Francesco Giazotto

List of Publications by Year
in descending order

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127 papers	4,697 citations	101543 36 h-index	114465 63 g-index
127 all docs	127 docs citations	127 times ranked	2228 citing authors

#	Article	IF	Citations
1	Opportunities for mesoscopics in thermometry and refrigeration: Physics and applications. Reviews of Modern Physics, 2006, 78, 217-274.	45.6	890
2	The Josephson heat interferometer. Nature, 2012, 492, 401-405.	27.8	183
3	Rectification of electronic heat current by a hybrid thermal diode. Nature Nanotechnology, 2015, 10, 303-307.	31.5	178
4	Superconducting quantum interference proximityÂtransistor. Nature Physics, 2010, 6, 254-259.	16.7	102
5	Limitations in Cooling Electrons using Normal-Metal-Superconductor Tunnel Junctions. Physical Review Letters, 2004, 92, 056804.	7.8	98
6	Towards phase-coherent caloritronics in superconducting circuits. Nature Nanotechnology, 2017, 12, 944-952.	31.5	98
7	A Josephson quantum electron pump. Nature Physics, 2011, 7, 857-861.	16.7	92
8	Metallic supercurrent field-effect transistor. Nature Nanotechnology, 2018, 13, 802-805.	31.5	88
9	Recombination-Limited Energy Relaxation in a Bardeen-Cooper-Schrieffer Superconductor. Physical Review Letters, 2009, 102, 017003.	7.8	85
10	The Ï‰-SQUIPT as a tool to phase-engineer Josephson topological materials. Nature Nanotechnology, 2016, 11, 1055-1059.	31.5	83
11	A Josephson phase battery. Nature Nanotechnology, 2020, 15, 656-660.	31.5	82
12	Revealing the magnetic proximity effect in EuS/Al bilayers through superconducting tunneling spectroscopy. Physical Review Materials, 2017, 1, .	2.4	71
13	Nanoscale phase engineering of thermal transport with a Josephson heat modulator. Nature Nanotechnology, 2016, 11, 258-262.	31.5	63
14	Ultrasensitive proximity Josephson sensor with kinetic inductance readout. Applied Physics Letters, 2008, 92, .	3.3	62
15	Efficient phase-tunable Josephson thermal rectifier. Applied Physics Letters, 2013, 102, 182602.	3.3	62
16	Superconductors as spin sources for spintronics. Physical Review B, 2008, 77, .	3.2	61
17	Ferromagnetic-Insulator-Based Superconducting Junctions as Sensitive Electron Thermometers. Physical Review Applied, 2015, 4, .	3.8	60
18	Coherent Caloritronics in Josephson-Based Nanocircuits. Journal of Low Temperature Physics, 2014, 175, 813-837.	1.4	54

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19	Proposal for a phase-coherent thermoelectric transistor. Applied Physics Letters, 2014, 105, .	3.3	49
20	Negative differential thermal conductance and heat amplification in superconducting hybrid devices. Physical Review B, 2016, 93, .	3.2	49
21	Self-Oscillating Josephson Quantum Heat Engine. Physical Review Applied, 2016, 6, .	3.8	46
22	Ultra-Efficient Superconducting Dayem Bridge Field-Effect Transistor. Nano Letters, 2018, 18, 4195-4199.	9.1	46
23	Thermoelectric Radiation Detector Based on Superconductor-Ferromagnet Systems. Physical Review Applied, 2018, 10, .	3.8	44
24	Magnetotransport Experiments on Fully Metallic Superconducting Dayem-Bridge Field-Effect Transistors. Physical Review Applied, 2019, 11, .	3.8	44
25	High-efficiency thermal switch based on topological Josephson junctions. New Journal of Physics, 2017, 19, 023056.	2.9	43
26	Thermal rectification of electrons in hybrid normal metal-superconductor nanojunctions. Applied Physics Letters, 2013, 103, .	3.3	42
27	A normal metal tunnel-junction heat diode. Applied Physics Letters, 2014, 104, .	3.3	42
28	Very Large Thermophase in Ferromagnetic Josephson Junctions. Physical Review Letters, 2015, 114, 067001.	7.8	42
29	Nonlocal thermoelectricity in a Cooper-pair splitter. Physical Review B, 2019, 99, .	3.2	41
30	Magnetically-driven colossal supercurrent enhancement in InAs nanowire Josephson junctions. Nature Communications, 2017, 8, 14984.	12.8	40
31	Josephson Thermal Memory. Physical Review Applied, 2018, 9, .	3.8	40
32	Hybrid InAs nanowireâ€“vanadium proximity SQUID. Nanotechnology, 2011, 22, 105201.	2.6	39
33	Field-Effect Controllable Metallic Josephson Interferometer. Nano Letters, 2019, 19, 6263-6269.	9.1	39
34	Highly Sensitive Superconducting Quantum-Interference Proximity Transistor. Physical Review Applied, 2014, 2, .	3.8	37
35	Nonlinear Thermoelectricity with Electron-Hole Symmetric Systems. Physical Review Letters, 2020, 124, 106801.	7.8	37
36	Tunnel spectroscopy of a proximity Josephson junction. Physical Review B, 2011, 84, .	3.2	36

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37	Phase-Tunable Thermal Logic: Computation with Heat. Physical Review Applied, 2018, 10, .	3.8	36
38	Vectorial Control of the Spinâ€“Orbit Interaction in Suspended InAs Nanowires. Nano Letters, 2019, 19, 652-657.	9.1	36
39	Gate-Controlled Suspended Titanium Nanobridge Supercurrent Transistor. ACS Nano, 2020, 14, 12621-12628.	14.6	36
40	Hybrid superconducting quantum magnetometer. Physical Review B, 2011, 84, .	3.2	35
41	Pb/InAs Nanowire Josephson Junction with High Critical Current and Magnetic Flux Focusing. Nano Letters, 2015, 15, 1803-1808.	9.1	35
42	Axion-like particle searches with sub-THz photons. Physics of the Dark Universe, 2016, 12, 37-44.	4.9	34
43	Microwave quantum refrigeration based on the Josephson effect. Physical Review B, 2016, 93, .	3.2	33
44	Cooling electrons from 1 to 0.4 K with V-based nanorefrigerators. Applied Physics Letters, 2011, 98, 032501.	3.3	32
45	Toward the Absolute Spin-Valve Effect in Superconducting Tunnel Junctions. Nano Letters, 2018, 18, 6369-6374.	9.1	32
46	Josephson-Threshold Calorimeter. Physical Review Applied, 2019, 11, .	3.8	31
47	Josephson tunnel junction controlled by quasiparticle injection. Journal of Applied Physics, 2005, 97, 023908.	2.5	30
48	Josephson Field-Effect Transistors Based on All-Metallic Al/Cu/Al Proximity Nanojunctions. ACS Nano, 2019, 13, 7871-7876.	14.6	30
49	Phase-dependent electronic specific heat of mesoscopic Josephson junctions. Physical Review B, 2008, 78, .	3.2	26
50	Field-effect control of metallic superconducting systems. AVS Quantum Science, 2019, 1, 016501.	4.9	26
51	Fully balanced heat interferometer. Applied Physics Letters, 2013, 102, .	3.3	25
52	Electrically Tunable Superconductivity Through Surface Orbital Polarization. Physical Review Applied, 2020, 14, .	3.8	25
53	Coexistence of superconductivity and spin-splitting fields in superconductor/ferromagnetic insulator bilayers of arbitrary thickness. Physical Review Research, 2021, 3, .	3.6	25
54	Nonlinear Critical-Current Thermal Response of an Asymmetric Josephson Tunnel Junction. Physical Review Applied, 2019, 11, .	3.8	25

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55	Unveiling mechanisms of electric field effects on superconductors by a magnetic field response. Physical Review Research, 2020, 2, .	3.6	25
56	Josephson current in nanofabricated V/Cu/V mesoscopic junctions. Applied Physics Letters, 2009, 94, 132508.	3.3	24
57	Niobium Dayem nano-bridge Josephson gate-controlled transistors. Applied Physics Letters, 2020, 116, .	3.3	24
58	Normal metal tunnel junction-based superconducting quantum interference proximity transistor. Applied Physics Letters, 2015, 107, .	3.3	23
59	Thermodynamic cycles in Josephson junctions. Scientific Reports, 2019, 9, 3238.	3.3	23
60	Status of the SIMP Project: Toward the Single Microwave Photon Detection. Journal of Low Temperature Physics, 2020, 199, 348-354.	1.4	23
61	Micro-superconducting quantum interference devices based on V/Cu/V Josephson nanojunctions. Applied Physics Letters, 2013, 103, .	3.3	22
62	Phase-Tunable Thermal Rectification in the Topological SQUIPT. Physical Review Applied, 2019, 11, .	3.8	22
63	Superconducting nonlinear thermoelectric heat engine. Physical Review B, 2020, 101, .	3.2	22
64	Phase-coherent solitonic Josephson heat oscillator. Scientific Reports, 2018, 8, 12287.	3.3	21
65	Electrostatic Control of Phase Slips in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mi>Ti</mml:mi></mml:math> Josephson Nanotransistors. Physical Review Applied, 2020, 13, .	3.8	21
66	Proximity nanovalve with large phase-tunable thermal conductance. Applied Physics Letters, 2014, 105, .	3.3	20
67	Electronic heat current rectification in hybrid superconducting devices. AIP Advances, 2015, 5, .	1.3	20
68	Phase-Coherent Heat Circulator Based on Multiterminal Josephson Junctions. Physical Review Applied, 2018, 10, .	3.8	20
69	Majorana bound states in hybrid two-dimensional Josephson junctions with ferromagnetic insulators. Physical Review B, 2018, 98, .	3.2	20
70	Efficient and tunable Aharonov-Bohm quantum heat engine. Physical Review B, 2019, 100, .	3.2	20
71	Superconducting size effect in thin films under electric field: Mean-field self-consistent model. Physical Review B, 2019, 100, .	3.2	20
72	Photonic Heat Rectification in a System of Coupled Qubits. Physical Review Applied, 2021, 15, .	3.8	20

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73	Phase-tunable thermoelectricity in a Josephson junction. Physical Review Research, 2020, 2, .	3.6	20
74	Photonic heat conduction in Josephson-coupled Bardeen-Cooper-Schrieffer superconductors. Physical Review B, 2016, 93, .	3.2	19
75	Hysteretic Superconducting Heat-Flux Quantum Modulator. Physical Review Applied, 2017, 7, .	3.8	19
76	Phase-Tunable Josephson Thermal Router. Nano Letters, 2018, 18, 1764-1769.	9.1	19
77	Charge transport through spin-polarized tunnel junction between two spin-split superconductors. Physical Review B, 2019, 100, .	3.2	19
78	Sauter-Schwinger Effect in a Bardeen-Cooper-Schrieffer Superconductor. Physical Review Letters, 2021, 126, 117001.	7.8	19
79	Josephson Photodetectors via Temperature-to-Phase Conversion. Physical Review Applied, 2018, 9, .	3.8	18
80	Vanadium gate-controlled Josephson half-wave nanorectifier. Applied Physics Letters, 2020, 116, .	3.3	18
81	Superconducting cascade electron refrigerator. Applied Physics Letters, 2014, 104, .	3.3	17
82	Spectral Characteristics of a Fully Superconducting SQUIPT. Physical Review Applied, 2016, 6, .	3.8	17
83	Phase-driven collapse of the Cooper condensate in a nanosized superconductor. Physical Review B, 2017, 96, .	3.2	17
84	Electrostatic Field-Driven Supercurrent Suppression in Ionic-Gated Metallic Superconducting Nanotransistors. Nano Letters, 2021, 21, 10309-10314.	9.1	17
85	Very large thermal rectification in ferromagnetic insulator-based superconducting tunnel junctions. Applied Physics Letters, 2020, 116, .	3.3	16
86	Preliminary demonstration of a persistent Josephson phase-slip memory cell with topological protection. Nature Communications, 2021, 12, 5200.	12.8	16
87	Phase-tunable temperature amplifier. Europhysics Letters, 2017, 118, 68004.	2.0	15
88	Balanced double-loop mesoscopic interferometer based on Josephson proximity nanojunctions. Applied Physics Letters, 2014, 104, .	3.3	14
89	High operating temperature in V-based superconducting quantum interference proximity transistors. Scientific Reports, 2017, 7, 8810.	3.3	14
90	On-chip cooling by heating with superconducting tunnel junctions. Europhysics Letters, 2018, 124, 48005.	2.0	14

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91	Superconducting Quantum Refrigerator: Breaking and Rejoining Cooper Pairs with Magnetic Field Cycles. Physical Review Applied, 2019, 11, .	3.8	14
92	Gate Control of the Currentâ€“Flux Relation of a Josephson Quantum Interferometer Based on Proximitized Metallic Nanojuntions. ACS Applied Electronic Materials, 2021, 3, 3927-3935.	4.3	14
93	Proximity SQUID Single-Photon Detector via Temperature-to-Voltage Conversion. Physical Review Applied, 2018, 10, .	3.8	13
94	Topological Josephson heat engine. Communications Physics, 2020, 3, .	5.3	13
95	Development of highly sensitive nanoscale transition edge sensors for gigahertz astronomy and dark matter search. Journal of Applied Physics, 2020, 128, .	2.5	13
96	Landau cooling in metalâ€“semiconductor nanostructures. New Journal of Physics, 2007, 9, 439-439.	2.9	11
97	Cooling Electrons by Magnetic-Field Tuning of Andreev Reflection. Physical Review Letters, 2006, 97, 197001.	7.8	10
98	Quasiparticle entropy in superconductor/normal metal/superconductor proximity junctions in the diffusive limit. Physical Review B, 2017, 96, .	3.2	10
99	Hypersensitive Tunable Josephson Escape Sensor for Gigahertz Astronomy. Physical Review Applied, 2020, 14, .	3.8	10
100	Development of a Josephson junction based single photon microwave detector for axion detection experiments. Journal of Physics: Conference Series, 2020, 1559, 012020.	0.4	10
101	Highly efficient phase-tunable photonic thermal diode. Applied Physics Letters, 2021, 118, .	3.3	10
102	rf-SQUID measurements of anomalous Josephson effect. Physical Review Research, 2020, 2, .	3.6	10
103	Thermal superconducting quantum interference proximity transistor. Nature Physics, 2022, 18, 627-632.	16.7	10
104	Colossal Orbital Edelstein Effect in Noncentrosymmetric Superconductors. Physical Review Letters, 2022, 128, .	7.8	10
105	Superconducting Quantum Interference Single-Electron Transistor. Physical Review Applied, 2016, 5, .	3.8	9
106	Noise effects in the nonlinear thermoelectricity of a Josephson junction. Applied Physics Letters, 2020, 117, .	3.3	9
107	Electron Cooling with Graphene-Insulator-Superconductor Tunnel Junctions for Applications in Fast Bolometry. Physical Review Applied, 2020, 13, .	3.8	9
108	Spectroscopic signatures of gate-controlled superconducting phases. Physical Review Research, 2021, 3, .	3.6	9

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109	Gate Control of Superconductivity in Mesoscopic All-Metallic Devices. Materials, 2021, 14, 1243.	2.9	8
110	Impact of electrostatic fields in layered crystalline BCS superconductors. Physical Review Research, 2021, 3, .	3.6	8
111	Phase-controllable nonlocal spin polarization in proximitized nanowires. Physical Review B, 2020, 101, .	3.2	7
112	Adiabatic magnetization of superconductors as a high-performance cooling mechanism. Physical Review B, 2009, 80, .	3.2	6
113	Phase-driven charge manipulation in Hybrid Single-Electron Transistor. Scientific Reports, 2017, 7, 13492.	3.3	6
114	Frustration-driven Josephson phase dynamics. Physical Review B, 2022, 105, .	3.2	6
115	Thermodynamics of a Phase-Driven Proximity Josephson Junction. Entropy, 2019, 21, 1005.	2.2	5
116	Nonlinear regime for enhanced performance of an Aharonovâ€“Bohm heat engine. AVS Quantum Science, 2021, 3, .	4.9	5
117	Spontaneous symmetry breaking induced thermospin effect in superconducting tunnel junctions. Physical Review B, 2021, 104, .	3.2	5
118	Coherent manipulation of thermal transport by tunable electron-photon and electron-phonon interaction. Journal of Applied Physics, 2017, 121, 244305.	2.5	4
119	Phase slips dynamics in gated Ti and V all-metallic supercurrent nano-transistors. Journal Physics D: Applied Physics, 2022, 55, 055301.	2.8	4
120	Evidence of Josephson Coupling in a Few-Layer Black Phosphorus Planar Josephson Junction. ACS Nano, 2022, 16, 3538-3545.	14.6	4
121	Superconducting double spin valve with extraordinary large tunable magnetoresistance. Applied Physics Letters, 2009, 95, 042503.	3.3	3
122	GHz Superconducting Single-Photon Detectors for Dark Matter Search. Instruments, 2021, 5, 14.	1.8	3
123	Thermodynamics in topological Josephson junctions. Physical Review Research, 2021, 3, .	3.6	3
124	Orbital vortices in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>s</mml:mi></mml:math> -wave spin-singlet superconductors in zero magnetic field. Physical Review B, 2022, 105, .	3.2	3
125	Fully Superconducting Josephson Bolometers for Gigahertz Astronomy. Applied Sciences (Switzerland), 2021, 11, 746.	2.5	2
126	Temperature-Biased Double-Loop Josephson Flux Transducer. Physical Review Applied, 2022, 18, .	3.8	2

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127	Single charge transport in a fully superconducting SQUISET locally tuned by self-inductance effects. AIP Advances, 2022, 12, .	1.3	1