

# Tero Heikkilä

## List of Publications by Year in descending order

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117  
papers

5,206  
citations

109321

35  
h-index

88630

70  
g-index

119  
all docs

119  
docs citations

119  
times ranked

4051  
citing authors

#	ARTICLE	IF	CITATIONS
1	Opportunities for mesoscopics in thermometry and refrigeration: Physics and applications. <i>Reviews of Modern Physics</i> , 2006, 78, 217-274.	45.6	890
2	High-temperature surface superconductivity in topological flat-band systems. <i>Physical Review B</i> , 2011, 83, .	3.2	374
3	Flat bands in topological media. <i>JETP Letters</i> , 2011, 94, 233-239.	1.4	271
4	Microwave amplification with nanomechanical resonators. <i>Nature</i> , 2011, 480, 351-354.	27.8	253
5	Electron-phonon heat transfer in monolayer and bilayer graphene. <i>Physical Review B</i> , 2010, 81, .	3.2	205
6	Multimode circuit optomechanics near the quantum limit. <i>Nature Communications</i> , 2012, 3, 987.	12.8	193
7	Cavity optomechanics mediated by a quantum two-level system. <i>Nature Communications</i> , 2015, 6, 6981.	12.8	173
8	Predicted Very Large Thermoelectric Effect in Ferromagnet-Superconductor Junctions in the Presence of a Spin-Splitting Magnetic Field. <i>Physical Review Letters</i> , 2014, 112, 057001.	7.8	143
9	Dimensional crossover in topological matter: Evolution of the multiple Dirac point in the layered system to the flat band on the surface. <i>JETP Letters</i> , 2011, 93, 59-65.	1.4	140
10	<i>Colloquium</i> : Nonequilibrium effects in superconductors with a spin-splitting field. <i>Reviews of Modern Physics</i> , 2018, 90, .	45.6	127
11	Superfluid weight and Berezinskii-Kosterlitz-Thouless transition temperature of twisted bilayer graphene. <i>Physical Review B</i> , 2020, 101, .	3.2	124
12	Nexus and Dirac lines in topological materials. <i>New Journal of Physics</i> , 2015, 17, 093019.	2.9	101
13	Limitations in Cooling Electrons using Normal-Metal-Superconductor Tunnel Junctions. <i>Physical Review Letters</i> , 2004, 92, 056804.	7.8	98
14	Supercurrent-carrying density of states in diffusive mesoscopic Josephson weak links. <i>Physical Review B</i> , 2002, 66, .	3.2	96
15	High-temperature surface superconductivity in rhombohedral graphite. <i>Physical Review B</i> , 2013, 87, .	3.2	80
16	Thermal, electric and spin transport in superconductor/ferromagnetic-insulator structures. <i>Progress in Surface Science</i> , 2019, 94, 100540.	8.3	64
17	Ultrasensitive proximity Josephson sensor with kinetic inductance readout. <i>Applied Physics Letters</i> , 2008, 92, .	3.3	62
18	On the superconductivity of graphite interfaces. <i>JETP Letters</i> , 2014, 100, 336-339.	1.4	61

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19	Flat-band superconductivity in strained Dirac materials. <i>Physical Review B</i> , 2016, 93, .	3.2	60
20	Wideband Detection of the Third Moment of Shot Noise by a Hysteretic Josephson Junction. <i>Physical Review Letters</i> , 2007, 98, 207001.	7.8	59
21	Momentum-space structure of surface states in a topological semimetal with a nexus point of Dirac lines. <i>Physical Review B</i> , 2016, 93, .	3.2	55
22	Lindblad-equation approach for the full counting statistics of work and heat in driven quantum systems. <i>Physical Review E</i> , 2014, 90, 022103.	2.1	52
23	Direct Observation of the Transition from the Conventional Superconducting State to the $\pi$ -State in a Controllable Josephson Junction. <i>Physical Review Letters</i> , 2002, 89, 207002.	7.8	51
24	Noiseless Quantum Measurement and Squeezing of Microwave Fields Utilizing Mechanical Vibrations. <i>Physical Review Letters</i> , 2017, 118, 103601.	7.8	51
25	Non-equilibrium supercurrent through mesoscopic ferromagnetic weak links. <i>Europhysics Letters</i> , 2000, 51, 434-440.	2.0	47
26	Thermoelectric effects in superconducting proximity structures. <i>Applied Physics A: Materials Science and Processing</i> , 2007, 89, 625-637.	2.3	43
27	Thermopower Induced by a Supercurrent in Superconductor- $\pi$ -Normal-Metal Structures. <i>Physical Review Letters</i> , 2004, 92, 177004.	7.8	42
28	Very Large Thermophase in Ferromagnetic Josephson Junctions. <i>Physical Review Letters</i> , 2015, 114, 067001.	7.8	42
29	Dynamics of Strongly Coupled Modes between Surface Plasmon Polaritons and Photoactive Molecules: The Effect of the Stokes Shift. <i>ACS Photonics</i> , 2017, 4, 28-37.	6.6	42
30	Observation of a controllable $\pi$ -junction in a 3-terminal Josephson device. <i>Physical Review B</i> , 2002, 66, .	3.2	41
31	Long-Range Spin Accumulation from Heat Injection in Mesoscopic Superconductors with Zeeman Splitting. <i>Physical Review Letters</i> , 2015, 114, 167002.	7.8	39
32	Inverse proximity effect in superconductors near ferromagnetic material. <i>Europhysics Letters</i> , 2001, 56, 590-595.	2.0	37
33	Measuring Non-Gaussian Fluctuations through Incoherent Cooper-Pair Current. <i>Physical Review Letters</i> , 2004, 93, 247005.	7.8	37
34	Theory of Microwave-Assisted Supercurrent in Quantum Point Contacts. <i>Physical Review Letters</i> , 2010, 105, 117001.	7.8	37
35	Competition of electron-phonon mediated superconductivity and Stoner magnetism on a flat band. <i>Physical Review B</i> , 2018, 98, .	3.2	37
36	Observation of Shot-Noise-Induced Asymmetry in the Coulomb Blockaded Josephson Junction. <i>Physical Review Letters</i> , 2004, 93, 197002.	7.8	35

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37	Cross-Kerr nonlinearity in optomechanical systems. <i>Physical Review A</i> , 2015, 91, .	2.5	34
38	Resonant tunnelling through a C <sub>60</sub> molecular junction in a liquid environment. <i>Nanotechnology</i> , 2005, 16, 2143-2148.	2.6	32
39	Spin heat accumulation and its relaxation in spin valves. <i>Physical Review B</i> , 2010, 81, .	3.2	32
40	Energy relaxation in graphene and its measurement with supercurrent. <i>Physical Review B</i> , 2011, 84, .	3.2	32
41	Statistics of Temperature Fluctuations in an Electron System out of Equilibrium. <i>Physical Review Letters</i> , 2009, 102, 130605.	7.8	31
42	Theory of Microwave-Assisted Supercurrent in Diffusive SNS Junctions. <i>Physical Review Letters</i> , 2010, 104, 247003.	7.8	28
43	Nonequilibrium transport in mesoscopic multi-terminal SNS Josephson junctions. <i>Physical Review B</i> , 2008, 77, .	3.2	27
44	Thermal Conductance by the Inverse Proximity Effect in a Superconductor. <i>Physical Review Letters</i> , 2010, 105, 097004.	7.8	27
45	Superconducting spintronic tunnel diode. <i>Nature Communications</i> , 2022, 13, 2431.	12.8	27
46	Coexistence of superconductivity and spin-splitting fields in superconductor/ferromagnetic insulator bilayers of arbitrary thickness. <i>Physical Review Research</i> , 2021, 3, .	3.6	25
47	Fully Overheated Single-Electron Transistor. <i>Physical Review Letters</i> , 2010, 104, 196805.	7.8	24
48	Thermopower in Andreev Interferometers. <i>Journal of Low Temperature Physics</i> , 2004, 136, 401-434.	1.4	23
49	Tailoring Josephson Coupling through Superconductivity-Induced Nonequilibrium. <i>Physical Review Letters</i> , 2004, 92, 137001.	7.8	23
50	Linear ac response of diffusive SNS junctions. <i>Physical Review B</i> , 2011, 83, .	3.2	22
51	Flat Bands as a Route to High-Temperature Superconductivity in Graphite. <i>Springer Series in Materials Science</i> , 2016, , 123-143.	0.6	21
52	Photon heat transport in low-dimensional nanostructures. <i>Physical Review B</i> , 2007, 76, .	3.2	20
53	Fermions with cubic and quartic spectrum. <i>JETP Letters</i> , 2010, 92, 681-686.	1.4	20
54	Charge transport through spin-polarized tunnel junction between two spin-split superconductors. <i>Physical Review B</i> , 2019, 100, .	3.2	19

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55	Superconductivity near a magnetic domain wall. <i>Physical Review B</i> , 2019, 99, .	3.2	17
56	Supercurrent-induced Peltier-like effect in superconductor/normal-metal weak links. <i>Physical Review B</i> , 2003, 67, .	3.2	15
57	Physics of proximity Josephson sensor. <i>Journal of Applied Physics</i> , 2010, 107, .	2.5	15
58	Size dependence of the Josephson critical behavior in pyrolytic graphite TEM lamellae. <i>Superconductor Science and Technology</i> , 2014, 27, 115014.	3.5	15
59	Phase sensitive electron-phonon coupling in a superconducting proximity structure. <i>Physical Review B</i> , 2009, 79, .	3.2	14
60	Intrinsic spin-orbit interaction in diffusive normal wire Josephson weak links: Supercurrent and density of states. <i>Physical Review B</i> , 2016, 93, .	3.2	14
61	Nonlinear shot noise in mesoscopic diffusive normal-superconducting systems. <i>Physical Review B</i> , 2002, 66, .	3.2	13
62	Stimulated quasiparticles in spin-split superconductors. <i>Physical Review B</i> , 2016, 93, .	3.2	13
63	Thermoelectric radiation detector based on a superconductor-ferromagnet junction: Calorimetric regime. <i>Journal of Applied Physics</i> , 2018, 124, 123902.	2.5	13
64	Topological polarization, dual invariants, and surface flat bands in crystalline insulators. <i>Physical Review B</i> , 2021, 103, .	3.2	13
65	Surprising superconductivity of graphene. <i>Science</i> , 2022, 375, 719-720.	12.6	13
66	Nonequilibrium phenomena in multiple normal-superconducting tunnel heterostructures. <i>Physical Review B</i> , 2005, 72, .	3.2	12
67	Supercurrent-Induced Temperature Gradient across a Nonequilibrium SNS Josephson Junction. <i>Physical Review Letters</i> , 2006, 96, 167004.	7.8	11
68	Nonequilibrium and proximity effects in superconductor-normal metal junctions. <i>Physical Review B</i> , 2013, 88, .	3.2	11
69	Spin Hanle effect in mesoscopic superconductors. <i>Physical Review B</i> , 2015, 91, .	3.2	11
70	Quantum detectors for the third cumulant of current fluctuations. <i>Physical Review B</i> , 2007, 75, .	3.2	10
71	Giant current fluctuations in an overheated single-electron transistor. <i>Physical Review B</i> , 2010, 82, .	3.2	10
72	Tension-induced nonlinearities of flexural modes in nanomechanical resonators. <i>Physical Review B</i> , 2013, 87, .	3.2	10

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73	Giant enhancement to spin battery effect in superconductor/ferromagnetic insulator systems. Physical Review B, 2021, 103, .	3.2	10
74	Dynamics of Two Ferromagnetic Insulators Coupled by Superconducting Spin Current. Physical Review Letters, 2022, 128, 167701.	7.8	10
75	Superconducting proximity effect and universal conductance fluctuations. Physical Review B, 1999, 60, 9291-9294.	3.2	9
76	Ultralow dissipation Josephson transistor. Applied Physics Letters, 2003, 83, 2877-2879.	3.3	9
77	Collective amplitude mode fluctuations in a flat band superconductor formed at a semimetal surface. Physical Review B, 2016, 93, .	3.2	9
78	Superconductor-Ferromagnet Tunnel Junction Thermoelectric Bolometer and Calorimeter with a SQUID Readout. Journal of Low Temperature Physics, 2020, 199, 585-592.	1.4	9
79	Quantum transitions induced by the third cumulant of current fluctuations. Physical Review B, 2006, 73, .	3.2	8
80	Charge transport in ballistic multiprobe graphene structures. Physical Review B, 2008, 78, .	3.2	8
81	Nonlinear spin torque, pumping, and cooling in superconductor/ferromagnet systems. Physical Review B, 2020, 101, .	3.2	8
82	Nonadiabatic dynamics in strongly driven diffusive Josephson junctions. Physical Review Research, 2019, 1, .	3.6	8
83	Nonequilibrium characteristics in all-superconducting tunnel structures. Physical Review B, 2007, 75, .	3.2	7
84	Spin Pumping and Torque Statistics in the Quantum Noise Limit. Physical Review Letters, 2017, 118, 237701.	7.8	7
85	Theory for the stationary polariton response in the presence of vibrations. Physical Review B, 2019, 100, .	3.2	7
86	Electron-induced massive dynamics of magnetic domain walls. Physical Review B, 2020, 101, .	3.2	7
87	Flat-band superconductivity in periodically strained graphene: mean-field and Berezinskiiâ€“Kosterlitzâ€“Thouless transition. Journal of Physics Condensed Matter, 2020, 32, 365603.	1.8	7
88	Magnomechanics in suspended magnetic beams. Physical Review B, 2021, 104, .	3.2	7
89	Electronâ€“electron interaction induced spin thermalization in quasi-low-dimensional spin valves. Solid State Communications, 2010, 150, 475-479.	1.9	6
90	Spin and charge currents driven by the Higgs mode in high-field superconductors. Physical Review Research, 2020, 2, .	3.6	6

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91	Current Rectification in Junctions with Spin-Split Superconductors. <i>Physical Review Applied</i> , 2022, 17, .	3.8	6
92	Thermopower in mesoscopic normal-superconducting structures. <i>Physica B: Condensed Matter</i> , 2000, 284-288, 1862-1863.	2.7	5
93	Proximity effect in superconducting heterostructures with strong spin-orbit coupling and spin splitting. <i>Physical Review B</i> , 2019, 100, .	3.2	5
94	Peltier effects in Andreev interferometers. <i>Physical Review B</i> , 2007, 75, .	3.2	4
95	Polariton response in the presence of Brownian dissipation from molecular vibrations. <i>Journal of Chemical Physics</i> , 2021, 154, 044108.	3.0	4
96	Circuit theory for noise in incoherent normal-superconducting structures. <i>New Journal of Physics</i> , 2006, 8, 50-50.	2.9	3
97	Phase-dependent noise correlations in normal-superconducting structures. <i>Physical Review B</i> , 2007, 76, .	3.2	3
98	Cold-Atom Thermoelectrics. <i>Science</i> , 2013, 342, 703-704.	12.6	3
99	Controlling magnetism through Ising superconductivity in magnetic van der Waals heterostructures. <i>Physical Review B</i> , 2022, 105, .	3.2	3
100	Mesoscopic Supercurrent Transistor Controlled by Nonequilibrium Cooling. <i>Journal of Low Temperature Physics</i> , 2004, 136, 435-452.	1.4	2
101	Cyclostationary shot noise in mesoscopic measurements. <i>Journal of Applied Physics</i> , 2004, 96, 5927-5929.	2.5	2
102	Cyclostationary measurement of low-frequency odd moments of current fluctuations. <i>Physical Review B</i> , 2005, 71, .	3.2	2
103	Influence of Supercurrents on Low-temperature Thermopower in Mesoscopic N/S Structures. <i>Journal of Low Temperature Physics</i> , 2007, 146, 193-212.	1.4	2
104	Effective capacitance of a single-electron transistor. <i>Physical Review B</i> , 2008, 77, .	3.2	2
105	Absorption of Heat into a Superconductor-Normal Metal-Superconductor Junction from a Fluctuating Environment. <i>Physical Review Letters</i> , 2012, 109, 067002.	7.8	2
106	Nonuniversal shot noise in quasiequilibrium spin valves. <i>Physical Review B</i> , 2013, 87, .	3.2	2
107	State-dependent impedance of a strongly coupled oscillator-qubit system. <i>Physical Review B</i> , 2005, 72, .	3.2	1
108	Phase States of Multiterminal Mesoscopic Normal-Metal-Superconductor Structures. <i>Physical Review Letters</i> , 2007, 99, 217003.	7.8	1

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109	Local and non-local shot noise in multiwalled carbon nanotubes. Europhysics Letters, 2009, 85, 37004.	2.0	1
110	Thermalization of hot electrons via interfacial electron-magnon interaction. Physical Review B, 2019, 100, .	3.2	1
111	Domain wall motion in a diffusive weak ferromagnet. Physical Review B, 2020, 101, .	3.2	1
112	Universal conductance fluctuations in mesoscopic normal-superconducting structures. Physica B: Condensed Matter, 2000, 280, 432-433.	2.7	0
113	Small Josephson Junction As Detector Of Non-Gaussian Noise. AIP Conference Proceedings, 2005, , .	0.4	0
114	Slow Vibrations in Transport through Molecules. Nano Letters, 2005, 5, 2088-2091.	9.1	0
115	Rectifying Non-Gaussian Noise with Incoherent Cooper Pair Tunneling. AIP Conference Proceedings, 2006, , .	0.4	0
116	Energy and particle number fluctuations in superconducting heterostructures. , 2013, , .		0
117	Microwave amplification with nanomechanical resonators. , 2013, , .		0