研，主持。
2. 国家重点研发计划重点专项，2022YFA1402200，f电子体系中的演生量子态及其物态调控，2022/12-2027/11，2484万元，在研，主持
3. 浙江省重点研发计划项目，2021C01002，新型关联量子材料及其物态调控，2021/01-

2025/12，790万元，在研，主持

4. 国家自然科学基金重点项目，12034017，铁磁量子相变及相关物性研究，2021/01-2025/12，310万元，在研，主持
5. 国家自然科学基金面上项目，11974306，近藤晶格化合物中的拓扑量子态探索及相关物性研究，2020/01-2023/12，65万元，结题，主持
6. 国家重点研发计划重点专项，2017YFA0303100，重费米子体系中的演生量子态及其调控，2017/07-2022/06，2652万元，结题，结题
7. 国家自然科学基金联合重点项目，U1632275，类重费米子材料的强磁场/高压物性研究，2017/01-2020/12，296.8万元，已结题，主持
8. 国家重点研发计划重点专项子课题，2016YFA0300202，稀土化合物中的多量子序的竞争与调控，2016/07-2121/06，305万元，在研，参加
9. 国防基础科研科学挑战专题项目，f 电子体系材料的奇异量子特性研究，2016/10-2020/09，337.5万元，已结题，课题负责人。
10. 中德科学中心项目，GZ1123，中德“呈展关联材料”合作研究小组，2015/06-2021/06，298万元，在研，主持
11. 国家自然科学基金面上项目，11474251，中心对称破缺对超导态及相关性质的影响，2015/01-2018/12，100万元，已结题，主持
12. 浙江省科技厅国际科技合作专项，2012C24002，关联电子材料奇异物性研究，2013/01-2014/12，20万元，已结题，主持
13. 国家自然科学基金面上项目，11174245，铈基和镱基混价化合物中的原子价态不稳定性与超导及相关现象的研究，2012/01-2015/12，75万元，已结题，主持
14. 973计划重大科学问题导向，2011CBA00103，过渡金属化合物超导材料和物理性质研究，2010/11-2015/12，120万元，已结题，参加
15. 国家自然科学基金重点项目，10934005，d-电子和f-电子材料中的奇异量子物质态研究，2010/01-2013/12，200万元，已结题，主持
16. 浙江省自然科学基金项目，R6090113，袁辉球研究团队，2010/01-2012/12，40万元，已结题，主持
17. 国家自然科学基金面上项目，10874146，铈基重费米子材料及钌系化合物中的磁性量子相变与非费米液体行为，2009/01-2011/12，46万元，已结题，主持
18. 973国家重点基础研究发展计划，2009CB929104，关联电子系统中的量子相变与量子调控，2008/09-2013/08，300万元，已结题，课题负责人。

# List of publications

***Published over 200 peer reviewed articles, including 1 in RMP, 3 in Nature, 1 in Science, 1 in Nat. Phys., 3 in PNAS, 16 in PRL and 5 in Nature Communications, as well as 10 invited review articles with 2 in Rep. Prog. Phys.. The total citation is near 7400 times.***

1. Hengrui Gui, Lin Yang, Xiaoyu Wang*, Dong Chen, Zekai Shi, Jiawen Zhang, Jia Wei, Keyi Zhou, Walter Schnelle, Yongjun Zhang, Yu Liu, Alimamy F. Bangura, Ziqiang Wang, Claudia Felser, **Huiqiu Yuan***, Jiao Lin*, Probing orbital magnetism of a kagome metal $CsV_3Sb_5$ by a tuning fork resonator, *Nat. Commun.* **16**, 4275 (2025).
2. Guowei Yang, Zhanghuan Li, Sai Yang, Jiyuan Li, Hao Zheng, Weifan Zhu, Ze Pan, Yifu Xu, Saizheng Cao, Wenxuan Zhao, Anupam Jana, Jiawen Zhang, Mao Ye, Yu Song, Lunhui Hu, Lexian Yang, Jun Fujii, Ivana Vobornik, Ming Shi, **Huiqiu Yuan**, Yongjun Zhang*, Yuanfeng Xu*, Yang Liu*, Three-dimensional mapping of the altermagnetic spin splitting in CrSb, *Nat. Commun.* **16**, 1442 (2025).
3. Jiawen Zhang, Zhenqi Hua, Chengwei Wang, Michael Smidman, David Graf, Sean Thomas, Priscila F. S. Rosa, Steffen Wirth, Xi Dai, Peng Xiong, **Huiqiu Yuan***, Xiaoyu Wang*, and Lin Jiao*, Realizing a topological diode effect on the surface of a topological Kondo insulator, *PNAS* **122**, e2417709122 (2025).
4. Zhaoyang Shan, Yangjie Jiao, Jiayu Guo, Yifan Wang, Jinyu Wu, Jiawen Zhang, Yanan Zhang, Dajun Su, Devashibhai T. Adroja, Christian Balz, Matthias Gutmann, Yu Liu, **Huiqiu Yuan**, Zhentao Wang*, Yu Song*, and Michael Smidman*, Emergent Ferromagnetic Ladder Excitations in Heavy Fermion Superconductor $CeSb_2$, *Phys. Rev. Lett*. **134**, 116704 (2025).
5. Guowei Yang*, Weifan Zhu, Jiawen Zhang, Hao Zheng, Yi Wu, Huali Zhang, Ge Ye, Dajun Su, Yanan Zhang, Chao Cao, Xin Lu, **Huiqiu Yuan**, and Yang Liu*, Orientation-dependent superconductivity and electronic structure of the rare-earth metal/$KTaO_3$ interfaces, *J. Phys.: Condens. Matter* **37**, 215001 (2025).
6. Yanan Zhang, Dajun Su, Zhaoyang Shan, Yunshu Shi, Rui Li, Jinyu Wu, Zihan Yang, Kaixin Ye, Fei Zhang, Yanchun Li, Xiaodong Li, Chao Cao, Valentin Taufour, Lin Jiao, Michael Smidman*, and **Huiqiu Yuan***, Pressure induced superconducting dome in $LaNiGa_2$, *Science China: Physics, Mechanics & Astronomy* **68**, 227011 (2025).
7. Jiawen Zhang, Jinyu Wu, Ye Chen, Rui Li, Michael Smidman, Yu Liu*, Yu Song*, and **Huiqiu Yuan***, Structural and Physical Properties of the Heavy Fermion Metal $Ce_2NiAl_6Si_5$, *Chin. Phys. Lett.* **41**, 127304 (2024).
8. W. Xie, M. Gutmann, J. W. Zhang, X. Y. Zheng, Z. Y. Shan, N. Zhao, L. S. Wu, T. Shang, M. Smidman*, P. Miao, T. Takabatake, and **H. Q. Yuan***, Complex magnetic phase diagram in $Ce_3Pd_6Sb_5$ with a well-ordered superstructure, *Phys. Rev. B* **110**, 184422 (2024).
9. Dajun Su, Jiawen Zhang, Yongjun Zhang, Zhaoyang Shan, Yanan Zhang, Michael Smidman, Lin Jiao, Yu Liu, and **Huiqiu Yuan***, Coexistence of ferromagnetism and cluster glass behavior in $Ce_5CoGe_2$, *Phys. Rev. B* **110**, 144432 (2024).

**10.** Yuwei Zhou, Ge Ye, Shuaishuai Luo, Yu Song*, Xin Lu*, and **Huiqiu Yuan***, Kagome materials $AV_3Sb_5$ ($A$ = K, Rb, Cs): pairing symmetry and pressure-tuning studies, *Supercond. Sci. Technol.* **37**, 103001 (2024).

**11.** Yi Wu, Yongjun Zhang, Sailong Ju, Yong Hu, Yanen Huang, Yanan Zhang, Huali Zhang, Hao Zheng, Guowei Yang, Evrard-Ouicem Eljaouhari, Baopeng Song, Nicholas C. Plumb, Frank Steglich, Ming Shi, Gertrud Zwicknagl, Chao Cao*, **Huiqiu Yuan***, and Yang Liu*, Fermi Surface Nesting with Heavy Quasiparticles in the Locally Noncentrosymmetric Superconductor $CeRh_2As_2$, *Chin. Phys. Lett.* **41**, 097403 (2024).

**12.** Yanan Zhang, Dajun Su, Yanen Huang, Zhaoyang Shan, Hualei Sun, Mengwu Huo, Kaixin Ye, Jiawen Zhang, Zihan Yang, Yongkang Xu, Yi Su, Rui Li, Michael Smidman, Meng Wang*, Lin Jiao*, and **Huiqiu Yuan***, High-temperature superconductivity with zero resistance and strange-metal behaviour in $La_3Ni_2O_{7-\delta}$, *Nat. Phys.* **20**, 1269-1273 (2024).

**13.** Baopeng Song, Zhaoyang Shan, Rui Shi, Sai Yang, Rui Li, Jiahua Min, Zhen Ma, Shuhan Zheng, Meifeng Liu, Xiuzhang Wang, Saiyu Wang, Yongjun Zhang*, Michael Smidman*, and **Huiqiu Yuan***, Anisotropic magnetic properties of antiferromagnetic $DyCoGa_5$, *Phys. Rev. B* **109**, 134429 (2024).

**14.** Huiqing Ye, Yanan Zhang, Tian Le, **Huiqiu Yuan***, and Michael Smidman*, Inverse melting and intertwined orders in $PrCuSb_2$, *Phys. Rev. B* **109**, 104414 (2024).

**15.** Ge Ye, Mengwei Xie, Chufan Chen, Yanan Zhang, Dongting Zhang, Xin Ma, Xiangyu Zeng, Fanghang Yu, Yi Liu, Xiaozhi Wang, Guanghan Cao, Xiaofeng Xu, Xianhui Chen, **Huiqiu Yuan**, Chao Cao*, and Xin Lu*, Distinct pressure evolution of superconductivity and charge density wave in kagome superconductor $CsV_3Sb_5$ thin flakes, *Phys. Rev. B* **109**, 054501 (2024).

**16.** X. Y. Zheng, D. T. Adroja*, B. Chevalier, Z. Y. Shan, A. D. Hillier, **H. Q. Yuan**, and M. Smidman*, Inelastic neutron scattering and muon spin relaxation investigations of the deuterated Kondo lattices $CeNiSnD_x$, *Phys. Rev. B* **109**, 064401 (2024).

**17.** Saizheng Cao, Xin Ma, Dongsheng Yuan, Zhen Tao, Xiang Chen, Yu He, Patrick N. Valdivia, Shan Wu, Hang Su, Wei Tian, Adam A. Aczel, Yaohua Liu, Xiaoping Wang, Zhijun Xu, **Huiqiu Yuan**, Edith Bourret-Courchesne, Chao Cao, Xingye Lu, Robert Birgeneau, and Yu Song*, Superstructures and magnetic order in heavily Cu-substituted $(Fe_{1-x}Cu_x)_{1+y}Te$, *Phys. Rev. B* **109**, 045142 (2024).

**18.** Su Chen, Yingcai Qian, Xiaoli Huang*, Wuhao Chen, Jianning Guo, Kexin Zhang, Jinglei Zhang, **Huiqiu Yuan**, and Tian Cui*, High-temperature superconductivity up to 223 K in the Al stabilized metastable hexagonal lanthanum superhydride, *National Science Review* **11**, nwad107 (2024).

**19.** Huali Zhang, Feng Du, Xiaoying Zheng, Shuaishuai Luo, Yi Wu, Hao Zheng, Shengtao Cui, Zhe Sun, Zhengtai Liu, Dawei Shen, Michael Smidman, Yu Song, Ming Shi, Zhicheng Zhong, Chao Cao, **HuiqiuYuan***, and Yang Liu*, Electronic band reconstruction across the insulator-metal transition in colossally magnetoresistive $EuCd_2P_2$, *Phys. Rev. B* **108**, L241115 (2023).

**20.** Dongting Zhang, Shuaishuai Luo, Weiyin Duan, Yu Song*, Xin Lu*, and **Huiqiu Yuan***, The superconducting order parameter and high-pressure studies of the V-based kagome materials $AV_3Sb_5$ ($A$ = K, Rb, Cs), *Scientia Cinica: Physica, Mechania & Astronomica* **53**, 127411 (2023).

**21.** Shuaishuai Luo, Feng Du, Dajun Su, Yongjun Zhang, Jiawen Zhang, Jiacheng Xu, Yuxin Chen, Chao Cao*, Michael Smidman*, Frank Steglich, and **Huiqiu Yuan***, Direction-dependent switching of carrier type enabled by Fermi surface geometry, *Phys. Rev. B* **108**, 195146 (2023).

**22.** Xiaoran Yang, Qi Tang, Qiuyun Zhou, Huaiping Wang, Yi Li, Xue Fu, Jiawen Zhang, Yu Song, **Huiqiu Yuan**, Pengcheng Dai, and Xingye Lu*, In-plane uniaxial-strain tuning of superconductivity and charge-density wave in $CsV_3Sb_5$, *Chin. Phys. B* **32**, 127101 (2023).

**23.** Shuaishuai Luo, Yongkang Xu, Feng Du, Lin Yang, Yuxin Chen, Chao Cao, Yu Song*, and **Huiqiu Yuan***, Colossal magnetoresistance and topological phase transition in $EuZn_2As_2$, *Phys. Rev. B* **108**, 205140 (2023).

**24.** Yimin Wan, Erjian Cheng, Yuxin Chen, Chengcheng Zhao, Chengpeng Tu, Dongzhe Dai , Xiaofan Yang, Lu Xin, Wu Xie, **Huiqiu Yuan***, and Shiyan Li*, Ultralow-temperature heat transport study of noncentrosymmetric superconductor CaPtAs, *Chin. Phys. B* **32**, 127403 (2023).

**25.** M. Smidman*, O. Stockert*, E. M. Nica, Y. Liu, **H. Q. Yuan***, Q. M. Si*, and F. Steglich*, *Colloquium:* Unconventional fully gapped superconductivity in the heavy-fermion metal $CeCu_2Si_2$, *Rev. Mod. Phys.* **95**, 031002 (2023).

**26.** Yuan Fang, Zhongzheng Wu, Guowei Yang, Yuwei Zhang, Weifan Zhu, Yi Wu, Chunyu Guo, Yuke Li, **Huiqiu Yuan**, Jian-Xin Zhu, Yang Liu*, and Chao Cao*, Valence transition and termination-dependent surface states in the topological Kondo semimetal YbPtBi, *Phys. Rev. B* **108**, 125110 (2023).

**27.** Y. N. Zhang, D. J. Su, Z. Y. Shan, Z. H. Yang, J. W. Zhang, R. Li, M. Smidman, and **H. Q. Yuan***, Superconductivity of cerium at quasihydrostatic pressure up to 54 GPa, *Phys. Rev. B* **108**, 094502 (2023).

**28.** Kangqiao Cheng, Shuo Zou, Huanpeng Bu, Jiawen Zhang, Shijie Song, Hanjie Guo*, **Huiqiu Yuan***, and Yongkang Luo*, Synthesis and physical properties of Ce2Rh3+δSb4 single crystals, *Phys. Rev. Materials* **7**, 084404 (2023).

**29.** Peng Li, Huiqing Ye, Yong Hu, Yuan Fang, Zhiguang Xiao, Zhongzheng Wu, Zhaoyang Shan, Ravi P. Singh, Geetha Balakrishnan, Dawei Shen, Yi-feng Yang, Chao Cao, Nicholas C. Plumb, Michael Smidman*, Ming Shi, Johann Kroha, **Huiqiu Yuan***, Frank Steglich, and Yang Liu*, Photoemission signature of the competition between magnetic order and Kondo effect in $CeCoGe_3$, *Phys. Rev. B* **107**, L201104 (2023).

**30.** Lingyun Tang, Zhongquan Mao, Chutian Wang, Qi Fu, Chen Wang, Yichi Zhang, Jingyi Shen, Yuefeng Yin, Bin Shen, Dayong Tan, Qian Li, Yonggang Wang, Nikhil V. Medhekar, Jie Wu, Huiqiu Yuan, Yanchun Li*, Michael S. Fuhrer*, and Changxi Zheng*, Giant piezoresistivity in a van der Waals material induced by intralayer atomic motions. *Nat. Commun.* **14**, 1519 (2023).

**31.** Yuxin Chen, Yongjun Zhang, Rui Li, Hang Su, Zhaoyang Shan, Michael Smidman*, and **Huiqiu Yuan***, Multiple magnetic phases and magnetization plateaus in $TbRh_6Ge_4$, *Phys. Rev. B* **107**, 094414 (2023).

**32.** Dongting Zhang, Chufan Chen, Lichang Yin, Yan'En Huang, Fengrui Shi, Yi Liu, Xiaofeng Xu, **Huiqiu Yuan**, and Xin Lu*, Superconducting gap evolution of kagome metal $CsV_3Sb_5$ under pressure, *Sci. China-Phys. Mech. Astron.* **66**, 227411(2023).

**33.** Weiyin Duan, Jiawen Zhang, Rohit Kumar, Hang Su, Yuwei Zhou, Zhiyong Nie, Ye Chen, Michael Smidman, Chao Cao, Yu Song*, and **Huiqiu Yuan***, Nodeless superconductivity in the topological nodal-line semimetal $CaSb_2$, *Phys. Rev. B* **106**, 214521 (2023).

**34.** Chufan Chen, Dongting Zhang, Rohit Kumar*, Yanan Zhang, Ge Ye, Lichang Yin, Jiawen Zhang, **Huiqiu Yuan**, Chao Cao*, and Xin Lu*, Tip-induced superconductivity enhancement in single-crystalline PdSb by point-contact spectroscopy, *Phys. Rev. B* **106**, 174520 (2022).

**35.** Weiyin Duan, Zhiyong Nie, Dayu Yan, Hang Su, Yuxin Chen, Ye Chen, Youguo Shi, Yu Song, and **Huiqiu Yuan***, Nodeless superconductivity in topologically nontrivial materials HfRuP and ZrRuAs, *J. Phys.: Condens. Matter* **34**, 455601 (2022).

**36.** Hang Su, Feng Du, Rui Li, Shuaishuai Luo, Yuxuan Chen, Jiyong Liu, Ye Chen, Chao Cao, Michael Smidman*, and **Huiqiu Yuan***, Structural phase transitions and superconductivity in the Heusler intermetallics $X$Pd$_2$Sn (X = Ti, Zr, Hf), *Phys. Rev. B* **106**, 134517 (2022).

**37.** T. Shang*, Y. Chen, W. Xie, D. J. Gawryluk, R. Gupta, R. Khasanov, X. Y. Zhu, H. Zhang, Z. X. Zhen, B. C. Yu, Z. Zhou, Y. Xu, Q. F. Zhan, E. Pomjakushina, H. Q. Yuan, and T. Shiroka, Evidence of unconventional pairing in the quasi-two-dimensional $CuIr_{2-x}Ru_xTe_4$ superconductor, *Phys. Rev. B* **106**, 144505 (2022).

**38.** Rohit Kumar*, Shuai-Shuai Luo, Feng Du, Hang Su, Jiawen Zhang, Chao Cao and **H. Q. Yuan***, Superconductivity in non-centrosymmetric ZrNiAl and HfRhSn-type compounds, *J. Phys.: Condens. Matter* **34**, 435701(2022).

**39.** Hang Su, Feng Du, Shuaishuai Luo, Zhiyong Nie, Rui Li, Wu Xie, Bin Shen, Yunfeng Wang, An Wang, Toshiro Takabatake, Chao Cao, Michael Smidman*, and **Huiqiu Yuan***, $La_4TX$ (T = Ru, Rh, Ir; X = Al, In): A family of noncentrosymmetric superconductors with tunable antisymmetric spin-orbit coupling, *Science China-Materials* **66**, 1114-1123 (2022).

**40.** Zhaoyang Shan, Pabitra K. Biswas*, Sudeep K. Ghosh*, T. Tula, Adrian D. Hillier, Devashibhai Adroja, Stephen Cottrell, Guang-Han Cao, Yi Liu, Xiaofeng Xu, Yu Song, **Huiqiu Yuan**, and Michael Smidman*, Muon spin relaxation study of the layered kagome superconductor $CsV_3Sb_5$, *Phys. Rev. Res.* **4**, 033145 (2022).

**41.** W. Xie, F. Du, X. Y. Zheng, H. Su, Z. Y. Nie, B. Q. Liu, Y. H. Xia, T. Shang, C. Cao, M. Smidman*, T. Takabatake, and **H. Q. Yuan***, Semimetallic Kondo lattice behavior in YbPdAs with a distorted kagome structure, *Phys. Rev. B* **106**, 075132 (2022)

**42.** Y. J. Zhang, Z. Y. Nie, R. Li, Y. C. Li, D. L. Yang, B. Shen, Y. Chen, F. Du, S. S. Luo, H. Su, R. Shi, S. Y. Wang, M. Nicklas, F. Steglich, M. Smidman*, and **H. Q. Yuan***, Suppression of ferromagnetism and influence of disorder in silicon-substituted $CeRh_6Ge_4$, *Phys. Rev. B* **106**, 054409 (2022).

**43.** Y. E. Huang, F. Wu, A. Wang, Y. Chen, L. Jiao, M. Smidman, and **H. Q. Yuan***, Pressure Evolution of the Magnetism and Fermi Surface of YbPtBi Probed by a Tunnel Diode Oscillator Based Method, *Chin. Phys. Lett*. **39**, 097101 (2022).

**44.** Feng Du, Rui Li, Shuaishuai Luo, Yu Gong, Yanchun Li, Sheng Jiang, Brenden R. Ortiz, Yi Liu, Xiaofeng Xu, Stephen D. Wilson, Chao Cao, Yu Song*, and **Huiqiu Yuan***, Superconductivity modulated by structural phase transitions in pressurized vanadium-based kagome metals, *Phys. Rev. B* **106**, 024516 (2022).

**45.** Feng Du, Lin Yang*, Zhiyong Nie, Ninghua Wu, Yong Li, Shuaishuai Luo, Ye Chen, Dajun Su, Michael Smidman, Youguo Shi, Chao Cao, Frank Steglich, Yu Song* & **Huiqiu Yuan***, Consecutive topological phase transitions and colossal magnetoresistance in a magnetic topological semimetal, *npj Quantum Mater.* **7**, 65 (2022).

**46.** Z. Y. Nie, J. W. Shu, A. Wang, H. Su, W. Y. Duan, A. D. Hillier, D. T. Adroja, P. K. Biswas, T. Takabatake, M. Smidman*, and **H. Q. Yuan***, Nodeless superconductivity in noncentrosymmetric LaRhSn, *Phys. Rev. B* **105**, 134523 (2022).

**47.** T. Shang*, D. Tay, H. Su, **H. Q. Yuan**, and T. Shiroka, Evidence of fully gapped superconductivity in NbReSi: A combined $\mu$SR and NMR study, *Phys. Rev. B* **105**, 144506 (2022).

**48.** Tian Shang, Sudeep K. Ghosh, Michael Smidman, Dariusz Jakub Gawryluk, Christopher Baines, An Wang, Wu Xie, Ye Chen, Mukkattu O. Ajeesh, Michael Nicklas, Ekaterina Pomjakushina, Marisa Medarde, Ming Shi, James F. Annett, **Huiqiu Yuan***, Jorge Quintanilla*, and Toni Shiroka*, Spin-triplet superconductivity in Weyl nodal-line semimetals, *npj Quantum Mater.* **7,** 35 (2022).

**49.** H. Q. Ye, T. Le, H. Su, Y. N. Zhang, S. S. Luo, M. J. Gutmann, **H. Q. Yuan**, and M. Smidman*, Magnetic properties of the layered heavy-fermion antiferromagnet $CePdGa_6$, *Phys. Rev. B* **105**, 014405 (2022).

**50.** Feng Du, Shuaishuai Luo, Rui Li, Brenden R. Ortiz, Ye Chen, Stephen D. Wilson, Yu Song* and **Huiqiu Yuan***, Evolution of superconductivity and charge order in pressurized $RbV_3Sb_5$, *Chin. Phys. B* **31**, 017404 (2022).

**51.** H. Su, T. Shang*, F. Du, C. F. Chen, H. Q. Ye, X. Lu, C. Cao, M. Smidman, and **H. Q. Yuan***, NbReSi: A noncentrosymetric superconductor with large upper critical field, *Phys. Rev. Mater.* **5**, 114802 (2021).

**52.** W. Xie, S. S. Luo, H. Su, X. Y. Zheng, Z. Y. Nie, M. Smidman*, T. Takabatake, and **H. Q. Yuan***, Complex magnetic phase diagram in noncentrosymmetric EuPtAs, *Phys. Rev. B* **104**, 174425 (2021).

**53.** Lichang Yin, Dongting Zhang, Chufan Chen, Ge Ye, Fanghang Yu, Brenden R. Ortiz, Shuaishuai Luo, Weiyin Duan, Hang Su, Jianjun Ying, Stephen D. Wilson, Xianhui Chen, **Huiqiu Yuan**, Yu Song*, and Xin Lu*, Strain-sensitive superconductivity in the kagome metals $KV_3Sb_5$ and $CsV_3Sb_5$ probed by point-contact spectroscopy, *Phys. Rev. B* **104**, 174507 (2021).

**54.** J. W. Shu, D. T. Adroja, A. D. Hillier, Y. J. Zhang, Y. X. Chen, B. Shen, F. Orlandi, H. C. Walker, Y. Liu, C. Cao, F. Steglich, **H. Q. Yuan**, and M. Smidman*, Magnetic order and crystalline electric field excitations of the quantum critical heavy-fermion ferromagnet $CeRh_6Ge_4$, *Phys. Rev. B* **104**, L140411 (2021).

**55.** Weiyin Duan, Zhiyong Nie, Shuaishuai Luo, Fanghang Yu, Brenden R. Ortiz, Lichang Yin, Hang Su, Feng Du, An Wang, Ye Chen, Xin Lu, Jianjun Ying, Stephen D. Wilson, Xianhui Chen, Yu Song*, and **Huiqiu Yuan***, Nodeless superconductivity in the kagome metal $CsV_3Sb_5$, *Sci. China-Phys. Mech. Astron*. **64**, 107462 (2021).

**56.** Jia-Cheng Xu, Hang Su, Rohit Kumar, Shuai-Shuai Luo, Zhi-Yong Nie, An Wang, Feng Du, Rui Li, Michael Smidman, and **Hui-Qiu Yuan***, Ce-Site Dilution in the Ferromagnetic Kondo Lattice $CeRh_6Ge_4$, *Chin. Phys. Lett.* **38**, 087101 (2021).

**57.** Zhongzheng Wu, Yuan Fang, Hang Su, Wu Xie, Peng Li, Yi Wu, Yaobo Huang, Dawei Shen, Balasubramanian Thiagarajan, Johan Adell , Chao Cao, **Huiqiu Yuan**, Frank Steglich, and Yang Liu*, Revealing the Heavy Quasiparticles in the Heavy-Fermion Superconductor $CeCu_2Si_2$, *Phys. Rev. Lett*. **127**, 067002 (2021).

**58.** An Wang, Feng Du, Yongjun Zhang, David Graf, Bin Shen, Ye Chen, Yang Liu, Michael Smidman, Chao Cao, Frank Steglich, **Huiqiu Yuan***, Localized 4f-electrons in the quantum critical heavy fermion ferromagnet $CeRh_6Ge_4$, *Science Bulletin* **66**, 1389-1394 (2021).

**59.** H. Su, Z. Y. Nie, F. Du, S. S. Luo, A. Wang, Y. J. Zhang, Y. Chen, P. K. Biswas, D. T. Adroja, C. Cao, M. Smidman*, and **H. Q. Yuan***, Fully gapped superconductivity with preserved time-reversal symmetry in noncentrosymmetric LaPdIn, *Phys. Rev. B* **104**, 024505 (2021).

**60.** Feng Du, Shuaishuai Luo, Brenden R. Ortiz, Ye Chen, Weiyin Duan, Dongting Zhang, Xin Lu, Stephen D. Wilson, Yu Song*, and **Huiqiu Yuan***, Pressure-induced double superconducting domes and charge instability in the kagome metal $KV_3Sb_5$, *Phys. Rev. B* **103**, L220504 (2021).

**61.** Dongting Zhang, Tian Le, Baijiang Lv, Lichang Yin, Chufan Chen, Zhiyong Nie, Dajun Su, **Huiqiu Yuan**, Zhu-An Xu, and Xin Lu*, Full superconducting gap and type-I to type-II superconductivity transition in single crystalline $NbGe_2$, *Phys. Rev. B* **103**, 214508 (2021).

**62.** T. Shang*, W. Xie, J. Z. Zhao, Y. Chen, D. J. Gawryluk, M. Medarde, M. Shi, **H. Q. Yuan**, E. Pomjakushina, and T. Shiroka, Multigap superconductivity in centrosymmetric and noncentrosymmetric rhenium-boron superconductors, *Phys. Rev. B* **103**, 184517 (2021).

**63.** Yi Wu, Yongjun Zhang, Feng Du, Bin Shen, Hao Zheng, Yuan Fang, Michael Smidman, Chao Cao, Frank Steglich, **Huiqiu Yuan***, Jonathan D. Denlinger, and Yang Liu*, Anisotropic *c-f* Hybridization in the Ferromagnetic Quantum Critical Metal $CeRh_6Ge_4$, *Phys. Rev. Lett*. **126**, 216406 (2021).

**64.** Y. H. Pei, Y. J. Zhang, Z. X. Wei, Y. X. Chen, K. Hu, Yi-feng Yang, **H. Q. Yuan***, and J. Qi*, Unveiling the hybridization process in a quantum critical ferromagnet by ultrafast optical spectroscopy, *Phys. Rev. B* **103**, L180409 (2021).

**65.** Yi Wu, Yuan Fang, Peng Li, Zhiguang Xiao, Hao Zheng, **Huiqiu Yuan**, Chao Cao, Yi-feng Yang*, and Yang Liu*, Bandwidth-control orbital-selective delocalization of 4*f* electrons in epitaxial Ce films, *Nat. Commun.* **12**, 2520 (2021).

**66.** Yuan Fang, Ding Wang, Peng Li, Hang Su, Tian Le, Yi Wu, Guo-Wei Yang, Hua-Li Zhang, Zhi-Guang Xiao, Yan-Qiu Sun, Si-Yuan Hong, Yan-Wu Xie, Huan-Hua Wang, Chao Cao, Xin Lu, **Hui-Qiu Yuan**, and Yang Liu*, Growth, electronic structure and superconductivity of ultrathin epitaxial $CoSi_2$ films, *J. Phys.: Condens. Matter* **33**, 155501 (2021).

**67.** Z.Y.Nie, L. C.Yin, A. Thamizhavel, A. Wang, B. Shen, L. Q. Che, F. Du, Z. Hossain, M. Smidman, X. Lu*, and **H. Q. Yuan***, Nodeless superconductivity in the charge density wave superconductor $LaPt_2Si_2$, *Phys. Rev. B* **103**, 014515 (2021).

**68.** Sudeep Kumar Ghosh*, Michael Smidman*,Tian Shang, James F. Annett, Adrian Hillier, Jorge Quintanilla and **Huiqiu Yuan***, Recent progress on superconductors with time-reversal symmetry breaking, *J. Phys.: Condens. Matter* **33,** 033001 (2021).

**69.** A. Wang, Z. Y. Nie, F. Du, G. M. Pang, N. Kase, J. Akimitsu, Y. Chen, M. J. Gutmann, D. T. Adroja, R. S. Perry, C. Cao, M. Smidman*, and **H. Q. Yuan***, Nodeless superconductivity in $Lu_{5-x}Rh_6Sn_{18+x}$ with broken time reversal symmetry, *Phys. Rev. B* **103**, 024503 (2020).

**70.** F. Du, H. Su, S. S. Luo, B. Shen, Z. Y. Nie, L. C. Yin, Y. Chen, R. Li, M. Smidman, and **H. Q. Yuan***, Interplay between charge density wave order and superconductivity in $LaAuSb_2$ under pressure, *Phys. Rev. B* **102**, 144510 (2020).

**71.** Bin Shen and **Huiqiu Yuan***, Magnetic quantum phase transitions, *Physics* **49**, 570-578 (2020).

**72.** Yang Liu*, Chao Cao*, Fan Wu, and Huiqiu Yuan, Topological Kondo semimetal, *Physics* **49**, 602-610 (2020).

**73.** T. Shang*, W. Xie, D. J. Gawryluk, R. Khasanov, J. Z. Zhao, M. Medarde, M. Shi, **H. Q. Yuan**, E. Pomjakushina, and T. Shiroka, Multigap superconductivity in the $Mo_5PB_2$ boron-phosphorus compound, *New J. Phys.* **22**, 093016 (2020).

**74.** T. Le, Y. Sun*, H. K. Jin, L. Q. Che, L. C. Yin, J. Li, G. M. Pang, C. Q. Xu, L. X. Zhao, S. Kittaka, T. Sakakibara, K. Machida, R. Sankar, **H. Q. Yuan**, G. F. Chen, X. F. Xu*, S. Y. Li, Y. Zhou, and X. Lu*, Evidence for nematic superconductivity of topological surface states in $PbTaSe_2$, *Science Bulletin* **65**, 1349 (2020).

**75.** P. R. Zhang, **H. Q. Yuan***, and C. Cao*, Electron-phonon coupling and nontrivial band topology in noncentrosymmetric superconductors LaNiSi, LaPtSi, and LaPtGe, *Phys. Rev. B* **101**, 245145 (2020).

**76.** T. Shang*, M. Smidman, A. Wang, L.-J. Chang , C. Baines, M. K. Lee, Z. Y. Nie, G. M. Pang, W. Xie, W. B. Jiang, M. Shi, M. Medarde, T. Shiroka, and **H. Q. Yuan***, Simultaneous Nodal Superconductivity and Time-Reversal Symmetry Breaking in the Noncentrosymmetric Superconductor CaPtAs, *Phys. Rev. Lett.* **124**, 207001 (2020).

**77.** B. Shen ,F. Du, R. Li, A. Thamizhavel, M. Smidman, Z. Y. Nie, S. S. Luo, T. Le, Z. Hossain, and **H. Q. Yuan***, Evolution of charge density wave order and superconductivity under pressure in $LaPt_2Si_2$, *Phys. Rev. B* **101**, 144501 (2020).

**78.** Bin Shen, Yongjun Zhang, Yashar Komijani, Michael Nicklas, Robert Borth, An Wang, Ye Chen, Zhiyong Nie, Rui Li, Xin Lu, Hanoh Lee, Michael Smidman*, Frank Steglich, Piers Coleman*, and **Huiqiu Yuan***, Strange-metal behaviour in a pure ferromagnetic Kondo lattice, *Nature* **579**, 51-55 (2020).

**79.** Jian Chen*, An Wang, Guiming Pang, Hang Su, Ye Chen, and **H. Q. Yuan***, Nodeless superconductivity in $\beta$-$PdBi_2$, *Phys. Rev. B* **101**, 054514 (2020).

**80.** W. Xie, P. R. Zhang, B. Shen, W. B. Jiang, G. M. Pang, T. Shang, C. Cao, M. Smidman*, and **H. Q. Yuan***, CaPtAs: a new noncentrosymmetric superconductor, *Science China: Physics, Mechanics & Astronomy* **63**, 237412 (2020).

**81.** W. Xie, Y. Wu, F. Du, A. Wang, H. Su, Y. Chen, Z. Y. Nie, S.-K. Mo, M. Smidman*, C. Cao, Y. Liu*, T. Takabatake, and **H. Q. Yuan***, Magnetotransport and electronic structure of the antiferromagnetic semimetal YbAs, *Phys. Rev. B* **101**, 085132 (2020).

**82.** Y. P. Liu, Y. J. Zhang, J. J. Dong, H. Lee, Z. X. Wei, W. L. Zhang, C. Y. Chen, **H. Q. Yuan**, Yi-feng Yang*, and J. Qi*, Hybridization dynamics revealed by ultrafast optical spectroscopy in $CeCoIn_5$, *Phys. Rev. Lett.* **124**, 057404 (2020).

**83.** Y. J. Zhang, B. Shen, F. Du, Y. Chen, J. Y. Liu, Hanoh Lee*, M. Smidman*, and **H. Q. Yuan**, Structural and magnetic properties of antiferromagnetic $Ce_2IrGa_{12}$, *Phys. Rev. B* **101**, 024421 (2020).

**84.** Peng Li, Zhongzheng Wu, Fan Wu, Chunyu Guo, Yi Liu, Haijiang Liu, Zhe Sun, Ming Shi, Fanny Rodolakis, Jessica L. McChesney, Chao Cao, **Huiqiu Yuan***, Frank Steglich*, and Yang Liu*, Large Fermi surface expansion through anisotropic mixing of conduction and f electrons in the semimetallic Kondo lattice CeBi, *Phys. Rev. B* **100**, 155110 (2019).

**85.** Xie Wu, Shen Bin, Zhang Yong-Jun, Guo Chun-Yu, Xu Jia-Cheng, Lu Xin, **Yuan Hui-Qiu***, Heavy fermion materials and physics, *Acta Physica Sinica* **68**, 177101 (2019). (Invited review).

**86.** T Shang*, A Amon, D Kasinathan, W Xie, M Bobnar, Y Chen, A Wang, M Shi, M Medarde, **H Q Yuan**, and T Shiroka*, Enhanced $T_c$ and multiband superconductivity in the fully-gapped $ReBe_{22}$ superconductor, *New J. Phys*. **21** 073034 (2019).

**87.** F. Wu, C. Y. Guo, M. Smidman, J. L. Zhang, Y. Chen, J. Singleton, and **H. Q. Yuan***, Anomalous quantum oscillations and evidence for a non-trivial Berry phase in SmSb, *npj Quantum Mater.* **4**, 20 (2019).

**88.** F. Wu, C. Y. Guo, Y. Chen, H. Su, A. Wang, M. Smidman*, and **H. Q. Yuan***, Magnetic field induced antiferromagnetic tricritical points in $Ce_2Sb$ and $Ce_2Bi$， *Phys. Rev. B* **99**, 064419 (2019).

**89.** M. Smidman, B. Shen, C. Y. Guo, L. Jiao, X. Lu, and **H Q Yuan***, Heavy fermions in high magnetic fields, *Chin. Phys. B* **28**, 017106 (2019) (invited review).

**90.** Z. Z. Wu, F. Wu, P. Li, C. Y. Guo, Y. Liu, Z. Sun, C. W. Cheng, T. C. Chiang, C. Cao, **H. Q. Yuan***, and Y. Liu*, Probing the origin of extreme magnetoresistance in Pr/Sm mono-antimonides/bismuthides, *Phys. Rev. B* **99**, 035158 (2019).

**91.** L. Jiao, M. Smidman, Y. Kohama, Z. S. Wang, D. Graf, Z. F. Weng, Y. J. Zhang, A. Matsuo, E. D. Bauer, Hanoh Lee, S. Kirchner, J. Singleton, K. Kindo, J. Wosnitza, F. Steglich, J. D. Thompson, and **H. Q. Yuan***, Enhancement of the effective mass at high magnetic fields in $CeRhIn_5$, *Phys. Rev. B* **99**, 045127 (2019).

**92.** T. Shang*, M. Smidman*, S. K. Ghosh, C. Baines, L. J. Chang, D. J. Gawryluk, J. A. T. Barker, R. P. Singh, D. McK. Paul, G. Balakrishnan, E. Pomjakushina, M. Shi, M. Medarde, A. D. Hillier, **H. Q. Yuan**, J. Quintanilla*, J. Mesot, and T. Shiroka*, Time-Reversal Symmetry Breaking in Re-Based Superconductors *Phys. Rev. Lett*. **121**, 257002 (2018).

**93.** Lin Jiao*, Sahana Rößler, Deepa Kasinathan, Priscila F. S. Rosa, Chunyu Guo, **Huiqiu Yuan,** Chao-Xing Liu, Zachary Fisk, Frank Steglich, and Steffen Wirth*, Magnetic and defect probes of the $SmB_6$ surface state. *Sci. Adv.* **4**, eaau4886 (2018).

**94.** M. Smidman*, O. Stockert, J. Arndt, G. M. Pang, L. Jiao, **H. Q. Yuan**, H. A. Vieyra, S. Kitagawa, K. Ishida, K. Fujiwara, T. C. Kobayashi, E. Schuberth, M. Tippmann, L. Steinke, S. Lausberg, A. Steppke, M. Brando, H. Pfau, U. Stockert, P. Sun, S. Friedemann, S. Wirth, C. Krellner, S. Kirchner, E.M. Nica, R. Yu, Q. Si, and F. Steglich*, Interplay between unconventional superconductivity and heavy-fermion quantum criticality: $CeCu_2Si_2$ versus $YbRh_2Si_2$, *Phil. Mag*. **98**, 2930-2963 (2018).

**95.** C. Y. Guo, F. Wu, Z. Z. Wu, M. Smidman, C. Cao, A. Bostwick, C. Jozwiak, E. Rotenberg, Y. Liu, F. Steglich, and **H. Q. Yuan***, Evidence for Weyl fermions in a canonical heavy-fermion semimetal YbPtBi. *Nat. Commun.* **9**, 4622 (2018).

**96.** X. Duan, F. Wu, J. Chen, P. R. Zhang, Y. Liu, **H. Q. Yuan,** and C. Cao*, Tunable electronic structure and topological properties of LnPn (Ln = Ce, Pr, Sm, Gd, Yb; Pn = Sb, Bi), *Commun. Phys.* **1**, 71 (2018).

**97.** C. Y. Guo*, F. Wu, M. Smidman, and **H. Q. Yuan**, Sample dependence studies of the Kondo Weyl semimetal YbPtBi, *AIP Advance* **8**, 101336 (2018).

**98.** S. S. Ma, C. Y. Guo, F. Wu, M. Smidman, Y. H. Lu*, **H. Q. Yuan***, and H. Z. Wu*, Realization of a New Topological Crystalline Insulator and Lifshitz Transition in PbTe, *Adv. Funct. Mater*. **28**, 1803188 (2018).

**99.** Y. J. Zhang, X. B. Xia, W. B. Jiang, Y. F. Wang, J. Y. Liu, **H. Q. Yuan,** and H. Lee*, Single crystal growth and anisotropic physical properties of $Sm_4Co_3Ga_{16}$, *J. Phys.: Condens. Matter* **30**, 345701(2018).

**100.** Peng Li, Zhongzheng Wu, Fan Wu, Chao Cao*, Chunyu Guo, Yi Wu, Yi Liu, Zhe Sun, Cheng-Maw Cheng, Deng-Sung Lin, Frank Steglich, **Huiqiu Yuan***, Tai-Chang Chiang, and Yang Liu*, Tunable electronic structure and surface states in rare-earth monobismuthides with partially filled *f* shell, *Phys. Rev. B* **98**, 085103 (2018).

**101.** C. Y. Guo, M. Smidman*, B. Shen, W. Wu, F. K. Lin, X. L Han, Y. Chen, F. Wu, Y. F. Wang, W. B. Jiang, X. Lu, J. P. Hu, J. L. Luo, and **H. Q. Yuan***, Evidence for triplet superconductivity near an antiferromagnetic instability in CrAs, *Phys. Rev. B* **98**, 024520 (2018).

**102.** Q. Liu, B. Shen, M. Smidman, R. Li, Z. Y. Nie, X. Y. Xiao, Y. Chen, H. Lee*, and **H. Q. Yuan***, Structural and magnetic properties of $CeZnAl_3$ single crystals, *Sci. Chin.-Physics, Mechanics & Astronomy* **61**, 077411 (2018).

**103.** G. M. Pang, Z. Y. Nie, A. Wang, D. Singh, W. Xie, W. B. Jiang, Y. Chen, R. P. Singh, M. Smidman*, and **H. Q. Yuan***, Fully gapped superconductivity in single crystals of noncentrosymmetric $Re_6Zr$ with broken time-reversal symmetry, *Phys. Rev. B* **97**, 0224506 (2018).

**104.** G. M. Pang, M. Smidman, J. L. Zhang, L. Jiao, Z. F. Weng, E. M. Nica, Y. Chen, W. B. Jiang, Y. J. Zhang, W. Xie, H. S. Jeevan, H. Lee, P. Gegenwart, F. Steglich, Q. Si, and **H. Q. Yuan***, Fully gapped *d*-wave superconductivity in $CeCu_2Si_2$, *PNAS* **115**, 5343-5347 (2018).

**105.** W. Zhang, C. Y. Guo, D. H. Xie, M. Smidman*, B. F. Hu, Y. H. Xia, Y. Liu, S. Y. Tan, W. Feng, X. G. Zhu, Y. Zhang, Q. Q. Hao, L. Z. Luo, **H. Q. Yuan**, and X. C. Lai*, Physical properties and field-induced metamagnetic transitions in $UAu_{0.8}Sb_2$, *Sci. Rep.* **8**, 7835 (2018).

**106.** X. B Xia, B. Shen, M. Smidman, Y. Chen, H. Lee, and **H. Q. Yuan***, Tuning the Heavy Fermion State of $CeFeGe_3$ by Ru Doping, *Chin. Phys. Lett.* **35**, 067602 (2018).

**107.** Q. Y. Chen, D. F. Xu, X. H. Niu, R. Peng, H. C. Xu, C. H. P. Wen, X. Liu, L. Shu, S. Y. Tan, X. C. Lai, Y. J. Zhang, H. Lee, V. N. Strocov, F. Bisti, P. Dudin, J.-X. Zhu, **H. Q. Yuan**, S. Kirchner*, and D. L. Feng*, Band Dependent Interlayer *f*-Electron Hybridization in $CeRhIn_5$, *Phys. Rev. Lett*. **120**, 066403 (2018).

**108.** G. M. Pang, M. Smidman, W. H. Jiao, L. Jiao, Z. F. Weng, W. B. Jiang, C. Y. Guo, Y. Chen, G. H. Cao, and **H. Q. Yuan***, Evidence for nodal superconductivity in a layered compound $Ta_4Pd_3Te_{16}$, *J. Phys.: Condens. Matter* **30**, 055701 (2018).

**109.** T. Shang*, G. M. Pang, C. Baines, W. B. Jiang, W. Xie, A. Wang, M. Medarde, E. Pomjakushina, M. Shi, J. Mesot, **H. Q. Yuan***, and T. Shiroka*, Nodeless superconductivity and time-reversal symmetry breaking in the noncentrosymmetric superconductor $Re_{24}Ti_5$, *Phys. Rev. B* **97**, 020502(R) (2018).

**110.** O. Ivashko, O, L. Yang, D. Destraz, E, Martino, Y. Chen, C. Y. Guo, **H. Q. Yuan**, A. Pisoni, P. Matus, S. Pyon, K. Kudo, M. Nohara, L. Forro, H. M. Ronnow, M. Hucker, M. von Zimmermann, and J. Chang*, Charge-Stripe Order and Superconductivity in $Ir_{1-x}Pt_xTe_2$, *Sci. Rep.* **7**, 17157 (2017).

**111.** F. Wu, C. Y. Guo, M. Smidman, J. L. Zhang, and **H. Q. Yuan***, Extremely large magnetoresistance and Fermi surface topology of PrSb, *Phys. Rev. B* **96,** 125122 (2017).

**112.** M. O. Ajeesh*, T. Shang, W. B. Jiang, W. Xie, R. D. dos Reis, M. Smidman, C. Geibel, **H. Q. Yuan**, M. Nicklas, Ising-type Magnetic Anisotropy in $CePd_2As_2$, *Sci. Rep.* **7**, 7338 (2017).

**113.** C. Y. Guo, C. Cao, M. Smidman, F. Wu, Y. J. Zhang, F. Steglich, F. C. Zhang, and **H. Q. Yuan***, Possible Weyl fermions in the magnetic Kondo system CeSb, *npj Quantum Mater.* **2**, 39 (2017).

**114.** Q. Y. Chen, D. F. Xu, X. H. Niu, J. Jiang, R. Peng, H. C. Xu, C. H. P. Wen, Z. F. Ding, K. Huang, L. Shu, Y. J. Zhang, H. Lee, V. N. Strocov, M. Shi, F. Bisti, T. Schmitt, Y. B. Huang, P. Dudin, X. C. Lai, Stefan Kirchner*, **H. Q. Yuan**, and D. L. Feng*, Direct observation of how the heavy fermion state develops in $CeCoIn_5$, *Phys. Rev. B* **96**, 045107 (2017).

**115.**M. Smidman, G. M. Pang, H. X. Zhou, N. Z. Wang, W. Xie, Z. F. Weng, Y. Chen, X. L. Dong, X. H. Chen, Z. X. Zhao, and **H. Q. Yuan***, Probing the superconducting gap structure of $(Li_{1-x}Fe_x)$OHFeSe, *Phys. Rev. B*. **96** 014504 (2017).

**116.**J. L. Zhang, C. Y. Guo, X. D. Zhu, L. Ma, G. L. Zheng, Y. Q. Wang, L. Pi, Y. Chen, **H. Q. Yuan**, and M. L. Tian*, Disruption of the Accidental Dirac Semimetal State in $ZrTe_5$ under Hydrostatic Pressure, *Phys. Rev. Lett.* ***118,*** 206601 (2017).

**117.**Z. F. Weng, M. Smidman*, G. M. Pang, O. Prakash, Y. Chen, Y. J. Zhang, S. Ramakrishnan, and **H. Q. Yuan***, Nodeless superconductivity and the peak effect in the quasiskutterudites $Lu_3Os_4Ge_{13}$ and $Y_3Ru_4Ge_{13}$ ,*Phys. Rev. B* **95***,* 184501 (2017).

**118.**M. Smidman, M. B. Salamon, **H. Q. Yuan***, and D. F. Agterberg*, Superconductivity and spin–orbit coupling in non-centrosymmetric materials: a review, *Rep. Prog. Phys.* **80**, 036501 (2017).

**119.**W. B. Jiang, M. Smidman*, W. Xie, J. Y. Liu, J. M. Lee, J. M. Chen, S. C. Ho, H. Ishii, K. D. Tsuei, C. Y. Guo, Y. J. Zhang, Hanoh Lee, and **H. Q. Yuan***, Antiferromagnetism with divalent Eu in $EuNi_5As_3$, *Phys. Rev. B* **95**, 024416 (2017).

**120.**L. Jiao, Z. F. Weng, M. Smidman, D. Graf, J. Singleton, E. D. Bauer, J. D. Thompson, and **H. Q. Yuan***, Magnetic field induced Fermi surface reconstruction and quantum criticality in $CeRhIn_5$, *Phil. Mag.* **10**, 1080 (2017).

**121.**C. Y. Guo, W. B. Jiang, M. Smidman, F. Han, C. D. Malliakas, B. Shen, Y. F. Wang, Y. Chen, X. Lu, M. G. Kanatzidis, and **H. Q. Yuan***, Superconductivity and multiple pressure-induced phases in $BaPt_2As_2$, *Phys. Rev. B* **94**, 184506 (2016).

**122.**Z. F. Weng, M. Smidman, L. Jiao, X. Lu*, and **H.Q. Yuan***, Multiple quantum phase transitions and superconductivity in Ce-based heavy fermions, *Rep. Prog. Phys.* **79***,* 094503 (2016).

**123.**Z. F. Weng, J. L. Zhang, M. Smidman*, T. Shang, J. Quintanilla, J. F. Annett, M. Nicklas, G. M. Pang, L. Jiao, W. B. Jiang, Y. Chen, F. Steglich, and **H. Q. Yuan***, Two-Gap Superconductivity in $LaNiGa_2$ with Nonunitary Triplet Pairing and Even Parity Gap Symmetry, *Phys. Rev. Lett.* **117**, 027001 (2016).

**124.**G. M. Pang, M. Smidman, W. B. Jiang, Y. G. Shi, J. K. Bao, Z. T. Tang, Z. F. Weng, Y. F. Wang, L. Jiao, J. L. Zhang, J. L. Luo, G. H. Cao, and **H. Q. Yuan***, Penetration depth measurements of $K_2Cr_3As_3$ and $Rb_2Cr_3As_3$, *J. Magn. Magn. Mater.* **400**, 84 (2016).

**125.**G. M. Pang, M. Smidman, L. X. Zhao, Y. F. Wang, Z. F. Weng, L. Q. Che, Y. Chen, X. Lu, G. F. Chen, and **H. Q. Yuan***, Nodeless superconductivity in noncentrosymmetric $PbTaSe_2$ single crystals, *Phys. Rev. B* **93**, 060506(R) (2016).

**126.**Y. Chen, Z. F. Weng, M. Smidman, X. Lu*, and **H. Q. Yuan***, High-pressure studies on heavy fermion systems, *Chin. Phys. B* **25**, 077401 (2016).

**127.**J. L. Zhang, G. M. Pang, L. Jiao, M. Nicklas*, Y. Chen, Z. F. Weng, M. Smidman, W. Schnelle, A. Leithe-Jasper, A. Maisuradze, C. Baines, R. Khasanov, A. Amato, F. Steglich, R. Gumeniuk, and **H. Q. Yuan***, Weak Interband-Coupling Superconductivity in the Filled Skutterudite $LaPt_4Ge_{12}$, *Phys. Rev. B* **92**, 220503(R) (2015).

**128.**W. B. Jiang, L. Yang, C. Y. Guo, Z. Hu, J. M. Lee, M. Smidman, Y. F. Wang, T. Shang, Z. W. Cheng, F. Gao, H. Ishii, K. D. Tsuei, Y. F. Liao, X. Lu, L. H. Tjeng, J. M. Chen*, and **H. Q. Yuan***, Crossover from a heavy fermion to intermediate valence state in noncentrosymmetric $Yb_2Ni_{12}(P,As)_7$, *Sci. Rep.* **5**, 17608 (2015).

**129.**J. L. Zhang, L. Jiao, G. M. Pang, and **H. Q. Yuan***, Order parameters of non-centrosymmetric superconductors, *Acta Phys. Sin.* **64**, 217403 (2015) (Invited review).

**130.**Xiaofeng Xu*, W. H. Jiao, N. Zhou, Y. Guo, Y. K. Li, Jianhui Dai, Z. Q. Lin,Y. J. Liu, Zengwei Zhu, Xin Lu, **H Q Yuan**, and Guanghan Cao, Quasi-linear magnetoresistance and the violation of Kohler's rule in the quasi-one-dimensional $Ta_4Pd_3Te_{16}$ superconductor, *J. Phys.: Condens. Matter* **27,** 335701 (2015).

**131.**Bingpo Zhang, Ping Lu, Henan Liu, Lin Jiao, Zhenyu Ye, M. Jaime, F. F. Balakirev, **Huiqiu Yuan**, Huizhen Wu*, Wei Pan*, and Yong Zhang*, Quantum Oscillations in a Two-Dimensional Electron Gas at the Rocksalt/Zincblende Interface of PbTe/CdTe (111) Heterostructures, *Nano Lett.* **15**, 4381 (2015).

**132.**C. Y. Guo, Y. Chen, M. Smidman, S. A. Chen, W. B. Jiang, H. F. Zhai, Y. F. Wang, G. H. Cao, J. M. Chen, X. Lu*, and **H. Q. Yuan***, Evidence for two distinct superconducting phases in $EuBiS_2F$ under pressure, *Phys. Rev. B* **91**, 214512 (2015).

**133.**G. M. Pang, M. Smidman, W. B. Jiang, J. K. Bao, Z. F. Weng, Y. F. Wang, L. Jiao, J. L. Zhang, G. H. Cao, and **H. Q. Yuan***, Evidence for nodal superconductivity in quasi-one-dimensional $K_2Cr_3As_3$, *Phys. Rev. B* **91**, 220502(R) (2015).

**134.**L. Jiao, Z. F. Weng, J. Z. Liu, J. L. Zhang, G. M. Pang, C. Y. Guo, F. Gao, X. Y. Zhu, H. H. Wen, and **H. Q. Yuan***, Evidence for nodeless superconductivity in $NdO_{1-x}F_xBiS_2$ ($x$ = 0.3 and 0.5) single crystals, *J. Phys.: Condens. Matter* **27**, 225701 (2015).

**135.**Y. Chen, W. B. Jiang, C. Y. Guo, F. Ronning, E. D. Bauer, Tuson Park, **H. Q. Yuan**, Z. Fisk, J. D. Thompson, and Xin Lu*, Reemergent Superconductivity and Avoided Quantum Criticality in Cd-Doped $CeIrIn_5$ under Pressure, *Phys. Rev. Lett*. **114**, 146403 (2015).

**136.**T. Shang, Y. H. Chen, F. Ronning, N. Cornell, J. D. Thompson, A. Zakhidov, M. B. Salamon, and **H. Q. Yuan***, Magnetocrystalline anisotropic effect in $GdCo_{1-x}Fe_xAsO$ (x = 0, 0.05), *Phys. Rev. B* **91**, 125106 (2015).

**137.**W. B. Jiang, C. Y. Guo, Z. F. Weng, Y. F. Wang, Y. H. Chen, Y. Chen, G. M. Pang, T. Shang, X. Lu, and **H. Q. Yuan***, Superconductivity and structural distortion in $BaPt_2As_2$, *J. Phys.: Condens. Matter* **27**, 022202 (2015) (Fast Track Communication).

**138.**L. Jiao, Y. Chen, Y. Kohama, D. Graf, E. D. Bauer, J. Singleton, J.-X. Zhu, Z. F. Weng, G. M. Pang, T. Shang, J. L. Zhang, H. Lee, T. Park, M. Jaime, J. D. Thompson, F. Steglich, Q. Si*, and **H. Q. Yuan***, Fermi surface reconstruction and multiple quantum phase transitions in the antiferromagnet $CeRhIn_5$, *PNAS* **112**, 673-678 (2015).

**139.**T. Shang, **H. Q. Yuan**, T. Park, Synthesis and pressure effects on the La doped $CaFe_2As_2$, *Progress in Superconductivity and Cryogenics* **16,** 1 (2014).

**140.** L. Jiao, J. L. Zhang, Y. Chen, Z. F. Weng, Y. M. Shao, J. Y. Feng, B. Joshi, A. Thamizhavel, S. Ramakrishnan, X. Lu and **H. Q. Yuan***, Anisotropic superconductivity in noncentrosymmetric superconductor BiPd, *Phys. Rev. B* **89**, 060507 (Rapid Communications) (2014) .

**141.** T. Shang, E. D. Bauer, R. E. Baumbach, F. Ronning, K. Gofryk, Z. F. Weng, J. L. Zhang, X. Lu, J. D. Thompson, and **H. Q. Yuan***, $CeIrIn_5$: Superconductivity on a magnetic instability, *Phys. Rev. B* **89**, 041101(R) (2014) (Editor's suggestion).

**142.** T. Shang, Y. H. Chen, W. B. Jiang, Y. Chen, L. Jiao, J. L. Zhang, Z. F. Weng, X. Lu, **H. Q. Yuan***, Tunable magnetic orders in $CePd_2As_{2-x}P_x$, *J. Phys.: Condens. Matter* **26,** 045601(2014).

**143.** J. Chen, L. Jiao, J. L. Zhang, Y. Chen, L. Yang, M. Nicklas, F. Steglich, and **H. Q. Yuan***, BCS-like superconductivity in noncentrosymmetric compounds $Nb_xRe_{1-x}$ ($0.13 \leq x \leq 0.38$), *Phys. Rev. B* **88**, 144510 (2013) (Editor's suggestion).

**144.** Lin Jiao, Zong Fa Weng, Xue Yan Tang, Lu Kai Guo, Tian Shang, Lin Yang and **H. Q.Yuan***, Yu Ying Wu and Zheng Cai Xia, Anisotropic In-Plane Resistivity and Magnetoresistance of the Detwinned BaFe2As2, *J. Korea Phys. Soc*., **63**, 453 ~455 (2013).

**145.** J. Chen, J. L. Zhang, L. Jiao, L. Yang, T. Shang, **H. Q. Yuan***, A study of London penetration depth for the non-centrosymmetric superconductor $LaNiC_2$, *J. Korea Phys. Soc*., **63**, 463 ~465 (2013).

**146.** T. Shang, L. Jiao, J. Dai, **H. Q. Yuan***, F. F. Balakirev, W. Z. Hu and N. L. Wang, Robust Magnetic Order of Ce 4f-electrons Coexisting with Superconductivity in $CeFeAsO_{1-x}F_x$, *J. Korea Phys. Soc*. **62**, 2001-2003 (2013).

**147.** J. Chen, L. Jiao, J. L. Zhang, Y. Chen, L. Yang, M. Nicklas, F. Steglich and **H. Q. Yuan*,** Evidence for two-gap superconductivity in the non-centrosymmetric compound LaNiC2, *New J. Phys.* **15,** 053005 (2013) (16pp).

**148.** T. Shang, L. Yang; Y. Chen, N. Cornell, F. Ronning,J. L. Zhang, L. Jiao, Y. H. Chen, J. Chen, A. Howard, J. Dai, J. D. Thompson, A. Zakhidov, M. B. Salamon, **H. Q. Yuan***, Tunable interplay between 3d and 4 f electrons in Co-doped iron pnictides, *Phys. Rev*. **B 87**, 075148(2013).

**149.** J. L. Zhang, Y. Chen, L. Jiao, R. Gumeniuk, N. Nicklas, Y. H. Chen, L. Yang, B. H. Fu, W. Schnelle, H. Rosner, A. Leithe-Jasper, Y. Grin, F. Steglich, **H. Q. Yuan***, Multiband superconductivity in PrPt4Ge12 single crystals, *Phys. Rev.* **B 87**, 064502(2013).

**150.** F Steglich, O Stockert, S Wirth, C Geibel, H Q Yuan, S Kirchner and Q Si, Routes to heavy-fermion superconductivity, *Journal of Physics: Conference Series* **449,** 012028(2013).

**151.** J. K. Bao, JK , H. Jiang, Y. L. Sun, W. H. Jiao, C. Y. Shen, H. J. Guo, Y. Chen, C. M. Feng, H. Q. Yuan, Z. A. Xu, G. H. Cao, R. Sasaki, T. Tanaka, K. Matsubayashi, Y. Uwatoko, Weakly ferromagnetic metallic state in heavily doped Ba1-xKxMn2As2, *Phys. Rev*. **B.85**, 144523(2012)

**152.** L. Jiao, Y. Kohama, J. L. Zhang, H. D. Wang, B. Maiorov, F. F. Balakirev, Y. Chen, L. N. Wang, T. Shang, M. H. Fang, and **H. Q. Yuan***, Upper critical field and thermally activated flux flow in single crystalline $Tl_{0.58}Rb_{0.42}Fe_{1.72}Se_2$, *Phys. Rev*. **B 85**, 064513 (2012).

**153.** J. Chen, **H. Q. Yuan***, Unconventional Pairing State in Weakly Correlated Non-centrosymmetric Superconductors, *J. Phys. Conference Series* **400**, 022010(2012).

**154.** S. G. Xu, Y. L. Sun, S. Jiang, H. Xing, L. Jiao, H. Q. Yuan, C. M. Feng, Z. A. Xu, G. H. Cao, Spin glass instead of superconductivity in $Ba(Fe_{1-x}Cr_{x/2}Ni_{x/2})_2As_2$, *J. Phys. Conference Series* **400**, 032115 (2012).

**155.** Chiheng Dong, Hangdong Wang, Zujuan Li, Jian Chen, **H. Q. Yuan**, and Minghu Fang, Revised Phase Diagram for $FeTe_{1-x}Se_x$ system with less excess Fe atoms, *Phys. Rev.* B **84**, 224506 (2011).

**156.** J.L. Zhang, L. Jiao, Y. Chen, **H. Q. Yuan***, Universal behavior of the upper critical field in iron-based superconductors, *Front. Phys*. **6**, 463 (2011).

**157.** J. L. Zhang, L. Jiao, F. F. Balakirev, X. C. Wang, C. Q. Jin, and **H. Q. Yuan***, The upper critical field and its anisotropy in LiFeAs, *Phys. Rev.* B **83**, 174506 (2011).

**158. H. Q. Yuan***, J. Chen, J. Singleton, S. Akutagawa, J. Akimitsu， Large upper critical field in non-centrosymmetric superconductor Y2C3, *J. Phys. Chem. Solids*, **72,** 577–579 (2011).

**159.** L. Jiao, J.L. Zhang, F.F. Balakirev, G.F. Chen, J.L. Luo, N.L. Wang, **H.Q. Yuan***, Upper critical field of the 122-type iron pnictide superconductors, *J. Phys. Chem. Solids*, **72,** 423–425 (2011) .

**160.** J. Chen, M. B. Salamon, S. Akutagawa, J. Akimitsu, J. Singleton, and **H. Q. Yuan***, Evidence of nodal gap structure in the non-centrosymmetric superconductor Y2C3, *Phys. Rev*. B **83**, 144529 (2011), arXiv: 1102,0622.

**161.** Minghu Fang, Hangdong Wang, Chiheng Dong, Zujuan Li, Chunmu Feng, Jian Chen, **H.Q. Yuan**, Fe-based high temperature superconductivity with *Tc*=31K bordering an insulating antiferromagnet in (Tl,K)FexSe2 Crystals, **EPL** 94, 27009 (2011).

**162.** Hang-Dong Wang, Chi-Heng Dong, Zu-Juan Li, Qian-Hui Mao, Sha-Sha Zhu, Chun-Mu Feng, **H. Q. Yuan** and Ming-Hu Fang， Superconductivity at 32K and anisotropy in $Tl_{0.58}Rb_{0.42}Fe_{1.72}Se_2$ crystals, *EPL* **93**, 47004 (2011).

**163. H Q Yuan***, L Jiao, J Singleton, F F Balakirev, G F Chen, J L Luo, N L Wang, The magnetoresistance and Hall effect in CeFeAsO: a high magnetic field study, *J. Phys. Conference series* **273**, 012110(2011).

**164.** Jinhu Yang, Mami Matsui, Masatomo Kawa, Hiroto Ohta, Chishiro Michioka, Chiheng Dong, Hangdong Wang, Huiqiu Yuan, Minghu Fang, and Kazuyoshi Yoshimura, Magnetic and Superconducting Properties in Single Crystalline $Fe_{1+\delta}Te_{1-x}Se_x$ ($x < 0.50$) System, *J. of Phys. Soc. of Japan* **79**, 074704 (2010).

**165.** Dong Chiheng, Wang HangDong, Yang Jinhu, Qian Bin, CHEN Jian, Li Zujuan, Yuan Huiqiu, Fang Minghu, Effect of annealing on superconductivity in Fe1+y(Te1−xSx) system, SCIENCE CHINA (Phys., Mech. & Astron.) **53**, 1216 (2010).

**166.** Xin Lu, W. K. Park, **H. Q. Yuan**, G. F. Chen, G. L. Luo, N. L. Wang, A. S. Sefat, M. A. McGuire, R. Jin, B. C. Sales, D. Mandrus, J. Gillett, Suchitra E. Sebastian, L. H. Greene, Point-contact spectroscopic studies on normal and superconducting AFe_2As_2-type iron-pnictide single crystals, *Superconductor Science & Technology **23**,* 054009**(** 2010).

**167.** Elbert E. M. Chia, D. Talbayev, J.-X. Zhu, **H. Q. Yuan**, T. Park, J. D. Thompson, G. F. Chen, J. L. Luo, N. L. Wang, A. J. Taylor, Competing energy scales in iron-based layered $(Ba,K)Fe_2As_2$ superconductors, *Phys. Rev. Lett*. **104**, 027003 (2010).

**168.** M. H. Fang, J. H. Yang, F. F. Balakirev, Y. Kohama, J. Singleton, B. Qian, Z. Q. Mao, H. D. Wang, **H. Q. Yuan***, Weak anisotropy of the superconducting upper critical field in Fe1.11Te0.6Se0.4 single crystals, *Phys. Rev.* **B81**,020509(R) (2010*).*

**169.** J. M. Liu, L. Z. Sun, Y. P. Chen, K. W. Zhang, **H. Q. Yuan,** J. X. Zhong, Electronic structure and bonding mechanism of La-Ir-Si: A first-principles study, ACTA PHYSICA SINICA, 58, 7826(2009).

**170.** D. Vandervelde, **H. Q. Yuan***, Y. Onuki, M. B. Salamon*, Evidence of d-wave gap in the heavy fermion superconductor in $CeIrIn_5$, *Phys. Rev. **B*** **79**, 212505. (2009).

**171. H. Q**. **Yuan***, J. Singleton, F. F. Balakirev, S. A. Baily, G. F. Chen, J. L. Luo, N. L. Wang, Nearly isotropic superconductivity in $(Ba,K)Fe_2As_2$, *Nature* **457**,565 (2009).

**172.** G. F. Chen, Z. Li, G. Li, J. Zhou, D. Wu, J. Dong, W. Z. Hu, P. Zheng, Z. J. Chen, **H. Q. Yuan**, J. Singleton, J. L. Luo, and N. L. Wang， Superconducting properties of the Fe-based layered superconductor $LaFeAsO_{0.9}F_{0.1-\delta}$. *Phys. Rev. Lett.* **101,** 057007 **(**2008).

**173.** Zhe Qu, Leonard Spinu, **H. Q. Yuan**, Vladimir Dobrosavljević, Wei Bao, Jeffrey W. Lynn, M. Nicklas, Jin Peng, Tijiang Liu, David Fobes, Etienne Flesch, and Z. Q. Mao, Unusual heavy-mass nearly ferromagnetic state with a surprisingly large Wilson ratio in the double layered ruthenates $(Sr1-xCax)_3Ru_2O_7$, *Phys. Rev.* **B78**, 180407 (R) (2008).

**174. H. Q. Yuan**, M. B. Salamon, P. Badica, K. Togano, A penetration depth study on the non-centrosymmetric superconductors $Li_2(Pd_{1-x}Pt_x)_3B$, *Physica* **B403,** 1138-1139 **(**2008).

**175.** F. Steglich, C. Geibel, F.M. Grosche, M. Loewenhaupt, O. Stockert, S. Wirth and **H.Q. Yuan**, Experimental evidence for unconventional BCS states in heavy-fermion metals, *Physica* **B 403,** 968-972 (2008).

**176. H. Q. Yuan** and F. Steglich, Unconventional superconductivity and quantum criticality in pressurized $CeCu_2(Si_{1-x}Ge_x)_2$, *Physica C* **460–462** (2007) 141–144 (invited).

**177.** M. Mochizuki, **H. Q. Yuan** and M. Ogata, Specific heat and superfluid density for possible two different superconducting states in $Na_xCoO_2{\cdot}yH_2O$, *J. Phys. Soc. Jpn.* **76**, 023702 (2007)

**178.** P. Pedrazzin, H. Wilhelm, D. Jaccard, T. Jarlbrog, M. Schmidt, M. Hanfland, L. Akselrud, **H. Q. Yuan**, U. Schwartz, Yu. Grin and F. Steglich, Unusual Metallic State in cubic FeGe beyond its quantum phase transition, cond-mat/0606493, *Phys. Rev. Lett*., **98**, 047204 (2007).

**179. H. Q. Yuan**, M. Nicklas, Z. Hossain, C. Geibel, F. Steglich, Quantum phase transition in the heavy fermion system $YbIr_2Si_2$, cond-mat/0610126**,** *Phys. Rev.* ***B*** **74**, 212403 (Brief report) (2006).

**180.** E. D. Bauer, F. Ronning, C. Capan, M. J. Graf, D. Vandervelde, **H. Q. Yuan**, M. B. Salamon, D. J. Mixson, N. O. Moreno, J. D. Thompson, R. Movshovich, M. F. Hundley, J. L. Sarrao and P. G. Pagliuso, Thermodynamic and transport investigation of $CeCoIn_{5-x}Sn_x$, *Phys. Rev.* ***B*** **73**, 245109 (2006).

**181. H. Q. Yuan**, D. F. Agterberg, N. Hayashi, P. Badica, D. Vandervelde, K. Togano, M. Sigrist, M. B. Salamon, S-wave/spin-triplet order in superconductors without inversion symmetry: $Li_2Pd_3B$ and $Li_2Pt_3B$, cond-mat/0512601, *Phys. Rev. Lett*. **97**, 017006 (2006) (PRL cover article).

**182.** G. Sparn, O. Stockert, F. M. Grosche, **H. Q. Yuan**, E. Faulhaber, C. Geibel, M. Deppe, H. S. Jeevan, M. Loewenhaupt, G. Zwicknagl, F. Steglich, Superconducting phases and quantum criticality in CeCu2Si2, *J. Phys. Chem. Solids*, **67**, 529 (2006).

**183.** Tuson Park, F. Ronning, **H. Q. Yuan**, M. B. Salamon, R. Movshovich, J. L. Sarrao, & J. D. Thompson, Hidden Magnetism and Quantum Criticality in the Heavy Fermion Superconductor $CeRhIn_5$, *Nature*, **440**, 65(2006).

**184. H. Q. Yuan***, F. M. Grosche, M. Deppe, C. Geibel, G. Sparn, F. Steglich, Non-Fermi-liquid behavior in pressurized $CeCu_2(Si_{1-x}Ge_x)_2$ system: two critical points, *Phys. Rev. Lett.*, **96**, 047008 (2006).

**185.** J. S. Kim, D. J. Mixson, D. J. Burnette, T. Jones, P. Kumar, B. Andraka, G. R. Stewart, V. Craciun, W. Acree, **H. Q. Yuan**, D. Vandervelde, and M. B. Salamon, Spurious second transition in the heavy-fermion superconductor $CePt_3Si$, *Phys. Rev. B* **71**, 212505 (2005).

**186. H. Q. Yuan***, F M Grosche, M Deppe, C Geibel, G Sparn and F Steglich, Effect of impurity scattering on the superconductivity of $CeCu_2Si_2$, *New. J. Phys*. **6,** 132 (2004).

**187. H. Q. Yuan***, W. Carrillo-Cabrera, G. Sparn, F. M. Grosche, M. Baenitz, S. Paschen, Yu. Grin and F. Steglich, Interplay of superconductivity and structural phase transition in the clathrates $Ba_6Ge_{25}$, *Phy. Rev.* **B 70**, 174512 (2004).

**188. H. Q. Yuan***, F. M. Grosche, M. Deppe, C. Geibel, G. Sparn and F. Steglich, Observation of Two Distinct Superconducting Phases in $CeCu_2Si_2$, *Science* **302**, 2104-2107 (2003).

**189.** Z. Hossain, C. Geibel, **H. Q. Yuan** and G. Sparn, Antiferromagnetic transition in $EuCu_2Ge_2$ single crystals, *J. Phys.: Condens. Matter* **15**, 3307(2003).

**190. H. Q. Yuan**, M. Deppe, G. Sparn, F. M. Grosche, C. Geibel and F. Steglich, Pressure effect on the magnetism and superconductivity in single crystals $CeCu_2(Si_{0.9}Ge_{0.1})_2$, *Acta Physica Polonica* B **34**, 533(2003).

**191. H. Q. Yuan**, F. M. Grosche, W. Carrillo-Cabrera, S. Paschen, G. Sparn, M. Baenitz, Yu. Grin and F. Steglich, High Pressure Studies on a New Clathrate: $Ba_6Ge_{25}$, *J. Phys.: Condens. Matter*. **14**, 11249(2002).

**192. H. Q. Yuan**, F. M. Grosche, W. Carrillo-Cabrera, S. Paschen, G. Sparn, M. Baenitz, Yu. Grin and F. Steglich, High pressure study on new superconducting germanium clathrates, *High Pressure Research* **22**, 147 (2002).

**193. H. Q. Yuan**, Z. Hossain, F. M. Grosche, G. Sparn, C. Geibel, F. Steglich and L. C. Gupta, Evolution of magnetic properties in the Kondo system $Ce_2Ir_3Ge_5$ under pressure, *Physica* B **312-313**, 187 (2002).

**194.** F. Steglich, A. Bentien, M. Baenitz, W. Carrillo-Cabrera, Yu. Grin, F. M. Grosche, C. Langhammer, S. Paschen, G. Sparn, V. H. Tran and **H. Q. Yuan**, Chemical physics of metallic clathrates with low carrier concentration, *Physica* B **318**, 97 (2002).

**195.** F. M. Grosche, **H. Q. Yuan**, W. Carrillo-Cabrera, S. Paschen, C. Langhammer, F. Kromer, G. Sparn, M. Baenitz, Yu. Grin and F. Steglich, Superconductivity in the filled cage compounds $Ba_6Ge_{25}$ and $Ba_4Na_2Ge_{25}$, *Phys. Rev. Lett.* **87**, 247003(2001).

**196. H. Q. Yuan**, U. Grimm, P. Repetowicz and M. Schreiber, Energy spectra, wave functions, and quantum diffusion for quasiperiodic systems, *Phys. Rev*. B **62**, 15569 (2000).

**197.** K. W. Zhang, **H. Q. Yuan** and J. X. Zhong, Electronic dynamics in an incommensurate system, *Acta Physica Sinica* **48**, 497 (1999).

**198. H. Q. Yuan**, K. W. Zhang and J. X. Zhong, Dynamics of an electron in generalized Fibonacci lattices, *Journal. Mater. Sci. Technol.* **15**, 351(1999).

**199. H. Q. Yuan**, K. W. Zhang and J. X. Zhong, Diffusion properties of wave packets in Fibonacci lattices, *Natural Science Journal of Xiangtan University* **21,** 18 (1999).

**200. H. Q. Yuan** and J. X. Zhong, Quantum diffusion in two-dimensional octagonal quaicrystals, *Acta Physica Sinica*(Overseas Edition) **7**, 196 (1998).

**201.** Y. C. Zhou, **H. Q. Yuan**, Z. P. Duan and Q. B. Yang, Failure effect of SiC particulate reinforced metal matrix composites induced by laser thermal shocking, *High Power Laser and Particle Beams* **9**, 451(1997).

**202. H. Q. Yuan**, D. Vandervelde, M. B. Salamon, P. Badica, and K. Togano, A penetration depth study on $Li_2Pd_3B$ and $Li_2Pt_3B$, cond-mat/0506771, *AIP Conference Proceedings,* Vol. 850, p633 (2006).

**203.** F.M. Grosche, D. Moroni-Klementowicz, R. Burrell, D. Fort, J. Awaka, S. Nagata, **H.Q. Yuan**, M. Deppe, C. Geibel, G. Sparn, F. Steglich, *NATO Science Series II: Mathematics, Physics and Chemistry, Vol. 156,* (Physics of Spin in Solids: Materials, Methods and Applications), *Halilov, Samed (Ed.), Springer*, 2004.

**204. H. Q. Yuan**, F. M. Grosche, W. Carrillo-Cabrera, S. Paschen, G. Sparn, M. Baenitz, Yu. Grin and F. Steglich, The Novel Superconducting Clathrates: $Ba_6Ge_{25}$ and $Na_2Ba_4Ge_{25}$, *Lectures on the highly correlated electron systems VI*, Ed. F. Mancini. (Publisher: American Institute of Physics), p233 (2002) .

**205.** J. X. Zhong and H. Q. Yuan, Statistics of energy levels and quantum dynamics in quasi-periodic tilings, *Qasicrystals: Proceedings of the 6th international conference*, Edited by S.Takeuchi and T.Fujiwara (World Scientific, Singapore, 1997), 184.

- **Book (Ph.D thesis)**

  **H. Q. Yuan**, Superconductivity in Germanium Clathrates and Heavy-Fermi Systems, published by *Shaker Verlag* (2003), ISBN 3-8322-2137-9.

# Invited talks

## Invited conference talks

*Over 100 invited conference talks, including the prestigous conferences of APS March Meeting, SCES, ICM, M2S and LT.*

1 Dec. 4-8, 2023: Superconductivity, Quantum criticality and Strange metal behavior, *The 13th International Conference on Advanced Materials and Devices* (ICAMD 2023), Jeju Island.

2 Nov. 26-28, 2023：Superconductivity, Quantum criticality and Strange metal behavior, *Fudan International Workshop on Complex Quantum Materials*, Shanghai.

3 Nov. 17-20，2023, High-$T_c$ superconductivity with zero resistance and strange metal behavior in $La_3Ni_2O_7$, *International Workshop on High-Tc Nickelate Superconductors*, Guangzhou.

4 Nov. 11-13, 2023: Strange metal behaviors and the related, *第九届重费米子论坛*, 武汉。

5 Oct. 26-30, 2023: Emergent quantum states and their manipulations in heavy fermion systems, *2023全国电子显微学学术年会*，东莞。

6 Aug. 25-27, 2023: Superconductivity, Quantum criticality and Strange metal behavior, *第13届无机非金属材料专题研讨会*，成都。

7 Aug. 7-11, 2023: Superconductivity, Quantum criticality and Strange metal behavior in correlated electron systems, CCMP 2023, Liyang.

8 Jul. 21-24. 2023: Ferromagentic quantum criticality in $CeRh_6Ge_4$, *SECUF-2023,* Huairou.

9 Jul. 2-8, 2023: Ferromagentic quantum criticality and strange metal behavior in $CeRh_6Ge_4$, *2023 International Conference on Strongly Correlated Electron Systems*, Incheon.

10 Jun. 28-Jul. 1, 2023: Magnetic Quantum Phase Transitions, 量子材料与器件前沿学术研讨会, 舟山。

11 May 11-14, 2023: Magnetic Quantum Phase Transitions, *第二十一届中国高压科学学术会议*(大会报告)， 大连。

12 Nov. 17-20, 2022: Ferromagnetic quantum criticality, *CPS Fall Meeting*, Shenzhen.

13 Nov. 5-7, 2022: Magnetic quantum criticality and strange metal behavior, *Kavli Institute Workshop on Magnetism, Superconductivity and Topology*, Dong Guan.

14 Aug. 18-24, 2022: Ferromagnetic quantum criticality in $CeRh_6Ge_4$, *29the International Conference on Low Temperature Physics*, Sapporo。

15 Jul. 15-19, 2022: Applying extreme conditions to heavy fermion systems, *SECUF-2022 Summer School and Conference*, Beijing.

16 Jul. 14, 2022: 强磁场与综合极端条件在重费米子体系中的应用，*香山会议*， 北京。

17 Oct. 23-24, 2021: Magentic quantum phase transitions, *第五届亚稳材料制备技术与科学国际研讨会*, 秦皇岛。

18 Oct. 18-21, 2021：Nodeless superconductivity and its interplay with charge order in the Kagome metals AV3Sb5 (A=K, Rb, Cs), *Workshop on correlated and topological states in Kagome metals*, UCSB.

19 Sept. 27-Oct.2, 2021: Quantum criticality and Strange metal behavior in a pure ferromagnetic Kondo lattice $CeRh_6Ge_4$, *2020 International Conference on Strongly Correlated Electron Systems,* Guarujá, Brazil.

20 Aug. 23-25, 2021: Nodeless superconductivity and its interplay with charge order in AV3Sb5, *International Workshop on Recenct Progress of Superconductivity (IWRS) 2021* (online)

21 Jun. 3-6, 2021: Magnetic Quantum Phase Transition, *第17届全国低温物理学术研讨会*(大会报告)，金华。

22 May 29-30, 2021: 综合极端条件在重费米子体系中的应用，*综合极端条件下的物质科学研究暨第二届综合极端条件实验装置用户会*（大会报告），北京。

23 May 23-27, 2021: Nodeless superconductivity and its interplay with charge order in AV3Sb5, *18$^{th}$-BFHTS*, Chongqiang.

24 Apr. 16-18, 2021: Magnetic Quantum Phase Transition, *2021 Symposium on Quantum Materials and Devices*，Chongqing.

25 Jan. 23-24, 2021: Superconductivity with broken time reversal symmetry, *高温超导基础研究前沿研讨会*, 东莞。

26 Aug. 15-22, 2020: *29th International Conference on Low Temperature Physics,* Sapporo, Japan (postponed due to COVID 19)

27 Feb. 9-14, 2020: *Quantum Materials Symposium 2020* (QMS2020) YongPyong, South Korea (cancelled due to COVID 19)

28 Nov. 28-29, 2020: Emergent states and their tuning in heavy fermions systems, *Zhejiang Workshop on Correlated Quantum Materials,* Hangzhou.

29 Oct.23-26, 2020: Heavy fermions and superconductivity with reduced symmetry, 7$^{th}$ Heavy Fermion Forum, Hefei.

30 Sept.18-19, Heavy fermions and non-centrosymmetric superconductors, 量子物质与应用

发展战略研讨会，合肥。

31 Nov. 26-27, 2019: Strange metal behavior & Quantum criticality in a pure ferromagnetic Kondo lattice, *2019 Sino-Swiss Workshop*, Dongguan.

32 Nov. 2-4, 2019: Ferromagnetic Quantum Phase Transition, *The 6th Heavy Fermion Forum*, Changsha.

33 Sept. 23-28, 2019: Topological Properties in Correlated Semimetals: Half Heusler compounds REPtBi, *2019 International Conference on Strongly Correlated Electron Systems, Okayama*, Japan.

34 Sept. 19-22, 2019: Ferromagnetic Quantum Critical Point in a Pure Kondo Lattice Compound $CeRh_6Ge_4$, *2019 Zhejiang Workshop on Correlated Matter*, Hangzhou.

35 July 28-Aug. 02, 2019: Noncentrosymmetric superconductivity, *Thermal Physics on Exotic States of Condensed Matter*" Symposium, CALCON 2019, Santa Fe, USA.

36 July 17-19, 2019: Fully gapped superconductivity with broken time reversal symmetry, *2019 Theoretical & Experimental Magnetism Meeting and UK-China Workshop on Strongly Correlated Electron Systems*, Abington, UK.

37 May 5-10, 2019：Quantum Critical Point in a Pure Ferromagnetic Kondo Lattice Compound $CeRh_6Ge_4$, *International Workshop on Quantum Ferromagnetism and Related Phenomena*, Dresden, Germany.

38 April 12-14, 2019: Fully gapped superconductivity with broken time reversal symmetry, *Nature Conference on Emergent Materials and Devices: Electronic Structure and Properties*, Chengdu.

39 Mar. 18-20, 2019: Fully gapped superconductivity with broken time reversal symmetry, *The 2nd International Workshop on Emergent Condensed-Matter Physics*, Hiroshima, Japan.

40 Mar. 3-8, 2019: Evidence for topological semimetal in half-Heusler compounds REPtBi, *APS March Meeting*, Boston, USA.

41 Jan. 19-20, 2019: Emergent Quantum States and their Manipulations in Heavy Fermion Systems, Symposium on Physics under High Magnetic Field, Wuhan。

42 Nov.24-25, 2018: Nodeless superconductivity with broken time reversal symmetry, *Symposium on Condensed Matter Physics and Inorganic Funcational Materials,* Guangzhou。

43 Nov. 9-11, 2018: Emergent Quantum States and their Manipulations in Heavy Fermion Systems, *1st Shaofeng Forum on Physics*，Xiangtan。

44 Oct. 25-28, 2018: Nodeless superconductivity with broken time reversal symmetry, *2018 Fall Young Scientists Symposium* (Institute of Physics, CAS), Liyang.

45 Oct. 19-21, 2018: Topological Kondo Semimetals, *5th Heavy Fermion Forum*，Ningbo。

46 Oct.8-10, 2018: Topological Kondo Semimetals, *2018 Hangzhou Workshop on Quantum Matter*, Hangzhou.

47 Sept. 24-25, 2018: Nodeless superconductivity with broken time reversal symmetry, *International workshop on Unconventional Superconductors: New Paradigms for New Materials*, Abingdon, UK.

48 August 19-24, 2018: Superconductivity with broken time reversal symmetry, *12th* International *Conference on Materials and Mechanisms of Superconductivity (M2S-XII)*, Beijing.

49 May 5-6,2018: Emergent Quantum States and their Manipulations in Heavy Fermion Systems，*Symposium on Quantum manipulations and Quantum Information*, Hangzhou.

50 July 18-20, 2018: Emergent Quantum States and their Manipulations in Heavy Fermion Systems，*3rd Chinese Symposium on the Physics and Chemistry of Actinides,* Baotou。

51 July 12-15, 2018: Emergent Quantum States and their Manipulations in Heavy Fermion Systems，*Chinese Materials Conference 2018*，Xiamen。

52 July 5-8, 2018: Topological Kondo Semimetals, *The 4th Conference on Condensed Matter Physics*, Shanghai.

53 June 10-14, 2018: Superconductivity lacking spatial inversion symmetry & time reversal symmetry, *CIMTEC 2018 - 8th Forum on New Materials*, Perugia, Italy.

54 May 8-9, 2018: Topological Kondo Semimetals, *7th Swiss-Sino Workshop*, Villigen PSI, Switzerland.

55 April 17-20, 2018: Topological Kondo Semimetals, *16th National Meeting on Low Temperature Physics*, Xinxiang。

56 Mar. 5-9, 2018: Topological Kondo Semimetals, *APS March Meeting*, Los Angeles,

57 Nov. 18-20, 2017: Non-centrosymmetric superconductivity, *The 4th Heavy Fermion Forum*, Mianyang.

58 July 17-21, 2017: Evidence for fully gapped d-wave superconductivity in CeCu2Si2, *SCES 2017*, Prague, Czech Republic.

59 June 25-27, 2017: Fully-gapped unconventional superconductivity, *The 3rd Conference on Condensed Matter Physics*, Shanghai.

60 Feb. 26-Mar. 1, 2017: Fully-gapped unconventional superconductivity, *International Workshop on Quantum Criticality and Novel Phases* (QCNP 2017), Berlin, Germany.

61 Nov. 5-6, 2016: Heavy fermion superconductivity and quantum criticality, *the 3rd Heavy Fermion Forum*, Beijing.

62 Sep. 1-4, 2016: Unconventional Superconductivity and quantum phase transitions, *Fall meeting of Chinese Physical Society*, Beijing.

63 Jul. 6-8, 2016: Fully-gapped unconventional superconductivity, *International Workshop on Recent Progress in Superconductivity*, PyeongChang, Korea.

64 Nov. 20-21, 2015: Fermi surface reconstruction and multiple quantum phase transitions in CeRhIn5, *International symposium on strongly correlated electron materials*, Houston.

65 Nov. 6-8, 2015: $LaNiC_2$ and $LaNiGa_2$, a class of new unconventional superconductors? *2015 Autumn Young Scientists Symposium*, Institute of Physics, CAS and Zhejiang University, Hangzhou.

66 Oct. 22-25, 2015: Interplay of superconductivity and structural transition/CDW state, *International Symposium on Frontier of Superconductivity Research (V)*, Beijing.

67 Oct.14-15, 2015: Multiple quantum phase transitions in heavy fermions, *The 4th Workshop on Frontier Science in Pulsed High Magnetic Field*, Wuhan.

68 Aug. 23-28, 2015: Evidence for nodal superconductivity in quasi-one-dimensional $K_2Cr_3As_3$, *The 11th International Conference on Materials and Mechanisms in Superconductivity (M2S-XI)*, Geveva, Switzerland.

69 July 5-10, 2015: Multiple quantum phase transitions in the antiferromagnet $CeRhIn_5$, *The 20th International conference on Magnetism*, Barcelona, Spain.

70 April 1-3, 2015: Superconductivity and quantum criticality in $CeTIn_5$ (T=Ir, Rh), *14th National Meeting on Low Temperature Physics*,Hangzhou。

71 Mar. 8-15, 2015: Interplay of superconductivity and CDW state: a pressure study, the 8th *International Conference on the Study of Matter under Extreme Conditions* (SMEC 2015), Miami, Florida.

72 Mar. 8-15, 2015: Multiple quantum phase transitions in heavy fermion metals, *the 8th International Conference on the Study of Matter under Extreme Conditions* (SMEC 2015), Miami, Florida.

73 Dec. 22-23, 2014: Emergent Phases in Correlated Materials under extreme conditions**,** *International Conference on Recent Trends in Materials*, Aruppukottai, India.

74 Dec. 16-20, 2014: Weakly correlated non-centrosymmetric superconductors, *59th DAE Solid State Physics Symposium (DAE-SSPS)*, Vellore, Tamilnadu, India.

75 Aug. 24-27, 2014: Emergent quantum states in heavy fermion metals, *1st Chinese Symposium on the Physics and Chemistry of Actinides,* Mianyang.

76 Aug.16-17, 2014：Emergent quantum states in Heavy fermion metals, *1st Heavy Fermion Forum*，Beijing.

77 June 28-29, 2014: Some new results of the heavy fermion compounds in extremely high magnetic field --Universal classifications of quantum phase transitions, *Symposium on Materials Physics and Life Science under high magnetic field*, Hefei.

78 Apr. 27-May 2, 2014: Quantum Criticality and Fermi Surface Reconstruction in $CeRhIn_5$, *The 4th International Conference on Superconductivity and Magnetism (ICSM 2014)* , Antalya, Turkey.

79 Oct. 20-24, 2013: Superconductivity in weakly correlated non-centrosymmetric superconductors, *The 13th national conference on low temperature physics,* Zunyi.

80 Oct. 13-17, 2013: Field induced localized-itinerant transition in CeRhIn5, *Sino-German Workshop on Kondo and Mott Physics in Correlated Matter,* Hangzhou.

81 Oct.10-12, 2013: New aspects of quantum criticality in CeTIn5 (T=Rh, Ir), *First Russia-China Joint Workshop on Condensed Matter Physics,* Beijing.

82 Aug. 5-9, 2013: Observation of field-induced Fermi-surface reconstruction in $CeRhIn_5$, *2013 International conference on strongly correlated electron systems (SCES 2013),* Tokyo (contributed).

83 July 14-17, 2013: Electron localization/delocalization transition in heavy fermions, *Summer workshop on Condensed Matter Physics*, Zhoushan.

84 May 6-10, 2013: Weakly-correlated non-centrosymmetric superconductors, *International workshop on unconventional superconductivity: Its varieties and possible uses*, Shanghai.

85 Apr. 22-25, 2013: Field-induced quantum phase transitions and dramatic changes of Fermi-surface in $CeRhIn_5$, *2013 Hangzhou Workshop on Quantum Matter*, Hangzhou.

86 Jan. 23-26, 2013: Tunable interplay between 3d- and 4f-electrons in iron pnictides, *The 3rd US/China on novel superconductors*, Hongkong.

87 Jul. 5-7, 2012: Dramatic changes of Fermi surface induced by a magnetic field inside the antiferromagnetic phase of $CeRhIn_5$, *International Conference on Heavy Electrons and Novel Quantum Phases*, Gyeongju, Korea.

88 Jul. 3-6, 2012: Iron based superconductors: Physical properties in high magnetic fields, *The 10th International conference on Research in High Magnetic Fields*, Wuhan.

89 Apr.16-17, 2012: What role does the spin-orbit coupling play in non-centrosymmetric superconductors? *HK University-Zhejiang Uni mini-workshop*, Hongkong.

90 Apr. 1-5, 2012: Quantum Phase Transitions in $CeTIn_5$ (T=Ir, Rh), *Sino-German Bilateral Workshop on Emergent Phases on Correlated and Topological Matter*, Hangzhou.

91 Jan. 7-9, 2012: Field-induced Fermi surface reconstruction near the magnetic quantum critical point in $CeRhIn_5$, *Workshop on Heavy Fermion Physics: Perspective and Outlook*, IOP, CAS.

92 Nov. 1-3, 2011: Recent Progresses on Heavy Fermion Superconductivity, *11th Chinese Conference on Superconductivity*, Hangzhou.

93 Aug. 31, 2011: Extreme Conditions and Heavy Fermion Research, *Xiangshan Science Meeting*，Beijing。

94 Aug. 10-17, 2011: Nodal gap structure in weakly-correlated non-centrosymmetric superconductors, *26th International Conference on Low Temperature Physics*, Beijing.

95 June 12-17, 2011: Field-induced quantum criticality in $CeRhIn_5$, - a study of specific heat and dHvA effect in a pulsed magnetic field, *The 66th Calorimetry Conference*, Hawaii.

96 May 22, 2011: Superconductivity lacking inversion symmetry, Topological Physics Symposium, Putuo.

97 Apr. 22, 2011: Field-induced quantum criticality in heavy fermion $CeRhIn_5$, *The 2nd International Workshop on Frontier Science in Pulsed High Magnetic Fields*, Wuhan.

98 Apr. 12, 2011: Field-induced quantum criticality in $CeRhIn_5$, *Hangzhou International workshop on Quantum Matter,* Hangzhou.

99 Sep. 2010: Quantum Criticality and Fermi Surface in $CeRhIn_5$, *International conference on heavy electrons*, Tokyo.

100 May 2010: Evidence for the admixture of spin singlet and spin-triplet pairing states in non-centrosymmetric superconductors, *The 9th international conference on spectroscopies in novel superconductors*, Shanghai.

101 Jun. 2010: The magnetic (structural) transition in iron pnictides, *The 8th BFHTs*, Jiuzhaigou.

102 Dec. 2009: Unusual high field properties of the iron pnictides, *Symposium on iron-based superconductors*, Beijing.

103 Oct. 2009: Superconductivity in heavy fermions & iron pnictides (chalcogenides): a study

under extreme conditions, *2009 Hangzhou workshop on quantum matter*, Hangzhou.

104 Sep. 2009: Quantum Criticality in Heavy Fermion Metals, *The 2009 fall meeting of Chinese Physics Society*, Shanghai.

105 Aug. 2009, Anomalous physical properties in iron-based superconductors, *The 6th Joint Meeting of Chinese Physicists Worldwide*, Lanzhou.

106 Jul. 2009: Anomalous physical properties in iron-based superconductors, *The 12$^{th}$ National conference on low temperature physics*, Qingdao.

107 Jul. 2009: Anomalous physical properties in iron-based superconductors, *The 5th Singapore-China Joint Symposium on Research Frontiers in Physics,* Singapore.

108 Jul 2009: Physical properties of the iron-based superconductors in very high magnetic fields, *The 8th International Conference on Condensed Matters Theory and Computational Materials Science*, Xiangtan.

109 May 2009: Superconductivity & Quantum Criticality in Heavy Fermion Metals, *Beijing Forum on high Tc superconductivity*, Beijing.

110 Mar. 2009: Physical properties of the iron-based superconductors in very high magnetic fields, *WHMFC' 09 International Workshop on "Frontier Science in Pulsed High Magnetic Field"*, Wuhan.

111 Oct. 2008: Unconventional superconductivity---From heavy fermions to iron-based high-$T_c$ superconductors, *Cross-strait conference on statistical & theoretical condensed matter physics*, Jinhua, China.

112 Aug. 2008: Mini-workshop on the Fe-based superconductors, Hangzhou, Zhejiang.

113 May 2008: International workshop on non-centrosymmetric superconductors, ETH Zurich.

114 Dec. 2007: Superconductivity on the edge of valence instability, *2nd International Workshop on "Materials Science and Nano-Engineering"*, Awajii Island, Japan

115 Sep. 2007: Superconductivity on the edge of valence instability, *The 2007 Gordon Conference on Superconductivity*, Les Diablerets, Switzerland.

116 Sep. 2007, Superconductivity and quantum criticality in heavy fermion systems, *Chinese Physical Society Annual Meeting*, Nanjing, China.

117 May 2007, Novel pairing state in non-centrosymmetric superconductors: $Li_2(Pd_{1-x}Pt_x)_3B$, *International Conference on Strongly Correlated Electron System* (2007), Houston, US (selected contributed talk).

118 Feb. 2007: The winter workshop of APCTP (Asia Pacific Center for Theoretical Physics) on the strongly correlated electron system (declined).

119 Jul, 2006: *Unconventional superconductivity and quantum phase transitions in Ce-based heavy fermion metals*, The 8th International Conference on Materials and Mechanisms of Superconductivity (M2S-HTSC VIII), Dresden.

120 Nov. 2005: *"S-triplet" order in superconductors without inversion symmetry: $Li_2Pd_3B$ and $Li_2Pt_3B$*, the 2005 ICAM annual conference, Santa Fe.

121 Nov. 2004, *Quantum Criticality and Superconductivity in Heavy Fermion Systems*, the 2004 ICAM annual conference, Santa Fe.

**Invited Seminars/Colloquia**

122 Dec.10, 2023: 极端条件在关联电子材料中的应用，中南大学。

123 Oct.13, 2023：量子相变与非常规超导， 中国科技大学上海研究院。

124 May 26，2023：Quantum Criticality and Strange metal behavior, 九院材料所。

125 May 25, 2023: 磁性量子相变， 四川大学。

126 Apr. 11, 2023: 量子相变， 中南大学。

127 Mar. 12, 2023: Quantum Criticality and Strange metal behavior, 华中科技大学。

128 Oct.19，2022：*重费米子超导与量子相变*，上海交通大学。

129 Jun. 18, 2022: *超导与量子相变*，西安电子科大。

130 April. 20, 2022: *Ferromagnetic quantum criticality*, Peking University.

131 April 12, 2022: *非常规超导与量子相变,* 北京科技大学。

132 Mar. 11, 2022: *Ferromagnetic quantum criticality*, Paul Scherrer Institute, Switzerland.

133 Dec. 14, 2021: *Magnetic quantum phase transitions*, Westlake University.

134 Oct. 15, 2021: *重费米子超导与量子相变*， 东莞散裂中子源。

135 Jun. 18, 2021: *超导与量子相变*，杭州师范大学。

136 Jun. 16, 2021: *超导与量子相变*，中国计量大学。

137 May 6, 2021: *Magnetic Phase Transition*, 理学大讲堂， 南京理工大学。

138 Apr. 12, 2021: *Heavy fermion superconductivity and quantum criticality*, Lecture, Jilin University.

139 Nov. 17, 2020: *奇妙的电子相互作用*, Physics Colloquium, Central South University.

140 Nov. 16, 2020: *奇妙的电子相互作用,* Physics Colloquium, Hubei Normal University.

141 Nov. 27, 2019: *Emergent Quantum States in Strongly Correlated Electron Systems*，Condensed Matter Physics Seminar, Southern University of Science and Technology。

142 Oct.4, 2019: *Noncentrosymmetric superconductivity*, Condensed Matter Physics Seminar, Nanyang Technological University.

143 Aug.23, 2019: *Noncentrosymmetric superconductivity*, Condensed Matter Physics Seminar, UCLA.

144 Aug.21, 2019: *Noncentrosymmetric superconductivity*, Condensed Matter Physics Seminar, UC Irvine.

145 June 12, 2019: *Exotic quantum state and its manipulation in correlated materials,* Anhui University.

146 June 12, 2019: *Quantum phase transition and superconductivity in heavy fermion systems,* High Magnetic Field Laboratory, CAS.

147 Nov.23, 2018, *Emergent Quantum States in Strongly Correlated Electron Systems,* South China Normal University。

148 Nov.15, 2018, *Correlated Electron Systems*，Hangzhou Dianzi University。

149 Nov.11, 2018, *Correlated Electron Systems*，Hunan University of Humanities, Science and Technology。

150 Nov. 9, 2018, *Correlated Electron Systems*，Hunan Normal University。

151 Sept. 28, 2018, *Topological Kondo Semimetals*, Quantum Matter Seminar, Cambridge University.

152 April 4, 2018, *Application of Extreme Conditions on Strongly Correlated Electron System, Suzhou University*.

153 Mar. 13, 2018, *Topological Kondo Semimetals*, Condensed Matter Seminar, LANL.

154 Dec. 2, 2016: *Applications of extreme conditions in heavy fermions: unconventional superconductivity and quantum phase transitions*, Jilin University.

155 June 3, 2016: *Extreme conditions and correlated electrons,* Hunan Normal University.

156 May 23, 2016: *Extreme conditions and correlated electrons,* Southeast University.

157 Nov. 17, 2015, *Interplay of superconductivity and structural transition/CDW state,* Condensed Matter Seminar, University of Wisconsin-Milwaukee.

158 Sept. 24, 2015, *Apply extreme conditions to heavy fermions*, China Academy of Engineering Physics.

159 Sept. 19, 2015: *Extreme Conditions and Its Applications in Correlated Materials,* Seminar, Zhejiang Science and Technology University.

160 July 27, 2015: *Multiple Quantum Phase Transitions in Heavy Fermion Metals* TRR 80 Seminar, Augsburg Uni. , Germany。

161 June 9, 2015: *Quantum Criticality & Superconductivity in Heavy Fermion Metals, Seminar,* Institute of Physics, CAS.

162 May 4, 2015: *Extreme Conditions and Electron Correlations*, Seminar, Central South University.

163 Dec. 19, 2014: *Emergent Phases of Correlated Materials under Extreme Conditions*, Bharathidasan University, India.

164 Dec. 2013: *Applications of extreme conditions to correlated materials*, Shanghai Institute of microsystems and information technology, Chinese Academy of Sciences.

165 Dec. 2013: Applications of extreme conditions in correlated matter, Physics Colloquium, Ningbo University.

166 June 2013: Applications of extreme conditions in correlated matter, Physics Colloquium, Hunan University.

167 June 2013: Applications of extreme conditions in correlated matter, Physics Colloquium, Xiangtan University.

168 Sept. 2011: Superconductivity, Magnetism and Quantum Criticality in Correlated Materials, Physics Colloquium, POSTECH, South Korea.

169 Sept. 2011: Superconductivity, Magnetism and Quantum Criticality in Correlated Materials, Condensed Matter Seminar, SKKU, South Korea.

170 May, 2011: Heavy Fermion superconductivity and quantum criticality, Lecture series, National Laboratory for superconductivity, IOP, Beijing.

171 Dec. 2010: Seminar, Sun Yat-sen University.

172 Nov. 2010: Seminar, Huazhong University of Science and Technology.

173 May 2010: Physics Colloquium, Shanghai Jiaotong University.

174 Dec. 2009: Condensed Matter Physics Seminar, University of Science and Technology of China.

175 Dec. 2009: Seminar, Hefei high magnetic field lab, CAS.

176 Dec. 2009: Engineering forum, Beijing University of Technology.

177 Nov. 2009: Physics Colloquium, Zhejiang normal University.

178 Jun 2009: Physics Colloquium, Zhejiang University.

179 Apr. 2009: Physics Colloquium, Wuhan University.

180 Apr. 2008: Condensed Matter seminar, The Penn State University.

181 Dec. 2007: Aoyama-Gakuin University.

182 Dec. 2007: CCSE, Japan Atomic Energy Agency

183 Sep. 2007: Department of Physics, Zhejiang University.

184 Feb. 2007: Oak Ridge National Laboratory.

185 Feb. 2007: Condensed Matter Seminar, Michigan State University.

186 Jan. 2007: Condensed Matter Seminar, University of Maryland (College Park).

187 Jan. 2007: Physics colloquium, Rice University.

188 Jan. 2007: Argonne National Laboratory.

189 Sep. 2006: Group seminar (Laura H. Greene), UIUC.

190 Aug. 2006: Physics colloquium, Max-Planck Institute for Chemical Physics of Solids, Dresden.

191 Jul. 2006: Physics colloquium, Xiangtan University.

192 July 2005: Group Seminar (MST-10), Los Alamos National Laboratory.

193 Nov. 2003: Physics colloquium, Xiangtan University.

194 Nov. 2003: Physics colloquium, Hunan Normal University.

195 Oct. 2003: Institute of Applied Physics and Didactics, TU-Dresden.

196 June 2003: Low Temperature Physics Group, Cavendish Laboratory, Cambridge.

197 June 2003: Condensed Matter Physics Group, University of Bristol.

198 June 2003: Low Temperature Physics Group, Royal Holloway, University of London.

199 June 2003: Condensed Matter Physics Group, University of St. Andrews.

200 Dec. 2002: Group meeting of Solid State Physics Group, MPI-CPFS.

201 Nov. 2001: Group meeting of Solid State Physics Group, MPI-CPFS.