Sylvain Nicolay

List of Publications by Citations

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54 papers	3,323 citations	25 h-index	57 g-index
60 ext. papers	3,834 ext. citations	8.1 avg, IF	4.92 L-index

#	Paper	IF	Citations
54	Fully textured monolithic perovskite/silicon tandem solar cells with 25.2% power conversion efficiency. *Nature Materials*, **2018**, 17, 820-826	27	745
53	22.5% efficient silicon heterojunction solar cell with molybdenum oxide hole collector. *Applied Physics Letters*, **2015**, 107, 081601	3.4	297
52	Efficient Near-Infrared-Transparent Perovskite Solar Cells Enabling Direct Comparison of 4-Terminal and Monolithic Perovskite/Silicon Tandem Cells. *ACS Energy Letters*, **2016**, 1, 474-480	20.1	281
51	Organic-inorganic halide perovskite/crystalline silicon four-terminal tandem solar cells. *Physical Chemistry Chemical Physics*, **2015**, 17, 1619-29	3.6	257
50	Sputtered rear electrode with broadband transparency for perovskite solar cells. *Solar Energy Materials and Solar Cells*, **2015**, 141, 407-413	6.4	182
49	Improved Optics in Monolithic Perovskite/Silicon Tandem Solar Cells with a Nanocrystalline Silicon Recombination Junction. *Advanced Energy Materials*, **2018**, 8, 1701609	21.8	148
48	Polycrystalline ZnO: B grown by LPCVD as TCO for thin film silicon solar cells. *Thin Solid Films*, **2010**, 518, 2961-2966	2.2	140
47	Multiscale transparent electrode architecture for efficient light management and carrier collection in solar cells. *Nano Letters*, **2012**, 12, 1344-8	11.5	119
46	Laser-Scribing Patterning for the Production of Organometallic Halide Perovskite Solar Modules. *IEEE Journal of Photovoltaics*, **2015**, 5, 1087-1092	3.7	87
45	Geometric light trapping for high efficiency thin film silicon solar cells. *Solar Energy Materials and Solar Cells*, **2012**, 98, 185-190	6.4	83
44	Zinc tin oxide as high-temperature stable recombination layer for mesoscopic perovskite/silicon monolithic tandem solar cells. *Applied Physics Letters*, **2016**, 109, 233902	3.4	74
43	Simple processing of back-contacted silicon heterojunction solar cells using selective-area crystalline growth. *Nature Energy*, **2017**, 2,	62.3	70
42	I2 vapor-induced degradation of formamidinium lead iodide based perovskite solar cells under heat‐light soaking conditions. *Energy and Environmental Science*, **2019**, 12, 3074-3088	35.4	68
41	Parasitic Absorption Reduction in Metal Oxide-Based Transparent Electrodes: Application in Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2016**, 8, 17260-7	9.5	60
40	Perovskite/Perovskite/Silicon Monolithic Triple-Junction Solar Cells with a Fully Textured Design. *ACS Energy Letters*, **2018**, 3, 2052-2058	20.1	60
39	Relaxing the Conductivity/Transparency Trade-Off in MOCVD ZnO Thin Films by Hydrogen Plasma. *Advanced Functional Materials*, **2013**, 23, 5177-5182	15.6	52
38	Low-Temperature Screen-Printed Metallization for the Scale-Up of Two-Terminal Perovskite‐Silicon Tandems. *ACS Applied Energy Materials*, **2019**, 2, 3815-3821	6.1	50

37	ITO/MoOx/a-Si:H(i) Hole-Selective Contacts for Silicon Heterojunction Solar Cells: Degradation Mechanisms and Cell Integration. *IEEE Journal of Photovoltaics*, **2017**, 7, 1584-1590	3.7	47
36	Back-Contacted Silicon Heterojunction Solar Cells: Optical-Loss Analysis and Mitigation. *IEEE Journal of Photovoltaics*, **2015**, 5, 1293-1303	3.7	42
35	Instability of p–i–n perovskite solar cells under reverse bias. *Journal of Materials Chemistry A*, **2020**, 8, 242-250	13	38
34	Light-induced performance increase of silicon heterojunction solar cells. *Applied Physics Letters*, **2016**, 109, 153503	3.4	37
33	Transparent Electrodes in Silicon Heterojunction Solar Cells: Influence on Contact Passivation. *IEEE Journal of Photovoltaics*, **2016**, 6, 17-27	3.7	35
32	The development of high performance SnO2:F as TCOs for thin film silicon solar cells. *Surface and Coatings Technology*, **2012**, 213, 167-174	4.4	31
31	New progress in the fabrication of n–i–p micromorph solar cells for opaque substrates. *Solar Energy Materials and Solar Cells*, **2013**, 114, 147-155	6.4	28
30	On the Interplay Between Microstructure and Interfaces in High-Efficiency Microcrystalline Silicon Solar Cells. *IEEE Journal of Photovoltaics*, **2013**, 3, 11-16	3.7	27
29	Nanometer- and Micrometer-Scale Texturing for High-Efficiency Micromorph Thin-Film Silicon Solar Cells. *IEEE Journal of Photovoltaics*, **2012**, 2, 83-87	3.7	25
28	Closing the Cell-to-Module Efficiency Gap: A Fully Laser Scribed Perovskite Minimodule With 16% Steady-State Aperture Area Efficiency. *IEEE Journal of Photovoltaics*, **2018**, 8, 151-155	3.7	24
27	Silicon Heterojunction Solar Cells: Towards Low-cost High-Efficiency Industrial Devices and Application to Low-concentration PV. *Energy Procedia*, **2015**, 77, 508-514	2.3	20
26	Increasing Polycrystalline Zinc Oxide Grain Size by Control of Film Preferential Orientation. *Crystal Growth and Design*, **2015**, 15, 5886-5891	3.5	18
25	Copper and Transparent-Conductor Reflectarray Elements on Thin-Film Solar Cell Panels. *IEEE Transactions on Antennas and Propagation*, **2014**, 62, 3813-3818	4.9	18
24	Rear-emitter silicon heterojunction solar cells with atomic layer deposited ZnO:Al serving as an alternative transparent conducting oxide to In2O3:Sn. *Solar Energy Materials and Solar Cells*, **2019**, 200, 109953	6.4	16
23	Latest Developments of High-Efficiency Micromorph Tandem Silicon Solar Cells Implementing Innovative Substrate Materials and Improved Cell Design. *IEEE Journal of Photovoltaics*, **2012**, 2, 236-240	3.7	15
22	Progression towards high efficiency perovskite solar cells via optimisation of the front electrode and blocking layer. *Journal of Materials Chemistry C*, **2016**, 4, 11269-11277	7.1	14
21	Tuning the porosity of zinc oxide electrodes: from dense to nanopillar films. *Materials Research Express*, **2015**, 2, 075006	1.7	12
20	The versatility of passivating carrier-selective silicon thin films for diverse high-efficiency screen-printed heterojunction-based solar cells. *Progress in Photovoltaics: Research and Applications* , **2020**, 28, 569-577	6.8	12

19	1 cm2 CH3NH3PbI3 mesoporous solar cells with 17.8% steady-state efficiency by tailoring front FTO electrodes. *Journal of Materials Chemistry C*, **2017**, 5, 4946-4950	7.1	11
18	Zinc blende–wurtzite polytypism in nanocrystalline ZnO films. *Acta Materialia*, **2017**, 130, 240-248	8.4	10
17	Effect of the thin-film limit on the measurable optical properties of graphene. *Scientific Reports*, **2015**, 5, 15684	4.9	10
16	New Generation Transparent LPCVD ZnO Electrodes for Enhanced Photocurrent in Micromorph Solar Cells and Modules. *IEEE Journal of Photovoltaics*, **2012**, 2, 88-93	3.7	10
15	Direct Imaging of Dopant Distribution in Polycrystalline ZnO Films. *ACS Applied Materials & Interfaces*, **2017**, 9, 7241-7248	9.5	7
14	Optimization of the Asymmetric Intermediate Reflector Morphology for High Stabilized Efficiency Thin n-i-p Micromorph Solar Cells. *IEEE Journal of Photovoltaics*, **2013**, 3, 41-45	3.7	7
13	Atomic Layer Deposited Electron Transport Layers in Efficient Organometallic Halide Perovskite Devices. *MRS Advances*, **2018**, 3, 3075-3084	0.7	6
12	Comparison of Indium Tin Oxide and Indium Tungsten Oxide as Transparent Conductive Substrates for WO3-Based Electrochromic Devices. *Journal of the Electrochemical Society*, **2017**, 164, H25-H31	3.9	4
11	Quantifying competitive grain overgrowth in polycrystalline ZnO thin films. *Acta Materialia*, **2019**, 173, 74-86	8.4	4
10	Photolithography-free interdigitated back-contacted silicon heterojunction solar cells with efficiency >21% **2014**,		4
9	Ethanol-enriched low-pressure chemical vapor deposition ZnO bilayers: Properties and growth A potential electrode for thin film solar cells. *Journal of Applied Physics*, **2013**, 113, 024908	2.5	4
8	Implementation and understanding of p+ fired rear hole selective tunnel oxide passivating contacts enabling >22% conversion efficiency in p-type c-Si solar cells. *Solar Energy Materials and Solar Cells*, **2021**, 219, 110809	6.4	4
7	Hole-Selective Front Contact Stack Enabling 24.1%-Efficient Silicon Heterojunction Solar Cells. *IEEE Journal of Photovoltaics*, **2021**, 11, 9-15	3.7	3
6	Optical properties of anodically degraded ZnO. *Journal of Applied Physics*, **2014**, 115, 094902	2.5	2
5	Light harvesting schemes for high efficiency thin film silicon solar cells **2012**,		2
4	Performance Limitations and Analysis of Silicon Heterojunction Solar Cells Using Ultra-Thin MoOx Hole-Selective Contacts. *IEEE Journal of Photovoltaics*, **2021**, 11, 1158-1166	3.7	2
3	High-efficiency perovskite/silicon heterojunction tandem solar cells **2016**,		1
2	Post-deposition treatment of microcrystalline silicon solar cells for improved performance on rough superstrates. *Journal of Applied Physics*, **2014**, 116, 244504	2.5	