

## *Curriculum Vitae*

### **ROMAN M. LUTCHYN**

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#### **Education**

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- 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**

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- 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,  
Summer 2000      Visiting Researcher, Computational Center for Molecular Structure and Interactions  
and Army High Performance Computing Center, Jackson, MS

## **Awards and Honors**

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- 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**

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- 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**

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- Member of the American Physical Society since 2003

## **Advising**

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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**

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- 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”, Cargese, 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**

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- 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<sub>2</sub>RuO<sub>4</sub> 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**



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- 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)
- 4<sup>th</sup> European Workshop "Quantum Systems in Physics and Chemistry", Paris, France (April 1999)




## Publications

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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. Stankevici, **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 SrTiO<sub>3</sub>-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 LaAlO<sub>3</sub>/SrTiO<sub>3</sub> 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

Editors' Suggestion 

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  $px+ipy$  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)**