

Bernard Placais

List of Publications by Year in descending order

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117
papers

5,235
citations

101543

36
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85541

71
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119
all docs

119
docs citations

119
times ranked

4044
citing authors

#	ARTICLE	IF	CITATIONS
1	Vortex formation in neutron-irradiated superfluid ^3He as an analogue of cosmological defect formation. <i>Nature</i> , 1996, 382, 334-336.	27.8	521
2	An On-Demand Coherent Single-Electron Source. <i>Science</i> , 2007, 316, 1169-1172.	12.6	460
3	Violation of Kirchhoff's Laws for a Coherent RC Circuit. <i>Science</i> , 2006, 313, 499-502.	12.6	305
4	Coherence and Indistinguishability of Single Electrons Emitted by Independent Sources. <i>Science</i> , 2013, 339, 1054-1057.	12.6	303
5	Fractional statistics in anyon collisions. <i>Science</i> , 2020, 368, 173-177.	12.6	225
6	Supercollision cooling in undoped graphene. <i>Nature Physics</i> , 2013, 9, 109-112.	16.7	179
7	Electron quantum optics in ballistic chiral conductors. <i>Annalen Der Physik</i> , 2014, 526, 1-30.	2.4	162
8	Electron Quantum Optics: Partitioning Electrons One by One. <i>Physical Review Letters</i> , 2012, 108, 196803.	7.8	155
9	Hot Electron Cooling by Acoustic Phonons in Graphene. <i>Physical Review Letters</i> , 2012, 109, 056805.	7.8	120
10	Current correlations of an on-demand single-electron emitter. <i>Physical Review B</i> , 2010, 82, .	3.2	115
11	The 2021 quantum materials roadmap. <i>JPhys Materials</i> , 2020, 3, 042006.	4.2	111
12	Separation of neutral and charge modes in one-dimensional chiral edge channels. <i>Nature Communications</i> , 2013, 4, 1839.	12.8	106
13	Hong-Ou-Mandel experiment for temporal investigation of single-electron fractionalization. <i>Nature Communications</i> , 2015, 6, 6854.	12.8	101
14	Single-electron quantum tomography in quantum Hall edge channels. <i>New Journal of Physics</i> , 2011, 13, 093007.	2.9	96
15	Current noise spectrum of a single-particle emitter: Theory and experiment. <i>Physical Review B</i> , 2012, 85, .	3.2	96
16	Critical Velocity of Vortex Nucleation in Rotating Superfluid $^3\text{He-A}$. <i>Physical Review Letters</i> , 1997, 79, 5058-5061.	7.8	92
17	Noisy Kondo impurities. <i>Nature Physics</i> , 2009, 5, 208-212.	16.7	91
18	Geometrical Dependence of High-Bias Current in Multiwalled Carbon Nanotubes. <i>Physical Review Letters</i> , 2004, 92, 026804.	7.8	88

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19	Defect Formation in Quench-Cooled Superfluid Phase Transition. <i>Physical Review Letters</i> , 1998, 80, 1465-1468.	7.8	86
20	Low frequency Raman spectroscopy of few-atomic-layer thick hBN crystals. <i>2D Materials</i> , 2017, 4, 031003.	4.4	80
21	Single Carbon Nanotube Transistor at GHz Frequency. <i>Nano Letters</i> , 2008, 8, 525-528.	9.1	68
22	Shot Noise in Fabry-Perot Interferometers Based on Carbon Nanotubes. <i>Physical Review Letters</i> , 2007, 99, 156804.	7.8	66
23	Relaxation Time of a Chiral Quantum Circuit. <i>Physical Review Letters</i> , 2007, 98, 166806.	7.8	65
24	A graphene Zener-Klein transistor cooled by a hyperbolic substrate. <i>Nature Nanotechnology</i> , 2018, 13, 47-52.	31.5	64
25	Excitonic recombinations in hBN. From bulk to exfoliated layers. <i>Physical Review B</i> , 2014, 89, .	3.2	58
26	Hanbury Brown-Twiss Correlations to Probe the Population Statistics of GHz Photons Emitted by Conductors. <i>Physical Review Letters</i> , 2004, 93, 056801.	7.8	51
27	Decoherence and relaxation of a single electron in a one-dimensional conductor. <i>Physical Review B</i> , 2016, 94, .	3.2	51
28	Dimensionality effects on the luminescence properties of hBN. <i>Nanoscale</i> , 2016, 8, 6986-6993.	5.6	50
29	Volkov-Pankratov states in topological heterojunctions. <i>Physical Review B</i> , 2017, 96, .	3.2	49
30	A Klein-tunneling transistor with ballistic graphene. <i>2D Materials</i> , 2014, 1, 011006.	4.4	48
31	A coherent RC circuit. <i>Reports on Progress in Physics</i> , 2012, 75, 126504.	20.1	43
32	Graphene microwave transistors on sapphire substrates. <i>Applied Physics Letters</i> , 2011, 99, 113502.	3.3	42
33	Critical velocity of continuous vortex formation in rotating $^3\text{He-A}$. <i>European Physical Journal D</i> , 1996, 46, 7-8.	0.4	41
34	Observation of Volkov-Pankratov states in topological HgTe heterojunctions using high-frequency compressibility. <i>Physical Review B</i> , 2017, 96, .	3.2	40
35	Very high resolution measurement of the penetration depth of superconductors by a novel single-coil inductance technique. <i>Review of Scientific Instruments</i> , 2000, 71, 2147-2153.	1.3	38
36	Continuum electrodynamics of type-II superconductors in the mixed state: The dc and ac response. <i>Physical Review B</i> , 1996, 54, 13083-13096.	3.2	37

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37	Hofstadter Butterfly and Many-Body Effects in Epitaxial Graphene Superlattice. Nano Letters, 2016, 16, 2387-2392.	9.1	36
38	Quantum tomography of electrical currents. Nature Communications, 2019, 10, 3379.	12.8	35
39	Ultra-long carrier lifetime in neutral graphene-hBN van der Waals heterostructures under mid-infrared illumination. Nature Communications, 2020, 11, 863.	12.8	34
40	Transport scattering time probed through rf admittance of a graphene capacitor. Physical Review B, 2011, 83, .	3.2	33
41	Spatial distribution of vortices and anisotropy of mutual friction in rotating He II. Physical Review B, 1984, 29, 2489-2496.	3.2	30
42	Cotunneling and one-dimensional localization in individual disordered single-wall carbon nanotubes: Temperature dependence of the intrinsic resistance. Physical Review B, 2006, 74, .	3.2	29
43	Conserved spin and orbital phase along carbon nanotubes connected with multiple ferromagnetic contacts. Physical Review B, 2010, 81, .	3.2	29
44	Depinning Transition in Type-II Superconductors. Physical Review Letters, 1997, 79, 2538-2541.	7.8	28
45	FIB patterning of dielectric, metallized and graphene membranes: A comparative study. Microelectronic Engineering, 2014, 121, 87-91.	2.4	25
46	Layering Transition in Superfluid Helium Adsorbed on a Carbon Nanotube Mechanical Resonator. Physical Review Letters, 2019, 122, 165301.	7.8	25
47	Effect of vortices on the spin-flip lifetime of atoms in superconducting atom-chips. Europhysics Letters, 2009, 87, 13002.	2.0	24
48	Coupling between electrons and optical phonons in suspended bilayer graphene. Physical Review B, 2015, 91, .	3.2	24
49	Magnetic field and voltage noise in type-II superconductors. Physical Review B, 1994, 49, 15813-15829.	3.2	21
50	Two-particle interferometry in quantum Hall edge channels. Physica Status Solidi (B): Basic Research, 2017, 254, 1600618.	1.5	21
51	Dielectric permittivity, conductivity and breakdown field of hexagonal boron nitride. Materials Research Express, 2022, 9, 065901.	1.6	21
52	High-Frequency Limits of Graphene Field-Effect Transistors with Velocity Saturation. Applied Sciences (Switzerland), 2020, 10, 446.	2.5	20
53	Anomalous transverse voltages in the superconducting surface sheath. Physical Review B, 1993, 48, 7376-7382.	3.2	19
54	Granularity-induced gapless superconductivity in NbN films: Evidence of thermal phase fluctuations. Physical Review B, 2002, 65, .	3.2	19

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55	Contact gating at GHz frequency in graphene. Scientific Reports, 2016, 6, 21085.	3.3	19
56	Dynamical Separation of Bulk and Edge Transport in HgTe-Based 2D Topological Insulators. Physical Review Letters, 2020, 124, 076802.	7.8	18
57	Subnanosecond Single Electron Source in the Time-Domain. Journal of Low Temperature Physics, 2008, 153, 339-349.	1.4	17
58	Ultra-long wavelength Dirac plasmons in graphene capacitors. JPhys Materials, 2018, 1, 01LT02.	4.2	17
59	Metastability in decelerating rotation of superfluid $^3\text{He-B}$. Physica B: Condensed Matter, 1998, 255, 27-40.	2.7	16
60	DNA Hybridization Measured with Graphene Transistor Arrays. Advanced Healthcare Materials, 2020, 9, e2000260.	7.6	16
61	Critical-current fluctuations and flux-flow noise in type-II superconductors. Physical Review Letters, 1993, 70, 1521-1524.	7.8	15
62	Evidence for vortex surface pinning in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ from the frequency dependence of the complex penetration depth. Physical Review B, 2001, 63, .	3.2	15
63	A high sensitivity ultralow temperature RF conductance and noise measurement setup. Review of Scientific Instruments, 2011, 82, 013904.	1.3	15
64	Dirac fermion reflector by ballistic graphene sawtooth-shaped npn junctions. Semiconductor Science and Technology, 2017, 32, 045010.	2.0	15
65	Annihilation of vortex lines in rotating superfluid ^3He . Physical Review B, 1997, 56, 14089-14092.	3.2	14
66	Hyperbolic Phonon Polariton Electroluminescence as an Electronic Cooling Pathway. Advanced Functional Materials, 2020, 30, 1904783.	14.9	14
67	Microwave photons emitted by fractionally charged quasiparticles. Nature Communications, 2019, 10, 1708.	12.8	13
68	Simple model for critical currents in anisotropic type-II superconductors. Physical Review B, 1994, 50, 3503-3506.	3.2	12
69	Critical currents in the anisotropic superconductor 2H-NbSe_2 : Evidence for an upper bound of the surface critical-current density. Physical Review B, 2002, 65, .	3.2	12
70	Optoelectronic Mixing in High-Mobility Graphene. ACS Photonics, 2021, 8, 369-375.	6.6	12
71	Critical currents in soft type II superconductors. Solid State Communications, 1989, 71, 177-180.	1.9	11
72	RF-studies of vortex dynamics in isotropic type-II superconductors. Physica B: Condensed Matter, 1998, 255, 75-85.	2.7	11

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73	High-frequency characterization of thermionic charge transport in silicon-on-insulator nanowire transistors. Applied Physics Letters, 2014, 104, 043106.	3.3	11
74	Hot carriers in graphene. Journal of Physics Condensed Matter, 2015, 27, 160301.	1.8	11
75	Thermal detection of flux-flow noise in type-II superconductors. Physical Review B, 1989, 39, 2151-2154.	3.2	10
76	Electron-phonon coupling in single-walled carbon nanotubes determined by shot noise. Applied Physics Letters, 2010, 97, 262115.	3.3	10
77	Onset of optical-phonon cooling in multilayer graphene revealed by RF noise and black-body radiation thermometries. Journal of Physics Condensed Matter, 2015, 27, 164208.	1.8	10
78	Anomalous metallic state in quasi-two-dimensional BaNiS_2 . Physical Review B, 2016, 93, .	3.2	10
79	rf Quantum Capacitance of the Topological Insulator Bi_2Te_3 in the Bulk Depleted Regime for Field-Effect Transistors. Physical Review Applied, 2018, 9, .	3.8	10
80	Importance of nonlocal electron correlation in the BaNiS_2 semimetal from quantum oscillations studies. Physical Review B, 2018, 97, .	3.2	10
81	Small angle neutron scattering and vortex lattice dynamical phase diagram. Physica C: Superconductivity and Its Applications, 2000, 341-348, 999-1002.	1.2	9
82	Thermal shot noise in top-gated single carbon nanotube field effect transistors. Applied Physics Letters, 2010, 96, .	3.3	9
83	Realization of a time-controlled subnanosecond single electron source for ballistic qubits. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 954-960.	2.7	7
84	A corner reflector of graphene Dirac fermions as a phonon-scattering sensor. Nature Communications, 2019, 10, 2428.	12.8	7
85	Graphene nanotransistors for RF charge detection. Journal Physics D: Applied Physics, 2014, 47, 094004.	2.8	6
86	Time dependent electronic transport in chiral edge channels. Physica E: Low-Dimensional Systems and Nanostructures, 2016, 76, 12-27.	2.7	6
87	Landau Velocity for Collective Quantum Hall Breakdown in Bilayer Graphene. Physical Review Letters, 2018, 121, 136804.	7.8	6
88	Turn-on delay for Josephson logic devices with high damping. Electronics Letters, 1982, 18, 777.	1.0	5
89	Critical currents in anisotropic crystalline type-II superconductors. Physica C: Superconductivity and Its Applications, 1994, 235-240, 3049-3050.	1.2	5
90	Flux-flow resistivity in UPt_3 : Evidence for nonsingular vortex-core structure. Physical Review B, 2001, 64, .	3.2	5

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91	Le graphène, 2011, , 4-9.	0.1	5
92	Characterization of helical Luttinger liquids in microwave stepped-impedance edge resonators. Physical Review Research, 2020, 2, .	3.6	5
93	Evidence for vortex pinning by surface irregularities in untwinned YBaCuO crystals. Physica C: Superconductivity and Its Applications, 2000, 332, 61-65.	1.2	4
94	Peak effect and surface crystal-glass transition for surface-pinned vortex array. Europhysics Letters, 2004, 67, 655-661.	2.0	4
95	A quantum mesoscopic RC circuit realized in a 2D electron gas. Physica E: Low-Dimensional Systems and Nanostructures, 2006, 34, 576-579.	2.7	4
96	Equilibrium number of quantized vortex lines in rotating $^3\text{He-B}$. European Physical Journal D, 1996, 46, 11-12.	0.4	3
97	Nucleation of vortices in superfluid $^3\text{He-B}$. European Physical Journal D, 1996, 46, 15-16.	0.4	3
98	Observation of the ideal low-frequency response of the mixed state and the diamagnetism of a type II superconductor. Physica C: Superconductivity and Its Applications, 1997, 279, 103-112.	1.2	3
99	High-frequency linear AC response of a pinned vortex lattice. Physica B: Condensed Matter, 2000, 284-288, 719-720.	2.7	3
100	IMPORTANCE OF PHASE FLUCTUATIONS FOR THE MAGNETIC PENETRATION DEPTH OF CONVENTIONAL AND CUPRATE SUPERCONDUCTORS. International Journal of Modern Physics B, 2000, 14, 2932-2937.	2.0	3
101	Building blocks and concepts for THz remote sensing and communications. , 2019, , .		3
102	Annihilation of quantized vortex lines in rotating $^3\text{He-A}$. European Physical Journal D, 1996, 46, 9-10.	0.4	2
103	High-frequency vortex dynamics and flux-flow resistivity in UPt_3 . Physica B: Condensed Matter, 2000, 284-288, 527-528.	2.7	2
104	RF compressibility of topological surface and interface states in metal-hBN-Bi 2Se_3 capacitors. JPhys Materials, 2019, 2, 044003.	4.2	2
105	Comment on "Collapse of the vortex-lattice inductance and shear modulus at the melting transition in untwinned $\text{YBa}_2\text{Cu}_3\text{O}_7$ ". Physical Review B, 2003, 67, .	3.2	1
106	Microwave surface transport in narrow-bandgap PdSe $_2$ -MOSFETs. 2D Materials, 2021, 8, 035035.	4.4	1
107	La réponse à un échelon de champ d'un supraconducteur de type II: un moyen simple de tester l'ancrage des vortex en volume The magnetic-field step response of a type II superconductor as a simple test of the vortex bulk pinning. Journal of Physics Condensed Matter, 1998, 10, 7193-7208.	1.8	0
108	Vortex pinning in untwinned YBCO. Physica C: Superconductivity and Its Applications, 2000, 341-348, 1059-1060.	1.2	0

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109	Gapless state in low- and high-Tc superconductors: evidence for thermal phase fluctuations. Physica C: Superconductivity and Its Applications, 2001, 364-365, 235-238.	1.2	0
110	Hanbury Brown and Twiss Noise Correlations to Probe the Statistics of GHz Photons Emitted by Quantum Conductors. AIP Conference Proceedings, 2005, , .	0.4	0
111	Noise of a single electron emitter: Experiment. , 2011, , .		0
112	Graphene-based Klein tunneling transistor. , 2014, , .		0
113	Reprint of : Time dependent electronic transport in chiral edge channels. Physica E: Low-Dimensional Systems and Nanostructures, 2016, 82, 129-144.	2.7	0
114	Hot carrier recombination close to the Dirac point in graphene-hBN van der Waals heterostructures. , 2019, , .		0
115	Ancrage des vortex dans les supraconducteurs Description phénoménologique de la réponse linéaire d'un vortex ancré. Annales De Physique, 2000, 25, 1-112.	0.2	0
116	Existe-t-il un troisième coefficient de friction mutuelle B" ?. Journal De Physique (Paris), Lettres, 1985, 46, 233-240.	2.8	0
117	Ultra-slow recombination of carriers at low density and energy in neutral graphene-hBN van der Waals heterostructures. , 2020, , .		0