

# Wenrui Zhang

## List of Publications by Year in descending order

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84  
papers

3,366  
citations

136740

32  
h-index

149479

56  
g-index

86  
all docs

86  
docs citations

86  
times ranked

4622  
citing authors

#	ARTICLE	IF	CITATIONS
1	Antibacterial nano-structured titania coating incorporated with silver nanoparticles. <i>Biomaterials</i> , 2011, 32, 5706-5716.	5.7	670
2	Strongly enhanced oxygen ion transport through samarium-doped CeO <sub>2</sub> nanopillars in nanocomposite films. <i>Nature Communications</i> , 2015, 6, 8588.	5.8	145
3	Interfacial coupling in heteroepitaxial vertically aligned nanocomposite thin films: From lateral to vertical control. <i>Current Opinion in Solid State and Materials Science</i> , 2014, 18, 6-18.	5.6	98
4	Strongly enhanced dielectric and energy storage properties in lead-free perovskite titanate thin films by alloying. <i>Nano Energy</i> , 2018, 45, 398-406.	8.2	95
5	Self-Assembled Epitaxial Au@Oxide Vertically Aligned Nanocomposites for Nanoscale Metamaterials. <i>Nano Letters</i> , 2016, 16, 3936-3943.	4.5	91
6	Ionic Conductivity Increased by Two Orders of Magnitude in Micrometer-Thick Vertical Yttria-Stabilized ZrO <sub>2</sub> Nanocomposite Films. <i>Nano Letters</i> , 2015, 15, 7362-7369.	4.5	90
7	Strong oxygen pressure dependence of ferroelectricity in BaTiO <sub>3</sub> /SrRuO <sub>3</sub> /SrTiO <sub>3</sub> epitaxial heterostructures. <i>Journal of Applied Physics</i> , 2013, 114, .	1.1	88
8	Continuous Tuning of Phase Transition Temperature in VO <sub>2</sub> Thin Films on c-Cut Sapphire Substrates via Strain Variation. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 5319-5327.	4.0	87
9	Role of scaffold network in controlling strain and functionalities of nanocomposite films. <i>Science Advances</i> , 2016, 2, e1600245.	4.7	80
10	Novel Electroforming-Free Nanoscaffold Memristor with Very High Uniformity, Tunability, and Density. <i>Advanced Materials</i> , 2014, 26, 6284-6289.	11.1	75
11	Superior corrosion resistance properties of TiN-based coatings on Zircaloy tubes in supercritical water. <i>Journal of Nuclear Materials</i> , 2014, 451, 346-351.	1.3	71
12	Multifunctional, self-assembled oxide nanocomposite thin films and devices. <i>MRS Bulletin</i> , 2015, 40, 736-745.	1.7	70
13	Unconventional Relation between Charge Transport and Photocurrent via Boosting Small Polaron Hopping for Photoelectrochemical Water Splitting. <i>ACS Energy Letters</i> , 2018, 3, 2232-2239.	8.8	61
14	Integration of Self-Assembled Vertically Aligned Nanocomposite (La <sub>0.7</sub> Sr <sub>0.3</sub> MnO <sub>3</sub> ) <sub>1-x</sub> :(ZnO) <sub>x</sub> Thin Films on Silicon Substrates. <i>ACS Applied Materials &amp; Interfaces</i> , 2013, 5, 3995-3999.	4.0	58
15	Strain Tuning and Strong Enhancement of Ionic Conductivity in SrZrO <sub>3</sub> @RE <sub>2</sub> O <sub>3</sub> (RE = Sm, Eu, Gd, Dy, and Er) Nanocomposite Films. <i>Advanced Functional Materials</i> , 2015, 25, 4328-4333.	7.8	54
16	Sharp semiconductor-to-metal transition of VO <sub>2</sub> thin films on glass substrates. <i>Journal of Applied Physics</i> , 2013, 114, .	1.1	52
17	Couplings of Polarization with Interfacial Deep Trap and Schottky Interface Controlled Ferroelectric Memristive Switching. <i>Advanced Functional Materials</i> , 2020, 30, 2000664.	7.8	50
18	Roles of grain boundaries on the semiconductor to metal phase transition of VO <sub>2</sub> thin films. <i>Applied Physics Letters</i> , 2015, 107, .	1.5	48

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19	Ferroelectric Properties of Vertically Aligned Nanostructured BaTiO <sub>3</sub> –CeO <sub>2</sub> Thin Films and Their Integration on Silicon. ACS Applied Materials & Interfaces, 2013, 5, 12541-12547.	4.0	47
20	Strain relaxation and enhanced perpendicular magnetic anisotropy in BiFeO <sub>3</sub> :CoFe <sub>2</sub> O <sub>4</sub> vertically aligned nanocomposite thin films. Applied Physics Letters, 2014, 104, .	1.5	45
21	Single-Crystalline Thin Films for Studying Intrinsic Properties of BiFeO <sub>3</sub> –SrTiO <sub>3</sub> Solid Solution Photoelectrodes in Solar Energy Conversion. Chemistry of Materials, 2015, 27, 6635-6641.	3.2	44
22	Vertical-Interface-Manipulated Conduction Behavior in Nanocomposite Oxide Thin Films. ACS Applied Materials & Interfaces, 2014, 6, 5356-5361.	4.0	43
23	Strong perpendicular exchange bias in epitaxial La <sub>0.7</sub> Sr <sub>0.3</sub> MnO <sub>3</sub> :BiFeO <sub>3</sub> nanocomposite films through vertical interfacial coupling. Nanoscale, 2015, 7, 13808-13815.	2.8	43
24	Textured metastable VO <sub>2</sub> (B) thin films on SrTiO <sub>3</sub> substrates with significantly enhanced conductivity. Applied Physics Letters, 2014, 104, .	1.5	41
25	Perpendicular Exchange-Biased Magnetotransport at the Vertical Heterointerfaces in La <sub>0.7</sub> Sr <sub>0.3</sub> MnO <sub>3</sub> :NiO Nanocomposites. ACS Applied Materials & Interfaces, 2015, 7, 21646-21651.	4.0	40
26	Ultrathin Lutetium Oxide Film as an Epitaxial Hole-Blocking Layer for Crystalline Bismuth Vanadate Water Splitting Photoanodes. Advanced Functional Materials, 2018, 28, 1705512.	7.8	40
27	Self-Assembled Magnetic Metallic Nanopillars in Ceramic Matrix with Anisotropic Magnetic and Electrical Transport Properties. ACS Applied Materials & Interfaces, 2016, 8, 20283-20291.	4.0	39
28	Quasi-Aligned Ag-Nb <sub>2</sub> O <sub>5</sub> Nanobelt Arrays with Enhanced Photocatalytic and Antibacterial Activities. Journal of the American Ceramic Society, 2011, 94, 2330-2338.	1.9	37
29	Interstitial Lithium Doping in BiVO <sub>4</sub> Thin Film Photoanode for Enhanced Solar Water Splitting Activity. Chemistry of Materials, 2020, 32, 6401-6409.	3.2	37
30	Optical limiting properties in copper oxide thin films under a high-repetition-rate femtosecond laser. Materials Letters, 2013, 91, 319-322.	1.3	35
31	Anomalous Conductivity Tailored by Domain-Boundary Transport in Crystalline Bismuth Vanadate Photoanodes. Chemistry of Materials, 2018, 30, 1677-1685.	3.2	35
32	Magnetotransport properties of quasi-one-dimensionally channeled vertically aligned heteroepitaxial nanomazes. Applied Physics Letters, 2013, 102, .	1.5	34
33	Evolution of microstructure, strain and physical properties in oxide nanocomposite films. Scientific Reports, 2014, 4, 5426.	1.6	33
34	Mechanistic Insights into Defect-Assisted Carrier Transport in Bismuth Vanadate Photoanodes. Journal of Physical Chemistry C, 2019, 123, 20730-20736.	1.5	32
35	Study of the Flux Pinning Landscape of YBCO Thin Films With Single and Mixed Phase Additions BaMO <sub>3</sub> + Z: M = Hf, Sn, Zr and Z = Y <sub>2</sub> O <sub>3</sub> , Y <sub>2</sub> 11. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-5.	1.1	31
36	Research Updates: Epitaxial strain relaxation and associated interfacial reconstructions: The driving force for creating new structures with integrated functionality. APL Materials, 2013, 1, .	2.2	29

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37	Heterointerface design and strain tuning in epitaxial BiFeO <sub>3</sub> :CoFe <sub>2</sub> O <sub>4</sub> nanocomposite films. Applied Physics Letters, 2015, 107, .	1.5	27
38	Microscopic adaptation of BaHfO <sub>3</sub> and Y <sub>2</sub> O <sub>3</sub> artificial pinning centers for strong and isotropic pinning landscape in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-<math>\delta</math></sub> thin films. Superconductor Science and Technology, 2018, 31, 025008.	1.8	27
39	Enhanced tunable magnetoresistance properties over a wide temperature range in epitaxial (La <sub>0.7</sub> Sr <sub>0.3</sub> MnO <sub>3</sub> ) <sub>1-x</sub> (CeO <sub>2</sub> ) <sub>x</sub> nanocomposites. Journal of Applied Physics, 2015, 118, .	1.1	26
40	Aqueous Solution-Deposited Molybdenum Oxide Films as an Anode Interfacial Layer for Organic Solar Cells. ACS Applied Materials & Interfaces, 2015, 7, 18218-18224.	4.0	26
41	Two-Dimensional Layered Oxide Structures Tailored by Self-Assembled Layer Stacking via Interfacial Strain. ACS Applied Materials & Interfaces, 2016, 8, 16845-16851.	4.0	26
42	Turning antiferromagnetic Sm <sub>0.34</sub> Sr <sub>0.66</sub> MnO <sub>3</sub> into a 140 K ferromagnet using a nanocomposite strain tuning approach. Nanoscale, 2016, 8, 8083-8090.	2.8	25
43	Novel Layered Supercell Structure from Bi <sub>2</sub> AlMnO <sub>6</sub> for Multifunctionalities. Nano Letters, 2017, 17, 6575-6582.	4.5	25
44	Fast-Response Amorphous Ga <sub>2</sub> O <sub>3</sub> Solar-Blind Ultraviolet Photodetectors Tuned by a Polar AlN Template. IEEE Electron Device Letters, 2022, 43, 68-71.	2.2	24
45	Unravelling Photocarrier Dynamics beyond the Space Charge Region for Photoelectrochemical Water Splitting. Chemistry of Materials, 2017, 29, 4036-4043.	3.2	23
46	Modulating Carrier Transport via Defect Engineering in Solar Water Splitting Devices. ACS Energy Letters, 2019, 4, 834-843.	8.8	23
47	Role of boundaries on low-field magnetotransport properties of La <sub>0.7</sub> Sr <sub>0.3</sub> MnO <sub>3</sub> -based nanocomposite thin films. Journal of Materials Research, 2013, 28, 1707-1714.	1.2	22
48	Strain and Interface Effects in a Novel Bismuth-Based Self-Assembled Supercell Structure. ACS Applied Materials & Interfaces, 2015, 7, 11631-11636.	4.0	22
49	Strong perpendicular exchange bias in epitaxial La <sub>0.7</sub> Sr <sub>0.3</sub> MnO <sub>3</sub> :LaFeO <sub>3</sub> nanocomposite thin films. APL Materials, 2016, 4, .	2.2	22
50	Very high commutation quality factor and dielectric tunability in nanocomposite SrTiO <sub>3</sub> thin films with $\epsilon_r$ enhanced to $>300$ Å°C. Nanoscale, 2018, 10, 3460-3468.	2.8	22
51	Applying Configurational Complexity to the 2D Ruddlesden-Popper Crystal Structure. ACS Nano, 2020, 14, 13030-13037.	7.3	21
52	Influence of Structure Parameters and Crystalline Phase on the Photocatalytic Activity of TiO <sub>2</sub> Nanotube Arrays. Journal of Nanoscience and Nanotechnology, 2011, 11, 11200-11205.	0.9	20
53	Nanopillar Spin Filter Tunnel Junctions with Manganite Barriers. Nano Letters, 2014, 14, 2789-2793.	4.5	20
54	Transformational dynamics of BZO and BHO nanorods imposed by Y <sub>2</sub> O <sub>3</sub> nanoparticles for improved isotropic pinning in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-<math>\delta</math></sub> thin films. AIP Advances, 2017, 7, .	0.6	20

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55	Room temperature fabrication and post-annealing treatment of amorphous Ga <sub>2</sub> O <sub>3</sub> photodetectors for deep-ultraviolet light detection. Applied Physics Express, 2022, 15, 022007.	1.1	19
56	Ferroelectric Sm-Doped BiMnO <sub>3</sub> Thin Films with Ferromagnetic Transition Temperature Enhanced to 140 K. ACS Applied Materials & Interfaces, 2014, 6, 14836-14843.	4.0	18
57	Enhanced Flux Pinning Properties in Self-Assembled Magnetic $\text{CoFe}_2\text{O}_4$ Nanoparticles Doped $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ Thin Films. IEEE Transactions on Applied Superconductivity, 2013, 23, 8001204-8001204.	1.1	16
58	Manipulating leakage behavior via distribution of interfaces in oxide thin films. Applied Physics Letters, 2014, 105, 072907.	1.5	15
59	Strongly Bias-Dependent Tunnel Magnetoresistance in Manganite Spin Filter Tunnel Junctions. Advanced Materials, 2015, 27, 3079-3084.	11.1	15
60	Hydrothermal growth of ZnO nanowire arrays: fine tuning by precursor supersaturation. CrystEngComm, 2017, 19, 584-591.	1.3	15
61	Manipulating multiple order parameters via oxygen vacancies: The case of $\text{E}_{\text{u}}\text{B}_{0.5}\text{Ti}$	1.1	15
62	Near band edge photoluminescence of ZnO nanowires: Optimization via surface engineering. Applied Physics Letters, 2017, 111, 231901.	1.5	15
63	New aspects of improving the performance of WO <sub>3</sub> thin films for photoelectrochemical water splitting by tuning the ultrathin depletion region. RSC Advances, 2019, 9, 899-905.	1.7	14
64	Information-Theoretic Intrinsic Plasticity for Online Unsupervised Learning in Spiking Neural Networks. Frontiers in Neuroscience, 2019, 13, 31.	1.4	14
65	Ultrathin Amorphous Titania on Nanowires: Optimization of Conformal Growth and Elucidation of Atomic-Scale Motifs. Nano Letters, 2019, 19, 3457-3463.	4.5	14
66	Arrays of nanofibers composed of a TiC core and a carbon coating for sensitive electrochemical detection of hydrazine. Mikrochimica Acta, 2011, 175, 137-143.	2.5	13
67	Resolving the Evolution of Atomic Layer-Deposited Thin-Film Growth by Continuous <i>In Situ</i> X-Ray Absorption Spectroscopy. Chemistry of Materials, 2021, 33, 1740-1751.	3.2	13
68	Stabilizing new bismuth compounds in thin film form. Journal of Materials Research, 2016, 31, 3530-3537.	1.2	8
69	Engineering the structural, plasmonic, and optical properties of multilayered aluminum-doped zinc oxide metamaterial grown by pulsed laser deposition. Applied Optics, 2019, 58, 5681.	0.9	8
70	Non-equilibrium epitaxy of metastable polymorphs of ultrawide-bandgap gallium oxide. Applied Physics Letters, 2022, 120, .	1.5	8
71	Comparison Study of the Flux Pinning Enhancement of YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-<math>\delta</math></sub> Thin Films With BaHfO <sub>3</sub> + Y <sub>2</sub> O <sub>3</sub> Single- and Mixed-Phase Additions. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-5.	1.1	7
72	Multicomponent Oxynitride Thin Films: Precise Growth Control and Excited State Dynamics. Chemistry of Materials, 2019, 31, 3461-3467.	3.2	7

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73	Exotic Long-Range Surface Reconstruction on $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ Thin Films. ACS Applied Materials & Interfaces, 2021, 13, 9166-9173.	4.0	6
74	Manipulating redox reaction during pulsed laser deposition. Journal of Applied Physics, 2015, 118, .	1.1	5
75	Unusual electrical conductivity driven by localized stoichiometry modification at vertical epitaxial interfaces. Materials Horizons, 2020, 7, 3217-3225.	6.4	5
76	A zwitterionic serine modified chitosan derivative for improving protein stability and activity. International Journal of Biological Macromolecules, 2020, 163, 1738-1746.	3.6	5
77	Epitaxial Growth and Stoichiometry Control of Ultrawide Bandgap $\text{ZnGa}_2\text{O}_4$ Films by Pulsed Laser Deposition. Coatings, 2021, 11, 782.	1.2	5
78	Multiple Linear Regression Haze-Removal Model Based on Dark Channel Prior. , 2018, , .		4
79	The influence of <i>in situ</i> ozone on structure and transport properties for perovskite stannate La-doped $\text{BaSnO}_3$ epitaxial films. Applied Physics Letters, 2022, 120, .	1.5	4
80	Thin-film synthesis of superconductor-on-insulator $\text{A}_{15}$ vanadium silicide. Scientific Reports, 2021, 11, 2358.	1.6	3
81	Exploring the Spatial Control of Topotactic Phase Transitions Using Vertically Oriented Epitaxial Interfaces. Nano-Micro Letters, 2022, 14, 2.	14.4	3
82	Enhanced Flux Pinning Properties in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ / $\text{CoFe}_2\text{O}_4$ / $\text{CeO}_2$ Multilayer Thin Films. IEEE Transactions on Applied Superconductivity, 2015, 25, 1-4.	1.1	2
83	Atomic-scale EDS Mapping for Chemical Imaging and Quantification of Interdiffusion in Self-assembled Vertically Aligned Nanocomposite Thin Films. Microscopy and Microanalysis, 2015, 21, 2249-2250.	0.2	0
84	Structural and optical characterization of highly anisotropic low loss $\text{Al:ZnO/ZnO}$ multilayered metamaterial with hyperbolic dispersion grown by pulsed layer deposition. , 2017, , .		0