

# Zhenhai Yang

## List of Publications by Citations

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papers

1,944  
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24  
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88  
ext. papers

2,377  
ext. citations

8.9  
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4.93  
L-index

#	Paper	IF	Citations
86	Large-Area Nanosphere Self-Assembly by a Micro-Propulsive Injection Method for High Throughput Periodic Surface Nanotexturing. <i>Nano Letters</i> , <b>2015</b> , 15, 4591-8	11.5	158
85	Realization of 13.6% Efficiency on 20 $\mu\text{m}$ Thick Si/Organic Hybrid Heterojunction Solar Cells via Advanced Nanotexturing and Surface Recombination Suppression. <i>ACS Nano</i> , <b>2015</b> , 9, 6522-31	16.7	107
84	Silicon/Organic Hybrid Solar Cells with 16.2% Efficiency and Improved Stability by Formation of Conformal Heterojunction Coating and Moisture-Resistant Capping Layer. <i>Advanced Materials</i> , <b>2017</b> , 29, 1606321	24	104
83	Dopant-Free and Carrier-Selective Heterocontacts for Silicon Solar Cells: Recent Advances and Perspectives. <i>Advanced Science</i> , <b>2018</b> , 5, 1700547	13.6	70
82	Adsorption and co-adsorption of graphene oxide and Ni(II) on iron oxides: A spectroscopic and microscopic investigation. <i>Environmental Pollution</i> , <b>2018</b> , 233, 125-131	9.3	68
81	High-Efficiency Silicon/Organic Heterojunction Solar Cells with Improved Junction Quality and Interface Passivation. <i>ACS Nano</i> , <b>2016</b> , 10, 11525-11531	16.7	65
80	Tuning of the Contact Properties for High-Efficiency Si/PEDOT:PSS Heterojunction Solar Cells. <i>ACS Energy Letters</i> , <b>2017</b> , 2, 556-562	20.1	64
79	Macroscopic and spectroscopic studies of the enhanced scavenging of Cr(VI) and Se(VI) from water by titanate nanotube anchored nanoscale zero-valent iron. <i>Journal of Hazardous Materials</i> , <b>2017</b> , 336, 214-221	12.8	63
78	Enhanced Electro-Optical Properties of Nanocone/Nanopillar Dual-Structured Arrays for Ultrathin Silicon/Organic Hybrid Solar Cell Applications. <i>Advanced Energy Materials</i> , <b>2016</b> , 6, 1501793	21.8	61
77	Heterojunction solar cells with asymmetrically carrier-selective contact structure of molybdenum-oxide/silicon/magnesium-oxide. <i>Solar Energy</i> , <b>2018</b> , 159, 704-709	6.8	55
76	Carrier transport through the ultrathin silicon-oxide layer in tunnel oxide passivated contact (TOPCon) c-Si solar cells. <i>Solar Energy Materials and Solar Cells</i> , <b>2018</b> , 187, 113-122	6.4	52
75	Rambutan-like hollow carbon spheres decorated with vacancy-rich nickel oxide for energy conversion and storage <b>2020</b> , 2, 122-130		50
74	Over 16.7% Efficiency Organic-Silicon Heterojunction Solar Cells with Solution-Processed Dopant-Free Contacts for Both Polarities. <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1802192	15.6	44
73	Dual Functional Electron-Selective Contacts Based on Silicon Oxide/Magnesium: Tailoring Heterointerface Band Structures while Maintaining Surface Passivation. <i>Advanced Energy Materials</i> , <b>2018</b> , 8, 1702921	21.8	43
72	Optimizing ultrathin Ag films for high performance oxide-metal-oxide flexible transparent electrodes through surface energy modulation and template-stripping procedures. <i>Scientific Reports</i> , <b>2017</b> , 7, 44576	4.9	41
71	Efficient light trapping in low aspect-ratio honeycomb nanobowl surface texturing for crystalline silicon solar cell applications. <i>Applied Physics Letters</i> , <b>2013</b> , 103, 253105	3.4	40
70	Engineering of hole-selective contact for high-performance perovskite solar cell featuring silver back-electrode. <i>Journal of Materials Science</i> , <b>2019</b> , 54, 7789-7797	4.3	37

69	Highly efficient non-fullerene polymer solar cells enabled by novel non-conjugated small-molecule cathode interlayers. <i>Journal of Materials Chemistry A</i> , <b>2018</b> , 6, 6327-6334	13	35
68	Tunable THz Multiband Frequency-Selective Surface Based on Hybrid Metal-Graphene Structures. <i>IEEE Nanotechnology Magazine</i> , <b>2017</b> , 16, 1132-1137	2.6	32
67	High-efficiency photon capturing in ultrathin silicon solar cells with front nanobowl texture and truncated-nanopyramid reflector. <i>Optics Letters</i> , <b>2015</b> , 40, 1077-80	3	30
66	Device physics of back-contact perovskite solar cells. <i>Energy and Environmental Science</i> , <b>2020</b> , 13, 1753-1765	3.4	30
65	Ideal rear contact formed via employing a conjugated polymer for Si/PEDOT:PSS hybrid solar cells. <i>RSC Advances</i> , <b>2016</b> , 6, 16010-16017	3.7	29
64	Scattering effect of the high-index dielectric nanospheres for high performance hydrogenated amorphous silicon thin-film solar cells. <i>Scientific Reports</i> , <b>2016</b> , 6, 30503	4.9	27
63	Heterojunction Hybrid Solar Cells by Formation of Conformal Contacts between PEDOT:PSS and Periodic Silicon Nanopyramid Arrays. <i>Small</i> , <b>2018</b> , 14, e1704493	11	24
62	Stabilizing FCSPI Perovskite via Phenylethylammonium for Efficient Solar Cells with Open-Circuit Voltage over 1.3V. <i>Small</i> , <b>2020</b> , 16, e2005246	11	24
61	Omnidirectional absorption enhancement of symmetry-broken crescent-deformed single-nanowire photovoltaic cells. <i>Nano Energy</i> , <b>2015</b> , 13, 9-17	17.1	23
60	SnO <sub>2</sub> surface defects tuned by (NH <sub>4</sub> ) <sub>2</sub> S for high-efficiency perovskite solar cells. <i>Solar Energy</i> , <b>2019</b> , 194, 541-547	6.8	23
59	Ultrathin silicon oxide prepared by in-line plasma-assisted N <sub>2</sub> O oxidation (PANO) and the application for n-type polysilicon passivated contact. <i>Solar Energy Materials and Solar Cells</i> , <b>2020</b> , 208, 110389	6.4	22
58	Broadband and wide-angle light harvesting by ultra-thin silicon solar cells with partially embedded dielectric spheres. <i>Optics Letters</i> , <b>2016</b> , 41, 1329-32	3	22
57	Improvement of Surface Passivation of Tunnel Oxide Passivated Contact Structure by Thermal Annealing in Mixture of Water Vapor and Nitrogen Environment. <i>Solar Rrl</i> , <b>2019</b> , 3, 1900105	7.1	20
56	Optical design and optimization for back-contact perovskite solar cells. <i>Solar Energy</i> , <b>2020</b> , 201, 84-91	6.8	20
55	Achieving a Record Fill Factor for Silicon/Organic Hybrid Heterojunction Solar Cells by Using a Full-Area Metal Polymer Nanocomposite Top Electrode. <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1705425	15.6	20
54	UV-Raman scattering of thin film Si with ultrathin silicon oxide tunnel contact for high efficiency crystal silicon solar cells. <i>Solar Energy Materials and Solar Cells</i> , <b>2019</b> , 192, 154-160	6.4	20
53	An Expanded Cox and Strack Method for Precise Extraction of Specific Contact Resistance of Transition Metal Oxide/n-Silicon Heterojunction. <i>IEEE Journal of Photovoltaics</i> , <b>2019</b> , 9, 1113-1120	3.7	19
52	Fully Coupled Multiphysics Simulation of Crosstalk Effect in Bipolar Resistive Random Access Memory. <i>IEEE Transactions on Electron Devices</i> , <b>2017</b> , 64, 3647-3653	2.9	19

51	Excellent Passivation of Silicon Surfaces by Thin Films of Electron-Beam-Processed Titanium Dioxide. <i>IEEE Journal of Photovoltaics</i> , <b>2017</b> , 7, 1551-1555	3.7	18
50	Optoelectronic Evaluation and Loss Analysis of PEDOT:PSS/Si Hybrid Heterojunction Solar Cells. <i>Nanoscale Research Letters</i> , <b>2017</b> , 12, 26	5	17
49	High-Performance Black Multicrystalline Silicon Solar Cells by a Highly Simplified Metal-Catalyzed Chemical Etching Method. <i>IEEE Journal of Photovoltaics</i> , <b>2016</b> , 6, 888-893	3.7	17
48	Realization of interdigitated back contact silicon solar cells by using dopant-free heterocontacts for both polarities. <i>Nano Energy</i> , <b>2018</b> , 50, 777-784	17.1	17
47	A low-temperature TiO <sub>2</sub> /SnO <sub>2</sub> electron transport layer for high-performance planar perovskite solar cells. <i>Science China Materials</i> , <b>2020</b> , 63, 207-215	7.1	16
46	Comparison of different types of interfacial oxides on hole-selective p <sup>+</sup> -poly-Si passivated contacts for high-efficiency c-Si solar cells. <i>Solar Energy Materials and Solar Cells</i> , <b>2020</b> , 210, 110487	6.4	15
45	Hole selective materials and device structures of heterojunction solar cells: Recent assessment and future trends. <i>APL Materials</i> , <b>2019</b> , 7, 110701	5.7	15
44	TiO <sub>2</sub> Films from the Low-Temperature Oxidation of Ti as Passivating-Contact Layers for Si Heterojunction Solar Cells. <i>Solar Rrl</i> , <b>2017</b> , 1, 1700154	7.1	15
43	Double-Layered PEDOT:PSS Films Inducing Strong Inversion Layers in Organic/Silicon Hybrid Heterojunction Solar Cells. <i>ACS Applied Energy Materials</i> , <b>2018</b> , 1, 2874-2881	6.1	15
42	Opto-electric investigation for Si/organic heterojunction single-nanowire solar cells. <i>Scientific Reports</i> , <b>2017</b> , 7, 14575	4.9	14
41	High Performance Dye-Sensitized Solar Cells with Enhanced Light-Harvesting Efficiency Based on Polyvinylpyrrolidone-Coated Au-TiO <sub>2</sub> Microspheres. <i>ChemSusChem</i> , <b>2016</b> , 9, 720-7	8.3	14
40	Single-crystalline TiO nanoparticles for stable and efficient perovskite modules.. <i>Nature Nanotechnology</i> , <b>2022</b> ,	28.7	13
39	In-situ phosphorus-doped polysilicon prepared using rapid-thermal anneal (RTA) and its application for polysilicon passivated-contact solar cells. <i>Solar Energy Materials and Solar Cells</i> , <b>2020</b> , 210, 110518	6.4	11
38	Enhanced Photoelectrical Response of Hydrogenated Amorphous Silicon Single-Nanowire Solar Cells by Front-Opening Crescent Design. <i>Nanoscale Research Letters</i> , <b>2016</b> , 11, 233	5	11
37	Electron-Selective Scandium Tunnel Oxide Passivated Contact for n-Type Silicon Solar Cells. <i>Solar Rrl</i> , <b>2018</b> , 2, 1800071	7.1	11
36	Si/PEDOT:PSS Hybrid Solar Cells with Advanced Antireflection and Back Surface Field Designs. <i>Nanoscale Research Letters</i> , <b>2016</b> , 11, 356	5	11
35	Polarity Control of GaN and Realization of GaN Schottky Barrier Diode Based on Lateral Polarity Structure. <i>IEEE Transactions on Electron Devices</i> , <b>2017</b> , 64, 4424-4429	2.9	10
34	Photoinduced Field-Effect Passivation from Negative Carrier Accumulation for High-Efficiency Silicon/Organic Heterojunction Solar Cells. <i>ACS Nano</i> , <b>2017</b> , 11, 12687-12695	16.7	10

33	Study on High-Density Integration Resistive Random Access Memory Array From Multiphysics Perspective by Parallel Computing. <i>IEEE Transactions on Electron Devices</i> , <b>2019</b> , 66, 1747-1753	2.9	9
32	TiO hierarchical sub-wavelength microspheres for high efficiency dye-sensitized solar cells. <i>Physical Chemistry Chemical Physics</i> , <b>2016</b> , 18, 32293-32301	3.6	9
31	Impact of key geochemical parameters on the attenuation of Pb(II) from water using a novel magnetic nanocomposite: fulvic acid-coated magnetite nanoparticles. <i>Desalination and Water Treatment</i> , <b>2016</b> , 57, 26063-26072		9
30	Unlocking Voltage Potentials of Mixed-Halide Perovskite Solar Cells via Phase Segregation Suppression. <i>Advanced Functional Materials</i> , 2110698	15.6	8
29	Hard mask processing of 20% efficiency back-contacted silicon solar cells with dopant-free heterojunctions. <i>Nano Energy</i> , <b>2019</b> , 66, 104116	17.1	7
28	Dual-functional carbon-doped polysilicon films for passivating contact solar cells: regulating physical contacts while promoting photoelectrical properties. <i>Energy and Environmental Science</i> ,	35.4	7
27	Design Principles of Silicon Heterojunction Solar Cells with Dopant-Free Interdigitated Back Contacts. <i>Solar Rrl</i> , <b>2019</b> , 3, 1900230	7.1	6
26	Enhanced perovskite crystallization by the polyvinylpyrrolidone additive for high efficiency solar cells. <i>Sustainable Energy and Fuels</i> , <b>2019</b> , 3, 3448-3454	5.8	6
25	Synergistic effect of TiO <sub>2</sub> hierarchical submicrospheres for high performance dye-sensitized solar cells. <i>Science China Chemistry</i> , <b>2017</b> , 60, 822-828	7.9	5
24	Fully Coupled Electrothermal Simulation of Large RRAM Arrays in the Thermal-House. <i>IEEE Access</i> , <b>2019</b> , 7, 3897-3908	3.5	5
23	Design Principles of Silicon Heterojunction Solar Cells with Dopant-Free Interdigitated Back Contacts. <i>Solar Rrl</i> , <b>2019</b> , 3, 1970104	7.1	5
22	Design and simulation of perovskite solar cells with Gaussian structured gradient-index optics. <i>Optics Letters</i> , <b>2019</b> , 44, 4865-4868	3	5
21	Back-contact structures for optoelectronic devices: Applications and perspectives. <i>Nano Energy</i> , <b>2020</b> , 78, 105362	17.1	5
20	NiO <sub>x</sub> -Seeded Self-Assembled Monolayers as Highly Hole-Selective Passivating Contacts for Efficient Inverted Perovskite Solar Cells. <i>Solar Rrl</i> , <b>2021</b> , 5, 2100663	7.1	5
19	Edge effect in silicon solar cells with dopant-free interdigitated back-contacts. <i>Nano Energy</i> , <b>2020</b> , 74, 104893	17.1	4
18	Omnidirectional whispering-gallery-mode lasing in GaN microdisk obtained by selective area growth on sapphire substrate. <i>Optics Express</i> , <b>2019</b> , 27, 16195-16205	3.3	4
17	Parallel Simulation of Fully Coupled Electrothermal Processes in Large-Scale Phase-Change Memory Arrays. <i>IEEE Transactions on Electron Devices</i> , <b>2019</b> , 66, 5117-5125	2.9	4
16	Tunnel Oxide Magnesium as Electron-Selective Passivated Contact for n-type Silicon Solar Cell. <i>Solar Rrl</i> , <b>2018</b> , 2, 1800241	7.1	4

15	Rear-Sided Passivation by SiNx:H Dielectric Layer for Improved Si/PEDOT:PSS Hybrid Heterojunction Solar Cells. <i>Nanoscale Research Letters</i> , <b>2016</b> , 11, 310	5	3
14	The role of transition region charges between dopant-free asymmetric heterocontacts in interdigitated back contact silicon heterojunction solar cells. <i>Solar Energy</i> , <b>2019</b> , 188, 1201-1208	6.8	3
13	Twenty Percent Efficiency Crystalline Silicon Solar Cells with Solution-Processed Electron-Selective Contacts. <i>ACS Applied Energy Materials</i> , <b>2021</b> , 4, 3644-3650	6.1	3
12	Carrier Dynamics of Nanopillar Textured Ultrathin Si Film/PEDOT:PSS Heterojunction Solar Cell. <i>IEEE Journal of Photovoltaics</i> , <b>2018</b> , 8, 757-762	3.7	2
11	Optimization of Tunnel-Junction for Perovskite/Tunnel Oxide Passivated Contact (TOPCon) Tandem Solar Cells. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2100562	1.6	2
10	ITO/SnO <sub>2</sub> Interface Defect Passivation via Atomic Layer Deposited Al <sub>2</sub> O <sub>3</sub> for High-Efficiency Perovskite Solar Cells. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2100406	1.6	2
9	Hybrid Solar Cells: Enhanced Electro-Optical Properties of Nanocone/Nanopillar Dual-Structured Arrays for Ultrathin Silicon/Organic Hybrid Solar Cell Applications (Adv. Energy Mater. 8/2016). <i>Advanced Energy Materials</i> , <b>2016</b> , 6,	21.8	2
8	GaN based UV-LEDs with Ni/Au Nanomeshes as Transparent p-type Electrodes. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2019</b> , 216, 1800684	1.6	2
7	Passivating Contact with Phosphorus-Doped Polycrystalline Silicon-Nitride with an Excellent Implied Open-Circuit Voltage of 745 mV and Its Application in 23.88% Efficiency TOPCon Solar Cells. <i>Solar Rrl</i> , 2100644	7.1	2
6	Optical management for back-contact perovskite solar cells with diverse structure designs. <i>Solar Energy</i> , <b>2022</b> , 236, 100-106	6.8	2
5	Rapid-Thermal-Annealing-Induced Passivation Degradation and Recovery of Polysilicon Passivated Contact with Czochralski and Cast Multicrystalline Silicon Substrates. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2021</b> , 218, 2100344	1.6	1
4	50- $\mu$ m thick flexible dopant-free interdigitated-back-contact silicon heterojunction solar cells with front MoO <sub>x</sub> coatings for efficient antireflection and passivation. <i>Optics Express</i> , <b>2022</b> , 30, 21309	3.3	1
3	Realization of a General Method for Extracting Specific Contact Resistance of Silicon-Based Dopant-Free Heterojunctions. <i>Solar Rrl</i> , 2100394	7.1	0
2	Low-Temperature Oxidation-Processed Titanium Oxides as Dual-Functional Electron-Selective Passivation Contacts. <i>Solar Rrl</i> , <b>2020</b> , 4, 1900490	7.1	
1	Efficient Carrier Recombination in InGaN Pyramidal $\mu$ -LEDs Obtained through Selective Area Growth. <i>Photonics</i> , <b>2021</b> , 8, 157	2.2	