

Thilo Bauch

List of Publications by Year in descending order

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124
all docs

124
docs citations

124
times ranked

2172
citing authors

#	ARTICLE	IF	CITATIONS
1	Gate-tunable pairing channels in superconducting non-centrosymmetric oxides nanowires. Npj Quantum Materials, 2022, 7, .	5.2	8
2	Mapping the Phase Diagram of a $YBa_2Cu_3O_{7-\delta}$ Nanowire Through Electromigration. Physical Review Applied, 2022, 17, .	3.8	5
3	Magnetotransport Studies of Encapsulated Topological Insulator Bi ₂ Se ₃ Nanoribbons. Nanomaterials, 2022, 12, 768.	4.1	2
4	Highly efficient UV detection in a metal-semiconductor-metal detector with epigraphene. Applied Physics Letters, 2022, 120, .	3.3	6
5	Tailoring Superconductivity in Large-Area Single-Layer NbSe ₂ via Self-Assembled Molecular Adlayers. Nano Letters, 2021, 21, 136-143.	9.1	19
6	Nanopatterning of Weak Links in Superconducting Oxide Interfaces. Nanomaterials, 2021, 11, 398.	4.1	6
7	High-Mobility Ambipolar Magnetotransport in Topological Insulator Bi ₂ Se ₃ Nanoribbons. Physical Review Applied, 2021, 16, .	3.8	5
8	Electromigration tuning of the voltage modulation depth in YBa ₂ Cu ₃ O _{7-δ} nanowire-based SQUIDS. Superconductor Science and Technology, 2021, 34, 104001.	3.5	2
9	Restored strange metal phase through suppression of charge density waves in underdoped YBa ₂ Cu ₃ O _{7-δ} . Science, 2021, 373, 1506-1510.	12.6	21
10	Topological insulator nanoribbon Josephson junctions: Evidence for size effects in transport properties. Journal of Applied Physics, 2020, 128, 194304.	2.5	21
11	SQUID Magnetometer Based on Grooved Dayem Nanobridges and a Flux Transformer. IEEE Transactions on Applied Superconductivity, 2020, 30, 1-4.	1.7	13
12	Properties of grooved Dayem bridge based YBa ₂ Cu ₃ O _{7-δ} superconducting quantum interference devices and magnetometers. Applied Physics Letters, 2020, 116, 132601.	3.3	20
13	Stoichiometric Bi ₂ Se ₃ topological insulator ultra-thin films obtained through a new fabrication process for optoelectronic applications. Nanoscale, 2020, 12, 12405-12415.	5.6	16
14	The performance limits of epigraphene Hall sensors doped across the Dirac point. Applied Physics Letters, 2020, 116, .	3.3	5
15	Fabrication and electrical transport characterization of high quality underdoped YBa ₂ Cu ₃ O _{7-δ} nanowires. Superconductor Science and Technology, 2020, 33, 064002.	3.5	8
16	Surface structure promoted high-yield growth and magnetotransport properties of Bi ₂ Se ₃ nanoribbons. Scientific Reports, 2019, 9, 11328.	3.3	9
17	On the angular dependence of InP high electron mobility transistors for cryogenic low noise amplifiers in a magnetic field. AIP Advances, 2019, 9, .	1.3	5
18	Towards quantum-limited coherent detection of terahertz waves in charge-neutral graphene. Nature Astronomy, 2019, 3, 983-988.	10.1	25

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19	High transparency Bi ₂ Se ₃ topological insulator nanoribbon Josephson junctions with low resistive noise properties. Applied Physics Letters, 2019, 115, .	3.3	16
20	Transport and noise properties of YBCO nanowire based nanoSQUIDs. Superconductor Science and Technology, 2019, 32, 073001.	3.5	23
21	Grooved Dayem Nanobridges as Building Blocks of High-Performance YBa ₂ Cu ₃ O _{7-δ} SQUID Magnetometers. Nano Letters, 2019, 19, 1902-1907.	9.1	23
22	SQUID magnetometer based on Grooved Dayem nanobridges and a flux transformer. , 2019, , .		0
23	Untwinned $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ thin films on MgO substrates: A platform to study strain effects on the local orders in cuprates. Physical Review Materials, 2019, 3, .	2.4	9
24	Josephson Effect in Graphene and 3D Topological Insulators. Springer Series in Materials Science, 2019, , 529-553.	0.6	1
25	High Frequency Properties of Josephson Junctions. Springer Series in Materials Science, 2019, , 513-528.	0.6	0
26	Uniform doping of graphene close to the Dirac point by polymer-assisted assembly of molecular dopants. Nature Communications, 2018, 9, 3956.	12.8	61
27	Bulk-free topological insulator Bi ₂ Se ₃ nanoribbons with magnetotransport signatures of Dirac surface states. Nanoscale, 2018, 10, 19595-19602.	5.6	32
28	Probing the phase diagram of cuprates with $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ thin films and nanowires. Physical Review Materials, 2018, 2, .	2.4	9
29	Investigation of dark counts in innovative materials for superconducting nanowire single-photon detector applications. , 2017, , .		1
30	High-Transparency Al/Bi ₂ Te ₃ Double-Barrier Heterostructures. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-4.	1.7	9
31	Improved coupling of nanowire-based high- <i>T_c</i> SQUID magnetometers—simulations and experiments. Superconductor Science and Technology, 2017, 30, 115014.	3.5	9
32	Observation of dark pulses in 10 nm thick YBCO nanostrips presenting hysteretic current voltage characteristics. Superconductor Science and Technology, 2017, 30, 12LT02.	3.5	24
33	Transport properties of ultrathin $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ nanowires: A route to single-photon detection. Physical Review B, 2017, 96, .	3.2	37
34	Noise Properties of YBCO Nanostructures. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-4.	1.7	5
35	Homogeneous superconductivity at the $\text{LaAlO}_3/\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ interface probed by nanoscale transport. Physical Review B, 2017, 96, .	3.2	12
36	Josephson effect through YBa ₂ Cu ₃ O _{7-δ} /Au-encapsulated nanogaps. Physical Review B, 2017, 95, .	3.2	4

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37	Study of in-plane electrical transport anisotropy of a -axis oriented $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ nanowires. <i>Physical Review B</i> , 2017, 95, .	3.2	7
38	Improved noise performance of ultrathin YBCO Dayem bridge nanoSQUIDs. <i>Superconductor Science and Technology</i> , 2017, 30, 014008.	3.5	16
39	Induced unconventional superconductivity on the surface states of Bi_2Te_3 topological insulator. <i>Nature Communications</i> , 2017, 8, 2019.	12.8	40
40	10. Josephson and charging effect in mesoscopic superconducting devices. , 2017, , 309-338.		1
41	Space charge limited current mechanism in Bi_2S_3 nanowires. <i>Journal of Applied Physics</i> , 2016, 119, .	2.5	15
42	Toward ultra high magnetic field sensitivity $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ nanowire based superconducting quantum interference devices. <i>Journal of Applied Physics</i> , 2016, 119, .	2.5	18
43	Josephson Coupling in Junctions Made of Monolayer Graphene Grown on SiC. <i>Journal of Superconductivity and Novel Magnetism</i> , 2016, 29, 1145-1150.	1.8	5
44	Incipient Berezinskii-Kosterlitz-Thouless transition in two-dimensional coplanar Josephson junctions. <i>Physical Review B</i> , 2016, 94, .	3.2	6
45	Hot spot formation in electron-doped PCCO nanobridges. <i>Physical Review B</i> , 2016, 94, .	3.2	19
46	Retention of Electronic Conductivity in LaAlO_3 Using SrCuO Coplanar Waveguide Resonators. <i>Physical Review Applied</i> , 2015, 4, .	3.8	13
47	Fabricating Nanogaps in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ Nanowires. <i>Physical Review Applied</i> , 2015, 4, .		
48	Y-Ba-Cu-O nanostripes for optical photon detection. , 2015, , .		0
49	Microwave Losses in YBCO Coplanar Waveguide Resonators at Low Power and Millikelvin Range. <i>IEEE Transactions on Applied Superconductivity</i> , 2015, 25, 1-4.	1.7	3
50	Toward $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ Nanoscale Structures for Hybrid Devices. <i>IEEE Transactions on Applied Superconductivity</i> , 2015, 25, 1-4.	1.7	11
51	Catalyst-free vapour-solid technique for deposition of Bi_2Te_3 and Bi_2Se_3 nanowires/nanobelts with topological insulator properties. <i>Nanoscale</i> , 2015, 7, 15935-15944.	5.6	45
52	High-temperature superconducting nanowires for photon detection. <i>Physica C: Superconductivity and Its Applications</i> , 2015, 509, 16-21.	1.2	30
53	Resonant phase dynamics in O_2 Gordon facets. <i>Continuum Mechanics and Thermodynamics</i> , 2015, 27, 639-658.	2.2	0
54	$\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ nanorings to probe fluxoid quantization in High Critical Temperature Superconductors. <i>Physica C: Superconductivity and Its Applications</i> , 2014, 506, 184-187.	1.2	13

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55	Resistive state triggered by vortex entry in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ nanostructures. Physica C: Superconductivity and Its Applications, 2014, 506, 165-168.	1.2	16
56	Microwave losses in MgO , LaAlO_3 , and $(\text{La}_{0.3}\text{Sr}_{0.7})(\text{Al}_{0.65}\text{Ta}_{0.35})\text{O}_3$ dielectrics at low power and in the millikelvin temperature range. Applied Physics Letters, 2014, 104, .	3.3	10
57	Effect of heating on critical current of YBCO nanowires. Physica C: Superconductivity and Its Applications, 2014, 506, 174-177.	1.2	9
58	Influence of topological edge states on the properties of Al Josephson devices. Physical Review B, 2014, 89, .	3.2	81
59	Ultra low noise $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ nano superconducting quantum interference devices implementing nanowires. Applied Physics Letters, 2014, 104, .	3.3	57
60	Highly homogeneous YBCO/LSMO nanowires for photoresponse experiments. Superconductor Science and Technology, 2014, 27, 044027.	3.5	29
61	Josephson effect in $\text{Al}/\text{Bi}_2\text{Se}_3/\text{Al}$ coplanar hybrid devices. Physica C: Superconductivity and Its Applications, 2014, 503, 162-165.	1.2	7
62	Phase transition of bismuth telluride thin films grown by MBE. Applied Physics Express, 2014, 7, 045503.	2.4	22
63	Approaching the theoretical depairing current in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ nanowires. Physica C: Superconductivity and Its Applications, 2013, 495, 33-38.	1.2	36
64	Microwave Response of Superconducting $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Nanowire Bridges Sustaining the Critical Depairing Current: Evidence of Josephson-like Charge Qubit Coupled to an Intense Microwave Electromagnetic Field in a Superconducting Nb Device: Evidence for Photon-Assisted Quasiparticle Tunneling. Physical Review Letters, 2013, 111, 137002.	7.8	58
65	Improved Nanopatterning for YBCO Nanowires Approaching the Depairing Current. IEEE Transactions on Applied Superconductivity, 2013, 23, 1101505-1101505.	1.7	42
67	Fully gapped superconductivity in a nanometre-size $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ island enhanced by a magnetic field. Nature Nanotechnology, 2013, 8, 25-30.	31.5	53
68	Model Evidence of a Superconducting State with a Full Energy Gap in Small Cuprate Islands. Physical Review Letters, 2013, 110, 197001.	7.8	20
69	MBE Growth of Bi_2Te_3 for Thermoelectrics. , 2013, , .		0
70	Magnetic field resilient superconducting fractal resonators for coupling to free spins. Journal of Applied Physics, 2012, 112, .	2.5	44
71	The Aharonov-Bohm effect in graphene rings with metal mirrors. Carbon, 2012, 50, 5562-5568.	10.3	9
72	Transport Properties of YBCO Nanowires. IEEE Transactions on Applied Superconductivity, 2011, 21, 164-167.	1.7	11

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73	Quantum phase dynamics in an LC shunted Josephson junction. Journal of Applied Physics, 2011, 109, 093915.	2.5	2
74	Noise properties of nanoscale YBa ₂ Cu ₃ O _{7-x} junctions. Physical Review Letters, 2010, 104, 177003.	3.2	13
75	Are CoPinholes the Cause of Excess Current in Superconducting Tunnel Junctions? A Study of Andreev Current in Highly Resistive Junctions. Physical Review Letters, 2011, 106, 097001.	7.8	40
76	d-Wave YBCO dc superconductive quantum interference devices (dc SQUIDs). , 2011, , 370-389.		0
77	Low capacitance HTS junctions for single electron transistors. Physica C: Superconductivity and Its Applications, 2010, 470, S188-S190.	1.2	2
78	Biepitaxial YBa ₂ Cu ₃ O _{7-x} Josephson junctions. Superconductor Science and Technology, 2010, 23, 034027.	3.5	1
79	Interplay between Static and Dynamic Properties of Semifluxons in YBa ₂ Cu ₃ O _{7-x} Junctions. Physical Review Letters, 2010, 104, 177003.	7.8	14
80	Submicron YBaCuO biepitaxial Josephson junctions: d-wave effects and phase dynamics. Journal of Applied Physics, 2010, 107, .	2.5	29
81	Soft Nanostructuring of YBCO Josephson Junctions by Phase Separation. Nano Letters, 2010, 10, 4824-4829.	9.1	18
82	Theory of two-dimensional macroscopic quantum tunneling in YBa ₂ Cu ₃ O _{7-x} junctions coupled to an LC circuit. Physical Review B, 2009, 80, .	3.2	10
83	Eck-Like Resonances in High- T_c Long Faceted Josephson Junctions. IEEE Transactions on Applied Superconductivity, 2009, 19, 911-915.	1.7	0
84	Sub-Micron $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Biepitaxial Junctions. IEEE Transactions on Applied Superconductivity, 2009, 19, 174-177.	1.7	8
85	Properties of inductance and magnetic penetration depth in (103)-oriented YBa ₂ Cu ₃ O _{7-x} films. Physical Review B, 2009, 79, .	3.2	30
86	TWO-DIMENSIONAL MACROSCOPIC QUANTUM DYNAMICS IN YBCO JOSEPHSON JUNCTIONS. International Journal of Modern Physics B, 2009, 23, 4329-4337.	2.0	6
87	Fabrication and properties of sub-micrometric YBCO biepitaxial junctions. Journal of Physics: Conference Series, 2009, 150, 052246.	0.4	4
88	Theory of two-dimensional macroscopic quantum tunneling in a Josephson junction coupled with an LC circuit. Journal of Physics: Conference Series, 2009, 150, 052105.	0.4	1
89	Improvement of chip design to reduce resonances in subgap regime of Josephson junctions. Journal of Physics: Conference Series, 2009, 150, 052063.	0.4	2
90	High critical temperature superconductor Josephson junctions for quantum circuit applications. Physica Scripta, 2009, T137, 014006.	2.5	3

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91	Small-number arrays of intrinsic Josephson junctions. Physica C: Superconductivity and Its Applications, 2008, 468, 674-678.	1.2	7
92	Underlying physical aspects of fluctuations in YBa ₂ Cu ₃ O _{7-δ} grain boundary Josephson junctions. Physica C: Superconductivity and Its Applications, 2008, 468, 310-315.	1.2	5
93	Fast tuning of superconducting microwave cavities. , 2008, , .		3
94	Tuning the field in a microwave resonator faster than the photon lifetime. Applied Physics Letters, 2008, 92, .	3.3	237
95	Dynamics of a LC Shunted $\{m \text{ YBa}_2\}_{m \text{ Cu}}_3\{m \text{ O}\}_{7-\delta}$ Josephson Junction. IEEE Transactions on Applied Superconductivity, 2007, 17, 653-658.	1.7	5
96	Dynamics of d-wave YBa ₂ Cu ₃ O _{7-δ} dc SQUIDS. Superconductor Science and Technology, 2007, 20, S98-S104.	3.5	3
97	Anticorrelation between temperature and fluctuations of the switching current in moderately damped Josephson junctions. Physical Review B, 2007, 76, .	3.2	54
98	Advances in $\{hbox{YBa}\}_2\{hbox{Cu}\}_3\{hbox{O}\}_{7-\delta}$ Grain Boundary Biepitaxial Josephson Junctions: Transport Properties and Mesoscopic Effects. IEEE Transactions on Applied Superconductivity, 2007, 17, 225-228.	1.7	2
99	Classical resonant activation of a Josephson junction embedded in an LC circuit. Physical Review B, 2007, 75, .	3.2	30
100	Energy level quantization in a YBa ₂ Cu ₃ O _{7-δ} Josephson junction. Physica C: Superconductivity and Its Applications, 2007, 460-462, 335-338.	1.2	2
101	Transport measurements on ultra-thin CaBaCuO films. Physica C: Superconductivity and Its Applications, 2007, 460-462, 845-846.	1.2	0
102	Macroscopic Quantum Phenomena in High Critical Temperature Superconducting Josephson Junctions. Journal of Superconductivity and Novel Magnetism, 2007, 19, 341-347.	1.8	1
103	YBCO SQUIDS with unconventional current phase relation. Physica C: Superconductivity and Its Applications, 2007, 463-465, 979-984.	1.2	5
104	A Single Electron Transistor on an Atomic Force Microscope Probe. Nano Letters, 2006, 6, 937-941.	9.1	22
105	Quantum behaviors in high-TC systems: Macroscopic and vortex quantum tunneling. Physica C: Superconductivity and Its Applications, 2006, 437-438, 303-308.	1.2	0
106	Quantum properties of d-wave YBa ₂ Cu ₃ O _{7-δ} Josephson junction. Physica C: Superconductivity and Its Applications, 2006, 435, 8-11.	1.2	16
107	Quantum Dynamics of a d-Wave Josephson Junction. Science, 2006, 311, 57-60.	12.6	108
108	Josephson dynamics of bicrystal d-wave YBa ₂ Cu ₃ O _{7-δ} dc-SQUIDS. Physical Review B, 2006, 74, .	3.2	21

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109	Macroscopic Quantum Tunneling in d-Wave $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Josephson Junctions. <i>Physical Review Letters</i> , 2005, 94, 087003.	7.8	151
110	Collapse of Thermal Activation in Moderately Damped Josephson Junctions. <i>Physical Review Letters</i> , 2005, 95, 157002.	7.8	70
111	Correlated quantization of supercurrent and conductance in a superconducting quantum point contact. <i>Physical Review B</i> , 2005, 71, .	3.2	27
112	Probing the intrinsic Josephson coupling potential in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8-x}$ superconductors by thermal activation. <i>Physical Review B</i> , 2005, 72, .	3.2	33
113	Flavours of intrinsic d-wave induced effects in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ grain boundary Josephson junctions. <i>Superconductor Science and Technology</i> , 2004, 17, S202-S207.	3.5	5
114	Vortex matter in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ grain boundary Josephson junctions: intrinsic and extrinsic d-wave effects for μC -circuitry. <i>Physica C: Superconductivity and Its Applications</i> , 2004, 404, 367-374.	1.2	2
115	Comparison of Josephson vortex flow transistors with different gate line configurations. <i>Applied Physics Letters</i> , 2001, 78, 1095-1097.	3.3	5
116	Title is missing!. <i>Journal of Low Temperature Physics</i> , 2000, 118, 679-687.	1.4	0
117	Fabrication of ramp-type junctions using a two angle ion beam etching process. <i>Superconductor Science and Technology</i> , 1999, 12, 1016-1019.	3.5	3
118	Andreev bound states in high temperature superconductors. <i>European Physical Journal B</i> , 1998, 5, 423-438.	1.5	78
119	Observation of bound surface states in grain-boundary junctions of high-temperature superconductors. <i>Physical Review B</i> , 1998, 58, 11197-11200.	3.2	120
120	High-temperature superconducting Josephson Vortex Flow Transistors: numerical simulations and experimental results. <i>IEEE Transactions on Applied Superconductivity</i> , 1997, 7, 3605-3608.	1.7	12
121	Physics and performance of high temperature superconducting vortex flow transistors. <i>Applied Superconductivity</i> , 1995, 3, 443-462.	0.5	20
122	Asymmetric high temperature superconducting Josephson vortex flow transistors with high current gain. <i>Applied Physics Letters</i> , 1995, 67, 1010-1012.	3.3	29