Junyi Zhai

List of Publications by Year in Descending Order

114 papers	7,810 citations	48 h-index	87 g-index
126 ext. papers	9,305 ext. citations	9.5 avg, IF	6.21 L-index

#	Paper	IF	Citations
114	Highly sensitive strain sensors based on piezotronic tunneling junction.. *Nature Communications*, **2022**, 13, 778	17.4	6
113	Mechanoluminescence spectrum tuning from zinc sulfide and all-inorganic perovskite quantum dots composite. *Journal of Alloys and Compounds*, **2022**, 893, 162333	5.7	1
112	Biocompatible and breathable all-fiber-based piezoresistive sensor with high sensitivity for human physiological movements monitoring. *Chemical Engineering Journal*, **2022**, 446, 137268	14.7	3
111	p-n Junction Based Direct-Current Triboelectric Nanogenerator by Conjunction of Tribovoltaic Effect and Photovoltaic Effect. *Nano Letters*, **2021**, 21, 10099-10106	11.5	8
110	Enhanced Electrical Performance of Monolayer MoS with Rare Earth Element Sm Doping. *Nanomaterials*, **2021**, 11,	5.4	3
109	A Polymeric Bilayer Multi-Legged Soft Millirobot with Dual Actuation and Humidity Sensing. *Sensors* , **2021**, 21,	3.8	2
108	Performance-Enhanced and Washable Triboelectric Air Filter Based on Polyvinylidene Fluoride/UiO-66 Composite Nanofiber Membrane. *Macromolecular Materials and Engineering*, **2021**, 306, 2100128	3.9	4
107	Dynamic real-time imaging of living cell traction force by piezo-phototronic light nano-antenna array. *Science Advances*, **2021**, 7,	14.3	18
106	Alternate-Layered MXene Composite Film-Based Triboelectric Nanogenerator with Enhanced Electrical Performance. *Nanoscale Research Letters*, **2021**, 16, 81	5	3
105	A composite triboelectric nanogenerator based on flexible and transparent film impregnated with ZIF-8 nanocrystals. *Nanotechnology*, **2021**, 32,	3.4	2
104	Multibit tribotronic nonvolatile memory based on van der Waals heterostructures. *Nano Energy*, **2021**, 83, 105785	17.1	6
103	Dynamic piezo-phototronic effect in InGaN/GaN multiple quantum wells. *Superlattices and Microstructures*, **2021**, 155, 106926	2.8	1
102	Multifunctional Coaxial Energy Fiber toward Energy Harvesting, Storage, and Utilization. *ACS Nano*, **2021**, 15, 1597-1607	16.7	48
101	Flexible and stretchable triboelectric nanogenerator fabric for biomechanical energy harvesting and self-powered dual-mode human motion monitoring. *Nano Energy*, **2021**, 86, 106058	17.1	36
100	High precision epidermal radio frequency antenna via nanofiber network for wireless stretchable multifunction electronics. *Nature Communications*, **2020**, 11, 5629	17.4	24
99	Adsorption kinetics, conformational change, and enzymatic activity of □glucosidase on hematite (□FeO) surfaces. *Colloids and Surfaces B: Biointerfaces*, **2020**, 193, 111115	6	3
98	Flexoelectronics of centrosymmetric semiconductors. *Nature Nanotechnology*, **2020**, 15, 661-667	28.7	76

97	Photon-Memristive System for Logic Calculation and Nonvolatile Photonic Storage. *Advanced Functional Materials*, **2020**, 30, 2002945	15.6	5
96	A flower-like CoS/MoS heteronanosheet array as an active and stable electrocatalyst toward the hydrogen evolution reaction in alkaline media.. *RSC Advances*, **2020**, 10, 8973-8981	3.7	10
95	Large-scale fabrication of robust textile triboelectric nanogenerators. *Nano Energy*, **2020**, 71, 104605	17.1	66
94	Large-Scale Smart Carpet for Self-Powered Fall Detection. *Advanced Materials Technologies*, **2020**, 5, 1900978	6.8	13
93	MoP nanoparticles encapsulated in P-doped carbon as an efficient electrocatalyst for the hydrogen evolution reaction. *Catalysis Communications*, **2020**, 140, 106000	3.2	10
92	Temperature-driven structural phase transition in double perovskite Bi2FeCrO6 films. *Applied Physics Express*, **2020**, 13, 011008	2.4	0
91	Vertically aligned NiS2/CoS2/MoS2 nanosheet array as an efficient and low-cost electrocatalyst for hydrogen evolution reaction in alkaline media. *Science Bulletin*, **2020**, 65, 359-366	10.6	23
90	One-step photodeposition synthesis of TiO2 nanobelts/MoS2 quantum dots/rGO ternary composite with remarkably enhanced photocatalytic activity. *Journal of Materials Science*, **2020**, 55, 14773-14786	4.3	7
89	Highly Integrated Triboelectric Nanogenerator for Efficiently Harvesting Raindrop Energy. *Advanced Materials Technologies*, **2019**, 4, 1900608	6.8	23
88	A substrate-enhanced MoS2 photodetector through a dual-photogating effect. *Materials Horizons*, **2019**, 6, 826-833	14.4	28
87	Achieving high-resolution pressure mapping via flexible GaN/ ZnO nanowire LEDs array by piezo-phototronic effect. *Nano Energy*, **2019**, 58, 633-640	17.1	78
86	Piezotronics modulates high sensitivity relative humidity sensor based on single tellurium microwire. *Semiconductor Science and Technology*, **2019**, 34, 075011	1.8	3
85	Progress in Triboelectric Materials: Toward High Performance and Widespread Applications. *Advanced Functional Materials*, **2019**, 29, 1900098	15.6	93
84	Humidity-Resistive Triboelectric Nanogenerator Fabricated Using Metal Organic Framework Composite. *Advanced Functional Materials*, **2019**, 29, 1807655	15.6	100
83	Printable Smart Pattern for Multifunctional Energy-Management E-Textile. *Matter*, **2019**, 1, 168-179	12.7	92
82	Piezotronics and Piezo-phototronics of Third Generation Semiconductor Nanowires. *Chemical Reviews*, **2019**, 119, 9303-9359	68.1	112
81	Nitrogen-Doped Porous Carbon Nanosheets Strongly Coupled with MoC Nanoparticles for Efficient Electrocatalytic Hydrogen Evolution. *Nanoscale Research Letters*, **2019**, 14, 329	5	3
80	Enhanced spontaneous polarization in double perovskite Bi2FeCrO6 films. *Journal of the American Ceramic Society*, **2019**, 102, 5234-5242	3.8	10

79	Flexible Li-doped ZnO piezotronic transistor array for in-plane strain mapping. *Nano Energy*, **2019**, 55, 341-347	17.1	17
78	Enhanced NO2 gas sensing of a single-layer MoS2 by photogating and piezo-phototronic effects. *Science Bulletin*, **2019**, 64, 128-135	10.6	61
77	Piezotronic Effect Enhanced Flexible Humidity Sensing of Monolayer MoS. *ACS Applied Materials & Interfaces*, **2018**, 10, 8110-8116	9.5	45
76	Skin-inspired highly stretchable and conformable matrix networks for multifunctional sensing. *Nature Communications*, **2018**, 9, 244	17.4	710
75	Magnetic-Induced-Piezopotential Gated MoS Field-Effect Transistor at Room Temperature. *Advanced Materials*, **2018**, 30, 1704524	24	33
74	Progress in piezotronics of transition-metal dichalcogenides. *Journal Physics D: Applied Physics*, **2018**, 51, 493002	3	11
73	Coaxial Hybrid Triboelectric Nanogenerator for Scavenging Multidirectional Mechanical Energy. *Advanced Electronic Materials*, **2018**, 4, 1800161	6.4	8
72	A monolayer MoS 2 p-n homogenous photodiode with enhanced photoresponse by piezo-phototronic effect. *2D Materials*, **2018**, 5, 035038	5.9	31
71	Piezotronics and piezo-phototronics in two-dimensional materials. *MRS Bulletin*, **2018**, 43, 959-964	3.2	19
70	Design of Bionic Cochlear Basilar Membrane Acoustic Sensor for Frequency Selectivity Based on Film Triboelectric Nanogenerator. *Nanoscale Research Letters*, **2018**, 13, 191	5	17
69	Remarkably enhanced triboelectric nanogenerator based on flexible and transparent monolayer titania nanocomposite. *Nano Energy*, **2018**, 50, 140-147	17.1	68
68	Assessment of extracellular matrix modulation of cell traction force by using silicon nanowire array. *Nano Energy*, **2018**, 50, 504-512	17.1	7
67	Self-powered electrochromic devices with tunable infrared intensity. *Science Bulletin*, **2018**, 63, 795-801	10.6	22
66	Self-Healable, Stretchable, Transparent Triboelectric Nanogenerators as Soft Power Sources. *ACS Nano*, **2018**, 12, 6147-6155	16.7	175
65	A flexible p-CuO/n-MoS2 heterojunction photodetector with enhanced photoresponse by the piezo-phototronic effect. *Materials Horizons*, **2017**, 4, 274-280	14.4	95
64	A micromachined piezoelectric microgripper for manipulation of micro/nanomaterials. *Review of Scientific Instruments*, **2017**, 88, 065002	1.7	11
63	Nano-force sensor based on a single tellurium microwire. *Semiconductor Science and Technology*, **2017**, 32, 074001	1.8	6
62	Ultrastretchable, transparent triboelectric nanogenerator as electronic skin for biomechanical energy harvesting and tactile sensing. *Science Advances*, **2017**, 3, e1700015	14.3	674

61	Thermoacoustically driven triboelectric nanogenerator: Combining thermoacoustics and nanoscience. *Applied Physics Letters*, **2017**, 111, 153901	3.4	6
60	Piezotronic-effect-enhanced Ag2S/ZnO photocatalyst for organic dye degradation. *RSC Advances*, **2017**, 7, 48176-48183	3.7	27
59	Piezo-Phototronic Matrix via a Nanowire Array. *Small*, **2017**, 13, 1702377	11	11
58	Piezotronic effect tuned AlGaN/GaN high electron mobility transistor. *Nanotechnology*, **2017**, 28, 455203	3.4	21
57	Core-Shell-Yarn-Based Triboelectric Nanogenerator Textiles as Power Cloths. *ACS Nano*, **2017**, 11, 12764-12771	16.7	143
56	Electrical transportation and piezotronic-effect modulation in AlGaN/GaN MOS HEMTs and unpassivated HEMTs. *Nano Energy*, **2017**, 39, 53-59	17.1	28
55	Piezoelectric and deformation potential effects of strain-dependent luminescence in semiconductor quantum well structures. *Nano Research*, **2017**, 10, 134-144	10	5
54	Piezo-phototronic effect enhanced UV photodetector based on CuI/ZnO double-shell grown on flexible copper microwire. *Nanoscale Research Letters*, **2016**, 11, 281	5	25
53	p-Type MoS2 and n-Type ZnO Diode and Its Performance Enhancement by the Piezophototronic Effect. *Advanced Materials*, **2016**, 28, 3391-8	24	115
52	Self-Powered High-Resolution and Pressure-Sensitive Triboelectric Sensor Matrix for Real-Time Tactile Mapping. *Advanced Materials*, **2016**, 28, 2896-903	24	268
51	Interface engineering on p-CuI/n-ZnO heterojunction for enhancing piezoelectric and piezo-phototronic performance. *Nano Energy*, **2016**, 26, 417-424	17.1	78
50	Flexible Self-Powered GaN Ultraviolet Photoswitch with Piezo-Phototronic Effect Enhanced On/Off Ratio. *ACS Nano*, **2016**, 10, 1572-9	16.7	161
49	Improvement in the Piezoelectric Performance of a ZnO Nanogenerator by a Combination of Chemical Doping and Interfacial Modification. *Journal of Physical Chemistry C*, **2016**, 120, 6971-6977	3.8	60
48	Triboelectric Nanogenerator as a Self-Powered Communication Unit for Processing and Transmitting Information. *ACS Nano*, **2016**, 10, 3944-50	16.7	47
47	Direct Observation of Magnetic Field Induced Ferroelectric Domain Evolution in Self-Assembled Quasi (0-3) BiFeO3-CoFe2O4 Thin Films. *ACS Applied Materials & Interfaces*, **2016**, 8, 442-8	9.5	23
46	Lattice Strain Induced Remarkable Enhancement in Piezoelectric Performance of ZnO-Based Flexible Nanogenerators. *ACS Applied Materials & Interfaces*, **2016**, 8, 1381-7	9.5	102
45	The thermal and electrical properties of the promising semiconductor MXene Hf2CO2. *Scientific Reports*, **2016**, 6, 27971	4.9	115
44	Self-Powered Random Number Generator Based on Coupled Triboelectric and Electrostatic Induction Effects at the Liquid-Dielectric Interface. *ACS Nano*, **2016**, 10, 11434-11441	16.7	23

43	High-resolution dynamic pressure sensor array based on piezo-phototronic effect tuned photoluminescence imaging. *ACS Nano*, **2015**, 9, 3143-50	16.7	94
42	Analytical insight into the oxygen diffusion in wetted porous cathodes of Li-air batteries. *Energy*, **2015**, 93, 416-420	7.9	11
41	Self-powered acoustic source locator in underwater environment based on organic film triboelectric nanogenerator. *Nano Research*, **2015**, 8, 765-773	10	56
40	A Flexible GaN Nanowire Array-Based Schottky-Type Visible Light Sensor with Strain-Enhanced Photoresponsivity. *Advanced Electronic Materials*, **2015**, 1, 1500169	6.4	27
39	Low frequency wideband nano generators for energy harvesting from natural environment. *Nano Energy*, **2014**, 6, 66-72	17.1	29
38	A self-powered AC magnetic sensor based on piezoelectric nanogenerator. *Nanotechnology*, **2014**, 25, 455503	3.4	10
37	Magnetic-mechanical-electrical-optical coupling effects in GaN-based LED/rare-earth terfenol-D structures. *Advanced Materials*, **2014**, 26, 6767-72	24	49
36	Thick lead-free ferroelectric films with high Curie temperatures through nanocomposite-induced strain. *Nature Nanotechnology*, **2011**, 6, 491-5	28.7	191
35	Differential-mode vibrational noise cancellation structure for Metglas/Pb(Zr,Ti)O$_3$ fiber magnetoelectric laminates. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, **2011**, 58, 1541-4	3.2	12
34	A chemical solution approach for superconducting and hard epitaxial NbC film. *Chemical Communications*, **2010**, 46, 7837-9	5.8	19
33	Polymer-embedded carbon nanotube ribbons for stretchable conductors. *Advanced Materials*, **2010** , 22, 3027-31	24	253
32	Investigation of external noise and its rejection in magnetoelectric sensor design. *Journal of Applied Physics*, **2009**, 106, 024512	2.5	33
31	Tunable features of magnetoelectric transformers. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, **2009**, 56, 1124-7	3.2	25
30	Magnetic-Field Sensitivity Enhancement by Magnetoelectric Sensor Arrays. *IEEE Electron Device Letters*, **2009**, 30, 445-447	4.4	23
29	Multimodal system for harvesting magnetic and mechanical energy. *Applied Physics Letters*, **2008**, 93, 103511	3.4	130
28	Thermal noise cancellation in symmetric magnetoelectric bimorph laminates. *Applied Physics Letters*, **2008**, 93, 072906	3.4	36
27	Equivalent circuit method for static and dynamic analysis of magnetoelectric laminated composites. *Science Bulletin*, **2008**, 53, 2113-2123	10.6	70
26	Magnetoelectric Laminate Composites: An Overview. *Journal of the American Ceramic Society*, **2008**, 91, 351-358	3.8	339

25	Dispersion characteristics for low-frequency magnetoelectric coefficients in bulk ferrite-piezoelectric composites. *Solid State Communications*, **2007**, 142, 515-518	1.6	12
24	Large magnetoelectric susceptibility: The fundamental property of piezoelectric and magnetostrictive laminated composites. *Journal of Applied Physics*, **2007**, 101, 014102	2.5	51
23	Giant magnetoelectric effect (under a dc magnetic bias of 2Oe) in laminate composites of FeBSiC alloy ribbons and Pb(Zn1/3,Nb2/3)O3-7%PbTiO3 fibers. *Applied Physics Letters*, **2007**, 91, 022915	3.4	78
22	Geomagnetic sensor based on giant magnetoelectric effect. *Applied Physics Letters*, **2007**, 91, 123513	3.4	74
21	Strong magnetoelectric charge coupling in stress-biased multilayer-piezoelectric/magnetostrictive composites. *Journal of Applied Physics*, **2007**, 101, 124102	2.5	31
20	Giant magnetoelectric effect in Metglas/polyvinylidene-fluoride laminates. *Applied Physics Letters*, **2006**, 89, 083507	3.4	208
19	A quasi(unidirectional) Tellegen gyrator. *Journal of Applied Physics*, **2006**, 100, 124509	2.5	58
18	Magnetoelectric gyration effect in Tb1-xDyxFe2-y/Pb(Zr,Ti)O3 laminated composites at the electromechanical resonance. *Applied Physics Letters*, **2006**, 89, 243512	3.4	78
17	Detection of pico-Tesla magnetic fields using magneto-electric sensors at room temperature. *Applied Physics Letters*, **2006**, 88, 062510	3.4	293
16	Enhanced magnetoelectric effect in three-phase MnZnFe2O4-Tb1-xDyxFe2-y/Pb(Zr,Ti)O3 composites. *Journal of Applied Physics*, **2006**, 100, 124108	2.5	30
15	Resonant bending mode of Terfenol-D/steel/Pb(Zr,Ti)O3 magnetoelectric laminate composites. *Applied Physics Letters*, **2006**, 89, 112911	3.4	65
14	Small dc magnetic field response of magnetoelectric laminate composites. *Applied Physics Letters*, **2006**, 88, 082907	3.4	128
13	Near-ideal magnetoelectricity in high-permeability magnetostrictive/piezofiber laminates with a (2-1) connectivity. *Applied Physics Letters*, **2006**, 89, 252904	3.4	312
12	Fe-Ga/Pb(Mg1/3Nb2/3)O3/PbTiO3 magnetoelectric laminate composites. *Applied Physics Letters*, **2005**, 87, 222504	3.4	61
11	Giant magnetoelectric effect in multiferroic laminated composites. *Physical Review B*, **2005**, 72,	3.3	93
10	Magnetostrictive and magnetoelectric behavior of Fe-20at.% Ga/Pb(Zr,Ti)O3 laminates. *Journal of Applied Physics*, **2005**, 97, 103902	2.5	65
9	Extremely low frequency response of magnetoelectric multilayer composites. *Applied Physics Letters*, **2005**, 86, 102901	3.4	85
8	Circumferential-mode, quasi-ring-type, magnetoelectric laminate composite: highly sensitive electric current and/or vortex magnetic field sensor. *Applied Physics Letters*, **2005**, 86, 182506	3.4	82

7	Magnetoelectric Laminate Composites：Enhanced Magnetic Field Sensitivity, and High Voltage Gain. *Materials Research Society Symposia Proceedings*, **2005**, 881, 1		
6	Coupled magnetodielectric properties of laminated PbZr0.53Ti0.47O3/NiFe2O4 ceramics. *Journal of Applied Physics*, **2004**, 95, 5685-5690	2.5	122
5	Magnetic-dielectric properties of NiFe2O4/PZT particulate composites. *Journal Physics D: Applied Physics*, **2004**, 37, 823-827	3	126
4	Large high-frequency magnetoelectric response in laminated composites of piezoelectric ceramics, rare-earth iron alloys and polymer. *Applied Physics Letters*, **2004**, 84, 3516-3518	3.4	102
3	Photoluminescence of nanosized Na0.5Bi0.5TiO3 synthesized by a sol–gel process. *Materials Letters*, **2004**, 58, 829-832	3.3	25
2	The magnetoelectric properties of lead zirconate titanate/terfenol-D/PVDF laminate composites. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **2003**, 99, 211-213	3.1	15
1	Recent Progress of Functional Fiber and Textile Triboelectric Nanogenerators: Towards Electricity Power Generation and Intelligent Sensing. *Advanced Fiber Materials*,1	10.9	14