Adrian Bachtold

List of Publications by Citations

94 papers	13,784 citations	46 h-index	103 g-index
103 ext. papers	15,479 ext. citations	9.8 avg, IF	6.15 L-index

#	Paper	IF	Citations
94	Logic circuits with carbon nanotube transistors. *Science*, **2001**, 294, 1317-20	33.3	2204
93	Science and technology roadmap for graphene, related two-dimensional crystals, and hybrid systems. *Nanoscale*, **2015**, 7, 4598-810	7.7	2015
92	A nanomechanical mass sensor with yoctogram resolution. *Nature Nanotechnology*, **2012**, 7, 301-4	28.7	683
91	AharonovBohm oscillations in carbon nanotubes. *Nature*, **1999**, 397, 673-675	50.4	659
90	Current-induced cleaning of graphene. *Applied Physics Letters*, **2007**, 91, 163513	3.4	508
89	Scanned probe microscopy of electronic transport in carbon nanotubes. *Physical Review Letters*, **2000**, 84, 6082-5	7.4	493
88	Superconductors, orbital magnets and correlated states in magic-angle bilayer graphene. *Nature*, **2019**, 574, 653-657	50.4	490
87	Nonlinear damping in mechanical resonators made from carbon nanotubes and graphene. *Nature Nanotechnology*, **2011**, 6, 339-42	28.7	458
86	Template Synthesis of Nanowires in Porous Polycarbonate Membranes: Electrochemistry and Morphology. *Journal of Physical Chemistry B*, **1997**, 101, 5497-5505	3.4	436
85	Ultrasensitive mass sensing with a nanotube electromechanical resonator. *Nano Letters*, **2008**, 8, 3735-8	11.5	305
84	Imaging mechanical vibrations in suspended graphene sheets. *Nano Letters*, **2008**, 8, 1399-403	11.5	291
83	Subnanometer motion of cargoes driven by thermal gradients along carbon nanotubes. *Science*, **2008**, 320, 775-8	33.3	279
82	Coupling mechanics to charge transport in carbon nanotube mechanical resonators. *Science*, **2009**, 325, 1107-10	33.3	274
81	Contacting carbon nanotubes selectively with low-ohmic contacts for four-probe electric measurements. *Applied Physics Letters*, **1998**, 73, 274-276	3.4	267
80	Interference and Interaction in multi-wall carbon nanotubes. *Applied Physics A: Materials Science and Processing*, **1999**, 69, 283-295	2.6	254
79	Ultrasensitive force detection with a nanotube mechanical resonator. *Nature Nanotechnology*, **2013** , 8, 493-6	28.7	253
78	Carbon Nanotube Based Bearing for Rotational Motions. *Nano Letters*, **2004**, 4, 709-712	11.5	192

77	Transport properties of graphene in the high-current limit. *Physical Review Letters*, **2009**, 103, 076601	7.4	177
76	Determination of the intershell conductance in multiwalled carbon nanotubes. *Physical Review Letters*, **2004**, 93, 176806	7.4	171
75	Mechanical detection of carbon nanotube resonator vibrations. *Physical Review Letters*, **2007**, 99, 085501	7.4	163
74	Suppression of tunneling into multiwall carbon nanotubes. *Physical Review Letters*, **2001**, 87, 166801	7.4	157
73	Multiwall carbon nanotubes as quantum dots. *Physical Review Letters*, **2002**, 88, 156801	7.4	157
72	The environment of graphene probed by electrostatic force microscopy. *Applied Physics Letters*, **2008**, 92, 123507	3.4	152
71	Nanotube mechanical resonators with quality factors of up to 5 million. *Nature Nanotechnology*, **2014**, 9, 1007-11	28.7	146
70	Scanning thermal microscopy of carbon nanotubes using batch-fabricated probes. *Applied Physics Letters*, **2000**, 77, 4295-4297	3.4	141
69	Damaging graphene with ozone treatment: a chemically tunable metal-insulator transition. *ACS Nano*, **2010**, 4, 4033-8	16.7	126
68	Magnetotransport in disordered graphene exposed to ozone: From weak to strong localization. *Physical Review B*, **2010**, 81,	3.3	122
67	Evidence for Luttinger-liquid behavior in crossed metallic single-wall nanotubes. *Physical Review Letters*, **2004**, 92, 216804	7.4	113
66	Coupling graphene mechanical resonators to superconducting microwave cavities. *Nano Letters*, **2014**, 14, 2854-60	11.5	109
65	Four-point resistance of individual single-wall carbon nanotubes. *Physical Review Letters*, **2005**, 95, 196802	7.4	99
64	Thermal probing of energy dissipation in current-carrying carbon nanotubes. *Journal of Applied Physics*, **2009**, 105, 104306	2.5	86
63	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, 20973-7	3.4	86
62	Strong coupling between mechanical modes in a nanotube resonator. *Physical Review Letters*, **2012**, 109, 025503	7.4	84
61	Geometrical dependence of high-bias current in multiwalled carbon nanotubes. *Physical Review Letters*, **2004**, 92, 026804	7.4	81
60	Transport through the interface between a semiconducting carbon nanotube and a metal electrode. *Physical Review B*, **2002**, 66,	3.3	81

59	Energy-dependent path of dissipation in nanomechanical resonators. *Nature Nanotechnology*, **2017**, 12, 631-636	28.7	80
58	High Quality Factor Mechanical Resonators Based on WSe2 Monolayers. *Nano Letters*, **2016**, 16, 5102-8	11.5	80
57	Force sensitivity of multilayer graphene optomechanical devices. *Nature Communications*, **2016**, 7, 12496	17.4	79
56	Cooling carbon nanotubes to the phononic ground state with a constant electron current. *Physical Review Letters*, **2009**, 102, 096804	7.4	73
55	Current-voltage characteristics of graphene devices: Interplay between Zener-Klein tunneling and defects. *Physical Review B*, **2010**, 82,	3.3	67
54	Parametric amplification and self-oscillation in a nanotube mechanical resonator. *Nano Letters*, **2011**, 11, 2699-703	11.5	65
53	Charging and discharging of graphene in ambient conditions studied with scanning probe microscopy. *Applied Physics Letters*, **2009**, 94, 233105	3.4	52
52	High Quality Factor Graphene-Based Two-Dimensional Heterostructure Mechanical Resonator. *Nano Letters*, **2017**, 17, 5950-5955	11.5	49
51	Fabrication of large addition energy quantum dots in graphene. *Applied Physics Letters*, **2009**, 95, 173506	3.4	48
50	Silicon-Based Chemical Motors: An Efficient Pump for Triggering and Guiding Fluid Motion Using Visible Light. *ACS Nano*, **2015**, 9, 11234-40	16.7	47
49	Electromechanical control of nitrogen-vacancy defect emission using graphene NEMS. *Nature Communications*, **2016**, 7, 10218	17.4	46
48	High-frequency nanotube mechanical resonators. *Applied Physics Letters*, **2011**, 99, 213502	3.4	43
47	Imaging the proton concentration and mapping the spatial distribution of the electric field of catalytic micropumps. *Physical Review Letters*, **2013**, 111, 168301	7.4	42
46	Electron heating effects in diffusive metal wires. *Applied Physics Letters*, **1997**, 71, 773-775	3.4	41
45	Control of the single-wall carbon nanotube mean diameter in sulphur promoted aerosol-assisted chemical vapour deposition. *Carbon*, **2007**, 45, 55-61	10.4	40
44	Detecting Individual Electrons Using a Carbon Nanotube Field-Effect Transistor. *Nano Letters*, **2007**, 7, 3766-3769	11.5	40
43	Harnessing vacuum forces for quantum sensing of graphene motion. *Physical Review Letters*, **2014**, 112, 223601	7.4	39
42	Symmetry breaking in a mechanical resonator made from a carbon nanotube. *Nature Communications*, **2013**, 4, 2843	17.4	35

41	Interplay of driving and frequency noise in the spectra of vibrational systems. *Physical Review Letters*, **2014**, 113, 255502	7.4	34
40	Logic circuits based on carbon nanotubes. *Physica E: Low-Dimensional Systems and Nanostructures*, **2003**, 16, 42-46	3	34
39	Probing the electron-phonon coupling in ozone-doped graphene by Raman spectroscopy. *Physical Review B*, **2010**, 82,	3.3	30
38	Cotunneling and one-dimensional localization in individual disordered single-wall carbon nanotubes: Temperature dependence of the intrinsic resistance. *Physical Review B*, **2006**, 74,	3.3	29
37	Optomechanics with a hybrid carbon nanotube resonator. *Nature Communications*, **2018**, 9, 662	17.4	28
36	Ultrasensitive Displacement Noise Measurement of Carbon Nanotube Mechanical Resonators. *Nano Letters*, **2018**, 18, 5324-5328	11.5	25
35	Cooling and self-oscillation in a nanotube electromechanical resonator. *Nature Physics*, **2020**, 16, 32-37	16.2	23
34	Real-Time Measurement of Nanotube Resonator Fluctuations in an Electron Microscope. *Nano Letters*, **2017**, 17, 1748-1755	11.5	21
33	Electrical Control of Lifetime-Limited Quantum Emitters Using 2D Materials. *Nano Letters*, **2019**, 19, 3789-3795	11.5	21
32	Optomechanical Measurement of Thermal Transport in Two-Dimensional MoSe Lattices. *Nano Letters*, **2019**, 19, 3143-3150	11.5	21
31	Ground-state-cooling vibrations of suspended carbon nanotubes with constant electron current. *Physical Review B*, **2010**, 81,	3.3	21
30	Sequential tasks performed by catalytic pumps for colloidal crystallization. *Langmuir*, **2014**, 30, 11841-5	4	18
29	Atomic monolayer deposition on the surface of nanotube mechanical resonators. *Physical Review Letters*, **2014**, 112, 196103	7.4	17
28	Carbon nanotube electromechanical resonator for ultrasensitive mass/force sensing. *Comptes Rendus Physique*, **2010**, 11, 355-361	1.4	16
27	Structured graphene devices for mass transport. *Small*, **2011**, 7, 775-80	11	15
26	Environmental Electrometry with Luminescent Carbon Nanotubes. *Nano Letters*, **2018**, 18, 4136-4140	11.5	14
25	Layering Transition in Superfluid Helium Adsorbed on a Carbon Nanotube Mechanical Resonator. *Physical Review Letters*, **2019**, 122, 165301	7.4	13
24	Electron counting spectroscopy of CdSe quantum dots. *Physical Review Letters*, **2009**, 102, 226804	7.4	13

23	Electrostatically Induced Phononic Crystal. *Physical Review Applied*, **2019**, 11,	4.3	12
22	Influence of the macroscopic shape of the tip on the contrast in scanning polarization force microscopy images. *Nanotechnology*, **2009**, 20, 285704	3.4	12
21	Mass Sensing for the Advanced Fabrication of Nanomechanical Resonators. *Nano Letters*, **2019**, 19, 6987-6992	11.5	11
20	Comment on Magnetoresistance and differential conductance in mutliwalled carbon nanotubes *Physical Review B*, **2001**, 64,	3.3	10
19	Contacting single template synthesized nanowires for electric measurements. *Microelectronic Engineering*, **1998**, 41-42, 571-574	2.5	9
18	Response of carbon nanotube transistors to electron beam exposure. *Microelectronic Engineering*, **2007**, 84, 1596-1600	2.5	8
17	Beyond the linearity of current–voltage characteristics in multiwalled carbon nanotubes. *Semiconductor Science and Technology*, **2006**, 21, S33-S37	1.8	8
16	Electronic and Mechanical Properties of Carbon Nanotubes **2002**, 297-320		7
15	Luttinger Liquid Behavior in Metallic Carbon Nanotubes. *Lecture Notes in Physics*, **2001**, 125-146	0.8	7
14	Landau Velocity for Collective Quantum Hall Breakdown in Bilayer Graphene. *Physical Review Letters*, **2018**, 121, 136804	7.4	5
13	Proposal for a Nanomechanical Qubit. *Physical Review X*, **2021**, 11,	9.1	5
12	Interference and interactions in multiwall nanotubes. *Physica B: Condensed Matter*, **2000**, 280, 384-385	2.8	3
11	Electrical properties of single carbon nanotubes **1998**,		3
10	Fabry-Pérot Oscillations in Correlated Carbon Nanotubes. *Physical Review Letters*, **2020**, 125, 187701	7.4	3
9	Controlled assembly of graphene sheets and nanotubes: Fabrication of suspended multi-element all-carbon vibrational structures. *Journal of Applied Physics*, **2013**, 114, 104310	2.5	2
8	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	2
7	Improving the read-out of the resonance frequency of nanotube mechanical resonators. *Applied Physics Letters*, **2018**, 113, 063104	3.4	1
6	Bachtold and Bourlon Reply:. *Physical Review Letters*, **2004**, 93,	7.4	1

5	Electromechanical control of nitrogen-vacancy defect emission using graphene NEMS		1
4	Phonon-Induced Pairing in Quantum Dot Quantum Simulator. *Nano Letters*, **2021**, 21, 9661-9667	11.5	0
3	Interrelation of Elasticity and Thermal Bath in Nanotube Cantilevers. *Physical Review Letters*, **2021**, 126, 175502	7.4	0
2	Four-terminal measurements of SWNTs using MWNTs as voltage electrodes. *Physica Status Solidi (B): Basic Research*, **2006**, 243, 3399-3402	1.3	
1	Using Thermal Gradients for Actuation in the Nanoscale. *IUTAM Symposium on Cellular, Molecular and Tissue Mechanics*, **2009**, 141-150	0.3	