Lachlan Black

List of Publications by Year
in descending order

28 papers	1,038 citations	516710 16 h-index	526287 27 g-index
28 all docs	28 docs citations	28 times ranked	1362 citing authors

#	Article	IF	Citations
1	Passivating Contacts for Crystalline Silicon Solar Cells: From Concepts and Materials to Prospects. IEEE Journal of Photovoltaics, 2018, 8, 373-388.	2.5	285
2	On effective surface recombination parameters. Journal of Applied Physics, 2014, 116, .	2.5	135
3	Low-Temperature Plasma-Assisted Atomic-Layer-Deposited SnO₂ as an Electron Transport Layer in Planar Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2018, 10, 30367-30378.	8.0	88
4	Surface passivation of c-Si by atmospheric pressure chemical vapor deposition of Al2O3. Applied Physics Letters, 2012, 100, .	3.3	70
5	Effective Surface Passivation of InP Nanowires by Atomic-Layer-Deposited Al₂O₃ with PO_x Interlayer. Nano Letters, 2017, 17, 6287-6294.	9.1	68
6	Ultralow Surface Recombination Velocity in Passivated InGaAs/InP Nanopillars. Nano Letters, 2017, 17, 2627-2633.	9.1	56
7	Effect of boron concentration on recombination at the p-Siâ€“Al2O3 interface. Journal of Applied Physics, 2014, 115, .	2.5	43
8	Modeling Recombination at the Siâ€“Al$_{2}$O $_{3}$ Interface. IEEE Journal of Photovoltaics, 2013, 3, 936-943.	2.5	27
9	Surface Fluorination of ALD TiO₂ Electron Transport LayerÂfor Efficient Planar Perovskite Solar Cells. Advanced Materials Interfaces, 2018, 5, 1701456.	3.7	27
10	Thermal stability of silicon surface passivation by APCVD Al2O3. Solar Energy Materials and Solar Cells, 2014, 120, 339-345.	6.2	25
11	New Perspectives on Surface Passivation: Understanding the Si-Al2O3 Interface. Springer Theses, 2016, , .	0.1	22
12	Above 23% Efficiency by Binary Surface Passivation of Perovskite Solar Cells Using Guanidinium and Octylammonium Spacer Cations. Solar Rrl, 2022, 6, .	5.8	22
13	Defect Generation at Charge-Passivated $hbox{Si}$â€“$hbox{SiO}_{2}$ Interfaces by Ultraviolet Light. IEEE Transactions on Electron Devices, 2010, 57, 1996-2004.	3.0	21
14	Effective passivation of silicon surfaces by ultrathin atomic-layer deposited niobium oxide. Applied Physics Letters, 2018, 112, .	3.3	21
15	Accounting for the Dependence of Coil Sensitivity on Sample Thickness and Lift-Off in Inductively Coupled Photoconductance Measurements. IEEE Journal of Photovoltaics, 2019, 9, 1563-1574.	2.5	21
16	Investigation of crystalline silicon surface passivation by positively charged POx/Al2O3 stacks. Solar Energy Materials and Solar Cells, 2018, 185, 385-391.	6.2	18
17	POx/Al2O3 stacks: Highly effective surface passivation of crystalline silicon with a large positive fixed charge. Applied Physics Letters, 2018, 112, .	3.3	16
18	On the quantification of Auger recombination in crystalline silicon. Solar Energy Materials and Solar Cells, 2022, 234, 111428.	6.2	16

#	Article	IF	Citations
19	Excellent surface passivation of germanium by a-Si:H/Al2O3 stacks. Journal of Applied Physics, 2021, 130, .	2.5	14
20	Passivation of InP solar cells using large area hexagonal-BN layers. Npj 2D Materials and Applications, 2021, 5, .	7.9	9
21	Improved Silicon Surface Passivation of APCVD Al2O3 by Rapid Thermal Annealing. Energy Procedia, 2016, 92, 317-325.	1.8	7
22	Excellent Passivation of n â€Type Silicon Surfaces Enabled by Pulsedâ€Flow Plasmaâ€Enhanced Chemical Vapor Deposition of Phosphorus Oxide Capped by Aluminum Oxide. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2000399.	2.4	7
23	Self-aligned local contact opening and n+ diffusion by single-step laser doping from POx/Al2O3 passivation stacks. Solar Energy Materials and Solar Cells, 2020, 217, 110717.	6.2	6
24	PO_x/Al₂O₃ Stacks for c-Si Surface Passivation: Material and Interface Properties. ACS Applied Electronic Materials, 2021, 3, 4337-4347.	4.3	6
25	Degeneracy and bandgap narrowing in the semiconductor electron-hole product. Journal of Applied Physics, 2017, 121, 105701.	2.5	3
26	Dependence of coil sensitivity on sample thickness in inductively coupled photoconductance measurements. AIP Conference Proceedings, 2019, , .	0.4	3
27	A Correlative Study of Film Lifetime, Hydrogen Content, and Surface Passivation Quality of Amorphous Silicon Films on Silicon Wafers. IEEE Journal of Photovoltaics, 2020, 10, 1307-1312.	2.5	2
28	Modeling recombination at the Si-Al<inf>2</inf>O<inf>3</inf> interface. , 2012, , .		0