

Curriculum Vitae

ROMAN M. LUTCHYN

Microsoft Research, Station Q,
CNSI Building, office 2239
University of California,
Santa Barbara, CA 93106

Phone: (805) 893-5262
Fax: (425) 708-1426
E-mail: rolutchy@microsoft.com
Homepage: microsoft.com/en-us/research/people/rolutchy/

Education

- 2002 – 2007 Theoretical Physics Institute, University of Minnesota, Minneapolis, MN, USA
Ph.D. in Physics, Advisors: Prof. L. I. Glazman and Prof. A. I. Larkin
Dissertation title: “*Kinetics of Superconducting Quantum Circuits*”
- 1997 – 2002 University of "Kyiv Mohyla Academy", Kyiv, Ukraine
Diploma in Physics (*summa cum laude*), Advisor: Prof. P. I. Holod
Diploma title: “*Bulk and Edge Properties of Incompressible Quantum Hall Liquid*”

Scientific Employment

- 2017 – Principal Researcher, Station Q, Microsoft Research, Santa Barbara, CA
- 2015 – 2017 Senior Researcher, Station Q, Microsoft Research, Santa Barbara, CA
- 2011 - 2015 Researcher, Station Q, Microsoft Research, Santa Barbara, CA
- 2010 - 2011 Postdoctoral Research Scientist, Station Q, Microsoft Research, Santa Barbara, CA
- 2007 - 2010 Postdoctoral Fellow, Joint Quantum Institute, University of Maryland and National Institute of Science and Technology
- 2005 – 2007 Research Assistant, William I. Fine Theoretical Physics Institute, School of Physics and Astronomy, University of Minnesota
- Summer 2001, Visiting Researcher, Computational Center for Molecular Structure and Interactions
Summer 2000 and Army High Performance Computing Center, Jackson, MS

Awards and Honors

- Joint Quantum Institute Postdoctoral Fellowship, University of Maryland (2007-2010)
- The Anatoly Larkin Fellowship in Physics, University of Minnesota (May 2007)
- The Aneesur Rahman Prize for outstanding dissertation, University of Minnesota (May 2007)
- I2CAM Junior Travel Award (July 2006)
- Graduated from the University of "Kyiv Mohyla Academy" *summa cum laude*

Professional Service

- Referee: Physical Review Journals, Institute of Physics Journals, Proceedings of the National Academy of Sciences of USA, Nature, Science, National Science Foundation (USA), US Department of Energy
- Director, Topological States of Matter, International Institute of Physics, Natal, Brazil (March, 2017)
- Co-organizer of 2016 TopoStates Workshop, San Sebastian, Spain (September, 2016)
- Program committee member, ICSP-2016, Beijing, China (August 2016)
- Co-organizer of 2013 Condensed Matter Aspen Winter Conference on “Topological States of Matter Aspen, CO (January 2013)
- Organizer of 2012 APS March Meeting Focus session on “Topologically Protected Qubits”, Boston, MA (March 2012)

Professional Memberships

- Member of the American Physical Society since 2003

Advising

1. Jacob H. Skrabacz (Master thesis, 2013), now at BlackEdge Capital
2. Younghyun Kim (PhD thesis, 2016), now at J.P.Morgan
3. Meng Cheng (MSR intern 2011, Station Q post-doc 2013-2016), now faculty at Yale University
4. Dong E. Liu (Station Q post-doc 2014 - 2017)
5. Damaz de Jong (MSR intern 2016), now PhD student at TU Delft
6. Arno Bargerbos (MSR intern 2017), now PhD student at TU Delft

Invited Talks at Conferences, Seminars and Colloquia

- Colloquium, Yale Quantum Institute, Yale University (November 2016)
- Condensed matter seminar, Niels Bohr Institute, Copenhagen, Denmark (August 2016)
- Algebra Lunch Series, Microsoft Research, Redmond, WA (August 2016)
- Invited talk, Aspen Center for Physics, Aspen, CO (June 2016)
- Invited talk, Aspen Winter Conference on “Topological Quantum Matter: Progress and Applications”, (February 2016)
- Invited talk, Croucher and IAS-HKUST workshop “Topological Phases in Condensed Matter and Cold Atomic Systems”, Hong Kong, China (December 2015)
- Physics Colloquium, UC Santa Barbara (December 2015)
- Condensed matter seminar, UIUC, Urbana-Champaign, IL (October 2015)
- Invited talk, Workshop on “Strongly Interacting Topological Phases”, BIRS, Banff, Canada (September, 2015)
- Invited talk, Aspen Center for Physics, Aspen, CO (August 2014)
- APS Invited talk, APS March Meeting in Denver, CO (March 2014)
- Invited talk at International Symposium on Advanced Nanodevices and Nanotechnology “Topological quantum computing with Majoranas”, Kauai, HI (December 2013)
- Invited talk at MPI workshop “Spin Orbit Entanglement: Exotic States of Quantum Matter in Electronic Systems”, Dresden, Germany (July 2013)
- Condensed Matter Seminar, TU Delft, Delft, Netherlands (July 2013)
- Invited talk at CECAM Workshop “Topological Phases in Condensed Matter and Cold Atom Systems: towards quantum computations”, Cargèse, France (July 2013)
- Colloquium, Institute for Quantum Computing, U of Waterloo (June 2013)
- Colloquium, California State University, Long Beach (April 2013)
- Public lecture on quantum computing, Stanford Research Institute, Menlo Park, CA (April 2013)
- Condensed Matter Seminar, Yale University, (March 2013)
- Condensed Matter Seminar, Princeton University, (March 2013)

- Invited talk at 40th Conference on the Physics and Chemistry of Surfaces and Interfaces, Waikoloa, Hawaii (January 2013)
- Condensed Matter Seminar, ETH Zurich, Zurich, Switzerland (November 2012)
- Condensed Matter Seminar, Niels Bohr Institute, Copenhagen, Denmark (October 2012)
- Condensed Matter Seminar, Delft Institute of Technology, Delft, Netherlands (October 2012)
- Invited talk at International Workshop on Topological Order and Quantum Computation, Moorea, French Polynesia (September 2012).
- Invited talk at Workshop on Majorana Fermions, Non-Abelian Statistics and Topological Quantum Information Processing, ICTP, Trieste, Italy (August 2012).
- Condensed Matter Seminar, Purdue University, West Lafayette, IN (March 2012)
- Joint CMTC/JQI seminar, University of Maryland, College Park, MD (March 2012)
- Invited talk at TechFest2012, Microsoft Research, Redmond, WA (March 2012)
- Invited talk at Aspen Winter Conference on “ Novel Paradigms for Low-Dimensional Electronic Materials”, Aspen Center for Physics, Aspen, CO (February 2012)
- Invited talk at KITP Program “Topological Insulators and Superconductors”, UCSB, Santa Barbara, CA (November 2011)
- Condensed Matter Seminar, Case Western Reserve University, Cleveland, OH (November 2011)
- Condensed Matter Seminar, UCLA, Los Angeles, CA (October 2011)
- Microsoft Research Seminar, Microsoft Research, Redmond, WA (September 2011)
- Invited talk, Topological Quantum Computing Conference, Simons Center for Geometry & Physics, Stony Brook, NY (September 2011)
- R. G. Herb Condensed Matter Seminar, University of Wisconsin, Madison, WI (September 2011)
- Colloquium, The College of William & Mary, Williamsburg, VA (September 2011)
- Invited talk, Aspen Center for Physics, Aspen, CO (July 2011)
- Q-seminar, Microsoft Station Q, University of California Santa Barbara, CA (April 2011)
- APS Invited talk, APS March Meeting in Dallas, TX (March 2011)
- Condensed Matter Seminar, University of Tennessee, Knoxville, TN (March 2011)

- CAMP Seminar, Penn State University, PA (March 2011)
- Condensed Matter Seminar, University of North Carolina Chapel Hill, NC (March 2011)
- Colloquium, University of North Carolina Chapel Hill, NC (February 2011)
- ICMT Seminar, University of Illinois at Urbana-Champaign, Urbana, IL (February 2011)
- Condensed Matter Physics Seminar, Indiana University, Bloomington, IN (February 2011)
- Invited talk, Station Q Meeting, Microsoft Station Q, Santa Barbara (December 2010)
- Invited talk, KITP Program on “Beyond Standard Optical Lattices”, Santa Barbara, CA (December 2010)
- Condensed Matter Physics Seminar, John Hopkins University, Baltimore (October 2010)
- Invited talk, Station Q Summer Meeting, Microsoft Station Q, Santa Barbara (June 2010)
- CNAM Condensed Matter Colloquium, University of Maryland, College Park, MD (March 2010)
- JQI seminar, University of Maryland, College Park, MD (March 2010)
- Condensed Matter Physics Seminar, University of Pittsburgh, Pittsburgh (January 2010)
- Condensed Matter Physics Seminar, Caltech, Pasadena (December 2009)
- Q-seminar, Microsoft Station Q, Santa Barbara (November 2009)
- Condensed Matter Seminar, Virginia Tech, Blacksburg, VA (October 2009)
- Invited talk, KITP Program on “Low Dimensional Electron Systems”, Santa Barbara, CA (April 2009)
- Theory Seminar, Laboratory for Physical Sciences, College Park, MD (February 2009)
- Colloquium, McGill University, Montreal (February 2009)
- JQI seminar, University of Maryland, College Park, MD (February 2009)
- QIBEC seminar, NIST, Gaithersburg, MD (January 2009)
- CMTc symposium, University of Maryland, College Park, MD (October 2008)
- QIBEC seminar, NIST, Gaithersburg, MD (October 2007)
- JQI seminar, University of Maryland, College Park, MD (September 2007)
- Condensed Matter Seminar, New York University (February 2007)
- Condensed Matter Seminar, Rutgers University (February 2007)
- Condensed Matter Seminar, University of Toronto (February 2007)

- Seminar, Institute for Quantum Computing, University of Waterloo (February 2007)

Participation in Summer Schools and Other Programs

- Lecturer, CalSWARM, Irvine, CA (June 2016)
- Lecturer, Princeton Summer School on Condensed Matter Physics, Princeton (July 2014)
- Kavli Institute for Theoretical Physics program: “Topological Insulators and Superconductors”, Santa Barbara (Fall 2011)
- Aspen Center for Physics Program: “New Topological States of Quantum Matter”, Aspen, CO (July-August 2011)
- Kavli Institute for Theoretical Physics program: “Beyond Standard Optical Lattices”, Santa Barbara (Fall 2010)
- Aspen Center for Physics Program: “Quantum Many-Body Physics in One Dimension”, Aspen, CO (August 2010)
- Aspen Center for Physics Program: “Low Dimensional Topological Matter”, Aspen, CO (July 2010)
- Kavli Institute for Theoretical Physics program: “Low Dimensional Electron Systems”, Santa Barbara, CA (Spring 2009)
- Boulder Summer School on Strongly Correlated Materials, Boulder, CO (July 2008)
- Michigan Quantum Summer School, Ann Arbor, MI (June 2008)
- Kavli Institute for Theoretical Physics mini-program: “ Sr_2RuO_4 and Chiral p-wave Superconductivity”, Santa Barbara, CA (December 2007)
- College on Physics of Nano-Devices, ICTP, Trieste, Italy (July 2006)

Attended Conferences, Workshops and Meetings

- Contributed talk, APS March meeting, Baltimore, MD (March 2013)
- Poster presentation, The Quantum Hall Effect at 30 Years, William I. Fine Theoretical Physics Institute, University of Minnesota, Minneapolis, MN (April 2010)
- Station Q Fall Meeting, Microsoft Station Q, Santa Barbara (December 2009)
- Station Q Summer Meeting, Microsoft Station Q, Santa Barbara (June 2009)

- Contributed talk, DAMOP meeting, Charlottesville, VA (May 2009)
- *Superconductivity: from collective modes to quantum phase transitions* (Symposium in honor of Allen Goldman), William I. Fine Theoretical Physics Institute, University of Minnesota, Minneapolis, MN (May 2009)
- Contributed talk, APS March meeting, Pittsburgh, PA (March 2009)
- Poster presentation, DARPA QuEST Meeting, Duck Key, FL (January 2009)
- Station Q Fall Meeting, Microsoft Station Q, Santa Barbara (December 2008)
- Workshop on Topological Phases in Condensed Matter, Urbana, IL (October 2008)
- Contributed talk, APS March meeting, New Orleans, LA (March 2008)
- Contributed talk, APS March meeting, Denver, CO (March 2007)
- Poster presentation, Dynamics and Relaxation in Complex Quantum and Classical Systems and Nanostructures, MPIPKS Dresden, Germany (August 2006)
- Frontiers of Condensed Matter Theory (Conference dedicated to the memory of Professor Anatoly Larkin), William I. Fine Theoretical Physics Institute, University of Minnesota, Minneapolis, MN (May 2006)
- Contributed talk, APS March meeting, Baltimore, MD (March 2006)
- Spin Transport and Dynamics in Nanostructures, William I. Fine Theoretical Physics Institute, University of Minnesota, Minneapolis, MN (May 2005)
- Non-Equilibrium and Correlation Effects in Low-Dimensional Structures, William I. Fine Theoretical Physics Institute, University of Minnesota, Minneapolis, MN (April 2005)
- Contributed talk, APS March meeting, Los Angeles, CA (March 2005)
- 4th European Workshop "Quantum Systems in Physics and Chemistry", Paris, France (April 1999)

Publications

66. **R. M. Lutchyn**, E. P. A. M. Bakkers, L. P. Kouwenhoven, P. Krogstrup, C. M. Marcus, Y. Oreg, *Realizing Majorana zero modes in superconductor-semiconductor heterostructures*, arXiv:1707.04899(2017)
65. M. Pustilnik, B. van Heck, **R. M. Lutchyn**, and L. I. Glazman, *Quantum Criticality in Resonant Andreev Conduction*, Phys. Rev. Lett. 119, 116802 (2017)
64. Y. Kim, D. J. Clarke, and **R. M. Lutchyn**, *Coulomb Blockade in Fractional Topological Superconductors*, Phys. Rev. B 96, 041123 (2017)
63. **R. M. Lutchyn**, and L. I. Glazman, *Transport through a Majorana island: strong tunneling regime*, Phys. Rev. Lett. 119, 057002 (2017)
62. D. E. Liu, A. Levchenko, and **R. M. Lutchyn**, *Keldysh approach to periodically driven systems with a fermionic bath: non-equilibrium steady state, proximity effect and dissipation*, Phys. Rev. B 95, 115303 (2017)
61. T. Karzig, C. Knapp, **R. M. Lutchyn**, P. Bonderson, M. B. Hastings, C. Nayak, J. Alicea, K. Flensberg, S. Plugge, Y. Oreg, C. M. Marcus, and M. H. Freedman, *Scalable Designs for Quasiparticle-Poisoning-Protected Topological Quantum Computation with Majorana Zero Modes*, Phys. Rev. B 95, 235305 (2017) 
60. **R. M. Lutchyn**, K. Flensberg, and L. I. Glazman, *Quantum charge fluctuations of a proximitized nanowire*, Phys. Rev. B 94, 125407 (2016)
59. Shu-Ping Lee, **R. M. Lutchyn**, and J. Maciejko, *Odd-frequency superconductivity in a nanowire coupled to Majorana zero modes*, Phys. Rev. B 95, 184506 (2017)
58. Y. Kim, D. E. Liu, E. Gaidamauskas, J. Paaske, K. Flensberg, **R. M. Lutchyn**, *Signatures of Majorana Kramers pairs in superconductor-Luttinger liquid and superconductor-quantum dot-normal lead junctions*, Phys. Rev. B 94, 075439 (2016)
57. B. van Heck, **R. M. Lutchyn**, L.I. Glazman, *Conductance of a proximitized nanowire in the Coulomb blockade regime*, Phys. Rev. B 93, 235431 (2016) 
56. J. Shabani, M. Kjaergaard, H. J. Suominen, Younghyun Kim, F. Nichele, K. Pakrouski, T. Stankevic, **R. M. Lutchyn**, P. Krogstrup, R. Feidenhans'l, S. Kraemer, C. Nayak, M. Troyer, C. M. Marcus, C. J. Palmstrøm, Phys. Rev. B 93, 155402 (2016)
55. Jian Li, Wei Pan, B. A. Bernevig, **R. M. Lutchyn**, *Detection of Majorana Kramers pairs using a quantum point contact*, Phys. Rev. Lett. 117, 046804 (2016)
54. A. A. Soluyanov, D. Gresch, **R. M. Lutchyn**, B. Bauer, C. Nayak, M. Troyer, *Optimizing spin-orbit splittings in InSb Majorana nanowires*, Phys. Rev. B 93, 115317 (2016)

53. Junhua Zhang, Younghyun Kim, E. Rossi, **R. M. Lutchyn**, *Topological superconductivity in a multichannel Yu-Shiba-Rusinov chain*, Phys. Rev. B 93, 024507 (2016)
52. Dong E. Liu, A. Levchenko, **R. M. Lutchyn**, *Majorana zero modes choose Euler numbers - revealed by full counting statistics*, Phys. Rev. B 92, 205422 (2015)
51. Meng Cheng and R. M. Lutchyn, *Fractional Josephson Effect in Number-Conserving Systems*, Phys. Rev. B 92, 134516 (2015)
50. Y. Kim, J. Zhang, E. Rossi, **R. M. Lutchyn**, *Impurity-induced bound states in superconductors with spin-orbit coupling*, Phys. Rev. Lett. 114, 236804 (2015)
49. Dong E. Liu, Meng Cheng, **R. M. Lutchyn**, *Probing Majorana Physics in Quantum Dot Shot Noise Experiments*, Phys. Rev. B 91, 081405(R) (2015)
48. J. Shabani, Y. Kim, A. P. McFadden, **R. M. Lutchyn**, C. Nayak, C. J. Palmstrøm, *Tuning spin orbit interaction in high quality gate-defined InAs one-dimensional channels*, arXiv:1408.1122 (2014)
47. M. Bal, M. H. Ansari, J.-L. Orgiazzi, **R. M. Lutchyn**, A. Lupascu, *Dynamics of parametric fluctuations induced by quasiparticle tunneling in superconducting flux qubits*, Phys. Rev. B 91, 195434 (2015)
46. Y. Kim, M. Cheng, B. Bauer, **R. M. Lutchyn**, S. Das Sarma, *Helical order in one-dimensional magnetic atom chains and possible emergence of Majorana bound states*, Phys. Rev. B 90, 060401(R) (2014)
45. T. D. Stanescu, **R. M. Lutchyn**, S. Das Sarma, *Soft superconducting gap in semiconductor-based Majorana nanowires*, Phys. Rev. B 90, 085302 (2014)
44. M. Cheng, M. Becker, B. Bauer, **R. M. Lutchyn**, *Interplay between Kondo and Majorana interactions in quantum dots*, Phys. Rev. X 4, 031051(2014)
43. Y. Kim, **R. M. Lutchyn**, C. Nayak, *Origin and Transport Signatures of Spin-Orbit Interactions in One- and Two-Dimensional SrTiO₃-Based Heterostructures*, Phys. Rev. B 87, 245121 (2013)
42. **R. M. Lutchyn** and J. H. Skrabacz, *Transport properties of topological superconductor-Luttinger liquid junctions: a real-time Keldysh approach*, Phys. Rev. B 88, 024511 (2013)
41. T. D. Stanescu, **R. M. Lutchyn**, S. Das Sarma, *Magnetic field tuned dimensional crossover in spin-orbit coupled semiconductor nanowires with induced superconducting pairing*, Phys. Rev. B 87, 094518 (2013)
40. L. Fidkowski, H.-C. Jiang, **R. M. Lutchyn**, C. Nayak, *Magnetic and Superconducting Ordering at LaAlO₃/SrTiO₃ Interfaces*, Phys. Rev. B 87, 014436 (2013)
39. B. Bauer, **R. M. Lutchyn**, M. B. Hastings, M. Troyer, *Effect of thermal fluctuations in topological p-wave superconductors*, Phys. Rev. B 87, 014503 (2013)

38. L. Fidkowski, J. Alicea, N. Lindner, **R. M. Lutchyn**, M. P. A. Fisher, Universal transport signatures of Majorana fermions in superconductor-Luttinger liquid junctions, *Phys. Rev. B* 85, 245121 (2012)
37. A. M. Lobos, **R. M. Lutchyn**, S. Das Sarma, *Interplay of disorder and interaction in Majorana quantum wires*, *Phys. Rev. Lett.* 109, 146403 (2012)
36. M. Cheng and **R. M. Lutchyn**, *Josephson Current through a Semiconductor Nanowire: effect of strong spin-orbit coupling and Zeeman splitting*, *Phys. Rev. B* 86, 134522 (2012)
35. M. Cheng, **R. M. Lutchyn**, S. Das Sarma, *Topological Protection of Majorana Qubits*, *Phys. Rev. B* 85, 165124 (2012)
34. **R. M. Lutchyn**, T. Stanescu and S. Das Sarma, *Momentum relaxation in a semiconductor proximity-coupled to a disordered s-wave superconductor: effect of scattering on topological superconductivity*, *Phys. Rev. B* 85, 140513(R) (2012)
33. T. Stanescu, **R. M. Lutchyn** and S. Das Sarma, *Majorana Fermions in Semiconductor Nanowires*, *Phys. Rev. B* 84, 144522 (2011), selected as Editors' Suggestion 
32. L. Fidkowski, **R. M. Lutchyn**, C. Nayak and M.P.A. Fisher, *Majorana Zero Modes in 1D Quantum Wires Without Long-Ranged Superconducting Order*, *Phys. Rev. B* 84, 195436 (2011)
31. **R. M. Lutchyn** and M. P. A. Fisher, *Interacting topological phases in multiband nanowires*, *Phys. Rev. B* 84, 214528 (2011)
30. P. Bonderson and **R. M. Lutchyn**, *Topological quantum buses: coherent quantum information transfer between topological and conventional qubits*, *Phys. Rev. Lett.* 106, 130505 (2011), selected for Physics Synopsis 
29. **R. M. Lutchyn**, M. Dzero and V. M. Yakovenko, *Spectroscopy of the soliton lattice formation in quasi-one-dimensional fermionic superfluids with population imbalance*, *Phys. Rev. A* 84, 033609 (2011)
28. **R. M. Lutchyn**, T. Stanescu, S. Das Sarma, *Majorana fermions in multiband semiconducting nanowires*, *Phys. Rev. Lett.* 106, 127001 (2011)
27. J. D. Sau, S. Tewari, **R. M. Lutchyn**, T. Stanescu, S. Das Sarma, *Non-Abelian quantum order in spin-orbit-coupled semiconductors: the search for topological Majorana particles in solid state systems*, *Phys. Rev. B* 82, 214509 (2010), selected as Editors' Suggestion 
26. M. Cheng, **R. M. Lutchyn**, V. Galitski, and S. Das Sarma, *Tunneling of anyonic Majorana excitations in topological superconductors*, *Phys. Rev. B* 82, 094504 (2010)
25. **R. M. Lutchyn**, J. D. Sau, and S. Das Sarma, *Majorana Fermions and a topological phase transition in semiconductor-superconductor heterostructures*, *Phys. Rev. Lett.* **105**, 077001 (2010)
24. T. D. Stanescu, J. D. Sau, **R. M. Lutchyn**, and S. Das Sarma, *Proximity effect at the superconductor - topological insulator interface*, *Phys. Rev. B* **81**, 241310(R) (2010), selected as

23. J. D. Sau, **R. M. Lutchyn**, S. Tewari, and S. Das Sarma, *Robustness of Majorana fermions in 2D topological superconductors*, Phys. Rev. B **82**, 094522 (2010)
22. **R. M. Lutchyn**, E. Rossi, and S. Das Sarma, *Spontaneous interlayer superfluidity in bilayer systems of cold polar molecules*, Phys. Rev. A **82**, 061604(R) (2010)
21. J. D. Sau, **R. M. Lutchyn**, S. Tewari, and S. Das Sarma, *A generic new platform for topological quantum computation using semiconductor heterostructures*, Phys. Rev. Lett. **104**, 040502 (2010)
20. **R. M. Lutchyn**, P. Nagornykh, and V. M. Yakovenko, *Frequency dependence of the spontaneous Hall conductivity in a chiral p_x+ip_y superconductor with impurities*, Phys. Rev. B **80**, 054511 (2009), *selected as Editors' Suggestion* 
19. M. Cheng, **R. Lutchyn**, V. Galitski, and S. Das Sarma, *Splitting of Majorana modes due to intervortex tunneling in a $p + ip$ superconductor*, Phys. Rev. Lett. **103**, 107001 (2009)
18. S. Tewari, **R. Lutchyn**, and S. Das Sarma, *Effects of a dilute gas of fermions on the superfluid-insulator phase diagram of the Bose-Hubbard model*, Phys. Rev. B **80**, 054511 (2009)
17. **R. M. Lutchyn**, S. Tewari, and S. Das Sarma, *Loss of superfluidity by fermions in the boson Hubbard model on an optical lattice*, Phys. Rev. A **79**, 011606(R) (2009)
16. **R. M. Lutchyn**, S. Tewari, and S. Das Sarma, *Boson Hubbard model with weakly coupled Fermions*, Phys. Rev. B **78**, 220504(R) (2008)
15. **R. M. Lutchyn**, V. Galitski, G. Refael, and S. Das Sarma, *Dissipation-driven quantum phase transition in superconductor-graphene systems*, Phys. Rev. Lett. **101**, 106402 (2008); *selected as Editors' Suggestion* 
14. C. Zhang, S. Tewari, **R. Lutchyn**, and S. Das Sarma, *p_x+ip_y superfluid from s-wave interactions of fermionic cold atoms*, Phys. Rev. Lett. **101**, 160401 (2008)
13. **R. M. Lutchyn**, L. Cywinski, Cody P. Nave, and S. Das Sarma, *Quantum decoherence of a charge qubit in a spin-fermion model*, Phys. Rev. B **78**, 024508 (2008)
12. M. D. Shaw, **R. Lutchyn**, P. Delsing, and P. M. Echternach, *Kinetics of non-equilibrium quasiparticle tunneling in superconducting charge qubits*, Phys. Rev. B **78**, 024503 (2008)
11. L. Cywinski, **R.M. Lutchyn**, C.P. Nave, and S. Das Sarma, *How to Suppress Noise Induced Quantum Decoherence in Superconducting Qubits*, Phys. Rev. B **77**, 174509 (2008)
10. **R. M. Lutchyn**, P. Nagornykh, and V. M. Yakovenko, *Gauge-invariant electromagnetic response of a chiral p_x+ip_y superconductor*, Phys. Rev. B **77**, 144516 (2008), *selected as Editors' Suggestion* 

9. N. A. Court, A. J. Ferguson, **R. Lutchyn**, and R. G. Clark, *A quantitative study of quasiparticle traps using the single-Cooper-pair-transistor*, Phys. Rev. B **77**, 100501(R) (2008)
8. **R. M. Lutchyn**, and L. I. Glazman *Energy relaxation of superconducting charge qubit via Andreev processes*, Phys. Rev. B **76**, 104507 (2007)
7. **R. M. Lutchyn**, *Effect of quantum fluctuations on even-odd energy difference in a Cooper-pair box*, Phys. Rev. B **75**, 212501 (2007)
6. **R. M. Lutchyn**, and L. I. Glazman *Kinetics of quasiparticle trapping in a Cooper-pair box*, Phys. Rev. B **75**, 184510 (2007)
5. **R. M. Lutchyn**, L. I. Glazman, and A. I. Larkin *Kinetics of the superconducting charge qubit in the presence of a quasiparticle*, Phys. Rev. B **74**, 064515 (2006)
4. **R. Lutchyn**, L. Glazman, and A. Larkin *Quasiparticle decay rate of Josephson charge qubit oscillations*, Phys. Rev. B **72**, 14525 (2005)
3. L. Gorb, **R. Lutchyn**, Y. Zub, D. Leszczynska and J. Leszczynski, *The origin of the interaction of 1,3,5-trinitrobenzene with siloxane surface of clay minerals*, THEOCHEM **766**, 151 (2006)
2. P. I. Holod, T. P. Holod, and **R. M. Lutchyn**. *Large-scale edge excitation in the incompressible charged fluid in strong magnetic field*. UKMA preprint: “Naukovi Zapysky”, vol. 18 Natural Sciences (2002) (in Ukrainian)
1. V. Spirko, A. Cejchan, **R. Lutchyn** and J. Leszczynski *Dimensionality of the proton transfer in the intramolecular hydrogen bond of formimidol*, Chem. Phys. Lett. **355**, 319-326 (2002)

Total Number of Citations according to Google Scholar: > 5900 (“h-index” 30)