Alireza Nojeh

List of Publications by Year
in descending order

105 papers	1,418 citations	361413 20 h-index	395702 33 g-index
107 all docs	107 docs citations	107 times ranked	1425 citing authors

#	Article	IF	Citations
1	A first-principles study of calcium-decorated, boron-doped graphene for high capacity hydrogen storage. Carbon, 2011, 49, 1561-1567.	10.3	201
2	A Carbon Nanotube Cross Structure as a Nanoscale Quantum Device. Nano Letters, 2003, 3, 1187-1190.	9.1	95
3	Nonlocal Continuum Modeling and Molecular Dynamics Simulation of Torsional Vibration of Carbon Nanotubes. IEEE Nanotechnology Magazine, 2012, 11, 34-43.	2.0	48
4	Electric-field-directed growth of carbon nanotubes in two dimensions. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 3421.	1.6	46
5	â€œHeat trapâ€: Light-induced localized heating and thermionic electron emission from carbon nanotube arrays. Solid State Communications, 2011, 151, 1105-1108.	1.9	44
6	High-aspect-ratio, free-form patterning of carbon nanotube forests using micro-electro-discharge machining. Diamond and Related Materials, 2010, 19, 1405-1410.	3.9	43
7	Thermionic Energy Conversion in the Twenty-first Century: Advances and Opportunities for Space and Terrestrial Applications. Frontiers in Mechanical Engineering, 2017, 3, .	1.8	40
8	Transforming carbon nanotube forest from darkest absorber to reflective mirror. Applied Physics Letters, 2012, 101, 061913.	3.3	37
9	Photon-Impenetrable, Electron-Permeable: The Carbon Nanotube Forest as a Medium for Multiphoton Thermal-Photoemission. ACS Nano, 2015, 9, 4064-4069.	14.6	31
10	Graphenylene Nanotubes. Journal of Physical Chemistry Letters, 2015, 6, 3982-3987.	4.6	31
11	AbÂInitioModeling of the Interaction of Electron Beams and Single-Walled Carbon Nanotubes. Physical Review Letters, 2006, 96, 056802.	7.8	30
12	Solar electron source and thermionic solar cell. AIP Advances, 2012, 2, .	1.3	29
13	Field-emission-assisted approach to dry micro-electro-discharge machining of carbon-nanotube forests. Journal of Applied Physics, 2011, 110, .	2.5	24
14	Thermionics, Thermoelectrics, and Nanotechnology: New Possibilities for Old Ideas. IEEE Nanotechnology Magazine, 2014, 8, 4-15.	1.3	24
15	Harvesting solar thermal energy with a micro-gap thermionic-thermoelectric hybrid energy converter: Model development, energy exchange analysis, and performance optimization. Energy, 2020, 204, 117947.	8.8	24
16	A Unified Error Control Coding Scheme to Enhance the Reliability of a Hybrid Wireless Network-on-Chip. , 2011, , .		22
17	Nanostructured Thermionics for Conversion of Light to Electricity: Simultaneous Extraction of Device Parameters. IEEE Nanotechnology Magazine, 2015, 14, 624-632.	2.0	22
18	Semiconductor thermionics for next generation solar cells: photon enhanced or pure thermionic?. Nature Communications, 2021, 12, 4622.	12.8	22

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19	Possible mechanism in dry micro-electro-discharge machining of carbon-nanotube forests: A study of the effect of oxygen. Journal of Applied Physics, 2011, 109, .	2.5	21
20	Interplay between Near-Field Radiative Coupling and Space-Charge Effects in a Microgap Thermionic Energy Converter under Fixed Heat Input. Physical Review Applied, 2020, 14, .	3.8	21
21	ELECTRON EMISSION FROM CARBON NANOTUBES. Modern Physics Letters B, 2007, 21, 1807-1830.	1.9	20
22	Highâ€power MEMS switch enabled by carbonâ€nanotube contact and shapeâ€memoryâ€alloy actuator. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 631-638.	1.8	20
23	First-principles study of quantum tunneling from nanostructures: Current in a single-walled carbon nanotube electron source. Physical Review B, 2009, 80, .	3.2	19
24	Scanning electron microscopy of field-emitting individual single-walled carbon nanotubes. Applied Physics Letters, 2004, 85, 112-114.	3.3	18
25	Parameters and mechanisms governing image contrast in scanning electron microscopy of single-walled carbon nanotubes. Scanning, 2006, 28, 219-227.	1.5	18
26	Polarization-dependent light-induced thermionic electron emission from carbon nanotube arrays using a wide range of wavelengths. Applied Physics Letters, 2012, 101, 253110.	3.3	18
27	Batch-mode micropatterning of carbon nanotube forests using UV-LIGA assisted micro-electro-discharge machining. Journal of Materials Processing Technology, 2014, 214, 2537-2544.	6.3	18
28	Dry micro-electro-discharge machining of carbon-nanotube forests using sulphur-hexafluoride. Carbon, 2013, 52, 288-295.	10.3	17
29	Dielectrophoretic deposition of carbon nanotubes: The role of field frequency and its dependence on solution conductivity. Microelectronic Engineering, 2014, 114, 26-30.	2.4	17
30	Performance evaluation of wireless networks on chip architectures. , 2009, , .		16
31	Field-emission properties of individual GaN nanowires grown by chemical vapor deposition. Journal of Applied Physics, 2012, 111, .	2.5	16
32	Carbon Nanotube Electron Sources: From Electron Beams to Energy Conversion and Optophononics. ISRN Nanomaterials, 2014, 2014, 1-23.	0.7	16
33	A Carbon Nanotube Cross Structure as a Nanoscale Quantum Device. Nano Letters, 2003, 3, 1469-1469.	9.1	15
34	Electron beam stimulated field-emission from single-walled carbon nanotubes. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 3124.	1.6	15
35	Unusual secondary electron emission behavior in carbon nanotube forests. Scanning, 2009, 31, 221-228.	1.5	14
36	Optical transitions in semiconducting zigzag carbon nanotubes with small diameters: A first-principles broad-range study. Physical Review B, 2010, 82, .	3.2	14

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37	New integrated optical memory based on the plasma wave modulator/switch. , 2001, , .		13
38	Wireless Interconnect and the Potential for Carbon Nanotubes. IEEE Design and Test of Computers, 2010, 27, 44-53.	1.0	13
39	A self-consistent approach to the analysis of thermionic devices. Journal of Applied Physics, 2016, 119, .	2.5	13
40	Study on micro-patterning process of vertically aligned carbon nanotubes (VACNTs). Fullerenes Nanotubes and Carbon Nanostructures, 2016, 24, 88-99.	2.1	12
41	Scaling approach toward nano electro-discharge machining: Nanoscale patterning of carbon nanotube forests. Microelectronic Engineering, 2016, 150, 64-70.	2.4	12
42	Monte Carlo study of electron-beam penetration and backscattering in multi-walled carbon nanotube materials: The effect of different scattering models. Journal of Applied Physics, 2013, 113, .	2.5	11
43	Design and Analysis of the Integrated Plasma Wave Micro-Optical Modulator/Switch. Fiber and Integrated Optics, 2002, 21, 173-191.	2.5	10
44	Electromechanical actuation of single-walled carbon nanotubes: an<i>ab initio</i>study. Nanotechnology, 2008, 19, 315706.	2.6	10
45	High subthreshold field-emission current due to hydrogen adsorption in single-walled carbon nanotubes: A first-principles study. Applied Physics Letters, 2009, 95, 262102.	3.3	10
46	Piezoresistive strain sensing using carbon nanotube forests suspended by Parylene-C membranes. Applied Physics Letters, 2012, 100, 213510.	3.3	10
47	Heat transport in carbon nanotubes: Length dependence of phononic conductivity from the Boltzmann transport equation and molecular dynamics. Physical Review B, 2020, 101, .	3.2	10
48	Visible-light induced electron emission from carbon nanotube forests. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, 02B104.	1.2	9
49	Cone-shaped forest of aligned carbon nanotubes: An alternative probe for scanning microscopy. Applied Physics Letters, 2013, 103, 171603.	3.3	9
50	High electron gain from single-walled carbon nanotubes stimulated by interaction with an electron beam. Physical Review B, 2010, 81, .	3.2	8
51	The effects of three-dimensional shaping of vertically aligned carbon-nanotube contacts for micro-electro-mechanical switches. Applied Physics Letters, 2013, 103, 231606.	3.3	8
52	Quantum mechanical analysis of a Muller effect plasma wave optical modulator/switch. , 1999, , .		7
53	Photoemission from single-walled carbon nanotubes. Journal of Applied Physics, 2008, 104, 054308.	2.5	7
54	Middle-ultraviolet laser photoelectron emission from vertically aligned millimeter-long multiwalled carbon nanotubes. Applied Physics Letters, 2010, 97, .	3.3	7

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55	Monte Carlo modeling of electron backscattering from carbon nanotube forests. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2010, 28, C6J13-C6J18.	1.2	7
56	Carbon nanotube photothermionics: Toward laser-pointer-driven cathodes for simple free-electron devices and systems. MRS Bulletin, 2017, 42, 500-504.	3.5	7
57	Thermal Transport in Molecular Forests. ACS Nano, 2021, 15, 1826-1832.	14.6	7
58	The curvature of the nanotube sidewall and its effect on the electronic and optical properties of zigzag nanotubes. Computational and Theoretical Chemistry, 2013, 1020, 32-37.	2.5	6
59	Classical momentum gap for electron transport in vacuum and consequences for space charge in thermionic converters with a grid electrode. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2016, 34, .	1.2	6
60	Adsorbate-enhanced field-emission from single-walled carbon nanotubes: a comparative first-principles study. Nanotechnology, 2019, 30, 175202.	2.6	6
61	Structural deformations and current oscillations in armchair-carbon nanotube cross devices: a theoretical study. Journal Physics D: Applied Physics, 2011, 44, 085402.	2.8	5
62	Comment on â€œUltrahigh secondary electron emission of carbon nanotubesâ€•[Appl. Phys. Lett. 96, 213113 (2010)]. Applied Physics Letters, 2011, 98, .	3.3	5
63	High-aspect-ratio, 3-D micromachining of carbon-nanotube forests by micro-electro-discharge machining in air. , 2011, , .		4
64	Localized light induced thermionic emission from intercalated carbon nanotube forests. , 2014, , .		4
65	Heat localization through reduced dimensionality. Physical Review B, 2018, 98, .	3.2	4
66	Post-Growth Planarization of Vertically Aligned Carbon Nanotube Forests for Electron-Emission Devices. ACS Applied Nano Materials, 2019, 2, 4594-4604.	5.0	4
67	A microcantilever of self-suspended carbon nanotube forest for material characterization and sensing applications. Applied Physics Letters, 2020, 117, 013101.	3.3	4
68	Comment on â€œUltrahigh Convergent Thermal Conductivity of Carbon Nanotubes from Comprehensive Atomistic Modelingâ€• Physical Review Letters, 2022, 128, .	7.8	4
69	First-principles study of field-emission from carbon nanotubes in the presence of methane. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2012, 30, 021803.	1.2	3
70	The Mutual Interactions of Carbon Nanotubes During Dielectrophoresis. IEEE Nanotechnology Magazine, 2013, 12, 1068-1074.	2.0	3
71	Characterization of the internal parameters of nanostructured light induced thermionic emission devices for energy conversion. , 2014, , .		3
72	The effect of light polarization on the interband transition spectra of zigzag carbon nanotubes and its diameter dependence. Physica E: Low-Dimensional Systems and Nanostructures, 2014, 56, 79-84.	2.7	3

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73	Low-pressure plasma-enhanced behavior of thermionic converters. Journal of Applied Physics, 2016, 120, 243302.	2.5	3
74	Space charge in a vacuum diode: From macroscopic to microscopic gaps. Journal of Applied Physics, 2021, 130, .	2.5	3
75	Nanotube heat conductors under tensile strain: Reducing the three-phonon scattering strength of acoustic phonons. Physical Review B, 2021, 104, .	3.2	3
76	Novel interconnect infrastructures for massive multicore chips â€” an overview. , 2008, , .		2
77	High-precision dry micro-electro-discharge machining of carbon-nanotube forests with ultralow discharge energy. , 2012, , .		2
78	Optical anisotropy in micromechanically rolled carbon nanotube forest. Electronic Materials Letters, 2017, 13, 442-448.	2.2	2
79	Hyperspectroscopy: A tool for high-spatial-resolution temperature mapping of electron emitters. , 2017, , .		2
80	Graphene-based bidirectional radiative thermal transfer method for heat engines. Applied Optics, 2019, 58, 2028.	1.8	2
81	Nanoscale Devices: Applications and Modeling. , 0, , 31-65.		1
82	Stabilization of laser-induced thermionic electron emission from carbon nanotubes through rapid power switching. , 2014, , .		1
83	A comprehensive approach to the analysis of nano-thermionic convertors through particle tracing. , 2015, , .		1
84	The role of carbon nanotube forest density in thermionic emission. , 2016, , .		1
85	Micro glow plasma for localized nanostructural modification of carbon nanotube forest. Applied Physics Letters, 2016, 109, 081604.	3.3	1
86	Towards compact solar thermionic converters based on carbon nanotubes forests. , 2016, , .		1
87	The role of lateral confinement in the localized heating of thermionic emitters based on carbon nanotube forests. , 2018, , .		1
88	Observations of Radiationâ€Dominated Rapid Cooling of Structures Based on Carbon Nanotubes and Graphene. Advanced Engineering Materials, 2020, 22, 1901315.	3.5	1
89	Sustainable and Reliable On-Chip Wireless Communication Infrastructure for Massive Multi-core Systems. Studies in Computational Intelligence, 2013, , 187-225.	0.9	1
90	Programmable grating based on interface charge control. , 2002, 4640, 255.		0

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91	Field-Electron Emission from Single-Walled Carbon Nanotubes Lying on a Surface. , 2007, , .		0
92	High Electron Gain from Forests of Multi-Walled Carbon Nanotubes. Materials Research Society Symposia Proceedings, 2010, 1258, 1.	0.1	0
93	Bond order effects in electromechanical actuation of armchair single-walled carbon nanotubes. Journal of Chemical Physics, 2010, 132, 074703.	3.0	0
94	8.2: Visible light induced electron emission from carbon nanotube forests. , 2010, , .		0
95	Response to â€œComment on â€˜Secondary electron yield of multiwalled carbon nanotubesâ€™â€•[Appl. Phys. Lett. 99, 126103 (2011)]. Applied Physics Letters, 2011, 99, .	3.3	0
96	Investigation of the dynamics of carbon nanotube deposition in dielectrophoresis. , 2013, , .		0
97	Non-linear photoemission from carbon nanotube arrays. , 2013, , .		0
98	Extraction of multiple parameters of a light-activated thermionic cathode with a single type of experiment. , 2013, , .		0
99	T1B: Wireless NoC as interconnection backbone for multicore chips: Promises and challenges. , 2014, , .		0
100	A numerical study of the forces affecting the movement of carbon nanotubes in the solution during dielectrophoresis. , 2014, , .		0
101	T2B: Carbon nanotubes and opportunities for wireless on-chip interconnect. , 2014, , .		0
102	Modeling of thermionic converters through self-consistent solution of Vlaslov and Poisson equations. , 2015, , .		0
103	Light-induced nanostructured thermionic energy converters: The effect of cathode-anode gap on the output current. , 2017, , .		0
104	Effect of thermal pre-treatment on thermionic emission current stability from carbon nanotube forests. , 2018, , .		0
105	Modeling energy exchange and heating within nanorod arrays due to near-field radiative coupling. Journal of Applied Physics, 2020, 127, 234302.	2.5	0