

Wenlin Li

PERSONAL INFORMATION

EDUCATION

- **Dalian University of Technology** Dalian, China
Ph.D. in Theoretical Physics; Ph.D. Advisor: Prof. Heshan Song 9. 2013 – 6. 2018
- **Dalian University of Technology** Dalian, China
Bachelor of Science in Physics 9. 2009 – 6. 2013

RESEARCH AREAS AND PUBLICATIONS:

- **Quantum synchronization theory**
We have devoted to universal theories for quantifying quantum synchronization and to realization of synchronization.
 - **Wenlin Li**, W. Z. Zhang, C. Li, and H. S. Song, Properties and relative measure for quantifying quantum synchronization, *Phys. Rev. E* **96**, 012211 (2017).
 - **Wenlin Li**, C. Li, and H. S. Song, Quantum synchronization and quantum state sharing in an irregular complex network, *Phys. Rev. E* **95**, 022204 (2017).
 - **Wenlin Li**, C. Li, and H. S. Song, Quantum synchronization in optomechanical system based on Lyapunov control, *Phys. Rev. E* **93**, 062221 (2016).
 - **Wenlin Li**, C. Li, and H. S. Song, Criterion of quantum synchronization and controllable quantum synchronization based on an optomechanical system. *J. Phys. B* **48**, 035503 (2015).
 - **Wenlin Li**, F. Y. Zhang, C. Li, and H. S. Song, Quantum synchronization in a star-type cavity QED network, *Commun. Nonlinear Sci. Numer. Simulat.* **42**, 121-131 (2017).
- **Parity-time-symmetry theory**
We have focused on application and the complete description of \mathcal{PT} -symmetric quantum system.
 - **Wenlin Li**, C. Li, and H. S. Song, Theoretical realization and application of parity-time-symmetric oscillators in a quantum regime, *Phys. Rev. A* **95**, 023827 (2017).
 - **Wenlin Li**, Y. Jiang, C. Li, and H. S. Song, Parity-time-symmetry enhanced optomechanically-induced-transparency, *Sci. Rep.* **6**, 31095 (2016).
 - **Wenlin Li**, C. Li, and H. S. Song, Asymmetrical interaction induced real spectra and exceptional points in a non-Hermitian Hamiltonian, *arXiv:1711.06982*.
- **Quantum control and quantum information processing**
We have studied on quantum information processing by using designed control field or nonlinear effect.
 - **Wenlin Li**, F. Zhang, Y. Jiang, C. Li, and H. S. Song, Flexible and experimentally feasible shortcut to quantum Zeno dynamic passage, *Phys. Lett. A* **380**, 3595-3600 (2016).
 - **Wenlin Li**, C. Li, and H. S. Song, Quantum parameter identification for a chaotic atom ensemble system, *Phys. Lett. A* **380**, 672-677 (2016).
 - **Wenlin Li**, C. Li, and H. S. Song, Realization of quantum information processing in quantum star network constituted by superconducting hybrid systems, *Physica A* **463**, 427-436 (2016).
 - W. Z. Zhang, **Wenlin Li**, J. Cheng, and Q. X. Mu, Bistable cooling in optomechanical system, *arXiv:1710.11308*.