

# Pablo R Ortega

## List of Publications by Year in descending order

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94  
papers

1,939  
citations

394421

19  
h-index

265206

42  
g-index

95  
all docs

95  
docs citations

95  
times ranked

2149  
citing authors

#	ARTICLE	IF	CITATIONS
1	Black silicon solar cells with interdigitated back-contacts achieve 22.1% efficiency. Nature Nanotechnology, 2015, 10, 624-628.	31.5	512
2	Transition metal oxides as hole-selective contacts in silicon heterojunctions solar cells. Solar Energy Materials and Solar Cells, 2016, 145, 109-115.	6.2	328
3	V <sub>2</sub> O <sub>x</sub> -based hole-selective contacts for c-Si interdigitated back-contacted solar cells. Journal of Materials Chemistry A, 2017, 5, 9182-9189.	10.3	94
4	An efficient fault diagnosis method for PV systems based on operating voltage-window. Energy Conversion and Management, 2013, 73, 350-360.	9.2	85
5	Analysis of the Atomic Layer Deposited Al <sub>2</sub> O <sub>3</sub> field-effect passivation in black silicon. Solar Energy Materials and Solar Cells, 2015, 142, 29-33.	6.2	61
6	A Miniaturized Two Axis Sun Sensor for Attitude Control of Nano-Satellites. IEEE Sensors Journal, 2010, 10, 1623-1632.	4.7	57
7	Interdigitated back-contacted crystalline silicon solar cells with low-temperature dopant-free selective contacts. Journal of Materials Chemistry A, 2018, 6, 3977-3985.	10.3	48
8	Laser-fired contact optimization in c-Si solar cells. Progress in Photovoltaics: Research and Applications, 2012, 20, 173-180.	8.1	45
9	p-type c-Si solar cells based on rear side laser processing of Al <sub>2</sub> O <sub>3</sub> /SiC <sub>x</sub> stacks. Solar Energy Materials and Solar Cells, 2012, 106, 80-83.	6.2	39
10	Accurate and Wide-Field-of-View MEMS-Based Sun Sensor for Industrial Applications. IEEE Transactions on Industrial Electronics, 2012, 59, 4871-4880.	7.9	37
11	High-efficiency black silicon interdigitated back contacted solar cells on p-type and n-type c-Si substrates. Progress in Photovoltaics: Research and Applications, 2015, 23, 1448-1457.	8.1	35
12	Passivating/hole-selective contacts based on V <sub>2</sub> O <sub>5</sub> /SiO <sub>x</sub> stacks deposited at ambient temperature. Energy Procedia, 2017, 124, 584-592.	1.8	33
13	High voltage photovoltaic mini-modules. Progress in Photovoltaics: Research and Applications, 2008, 16, 369-377.	8.1	28
14	Laser processing of Al <sub>2</sub> O <sub>3</sub> /a-SiC <sub>x</sub> :H stacks: a feasible solution for the rear surface of high-efficiency p-type c-Si solar cells. Progress in Photovoltaics: Research and Applications, 2013, 21, 1171-1175.	8.1	28
15	Surface passivation and optical characterization of Al <sub>2</sub> O <sub>3</sub> /a-SiC <sub>x</sub> stacks on c-Si substrates. Beilstein Journal of Nanotechnology, 2013, 4, 726-731.	2.8	28
16	Tracking Control System Using an Incident Radiation Angle Microsensor. IEEE Transactions on Industrial Electronics, 2007, 54, 1207-1216.	7.9	25
17	Back Junction n-type Silicon Heterojunction Solar Cells with V <sub>2</sub> O <sub>5</sub> Hole-selective Contact. Energy Procedia, 2016, 92, 633-637.	1.8	25
18	Recombination processes in passivated boron-implanted black silicon emitters. Journal of Applied Physics, 2017, 121, .	2.5	20

#	ARTICLE	IF	CITATIONS
19	Atomic layer deposition of vanadium oxide films for crystalline silicon solar cells. <i>Materials Advances</i> , 2022, 3, 337-345.	5.4	20
20	Fabrication of monolithic photovoltaic arrays on crystalline silicon by wafer bonding and deep etching techniques. <i>Progress in Photovoltaics: Research and Applications</i> , 2005, 13, 617-625.	8.1	15
21	Low Surface Recombination in Silicon-Heterojunction Solar Cells With Rear Laser-Fired Contacts From Aluminum Foils. <i>IEEE Journal of Photovoltaics</i> , 2015, 5, 805-811.	2.5	15
22	Long-term Stability of Al <sub>2</sub> O <sub>3</sub> Passivated Black Silicon. <i>Energy Procedia</i> , 2016, 92, 341-346.	1.8	15
23	Light harvesting by a spherical silicon microcavity. <i>Journal of Applied Physics</i> , 2016, 119, .	2.5	14
24	Deposition and characterisation of sputtered molybdenum oxide thin films with hydrogen atmosphere. <i>Applied Surface Science</i> , 2021, 563, 150285.	6.1	14
25	Numerical simulations of rear point-contacted solar cells on 2.2-µm p-type c-Si substrates. <i>Progress in Photovoltaics: Research and Applications</i> , 2015, 23, 69-77.	8.1	13
26	Laser Induced Forward Transfer for front contact improvement in silicon heterojunction solar cells. <i>Applied Surface Science</i> , 2015, 336, 89-95.	6.1	13
27	Analysis of the dynamic short-circuit resistance in organic bulk-heterojunction solar cells: relation to the charge carrier collection efficiency. <i>Organic Electronics</i> , 2013, 14, 1643-1648.	2.6	12
28	Fully low temperature interdigitated back-contacted c-Si(n) solar cells based on laser-doping from dielectric stacks. <i>Solar Energy Materials and Solar Cells</i> , 2017, 169, 107-112.	6.2	12
29	Multichip module photovoltaic miniarrays. <i>IEEE Transactions on Advanced Packaging</i> , 2001, 24, 169-174.	1.6	11
30	Very low recombination phosphorus emitters for high efficiency crystalline silicon solar cells. <i>Semiconductor Science and Technology</i> , 2008, 23, 125032.	2.0	11
31	Rear Contact Pattern Optimization based on 3D Simulations for IBC Solar Cells with Point-like Doped Contacts. <i>Energy Procedia</i> , 2014, 55, 47-52.	1.8	11
32	c-Si Solar Cells based on Laser-processed Dielectric Films. <i>Energy Procedia</i> , 2014, 55, 255-264.	1.8	10
33	Enabling silicon-on-silicon photonics with pedestalled Mie resonators. <i>Nanoscale</i> , 2018, 10, 14406-14413.	5.6	10
34	Response of c-Si PV arrays under monochromatic light for MEMS power supply. <i>Journal of Micromechanics and Microengineering</i> , 2005, 15, 1446-1453.	2.6	9
35	n-type emitter surface passivation in c-Si solar cells by means of antireflective amorphous silicon carbide layers. <i>Journal of Applied Physics</i> , 2006, 100, 073703.	2.5	9
36	IBC c-Si(n) Solar Cells Based on Laser Doping Processing for Selective Emitter and Base Contact Formation. <i>Energy Procedia</i> , 2016, 92, 956-961.	1.8	9

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37	Emitter formation using laser doping technique on n- and p-type c-Si substrates. Applied Surface Science, 2015, 336, 182-187.	6.1	8
38	3D simulations of interdigitated back-contacted crystalline silicon solar cells on thin substrates. Solar Energy, 2018, 167, 242-250.	6.1	8
39	Improved Electron Selectivity in Silicon Solar Cells by Cathode Modification with a Dipolar Conjugated Polyelectrolyte Interlayer. ACS Applied Energy Materials, 2019, 2, 5954-5959.	5.1	8
40	Black silicon back-contact module with wide light acceptance angle. Progress in Photovoltaics: Research and Applications, 2020, 28, 210-216.	8.1	8
41	Interdigitated back-contacted crystalline silicon solar cells fully manufactured with atomic layer deposited selective contacts. Solar Energy Materials and Solar Cells, 2022, 240, 111731.	6.2	8
42	MEMS solar sensor testing for satellite applications. , 2009, , .		7
43	Crystalline silicon solar cells beyond 20% efficiency. , 2011, , .		7
44	Recovery of Indium-tin-oxide/silicon Heterojunction Solar Cells by Thermal Annealing. Energy Procedia, 2014, 44, 3-9.	1.8	7
45	<sup>3</sup>Cat-1 project: a multi-payload CubeSat for scientific experiments and technology demonstrators. European Journal of Remote Sensing, 2017, 50, 125-136.	3.5	7
46	An Accurate Physical Model for PV Modules With Improved Approximations of Series-Shunt Resistances. IEEE Journal of Photovoltaics, 2021, 11, 699-707.	2.5	7
47	Optocoupler driving of MEMS electrostatic switches. Journal of Micromechanics and Microengineering, 2008, 18, 055004.	2.6	6
48	Optimization of Laser Processes for Local Rear Contacting of Passivated Silicon Solar Cells. Energy Procedia, 2014, 44, 234-243.	1.8	6
49	Base contacts and selective emitters processed by laser doping technique for p-type IBC c-Si solar cells. Energy Procedia, 2015, 77, 752-758.	1.8	6
50	â€œColdâ€•Process for IBC c-Si Solar Cells Fabrication. Energy Procedia, 2016, 92, 652-660.	1.8	6
51	Microscale Characterization of Surface Recombination at the Vicinity of Laser-Processed Regions in c-Si Solar Cells. IEEE Journal of Photovoltaics, 2016, 6, 426-431.	2.5	6
52	Influence of a Gold Seed in Transparent V<sub>2</sub>O<sub>5</sub>/Ag/V<sub>2</sub>O<sub>5</sub> Selective Contacts for Dopant-Free Silicon Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 72-77.	2.5	6
53	Low-Cost High-Sensitive Sunsâ€™ Measurement Instrument to Characterize c-Si Solar Cells. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 6429-6435.	4.7	6
54	Multicrystalline Silicon Thin-Film Solar Cells Based on Vanadium Oxide Heterojunction and Laser-Doped Contacts. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900393.	1.8	5

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55	Short-circuit current of solar cells under artificial light. Progress in Photovoltaics: Research and Applications, 2003, 11, 131-138.	8.1	4
56	c-Si surface passivation for photovoltaic applications by means of antireflective amorphous silicon carbide layers. , 2007, , .		4
57	Parameterization of local laser doping and laser-fired contacts for high efficiency c-Si solar cells. Physics Procedia, 2012, 39, 693-701.	1.2	4
58	Study of the Surface Recombination Velocity for Ultraviolet and Visible Laser-Fired Contacts Applied to Silicon Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2015, 5, 1006-1013.	2.5	4
59	Silicon solar cells with heterojunction emitters and laser processed base contacts. Energy Procedia, 2017, 124, 604-611.	1.8	4
60	Fabrication of monolithic photovoltaic minimodules using bulk micromachining techniques.. , 2003, , .		3
61	A new design of high precision solar microsensor for satellite applications. , 2010, , .		3
62	Influence of wavelength on laser doping and laser-fired contact processes for c-Si solar cells. Proceedings of SPIE, 2012, , .	0.8	3
63	Light harvesting photovoltaic mini-generator. Progress in Photovoltaics: Research and Applications, 2012, 20, 967-974.	8.1	3
64	High efficiency interdigitated back-contact c-Si(p) solar cells. , 2015, , .		3
65	Experimental determination of base resistance contribution for point-like contacted c-Si solar cells using impedance spectroscopy analysis. Solar Energy Materials and Solar Cells, 2015, 141, 350-355.	6.2	3
66	DopLa Solar Cells with Texturized Front Surface. Energy Procedia, 2016, 92, 949-955.	1.8	3
67	Hole Transport Layer based on atomic layer deposited V2Ox films: Paving the road to semi-transparent CZTSe solar cells. Solar Energy, 2021, 226, 64-71.	6.1	3
68	Influence of wavelength and pulse duration on the selective laser ablation of WOx, VOx and MoOx thin films.. Surfaces and Interfaces, 2021, , 101613.	3.0	3
69	SENSOSOL: MultiFOV 4-Quadrant high precision sun sensor for satellite attitude control. , 2013, , .		2
70	High voltage ultrathin-photovoltaic minimodules: Fabrication technology and application to bioimplantable telesupplying. Microelectronic Engineering, 2014, 119, 109-114.	2.4	2
71	TCO-free Low-temperature p+ Emitters for Back-junction c-Si Solar Cells. Energy Procedia, 2015, 77, 296-303.	1.8	2
72	Interdigitated back contacted c-Si(p) solar cells with photovoltaic efficiencies beyond 22%. , 2017, , .		2

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73	Thin c-Si Solar Cells Based on VO <sub>x</sub> Heterojunctions With Texturized Rear Surface. IEEE Journal of Photovoltaics, 2021, 11, 1358-1362.	2.5	2
74	Investigation of the Surface Passivation of P+-Type Si Emitters by PECVD Silicon Carbide Films. , 2006, , .		1
75	Post-etching shaping of macroporous silicon. Proceedings of SPIE, 2007, , .	0.8	1
76	New laser-based approaches to improve the passivation and rear contact quality in high efficiency crystalline silicon solar cells. Proceedings of SPIE, 2013, , .	0.8	1
77	An IBC solar cell for the UPC CubeSat-1 mission. , 2013, , .		1
78	Photovoltaic and fuel cells in power MEMS for smart energy management. , 2014, , 431-471.		1
79	3D TCAD modeling of laser processed c-Si solar cells. , 2015, , .		1
80	Photovoltaic and fuel cells in power microelectromechanical systems for smart energy management. , 2018, , 461-498.		1
81	Origin of the Negative Differential Resistance in the output characteristics of a picene-based Thin-Film Transistor. , 2019, , .		1
82	Laser Processes for Contact Optimization in c-Si Solar Cells. , 2013, , .		1
83	Biosend, an automated biomedical acquisition system. , 0, , .		0
84	Effective lifetime measurements on phosphorus emitters prepared with planar diffusion sources. , 2005, , .		0
85	Photovoltaic Mini-modules Using Silicon on Insulator Technology. , 2007, , .		0
86	c-Si photovoltaic arrays. , 2009, , .		0
87	Comparison of bulk micromachined high voltage light scavengers. , 2009, , .		0
88	Advances in a baseline process towards high efficiency c-Si solar cell fabrication. , 2009, , .		0
89	Integrated design of a smart analog sun sensor with CMOS technology. , 2012, , .		0
90	Boron diffused emitters passivated with Al <sub>2</sub> O <sub>3</sub> films. , 2013, , .		0

#	ARTICLE	IF	CITATIONS
91	From random to order: Colloidal crystals on non-flat surfaces. Microelectronic Engineering, 2016, 153, 20-23.	2.4	0
92	Cost-effective cleaning solutions based on H <sub>2</sub> O/NH <sub>3</sub> /H <sub>2</sub> O <sub>2</sub> mixtures for ALD Al <sub>2</sub> O <sub>3</sub> passivated IBC c-Si solar cells. , 2017, , .		0
93	Silicon nitride layers for DopLa-IBC solar cells. , 2017, , .		0
94	Metallized Boron-Doped Black Silicon Emitters For Front Contact Solar Cells. , 2017, , .		0