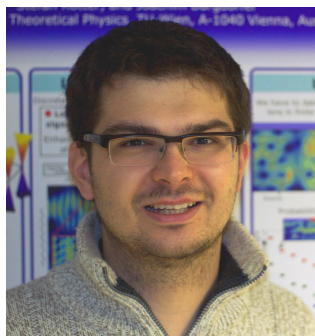


Dr. Florian Libisch

Place of birth: Winterthur, Switzerland
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Present employment address

Institute for Theoretical Physics
Vienna University of Technology (VUT)
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Working Experience

since 1. 2017 Assistant Professor (Tenure track), Institute for Theoretical Physics, VUT
04. 2012-04. 2013 Postdoctoral Research Associate, Princeton University
04. 2011-04. 2012 Max Kade Postdoctoral Research Fellow, Princeton University
01. 2009-12. 2016 Staff member (Lecturer) at the Institute for Theoretical Physics, VUT
(on sabbatical 04. 2011 - 04. 2013)

Education

08. 2019 Habilitation in theoretical physics (TU Wien)
11. 2009 Ph.D., with distinction (*summa cum laude*),
08. 2004 Master degree (Dipl.-Ing.) with distinction (*summa cum laude*)
1999-2004 Physics student at VUT

Prizes and awards

- *AT&S research prize*, awarded by the Austrian Physical Society for my PhD thesis “Electronic structure and transport in large-scale nanodevices” (2010).
- *Promotio sub auspiciis praesidentis rei publicae*, awarded by the President of Austria, for my physics studies (2009).
- *Würdigungspreis* (Appreciation prize), awarded by the Austrian Ministry of Science and Research 2009, for my PhD studies.

Teaching

2016-2019 Lecturer in the class *Theoretical Solid State Physics* (graduate)
2014-2019 Lecturer in the class *Statistical mechanics* (graduate and undergraduate)
2009 Lecturer in the class *Quantum Theory* (undergraduate)
2006,2007 Lecturer in the exercise classes
Quantum Theory and Statistical Mechanics (undergraduate)

Mentoring

Current PhD students: L. Linhart, T. Fabian, C. Schattauer, V. Smejkal, joint supervision of E. Schiavo (with M. Pavone, Naples)

Supervision of three PhD students (J. Cheng, Princeton University, with E. A. Carter; A. Girschik, TU Wien, with S. Rotter, L. Chizhova, TU Wien, with J. Burgdörfer), seven Master (P. Ambichl, A. Bärenthaler, T. Fabian, I. Floss, L. Linhart, R. Reiter, T. Reisch), and over twenty project students.

Collaborations

(experimental collaborations underlined)

Prof. Emily A. Carter,	Princeton University, NJ, USA
<u>Prof. Andrey Chabanov,</u>	University of Texas at San Antonio, USA
<u>Prof. Klaus Ensslin,</u>	ETH Zürich, Switzerland
<u>Prof. Alan McDonald,</u>	University of Texas at Austin, USA
<u>Prof. Pertti Hakonen,</u>	Aalto University, Helsinki, Finland
<u>Prof. Naomi Halas,</u>	Rice Quantum Institute, TX, USA
<u>Prof. Georg Kresse,</u>	University of Vienna, Vienna, Austria
<u>Prof. Markus Morgenstern,</u>	RWTH Aachen, Germany
Prof. Peter Nordlander,	Electrical and Computer Engineering, Rice University, TX, USA
<u>Prof. Michele Pavone,</u>	University of Naples Federico II, Naples, Italy
<u>Prof. Christoph Stampfer,</u>	RWTH Aachen, Germany

Conference presentations

- **Plenary** talks at international conferences:
 - The *ROSOV PINN 2017* on refractory, process industry, nanotechnologies and nanomedicine, Belgrad, Serbia, 2017.
- **Invited** talks at international conferences:
 - *Electronic Properties of Novel Materials* (IWEPNM) Kirchberg, Austria, 2020.
 - *MRS fall meeting*, Boston MA, USA 2019.
 - The *Solids 4 Fun summer school*, Waidhofen an der Ybbs, Austria, 2018.
 - The *33rd Workshop on Novel Materials and Superconductivity*, Obertraun, Austria, 2018.
 - The *3rd School on Computational Chemistry*, Ribeirao Preto. Brazil, 2017.
 - The *ISTCP IX* conference, Grand Forks, North Dakota, USA, 2016.
 - The *54th Sanibel Symposium*, St. Simons, Georgia, USA, 2014.
 - CECAM workshop on *Density-based Embedding*, Lausanne, Switzerland, 2014.
 - *Electrons and Phase Transitions*, ViCoM conference, Vienna, Austria, 2014.
 - *Dynamical Phenomena at Surfaces*, Leiden, The Netherlands, 2013.
 - *Electronic Properties of Novel Materials* (IWEPNM) Kirchberg, Austria, 2011.
 - Austrian Physical Society annual meeting, Salzburg, Austria, 2010.

- Numerous contributed conference talks including Graphene week, APS March meetings, the IUPAC conference on computational physics, Modern Approaches to Coupling Scales in Materials Simulations (Lenggries), the *Workshop on Nodal patterns in physics and mathematics* (Wittenberg), *DPG spring meetings*, *Billiard workshops* (Marburg, Göttingen), the OEPG Vienna and the *Mathmod*(Vienna).

Invited seminar talks at Universities

- Aalto University, Helsinki, Finland (2019,2014, 2010)
- University of Naples Federico II, Naples, Italy (2019,2015)
- RWTH Aachen, Aachen, Germany (2019,2018,2016,2014,2013,2010,2009)
- Rice University, Houston, TX, USA (2018)
- Shenzhen Institute of Advanced Technology, Shenzhen, China (2017)
- NanoScience and Technology Research Center, Shanghai, China (2017)
- Institute of Chemistry, Chinese Academy of Sciences, Beijing, China (2017)
- Institute for Photonics, Vienna, Austria (2016)
- Florida State University, Tallahassee, Florida, USA (2015)
- ITAMP, Harvard University, Boston, Massachusetts, USA (2012)
- TU München, Munich, Germany (2012)
- ETH Zürich, Zürich, Switzerland (2009) (2010)
- Higher Institute for Electronics and Digital Training (ISEN), Lille, France (2009)
- Graz University of Technology, Graz, Austria (2008)

Conference Organization

Organizer of symposium J , E-MRS fall meeting 2019

Chief organizer of the ViCoM Young Researchers Meeting (September 2016, April 2014) and the TU-D workshops (2017, 2018). Local organizer of the CCTN16 (August 2016).

Memberships

Member of the Austrian Physical Society (OePG), the American Physical Society (APS), and the American Chemical Society (ACS)

Work as referee

Review of ERC and national PhD grant applications, and articles for the following journals:

Physical Review Letters, *Physical Review B*, *Journal of Physics*, *Nature Comm.*, *Angewandte Chemie*, *Accounts of Chemical Research*

University management

- Speaker, Doctoral school TU-D, unraveling the properties of two-dimensional materials, TU Wien, 2016-2020
- Substitute member, Faculty Council, faculty of physics, TU Wien 2017-2019
- Substitute member, Study commission for physics, TU Wien 2017-2019

External Funding

Co-applicant	ERC	200 000,00 €
MC member 6/2018	“CA18234 - Computational materials sciences for efficient water splitting with nanocrystals from abundant elements”	
PI 6/2018	FWF Austria “Magnetic graphene quantum dots”	130.000,00 €
PI 3/2017	TU-D doctoral college, 10 research groups, VUT “Unraveling two-dimensional materials”	10×90 000 €
Co-PI 11/2014	SFB ViCoM project P05, FWF, Austria, “Embedded cluster approach and non-adiabatic processes”	413 000 €
Co-Author 9/2013	United States Department of Energy, “Quantum Mechanical Evaluation of CZTS Photovoltaic Materials”	166 000 \$
PI 05/2011	Max Kade society, “Ab-initio description of realistic graphene nanodevices”	50 000 \$

List of Publications

64 Peer-reviewed articles, over 3500 citations; h-index 24; i-10 index 44 (google scholar)

3 Nature, 3 Nano Letters, 3 Nature Comm., 10 Phys. Rev. Lett.

An up-to-date list and pdf downloads are available at the applicant’s homepage,

<http://dollywood.itp.tuwien.ac.at/~florian/research.html>

Peer-reviewed book chapters and reviews

64. D. Krisiloff, J. Dieterich, F. Libisch, and E. A. Carter. *Numerical Challenges in a Cholesky-decomposed Local Correlation Quantum Chemistry Framework*. In: *Accounts of Computational Modeling: With Applications in Engineering and the Natural and Social Sciences*, Editor: Roderick Melnik, Wiley, ISBN-10: 1118853989 (2015).

63. F. Libisch, C. Huang, and E. A. Carter, *Embedded Correlated wavefunction schemes: theory and applications*. *Accounts of Chemical Research* **47**, 2768 (2014)
DOI: 10.1021/ar500086h.

Published peer-reviewed manuscripts

62. L. Linhart, M. Paur, V. Smejkal, J. Burgdörfer, T. Mueller, and F. Libisch, *Localized inter-valley defect excitons as single-photon emitters in WSe₂*. *Phys. Rev. Lett.* **123**, 146401 (2019), DOI: 10.1103/PhysRevLett.123.146401.

61. B. Seiferle, L. von der Wense, P. Bilous, I. Amersdorffer, C. Lemell, F. Libisch, S. Stellmer, T. Schumm, C. Düllmann, A. Palfy, and P. Thirolf, *Energy of the ^{229}Th nuclear clock transition*, Nature **573**, 243 (2019), DOI: [10.1038/s41586-018-0503-6](https://doi.org/10.1038/s41586-018-0503-6).
60. H. Overweg, A. Knothe, T. Fabian, L. Linhart, P. Rickhaus, L. Wernli, K. Watanabe, T. Taniguchi, D. Sánchez, J. Burgdörfer, F. Libisch, V. I. Falko, K. Ensslin, and T. Ihn, Phys. Rev. Lett. **121**, 257702 (2018), DOI: [10.1103/PhysRevLett.121.257702](https://doi.org/10.1103/PhysRevLett.121.257702).
59. M. Ossiander, J. Riemensberger, S. Neppl, M. Mittermair, M. Schäffer, A. Duensing, M. S. Wagner, R. Heider, M. Wurzer, M. Gerl, M. Schnitzenbaumer, J.V. Barth, F. Libisch, C. Lemell, J. Burgdörfer, P. Feulner, and R. Kienberger, *Absolute Timing of the Photoelectric Effect*, Nature **561**, 374 (2018), DOI: [10.1038/s41586-018-0503-6](https://doi.org/10.1038/s41586-018-0503-6).
58. K. Doblhoff-Dier, G.-J. Kroes, and F. Libisch, *Density functional embedding for periodic and nonperiodic diffusion Monte Carlo calculations*, Phys. Rev. B **98**, 085138 (2018), DOI: [10.1103/PhysRevB.98.085138](https://doi.org/10.1103/PhysRevB.98.085138).
57. R. Yin, Y. Zhang, F. Libisch, E. A. Carter, H. Guo, and B. Jiang, *Dissociative Chemisorption of O_2 on $\text{Al}(111)$: Dynamics on a Correlated Wavefunction Based Potential Energy Surface*, J. Chem. Phys. Lett. **9**, 3271 (2018), DOI: [10.1021/acs.jpcllett.8b01470](https://doi.org/10.1021/acs.jpcllett.8b01470).
56. L. Linhart, J. Burgdörfer and F. Libisch, *Accurate modeling of defects in graphene transport calculations*, Phys. Rev. B **97**, 035430 (2018), DOI: [10.1103/PhysRevB.97.035430](https://doi.org/10.1103/PhysRevB.97.035430).
55. J. Sonntag, S. Reichardt, L. Wirtz, B. Beschoten, M. I. Katsnelson, F. Libisch, and C. Stampfer *Impact of Many-Body Effects on Landau Levels in Graphene*, Phys. Rev. Lett. **120**, 187701 (2018), DOI: [10.1103/PhysRevLett.120.187701](https://doi.org/10.1103/PhysRevLett.120.187701).
54. N. M. Freitag, T. Reisch, L. A. Chizhova, P. Nemes-Incze, C. Holl, C. R. Woods, R. V. Gorbachev, Y. Cao, A. K. Geim, K. S. Novoselov, J. Burgdörfer, F. Libisch, and M. Morgenstern, *Tunable giant valley splitting in edge-free graphene quantum dots on boron nitride*. Nature Nanotechnology (2018), DOI: [10.1038/s41565-018-0080-8](https://doi.org/10.1038/s41565-018-0080-8).
53. F. Libisch, M. Marsman, J. Burgdörfer, and G. Kresse, *Embedding for bulk systems using localized atomic orbitals*, J. Chem. Phys. **147**, 034110 (2017), DOI: [10.1063/1.4993795](https://doi.org/10.1063/1.4993795).
52. L. A. Chizhova, F. Libisch, and J. Burgdörfer, *High-harmonic generation in graphene: Interband response and the harmonic cut-off*. Phys.Rev.B **95**, 085436 (2017). DOI: [10.1103/PhysRevB.95.085436](https://doi.org/10.1103/PhysRevB.95.085436).
51. J. Cheng, F. Libisch, K. Yu, C. Mohan, J. Dieterich, and E. A. Carter, *Potential Functional Embedding Theory at the Correlated Wave Function Level, Part I: Mixed Basis Set Embedding*. J. Chem. Theory Comput. **13**, 1067-1080 (2017). DOI: [10.1021/acs.jctc.6b01010](https://doi.org/10.1021/acs.jctc.6b01010).
50. J. Cheng, K. Yu, F. Libisch, J. Dieterich, and E. A. Carter, *Potential Functional Embedding Theory at the Correlated Wave Function Level, Part II: Error Sources and Performance Tests*. J. Chem. Theory Comput. **13**, 1081-1093 (2017). DOI: [10.1021/acs.jctc.6b01011](https://doi.org/10.1021/acs.jctc.6b01011).

49. T. Paschen, M. Förster, M. Krger, C. Lemell, G. Wachter, F. Libisch, T. Madlener, J. Burgdörfer, and P. Hommelhoff, *High Visibility in Two-Color Above-Threshold Photoemission from Tungsten Nanotips in a Coherent Control Scheme*. Journal of Modern Optics **64**, 1054-1060 (2017). DOI: [10.1080/09500340.2017.1281453](https://doi.org/10.1080/09500340.2017.1281453).
48. F. Libisch, T. Hisch, R. Glattauer, L. Chizhova, and J. Burgdörfer, *Veselago lens and Klein collimator in disordered graphene* J. Phys. Cond. Mat., **29**, 114002 (2017). DOI: [10.1088/1361-648X/aa565e](https://doi.org/10.1088/1361-648X/aa565e).
47. E. Gruber, R. Wilhelm, R. Petuya, V. Smejkal, R. Kozubek, A. Hierzenberger, B. Bayer, I. Aldazabal, A. Kazansky, F. Libisch, A. Krashennnikov, M. Schleberger, S. Facsko, A. G. Borisov, A. Arnau, and F. Aumayr, *Ultrafast electronic response of graphene to a strong and localized electric field*. Nature Comm. **7**, 13948 (2016). DOI: [10.1038/ncomms13948](https://doi.org/10.1038/ncomms13948).
46. M. Förster, T. Paschen, M. Krger, C. Lemell, G. Wachter, F. Libisch, T. Madlener, J. Burgdörfer, and P. Hommelhoff, *Two-color coherent control of femtosecond above-threshold photoemission from a tungsten nanotip*, *Physics Viewpoint*. Phys. Rev. Lett. **117**, 217601 (2016). DOI: [10.1103/PhysRevLett.117.217601](https://doi.org/10.1103/PhysRevLett.117.217601).
45. L. Chizhova, F. Libisch, and J. Burgdörfer, *Nonlinear response of graphene to a few cycle THz laser pulse: Role of doping and disorder*. Phys.Rev.B **94**, 075412 (2016). DOI: [10.1103/PhysRevB.94.075412](https://doi.org/10.1103/PhysRevB.94.075412).
44. F. Libisch, A. Klimann, S. Rotter, and J. Burgdörfer, *Transport through graphene nanoribbons: suppression of transverse quantization by symmetry breaking*. Physica Status Solidi B, doi: [10.1002/pssb.201600260](https://doi.org/10.1002/pssb.201600260) (2016). DOI: [10.1002/pssb.201600260](https://doi.org/10.1002/pssb.201600260).
43. N. Freitag, L. Chizhova, P. Nemes-Incze, C. R. Woods, R. Gorbachev, Y. Cao, A. Geim, K. Novoselov, J. Burgdörfer, F. Libisch, and M. Morgenstern, *Electrostatically Confined Monolayer Graphene Quantum Dots with Orbital and Valley Splittings*, Nano Letters **16**, 5798-5805 (2016), DOI: [10.1021/acs.nanolett.6b02548](https://doi.org/10.1021/acs.nanolett.6b02548).
42. B. Terrés, L. A. Chizhova, F. Libisch, D. Jörger, S. Engels, A. Girschik, K. Watanabe, T. Taniguchi, S. V. Rotkin, J. Burgdörfer, and C. Stampfer, *Size quantization of Dirac fermions in graphene quantum point contacts*, Nature Comm. **7**, 11528 (2016), DOI: [10.1038/ncomms11528](https://doi.org/10.1038/ncomms11528).
41. J. Doppler, A. A. Mailybaev, J. Böhm, U. Kuhl, A. Girschik, F. Libisch, T. J. Milburn, P. Rabl, N. Moiseyev, and S. Rotter, *Dynamically encircling an exceptional point for asymmetric mode switching*, Nature **537**, 76-79 (2016), DOI: [10.1038/nature18605](https://doi.org/10.1038/nature18605).
40. L. Chizhova, J. Burgdörfer, and F. Libisch, *Magneto-optical response of graphene: probing substrate interactions*, Phys. Rev. B **92**, 125411 (2015), DOI: [10.1103/PhysRevB.92.125411](https://doi.org/10.1103/PhysRevB.92.125411).
39. D. Bischoff, M. Eich, F. Libisch, T. Ihn, and K. Ensslin, *Graphene nanoribbons with wings*, Appl. Phys. Lett. **107**, 203107 (2015), DOI: [10.1063/1.4935835](https://doi.org/10.1063/1.4935835).
38. K. Yu, F. Libisch, and E. A. Carter, *Implementation of Density-Functional Embedding Theory within the Projector-Augmented-Wave Method and Applications to Semiconductor Defect States*, J. Chem. Phys. **143**, 102806 (2015), DOI: [10.1063/1.4922260](https://doi.org/10.1063/1.4922260).

37. A. Girschik, F. Libisch, and S. Rotter, *Percolating States in the Topological Anderson Insulator*, Phys. Rev. B **91**, 214204 (2015), DOI: [10.1103/PhysRevB.91.214204](https://doi.org/10.1103/PhysRevB.91.214204).
36. J. Cheng, F. Libisch, and E. A. Carter, *Dissociative Adsorption of O₂ on Al(111): the Role of Orientational Degrees of Freedom*, J. Phys. Chem. Letters **6**, 1661 (2015) DOI: [10.1021/acs.jpcllett.5b00597](https://doi.org/10.1021/acs.jpcllett.5b00597).
35. L. Chizhova, F. Libisch, and J. Burgdörfer, *Graphene quantum dot on boron nitride: Dirac cone replica and Hofstadter butterfly*, Phys. Rev. B **90**, 035442 (2014), DOI: [10.1103/PhysRevB.90.165404](https://doi.org/10.1103/PhysRevB.90.165404).
34. J. Dieterich, D. Krisiloff, A. Gaenko, F. Libisch, T. Windus, M. Gordon, and E. A. Carter, *Shared-memory parallelization of a local correlation multi-reference CI program*. Computer Phys. Comm., (2014) DOI: [10.1016/j.cpc.2014.08.016](https://doi.org/10.1016/j.cpc.2014.08.016).
33. D. Bischoff, F. Libisch, J. Burgdörfer, T. Ihn, and K. Ensslin. *Characterizing wave functions in graphene nanodevices: electronic transport through ultrashort graphene constrictions on a boron nitride substrate*. Phys. Rev. B **90**, 115405, Editor's suggestion (2014), DOI: [10.1103/PhysRevB.90.115405](https://doi.org/10.1103/PhysRevB.90.115405).
32. F. Libisch, V. Geringer, D. Subramaniam, J. Burgdörfer, and M. Morgenstern. *Diffraction wave guiding of hot electrons by the Au (111) herringbone reconstruction*. Phys. Rev. B **90**, 035442 (2014), DOI: [10.1103/PhysRevB.90.035442](https://doi.org/10.1103/PhysRevB.90.035442).
31. S. Horn, F. Plasser, T. Müller, F. Libisch, J. Burgdörfer, and H. Lischka. *A comparison of singlet and triplet states for one- and two-dimensional graphene nanoribbons using multireference theory*. Theor. Chem. Acc. **133**, 1511 (2014), DOI: [10.1007/s00214-014-1511-8](https://doi.org/10.1007/s00214-014-1511-8).
30. A. Peña, A. Girschik, F. Libisch, S. Rotter, and A. A. Chabanov. *The single-channel regime of transport through random media*. Nature Comm. **5**, 3488 (2014), DOI: [10.1038/ncomms4488](https://doi.org/10.1038/ncomms4488).
29. M. Furchi, A. Posposchil, F. Libisch, J. Burgdörfer, and T. Müller, *Photovoltaic effect in an electrically tunable van der Waals heterojunction*. Nano Letters **14**, 4785 (2014), DOI: [10.1021/nl501962c](https://doi.org/10.1021/nl501962c).
28. V. Oyeyemi, D. Krisiloff, J. Keith, F. Libisch, M. Pavone, and E. A. Carter. *Size-extensivity-corrected multireference configuration interaction schemes to accurately predict bond dissociation energies of oxygenated hydrocarbons*. J. Chem. Phys. **140**, 044317 (2014), DOI: [10.1063/1.4862159](https://doi.org/10.1063/1.4862159).
27. R. Reiter, U. Derra, S. Birner, B. Terras, F. Libisch, J. Burgdörfer, and C. Stampfer. *Negative quantum capacitance in graphene nanoribbons with lateral gates*. Phys. Rev. B **89**, 115406 (2014), DOI: [10.1103/PhysRevB.89.115406](https://doi.org/10.1103/PhysRevB.89.115406).
26. D. Krisiloff, V. Oyeyemi, F. Libisch, and E. A. Carter. *Analysis of and remedies for unphysical ground states of the Multireference Averaged Coupled-Pair Functional*. J. Chem. Phys. **140**, 024102, DOI: [10.1063/1.4861035](https://doi.org/10.1063/1.4861035).
25. Y. Ke, F. Libisch, J. Xia, and E. A. Carter. *Angular momentum dependent orbital free density functional theory: Formulation and implementation*. Phys. Rev. B **89**, 155112 (2014), DOI: [10.1103/PhysRevB.89.155112](https://doi.org/10.1103/PhysRevB.89.155112).

24. C. Huang, F. Libisch, Q. Peng, and E. A. Carter. *Time-dependent potential-functional embedding theory*, J. Chem. Phys. **140**, 124113 (2014), DOI: [10.1063/1.4869538](https://doi.org/10.1063/1.4869538).
23. Y. Ke, F. Libisch, S. Xia, L.-W. Wang, and E. A. Carter, *Angular-momentum-dependent orbital-free density-functional theory*, Phys. Rev. Lett. **111**, 066402 (2013). DOI: [10.1103/PhysRevLett.111.066402](https://doi.org/10.1103/PhysRevLett.111.066402).
22. F. Libisch, J. Cheng, and E. A. Carter, *Plasmon-driven dissociation of H₂ on gold nanoclusters*, Z. Phys. Chem., ahead-of-print (2013). DOI: [10.1524/zpch.2013.0406](https://doi.org/10.1524/zpch.2013.0406).
21. F. Lackner, I. Brezinova, J. Burgdörfer, and F. Libisch, *Semiclassical wavefunctions for open quantum billiards*, Physical Review E **88**, 022916 (2013). DOI: [10.1103/PhysRevE.88.022916](https://doi.org/10.1103/PhysRevE.88.022916).
20. F. Plasser, H. Pasalic, M. H. Gerzabek, F. Libisch, R. Reiter, J. Burgdörfer, T. Müller, R. Shepard, and H. Lischka, *The Multiradical Character of One- and Two-Dimensional Graphene Nanoribbons*, Angewandte Chemie Int.Ed. **52**, 2581 (2013). DOI: [10.1002/anie.201207671](https://doi.org/10.1002/anie.201207671).
19. S. Mukherjee, F. Libisch, N. Large, O. Neumann, L. V. Brown, J. Cheng, J. B. Lassiter, E. A. Carter, P. Nordlander, and N. J. Halas, *Hot Electrons Do the Impossible: Plasmon-Induced Dissociation of H₂ on Au*. Nano Letters **13**, 240 (2013). DOI: [10.1021/nl303940z](https://doi.org/10.1021/nl303940z).
18. A. Girschik, F. Libisch, and S. Rotter, *Topological Insulator in the Presence of Spatially Correlated Disorder*, Physical Review B **88**, 014201 (2013). DOI: [10.1103/PhysRevB.88.014201](https://doi.org/10.1103/PhysRevB.88.014201).
17. F. Libisch, C. Huang, P. Liao, M. Pavone, and E. A. Carter, *Origin of the energy barrier to chemical reactions of O₂ on Al(111): Evidence for charge transfer not spin selection*. Phys. Rev. Lett. **109**, 198303 (2012). DOI: [10.1103/PhysRevLett.109.198303](https://doi.org/10.1103/PhysRevLett.109.198303).
16. O. Dietz, H.-J. Stöckmann, U. Kuhl, F. M. Izrailev, N. M. Makarov, J. Doppler, F. Libisch, S. Rotter, *Surface Scattering and Band Gaps in Rough Nanowires and Waveguides*, Physical Review B **86**, 201106(R) (2012). DOI: [10.1103/PhysRevB.86.201106](https://doi.org/10.1103/PhysRevB.86.201106).
15. F. Libisch, S. Rotter, and J. Burgdörfer, *Coherent transport through graphene nanoribbons in the presence of edge disorder*, New Journal of Physics **14**, 123006 (2012). DOI: [10.1088/1367-2630/14/12/123006](https://doi.org/10.1088/1367-2630/14/12/123006).
14. D. Subramaniam, F. Libisch, Y. Li, C. Pauly, V. Geringer, R. Reiter, T. Mashoff, M. Liebmann, J. Burgdörfer, C. Busse, T. Michely, R. Mazzarello, M. Pratzner, and M. Morgenstern, *Wave function mapping in graphene quantum dots with soft confinement*, Phys. Rev. Lett. **108**, 046801 (2012). DOI: [10.1103/PhysRevLett.108.046801](https://doi.org/10.1103/PhysRevLett.108.046801).
13. F. Libisch, S. Rotter, and J. Burgdörfer, *Disorder Scattering in Graphene Nanoribbons*, Physica status solidi (b) **248**, 2598 (2011). DOI: [10.1002/pssb.201100157](https://doi.org/10.1002/pssb.201100157).
12. S. Rotter, P. Ambichl, and F. Libisch *Generating particle-like scattering states in wave transport*, Selected for Physical Review Focus, Phys. Rev. Lett. **106**, 120602 (2011). DOI: [10.1103/PhysRevLett.106.120602](https://doi.org/10.1103/PhysRevLett.106.120602).

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