Daniel Neumaier

List of Publications by Year
in descending order

100 papers	8,326 citations	136950 32 h-index	58581 82 g-index
102 all docs	102 docs citations	102 times ranked	13433 citing authors

#	Article	IF	Citations
1	Electronics based on two-dimensional materials. Nature Nanotechnology, 2014, 9, 768-779.	31.5	2,505
2	Science and technology roadmap for graphene, related two-dimensional crystals, and hybrid systems. Nanoscale, 2015, 7, 4598-4810.	5.6	2,452
3	Graphene-based integrated photonics for next-generation datacom and telecom. Nature Reviews Materials, 2018, 3, 392-414.	48.7	286
4	Controlled Generation of a pâ€“n Junction in a Waveguide Integrated Graphene Photodetector. Nano Letters, 2016, 16, 7107-7112.	9.1	166
5	50 GBit/s Photodetectors Based on Wafer-Scale Graphene for Integrated Silicon Photonic Communication Systems. ACS Photonics, 2014, 1, 781-784.	6.6	162
6	Ultra-sensitive Hall sensors based on graphene encapsulated in hexagonal boron nitride. Applied Physics Letters, 2015, 106, .	3.3	127
7	Integrating graphene into semiconductor fabrication lines. Nature Materials, 2019, 18, 525-529.	27.5	127
8	Highly air stable passivation of graphene based field effect devices. Nanoscale, 2015, 7, 3558-3564.	5.6	120
9	Current Saturation and Voltage Gain in Bilayer Graphene Field Effect Transistors. Nano Letters, 2012, 12, 1324-1328.	9.1	111
10	Graphene based low insertion loss electro-absorption modulator on SOI waveguide. Optics Express, 2014, 22, 15292.	3.4	111
11	High On/Off Ratios in Bilayer Graphene Field Effect Transistors Realized by Surface Dopants. Nano Letters, 2011, 11, 2640-2643.	9.1	102
12	Experimental Verification of Carrier Multiplication in Graphene. Nano Letters, 2014, 14, 5371-5375.	9.1	96
13	Experimental verification of electro-refractive phase modulation in graphene. Scientific Reports, 2015, 5, 10967.	3.3	83
14	Identifying suitable substrates for high-quality graphene-based heterostructures. 2D Materials, 2017, 4, 025030.	4.4	83
15	Analogue two-dimensional semiconductor electronics. Nature Electronics, 2020, 3, 486-491.	26.0	74
16	Nonâ€Covalent Functionalization of Graphene Using Selfâ€Assembly of Alkaneâ€Amines. Advanced Functional Materials, 2012, 22, 717-725.	14.9	73
17	Graphene Photodetector Integrated on a Photonic Crystal Defect Waveguide. ACS Photonics, 2018, 5, 4758-4763.	6.6	73
18	Electrical observation of a tunable band gap in bilayer graphene nanoribbons at room temperature. Applied Physics Letters, 2010, 96, .	3.3	64

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19	Velocity saturation in few-layer MoS2 transistor. Applied Physics Letters, 2013, 103, .	3.3	64
20	Flexible Hall sensors based on graphene. Nanoscale, 2016, 8, 7683-7687.	5.6	61
21	Highly Responsive Flexible Photodetectors Based on MOVPE Grown Uniform Few-Layer MoS₂. ACS Photonics, 2020, 7, 1388-1395.	6.6	60
22	Graphene photodetectors with a bandwidthâ€‰â€‰>76 GHz fabricated in a 6â€³ wafer process line. Journal Physics D: Applied Physics, 2017, 50, 124004.	2.8	58
23	Weak Localization in Ferromagnetic (Ga,Mn)As Nanostructures. Physical Review Letters, 2007, 99, 116803.	7.8	56
24	Gate-Defined Electronâ€“Hole Double Dots in Bilayer Graphene. Nano Letters, 2018, 18, 4785-4790.	9.1	48
25	Infrared transparent graphene heater for silicon photonic integrated circuits. Optics Express, 2016, 24, 7871.	3.4	44
26	Electrical transport and low-temperature scanning tunneling microscopy of microsoldered graphene. Applied Physics Letters, 2010, 96, 082114.	3.3	43
27	Dephasing in (Ga,Mn)As Nanowires and Rings. Physical Review Letters, 2006, 97, 056803.	7.8	41
28	Grapheneâ€“Quantum Dot Hybrid Photodetectors with Low Dark-Current Readout. ACS Nano, 2020, 14, 11897-11905.	14.6	39
29	Bilayer Graphene Transistors for Analog Electronics. IEEE Transactions on Electron Devices, 2014, 61, 729-733.	3.0	38
30	All-Electrical Measurement of the Density of States in (Ga,Mn)As. Physical Review Letters, 2009, 103, 087203.	7.8	37
31	High performance metalâ€“insulatorâ€“graphene diodes for radio frequency power detection application. Nanoscale, 2017, 9, 11944-11950.	5.6	37
32	Graphene Field-Effect Transistors With High Extrinsic <inline-formula> <tex-math notation="LaTeX">${f}_{T}$</tex-math> </inline-formula> and <inline-formula> <tex-math notation="LaTeX">${f}_{mathrm{max}}$</tex-math> </inline-formula>. IEEE Electron Device Letters, 2019, 40, 131-134.	3.9	35
33	Integrated Ring Oscillators based on high-performance Graphene Inverters. Scientific Reports, 2013, 3, 2592.	3.3	32
34	Complex effective index in graphene-silicon waveguides. Optics Express, 2016, 24, 29984.	3.4	32
35	The integration of graphene into microelectronic devices. Beilstein Journal of Nanotechnology, 2017, 8, 1056-1064.	2.8	32
36	Improving stability in two-dimensional transistors with amorphous gate oxides by Fermi-level tuning. Nature Electronics, 2022, 5, 356-366.	26.0	31

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37	A physics-based model of gate-tunable metalâ€“graphene contact resistance benchmarked against experimental data. 2D Materials, 2015, 2, 025006.	4.4	30
38	Low Resistive Edge Contacts to CVDâ€Grown Graphene Using a CMOS Compatible Metal. Annalen Der Physik, 2017, 529, 1600410.	2.4	29
39	All CVD Boron Nitride Encapsulated Graphene FETs With CMOS Compatible Metal Edge Contacts. IEEE Transactions on Electron Devices, 2018, 65, 4129-4134.	3.0	27
40	Record high bandwidth integrated graphene photodetectors for communication beyond 180 Gb/s. , 2018, , .		27
41	Carrier Dynamics in Graphene: Ultrafast Manyâ€Particle Phenomena. Annalen Der Physik, 2017, 529, 1700038.	2.4	26
42	Flexible One-Dimensional Metalâ€“Insulatorâ€“Graphene Diode. ACS Applied Electronic Materials, 2019, 1, 945-950.	4.3	26
43	Grapheneâ€Based Microwave Circuits: A Review. Advanced Materials, 2022, 34, e2108473.	21.0	25
44	Gate-tunable graphene-based Hall sensors on flexible substrates with increased sensitivity. Scientific Reports, 2019, 9, 18059.	3.3	23
45	Encapsulated grapheneâ€based Hall sensors on foil with increased sensitivity. Physica Status Solidi (B): Basic Research, 2016, 253, 2316-2320.	1.5	21
46	Ferromagnetic GaMnAs grown on (110) faced GaAs. Applied Physics Letters, 2008, 92, .	3.3	20
47	Graphene integrated circuits: new prospects towards receiver realisation. Nanoscale, 2018, 10, 93-99.	5.6	20
48	Electron-electron interaction in one- and two-dimensional ferromagnetic<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mo>(</mml:mo><mml:mi>Ga</mml:mi><mml:mo>,</mml:mo><mml:mi>Mn</mml:mi><mml:mo>) Physical Review B, 2008, 77, .	3.2	19
49	Origin of negative magnetoresistance of GaAs/(Ga,Mn)As core-shell nanowires. Physical Review B, 2013, 87, .	3.2	19
50	Zero-Bias 50-dB Dynamic Range Linear-in-dB V-Band Power Detector Based on CVD Graphene Diode on Glass. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 2018-2024.	4.6	18
51	Metalâ€“Insulatorâ€“Graphene Diode Mixer Based on CVD Graphene-on-Glass. IEEE Electron Device Letters, 2018, 39, 1104-1107.	3.9	18
52	On the origin of contact resistances in graphene devices fabricated by optical lithography. Applied Physics A: Materials Science and Processing, 2016, 122, 1.	2.3	17
53	Correlating Nanocrystalline Structure with Electronic Properties in 2D Platinum Diselenide. Advanced Functional Materials, 2021, 31, 2102929.	14.9	17
54	Status of steady-state magnetic diagnostic for ITER and outlook for possible materials of Hall sensors for DEMO. Fusion Engineering and Design, 2019, 146, 2397-2400.	1.9	16

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55	Graphene in 2D/3D Heterostructure Diodes for High Performance Electronics and Optoelectronics. Advanced Electronic Materials, 2021, 7, 2001210.	5.1	16
56	Quantum transport in ferromagnetic permalloy nanostructures. Physical Review B, 2008, 78, .	3.2	15
57	Transport through (Ga,Mn)As nanoislands: Coulomb blockade and temperature dependence of the conductance. Physical Review B, 2009, 80, .	3.2	15
58	Towards the Predicted High Performance of Waveguide Integrated Electro-Refractive Phase Modulators Based on Graphene. IEEE Photonics Journal, 2017, 9, 1-7.	2.0	15
59	Characterization of rat and human Kupffer cells after cryopreservation. Cryobiology, 2007, 54, 164-172.	0.7	14
60	The Dependence of the High-Frequency Performance of Graphene Field-Effect Transistors on Channel Transport Properties. IEEE Journal of the Electron Devices Society, 2020, 8, 457-464.	2.1	14
61	Zeroâ€Bias Powerâ€Detector Circuits based on MoS₂ Fieldâ€Effect Transistors on Waferâ€Scale Flexible Substrates. Advanced Materials, 2022, 34, e2108469.	21.0	14
62	Oxidising and carburising catalyst conditioning for the controlled growth and transfer of large crystal monolayer hexagonal boron nitride. 2D Materials, 2020, 7, 024005.	4.4	13
63	Program FFlexCom â€" High frequency flexible bendable electronics for wireless communication systems. , 2017, , .		12
64	Terahertz Rectennas on Flexible Substrates Based on One-Dimensional Metalâ€"Insulatorâ€"Graphene Diodes. ACS Applied Electronic Materials, 2021, 3, 3747-3753.	4.3	11
65	Evidence for Local Spots of Viscous Electron Flow in Graphene at Moderate Mobility. Nano Letters, 2021, 21, 9365-9373.	9.1	11
66	Phase coherent transport in (Ga,Mn)As. New Journal of Physics, 2008, 10, 055016.	2.9	10
67	Interpretation of graphene mobility data by means of a semiclassical Monte Carlo transport model. Solid-State Electronics, 2013, 89, 161-166.	1.4	10
68	Stable Al₂O₃ Encapsulation of MoS₂â€FETs Enabled by CVD Grown hâ€BN. Advanced Electronic Materials, 2022, 8, .	5.1	10
69	6â€"12 GHz MMIC Double-Balanced Upconversion Mixer based on Graphene Diode. , 2018, , .		9
70	Probing the mechanical properties of vertically-stacked ultrathin graphene/Al₂O₃ heterostructures. Nanotechnology, 2019, 30, 185703.	2.6	9
71	Graphene based on-chip variable optical attenuator operating at 855 nm wavelength. Optics Express, 2017, 25, 31660.	3.4	8
72	Electrostatic Detection of Shubnikovâ€"de Haas Oscillations in Bilayer Graphene by Coulomb Resonances in Gateâ€Defined Quantum Dots. Physica Status Solidi (B): Basic Research, 2020, 257, 2000333.	1.5	8

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73	0.15 mm², DC-70GHz, Graphene-Based Power Detector with Improved Sensitivity and Dynamic Range. , 2018, , .		7
74	X-Band MMIC Balanced Frequency Doubler based on Graphene Diodes. , 2019, , .		7
75	Effects of Self-Heating on ${f}_{ext{T}}$ and ${f}_{ext{max}}$ Performance of Graphene Field-Effect Transistors. IEEE Transactions on Electron Devices, 2020, 67, 1277-1284.	3.0	7
76	Plasmaâ€Enhanced Atomic Layer Deposition of Al₂O₃ on Graphene Using Monolayer hBN as Interfacial Layer. Advanced Materials Technologies, 2021, 6, 2100489.	5.8	7
77	Large-Signal Model of the Metalâ€“Insulatorâ€“Graphene Diode Targeting RF Applications. IEEE Electron Device Letters, 2019, 40, 1005-1008.	3.9	6
78	Nanosecond spin lifetimes in bottom-up fabricated bilayer graphene spin-valves with atomic layer deposited Al2O3 spin injection and detection barriers. Physica Status Solidi (B): Basic Research, 2015, 252, 2395-2400.	1.5	5
79	High frequency graphene transistors: can a beauty become a cash cow?. 2D Materials, 2015, 2, 030203.	4.4	5
80	Zero-bias, 50 dB dynamic range, V-band power detector based on CVD graphene-on-glass. , 2017, , .		5
81	Millimeter-wave graphene-based varactor for flexible electronics. , 2017, , .		4
82	Does carrier velocity saturation help to enhance f_{max} in graphene field-effect transistors?. Nanoscale Advances, 2020, 2, 4179-4186.	4.6	4
83	Fully Integrated 2.4-GHz Flexible Rectifier Using Chemical-Vapor-Deposition Graphene MMIC Process. IEEE Transactions on Electron Devices, 2021, 68, 1326-1333.	3.0	4
84	NeumaieretÂal.Reply:. Physical Review Letters, 2008, 101, .	7.8	4
85	Stacking Polymorphism in PtSe₂ Drastically Affects Its Electromechanical Properties. Advanced Science, 2022, 9, .	11.2	4
86	Study on the Adhesion Properties of Graphene and Hexagonal Boron Nitride Monolayers in Multilayered Micro-devices by Scratch Adhesion Test. Journal of Materials Engineering and Performance, 2021, 30, 5673-5681.	2.5	3
87	Graphene with Ni-Grid as Semitransparent Electrode for Bulk Heterojunction Solar Cells (BHJ-SCs). Polymers, 2022, 14, 1046.	4.5	3
88	Apparent rippling with honeycomb symmetry and tunable periodicity observed by scanning tunneling microscopy on suspended graphene. Physical Review B, 2016, 94, .	3.2	2
89	Low-frequency Noise Characterization of Graphene FET THz Detectors. , 2018, , .		2
90	Low Insertion Loss Graphene based Absorption Modulator on SOI Waveguide. , 2014, , .		1

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91	Graphene-based MMIC process development and RF passives design. , 2015, , .		1
92	Contact-free high-resolution conductivity mapping of large-area graphene covered with an ion gel top-gate. , 2016, , .		1
93	Concept for a 16-QAM RF Transmitter on Flexible Substrate using a Graphene Technology. , 2019, , .		1
94	Graphene-Diode-Based Frequency Conversion Mixers for High-Frequency Applications. , 2019, , .		1
95	MoS₂/graphene Lateral Heterostructure Field Effect Transistors. , 2021, , .		1
96	Graphene-based thin-films for flexible applications inspected by high-resolution Terahertz near-field inspection. , 2021, , .		1
97	Low Hysteresis MoS2-FET Enabled by CVD-Grown h-BN Encapsulation. , 2021, , .		0
98	Graphene Diodes: Graphene in 2D/3D Heterostructure Diodes for High Performance Electronics and Optoelectronics (Adv. Electron. Mater. 7/2021). Advanced Electronic Materials, 2021, 7, 2170025.	5.1	0
99	Experimental demonstration of electro-refractive phase modulators based on graphene. , 2015, , .		0
100	Electrically Tunable Optical Nonlinearity of Graphene-covered SiN waveguides. , 2017, , .		0