

CHEN-YEN LAI

Publication List

Publication List ([My papers on arXiv](#))

- **Chen-Yen Lai**, Shan-Wen Tsai, “*Exotic Density Wave Order of Dipolar Fermions on Square Lattice of Bilayer System.*” In preparation.
- **Chen-Yen Lai**, Wen-Min Huang, David K. Campbell, and Shan-Wen Tsai, “ *d_{xy} -density wave in fermion-fermion cold atom mixtures.*” Submitted to Phys. Rev. Lett. ([arXiv:1307.2242](#))
- Wen-Min Huang, **Chen-Yen Lai**, Chuntai Shi, Shan-Wen Tsai, “*Unconventional superconducting phases on a two-dimensional extended Hubbard model.*” *Phys. Rev. B* **88**, 054504 (2013).
- **Chen-Yen Lai**, Chuntai Shi, Shan-Wen Tsai, “*Correlated phases of population imbalanced Fermi-Fermi mixtures on an optical lattice.*” *Phys. Rev. B* **87**, 075134 (2013).
- Pochung Chen, **Chen-Yen Lai**, Min-Fong Yang, “*Field Induced Spin Supersolidity in Frustrated Spin-1/2 Spin-Dimer Models.*” *Phys. Rev. B* **81**, 020409(R) (2010).
- Pochung Chen, **Chen-Yen Lai**, and Min-Fang Yang, “*Numerical Study of Spin-1/2 XXZ Model on Square Lattice from Tensor Product States.*” *J. Stat. Mech.: Theory Exp.* (2009) P10001.
- Chi-Ming Chang, Wei-Chao Shen, **Chen-Yen Lai**, Pochung Chen, and Daw-Wei Wang, “*Spontaneous inter-wire coherence of polar molecules in double-wire systems.*” *Phys. Rev. A* **79**, 053630 (2009).
- **Cheng-Yan Lai**, Jo-Tzu Hung, Chung-Yu Mou and Pochung Chen, “*Induced decoherence and entanglement by interacting quantum spin baths.*” *Phys. Rev. B* **77**, 205419(2008).

Conference Paper

- Pochung Chen, **Cheng-Yan Lai**, Jo-Tzu Hung, and Chung-Yu Mou, *Quantum Spin Baths Induced Transition of Decoherence and Entanglement*, AIP Conf. Proc. 1074, 72-78 (2008) doi: [10.1063/1.3037141](#), [2nd International Workshop on Solid-State Quantum Computing/Mini-School on Quantum Information Science, Taipei, TAIWAN, JUN 23-27, 2008].

Conference Presentations (Presenter)

- **Chen-Yen Lai**, Shan-Wen Tsai, “*Dipolar Fermions in Quasi-Two-Dimensional Square Lattice.*” APS March Meeting 2013.
- **Chen-Yen Lai**, Chuntai Shi, Shan-Wen Tsai, “*Instabilities of Spin-polarized Fermions in Optical Lattice.*” DAMOP 43th Annual Meeting 2012.
- **Chen-Yen Lai**, Chuntai Shi, Shan-Wen Tsai, “*Pairing and Density-Wave Phases of Population Imbalanced Fermi-Fermi Mixture on Optical Lattice.*” APS March Meeting 2012.
- **Cheng-Yan Lai** and Pochung Chen, “*Single Spin Decoherence by General Spin Chains.*” APS March Meeting 2007.

Conference Presentations (Co-author)

- Pochung Chen, Min-Fong Yang, and **Chen-Yen Lai**, “*Field-induced spin supersolidity in frustrated $S = 1/2$ spin-dimer models.*” [International workshop on DRMG and other advances in NRG](#), IOP, Beijing.
- Pochung Chen, Min-Fong Yang, and **Chen-Yen Lai**, “*Numerical study of spin-1/2 XXZ model on square lattice from tensor product states.*” Workshop on Quantum Condensation, APCTP Korea.

Other Publication

- Chen-Yen Lai, **Spin Qubit Decoherence by Spin Bath – a Time-Dependent DMRG Study**, [Master Thesis](#), July 2007.