

李增朝的简历

姓名	李增朝	性别	男	民族	汉	出生日期	19830909	
政治面貌	中共党员	籍贯	山西省孝义市		婚否	婚		
博士毕业院校	复旦大学				专业方向	量子物理		
现工作单位名称	(中文) 瑞典隆德大学				职位	(中文) 博士后		
	(英文) Lund University					(英文) Postdoctoral Researcher		
邮箱	zengzhaoli09@gmail.com				国内电话	(手机) 18301016792		
研究领域	量子开放系统非平衡动力学, 量子调控, 固态量子计算							
主要学术兼职	美国物理学会旗下 Physical Review B 和自然出版集团旗下 Scientific Reports 杂志审稿人, 以及美国能源部基础能源科学基金评审 (2017 年)。							
教育经历	学位	起始时间	终止时间	国家	院校	专业 (导师姓名)		
	博士	2009.09	2012.07	中国	复旦大学	理论物理 [游建强 (长江, 杰青)]		
	硕士	2006.09	2009.07	中国	宁波大学	理论物理 (梁先庭)		
	学士	2002.09	2006.07	中国	哈尔滨理工大学	应用物理		
工作 (含博士后) 经历	职务	起始时间	终止时间	国家	单位	工作内容 / 研究方向		
	博士后	2017.09	今	瑞典	瑞典隆德大学	量子热电传输中的相干和相互作用效应		
	客座研究员	2015.08	2017.08	德国	马克普朗克研究所	非马尔科夫动力学和非线性光谱		
	博士后	2012.08	2015.07	中国	北京计算科学研究中心	量子开放系统和固态量子计算		
科研项目	<ol style="list-style-type: none"> 国家自然科学基金青年基金 (主持) 项目名称: 基于马约拉纳束缚态的杂化固态量子体系的量子动力学研究 2015 年 01 月 - 2017 年 12 月, 25 万 中国博士后科学基金 (主持) 项目名称: Majorana 费米子与量子信息处理的理论研究 2012 年 11 月 - 2014 年 11 月, 5 万 国家自然科学基金委-中国工程物理研究院 NSAF 联合基金 (参与) 项目名称: 超导量子比特的优化与混合量子器件的研究 2014 年 01 月 - 2017 年 12 月, 320 万 国家自然科学基金重大研究计划 (参与) 项目名称: 固态量子计算和量子模拟中若干基础理论问题的研究 2012 年 01 月 - 2014 年 12 月, 65 万 							

科研情况

一。研究兴趣

我的研究兴趣是量子物理。研究的方向包括开放量子系统的非平衡动力学，固态量子光学，量子调控和量子计算。研究的课题有非马尔科夫量子动力学，量子输运，杂化量子系统的量子操控。近期的研究工作还包括相位调控的非线性光谱，量子信息和凝聚态物理拓扑相的交叉研究，固态系统的马约拉纳束缚态，以及量子系统的 Floquet 调控。

二。已发表的论文 (SCI)

1. Xiao-Qing Luo, **Zeng-Zhao Li***, J. Jing, W. Xiong, Tie-Fu Li, and T. Yu, "Spectral features of the tunneling-induced transparency and the Autler-Townes doublet and triplet in a triple quantum dot", *Scientific Reports* **8**, 3107 (2018)
2. **Zeng-Zhao Li***, Chi-Hang Lam, and J. Q. You, "Floquet engineering of long-range p-wave superconductivity: Beyond the high-frequency limit", *Physical Review B* **96**, 155438 (2017)
3. **Zeng-Zhao Li**, L. Bruder, F. Stienkemeier, and A. Eisfeld, "Probing weak dipole-dipole interaction using phase-modulated nonlinear spectroscopy", *Physical Review A* **95**, 052509 (2017)
4. Pan-Pan Zhang, **Zeng-Zhao Li***, and A. Eisfeld, "Hierarchy of equations to calculate the linear spectra of molecular aggregates - Time- dependent and frequency domain formulation", *International Journal Quantum Chemistry* **117**, e25386 (2017)
5. **Zeng-Zhao Li**, Chi-Hang Lam, and J. Q. You, "Probing Majorana bound states via counting statistics of a single electron transistor", *Scientific Reports* **5**, 11416 (2015)
6. **Zeng-Zhao Li**, Cho-Tung Yip, Hai-Yao Deng, M. Chen, T. Yu, J. Q. You, and Chi-Hang Lam, "Approach to solving spin-boson dynamics via non-Markovian quantum trajectories", *Physical Review A* **90**, 022122 (2014)
7. Sheng-Wen Li, **Zeng-Zhao Li**, C. Y. Cai, and C. P. Sun, "Probing zero modes of a defect in a Kitaev quantum wire", *Physical Review B* **89**, 134505 (2014)
8. **Zeng-Zhao Li**, Chi-Hang Lam, Ting Yu, and J. Q. You, "Detector-induced backaction on the counting statistics of a double quantum dot", *Scientific Reports* **3**, 3026 (2013)
9. **Zeng-Zhao Li**, Shi-Hua Ouyang, Chi-Hang Lam, and J. Q. You, "Probing the quantum behavior of a nanomechanical resonator coupled to a double quantum dot", *Physical Review B* **85**, 235420 (2012)
10. **Zeng-Zhao Li**, Shi-Hua Ouyang, Chi-Hang Lam, and J. Q. You, "Cooling a nanomechanical resonator by a triple quantum dot", *Europhysics Letter* **95**, 40003 (2011)
11. **Zeng-Zhao Li**, Chun-Mei Yao, and Xian-Ting Liang, "Decoherence of a driven qubit approached via the master equation of Redfield form", *Modern Physics Letter B* **24**, 619 (2010)
12. **Zeng-Zhao Li** and Zhi-Qiang Li, "Decoherence of a double quantum dot charge qubit approached with Redfield equation", *Communication in Theoretical Physics* **51**, 345 (2009)
13. **Zeng-Zhao Li**, Xian-Ting Liang, and Xiao-Yin Pan, "The entanglement dynamics of two coupled qubits in different environment", *Physics Letters A* **373**, 4028 (2009)
14. **Zeng-Zhao Li**, Xiao-Yin Pan, and Xian-Ting Liang, "Study of the decoherence of a double quantum dot charge qubit via the Redfield equation", *Physica E* **41**, 220 (2008)

(* 通讯作者)

三。学术会议口头报告和海报展示

2018年1月 Nano Theory Breakfast Meeting, Mathematical Physics Division, Physics Department Lund University, Lund, Sweden

报告题目: “Quantum interference in parallel quantum dots: perturbation effects”

2017年9月 NanoLund Annual Meeting 2017, Lund University, Lund, Sweden

海报题目: “Floquet engineering of long-range p-wave superconductivity”

2017年6月 (邀请报告) Invited Seminar Talk Lund University, Lund, Sweden

报告题目: “Floquet engineering of long-range p-wave superconductivity: Beyond the high-frequency limit”

2016年5月 The 8th International Conference on Coherent Multidimensional Spectroscopy, University of Groningen, Groningen, Netherlands

海报题目: “Multidimensional spectroscopy of atomic and molecular ensembles”

2016年3月 (德国物理学年会) Deutsche Physikalische Gesellschaft (DPG), Leibniz Universität Hannover, Hannover, Germany

报告题目: “Nonperturbative simulation of phase-modulated wave-packet interferometry”

2015年12月 International Workshop on ATOMIC PHYSICS 2015, Distant-particle interaction in excited atomic and molecular systems, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany

海报题目: “Perturbative calculation of phase-modulated wave packet interferometry”

2015年10月 Division Group Meeting, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany

报告题目: “Efficiently solving spin-boson dynamics via non-Markovian quantum trajectories”

2014年8月 (邀请报告) Symposium on Quantum Optics and Quantum Manipulation, Lanzhou University, Lanzhou, China

报告题目: “Efficiently solving spin-boson dynamics via non-Markovian quantum trajectories”

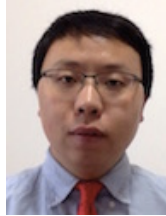
荣誉和奖励	推荐人信息
<p>2011年11月 复旦大学博士优秀学生奖学金二等奖 2011年01月 浙江省优秀硕士论文 2009年11月 宁波大学优秀硕士论文 22009年5月 宁波大学曹光彪学生科研奖 2009年06月 爱思唯尔科技(中国)学生大使 2009年05月 宁波大学优秀毕业生 2008年12月 宁波大学三好学生 2005年12月 哈尔滨理工大学三好学生 2003年12月 哈尔滨理工大学三好学生</p>	<ul style="list-style-type: none">• 游建强 教授 浙江大学物理系, 杭州 Email: jqyou@zju.edu.cn• 林志恒 (Chi-Hang Lam) 教授 香港理工大学应用物理系 Email: C.H.Lam@polyu.edu.hk

代表性论文情况（本人为第一作者或通讯作者）

论文名称	发表刊物名称	ISSN 号	年度	期号	起止页码	所有作者姓名（通讯作者标注*号）	影响因子	检索情况（SCI、EI、SSCI、其他）	他引次数
Floquet engineering of long-range p-wave superconductivity: Beyond the high-frequency limit	Physical Review B	2469-9950 (print) 2469-9969 (online)	2017	15	155438	Zeng-Zhao Li* , Chi-Hang Lam, and J. Q. You	3.836	SCI	3
Probing weak dipole-dipole interaction using phase-modulated nonlinear spectroscopy	Physical Review A	2469-9926 (print) 2469-9934 (online)	2017	5	052509	Zeng-Zhao Li , L. Bruder, F. Stienkemeier, and A. Eisfeld	2.925	SCI	3
Probing Majorana bound states via counting statistics of a single electron transistor	Scientific Report	2045-2322 (online)	2015	5	11416	Zeng-Zhao Li , Chi-Hang Lam, and J. Q. You	4.847	SCI	6
Approach to solving spin-boson dynamics via non-Markovian quantum trajectories	Physical Review A	2469-9926 (print) 2469-9934 (online)	2014	90	022122	Zeng-Zhao Li , C. T. Yip, Hai-Yao Deng, M. Chen, T. Yu, J. Q. You, and Chi-Hang Lam	2.925	SCI	10
Detector-induced backaction on the counting statistics of a double quantum dot	Scientific Report	2045-2322 (online)	2013	3	3026	Zeng-Zhao Li , Chi-Hang Lam, Ting Yu, and J. Q. You	4.847	SCI	7
Probing the quantum behavior of a nanomechanical resonator coupled to a double quantum dot	Physical Review B	2469-9950 (print) 2469-9969 (online)	2012	85	235420	Zeng-Zhao Li , Shi-Hua Ouyang, Chi-Hang Lam, and J. Q. You	3.836	SCI	7
Cooling a nanomechanical resonator by a triple quantum dot	Europhysics Letter	0295-5075 (print) 1286-4854 (online)	2011	95	40003	Zeng-Zhao Li , Shi-Hua Ouyang, Chi-Hang Lam, and J. Q. You	1.957	SCI	14

Dr. Zeng-Zhao Li

PERSONAL DATA



PLACE AND DATE OF BIRTH: Shanxi, China | 09.09.1983
NATIONALITY: Chinese
ADDRESS: Division of Solid State Physics and NanoLund,
Lund University, Box. 118, S-221 00, Lund, Sweden
EMAIL: zengzhaoli09@gmail.com
zeng-zhao.li@ftf.lth.se

EDUCATION

SEP 2009 - JUL 2012 Ph. D in THEORETICAL PHYSICS, Fudan University, Shanghai
Thesis: "Quantum dynamics of quantum-dot and nanomechanical-resonator systems"
Supervisor: Prof. Jian-Qiang YOU

SEP 2006 - JUL 2009 M. Sc. in THEORETICAL PHYSICS, Ningbo University, Ningbo
Thesis: "Decoherence and entanglement of solid-state qubits"
Supervisor: Prof. Xian-Ting LIANG

SEP 2002 - JUL 2006 B. Sc. in APPLIED PHYSICS, Harbin University of Science and Technology, Harbin

ACADEMIC EXPERIENCE

SEP 2017 - CURRENT	Postdoctoral Researcher Division of Solid State Physics and NanoLund, Lund University, Lund, Sweden Advisor: Prof. Martin LEIJNSE
AUG 2015 - AUG 2017	Guest Scientist Max Planck Institute for the Physics of Complex Systems, Dresden, Germany Advisor: Dr. Alexander EIFELD
AUG 2012 - JUL 2015	Postdoctoral Fellow Beijing Computational Science Research Center, Beijing, China Advisor: Prof. Jian-Qiang YOU

RESEARCH INTERESTS

My research interests are in the fields of theoretical quantum physics and condensed matter physics with a recent focus on non-equilibrium dynamics of open quantum systems, solid-state quantum optics, and quantum computation. Research topics include non-Markovian quantum evolution, quantum transport, quantum engineering of hybrid devices. Besides

the phase-modulated nonlinear spectroscopy, my recent research includes the interaction between quantum information and topological aspects of condensed matter physics with topics including Majorana physics in solid state systems and Floquet engineering of exotic properties of quantum systems.

PUBLICATIONS

PEER-REVIEWED ARTICLES:

1. Xiao-Qing Luo, **Zeng-Zhao Li***, J. Jing, W. Xiong, Tie-Fu Li, and T. Yu
Spectral features of the tunneling-induced transparency and the Autler-Townes doublet and triplet in a triple quantum dot
[Scientific Reports 8, 3107 \(2018\)](#)
2. **Zeng-Zhao Li***, Chi-Hang Lam, and J. Q. You
Floquet engineering of long-range p -wave superconductivity: Beyond the high-frequency limit
[Physical Review B 96, 155438 \(2017\)](#)
3. **Zeng-Zhao Li**, L. Bruder, F. Stienkemeier, and A. Eisfeld
Probing weak dipole-dipole interaction using phase-modulated nonlinear spectroscopy
[Physical Review A 95, 052509 \(2017\)](#)
4. Pan-Pan Zhang, **Zeng-Zhao Li***, and A. Eisfeld
Hierarchy of equations to calculate the linear spectra of molecular aggregates - Time-dependent and frequency domain formulation
[International Journal Quantum Chemistry 117, e25386 \(2017\)](#)
5. **Zeng-Zhao Li**, Chi-Hang Lam, and J. Q. You
Probing Majorana bound states via counting statistics of a single electron transistor
[Scientific Reports 5, 11416 \(2015\)](#)
6. **Zeng-Zhao Li**, Cho-Tung Yip, Hai-Yao Deng, M. Chen, T. Yu, J. Q. You, and Chi-Hang Lam
Approach to solving spin-boson dynamics via non-Markovian quantum trajectories
[Physical Review A 90, 022122 \(2014\)](#)
7. Sheng-Wen Li, **Zeng-Zhao Li**, C. Y. Cai, and C. P. Sun
Probing zero modes of a defect in a Kitaev quantum wire
[Physical Review B 89, 134505 \(2014\)](#)
8. **Zeng-Zhao Li**, Chi-Hang Lam, Ting Yu, and J. Q. You
Detector-induced backaction on the counting statistics of a double quantum dot
[Scientific Reports 3, 3026 \(2013\)](#)
9. **Zeng-Zhao Li**, Shi-Hua Ouyang, Chi-Hang Lam, and J. Q. You
Probing the quantum behavior of a nanomechanical resonator coupled to a double quantum dot
[Physical Review B 85, 235420 \(2012\)](#)
10. **Zeng-Zhao Li**, Shi-Hua Ouyang, Chi-Hang Lam, and J. Q. You
Cooling a nanomechanical resonator by a triple quantum dot
[Europhysics Letter 95, 40003 \(2011\)](#)
11. **Zeng-Zhao Li**, Chun-Mei Yao, and Xian-Ting Liang
Decoherence of a driven qubit approached via the master equation of Redfield form
[Modern Physics Letter B 24, 619 \(2010\)](#)
12. **Zeng-Zhao Li** and Zhi-Qiang Li
Decoherence of a double quantum dot charge qubit approached with Redfield equation
[Communication in Theoretical Physics 51, 345 \(2009\)](#)
13. **Zeng-Zhao Li**, Xian-Ting Liang, and Xiao-Yin Pan
The entanglement dynamics of two coupled qubits in different environment

Physics Letters A 373, 4028 (2009)

14. **Zeng-Zhao Li**, Xiao-Yin Pan, and Xian-Ting Liang
Study of the decoherence of a double quantum dot charge qubit via the Redfield equation
Physica E 41, 220 (2008)
(*Corresponding author)

PREPRINTS:

1. **Zeng-Zhao Li** and M. Leijnse
Symmetry-breaking effects on quantum interference in double quantum dots
arXiv:18xx.xxxxx (to be submitted)
2. Xiao-Qing Luo, **Zeng-Zhao Li**, Tie-Fu Li, W. Xiong, and J. Q. You
Tunable self-focusing and -defocusing effects in triple quantum dot due to the tunnel-enhanced cross-Kerr nonlinearity
arXiv:18xx.xxxxx (submitted)
3. **Zeng-Zhao Li**, Man-Hong Yung, Tie-Fu Li, Chi-Hang Lam, and J. Q. You
Collective quantum phase slips of multiple nanowire junctions: Symmetry and asymmetry effects
arXiv:1406.6815 (to be re-submitted)

CONFERENCES & WORKSHOPS & SEMINARS

- JAN 2018 Nano Theory Breakfast Meeting, Mathematical Physics Division, Physics Department
Lund University, Lund, Sweden
TALK: *"Quantum interference in parallel quantum dots: perturbation effects"*
- SEP 2017 NanoLund Annual Meeting 2017
Lund University, Lund, Sweden
POSTER: *"Floquet engineering of long-range p-wave superconductivity"*
- JUN 2017 Invited Seminar Talk
Lund University, Lund, Sweden
TALK: *"Floquet engineering of long-range p-wave superconductivity: Beyond the high-frequency limit"*
- MAY 2016 The 8th International Conference on Coherent Multidimensional Spectroscopy
University of Groningen, Groningen, Netherlands
POSTER: *"Multidimensional spectroscopy of atomic and molecular ensembles"*
- MAR 2016 Deutsche Physikalische Gesellschaft (DPG)
Leibniz Universität Hannover, Hannover, Germany
TALK: *"Nonperturbative simulation of phase-modulated wave-packet interferometry"*
- DEC 2015 International Workshop on ATOMIC PHYSICS 2015
Distant-particle interaction in excited atomic and molecular systems
Max Planck Institute for the Physics of Complex Systems, Dresden, Germany
POSTER: *"Perturbative calculation of phase-modulated wave packet interferometry"*
- OCT 2015 Division Group Meeting
Max Planck Institute for the Physics of Complex Systems, Dresden, Germany
TALK: *"Efficiently solving spin-boson dynamics via non-Markovian quantum trajectories"*
- AUG 2014 Symposium on Quantum Optics and Quantum Manipulation
Lanzhou University, Lanzhou, China
TALK: *"Efficiently solving spin-boson dynamics via non-Markovian quantum trajectories"*
- JUN 2013 Majoranas in Solid State Workshop
Peking University, Beijing, China
- JUL 2010 Topological Phases and Emergent Phenomena in Physics
Fudan University, Shanghai, China
- DEC 2009 The 3rd International Workshop on Solid-State Quantum Computing
Hong Kong University, Hong Kong, China

AUG 2009 Quantum Manipulation and Quantum Physics
Hunan Normal University, Changsha, China
AUG 2007 Physics and Experimental Techniques of Cold Atoms & Molecules
East China Normal University, Shanghai, China

HONOURS

OCT 2014 National Natural Science Funds of China for the Youth (No. 11404019)
OCT 2012 China Postdoctoral Science Foundation Grant (No. 2012M520146)
NOV 2011 Academic Scholarship, Fudan University, China
JAN 2011 Excellent Master Thesis in Zhejiang Province, China
NOV 2009 Excellent Master Thesis in Ningbo University, China
MAY 2009 Outstanding Graduate, Ningbo University, China
MAY 2009 CaoGuangBiao Scholarship, Ningbo University, China
JUN 2009 Elsevier Student Ambassador (SAM), Elsevier China Sci & Tech
DEC 2008 Graduate Fellowship, Ningbo University, China
DEC 2008 Three Goods Student, Ningbo University, China
DEC 2005 Three Goods Student, Harbin University of Science and Technology, China
DEC 2003 Three Goods Student, Harbin University of Science and Technology, China

REVIEW ACTIVITY

Referee for the Physical Reviews B, Scientific Reports, and a proposal submitted to United States Department of Energy, Office of Basic Energy Sciences (2017)

TEACHING EXPERIENCE

2006 - 2007 Teaching Assistant for Thermal Physics

LANGUAGES

CHINESE: Mother tongue
ENGLISH: Good level of reading, writing and speaking

COMPUTER SKILLS

Coding: PYTHON, MATHEMATICA, MATLAB, C++
OS: Mac, Windows, Linux

REFERENCES

- Prof. Jian-Qiang You
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Quantum Physics and Quantum Information Division
Beijing Computational Science Research Center, Beijing, China

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http://physics.zju.edu.cn/chinese/redir.php?catalog_id=4110&object_id=129555
- Prof. Chi-Hang LAM
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