Yimao Wan

List of Publications by Year
in descending order

75 papers	4,329 citations	134610 34 h-index	129628 63 g-index
75 all docs	75 docs citations	75 times ranked	4813 citing authors

#	Article	IF	Citations
1	Realization and simulation of interdigitated back contact silicon solar cells with dopant-free asymmetric hetero-contacts. Solar Energy, 2022, 231, 203-208.	2.9	3
2	Phosphorus-doped polycrystalline silicon passivating contacts via spin-on doping. Solar Energy Materials and Solar Cells, 2021, 221, 110902.	3.0	8
3	Application of Phosphorusâ€Doped Polysiliconâ€Based Fullâ€Area Passivating Contact on the Front Textured Surface of p â€Type Silicon. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2000455.	1.2	1
4	Boron Spin-On Doping for Poly-Si/SiO_{<i>x</i>} Passivating Contacts. ACS Applied Energy Materials, 2021, 4, 4993-4999.	2.5	9
5	Polysilicon passivated junctions: The next technology for silicon solar cells?. Joule, 2021, 5, 811-828.	11.7	88
6	Passivated Emitter and Rear Cell Silicon Solar Cells with a Front Polysilicon Passivating Contacted Selective Emitter. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100057.	1.2	4
7	Correction to â€œBoron Spin-On Doping for Poly-Si/SiOx Passivating Contactsâ€. ACS Applied Energy Materials, 2021, 4, 6376-6376.	2.5	0
8	Ga-doped Czochralski silicon with rear p-type polysilicon passivating contact for high-efficiency p-type solar cells. Solar Energy Materials and Solar Cells, 2021, 230, 111229.	3.0	6
9	N-type polysilicon passivating contacts using ultra-thin PECVD silicon oxynitrides as the interfacial layer. Solar Energy Materials and Solar Cells, 2021, 232, 111356.	3.0	4
10	Influence of PECVD deposition temperature on phosphorus doped poly-silicon passivating contacts. Solar Energy Materials and Solar Cells, 2020, 206, 110348.	3.0	24
11	21.3%-efficient n-type silicon solar cell with a full area rear TiOx/LiF/Al electron-selective contact. Solar Energy Materials and Solar Cells, 2020, 206, 110291.	3.0	38
12	Solar Water Splitting: Over 17% Efficiency Standâ€Alone Solar Water Splitting Enabled by Perovskiteâ€Silicon Tandem Absorbers (Adv. Energy Mater. 28/2020). Advanced Energy Materials, 2020, 10, 2070122.	10.2	4
13	Titanium Nitride Electron-Conductive Contact for Silicon Solar Cells By Radio Frequency Sputtering from a TiN Target. ACS Applied Materials & Interfaces, 2020, 12, 26177-26183.	4.0	27
14	Over 17% Efficiency Standâ€Alone Solar Water Splitting Enabled by Perovskiteâ€Silicon Tandem Absorbers. Advanced Energy Materials, 2020, 10, 2000772.	10.2	58
15	Influence of PECVD Deposition Power and Pressure on Phosphorus-Doped Polysilicon Passivating Contacts. IEEE Journal of Photovoltaics, 2020, 10, 1239-1245.	1.5	6
16	Exceptional silicon surface passivation by an ONO dielectric stack. Solar Energy Materials and Solar Cells, 2019, 189, 245-253.	3.0	9
17	InGaAsP as a Promising Narrow Band Gap Semiconductor for Photoelectrochemical Water Splitting. ACS Applied Materials & Interfaces, 2019, 11, 25236-25242.	4.0	21
18	Dual-Function Electron-Conductive, Hole-Blocking Titanium Nitride Contacts for Efficient Silicon Solar Cells. Joule, 2019, 3, 1314-1327.	11.7	91

#	Article	IF	Citations
19	Activating and optimizing evaporation-processed magnesium oxide passivating contact for silicon solar cells. Nano Energy, 2019, 62, 181-188.	8.2	35
20	15% Efficiency Ultrathin Silicon Solar Cells with Fluorine-Doped Titanium Oxide and Chemically Tailored Poly(3,4-ethylenedioxythiophene):Poly(styrenesulfonate) as Asymmetric Heterocontact. ACS Nano, 2019, 13, 6356-6362.	7.3	53
21	Ultrathin Ta₂O₅ electron-selective contacts for high efficiency InP solar cells. Nanoscale, 2019, 11, 7497-7505.	2.8	38
22	Numerical exploration for structure design and free-energy loss analysis of the high-efficiency polysilicon passivated-contact p-type silicon solar cell. Solar Energy, 2019, 178, 249-256.	2.9	18
23	High efficiency n-type silicon solar cells with passivating contacts based on PECVD silicon films doped by phosphorus diffusion. Solar Energy Materials and Solar Cells, 2019, 193, 80-84.	3.0	72
24	Dopantâ€Free Partial Rear Contacts Enabling 23% Silicon Solar Cells. Advanced Energy Materials, 2019, 9, 1803367.	10.2	77
25	Gettering Effects of Silicon Nitride Films From Various Plasma-Enhanced Chemical Vapor Deposition Conditions. IEEE Journal of Photovoltaics, 2019, 9, 78-81.	1.5	9
26	Tantalum Nitride Electronâ€Selective Contact for Crystalline Silicon Solar Cells. Advanced Energy Materials, 2018, 8, 1800608.	10.2	112
27	Laserâ€Patterned nâ€Type Frontâ€Junction Silicon Solar Cell With Tantalum Oxide/Silicon Nitride Passivation and Antireflection. Solar Rrl, 2018, 2, 1700187.	3.1	3
28	Stable Dopant-Free Asymmetric Heterocontact Silicon Solar Cells with Efficiencies above 20%. ACS Energy Letters, 2018, 3, 508-513.	8.8	164
29	Carrier population control and surface passivation in solar cells. Solar Energy Materials and Solar Cells, 2018, 184, 38-47.	3.0	109
30	Tantalum Oxide Electron-Selective Heterocontacts for Silicon Photovoltaics and Photoelectrochemical Water Reduction. ACS Energy Letters, 2018, 3, 125-131.	8.8	127
31	In situ recombination junction between p-Si and TiO ₂ enables high-efficiency monolithic perovskite/Si tandem cells. Science Advances, 2018, 4, eaau9711.	4.7	122
32	Tantalum Nitride Hole-Blocking Layer for Efficient Silicon Solar Cells. , 2018, , .		0
33	23% efficient n-type crystalline silicon solar cells with passivated partial rear contacts. , 2018, , .		1
34	A Universal Doubleâ€Side Passivation for High Openâ€Circuit Voltage in Perovskite Solar Cells: Role of Carbonyl Groups in Poly(methyl methacrylate). Advanced Energy Materials, 2018, 8, 1801208.	10.2	387
35	Temperature and Humidity Stable Alkali/Alkalineâ€Earth Metal Carbonates as Electron Heterocontacts for Silicon Photovoltaics. Advanced Energy Materials, 2018, 8, 1800743.	10.2	35
36	Zirconium oxide surface passivation of crystalline silicon. Applied Physics Letters, 2018, 112, .	1.5	19

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37	Over 16.7% Efficiency Organicâ€Silicon Heterojunction Solar Cells with Solutionâ€Processed Dopantâ€Free Contacts for Both Polarities. Advanced Functional Materials, 2018, 28, 1802192.	7.8	58
38	23% efficient p-type crystalline silicon solar cells with hole-selective passivating contacts based on physical vapor deposition of doped silicon films. Applied Physics Letters, 2018, 113, .	1.5	84
39	Investigation of the thermal stability of MoOx as hole-selective contacts for Si solar cells. Journal of Applied Physics, 2018, 124, 073106.	1.1	35
40	A Low Resistance Calcium/Reduced Titania Passivated Contact for High Efficiency Crystalline Silicon Solar Cells. Advanced Energy Materials, 2017, 7, 1602606.	10.2	97
41	Highly effective electronic passivation of silicon surfaces by atomic layer deposited hafnium oxide. Applied Physics Letters, 2017, 110, .	1.5	58
42	Solution-processed molybdenum oxide for hole-selective contacts on crystalline silicon solar cells. Applied Surface Science, 2017, 423, 139-146.	3.1	43
43	Monolithic perovskite/silicon-homojunction tandem solar cell with over 22% efficiency. Energy and Environmental Science, 2017, 10, 2472-2479.	15.6	178
44	Microchannel contacting of crystalline silicon solar cells. Scientific Reports, 2017, 7, 9085.	1.6	8
45	Interface passivation using ultrathin polymerâ€"fullerene films for high-efficiency perovskite solar cells with negligible hysteresis. Energy and Environmental Science, 2017, 10, 1792-1800.	15.6	381
46	Efficient Indiumâ€Doped TiO<i>_x</i> Electron Transport Layers for Highâ€Performance Perovskite Solar Cells and Perovskiteâ€Silicon Tandems. Advanced Energy Materials, 2017, 7, 1601768.	10.2	167
47	Calcium contacts to nâ€type crystalline silicon solar cells. Progress in Photovoltaics: Research and Applications, 2017, 25, 636-644.	4.4	60
48	Conductive and Stable Magnesium Oxide Electronâ€Selective Contacts for Efficient Silicon Solar Cells. Advanced Energy Materials, 2017, 7, 1601863.	10.2	174
49	Efficient electron contacts for n-type silicon solar cells using Magnesium metal, oxide, and fluoride. , 2017, , .		0
50	Silicon Surface Passivation by Gallium Oxide Capped With Silicon Nitride. IEEE Journal of Photovoltaics, 2016, 6, 900-905.	1.5	18
51	Low resistance Ohmic contact to p-type crystalline silicon via nitrogen-doped copper oxide films. Applied Physics Letters, 2016, 109, .	1.5	21
52	Survey of dopant-free carrier-selective contacts for silicon solar cells. , 2016, , .		12
53	A magnesium/amorphous silicon passivating contact for <i>n</i>-type crystalline silicon solar cells. Applied Physics Letters, 2016, 109, .	1.5	44
54	Magnesium fluoride based electron-selective contact. , 2016, , .		0

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55	Passivating contacts for silicon solar cells based on boron-diffused recrystallized amorphous silicon and thin dielectric interlayers. Solar Energy Materials and Solar Cells, 2016, 152, 73-79.	3.0	81
56	Titanium oxide: A re-emerging optical and passivating material for silicon solar cells. Solar Energy Materials and Solar Cells, 2016, 158, 115-121.	3.0	67
57	Magnesium Fluoride Electron-Selective Contacts for Crystalline Silicon Solar Cells. ACS Applied Materials & Interfaces, 2016, 8, 14671-14677.	4.0	188
58	Lithium Fluoride Based Electron Contacts for High Efficiency nâ€Type Crystalline Silicon Solar Cells. Advanced Energy Materials, 2016, 6, 1600241.	10.2	134
59	Design, fabrication and characterisation of a 24.4% efficient interdigitated back contact solar cell. Progress in Photovoltaics: Research and Applications, 2016, 24, 411-427.	4.4	146
60	Graded silicon nitride films: Optics and passivation. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, 060610.	0.9	1
61	Interpolating the optical properties of varied composition silicon nitride. Physica Status Solidi (B): Basic Research, 2015, 252, 2230-2235.	0.7	5
62	Silicon nitride/silicon oxide interlayers for solar cell passivating contacts based on PECVD amorphous silicon. Physica Status Solidi - Rapid Research Letters, 2015, 9, 617-621.	1.2	15
63	Skin care for healthy silicon solar cells. , 2015, , .		57
64	Phosphorus-diffused polysilicon contacts for solar cells. Solar Energy Materials and Solar Cells, 2015, 142, 75-82.	3.0	147
65	Passivation of c-Si surfaces by ALD tantalum oxide capped with PECVD silicon nitride. Solar Energy Materials and Solar Cells, 2015, 142, 42-46.	3.0	34
66	Tantalum oxide/silicon nitride: A negatively charged surface passivation stack for silicon solar cells. Applied Physics Letters, 2015, 106, .	1.5	26
67	Towards industrial advanced front-junction n-type silicon solar cells. , 2014, , .		4
68	Development of a self-aligned etch-back process for selectively doped silicon solar cells. , 2014, , .		4
69	Influence of the NH<inf>3</inf>:SiH<inf>4</inf> ratio and surface morphology on the surface passivation of phosphorus-diffused C-Si by PECVD SiN<inf>x</inf>. , 2014, , .		1
70	Surface passivation of crystalline silicon by sputter deposited hydrogenated amorphous silicon. Physica Status Solidi - Rapid Research Letters, 2014, 8, 231-234.	1.2	16
71	Low Surface Recombination Velocity by Low-Absorption Silicon Nitride on c-Si. IEEE Journal of Photovoltaics, 2013, 3, 554-559.	1.5	52
72	Evaluating Plasmonic Light Trapping With Photoluminescence. IEEE Journal of Photovoltaics, 2013, 3, 1292-1297.	1.5	20

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73	Characterisation and optimisation of PECVD SiNx as an antireflection coating and passivation layer for silicon solar cells. AIP Advances, 2013, 3, .	0.6	104
74	The influence of crystal orientation on surface passivation in multi-crystalline silicon. , 2013, , .		3
75	Characterization of stress in amorphous silicon nitride and implications to c-Si surface passivation. , 2012, , .		4