

# Chang-Pu Sun's Curriculum Vitae

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## Personal Information

*Name:* Chang-Pu Sun  
*Citizenship:* P. R. China  
*Gender:* Male  
*Birth Date:* July. 17,1962  
*Birth Place:* Xinjin County, Liaoning Province, P. R. China  
*Health:* Excellent  
*Final Degree:* Ph.D., Nankai University, July, 1992.

## Contact Information

*Work Address:* Beijing Computational Science Research Center, Building 9, East Zone, ZPark II, No.10 Xibeiwang East Road, Hai-Dian District, Beijing 100193, China  
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[suncp@g scaep.ac.cn](mailto:suncp@g scaep.ac.cn)  
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## Education

- Sep. 1980 — Jul. 1984: **B.S. in Physics**  
Department of Physics, Northeast Normal University.
- Sep. 1984 — Jul. 1987: **M.S. in Physics**  
Department of Physics, Northeast Normal University Supervisor: Professor Z. Y. Wu (Jilin University).
- Sep. 1989 — Jun. 1992: **Ph.D. in Physics**  
Nankai Institute of Mathematics Supervisors: Professor C.N. Yang (SUNY, USA) and Professor M.L. Ge (Nankai).

## Employment and Occupations

- Jul. 1987 — Jun. 1988: Research Assistant, Northeast Normal University
- Jul. 1990 — Nov. 1992: Associate Professor, Northeast Normal University
- Dec. 1992 — Dec. 1996: Professor, Northeast Normal University
- Dec. 1996 — Jul. 2012: Professor, Institute of Theoretical Physics, The Chinese Academy of Science
- Dec. 2002 — Dec. 2008: Chair Professor of Physics, Nankai University
- Nov. 2009 — Present: Academician of Chinese Academy of Sciences
- Nov. 2011 — Present: Fellow of TWAS, The Academy of Sciences for the Developing world
- Jul. 2012 — Present: Chair Professor, Beijing Computational Science Research Center
- May 2015— Present: Dean, Graduate School of China Academy of Engineering Physics

## Extended Research Visits

- Jul. 1992 — Aug. 1993: The State University of New York, CEEC Fellow
- Aug. 1994 — Dec. 1994: Drexel University and The State University of New York at Stony Brook, Visiting Professor
- Aug. 1995 — Sept. 1995: Advanced Research Institute Hitachi Co., Japan Senior, Visiting Fellow
- May. 1997 — Jul. 1997: The Chinese University of Hong Kong, C. N. Yang Fellow
- Mar. 1998 — Jul. 1998: The Chinese University of Hong Kong, Visiting Professor
- Mar. 1999 — Jul. 1999: The Chinese University of Hong Kong, Visiting Professor

- Oct. 2000 — Dec. 2000: ESI The Erwin Schrodinger International Institute of Mathematical Physics, Vienna, Austria, Visiting Professor
- Sept. 2001 — Dec. 2001: School of Physics, Georgia Institute of Technology, Visiting Professor
- Sept. 2004 — Nov. 2004: Frontier Research System, RIKEN, Visiting Professor
- Sept. 2005 — Nov. 2005: Frontier Research System, RIKEN, Visiting Professor
- Apr. 2006 — May 2006: The Chinese University of Hong Kong, Visiting Professor
- Sept. 2007 — Nov. 2007: Frontier Research System, RIKEN, Visiting Professor
- Dec. 2008 — Jan. 2009: Advanced Science Institute , RIKEN, Distinguished Visiting Professor
- Jul. 2009 — Sept. 2009: Advanced Science Institute , RIKEN, Distinguished Visiting Professor
- Sept. 2010 — Oct. 2010: Die Universit ät Basel, Visiting Professor
- May. 2014 — May. 2014: Institute for Advanced Study, Visiting Professor
- Jul. 2015 — Aug. 2015: Max Planck Institute for Mathematics in the Sciences, Visiting Professor
- May. 2016: Texas A&M University, Visiting Professor
- Jan. 2017 — Feb. 2017: Center for Emergent Matter Science, RIKEN, Visiting Professor

#### **Current Fields of Interest**

- I am interested in fundamental aspects of quantum mechanics, e.g., quantum measurement problems, open quantum system approaches to quantum decoherence, and quantum statistical thermodynamics. My researches are partially oriented to future quantum technologies, such as quantum information processing, quantum coherent devices and also the new generation of energy based on the artificial photosynthesis with quantum effects.
- For fundamental quantum physics, I believe that the origin of many problems, not yet understood completely, lurk at the boundary between classical and quantum physics (or macroscopic and microscopic). Not satisfied with investigating these problems only on the philosophical basis, I yearn for a “down-to-earth” understanding of them in association with the most recent experiments about circuit QED using super-conducting systems, opto-mechanics with nano-mechanical resonators, the photon transport in low-dimensional confined structure, and ultra-cold atoms in Bose-Einstein condensate.
- My research interests also include probing mathematical structures behind the dynamics of physical systems, such as quantum groups related to the Yang-Baxter equation, Berry geometric phase related to general gauge symmetry and symmetry-breaking in finite-size thermodynamical systems far off equilibrium.

#### **Professional Service**

- **Editor of Academic Journals**
  - Dec. 2012 — Present: Chief Editor , Communications in Theoretical Physics
  - Feb. 2008 — Present: Advance in Mathematical Physics
  - Feb. 2005 — 2009: Editorial Board Member, Journal of Physics A
  - Feb. 2005 — Present: Editorial Board Member, Sciences in China
  - Jan. 1995 — Present: Editor of the Chinese Journal of Quantum Optics
  - Jan. 1997 — Present: Editor of Modern Physics (Chinese)
  - 物理杂志副主编
- **Referee for Research Journals**
  - Phys. Rev. Lett., Phys. Rev. A, E

- Phys. Lett. A, J. Phys. A
- J. Opt. B. (Semi-Classical and Quantum), Mod. Phys. Lett.
- Inter. J. Mod. Phys., Communications in Theoretical Phys.
- Chinese Phys. Lett., Physics

□ **Reviewer**

- NSFC (Theoretical Physics proposals)
- Funding of CAS, NSF Austria, NSF Australia
- External Examiner, (2000-2005), The Chinese University of Hong Kong
- RGC, Hong-Kong

**Academic Leadership**

- Sept. 1994 — 2013: Member of the Leadership Committee for Theoretical Physics, The National Natural Science Foundation of China
- 2013 — 2016: Deputy director of the Leadership Committee for Theoretical Physics, The National Natural Science Foundation of China
- 2016 — Present: Director of the Leadership Committee for Theoretical Physics, The National Natural Science Foundation of China
- Jan. 1997 — Present: Committee member of the Academic Committee for CAS Lab. of Matter Structure. , Univ. Science. Tech. China
- Jan.2000 — Dec. 2008: Committee member of the Academic Committee for Coalition Quantum Measurement Lab, Peking University and Tsinghua University
- 2002 — Present: Deputy Director, Center for Cold Atom Physics, CAS
- 2011 — Present: Committee member of Synergetic Innovation Center of Quantum Information and Quantum Physics, University of Science and Technology of China
- 2012 — Present: Member of the Core Committee for the CAS-MPG Partner Institute
- 2015 — Present: Committee member of the Academic Committee for State Key Laboratory of Low-Dimensional Quantum Physics Tsinghua University
- 2015 — Present: Director of the Academic Committee for Key Laboratory of Theoretical Physics, the Institute of Theoretical Physics, CAS
- 2015 — Present: Member of the Committee for the National Science Fund for Distinguished Young Scholars, the National Natural Science Foundation of China

**Adjunct Professorship**

- Jun. 2000 — Present: Adjunct Professor, Huazhong Univ. of Science and Tech
- Jun. 1999 — present: Adjunct Professor, Tsinghua University
- Jun. 1999 — present: Adjunct Professor, Hunan Normal University
- Jun. 1996 — present: Adjunct Professor, Northeast Normal University
- Jun. 1994 — present: Adjunct Professor, Jilin University

**Foundation Supports**

- 1989 — 1991: Berry's Phases and Induced Gauge Field Theory  
National Natural Science Foundation of China
- 1992 — 1994: Dynamics of Quantum Open System in Quasi-Adiabatic Process  
National Natural Science Foundation of China
- 1992 — 1993: The CEEC Foundation, State University of New York at Stony Brook, USA
- 1993 — 1996: Dynamics of Quantum Dissipation Fok Yin-Tung Education Foundation,  
Hong Kong
- 1995 — 1997: Special Support for Excellence Young Scientists National Natural Science  
Foundation of China
- 1998 — 2001: National Premier Science Foundation for Young Scientists National Natural  
Science Foundation of China

- 2002 — 2005: Quantum Information Theory  
National Fundamental Research Foundation (973)  
Ministry of Science and Technology of China
- 2003 — 2005: Quantum Information Processing based on Macroscopic quantum System, National Natural Science Foundation of China
- 2006 — 2010: Solid System based Quantum Manipulation  
National Fundamental Research Foundation (973)  
Ministry of Science and Technology of China
- 2009 — 2013: Quantum Controlling for Solid State system  
National Natural Science Foundation of China
- 2011 — 2017: Innovative Research Groups  
National Natural Science Foundation of China
- 2014 — 2018: Theory and Simulation of Quantum Coherent Device  
National Fundamental Research Foundation (973)  
Ministry of Science and Technology of China
- 2016 — 2019: Quantum coherence in open finite systems and its applications  
National Natural Science Foundation of China

**Honors Award  
Recognitions**

- **International**
  - Citation Classic Award by SCI (Scientific Citation Index)  
Institute of Scientific Information, USA ,2000
  - “The 2000 Top cite Olympics”  
SLAC Lab. , 2000
  - “Papers most Cited in Mathematical Physics Articles”  
Stanford University Lib. 2001
  - Fellow of TWAS  
The Academy of Sciences for the Developing World
- **In China**
  - Member (Academician) of Chinese Academy of Sciences, 2009.
  - National Award for Natural Sciences  
Quantum Open System Approach and Its Applications to Quantum Information  
C. P. Sun, H.T.Quan  
National Award Offices of the People’s Republic of China, 2008.
  - National Model Employee  
The State Council of the People’s Republic of China, 1995.
  - National Science and Technology Medal for Yang Scientists  
The Chinese Science and Technology Association, 1993.
  - Super- Level State Medal of Model Workers  
The Jilin Province Government, 1994.
  - Prize for Advance in Science and Technology  
Yang-Baxter Intergrable System  
M. L. Ge, C.P. Sun, K. Xue  
The China National Education Committee, 1990.
  - Prize for Advance in Science and Technology  
Generalized Boson Realization Theory and Its Applications.  
C. P. Sun, H.C. Fu  
The China National Education Committee, 1995.

- Prize for Advance in Science and Technology  
High-Order Quantum Adiabatic Process with Berry's Induced Gauge Field  
C. P. Sun, L. Z. Zhang, Q. Xiao  
The China National Education Committee, 1990.
- Jilin Province Excellence Youth Top Ten  
Jilin Province Government, 1994.
- Prize for Advance in Science and Technology Quantum Groups  
M. L. Ge, C.P. Sun, K. Xue  
The China National Education Committee, 1997.
- First order Prize for Excellence Young Scientist  
The Chinese Academy of Science, China, 1999.

## Publications

318. Spin in Compton scattering with pronounced polarization dynamics  
S. Ahrens, C. P. Sun  
*Phys. Rev. A* **96**, 063407 (2017.12.7)
317. Interpreting quantum coherence through a quantum measurement process  
Y. Yao, G. H. Dong, X. Xiao, M. Li, C. P. Sun  
*Phys. Rev. A* **96**, 052322 (2017.11.16)
316. Quantifying Spontaneously Symmetry Breaking of Quantum Many-Body Systems  
G. H. Dong, Y. N. Fang, C. P. Sun  
*Commun. Theor. Phys* **68** (4), 405-411 (2017.10.11)
315. Vector Form of Symmetry Degree  
G. H. Dong, Z. W. Zhang, C. P. Sun, Z. R. Gong  
*Scientific Reports* **7**, 12947 (2017.10.11)
314. Quantum sensing of rotation velocity based on transverse field Ising model  
Y. H. Ma, C. P. Sun  
*Eur. Phys. J. D* **71**, 249 (2017.10.10)
313. Quantum thermodynamic cycle with quantum phase transition  
Y. H. Ma, S. H. Su, C. P. Sun  
*Phys. Rev. E* **96**, 022143 (2017.8.21)
312. Maximal violation of Bell inequalities under local filtering  
M. Li, H. H. Qin, J. Wang, S. M. Fei, C. P. Sun  
*Scientific Reports* **7**, 46505 (2017.4.18)
311. Hybrid Quantum-Classical Approach to Quantum Optimal Control  
J. Li, X. D. Yang, X. H. Peng, C. P. Sun  
*Phys. Rev. Lett.* **118**, 150503 (2017.4.14)
310. Fisher information of a squeezed-state interferometer with a finite photon-number resolution  
P. Liu, P. Wang, W. Yang, G. R. Jin, C. P. Sun  
*Phys. Rev. A* **95** (2), 023824 (2017.2.13)
309. Quantum-enhanced microscopy with binary-outcome photon counting  
G. R. Jin, W. Yang, C. P. Sun  
*Phys. Rev. A* **95** (1), 013835 (2017.1.23)
308. Spin-orbit-coupling-induced spin squeezing in three-component Bose gases  
X. Y. Huang, F. X. Sun, W. Zhang, Q. Y. He, C. P. Sun  
*Phys. Rev. A* **95** (1), 013605 (2017.1.4)
307. Maximal coherence in a generic basis  
Y. Yao, G. H. Dong, L. Ge, M. Li, C. P. Sun  
*Phys. Rev. A* **94** (6), 062339 (2016.12.29)
306. Classical analog of Stueckelberg interferometry in a two-coupled-cantilever-based optomechanical system  
H. Fu, Z. C. Gong, T. H. Mao, C. P. Sun, S. Yi, Y. Li, G. Y. Cao  
*Phys. Rev. A* **94** (4), 043855 (2016.10.31)
305. Negative refraction in Mobius molecules

- Y. N. Fang, Y. Shen, Q. Ai, C. P. Sun  
*Phys. Rev. A* **94** (4), 043805 (2016.10.5)
304. Quasi-one Dimensional Topological Insulator: Mobius Molecular Devices in Peierls Transition  
Z. R. Gong, Z. Song, and C. P. Sun  
*Commun. Theor. Phys* **66** (4), 396-400 (2016.10)
303. Frobenius-norm-based measures of quantum coherence and asymmetry  
Y. Yao, G. H. Dong, X. Xiao, and C. P. Sun  
*Scientific Reports* **6**, 32010 (2016.8.25)
302. Angle-dependent quantum Otto heat engine based on coherent dipole-dipole coupling  
S. H. Su, X.Q. Luo, J. C. Chen, and C. P. Sun  
*EPL* **115** (3), 30002 (2016.8)
301. Photoelectric converters with quantum coherence  
S. H. Su, C. P. Sun, S. W. Li, and J. C. Chen  
*Phys. Rev. E* **93**, 052103 (2016.5.2)
300. Quantification of Symmetry  
Y. N. Fang, G. H. Dong, D. L. Zhou, and C. P. Sun  
*Commun. Theor. Phys* **65**: 423-433 (2016.4.1)
299. Information-carrying Hawking radiation and the number of microstate for a black hole  
Q. Y. Cai, C. P. Sun, and L. You  
*Nucl. Phys. B* **905**: 327-336 (2016.4)
298. Post-selected von Neumann measurement with Hermite–Gaussian and Laguerre–Gaussian pointer states  
Y. Turek, H. Kobayashi, T. Akutsu, C. P. Sun, and Y. Shikano  
*New J. Phys.* **17**, 083029 (2015.8.17)
297. Quantum coherence in multipartite systems  
Y. Yao, X. Xiao, L. Ge, and C. P. Sun  
*Phys. Rev. A* **92**, 022112 (2015.8.12)
296. Advantages of nonclassical pointer states in postselected weak measurements  
Y. Turek, W. Maimaiti, Y. Shikano, C. P. Sun, and M. Al-Amri  
*Phys. Rev. A* **92**, 022109 (2015.8.11)
295. Mechanical PT symmetry in coupled optomechanical systems  
X. W. Xu, Y. X. Liu, C. P. Sun, and Y. Li  
*Phys. Rev. A* **92**, 013852 (2015.7.31)
294. Implications and applications of the variance-based uncertainty equalities  
Y. Yao, X. Xiao, X. G. Wang, and C. P. Sun  
*Phys. Rev. A* **91**, 062113 (2015.6.11)
293. Floquet control of quantum dissipation in spin chains  
C. Chen, J. H. An, H. G. Luo, C. P. Sun, and C. H. Oh  
*Phys. Rev. A* **91**, 052122 (2015.5.27)
292. Steady quantum coherence in non-equilibrium environment  
S. W. Li, C.Y. Cai, and C.P. Sun  
*Ann Phys-New York* **360**, 19-32 (2015.5.11)
291. Microwave degenerate parametric down-conversion with a single cyclic three-level system in a circuit-QED setup  
Z. H. Wang, C. P. Sun, and Y. Li  
*Phys. Rev. A* **91**, 043801 (2015.4.2)

290. Indirect control of spin precession by electric field via spin-orbit coupling  
L. P. Yang and C. P. Sun  
*Eur. Phys. J. B* **88**: 35 (2015.2.2)
289. Noncanonical statistics of a finite quantum system with non-negligible system-bath coupling  
D. Z. Xu, S. W. Li, X. F. Liu, and C. P. Sun  
*Phys. Rev. E* **90**, 062125 (2014.12.17)
288. Multiple phase estimation for arbitrary pure states under white noise  
Y. Yao, L. Ge, X. Xiao, X. G. Wang, and C. P. Sun  
*Phys. Rev. A* **90**, 062113 (2014.12.8)
287. Multiple phase estimation in quantum cloning machines  
Y. Yao, L. Ge, X. Xiao, X. G. Wang, and C. P. Sun  
*Phys. Rev. A* **90**, 022327 (2014.8.25)
286. Indirect driving of a cavity-QED system and its induced nonlinearity  
Y. Turek, L. P. Yang, W. Maimaiti, Y. Li, and C. P. Sun  
*Phys. Rev. A* **90**, 013836 (2014.7.29)
285. Entanglement of spin-orbit qubits induced by Coulomb interaction  
Y. N. Fang, Y. Turek, J. Q. You, and C. P. Sun  
*Eur. Phys. J. B* **87**:140 (2014.6.23)
284. Waveguide quantum electrodynamics: Controllable channel from quantum interference  
Q. Li, L. Zhou, and C. P. Sun  
*Phys. Rev. A* **89**, 063810 (2014.6.13)
283. An impurity-induced gap system as a quantum data bus for quantum state transfer  
B. Chen, Y. Li, Z. Song, and C. P. Sun  
*Ann Phys-New York* **348**, 278-288 (2014.6.9)
282. Controllable single-photon frequency converter via a one-dimensional waveguide  
Z. H. Wang, L. Zhou, Y. Li, and C. P. Sun  
*Phys. Rev. A* **89**, 053813 (2014.5.9)
281. Quantum Fisher information in noninertial frames  
Y. Yao, X. Xiao, L. Ge, X. G. Wang, and C. P. Sun  
*Phys. Rev. A* **89**, 042336 (2014.4.30)
280. Probing zero modes of a defect in a Kitaev quantum wire  
S. W. Li, Z. Z. Li, C. Y. Cai, and C. P. Sun  
*Phys. Rev. B* **89**, 134505 (2014.4.9)
279. Long-term effect of inter-mode transitions in quantum Markovian process  
S. W. Li, L. P. Yang, and C. P. Sun  
*Eur. Phys. J. D* **68**, 3 45 (2014.3.11)
278. One Hair Postulate for Hawking Radiation as Tunneling Process  
H. Dong, Q. Y. Cai, X. F. Liu, C. P. Sun  
*Commun. Theor. Phys* **61**, 3, 289-292 (2014.3.1)
277. Threshold for nonthermal stabilization of open quantum systems  
C. Y. Cai, L. P. Yang, and C. P. Sun  
*Phys. Rev. A* **89**, 012128 (2014.1.29)
276. Dynamics of quantum zeno and anti-zeno effects in an open system  
P. Zhang, Q. Ai, Y. Li, D. Z. Xu, and C. P. Sun  
*Sci. China. Phys. Mech* **57**, 2, 194-207 (2014.1.1)
275. Electromagnetically-induced-transparency-like phenomenon with two atomic ensembles in a cavity

Y. Turek, Y. Li, and C. P. Sun  
*Phys. Rev. A* **88**, 053827 (2013)

274. Recoil effects of a motional scatterer on single-photon scattering in one dimension  
Q. Li, D. Z. Xu, C. Y. Cai, and C. P. Sun  
*Sci. Rep-UK* **3**, 03144 (2013)

273. Weak-value amplification of light deflection by a dark atomic ensemble  
L. Zhou, Y. Turek, C. P. Sun, and F. Nori  
*Phys. Rev. A* **88**, 053815 (2013)

272. Quantum Routing of Single Photons with a Cyclic Three-Level System  
L. Zhou, L. P. Yang, Y. Li, and C. P. Sun  
*Phys. Rev. Lett.* **111**, 103604 (2013)

271. Controlling a Nanowire Spin-orbit Qubit via Electric-dipole Spin Resonance  
R. Li, J. Q. You, C. P. Sun, and F. Nori  
*Phys. Rev. Lett.* **111**, 086805 (2013)

270. Controlling single-photon transport in waveguides with finite cross section  
J. F. Huang, T. Shi, C. P. Sun, and F. Nori  
*Phys. Rev. A* **88**, 013836 (2013)

269. Collective effects of multiscattering on the coherent propagation of photons in a two-dimensional network  
D. Z. Xu, Y. Li, C. P. Sun, and P. Zhang  
*Phys. Rev. A* **88**, 013832 (2013)

268. Quantum anti-Zeno effect without wave function reduction  
Q. Ai, D. Z. Xu, S. Yi, A. G. Kofman, C. P. Sun, and F. Nori  
*SCIENTIFIC REPORTS* **3**, 1752 (2013)

267. Coherent control of single photons in the cross resonator arrays via the dark state mechanism  
T. Tian, D. Xu, T. Y. Zheng, and C. P. Sun  
*The European Physical Journal D* **67** (3), 1-7 (2013)

266. Experimental demonstration of the quantum Zeno effect in NMR with entanglement-based measurements  
W. Q. Zheng, D. Z. Xu, X. H. Peng, X. Y. Zhou, J. F. Du, and C. P. Sun  
*Phys. Rev. A* **87**, 032112 (2013)

265. Photon blockade induced by atoms with Rydberg coupling  
J. F. Huang, J. Q. Liao, and C. P. Sun  
*Phys. Rev. A* **87**, 023822 (2013)

264. Ultracold Fermi Gases with Resonant Dipole-Dipole Interaction  
T. Shi, S. H. Zou, H. Hu, C. P. Sun, and S. Yi  
*Phys. Rev. Lett.* **110**, 045301 (2013)

263. Master equation and dispersive probing of a non-Markovian process  
L. P. Yang, C. Y. Cai, D. Z. Xu, W. M. Zhang, and C. P. Sun  
*Phys. Rev. A* **87**, 012110 (2013)

262. Franck-Condon Effect in Central Spin System  
L. P. Yang, Y. Li, and C. P. Sun  
*Eur. Phys. J. D* **66**, 300 (2012.12.4)

261. The transition from quantum Zeno to anti-Zeno effects for a qubit in a cavity by varying the cavity frequency  
X. F. Cao, Q. Ai, C. P. Sun, and F. Nori

*Phys. Lett. A* **376**, 349 (2012.11.28)

260. A quantum solution to Gibbs paradox with few particles  
H. Dong, C.Y. Cai, and C. P. Sun  
*Science China Physics* **55**, 1727 (2012.8.31)

259. Single-photon scattering on a strongly dressed atom  
Z. H. Wang, Y. Li, D. L. Zhou, C. P. Sun, and P. Zhang  
*Phys. Rev. A* **86**, 023824 (2012.8.15)

258. Coherent excitation transferring via dark state in light-harvesting process  
H. Dong, D. Z. Xu, J. F. Huang, and C. P. Sun  
*Light: Science and Applications* **1**, 2 (2012.3.29)

257. The Photon-like flying qubit in the coupled cavity array  
M. X. Huo, Y. Li, Z. Song, and C. P. Sun  
*Int. J. Quantum Inform.* **10**, 1250002 (2012.3.26)

256 Spin-Orbit-Coupled Dipolar Bose-Einstein Condensates  
Y. Deng, J. Cheng, H. Jing, C. P. Sun, and S. Yi  
*Phys. Rev. Lett.* **108**, 125301 (2012.3.23)

255. Generalized Holstein model for spin-dependent electron-transfer reactions  
L. P. Yang, Q. Ai, and C. P. Sun  
*Phys. Rev. A* **85**, 032707 (2012.3.15)

254. Multiparticle Quantum Szilard Engine with Optimal Cycles Assisted by a Maxwell's Demon  
C. Y. Cai, H. Dong, and C. P. Sun  
*Phys. Rev. E* **85**, 031114 (2012.3.14)

253. Sensitive chemical compass assisted by quantum criticality  
C. Y. Cai, Q. Ai, H. T. Quan, and C. P. Sun  
*Phys. Rev. A* **85**, 022315 (2012.2.13)

252. Quantum statistics of the collective excitations of an atomic ensemble inside a cavity  
J. F. Huang, Q. Ai, Y. G. Deng, C. P. Sun, and F. Nori  
*Phys. Rev. A* **85**, 023801(2012.2.2)

251. Inherent Mach-Zehnder interference with "which-way" detection for single-particle scattering in one dimension  
L. Zhou, Y. Chang, H. Dong, L. M. Kuang, and C. P. Sun  
*Phys. Rev. A* **85**, 013806 (2012.1.4)

250. Quantum spin squeezing  
J. Ma, X. G. Wang, C. P. Sun, and F. Nori  
*Phys. Rep.*, **509**, 89-165 (2011)

249. Two-photon transport in a waveguide coupled to a cavity in a two-level system  
T. Shi, S. H. Fan, and C. P. Sun  
*Phys. Rev. A* **84**, 063803 (2011)

248. Quantum Fisher information of the Greenberger-Horne-Zeilinger state in decoherence channels  
M. Jian, Y. X. Huang, X. G. Wang, and C. P. Sun  
*Phys. Rev. A* **84**, 022302 (2011)

247. Multistability of electromagnetically induced transparency in atom-assisted optomechanical cavities  
Y. Chang, T. Shi, Y. X. Liu, C. P. Sun, and F. Nori  
*Phys. Rev. A* **83**, 063826 (2011)

246. Quantum Maxwell's demon in thermodynamic cycles  
H. Dong, D. Z. Xu, C. Y. Cai, and C. P. Sun

- Phys. Rev. E* **83**, 061108 (2011)
245. Analog of the electromagnetically-induced-transparency effect for two nanomechanical or micromechanical resonators coupled to a spin ensemble  
Y. Chang and C. P. Sun  
*Phys. Rev. A* **83**, 053834 (2011)
244. Spatial Landau-Zener-Stuckelberg interference in spinor Bose-Einstein condensates  
J. N. Zhang, C. P. Sun, S. Yi, and F. Nori  
*Phys. Rev. A* **83**, 033614 (2011)
243. Dispersive-coupling-based quantum Zeno effect in a cavity-QED system  
D. Z. Xu, Q. Ai, and C. P. Sun  
*Phys. Rev. A* **83**, 022107 (2011)
242. Multiatomic mirror for perfect reflection of single photons in a wide band of frequency  
Yue Chang, Z. R. Gong, and C. P. Sun  
*Phys. Rev. A* **83**, 013825 (2011)
241. Optically-driven cooling for collective atomic excitations  
Y. Li, Z. D. Wang, and C. P. Sun  
*Euro. Phys. J. D* **61**, 215 (2011)
240. Quantum noise theory for quantum transport through nanostructures  
N. Zhao, J. L. Zhu, R. B. Liu, and C. P. Sun,  
*New J. Phys.* **13**, 013005 (2011)
239. Coherent excitation-energy transfer and quantum entanglement in a dimer  
J. Q. Liao, J. F. Huang, L. M. Kuang, and C. P. Sun  
*Phys. Rev. A* **82**, 052109 (2010)
238. Equivalence condition for the canonical and microcanonical ensembles in coupled spin systems  
W. X. Zhang, C. P. Sun, and F. Nori  
*Phys. Rev. E* **82**, 041127 (2010)
237. Quantum Fisher information flow and non-Markovian processes of open systems  
X. M. Lu, X. G. Wang, and C. P. Sun  
*Phys. Rev. A* **82**, 042103 (2010)
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