



Chuan-Feng Li

EDUCATION BACKGROUND

- 1994-1999 **PhD in Physics, University of Science and Technology of China**
 Advisor: Guang-Can Guo, Department of Physics, Quantum Optics and Quantum Information
- 1990-1994 **B.S. in Physics, University of Science and Technology of China**
 Advisor: Guang-Can Guo, Department of Physics, Quantum Optics and Quantum Information
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EXPERIENCE

- 2012- Professor, Key Lab of Quantum Information, University of Science and Technology of China
- 2005-2012 Associate Professor, Key Lab of Quantum Information, University of Science and Technology of China
- 1999-2005 Assistant Professor, Key Lab of Quantum Information, University of Science and Technology of China
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AWARDS

- Yangtze river scholars Distinguished Professor, from the Chinese Ministry of Education, 2014
- China National Funds for Distinguished Young Scientists, 2013
- China Youth Science and Technology Awards, 2013
- Young Faculty Achievement Award of USTC Alumni Foundation, 2013
- China Wang Daheng Optical Award, 2012
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RESEARCH INTERESTS

- 1) Quantum entanglement network (linear optics, quantum dot, rare-earth doped crystal, trapped ion)
 - 2) Exploring quantum physics with quantum information technology
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IMPORTANT WORK

1. Kai Sun, Jin-Shi Xu*, Xiang-Jun Ye, Yu-Chun Wu, Jing-Ling Chen*, Chuan-Feng Li*, and Guang-Can Guo, Experimental Demonstration of the Einstein-Podolsky-Rosen Steering Game Based on the All-Versus-Nothing Proof, **Physical Review Letters** 113, 140402 (2014).
2. Geng Chen, Yang Zou, Xiao-Ye Xu, Jian-Shun Tang, Yu-Long Li, Jin-Shi Xu, Yong-Jian Han, **Chuan-Feng Li***, Guang-Can Guo, Hai-Qiao Ni, Ying Yu, Mi-Feng Li, Guo-Wei Zha, Zhi-Chuan Niu*, Yaron Kedem, Experimental Test of the State Estimation-Reversal Tradeoff Relation in General Quantum Measurements, **Physical Review X** 4, 021043 (2014).
3. Xiao-Ye Xu, Yong-Jian Han*, Kai Sun, Jin-Shi Xu, Jian-Shun Tang, **Chuan-Feng Li*** and Guang-Can Guo, Quantum simulation of dynamics of Landau-Zener model supporting Kibble-Zurek mechanism, **Physical Review Letters** 112, 035701 (2014).
4. Jin-Shi Xu, Man-Hong Yung, Xiao-Ye Xu, Sergio Boixo, Zheng-Wei Zhou, **Chuan-Feng Li***, Alan Aspuru-Guzik*, and Guang-Can Guo, Demon-like Algorithmic Quantum Cooling and its Realization with Quantum Optics, **Nature Photonics** 8, 113 (2014).
5. Jin-Shi Xu, Kai Sun, **Chuan-Feng Li***, Xiao-Ye Xu, Guang-Can Guo, Erika Andersson, Rosario Lo Franco* & Giuseppe Compagno, Experimental recovery of quantum correlations in absence of system-environment back-action, **Nature Communications** 4, 2851 (2013).
6. Xiao-Ye Xu, Yaron Kedem, Kai Sun, Lev Vaidman, **Chuan-Feng Li***, and Guang-Can Guo, Phase estimation with weak measurement using a white light source, **Physical Review Letters** 111, 033604 (2013).
7. Jian-Shun Tang, Yu-Long Li, Xiao-Ye Xu, Guo-Yong Xiang, **Chuan-Feng Li***, and Guang-Can Guo,

- Realization of quantum Wheeler's delayed-choice experiment, **Nature Photonics** 6, 600 (2012).
8. Elsi-Mari Laine, Heinz-Peter Breuer, Jyrki Piilo*, **Chuan-Feng Li***, and Guang-Can Guo, Nonlocal Memory Effects in the Dynamics of Open Quantum Systems, **Physical Review Letters** 108, 210402 (2012).
 9. Zong-Quan Zhou, Wei-Bin Lin, Ming Yang, **Chuan-Feng Li***, and Guang-Can Guo, Realization of Reliable Solid-State Quantum Memory for Photonic Polarization Qubit, **Physical Review Letters** 108, 190505 (2012).
 10. Yun-Feng Huang, Bi-Heng Liu, Liang Peng, Yu-Hu Li, Li Li, **Chuan-Feng Li*** and Guang-Can Guo, Experimental Generation of an Eight-photon Greenberger-Horne-Zeilinger State, **Nature Communications** 2, 546 (2011).
 11. **Chuan-Feng Li***, Jin-Shi Xu, Xiao-Ye Xu, Ke Li, Guang-Can Guo, Experimental investigation of the entanglement assisted entropic uncertainty principle, **Nature Physics** 7, 752-756 (2011).
 12. Bi-Heng Liu, Li Li, Yun-Feng Huang, **Chuan-Feng Li***, Guang-Can Guo, Elsi-Mari Laine, Heinz-Peter Breuer and Jyrki Piilo*, Experimental control of the transition from Markovian to non-Markovian dynamics of open quantum systems, **Nature Physics** 7, 931 (2011).
 13. Jin-Shi Xu, **Chuan-Feng Li***, Ming Gong, Xu-Bo Zou*, Cheng-Hao Shi, Geng Chen, and Guang-Can Guo, Experimental demonstration of photonic entanglement collapse and revival, **Physical Review Letters** 104, 100502 (2010).
 14. Jin-Shi Xu, Xiao-Ye Xu, **Chuan-Feng Li***, Cheng-Jie Zhang, Xu-Bo Zou*, Guang-Can Guo, Experimental investigation of classical and quantum correlations under decoherence, **Nature Communications** 1, 7 (2010).
 15. Jin-Shi Xu, **Chuan-Feng Li***, Xiao-Ye Xu, Cheng-Hao Shi, Xu-Bo Zou* and Guang-Can Guo, Experimental characterization of entanglement dynamics in noisy channels, **Physical Review Letters** 103, 240502 (2009).
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MOST IMPORTANT RESEARCH RESULTS

1. Observing the wave-particle superposition state of single photon
2. Demonstrating Maxwell's demon like quantum algorithm cooling
3. Demonstrating the transition from Markovian to non-Markovian dynamics of open quantum systems
4. Investigating the the entanglement assisted entropic uncertainty principle
5. Generating eight-photon GHZ state
6. Investigating the dynamics of quantum correlation and entanglement
7. High-fidelity solid state memory of photon polarization