

Jie Jiang

List of Publications by Year in descending order

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111
papers

3,470
citations

136950

32
h-index

168389

53
g-index

112
all docs

112
docs citations

112
times ranked

2984
citing authors

#	ARTICLE	IF	CITATIONS
1	2D MoS ₂ Neuromorphic Devices for Brain-Like Computational Systems. <i>Small</i> , 2017, 13, 1700933.	10.0	268
2	2D electric-double-layer phototransistor for photoelectronic and spatiotemporal hybrid neuromorphic integration. <i>Nanoscale</i> , 2019, 11, 1360-1369.	5.6	195
3	A Sub-10 nm Vertical Organic/Inorganic Hybrid Transistor for Pain-Perceptual and Sensitization-Regulated Nociceptor Emulation. <i>Advanced Materials</i> , 2020, 32, e1906171.	21.0	135
4	Coplanar Multigate MoS ₂ Electric-Double-Layer Transistors for Neuromorphic Visual Recognition. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 25943-25948.	8.0	99
5	Ultralow-voltage transparent electric-double-layer thin-film transistors processed at room-temperature. <i>Applied Physics Letters</i> , 2009, 95, .	3.3	95
6	Photoelectric Visual Adaptation Based on OD-CsPbBr ₃ Quantum Dots/2D-MoS ₂ Mixed-Dimensional Heterojunction Transistor. <i>Advanced Functional Materials</i> , 2021, 31, 2010655.	14.9	93
7	Transient security transistors self-supported on biodegradable natural-polymer membranes for brain-inspired neuromorphic applications. <i>Nanoscale</i> , 2018, 10, 14893-14901.	5.6	90
8	Vertical OD-Perovskite/2D-MoS ₂ van der Waals Heterojunction Phototransistor for Emulating Photoelectrically Synergistically Classical Pavlovian Conditioning and Neural Coding Dynamics. <i>Small</i> , 2020, 16, e2005217.	10.0	87
9	Flexible Vertical Photogating Transistor Network with an Ultrashort Channel for In-Sensor Visual Nociceptor. <i>Advanced Functional Materials</i> , 2021, 31, 2104327.	14.9	85
10	PbS Nanoparticles for Ultrashort Pulse Generation in Optical Communication Region. <i>Particle and Particle Systems Characterization</i> , 2018, 35, 1800341.	2.3	82
11	Proton-electron-coupled MoS ₂ synaptic transistors with a natural renewable biopolymer neurotransmitter for brain-inspired neuromorphic learning. <i>Journal of Materials Chemistry C</i> , 2019, 7, 682-691.	5.5	69
12	Bidirectionally-triggered 2D MoS ₂ synapse through coplanar-gate electric-double-layer polymer coupling for neuromorphic complementary spatiotemporal learning. <i>Organic Electronics</i> , 2018, 63, 120-128.	2.6	65
13	Ion Migration Accelerated Reaction between Oxygen and Metal Halide Perovskites in Light and Its Suppression by Cesium Incorporation. <i>Advanced Energy Materials</i> , 2021, 11, 2002552.	19.5	64
14	Thermal oxidation of Ni films for p-type thin-film transistors. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 6875.	2.8	59
15	Femtosecond Laser Thermal Accumulation-Triggered Micro-/Nanostructures with Patternable and Controllable Wettability Towards Liquid Manipulating. <i>Nano-Micro Letters</i> , 2022, 14, 97.	27.0	58
16	Emerging uniform Cu ₂ O nanocubes for 251st harmonic ultrashort pulse generation. <i>Journal of Materials Chemistry C</i> , 2020, 8, 14386-14392.	5.5	57
17	Microporous SiO ₂ with huge electric-double-layer capacitance for low-voltage indium tin oxide thin-film transistors. <i>Applied Physics Letters</i> , 2009, 95, .	3.3	55
18	One-Shadow-Mask Self-Assembled Ultralow-Voltage Coplanar Homo Junction Thin-Film Transistors. <i>IEEE Electron Device Letters</i> , 2010, 31, 1137-1139.	3.9	55

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19	Indium-tin-oxide thin film transistor biosensors for label-free detection of avian influenza virus H5N1. <i>Analytica Chimica Acta</i> , 2013, 773, 83-88.	5.4	55
20	Low-voltage electric-double-layer paper transistors gated by microporous SiO ₂ processed at room temperature. <i>Applied Physics Letters</i> , 2009, 95, 222108.	3.3	52
21	Low-voltage transparent electric-double-layer ZnO-based thin-film transistors for portable transparent electronics. <i>Applied Physics Letters</i> , 2010, 96, .	3.3	52
22	Research progress on hybrid organic-inorganic perovskites for photo-applications. <i>Chinese Chemical Letters</i> , 2020, 31, 3055-3064.	9.0	52
23	A biopolymer-gated ionotronic junctionless oxide transistor array for spatiotemporal pain-perception emulation in nociceptor network. <i>Nanoscale</i> , 2022, 14, 2316-2326.	5.6	52
24	Hardware implementation of photoelectrically modulated dendritic arithmetic and spike-timing-dependent plasticity enabled by an ion-coupling gate-tunable vertical OD-perovskite/2D-MoS ₂ hybrid-dimensional van der Waals heterostructure. <i>Nanoscale</i> , 2020, 12, 21798-21811.	5.6	51
25	Flexible protonic/electronic coupled neuron transistors self-assembled on paper substrates for logic applications. <i>Applied Physics Letters</i> , 2013, 102, 093509.	3.3	45
26	Tailoring micro/nanostructured porous polytetrafluoroethylene surfaces for dual-reversible transition of wettability and transmittance. <i>Chemical Engineering Journal</i> , 2022, 434, 134756.	12.7	43
27	Solution-processed natural gelatin was used as a gate dielectric for the fabrication of oxide field-effect transistors. <i>Organic Electronics</i> , 2016, 38, 357-361.	2.6	42
28	A homogeneous p-n junction diode by selective doping of few layer MoSe ₂ using ultraviolet ozone for high-performance photovoltaic devices. <i>Nanoscale</i> , 2019, 11, 13469-13476.	5.6	41
29	Lightweight flexible indium-free oxide TFTs with AND logic function employing chitosan biopolymer as self-supporting layer. <i>Solid-State Electronics</i> , 2019, 153, 16-22.	1.4	40
30	Polarization-perceptual anisotropic two-dimensional ReS ₂ neuro-transistor with reconfigurable neuromorphic vision. <i>Materials Horizons</i> , 2022, 9, 1448-1459.	12.2	38
31	Chitosan-gated low-voltage transparent indium-free aluminum-doped zinc oxide thin-film transistors. <i>Organic Electronics</i> , 2016, 33, 311-315.	2.6	37
32	The correlations of the electronic structure and film growth of 2,7-dioctyl[1]benzothieno[3,2-b]benzothiophene (C8-BTBT) on SiO ₂ . <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 1669-1676.	2.8	34
33	Low-voltage transparent SnO ₂ nanowire transistors gated by microporous SiO ₂ solid-electrolyte with improved polarization response. <i>Journal of Materials Chemistry</i> , 2010, 20, 8010.	6.7	31
34	Junctionless Flexible Oxide-Based Thin-Film Transistors on Paper Substrates. <i>IEEE Electron Device Letters</i> , 2012, 33, 65-67.	3.9	31
35	Vertical organic-inorganic hybrid transparent oxide TFTs gated by biodegradable electric-double-layer biopolymer. <i>Organic Electronics</i> , 2017, 44, 1-5.	2.6	31
36	Low-Voltage Organic/Inorganic Hybrid Transparent Thin-Film Transistors Gated by Chitosan-Based Proton Conductors. <i>IEEE Electron Device Letters</i> , 2011, 32, 1549-1551.	3.9	30

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37	Interfacial electronic structures of MoOx/mixed perovskite photodetector. Organic Electronics, 2019, 65, 162-169.	2.6	30
38	Polymer-Decorated 2D MoS ₂ Synaptic Transistors for Biological Bipolar Metaplasticities Emulation*. Chinese Physics Letters, 2020, 37, 088501.	3.3	30
39	Poly(vinyl alcohol)-gated junctionless Al-Zn-O phototransistor for photonic and electric hybrid neuromorphic computation. Solid-State Electronics, 2020, 165, 107767.	1.4	30
40	In-plane-gate indium-tin-oxide thin-film transistors self-assembled on paper substrates. Applied Physics Letters, 2011, 98, .	3.3	29
41	Flexible Dual-Gate Oxide TFTs Gated by Chitosan Film on Paper Substrates. IEEE Electron Device Letters, 2013, 34, 259-261.	3.9	29
42	Low-voltage electric-double-layer MoS ₂ transistor gated via water solution. Solid-State Electronics, 2018, 150, 8-15.	1.4	29
43	Tuning the hysteresis voltage in 2D multilayer MoS ₂ FETs. Physica B: Condensed Matter, 2016, 498, 76-81.	2.7	27
44	Enhanced performance of multilayer MoS ₂ transistor employing a polymer capping layer. Organic Electronics, 2017, 40, 75-78.	2.6	27
45	Solution-processed ultra-flexible C8-BTBT organic thin-film transistors with the corrected mobility over 18Acm ² /(V s). Science Bulletin, 2020, 65, 791-795.	9.0	27
46	Recent progress on two-dimensional neuromorphic devices and artificial neural network. Current Applied Physics, 2021, 31, 182-198.	2.4	26
47	PbI ₂ @MoS ₂ Heterojunction: van der Waals Epitaxial Growth and Energy Band Alignment. Journal of Physical Chemistry Letters, 2019, 10, 4203-4208.	4.6	25
48	<i>In situ</i> surface modification of TiO ₂ by CaTiO ₃ to improve the UV stability and power conversion efficiency of perovskite solar cells. Applied Physics Letters, 2019, 115, .	3.3	25
49	Junctionless in-plane-gate transparent thin-film transistors. Applied Physics Letters, 2011, 99, .	3.3	24
50	From MoO ₂ @MoS ₂ Core-Shell Nanorods to MoS ₂ Nanobelts. Physica Status Solidi (B): Basic Research, 2018, 255, 1800254.	1.5	23
51	One-Volt Oxide Thin-Film Transistors on Paper Substrates Gated by SiO ₂ -Based Solid Electrolyte With Controllable Operation Modes. IEEE Transactions on Electron Devices, 2010, 57, 2258-2263.	3.0	22
52	Transparent Junctionless Electric-Double-Layer Transistors Gated by a Reinforced Chitosan-Based Biopolymer Electrolyte. IEEE Transactions on Electron Devices, 2013, 60, 1951-1957.	3.0	22
53	Chitosan solid electrolyte as electric double layer in multilayer MoS ₂ transistor for low-voltage operation. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2219-2225.	1.8	22
54	Observation of abnormal mobility enhancement in multilayer MoS ₂ transistor by synergy of ultraviolet illumination and ozone plasma treatment. Physica E: Low-Dimensional Systems and Nanostructures, 2017, 87, 150-154.	2.7	21

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55	Famatinite Cu ₃ SbS ₄ nanocrystals as hole transporting material for efficient perovskite solar cells. <i>Journal of Materials Chemistry C</i> , 2018, 6, 7989-7993.	5.5	20
56	Type-II Interface Band Alignment in the vdW Pbl ₂ MoSe ₂ Heterostructure. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 32099-32105.	8.0	20
57	Graphene-based low-threshold and tunable optical bistability in one-dimensional photonic crystal Fano resonance heterostructure at optical communication band. <i>Optics Express</i> , 2020, 28, 34948.	3.4	20
58	Self-Assembled Ultralow-Voltage Flexible Transparent Thin-Film Transistors Gated by SiO ₂ -Based Solid Electrolyte. <i>IEEE Transactions on Electron Devices</i> , 2011, 58, 547-552.	3.0	19
59	High-Sensitivity Terahertz Refractive Index Sensor in a Multilayered Structure with Graphene. <i>Nanomaterials</i> , 2020, 10, 500.	4.1	19
60	Flexible Low-Voltage Electric-Double-Layer TFTs Self-Assembled on Paper Substrates. <i>IEEE Electron Device Letters</i> , 2011, 32, 518-520.	3.9	18
61	Initial photochemical stability in perovskite solar cells based on the Cu electrode and the appropriate charge transport layers. <i>Synthetic Metals</i> , 2018, 246, 101-107.	3.9	18
62	Fe ₃ O ₄ nanoparticles as a saturable absorber for giant chirped pulse generation. <i>Beilstein Journal of Nanotechnology</i> , 2019, 10, 1065-1072.	2.8	18
63	Self-Assembled In-Plane Gate Oxide-Based Homojunction Thin-Film Transistors. <i>IEEE Electron Device Letters</i> , 2011, 32, 500-502.	3.9	17
64	Tuning the threshold voltage from depletion to enhancement mode in a multilayer MoS ₂ transistor via oxygen adsorption and desorption. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 685-689.	2.8	17
65	Dual in-plane-gate oxide-based thin-film transistors with tunable threshold voltage. <i>Applied Physics Letters</i> , 2011, 99, 113504.	3.3	16
66	Bio-inspired coplanar-gate-coupled ITO-free oxide-based transistors employing natural nontoxic bio-polymer electrolyte. <i>Organic Electronics</i> , 2016, 37, 474-478.	2.6	16
67	Low-power logic computing realized in a single electric-double-layer MoS ₂ transistor gated with polymer electrolyte. <i>Solid-State Electronics</i> , 2018, 144, 1-6.	1.4	16
68	Vertical low-voltage oxide transistors gated by microporous SiO ₂ /LiCl composite solid electrolyte with enhanced electric-double-layer capacitance. <i>Applied Physics Letters</i> , 2010, 97, 052104.	3.3	14
69	Fullerene (C60) interlayer modification on the electronic structure and the film growth of 2,7-dioctyl[1]benzothieno-[3,2-b]benzothiophene on SiO ₂ . <i>Synthetic Metals</i> , 2017, 229, 1-6.	3.9	14
70	Energy Level Evolution and Oxygen Exposure of Fullerene/Black Phosphorus Interface. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 5254-5261.	4.6	13
71	Recent Progress in Anisotropic 2D Semiconductors: From Material Properties to Photoelectric Detection. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2021, 218, 2100204.	1.8	13
72	Low-Voltage Oxide-Based Electric-Double-Layer TFTs Gated by Stacked SiO ₂ Electrolyte/Chitosan Hybrid Dielectrics. <i>IEEE Electron Device Letters</i> , 2012, 33, 848-850.	3.9	12

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73	Recent Progress on Neuromorphic Synapse Electronics: From Emerging Materials, Devices, to Neural Networks. Journal of Nanoscience and Nanotechnology, 2018, 18, 8003-8015.	0.9	12
74	Interface Energy-Level Alignment between Black Phosphorus and $F_{16}CuPc$ Molecular Films. Journal of Physical Chemistry C, 2019, 123, 10443-10450.	3.1	12
75	Low-Voltage Electric-Double-Layer TFTs on SiO_2 -Covered Paper Substrates. IEEE Electron Device Letters, 2011, 32, 1543-1545.	3.9	10
76	Ultralow-Voltage Transparent In_2O_3 Nanowire Electric-Double-Layer Transistors. IEEE Electron Device Letters, 2011, 32, 315-317.	3.9	10
77	Dual-Gate MoS_2 FET With a Coplanar-Gate Engineering. IEEE Transactions on Electron Devices, 2016, 63, 573-577.	3.0	10
78	Lead sulfide nanoparticles for dual-wavelength ultrashort pulse generation. Nanotechnology, 2020, 31, 085202.	2.6	10
79	Effective passivation of black phosphorus against atmosphere by quasi-monolayer of F4TCNQ molecules. Applied Physics Letters, 2020, 117, .	3.3	10
80	Low-Voltage Transparent Indium-Zinc-Oxide Coplanar Homo Junction TFTs Self-Assembled on Inorganic Proton Conductors. IEEE Transactions on Electron Devices, 2011, 58, 764-768.	3.0	9
81	Photoemission studies of C8-BTBT/La _{0.67} Sr _{0.33} MnO ₃ interface. Synthetic Metals, 2020, 260, 116261.	3.9	9
82	Modeling of low-voltage oxide-based electric-double-layer thin-film transistors fabricated at room temperature. Applied Physics Letters, 2011, 98, .	3.3	8
83	Low threshold optical bistability in graphene/waveguide hybrid structure at terahertz frequencies. Optics Communications, 2021, 499, 127282.	2.1	8
84	From Pain to Fear Recognition via Pavlovian Learning in an Organic-Inorganic Hybrid Neuromorphic Transistor. Advanced Electronic Materials, 2022, 8, .	5.1	8
85	Electrostatic modification of oxide semiconductors by electric double layers of microporous SiO_2 -based solid electrolyte. Journal of Applied Physics, 2011, 109, .	2.5	7
86	Interface Electronic Structure between Au and Black Phosphorus. Journal of Physical Chemistry C, 2018, 122, 18405-18411.	3.1	7
87	Software cost estimation through conceptual requirement. , 2003, , .		6
88	Anomalous Threshold Voltage Shift and Surface Passivation of Transparent Indium-Zinc-Oxide Electric-Double-Layer TFTs. IEEE Electron Device Letters, 2011, 32, 910-912.	3.9	6
89	The effect of air exposure on device performance of flexible C8-BTBT organic thin-film transistors with hygroscopic insulators. Science China Materials, 2020, 63, 2551-2559.	6.3	6
90	Enhanced and tunable terahertz spin hall effect of reflected light due to tamm plasmons with topological insulators. Results in Physics, 2020, 19, 103392.	4.1	6

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91	High-sensitivity detection of Concanavalin A using MoS ₂ -based field effect transistor biosensor. Journal Physics D: Applied Physics, 2021, 54, 245401.	2.8	6
92	Anisotropic 2D materials for post-Moore photoelectric devices. Journal of Semiconductors, 2022, 43, 010201.	3.7	6
93	Water-induced dual ultrahigh mobilities over 400 cm ² /V s in 2D MoS ₂ transistors for ultralow-voltage operation and photoelectric synapse perception. Journal of Materials Chemistry C, 2022, 10, 5249-5256.	5.5	6
94	MoS ₂ -based multiterminal ionic transistor with orientation-dependent STDP learning rules. Solid-State Electronics, 2022, 194, 108386.	1.4	6
95	Automated elicitation of inclusion dependencies from the source code for database transactions. Journal of Software: Evolution and Process, 2003, 15, 379-392.	1.1	5
96	Low-Voltage Oxide Homo Junction Electric-Double-Layer Transistors Gated by Ion-Incorporated Inorganic Solid Electrolytes. Japanese Journal of Applied Physics, 2010, 49, 110201.	1.5	5
97	Vertical Oxide Homo Junction TFTs of 0.8 V Gated by H ₃ PO ₄ -Treated SiO ₂ Nanogranular Dielectric. IEEE Electron Device Letters, 2010, , .	3.9	5
98	Modification of C60 nano-interlayers on organic field-effect transistors based on 2,7-dioctyl[1]benzothieno-[3,2-b]benzothiophene (C8-BTBT)/SiO ₂ . Results in Physics, 2020, 19, 103590.	4.1	5
99	Fully Optical-Driving Ionotronic InGaZnO ₄ Phototransistor for Gate-Tunable Bidirectional Photofiltering and Visual Perception. IEEE Transactions on Electron Devices, 2022, 69, 4382-4385.	3.0	5
100	Low-Voltage Oxide-Based TFTs Self-Assembled on Paper Substrates With Tunable Threshold Voltage. IEEE Transactions on Electron Devices, 2012, 59, 380-384.	3.0	4
101	Modification of an ultrathin C ₆₀ interlayer on the electronic structure and molecular packing of C8-BTBT on HOPG. Physical Chemistry Chemical Physics, 2020, 22, 25264-25271.	2.8	4
102	Tuning the Threshold Voltage of Double-Gate Low-Voltage Transparent Oxide-Based TFTs by a Lateral In-Plane Gate. IEEE Electron Device Letters, 2011, 32, 1710-1712.	3.9	3
103	2D transition metal dichalcogenides for neuromorphic vision system. Journal of Semiconductors, 2021, 42, 090203.	3.7	3
104	Modification of FA _{0.85} MA _{0.15} Pb ₃ (I _{0.85} Br _{0.15}) ₃ Films by NH ₂ -POSS. Crystals, 2021, 11, 1544.	2.2	3
105	Tunable optical bistability in graphene Tamm plasmon/Bragg reflector hybrid structure at terahertz frequencies. Results in Physics, 2022, 39, 105735.	4.1	3
106	Microporous SiO ₂ -based solid electrolyte with improved polarization response for 0.8 V transparent thin-film transistors. Journal Physics D: Applied Physics, 2010, 43, 295103.	2.8	2
107	Density-of-State and Trap Modeling of Low-Voltage Electric-Double-Layer TFTs. IEEE Electron Device Letters, 2011, 32, 512-514.	3.9	2
108	Electronic Structures and Nanofilm Growth of 2,7-Dioctyl[1]Benzothieno[3,2-b]Benzothiophene on Black Phosphorus. Journal of Nanoscience and Nanotechnology, 2018, 18, 4332-4336.	0.9	2

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109	Neuromorphic Photoelectric Devices: Vertical 0Dâ€Perovskite/2Dâ€MoS ₂ van der Waals Heterojunction Phototransistor for Emulating Photoelectricâ€Synergistically Classical Pavlovian Conditioning and Neural Coding Dynamics (Small 45/2020). Small, 2020, 16, 2070244.	10.0	2
110	Low-voltage indium-zinc-oxide thin film transistors gated by solution-processed chitosan-based proton conductors. , 2011, , .		1
111	Tunable Superluminal and Subluminal Reflected Group Delay in an Air-Weyl Semimetal Film-Weyl Semimetal Substrate Layered System. IEEE Journal of Quantum Electronics, 2022, 58, 1-6.	1.9	1