

Sylvain Nicolay

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	Implementation and understanding of p+ fired rear hole selective tunnel oxide passivating contacts enabling >22% conversion efficiency in p-type c-Si solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2021 , 219, 110809	6.4	4
53	Hole-Selective Front Contact Stack Enabling 24.1%-Efficient Silicon Heterojunction Solar Cells. <i>IEEE Journal of Photovoltaics</i> , 2021 , 11, 9-15	3.7	3
52	Performance Limitations and Analysis of Silicon Heterojunction Solar Cells Using Ultra-Thin MoOx Hole-Selective Contacts. <i>IEEE Journal of Photovoltaics</i> , 2021 , 11, 1158-1166	3.7	2
51	Instability of p-i-n perovskite solar cells under reverse bias. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 242-250	13	38
50	The versatility of passivating carrier-selective silicon thin films for diverse high-efficiency screen-printed heterojunction-based solar cells. <i>Progress in Photovoltaics: Research and Applications</i> , 2020 , 28, 569-577	6.8	12
49	Rear-emitter silicon heterojunction solar cells with atomic layer deposited ZnO:Al serving as an alternative transparent conducting oxide to In ₂ O ₃ :Sn. <i>Solar Energy Materials and Solar Cells</i> , 2019 , 200, 109953	6.4	16
48	Low-Temperature Screen-Printed Metallization for the Scale-Up of Two-Terminal Perovskite/Silicon Tandems. <i>ACS Applied Energy Materials</i> , 2019 , 2, 3815-3821	6.1	50
47	Quantifying competitive grain overgrowth in polycrystalline ZnO thin films. <i>Acta Materialia</i> , 2019 , 173, 74-86	8.4	4
46	I ₂ vapor-induced degradation of formamidinium lead iodide based perovskite solar cells under heat/light soaking conditions. <i>Energy and Environmental Science</i> , 2019 , 12, 3074-3088	35.4	68
45	Closing the Cell-to-Module Efficiency Gap: A Fully Laser Scribed Perovskite Minimodule With 16% Steady-State Aperture Area Efficiency. <i>IEEE Journal of Photovoltaics</i> , 2018 , 8, 151-155	3.7	24
44	Improved Optics in Monolithic Perovskite/Silicon Tandem Solar Cells with a Nanocrystalline Silicon Recombination Junction. <i>Advanced Energy Materials</i> , 2018 , 8, 1701609	21.8	148
43	Perovskite/Perovskite/Silicon Monolithic Triple-Junction Solar Cells with a Fully Textured Design. <i>ACS Energy Letters</i> , 2018 , 3, 2052-2058	20.1	60
42	Fully textured monolithic perovskite/silicon tandem solar cells with 25.2% power conversion efficiency. <i>Nature Materials</i> , 2018 , 17, 820-826	27	745
41	Atomic Layer Deposited Electron Transport Layers in Efficient Organometallic Halide Perovskite Devices. <i>MRS Advances</i> , 2018 , 3, 3075-3084	0.7	6
40	Direct Imaging of Dopant Distribution in Polycrystalline ZnO Films. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 7241-7248	9.5	7
39	Simple processing of back-contacted silicon heterojunction solar cells using selective-area crystalline growth. <i>Nature Energy</i> , 2017 , 2,	62.3	70
38	1 cm ² CH ₃ NH ₃ PbI ₃ mesoporous solar cells with 17.8% steady-state efficiency by tailoring front FTO electrodes. <i>Journal of Materials Chemistry C</i> , 2017 , 5, 4946-4950	7.1	11

37	Zinc blende/wurtzite polytypism in nanocrystalline ZnO films. <i>Acta Materialia</i> , 2017 , 130, 240-248	8.4	10
36	Comparison of Indium Tin Oxide and Indium Tungsten Oxide as Transparent Conductive Substrates for WO ₃ -Based Electrochromic Devices. <i>Journal of the Electrochemical Society</i> , 2017 , 164, H25-H31	3.9	4
35	ITO/MoO _x /a-Si:H(i) Hole-Selective Contacts for Silicon Heterojunction Solar Cells: Degradation Mechanisms and Cell Integration. <i>IEEE Journal of Photovoltaics</i> , 2017 , 7, 1584-1590	3.7	47
34	Progression towards high efficiency perovskite solar cells via optimisation of the front electrode and blocking layer. <i>Journal of Materials Chemistry C</i> , 2016 , 4, 11269-11277	7.1	14
33	Parasitic Absorption Reduction in Metal Oxide-Based Transparent Electrodes: Application in Perovskite Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 17260-7	9.5	60
32	Transparent Electrodes in Silicon Heterojunction Solar Cells: Influence on Contact Passivation. <i>IEEE Journal of Photovoltaics</i> , 2016 , 6, 17-27	3.7	35
31	Zinc tin oxide as high-temperature stable recombination layer for mesoscopic perovskite/silicon monolithic tandem solar cells. <i>Applied Physics Letters</i> , 2016 , 109, 233902	3.4	74
30	High-efficiency perovskite/silicon heterojunction tandem solar cells 2016 ,		1
29	Light-induced performance increase of silicon heterojunction solar cells. <i>Applied Physics Letters</i> , 2016 , 109, 153503	3.4	37
28	Efficient Near-Infrared-Transparent Perovskite Solar Cells Enabling Direct Comparison of 4-Terminal and Monolithic Perovskite/Silicon Tandem Cells. <i>ACS Energy Letters</i> , 2016 , 1, 474-480	20.1	281
27	Sputtered rear electrode with broadband transparency for perovskite solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2015 , 141, 407-413	6.4	182
26	Laser-Scribing Patterning for the Production of Organometallic Halide Perovskite Solar Modules. <i>IEEE Journal of Photovoltaics</i> , 2015 , 5, 1087-1092	3.7	87
25	Increasing Polycrystalline Zinc Oxide Grain Size by Control of Film Preferential Orientation. <i>Crystal Growth and Design</i> , 2015 , 15, 5886-5891	3.5	18
24	Silicon Heterojunction Solar Cells: Towards Low-cost High-Efficiency Industrial Devices and Application to Low-concentration PV. <i>Energy Procedia</i> , 2015 , 77, 508-514	2.3	20
23	22.5% efficient silicon heterojunction solar cell with molybdenum oxide hole collector. <i>Applied Physics Letters</i> , 2015 , 107, 081601	3.4	297
22	Tuning the porosity of zinc oxide electrodes: from dense to nanopillar films. <i>Materials Research Express</i> , 2015 , 2, 075006	1.7	12
21	Back-Contacted Silicon Heterojunction Solar Cells: Optical-Loss Analysis and Mitigation. <i>IEEE Journal of Photovoltaics</i> , 2015 , 5, 1293-1303	3.7	42
20	Organic-inorganic halide perovskite/crystalline silicon four-terminal tandem solar cells. <i>Physical Chemistry Chemical Physics</i> , 2015 , 17, 1619-29	3.6	257

19	Effect of the thin-film limit on the measurable optical properties of graphene. <i>Scientific Reports</i> , 2015 , 5, 15684	4.9	10
18	Photolithography-free interdigitated back-contacted silicon heterojunction solar cells with efficiency >21% 2014 ,		4
17	Copper and Transparent-Conductor Reflectarray Elements on Thin-Film Solar Cell Panels. <i>IEEE Transactions on Antennas and Propagation</i> , 2014 , 62, 3813-3818	4.9	18
16	Post-deposition treatment of microcrystalline silicon solar cells for improved performance on rough superstrates. <i>Journal of Applied Physics</i> , 2014 , 116, 244504	2.5	
15	Optical properties of anodically degraded ZnO. <i>Journal of Applied Physics</i> , 2014 , 115, 094902	2.5	2
14	On the Interplay Between Microstructure and Interfaces in High-Efficiency Microcrystalline Silicon Solar Cells. <i>IEEE Journal of Photovoltaics</i> , 2013 , 3, 11-16	3.7	27
13	Optimization of the Asymmetric Intermediate Reflector Morphology for High Stabilized Efficiency Thin n-i-p Micromorph Solar Cells. <i>IEEE Journal of Photovoltaics</i> , 2013 , 3, 41-45	3.7	7
12	New progress in the fabrication of n ⁺ p micromorph solar cells for opaque substrates. <i>Solar Energy Materials and Solar Cells</i> , 2013 , 114, 147-155	6.4	28
11	Ethanol-enriched low-pressure chemical vapor deposition ZnO bilayers: Properties and growth potential electrode for thin film solar cells. <i>Journal of Applied Physics</i> , 2013 , 113, 024908	2.5	4
10	Relaxing the Conductivity/Transparency Trade-Off in MOCVD ZnO Thin Films by Hydrogen Plasma. <i>Advanced Functional Materials</i> , 2013 , 23, 5177-5182	15.6	52
9	Nanometer- and Micrometer-Scale Texturing for High-Efficiency Micromorph Thin-Film Silicon Solar Cells. <i>IEEE Journal of Photovoltaics</i> , 2012 , 2, 83-87	3.7	25
8	New Generation Transparent LPCVD ZnO Electrodes for Enhanced Photocurrent in Micromorph Solar Cells and Modules. <i>IEEE Journal of Photovoltaics</i> , 2012 , 2, 88-93	3.7	10
7	Latest Developments of High-Efficiency Micromorph Tandem Silicon Solar Cells Implementing Innovative Substrate Materials and Improved Cell Design. <i>IEEE Journal of Photovoltaics</i> , 2012 , 2, 236-240	3.7	15
6	Geometric light trapping for high efficiency thin film silicon solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2012 , 98, 185-190	6.4	83
5	Multiscale transparent electrode architecture for efficient light management and carrier collection in solar cells. <i>Nano Letters</i> , 2012 , 12, 1344-8	11.5	119
4	Light harvesting schemes for high efficiency thin film silicon solar cells 2012 ,		2
3	The development of high performance SnO ₂ :F as TCOs for thin film silicon solar cells. <i>Surface and Coatings Technology</i> , 2012 , 213, 167-174	4.4	31
2	Polycrystalline ZnO: B grown by LPCVD as TCO for thin film silicon solar cells. <i>Thin Solid Films</i> , 2010 , 518, 2961-2966	2.2	140

- 1 Progresses in III-Nitride Distributed Bragg Reflectors and Microcavities Using AlInN/GaN Materials 261-286