Yuanyuan Shi

List of Publications by Year
in descending order

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64 papers	2,831 citations	279487 23 h-index	197535 49 g-index
65 all docs	65 docs citations	65 times ranked	3577 citing authors

#	Article	IF	Citations
1	Electronic synapses made of layered two-dimensional materials. Nature Electronics, 2018, 1, 458-465.	13.1	459
2	Recommended Methods to Study Resistive Switching Devices. Advanced Electronic Materials, 2019, 5, 1800143.	2.6	452
3	Coexistence of Grainâ€Boundariesâ€Assisted Bipolar and Threshold Resistive Switching in Multilayer Hexagonal Boron Nitride. Advanced Functional Materials, 2017, 27, 1604811.	7.8	229
4	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
5	Boron nitride as two dimensional dielectric: Reliability and dielectric breakdown. Applied Physics Letters, 2016, 108, .	1.5	98
6	On the use of two dimensional hexagonal boron nitride as dielectric. Microelectronic Engineering, 2016, 163, 119-133.	1.1	96
7	Resistive Random Access Memory Cells with a Bilayer TiO₂/SiO_X Insulating Stack for Simultaneous Filamentary and Distributed Resistive Switching. Advanced Functional Materials, 2017, 27, 1700384.	7.8	70
8	Advanced Data Encryption â€‹using 2D Materials. Advanced Materials, 2021, 33, e2100185.	11.1	67
9	Nanoscale characterization of PM2.5 airborne pollutants reveals high adhesiveness and aggregation capability of soot particles. Scientific Reports, 2015, 5, 11232.	1.6	61
10	Nano-carriers for targeted delivery and biomedical imaging enhancement. Therapeutic Delivery, 2018, 9, 451-468.	1.2	61
11	Engineering Field Effect Transistors with 2D Semiconducting Channels: Status and Prospects. Advanced Functional Materials, 2020, 30, 1901971.	7.8	58
12	Water oxidation electrocatalysis using ruthenium coordination oligomers adsorbed on multiwalled carbon nanotubes. Nature Chemistry, 2020, 12, 1060-1066.	6.6	54
13	Grapheneâ€“Boron Nitrideâ€“Graphene Cross-Point Memristors with Three Stable Resistive States. ACS Applied Materials & Interfaces, 2019, 11, 37999-38005.	4.0	52
14	Model for multi-filamentary conduction in graphene/hexagonal-boron-nitride/graphene based resistive switching devices. 2D Materials, 2017, 4, 025099.	2.0	51
15	Distinguishing Oxygen Vacancy Electromigration and Conductive Filament Formation in TiO₂ Resistance Switching Using Liquid Electrolyte Contacts. Nano Letters, 2017, 17, 4390-4399.	4.5	50
16	Dielectric Breakdown in Chemical Vapor Deposited Hexagonal Boron Nitride. ACS Applied Materials & Interfaces, 2017, 9, 39758-39770.	4.0	48
17	Synthesis of large-area multilayer hexagonal boron nitride sheets on iron substrates and its use in resistive switching devices. 2D Materials, 2018, 5, 031011.	2.0	45
18	2D h-BN based RRAM devices. , 2016, , .		33

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19	Moving graphene devices from lab to market: advanced graphene-coated nanoprobes. Nanoscale, 2016, 8, 8466-8473.	2.8	31
20	Ageing mechanisms of highly active and stable nickel-coated silicon photoanodes for water splitting. Journal of Materials Chemistry A, 2016, 4, 8053-8060.	5.2	29
21	CuO-Functionalized Silicon Photoanodes for Photoelectrochemical Water Splitting Devices. ACS Applied Materials & Interfaces, 2016, 8, 696-702.	4.0	29
22	Piezoelectricity in two dimensions: Graphene vs. molybdenum disulfide. Applied Physics Letters, 2017, 111, .	1.5	27
23	Memristive Electronic Synapses Made by Anodic Oxidation. Chemistry of Materials, 2019, 31, 8394-8401.	3.2	26
24	Engineering Wafer-Scale Epitaxial Two-Dimensional Materials through Sapphire Template Screening for Advanced High-Performance Nanoelectronics. ACS Nano, 2021, 15, 9482-9494.	7.3	26
25	3D Monolithic Stacked 1T1R cells using Monolayer MoS<inf>2</inf> FET and hBN RRAM Fabricated at Low (150Â°C) Temperature. , 2018, , .		25
26	Enhanced piezoelectric effect at the edges of stepped molybdenum disulfide nanosheets. Nanoscale, 2017, 9, 6237-6245.	2.8	24
27	Scaling the CBRAM Switching Layer Diameter to 30 nm Improves Cycling Endurance. IEEE Electron Device Letters, 2018, 39, 23-26.	2.2	24
28	Ageing mechanisms and reliability of graphene-based electrodes. Nano Research, 2014, 7, 1820-1831.	5.8	23
29	Electroforming in Metal-Oxide Memristive Synapses. ACS Applied Materials & Interfaces, 2020, 12, 11806-11814.	4.0	23
30	150Ânm Ã— 200Ânm Crossâ€Point Hexagonal Boron Nitrideâ€Based Memristors. Advanced Electronic Materials, 2020, 6, 1900115.	2.6	22
31	High-resolution characterization of hexagonal boron nitride coatings exposed to aqueous and air oxidative environments. Nano Research, 2017, 10, 2046-2055.	5.8	21
32	Substitution of native silicon oxide by titanium in Ni-coated silicon photoanodes for water splitting solar cells. Journal of Materials Chemistry A, 2017, 5, 1996-2003.	5.2	20
33	Fabrication of scalable and ultra low power photodetectors with high light/dark current ratios using polycrystalline monolayer MoS2 sheets. Nano Energy, 2016, 30, 494-502.	8.2	19
34	On the Limits of Scalpel AFM for the 3D Electrical Characterization of Nanomaterials. Advanced Functional Materials, 2018, 28, 1802266.	7.8	19
35	Coexistence of volatile and non-volatile resistive switching in 2D h-BN based electronic synapses. , 2017, , .		17
36	Variability of metal/h-BN/metal memristors grown via chemical vapor deposition on different materials. Microelectronics Reliability, 2019, 102, 113410.	0.9	17

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37	Aging of a Vanadium Precursor Solution: Influencing Material Properties and Photoelectrochemical Water Oxidation Performance of Solutionâ€Processed BiVO₄ Photoanodes. Advanced Functional Materials, 2020, 30, 1806662.	7.8	16
38	High Solar-to-Hydrogen Conversion Efficiency at pH 7 Based on a PV-EC Cell with an Oligomeric Molecular Anode. ACS Applied Materials & Interfaces, 2020, 12, 55856-55864.	4.0	16
39	Temperature of Conductive Nanofilaments in Hexagonal Boron Nitride Based Memristors Showing Threshold Resistive Switching. Advanced Electronic Materials, 2022, 8, 2100580.	2.6	16
40	Graphene Coated Nanoprobes: A Review. Crystals, 2017, 7, 269.	1.0	15
41	(Invited) Elucidating the Origin of Resistive Switching in Ultrathin Hafnium Oxides through High Spatial Resolution Tools. ECS Transactions, 2014, 64, 19-28.	0.3	13
42	In Situ Demonstration of the Link Between Mechanical Strength and Resistive Switching in Resistive Randomâ€Access Memories. Advanced Electronic Materials, 2015, 1, 1400058.	2.6	13
43	Photo-electrochemical water splitting in silicon based photocathodes enhanced by plasmonic/catalytic nanostructures. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2017, 225, 128-133.	1.7	13
44	Bimodal Dielectric Breakdown in Electronic Devices Using Chemical Vapor Deposited Hexagonal Boron Nitride as Dielectric. Advanced Electronic Materials, 2018, 4, 1700506.	2.6	13
45	Sources of variability in scaled MoS₂ FETs. , 2020, , .		11
46	Mechanical properties of locally oxidized graphene electrodes. Archive of Applied Mechanics, 2015, 85, 339-345.	1.2	8
47	Experimental Observation and Mitigation of Dielectric Screening in Hexagonal Boron Nitride Based Resistive Switching Devices. Crystal Research and Technology, 2018, 53, 1800006.	0.6	8
48	Transmission Electron Microscopyâ€Based Statistical Analysis of Commercially Available Graphene Oxide Quantum Dots. Crystal Research and Technology, 2020, 55, 1900231.	0.6	8
49	Superior electrostatic control in uniform monolayer MoS₂ scaled transistors via in-situ surface smoothening. , 2021, , .		8
50	Variability of graphene devices fabricated using graphene inks: Atomic force microscope tips. Surface and Coatings Technology, 2017, 320, 391-395.	2.2	6
51	Note: Fabrication of a fast-response and user-friendly environmental chamber for atomic force microscopes. Review of Scientific Instruments, 2015, 86, 106105.	0.6	5
52	Dual gate synthetic MoS₂ MOSFETs with 4.56ÂµF/cm² channel capacitance, 320ÂµS/Âµm Gm and 420 ÂµA/Âµm Id at 1V Vd/100nm Lg. , 2021, , .		5
53	Characterization of the photocurrents generated by the laser of atomic force microscopes. Review of Scientific Instruments, 2016, 87, 083703.	0.6	4
54	Resistive Switching: Coexistence of Grainâ€Boundariesâ€Assisted Bipolar and Threshold Resistive Switching in Multilayer Hexagonal Boron Nitride (Adv. Funct. Mater. 10/2017). Advanced Functional Materials, 2017, 27, .	7.8	4

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55	Potassium Hydroxide Mixed with Lithium Hydroxide: An Advanced Electrolyte for Oxygen Evolution Reaction. Solar Rrl, 2019, 3, 1900195.	3.1	4
56	ALD Encapsulation of CVD WS2 for Stable and High-Performance FET Devices. , 2021, , .		3
57	On the ageing mechanisms of graphene-on-metal electrodes. , 2015, , .		2
58	Enhanced reliability of hexagonal boron nitride dielectric stacks due to high thermal conductivity. , 2018, , .		1
59	Tristate Resistive Switching in Heterogenous Van Der Waals Dielectric Structures. , 2019, , .		1
60	New insights on the origin of Resistive switching in HfO<inf>2</inf> thin films: The role of local mechanical strength. , 2015, , .		0
61	Nanoscale homogeneity and degradation process of two dimensional atomically thin hexagonal boron nitride dielectric stacks. , 2016, , .		0
62	Using Liquid Electrolytes in Dielectric Reliability Studies. , 2018, , .		0
63	Uniformity of Multilayer Hexagonal Boron Nitride Dielectric Stacks Grown by Chemical Vapor Deposition on Platinum and Copper Substrates. , 2018, , .		0
64	Field Effect Transistors: Engineering Field Effect Transistors with 2D Semiconducting Channels: Status and Prospects (Adv. Funct. Mater. 18/2020). Advanced Functional Materials, 2020, 30, 2070116.	7.8	0