Pavan Hosur

Associate Professor
Department of Physics and
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Research interests

Theoretical condensed matter physics: topological phases and materials, interplay of symmetry and topology, transport phenomena

Quantum statistical mechanics: non-integrable quantum systems, eigenstate thermalization, quantum thermalization and chaos

Education and experience

2022 - present	Associate Professor, Department of Physics and Texas Center for Superconductivity, University of Houston, USA
2024 - present	Adjunct Professor, Department of Electrical and Computer Engineering, Rice University, USA
2024 - 2024	Visiting Professor, Department of Physics and Astronomy, Rice University, USA
2024 - 2024	Visiting scientist, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany
2016 - 2022	Assistant Professor, Department of Physics, University of Houston, USA
2012 - 2016	Postdoctoral researcher, Department of Physics, Stanford University, USA with Xiao-Liang Qi and Steven Kivelson
2007 - 2012	Ph. D., Physics at University of California Berkeley, USA Thesis: *Consequences of non-trivial band topology in condensed matter systems* with Ashvin Vishwanath, UC Berkeley
2003 - 2007	B. Tech., Engineering Physics, Indian Institute of Technology Bombay, India Senior thesis: *Spontaneous CP-violation in left-right symmetric models* with S. Umasankar, IIT Bombay

Honors

1. NSF CAREER award 2021

2. Acknowledged in the Scientific Background for the 2016 Nobel Prize in Physics
3. Sigma Xi full member

Organization and outreach

1. Host PI, UH ALL-RISE, Jul 2023
2. Sorter, APS March meeting 2022, 2023
3. Co-organizer of UH Department of Physics Research Day, Feb 2022, Nov 2022
4. Volunteer for STEM interactive program by teachHouston, June 2020
5. Judge for “3-minute thesis” competition at the University of Houston, Feb 2019
6. Co-organizer of workshop on “Topological superconductors: materials, topological order and quenched disorder”, at Rice University, Houston, USA, Apr 2018

Mentorship

Graduate students

1. Gustavo Valdivia-Mera, Summer 2026 - present
2. David Cespedes Gonzalez, Fall 2024 - present
3. Bishnu Karki, Fall 2022 - Spring 2026
4. Siddharth Jindal, Spring 2022 - Spring 2026
5. Aymen FNU, Fall 2021 - Summer 2024
6. Swadeepan Nanda, Fall 2021 - Fall 2025
7. Osakpolor Eki Osakpolor, Spring 2018 - Fall 2022
8. Rauf Giwa, Spring 2018 - Spring 2022
9. Shun-Chiao Chang, Spring 2017 - Spring 2022

Postdocs

1. Boqun Song, May 2025 - present
2. Kai Chen, Sep 2022 - Apr 2025
3. Hridis Pal, Feb 2018 - Dec 2018

Undergraduate students

1. Kalyan Mihut, May 2025 - present
2. Abheek Satishkumar, May 2025 - Aug 2026
3. Kartikeya Arora, Sep 2021 - Aug 2023
4. Daniel Palacios, May 2020 - Dec 2021
5. Nicolas Pineda, May 2020 - May 2021

High-school students

1. Sneha Bhetanbotla, Summer 2016

Thesis committees served

1. Musa Rahim Khan, Nov 2024 - present (Adviser: Claudia Ratti, University of Houston)
2. Sameer Dambal, Mar 2024 - present (Adviser: Eric Bittner, University of Houston)
3. Hitansh Shah, Jun 2023 - present (Adviser: Claudia Ratti, University of Houston)
4. Rutik Manikandhan, May 2022 - present (Adviser: Rene Bellwied, University of Houston)
5. Pablo Lopez Duque, Sep 2021 - Dec 2024 (Adviser: Carlos Ordonez, University of Houston)
6. Jonathan Sanderson, Sep 2021 - present (Adviser: John Miller, University of Houston)
7. Samuel Dapper, May 2021 - Dec 2021 (Adviser: Eric Bittner, University of Houston)
8. Ling-Hua Chang, Nov 2020 - present (Adviser: C. S. Ting, University of Houston)
9. Sean Guthrie, Sep 2020 - present (Adviser: Byron Freelon, University of Houston)
10. Trevor Bontke, July 2020 - present (Adviser: C. W. Chu, University of Houston)
11. Sumit Khadka, July 2020 - Apr 2024 (Adviser: Byron Freelon, University of Houston)
12. Joaquin Grefa, Apr 2020 - Apr 2023 (Adviser: Claudia Ratti, University of Houston)
13. Jacob Trinn, Apr 2019 - Oct 2021 (Adviser: Margaret Cheung, University of Houston)
14. Dhan Rana, Sep 2018 - May 2023 (Adviser: Oomman Varghese, University of Houston)
15. Rabin Dahal, May 2018 - Nov 2020 (Adviser: C. W. Chu, University of Houston)
16. Ayo Kolapo, Oct 2017 - May 2018 (Adviser: John Miller, University of Houston)
17. Moein Adnani, May 2017 - May 2021 (Adviser: C. W. Chu, University of Houston)
18. Hasan Najafabadi, May 2017 - Nov 2020 (Adviser: Mark Meier, University of Houston)
19. Yixuan Huang, Mar 2017 - May 2020 (Adviser: C. S. Ting, University of Houston)
20. Sayed Ghorashi, Sep 2016 - May 2018 (Adviser: C. S. Ting, University of Houston; Matthew Foster, Rice University)
21. Armindo Cuamba, Sep 2016 - May 2018 (Adviser: C. S. Ting, University of Houston)

Departmental committees served

1. Chair, Condensed Matter Theory Hiring Committee (2022 - 2023, 2023 - 2024)
2. Scholarship Committee (2018 - present)
3. Graduate Students Committee (2018 - 2019, 2021 - present)
4. Undergraduate Students Committee (2018 - present)

5. Colloquium Committee (2018 - present)

Invited talks

1. *High-efficiency superconducting diodes: Critical phenomena and universal digital logic*, MDPI World Quantum Day, Apr 2026 (Keynote, virtual).
2. *Topology without gaps in quantum matter*, Quantum Student Success Summit, Rice University, Houston, Mar 2026 (Distinguished).
3. *Vortical effects in chiral band structures* at “Weyl and Dirac Semimetals as a Laboratory for High-Energy Physics”, University of Minho, Portugal, Jun 2025 (virtual).
4. *Superconducting diodes as a new platform for cryogenic computing*, Texas A&M, College Station, Jan 2025.
5. *Superconducting diodes as a new platform for cryogenic computing*, Rice Center for Quantum Materials, Houston, Oct 2024.
6. *Perfecting the superconducting diode effect using band asymmetric metals*, Los Alamos National Lab, Los Alamos, Sep 2024.
7. *Perfecting the superconducting diode effect using band asymmetric metals*, Rice Center for Quantum Materials, Houston, Jun 2024.
8. *Simulating quantum many-body systems in polynomial time*, Google Quantum AI, Santa Barbara, CA, Mar 2024.
9. *Unconventional superconducting phenomena in Weyl semimetals* at Max-Planck Institute for Solid State Research, Stuttgart, Germany, Nov 2023.
10. *Unconventional superconducting phenomena in Weyl semimetals* at Technical University of Munich, Garching, Germany, Nov 2023.
11. *Unconventional superconducting phenomena in Weyl semimetals* at Max-Planck Institute for Physics of Complex Systems, Dresden, Germany, Nov 2023.
12. *Superconductor vortices in Weyl semimetals* at City College of New York, New York, USA, Sep 2023.
13. *Superconductor vortices in Weyl semimetals* at Columbia University, New York, USA, Sep 2023.
14. *Superconductor vortices in Weyl semimetals* at Stanford University, Stanford, USA, May 2023. Watch recording
15. *Superconductor vortices in Weyl semimetals* at National High Magnetic Field Lab, Tallahassee, USA, Feb 2023
16. *Superconductor vortices in Weyl semimetals* at Indian Institute of Technology Bombay, India, Jan 2023
17. *Topology in condensed matter and mechanical systems*, Department of Civil and Environmental Engineering, University of Houston, Houston, USA, Aug 2019
18. *Dirac meets Majorana*, Colloquium at the University of Alberta, Edmonton, Canada, Mar 2019
19. *Tunable circular dichroism due to the chiral anomaly in Weyl semimetals* at “Open problems and

opportunities in chiral fluids", Santa Fe, Jul 2018

20. *Probing quantum dynamics via out-of-time-ordered measurements,* Johns Hopkins University, Baltimore, May 2018

21. *Transport evidence for three-dimensional topological superconductivity in doped* $PdBi_2$ at the RCQM Spring Workshop on "Topological superconductors: materials, topological order and quenched disorder", Rice University, Houston, USA, Apr 2018

22. *Probing quantum dynamics via out-of-time-ordered measurements,* University of Alberta, Edmonton, Canada, Jan 2018

23. *Theory perspective: topology and correlations* at "Workshop on strongly correlated materials: topology and quantum phase transitions", Rice University, Houston, USA, Jan 2017

24. *Tunable circular dichroism due to the chiral anomaly in Weyl semimetals* at EMN meeting on Quantum Matter", Mauritius, Dec 2016

25. *Topology in condensed matter physics* at University of Houston, Houston, USA, Nov 2016

26. *Chirality in condensed matter systems* at Tata Institute of Fundamental Research, Mumbai, India, Jul 2016

27. *Chirality in condensed matter systems* at Indian Institute of Science, Bengaluru, India, Jul 2016

28. *Characterizing eigenstate thermalization via measures in the Fock space of operators* at Tata Institute of Fundamental Research, Mumbai, India, Jul 2016

29. *Characterizing eigenstate thermalization via measures in the Fock space of operators* at Indian Institute of Science, Bengaluru, India, Jul 2016

30. *Chirality in condensed matter systems* at International Center for Theoretical Sciences, Bengaluru, India, Jun 2016

31. *Characterizing eigenstate thermalization via measures in the Fock space of operators* at International Center for Theoretical Sciences, Bengaluru, India, Jun 2016

32. *Time-reversal asymmetry without local moments via directional scalar spin chirality* at "School on current frontiers in condensed matter research", ICTS, Bengaluru, India, Jun 2016

33. *Chirality in condensed matter systems* at University of Houston, Houston, USA, Feb 2016

34. *Chirality in condensed matter systems* at University of California Riverside, Riverside, USA, Feb 2016

35. *Weyl semimetals: the next superstar in condensed matter physics?* at Santa Clara University, Santa Clara, USA, Feb 2015

36. *Faraday effect in Weyl semimetals* at Indian Institute of Science, Bangalore, India, Dec 2014

37. *Surface and bulk transport in Weyl semimetals* at University of California, Davis, USA, May 2013

38. *Topology in condensed matter systems: Majorana modes and Weyl semimetals* at University of Toronto, Toronto, Canada, Feb 2012

39. *Topology in condensed matter systems: Majorana modes and Weyl semimetals* at University of Illinois at Urbana-Champaign, USA, Feb 2012

40. *Topology in condensed matter systems: Majorana modes and Weyl semimetals* at Perimeter Institute, Waterloo, Canada, Feb 2012

41. *Surface Majorana modes in superconducting doped topological insulators* at Tata Institute for Fundamental Research, Mumbai, India, Dec 2010
42. *Surface Majorana modes in superconducting doped topological insulators* at Physical Research Laboratories, Ahmedabad, India, Dec 2010

Teaching Experience

As a primary instructor at the University of Houston

1. Statistical physics (graduate)
2. Topology in condensed matter physics (graduate, special topic)
3. Quantum Mechanics I & II (graduate)
4. Quantum many-body physics (graduate)
5. University Physics II (lower division)
6. Intermediate mechanics (upper division)
7. Solid state physics (upper division)
8. College Physics I (lower division)

Instructor for the STEP program for training high-school physics teachers organized by the Department of Physics at the University of Houston

As a teaching assistant at the University of California, Berkeley

1. Quantum field theory in condensed matter physics (graduate)
2. Solid state physics (upper division)
3. Statistical and thermal physics (upper division)
4. Analytical mechanics (upper division)
5. Physics for scientists and engineers: mechanics and wave motion (lower division)
6. Introductory physics: electricity, magnetism, optics, and modern physics for non-majors (lower division)
7. Introductory physics: forces, kinetics, fluids, waves and heat for non-majors (lower division)

Referee for

1. Proceedings of the National Academy of Sciences
2. Physical Review A
3. Physical Review B
4. Physical Review Materials
5. Physical Review X
6. Physical Review Letters
7. Physical Review X Quantum

8. Physical Review Quantum
9. Physical Review Research
10. Europhysics Letters
11. Nature
12. Nature Physics
13. Nature Communications
14. Journal of Physics: Condensed Matter
15. Journal of Superconductivity and Novel Magnetism
16. Physics Letters A
17. Communication Physics
18. SciPost
19. New Journal of Physics
20. Philosophical Magazine

Expert reviewer for

1. Indian Institute of Science, Bengaluru, India (Ph. D. thesis reviewer)
2. European Science Foundation (postdoctoral fellowship reviewer)
3. National Science Foundation (grant proposal reviewer)
4. Swiss National Science Foundation (grant proposal reviewer)
5. Israeli Science Foundation (grant proposal reviewer)
6. Department of Energy (grant proposal reviewer)

Publication list

1. *Noise-Induced Thermalization in Quantum Systems*
   Sameer Dambal, Yu Zhang, Eric Bittner, Pavan Hosur
   New Journal of Physics, Volume 28, October 2026

2. *Thermodynamic constraints on perfect equilibrium superconducting diodes*
   Pavan Hosur
   Phys. Rev. B 114, L020505 (2026)
   Remark: Selected as *Editors' Suggestion*

3. *The Helical SYK Model and Emergent Infrared Integrability*
   Gustavo Valdivia-Mera, Bhavay Tyagi, Eric R Bittner, Pavan Hosur
   arXiv:2606.17161

4. *Transport scaling and critical tilt effects in disordered two-dimensional Dirac fermions*
   Swadeepan Nanda, Pavan Hosur
   Phys. Rev. B **113**, 214203 (2026)

5. *Enhanced superconducting diode effect in the asymmetric Hatsugai-Kohmoto model*
   Kai Chen, Pavan Hosur
   Phys. Rev. B **113**, 224519 (2026)

6. *Eigenstate chaos in the presence of non-Abelian symmetries*
   Siddharth Jindal, Pavan Hosur
   arXiv:2605.30798

7. *Switchable Surface Linear Photogalvanic Effect in the Magnetic Weyl Semimetal Co3Sn2S2*
   Niket Shah, Aymen Nomani, Kai Chen, Hridis K Pal, Pavan Hosur
   arXiv:2605.14107

8. *Quantum structure of the chiral vortical effect and boundary-induced vortical pumping*
   Boqun Q Song, Pavan Hosur
   arXiv:2604.01293

9. *Pressure-induced Superconductivity in AgSbTe2*
   Sudaice Kazibwe, Bishnu Karki, Wencheng Lu, Zhongxin Liang, Minghong Sui, Melissa Gooch, Zhifeng Ren, Pavan Hosur, Timothy A Strobel, Ching-Wu Chu, Liangzi Deng
   arXiv:2603.17846

10. *Kramers nodal lines in intercalated TaS2 superconductors*
    Yichen Zhang, Yuxiang Gao, Aki Pulkkinen, Xingyao Guo, Jianwei Huang, Yucheng Guo, Ziqin Yue, Ji Seop Oh, Alex Moon, Mohamed Oudah, Xue-Jian Gao, Alberto Marmodoro, Alexei Fedorov, Sung-Kwan Mo, Makoto Hashimoto, Donghui Lu, Anil Rajapitamahuni, Elio Vescovo, Junichiro Kono, Alannah M. Hallas, Robert J. Birgeneau, Luis Balicas, Ján Minár, Pavan Hosur, Kam Tuen Law, Emilia Morosan, Ming Yi
    Nat. Commun. 16, 4984 (2025)

11. *The Effect of the Non-Abelian Quantum Metric on Superfluidity*
    Kai Chen, Bishnu Karki, Pavan Hosur
    arXiv:2501.16965

12. *Digital logic from high-efficiency superconducting diodes*
    Pavan Hosur
    arXiv:2410.23352

13. *Chiral kinematic theory and converse vortical effects*
    Kai Chen, Swadeepan Nanda, Pavan Hosur
    Phys. Rev. B 110, 195145 (2024)

14. *Anomalous Shiba spectrum and superconductivity induced magnetic interactions in materials with topological band inversion*
    Didier Ndengeyintwali, Shiva Heidari, Cody Youmans, Pavan Hosur, Pouyan Ghaemi
    Phys. Rev. B **110**, 085134 (2024)

15. *Non-linear Hall effects induced by Berry curvature dipole in* $CuPb_9(PO_4)_6O$
    Bishnu Karki, Kai Chen, Pavan Hosur
    J. Phys.: Condens. Matter 37 365501 (2025)

16. *Robust Luttinger surfaces in topological band structures*

Kai Chen, Pavan Hosur
Phys. Rev. B **111**, 125132 (2025)

17. *Generalized free cumulants for quantum chaotic systems*
Siddharth Jindal, Pavan Hosur
J. High Energ. Phys. 2024, 66 (2024)

18. *Intrinsic superconducting diode effects in tilted Weyl and Dirac semimetals*
Kai Chen, Bishnu Karki, and Pavan Hosur
Phys. Rev. B 109, 064511 (2024)

19. *Intrinsic surface superconducting instability in Type-I Weyl semimetals*
Ayman Nomani, Pavan Hosur
Phys. Rev. B 108, 165144 (2023)

20. *Suppression of one-dimensional weak localization by band asymmetry*
Kartikeya Arora, Rajeev Singh, Pavan Hosur
Phys. Rev. B 108, 064211 (2023)

21. *Proximity-induced equilibrium supercurrent and perfect superconducting diode effect due to band asymmetry*
Pavan Hosur, Daniel Palacios
Phys. Rev. B 108, 094513 (2023)

22. *Vortical effects in chiral band structures*
Swadeepan Nanda, Pavan Hosur
Phys. Rev. B 107, 205107 (2023)

23. *Superconductor vortex spectrum including surface Fermi arcs in time-reversal symmetric Weyl semimetals*
Rauf Giwa, Pavan Hosur
Phys. Rev. Lett. 130, 156402 (2023)

24. *Absence of Friedel oscillations in the entanglement entropy profile of one-dimensional intrinsically gapless topological phases*
Shun-Chiao Chang, Pavan Hosur
arxiv:2201.07260

25. *Anomalous surface conductivity of Weyl Semimetals*
Hridis K. Pal, Osakpolor E. Obakpolor, Pavan Hosur
Phys. Rev. B 106, 245410 (2022)

26. *Surface Luttinger arcs in Weyl semimetals*
Obakpolor Eki Osakpolor, Pavan Hosur
Phys. Rev. B 106, L081112 (2022)
Remark: Selected as *Editors' Suggestion*

27. *Fermi arc criterion for surface Majorana modes in superconducting time-reversal symmetric Weyl semimetals*
Rauf Giwa, Pavan Hosur
Phys. Rev. Lett. 127, 187002 (2021)

28. *Quasi-flat-band physics in a two-leg ladder model and its relation to magic-angle twisted bilayer graphene*
Yixuan Huang, Pavan Hosur, Hridis K. Pal
Phys. Rev. B 102, 155429 (2020)

29. *Polynomial-time algorithm for studying physical observables in chaotic eigenstates*

Pavan Hosur
Phys. Rev. B 103, 195159 (2021)

30. *Spontaneous time-reversal symmetry breaking without magnetism in a S=1 chain* Shun-Chiao Chang, Pavan Hosur
Phys. Rev. B 102, 174404 (2020)

31. *Time-reversal asymmetry without local moments via directional scalar spin chirality*
Pavan Hosur
J. Phys.: Cond. Mat., Vol. 32, No. 25 (2020)

32. *Effect of Zeeman coupling on the Majorana vortex modes in iron-based topological superconductors*
Areg Ghazaryan, Pedro L. S. Lopes, Pavan Hosur, Matthew J. Gilbert, Pouyan Ghaemi
Phys. Rev. B 101, 020504 (2020)

33. *Power-law Temperature Dependence of the Penetration Depth in a Topological Superconductor due to Surface States*
Tsz Chun Wu, Hridis K. Pal, Pavan Hosur, Matthew S. Foster
Phys. Rev. Lett 124, 067001 (2020)

34. *Possible transport evidence for three dimensional topological superconductivity in doped* β-$PdBi_2$
Ayo Kolapo, Tingxin Li, Pavan Hosur, John H. Miller
Scientific Reports 6, 12504 (2019)

35. *Out-of-time-ordered measurements as a probe of quantum dynamics*
Pranjal Bordia, Fabien Alet, Pavan Hosur
Phys. Rev. A 97, 030103(R) (2018)

36. *Irradiated three-dimensional Luttinger semimetal: A factory for engineering Weyl semimetals*
Sayed Ali Akbar Ghorashi, Pavan Hosur, Chin-Sen Ting
Phys. Rev. B 97, 205402 (2018)

37. *Type-II Dirac cone and Dirac cone protected by nonsymmorphic symmetry in carbon-lithium compound (C_4Li)*
Armindo S. Cuamba, Pavan Hosur, Hong-Yan Lu, Lei Hao, C. S. Ting
Phys. Rev. B 96, 195159 (2017)

38. *Larkin-Ovchinnikov state of superconducting Weyl metals: Fundamental differences between pairings restricted and extended in the k-space*
Lei Hao, Rui Wang, Pavan Hosur, C. S. Ting
Phys. Rev. B 96, 094530 (2017)

39. *Quantum oscillations from generic surface Fermi arcs and bulk chiral modes in Weyl semimetals*
Yi Zhang, Daniel Bulmash, Pavan Hosur, Andrew C. Potter, Ashvin Vishwanath
Scientific Reports 6, 23741 (2016)

40. *Chaos in quantum channels*
Pavan Hosur, Xiao-Liang Qi, Daniel A. Roberts, Beni Yoshida
J. High Energ. Phys. (2016) 2016: 4

41. *Characterizing eigenstate thermalization via measures in the Fock space of operators*
Pavan Hosur, Xiao-Liang Qi
Phys. Rev. E 93, 042138 (2016)

42. *Elastoconductivity as a probe of broken mirror symmetries*
Patrik Hlobil, Akash V. Maharaj, Pavan Hosur, M.C. Shapiro, I.R. Fisher, S. Raghu
Phys. Rev. B 92, 035148 (2015)

43. *Unified Topological Field Theory for Gapped and Gapless Systems*
Daniel Bulmash, Pavan Hosur, Shou-Cheng Zhang, Xiao-Liang Qi
Phys. Rev. X 5, 021018 (2015)

44. *Tunable circular dichroism due to the chiral anomaly in Weyl Semimetals*
Pavan Hosur, Xiao-Liang Qi
Phys. Rev. B 91, 081106 (2015)

45. *Erratum: Kerr effect as evidence of gyrotropic order in the cuprates*
Pavan Hosur, A. Kapitulnik, S. A. Kivelson, J. Orenstein, S. Raghu, W. Cho, A. Fried
Phys. Rev. B 91, 039908 (2015); Erratum to Phys. Rev. B 87, 115116 (2013)

46. *Crisscrossed stripe order from interlayer tunneling in hole-doped cuprates*
Akash V. Maharaj, Pavan Hosur, and S. Raghu
Phys. Rev. B 90, 125108 (2014)

47. *Time-reversal invariant topological superconductivity in doped Dirac and Weyl semimetals*
Pavan Hosur, Xi Dai, Zhong Fang, and Xiao-Liang Qi
Phys. Rev. B 90, 045130 (2014)

48. *Recent developments in transport phenomena in Weyl semimetals*
Pavan Hosur, Xiao-Liang Qi
C. R. Phys. Vol. 14, Issues 9-10, Nov-Dec 2013, Pages 857-870
Remark: Cited in the scientific background for the *2016 Nobel Prize in Physics*

49. *Kerr effect as evidence of gyrotropic order in the cuprates*
Pavan Hosur, A. Kapitulnik, S. A. Kivelson, J. Orenstein and S. Raghu
Phys. Rev. B 87, 115116 (2013)
Remark: Selected as *Editors' Suggestion*

50. *Friedel oscillations due to Fermi arcs in Weyl semimetals*
Pavan Hosur
Phys. Rev. B 86, 195102 (2012)

51. *Charge transport in Weyl semi-metals*
Pavan Hosur, S. A. Parameswaran, Ashvin Vishwanath
Phys. Rev. Lett. 108, 046602 (2012)

52. *Ultracold atoms in a tunable optical kagome lattice*
Gyu-Boong Jo, Jennie Guzman, Claire K. Thomas, Pavan Hosur, Ashvin Vishwanath and Dan M. Stamper-Kurn
Phys. Rev. Lett. 108, 045305 (2012)

53. *Majorana modes at the ends of superconductor vortices in doped topological insulators*
Pavan Hosur, Pouyan Ghaemi, Roger S. K. Mong and Ashvin Vishwanath
Phys. Rev. Lett. 107, 097001 (2011)
Remarks: Selected as *Editors' Suggestion*; Received non-technical commentary in *Viewpoint: Majorana fermions inch closer to reality*, Taylor Hughes, Physics 4, 67 (2011)

54. *Circular photogalvanic effect on topological insulator surfaces: Berry-curvature-dependent response*
Pavan Hosur
Phys. Rev. B 83, 035309 (2011)

55. *Fermionic Hopf solitons and Berry's phase in topological surface superconductors* Ying Ran, Pavan Hosur and Ashvin Vishwanath

Phys. Rev. B 84, 184501 (2011)

56. *Chiral topological insulators, superconductors, and other competing orders in three dimensions*
Pavan Hosur, Shinsei Ryu and Ashvin Vishwanath
Phys. Rev. B 81, 045120 (2010)
Remark: Selected as *Editors' Suggestion*

57. *The single-atom box: bosonic staircase and effects of parity*
D.V. Averin, T. Bergeman, P. R. Hosur, C. Bruder
Phys. Rev. A 78, 031601(R) (2008)
Remark: Showcased on journal cover