Adrian Bachtold

List of Publications by Year
in descending order

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103 papers	16,710 citations	41258 49 h-index	43802 91 g-index
103 all docs	103 docs citations	103 times ranked	17259 citing authors

#	Article	IF	Citations
1	Logic Circuits with Carbon Nanotube Transistors. Science, 2001, 294, 1317-1320.	6.0	2,523
2	Science and technology roadmap for graphene, related two-dimensional crystals, and hybrid systems. Nanoscale, 2015, 7, 4598-4810.	2.8	2,452
3	Superconductors, orbital magnets and correlated states in magic-angle bilayer graphene. Nature, 2019, 574, 653-657.	13.7	987
4	A nanomechanical mass sensor with yoctogram resolution. Nature Nanotechnology, 2012, 7, 301-304.	15.6	855
5	Aharonovâ€“Bohm oscillations in carbon nanotubes. Nature, 1999, 397, 673-675.	13.7	736
6	Current-induced cleaning of graphene. Applied Physics Letters, 2007, 91, .	1.5	558
7	Nonlinear damping in mechanical resonators made from carbon nanotubes and graphene. Nature Nanotechnology, 2011, 6, 339-342.	15.6	555
8	Scanned Probe Microscopy of Electronic Transport in Carbon Nanotubes. Physical Review Letters, 2000, 84, 6082-6085.	2.9	547
9	Template Synthesis of Nanowires in Porous Polycarbonate Membranes:â€‰ Electrochemistry and Morphology. Journal of Physical Chemistry B, 1997, 101, 5497-5505.	1.2	479
10	Ultrasensitive Mass Sensing with a Nanotube Electromechanical Resonator. Nano Letters, 2008, 8, 3735-3738.	4.5	369
11	Imaging Mechanical Vibrations in Suspended Graphene Sheets. Nano Letters, 2008, 8, 1399-1403.	4.5	330
12	Ultrasensitive force detection with a nanotube mechanical resonator. Nature Nanotechnology, 2013, 8, 493-496.	15.6	327
13	Subnanometer Motion of Cargoes Driven by Thermal Gradients Along Carbon Nanotubes. Science, 2008, 320, 775-778.	6.0	322
14	Coupling Mechanics to Charge Transport in Carbon Nanotube Mechanical Resonators. Science, 2009, 325, 1107-1110.	6.0	317
15	Contacting carbon nanotubes selectively with low-ohmic contacts for four-probe electric measurements. Applied Physics Letters, 1998, 73, 274-276.	1.5	294
16	Interference and Interaction in multi-wall carbon nanotubes. Applied Physics A: Materials Science and Processing, 1999, 69, 283-295.	1.1	282
17	Carbon Nanotube Based Bearing for Rotational Motions. Nano Letters, 2004, 4, 709-712.	4.5	213
18	Mechanical Detection of Carbon Nanotube Resonator Vibrations. Physical Review Letters, 2007, 99, 085501.	2.9	191

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19	Nanotube mechanical resonators with quality factors of up to 5 million. Nature Nanotechnology, 2014, 9, 1007-1011.	15.6	190
20	Determination of the Intershell Conductance in Multiwalled Carbon Nanotubes. Physical Review Letters, 2004, 93, 176806.	2.9	189
21	Transport Properties of Graphene in the High-Current Limit. Physical Review Letters, 2009, 103, 076601.	2.9	188
22	Multiwall Carbon Nanotubes as Quantum Dots. Physical Review Letters, 2002, 88, 156801.	2.9	172
23	Suppression of Tunneling into Multiwall Carbon Nanotubes. Physical Review Letters, 2001, 87, 166801.	2.9	166
24	Scanning thermal microscopy of carbon nanotubes using batch-fabricated probes. Applied Physics Letters, 2000, 77, 4295-4297.	1.5	156
25	The environment of graphene probed by electrostatic force microscopy. Applied Physics Letters, 2008, 92, .	1.5	156
26	Damaging Graphene with Ozone Treatment: A Chemically Tunable Metalâ^'Insulator Transition. ACS Nano, 2010, 4, 4033-4038.	7.3	149
27	Coupling Graphene Mechanical Resonators to Superconducting Microwave Cavities. Nano Letters, 2014, 14, 2854-2860.	4.5	146
28	Magnetotransport in disordered graphene exposed to ozone: From weak to strong localization. Physical Review B, 2010, 81, .	1.1	141
29	Evidence for Luttinger-Liquid Behavior in Crossed Metallic Single-Wall Nanotubes. Physical Review Letters, 2004, 92, 216804.	2.9	133
30	Energy-dependent path of dissipation in nanomechanical resonators. Nature Nanotechnology, 2017, 12, 631-636.	15.6	127
31	Force sensitivity of multilayer graphene optomechanical devices. Nature Communications, 2016, 7, 12496.	5.8	118
32	High Quality Factor Mechanical Resonators Based on WSe₂ Monolayers. Nano Letters, 2016, 16, 5102-5108.	4.5	117
33	Four-Point Resistance of Individual Single-Wall Carbon Nanotubes. Physical Review Letters, 2005, 95, 196802.	2.9	108
34	Strong Coupling between Mechanical Modes in a Nanotube Resonator. Physical Review Letters, 2012, 109, 025503.	2.9	104
35	Thermal probing of energy dissipation in current-carrying carbon nanotubes. Journal of Applied Physics, 2009, 105, .	1.1	97
36	Thermal Decomposition of Ferrocene as a Method for Production of Single-Walled Carbon Nanotubes without Additional Carbon Sources. Journal of Physical Chemistry B, 2006, 110, 20973-20977.	1.2	96

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37	Parametric Amplification and Self-Oscillation in a Nanotube Mechanical Resonator. Nano Letters, 2011, 11, 2699-2703.	4.5	96
38	Transport through the interface between a semiconducting carbon nanotube and a metal electrode. Physical Review B, 2002, 66, .	1.1	92
39	Geometrical Dependence of High-Bias Current in Multiwalled Carbon Nanotubes. Physical Review Letters, 2004, 92, 026804.	2.9	88
40	Current-voltage characteristics of graphene devices: Interplay between Zener-Klein tunneling and defects. Physical Review B, 2010, 82, .	1.1	78
41	Cooling Carbon Nanotubes to the Phononic Ground State with a Constant Electron Current. Physical Review Letters, 2009, 102, 096804.	2.9	77
42	High Quality Factor Graphene-Based Two-Dimensional Heterostructure Mechanical Resonator. Nano Letters, 2017, 17, 5950-5955.	4.5	75
43	Charging and discharging of graphene in ambient conditions studied with scanning probe microscopy. Applied Physics Letters, 2009, 94, 233105.	1.5	60
44	Silicon-Based Chemical Motors: An Efficient Pump for Triggering and Guiding Fluid Motion Using Visible Light. ACS Nano, 2015, 9, 11234-11240.	7.3	59
45	Electromechanical control of nitrogen-vacancy defect emission using graphene NEMS. Nature Communications, 2016, 7, 10218.	5.8	56
46	Imaging the Proton Concentration and Mapping the Spatial Distribution of the Electric Field of Catalytic Micropumps. Physical Review Letters, 2013, 111, 168301.	2.9	52
47	Ultrasensitive Displacement Noise Measurement of Carbon Nanotube Mechanical Resonators. Nano Letters, 2018, 18, 5324-5328.	4.5	52
48	Fabrication of large addition energy quantum dots in graphene. Applied Physics Letters, 2009, 95, .	1.5	51
49	High-frequency nanotube mechanical resonators. Applied Physics Letters, 2011, 99, .	1.5	51
50	Cooling and self-oscillation in a nanotube electromechanical resonator. Nature Physics, 2020, 16, 32-37.	6.5	50
51	Symmetry breaking in a mechanical resonator made from a carbon nanotube. Nature Communications, 2013, 4, 2843.	5.8	47
52	Electron heating effects in diffusive metal wires. Applied Physics Letters, 1997, 71, 773-775.	1.5	45
53	Control of the single-wall carbon nanotube mean diameter in sulphur promoted aerosol-assisted chemical vapour deposition. Carbon, 2007, 45, 55-61.	5.4	45
54	Detecting Individual Electrons Using a Carbon Nanotube Field-Effect Transistor. Nano Letters, 2007, 7, 3766-3769.	4.5	44

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55	Optomechanical Measurement of Thermal Transport in Two-Dimensional MoSe₂ Lattices. Nano Letters, 2019, 19, 3143-3150.	4.5	43
56	Optomechanics with a hybrid carbon nanotube resonator. Nature Communications, 2018, 9, 662.	5.8	42
57	Harnessing Vacuum Forces for Quantum Sensing of Graphene Motion. Physical Review Letters, 2014, 112, 223601.	2.9	41
58	Interplay of Driving and Frequency Noise in the Spectra of Vibrational Systems. Physical Review Letters, 2014, 113, 255502.	2.9	38
59	Logic circuits based on carbon nanotubes. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 16, 42-46.	1.3	36
60	Mass Sensing for the Advanced Fabrication of Nanomechanical Resonators. Nano Letters, 2019, 19, 6987-6992.	4.5	35
61	Real-Time Measurement of Nanotube Resonator Fluctuations in an Electron Microscope. Nano Letters, 2017, 17, 1748-1755.	4.5	33
62	Probing the electron-phonon coupling in ozone-doped graphene by Raman spectroscopy. Physical Review B, 2010, 82, .	1.1	32
63	Electrical Control of Lifetime-Limited Quantum Emitters Using 2D Materials. Nano Letters, 2019, 19, 3789-3795.	4.5	30
64	Cotunneling and one-dimensional localization in individual disordered single-wall carbon nanotubes: Temperature dependence of the intrinsic resistance. Physical Review B, 2006, 74, .	1.1	29
65	Electrostatically Induced Phononic Crystal. Physical Review Applied, 2019, 11, .	1.5	26
66	Layering Transition in Superfluid Helium Adsorbed on a Carbon Nanotube Mechanical Resonator. Physical Review Letters, 2019, 122, 165301.	2.9	25
67	Proposal for a Nanomechanical Qubit. Physical Review X, 2021, 11, .	2.8	25
68	Sequential Tasks Performed by Catalytic Pumps for Colloidal Crystallization. Langmuir, 2014, 30, 11841-11845.	1.6	24
69	Ground-state-cooling vibrations of suspended carbon nanotubes with constant electron current. Physical Review B, 2010, 81, .	1.1	23
70	Atomic Monolayer Deposition on the Surface of Nanotube Mechanical Resonators. Physical Review Letters, 2014, 112, 196103.	2.9	21
71	Structured Graphene Devices for Mass Transport. Small, 2011, 7, 775-780.	5.2	20
72	Carbon nanotube electromechanical resonator for ultrasensitive mass/force sensing. Comptes Rendus Physique, 2010, 11, 355-361.	0.3	18

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73	Environmental Electrometry with Luminescent Carbon Nanotubes. Nano Letters, 2018, 18, 4136-4140.	4.5	18
74	Electronic and Mechanical Properties of Carbon Nanotubes. , 2002, , 297-320.		13
75	Electron Counting Spectroscopy of CdSe Quantum Dots. Physical Review Letters, 2009, 102, 226804.	2.9	13
76	Influence of the macroscopic shape of the tip on the contrast in scanning polarization force microscopy images. Nanotechnology, 2009, 20, 285704.	1.3	13
77	Comment on â€œMagnetoresistance and differential conductance in mutliwalled carbon nanotubesâ€• Physical Review B, 2001, 64, .	1.1	10
78	Fabry-PÃ©rot Oscillations in Correlated Carbon Nanotubes. Physical Review Letters, 2020, 125, 187701.	2.9	10
79	Contacting single template synthesized nanowires for electric measurements. Microelectronic Engineering, 1998, 41-42, 571-574.	1.1	9
80	Beyond the linearity of currentâ€“voltage characteristics in multiwalled carbon nanotubes. Semiconductor Science and Technology, 2006, 21, S33-S37.	1.0	9
81	Response of carbon nanotube transistors to electron beam exposure. Microelectronic Engineering, 2007, 84, 1596-1600.	1.1	9
82	Interrelation of Elasticity and Thermal Bath in Nanotube Cantilevers. Physical Review Letters, 2021, 126, 175502.	2.9	9
83	Logic circuits with carbon nanotubes. AIP Conference Proceedings, 2002, , .	0.3	9
84	Luttinger Liquid Behavior in Metallic Carbon Nanotubes. Lecture Notes in Physics, 2001, , 125-146.	0.3	8
85	Landau Velocity for Collective Quantum Hall Breakdown in Bilayer Graphene. Physical Review Letters, 2018, 121, 136804.	2.9	6
86	Phonon-Induced Pairing in Quantum Dot Quantum Simulator. Nano Letters, 2021, 21, 9661-9667.	4.5	6
87	Electrical properties of single carbon nanotubes. , 1998, , .		4
88	Interference and interactions in multiwall nanotubes. Physica B: Condensed Matter, 2000, 280, 384-385.	1.3	3
89	Mechanical detection and mode shape imaging of vibrational modes of micro and nanomechanical resonators by dynamic force microscopy. Journal of Physics: Conference Series, 2008, 100, 052009.	0.3	3
90	Improving the read-out of the resonance frequency of nanotube mechanical resonators. Applied Physics Letters, 2018, 113, 063104.	1.5	3

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91	Controlled assembly of graphene sheets and nanotubes: Fabrication of suspended multi-element all-carbon vibrational structures. Journal of Applied Physics, 2013, 114, 104310.	1.1	2
92	Quantentransport in multiwall carbon nanotubes. , 1999, , .		1
93	Nanotubes speed up. Physics World, 2002, 15, 22-23.	0.0	1
94	Bachtold and Bourlon Reply:. Physical Review Letters, 2004, 93, .	2.9	1
95	Electromechanical control of nitrogen-vacancy defect emission using graphene NEMS. , 0, .		1
96	Nanoscale Thermal and Thermoelectric Mapping of Semiconductor Devices and Interconnects. AIP Conference Proceedings, 2003, , .	0.3	0
97	Four-terminal measurements of SWNTs using MWNTs as voltage electrodes. Physica Status Solidi (B): Basic Research, 2006, 243, 3399-3402.	0.7	0
98	Nanomechanical resonators based on nanotubes and graphene. , 2013, , .		0
99	Graphene Hybrid Optomechanics. , 2016, , .		0
100	Nanooptomechanical sensing of carbon nanotube-based resonators. , 2016, , .		0
101	Brownian fluctuations of carbon nanotube resonators. , 2016, , .		0
102	Optomechanics with hybrid carbon nanotube resonators. , 2017, , .		0
103	Using Thermal Gradients for Actuation in the Nanoscale. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2009, , 141-150.	0.1	0