Deji Akinwande

List of Publications by Year
in descending order

153 papers	20,776 citations	20759 60 h-index	14702 127 g-index
155 all docs	155 docs citations	155 times ranked	24128 citing authors

#	Article	IF	Citations
1	Sulfurization Engineering of Oneâ€Step Lowâ€Temperature MoS₂ and WS₂ Thin Films for Memristor Device Applications. Advanced Electronic Materials, 2022, 8, 2100515.	2.6	14
2	Rollâ€toâ€Roll Dry Transfer of Largeâ€Scale Graphene. Advanced Materials, 2022, 34, e2106615.	11.1	32
3	Mixed Ionicâ€Electronic Charge Transport in Layered Blackâ€Phosphorus for Lowâ€Power Memory. Advanced Functional Materials, 2022, 32, 2107068.	7.8	16
4	Real-time detection of ochratoxin A in wine through insight of aptamer conformation in conjunction with graphene field-effect transistor. Biosensors and Bioelectronics, 2022, 200, 113890.	5.3	41
5	Wafer-Scalable Single-Layer Amorphous Molybdenum Trioxide. ACS Nano, 2022, 16, 3756-3767.	7.3	16
6	Integrated ultra-high-performance graphene optical modulator. Nanophotonics, 2022, 11, 4011-4016.	2.9	24
7	Tanks and Truth. ACS Nano, 2022, 16, 4975-4976.	7.3	0
8	2D materials for future heterogeneous electronics. Nature Communications, 2022, 13, 1392.	5.8	174
9	Electronic Tattoos. , 2022, , .		1
10	Electron irradiation-induced defects for reliability improvement in monolayer MoS2-based conductive-point memory devices. Npj 2D Materials and Applications, 2022, 6, .	3.9	18
11	Monolayer molybdenum disulfide switches for 6G communication systems. Nature Electronics, 2022, 5, 367-373.	13.1	31
12	Memristive technologies for data storage, computation, encryption, and radio-frequency communication. Science, 2022, 376, .	6.0	220
13	Continuous cuffless monitoring of arterial blood pressure via graphene bioimpedance tattoos. Nature Nanotechnology, 2022, 17, 864-870.	15.6	79
14	Integration paths for Xenes. , 2022, , 405-438.		1
15	Graphene electronic tattoos 2.0 with enhanced performance, breathability and robustness. Npj 2D Materials and Applications, 2022, 6, .	3.9	14
16	Observation of single-defect memristor in an MoS2 atomic sheet. Nature Nanotechnology, 2021, 16, 58-62.	15.6	148
17	Thermoelectric effect and devices on <scp>IVA</scp> and <scp>VA</scp> Xenes. InformaÄnÃ-MateriÃ¡ly, 2021, 3, 271-292.	8.5	17
18	Multipurpose and Reusable Ultrathin Electronic Tattoos Based on PtSe₂ and PtTe₂. ACS Nano, 2021, 15, 2800-2811.	7.3	46

#	Article	IF	Citations
19	Phonon-Mediated Interlayer Charge Separation and Recombination in a MoSe₂/WSe₂ Heterostructure. Nano Letters, 2021, 21, 2165-2173.	4.5	46
20	Reduced Graphene Oxide Tattoo as Wearable Proximity Sensor. Advanced Electronic Materials, 2021, 7, 2001214.	2.6	22
21	Two-Step Growth of Uniform Monolayer MoS₂ Nanosheets by Metalâ€“Organic Chemical Vapor Deposition. ACS Omega, 2021, 6, 10343-10351.	1.6	14
22	Fabrication, characterization and applications of graphene electronic tattoos. Nature Protocols, 2021, 16, 2395-2417.	5.5	59
23	Direct growth of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>MoS</mml:mi><mml:mn>2</mml:mn></mml:msub></mm on electrolytic substrate and realization of high-mobility transistors. Physical Review Materials, 2021, 5, .	0.9	12
24	Synthesis and characterization of Cr2C MXenes. Journal of Materials Research, 2021, 36, 1980-1989.	1.2	23
25	A Case of Metastatic Uterine Tumor Originating from Small-Cell Lung Cancer (SCLC) Mimicking Uterine Sarcoma. Case Reports in Obstetrics and Gynecology, 2021, 2021, 1-4.	0.2	3
26	Neuromorphic Active Pixel Image Sensor Array for Visual Memory. ACS Nano, 2021, 15, 15362-15370.	7.3	52
27	A Small-Signal Description of Black-Phosphorus Transistor Technologies for High-Frequency Applications. IEEE Microwave and Wireless Components Letters, 2021, 31, 1055-1058.	2.0	1
28	Growth Mechanisms and Morphology Engineering of Atomic Layer-Deposited WS₂. ACS Applied Materials & Interfaces, 2021, 13, 43115-43122.	4.0	12
29	A Library of Atomically Thin 2D Materials Featuring the Conductiveâ€Point Resistive Switching Phenomenon. Advanced Materials, 2021, 33, e2007792.	11.1	67
30	On the stochastic nature of conductive points formation and their effects on reliability of MoS2 RRAM: Experimental characterization and Monte Carlo simulation. Microelectronics Reliability, 2021, 126, 114274.	0.9	2
31	ReSe2-Based RRAM and Circuit-Level Model for Neuromorphic Computing. Frontiers in Nanotechnology, 2021, 3, .	2.4	9
32	Atomic Electrostatic Maps of Point Defects in MoS₂. Nano Letters, 2021, 21, 10157-10164.	4.5	14
33	Wafer-Scale Synthesis of WS ₂ Films with In Situ Controllable p-Type Doping by Atomic Layer Deposition. Research, 2021, 2021, 9862483.	2.8	10
34	2D RRAM and Verilog-A model for Neuromorphic Computing. , 2021, , .		1
35	Wafer-scale integration of two-dimensional materials in high-density memristive crossbar arrays for artificial neural networks. Nature Electronics, 2020, 3, 638-645.	13.1	222
36	Understanding of multiple resistance states by current sweeping in MoS₂-based non-volatile memory devices. Nanotechnology, 2020, 31, 465206.	1.3	19

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37	Machine Learning-Enabled Design of Point Defects in 2D Materials for Quantum and Neuromorphic Information Processing. ACS Nano, 2020, 14, 13406-13417.	7.3	75
38	Disassembling Silicene from Native Substrate and Transferring onto an Arbitrary Target Substrate. Advanced Functional Materials, 2020, 30, 2004546.	7.8	21
39	A comprehensive investigation of MoO₃based resistive random access memory. RSC Advances, 2020, 10, 19337-19345.	1.7	22
40	Insulators for 2D nanoelectronics: the gap to bridge. Nature Communications, 2020, 11, 3385.	5.8	241
41	Graphene-Based Biosensor for Early Detection of Iron Deficiency. Sensors, 2020, 20, 3688.	2.1	28
42	Lithium-ion electrolytic substrates for sub-1V high-performance transition metal dichalcogenide transistors and amplifiers. Nature Communications, 2020, 11, 3203.	5.8	31
43	Atomristors: Non-Volatile Resistance Switching in 2D Monolayers. , 2020, , .		2
44	Nb-Doped MXene With Enhanced Energy Storage Capacity and Stability. Frontiers in Chemistry, 2020, 8, 168.	1.8	57
45	Analogue switches made from boron nitride monolayers for application in 5G and terahertz communication systems. Nature Electronics, 2020, 3, 479-485.	13.1	86
46	Resistance state evolution under constant electric stress on a MoS₂ non-volatile resistive switching device. RSC Advances, 2020, 10, 42249-42255.	1.7	8
47	Oxygen-assisted synthesis of hBN films for resistive random access memories. Applied Physics Letters, 2019, 115, .	1.5	21
48	Graphene and two-dimensional materials for silicon technology. Nature, 2019, 573, 507-518.	13.7	936
49	Electron redistribution and energy transfer in graphene/MoS2 heterostructure. Applied Physics Letters, 2019, 114, .	1.5	15
50	Chemical vapor deposition of hexagonal boron nitride on metal-coated wafers and transfer-free fabrication of resistive switching devices. 2D Materials, 2019, 6, 035021.	2.0	23
51	Thinnest Nonvolatile Memory Based on Monolayer hâ€BN. Advanced Materials, 2019, 31, e1806790.	11.1	174
52	Visualization of Local Conductance in MoS₂/WSe₂ Heterostructure Transistors. Nano Letters, 2019, 19, 1976-1981.	4.5	36
53	Non-volatile RF and mm-wave Switches Based on Monolayer hBN. , 2019, , .		10
54	Large-signal model of 2DFETs: compact modeling of terminal charges and intrinsic capacitances. Npj 2D Materials and Applications, 2019, 3, .	3.9	15

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55	Ti₃C₂-MXene/Bismuth Ferrite Nanohybrids for Efficient Degradation of Organic Dyes and Colorless Pollutants. ACS Omega, 2019, 4, 20530-20539.	1.6	119
56	Electrical Characterization of Graphene-based e-Tattoos for Bio-Impedance-based Physiological Sensing. , 2019, , .		17
57	Recommended Methods to Study Resistive Switching Devices. Advanced Electronic Materials, 2019, 5, 1800143.	2.6	452
58	Composition-dependent structural transition in epitaxial <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Bi</mml:mi><mml:mrow><mml:mn>1</mml	0.9	6
59	Structural, vibrational, and electronic topological transitions of Bi1.5Sb0.5Te1.8Se1.2 under pressure. Journal of Applied Physics, 2018, 123, .	1.1	14
60	Atomristor: Nonvolatile Resistance Switching in Atomic Sheets of Transition Metal Dichalcogenides. Nano Letters, 2018, 18, 434-441.	4.5	375
61	An RRAM with a 2D Material Embedded Double Switching Layer for Neuromorphic Computing. , 2018, , .		3
62	Anisotropic Electronâ€“Phonon Interactions in Angle-Resolved Raman Study of Strained Black Phosphorus. ACS Nano, 2018, 12, 12512-12522.	7.3	33
63	Nanoradiator-Mediated Deterministic Opto-Thermoelectric Manipulation. ACS Nano, 2018, 12, 10383-10392.	7.3	41
64	Efficient Visible-Light Photocatalysis of 2D-MXene Nanohybrids with Gd³⁺- and Sn⁴⁺-Codoped Bismuth Ferrite. ACS Omega, 2018, 3, 13828-13836.	1.6	121
65	Zero-static power radio-frequency switches based on MoS2 atomristors. Nature Communications, 2018, 9, 2524.	5.8	126
66	Silicene, silicene derivatives, and their device applications. Chemical Society Reviews, 2018, 47, 6370-6387.	18.7	261
67	Imperceptible electrooculography graphene sensor system for humanâ€“robot interface. Npj 2D Materials and Applications, 2018, 2, .	3.9	114
68	Recent Progress on Stability and Passivation of Black Phosphorus. Advanced Materials, 2018, 30, e1704749.	11.1	248
69	Optothermoplasmonic Nanolithography for Onâ€Demand Patterning of 2D Materials. Advanced Functional Materials, 2018, 28, 1803990.	7.8	35
70	Recent development of two-dimensional transition metal dichalcogenides and their applications. Materials Today, 2017, 20, 116-130.	8.3	1,852
71	Buckled two-dimensional Xene sheets. Nature Materials, 2017, 16, 163-169.	13.3	641
72	Direct Observation of Poly(Methyl Methacrylate) Removal from a Graphene Surface. Chemistry of Materials, 2017, 29, 2033-2039.	3.2	41

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73	A review on mechanics and mechanical properties of 2D materialsâ€"Graphene and beyond. Extreme Mechanics Letters, 2017, 13, 42-77.	2.0	920
74	Silicon Nanosheets: Crossover between Multilayer Silicene and Diamond-like Growth Regime. ACS Nano, 2017, 11, 3376-3382.	7.3	61
75	Printing functional atomic layers. Nature Nanotechnology, 2017, 12, 287-288.	15.6	10
76	Graphene Electronic Tattoo Sensors. ACS Nano, 2017, 11, 7634-7641.	7.3	476
77	Plasmonâ€"trion and plasmonâ€"exciton resonance energy transfer from a single plasmonic nanoparticle to monolayer MoS2. Nanoscale, 2017, 9, 13947-13955.	2.8	35
78	3D integrated monolayer grapheneâ€"Si CMOS RF gas sensor platform. Npj 2D Materials and Applications, 2017, 1, .	3.9	38
79	Temperature and Thickness Dependences of the Anisotropic Inâ€Plane Thermal Conductivity of Black Phosphorus. Advanced Materials, 2017, 29, 1603756.	11.1	99
80	Black phosphorus flexible thin film transistors and GHz circuit applications. , 2017, , .		0
81	2D nanoelectronics: From graphene to silicene and beyond. , 2017, , .		0
82	Largeâ€Area Monolayer MoS₂ for Flexible Lowâ€Power RF Nanoelectronics in the GHz Regime. Advanced Materials, 2016, 28, 1818-1823.	11.1	161
83	Pressureâ€Induced Charge Transfer Doping of Monolayer Graphene/MoS₂ Heterostructure. Small, 2016, 12, 4063-4069.	5.2	45
84	Electrical performance enhancement of 20 nm scale graphene nanoribbon field-effect transistors with dipolar molecules. , 2016, , .		0
85	Chemical-sensitive graphene modulator with a memory effect for internet-of-things applications. Microsystems and Nanoengineering, 2016, 2, 16018.	3.4	36
86	A zero power harmonic transponder sensor for ubiquitous wireless Î¼L liquid-volume monitoring. Scientific Reports, 2016, 6, 18795.	1.6	29
87	Origin of superconductivity in the Weyl semimetal <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>WT</mml:mi><mml:msub><mml:mi mathvariant="normal">e</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> under pressure. Physical Review B, 2016, 94, .	1.1	91
88	Long-Term Stability and Reliability of Black Phosphorus Field-Effect Transistors. ACS Nano, 2016, 10, 9543-9549.	7.3	158
89	Uncovering edge states and electrical inhomogeneity in MoS ₂ field-effect transistors. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 8583-8588.	3.3	94
90	Flexible 2D nanoelectronics from baseband to sub-THz transistors and circuits. , 2016, , .		1

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91	Large-Area Dry Transfer of Single-Crystalline Epitaxial Bismuth Thin Films. Nano Letters, 2016, 16, 6931-6938.	4.5	87
92	Layer-by-Layer Assembly of Two-Dimensional Colloidal Cu₂Se Nanoplates and Their Layer-Dependent Conductivity. Chemistry of Materials, 2016, 28, 4307-4314.	3.2	28
93	Black Phosphorus Flexible Thin Film Transistors at Gighertz Frequencies. Nano Letters, 2016, 16, 2301-2306.	4.5	137
94	Extremely High-Frequency Flexible Graphene Thin-Film Transistors. IEEE Electron Device Letters, 2016, 37, 512-515.	2.2	42
95	Mixed-mode traction-separation relations between graphene and copper by blister tests. International Journal of Solids and Structures, 2016, 84, 147-159.	1.3	39
96	Support-Free Transfer of Ultrasmooth Graphene Films Facilitated by Self-Assembled Monolayers for Electronic Devices and Patterns. ACS Nano, 2016, 10, 1404-1410.	7.3	69
97	Bubble-Pen Lithography. Nano Letters, 2016, 16, 701-708.	4.5	170
98	High-frequency prospects of 2D nanomaterials for flexible nanoelectronics from baseband to sub-THz devices. , 2015, , .		14
99	Silicene field-effect transistors operating at room temperature. Nature Nanotechnology, 2015, 10, 227-231.	15.6	1,429
100	Selective Mechanical Transfer of Graphene from Seed Copper Foil Using Rate Effects. ACS Nano, 2015, 9, 1325-1335.	7.3	104
101	Flexible Black Phosphorus Ambipolar Transistors, Circuits and AM Demodulator. Nano Letters, 2015, 15, 1883-1890.	4.5	394
102	Radio Frequency Transistors and Circuits Based on CVD MoS₂. Nano Letters, 2015, 15, 5039-5045.	4.5	144
103	Thermal Oxidation of WSe₂ Nanosheets Adhered on SiO₂/Si Substrates. Nano Letters, 2015, 15, 4979-4984.	4.5	84
104	Toward air-stable multilayer phosphorene thin-films and transistors. Scientific Reports, 2015, 5, 8989.	1.6	344
105	Mixed-Mode Interactions Between Graphene and Substrates by Blister Tests. Journal of Applied Mechanics, Transactions ASME, 2015, 82, .	1.1	25
106	Recent Advances in Two-Dimensional Materials beyond Graphene. ACS Nano, 2015, 9, 11509-11539.	7.3	2,069
107	Pressure-Modulated Conductivity, Carrier Density, and Mobility of Multilayered Tungsten Disulfide. ACS Nano, 2015, 9, 9117-9123.	7.3	120
108	Graphene based GHz flexible nanoelectronics and radio receiver systems (Invited). , 2015, , .		2

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109	Pressure-Dependent Optical and Vibrational Properties of Monolayer Molybdenum Disulfide. Nano Letters, 2015, 15, 346-353.	4.5	284
110	Flexible graphite antennas for plastic electronics. , 2014, , .		3
111	Two-dimensional flexible nanoelectronics. Nature Communications, 2014, 5, 5678.	5.8	1,533
112	Impact of contact and access resistances in graphene field-effect transistors on quartz substrates for radio frequency applications. Applied Physics Letters, 2014, 104, .	1.5	4
113	Direct Delamination of Graphene for Highâ€Performance Plastic Electronics. Small, 2014, 10, 694-698.	5.2	52
114	Enhanced Dielectric Performance in Polymer Composite Films with Carbon Nanotubeâ€Reduced Graphene Oxide Hybrid Filler. Small, 2014, 10, 3405-3411.	5.2	116
115	Pressure-induced semiconducting to metallic transition in multilayered molybdenum disulphide. Nature Communications, 2014, 5, 3731.	5.8	495
116	Flexible and Transparent Dielectric Film with a High Dielectric Constant Using Chemical Vapor Deposition-Grown Graphene Interlayer. ACS Nano, 2014, 8, 269-274.	7.3	63
117	Towards the design and fabrication of graphene based flexible GHz radio receiver systems. , 2014, , .		9
118	On the mobility and contact resistance evaluation for transistors based on MoS2 or two-dimensional semiconducting atomic crystals. Applied Physics Letters, 2014, 104, .	1.5	173
119	Toward 300 mm Wafer-Scalable High-Performance Polycrystalline Chemical Vapor Deposited Graphene Transistors. ACS Nano, 2014, 8, 10471-10479.	7.3	87
120	Graphene-Based Plasmonic Platform for Reconfigurable Terahertz Nanodevices. ACS Photonics, 2014, 1, 647-654.	3.2	53
121	Dual band electrically small non-uniform pitch ellipsoidal helix antenna for cardiac pacemakers. , 2013, , .		0
122	25 GHz Embedded-Gate Graphene Transistors with High-K Dielectrics on Extremely Flexible Plastic Sheets. ACS Nano, 2013, 7, 7744-7750.	7.3	127
123	Graphene Synthesis via Magnetic Inductive Heating of Copper Substrates. ACS Nano, 2013, 7, 7495-7499.	7.3	77
124	Dual band electrically small non-uniform pitch ellipsoidal helix antenna for cardiac pacemakers. , 2013, , .		1
125	Dual band electrically small non-uniform pitch ellipsoidal helix antenna for cardiac pacemakers. , 2013, , .		2
126	High-Performance Current Saturating Graphene Field-Effect Transistor With Hexagonal Boron Nitride Dielectric on Flexible Polymeric Substrates. IEEE Electron Device Letters, 2013, 34, 172-174.	2.2	53

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127	Enhancement of the Electrical Properties of Graphene Grown by Chemical Vapor Deposition via Controlling the Effects of Polymer Residue. Nano Letters, 2013, 13, 1462-1467.	4.5	324
128	Chlorination of Reduced Graphene Oxide Enhances the Dielectric Constant of Reduced Graphene Oxide/Polymer Composites. Advanced Materials, 2013, 25, 2308-2313.	11.1	176
129	High-Performance, Highly Bendable MoS₂ Transistors with High-K Dielectrics for Flexible Low-Power Systems. ACS Nano, 2013, 7, 5446-5452.	7.3	445
130	Dual band electrically small non-uniform pitch ellipsoidal helix antenna for cardiac pacemakers. , 2013, , .		0
131	Transformation of the Electrical Characteristics of Graphene Field-Effect Transistors with Fluoropolymer. ACS Applied Materials & Interfaces, 2013, 5, 16-20.	4.0	37
132	State-of-the-art flexible 2D nanoelectronics based on graphene and MoS<inf>2</inf>. , 2013, , .		1
133	High-performance flexible nanoelectronics: 2D atomic channel materials for low-power digital and high-frequency analog devices. , 2013, , .		17
134	Properties and Applications of Electrically Small Folded Ellipsoidal Helix Antenna. IEEE Antennas and Wireless Propagation Letters, 2012, 11, 678-681.	2.4	13
135	Highly bendable high-mobility graphene field effect transistors with multi-finger embedded gates on flexible substrates. , 2012, , .		1
136	State-of-the-art graphene transistors on hexagonal boron nitride, high-k, and polymeric films for GHz flexible analog nanoelectronics. , 2012, , .		7
137	Distributed Amplifiers Based on Spindt-Type Field-Emission Nanotriodes. IEEE Nanotechnology Magazine, 2012, 11, 1201-1211.	1.1	9
138	Simultaneous Transfer and Doping of CVD-Grown Graphene by Fluoropolymer for Transparent Conductive Films on Plastic. ACS Nano, 2012, 6, 1284-1290.	7.3	113
139	Multi-finger flexible graphene field effect transistors with high bendability. Applied Physics Letters, 2012, 101, .	1.5	42
140	Uniform Wafer-Scale Chemical Vapor Deposition of Graphene on Evaporated Cu (111) Film with Quality Comparable to Exfoliated Monolayer. Journal of Physical Chemistry C, 2012, 116, 24068-24074.	1.5	69
141	Synthesis of High Quality Monolayer Graphene at Reduced Temperature on Hydrogen-Enriched Evaporated Copper (111) Films. ACS Nano, 2012, 6, 2319-2325.	7.3	160
142	Selective-Area Fluorination of Graphene with Fluoropolymer and Laser Irradiation. Nano Letters, 2012, 12, 2374-2378.	4.5	222
143	Embedded-gate graphene transistors for high-mobility detachable flexible nanoelectronics. Applied Physics Letters, 2012, 100, .	1.5	60
144	An exactly solvable model for the graphene transistor in the quantum capacitance limit. Applied Physics Letters, 2012, 101, 053501.	1.5	27

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145	Nanostructured Hybrid Transparent Conductive Films with Antibacterial Properties. ACS Nano, 2012, 6, 5157-5163.	7.3	139
146	Electrically small folded ellipsoidal helix antenna for medical implant applications. , 2011, , .		11
147	Impact of contact resistance on the transconductance and linearity of graphene transistors. Applied Physics Letters, 2011, 98, .	1.5	64
148	CMOS-Compatible Synthesis of Large-Area, High-Mobility Graphene by Chemical Vapor Deposition of Acetylene on Cobalt Thin Films. ACS Nano, 2011, 5, 7198-7204.	7.3	109
149	Fully Integrated Graphene and Carbon Nanotube Interconnects for Gigahertz High-Speed CMOS Electronics. IEEE Transactions on Electron Devices, 2010, 57, 3137-3143.	1.6	127
150	Monolithic Integration of CMOS VLSI and Carbon Nanotubes for Hybrid Nanotechnology Applications. IEEE Nanotechnology Magazine, 2008, 7, 636-639.	1.1	40
151	Analytical ballistic theory of carbon nanotube transistors: Experimental validation, device physics, parameter extraction, and performance projection. Journal of Applied Physics, 2008, 104, 124514.	1.1	54
152	Novel physical sensors using evanescent microwave probes. Review of Scientific Instruments, 1999, 70, 3381-3386.	0.6	41
153	Memristors Based on 2D Monolayer Materials. , 0, , .		1