Maikel F A M Van Hest

List of Publications by Citations

77 papers	4,737 citations	27 h-index	68 g-index
91 ext. papers	5,703 ext. citations	13.8 avg, IF	5.68 L-index

#	Paper	IF	Citations
77	Scalable fabrication of perovskite solar cells. *Nature Reviews Materials*, **2018**, 3,	73.3	532
76	Carrier lifetimes of >1 μs in Sn-Pb perovskites enable efficient all-perovskite tandem solar cells. *Science*, **2019**, 364, 475-479	33.3	496
75	Perovskite ink with wide processing window for scalable high-efficiency solar cells. *Nature Energy*, **2017**, 2,	62.3	398
74	Low-cost inorganic solar cells: from ink to printed device. *Chemical Reviews*, **2010**, 110, 6571-94	68.1	376
73	Triple-halide wide-band gap perovskites with suppressed phase segregation for efficient tandems. *Science*, **2020**, 367, 1097-1104	33.3	366
72	Enabling Flexible All-Perovskite Tandem Solar Cells. *Joule*, **2019**, 3, 2193-2204	27.8	211
71	General mobility and carrier concentration relationship in transparent amorphous indium zinc oxide films. *Physical Review B*, **2008**, 77,	3.3	187
70	Design of low bandgap tin–lead halide perovskite solar cells to achieve thermal, atmospheric and operational stability. *Nature Energy*, **2019**, 4, 939-947	62.3	152
69	Roll-to-Roll Printing of Perovskite Solar Cells. *ACS Energy Letters*, **2018**, 3, 2558-2565	20.1	137
68	The Remarkable Thermal Stability of Amorphous In-Zn-O Transparent Conductors. *Advanced Functional Materials*, **2008**, 18, 3169-3178	15.6	135
67	Bimolecular Additives Improve Wide-Band-Gap Perovskites for Efficient Tandem Solar Cells with CIGS. *Joule*, **2019**, 3, 1734-1745	27.8	131
66	From Defects to Degradation: A Mechanistic Understanding of Degradation in Perovskite Solar Cell Devices and Modules. *Advanced Energy Materials*, **2020**, 10, 1904054	21.8	119
65	Outlook and Challenges of Perovskite Solar Cells toward Terawatt-Scale Photovoltaic Module Technology. *Joule*, **2018**, 2, 1437-1451	27.8	113
64	Highly Efficient Perovskite Solar Modules by Scalable Fabrication and Interconnection Optimization. *ACS Energy Letters*, **2018**, 3, 322-328	20.1	111
63	Scalable slot-die coating of high performance perovskite solar cells. *Sustainable Energy and Fuels*, **2018**, 2, 2442-2449	5.8	109
62	Ultrasonically sprayed and inkjet printed thin film electrodes for organic solar cells. *Thin Solid Films*, **2009**, 517, 2781-2786	2.2	93
61	High-Performance Flexible Perovskite Solar Cells on Ultrathin Glass: Implications of the TCO. *Journal of Physical Chemistry Letters*, **2017**, 8, 4960-4966	6.4	85

60	The formation mechanism for printed silver-contacts for silicon solar cells. *Nature Communications*, **2016**, 7, 11143	17.4	73
59	Pulsed laser deposited Nb doped TiO2 as a transparent conducting oxide. *Thin Solid Films*, **2008**, 516, 4133-4138	2.2	62
58	Scalable Deposition of High-Efficiency Perovskite Solar Cells by Spray-Coating. *ACS Applied Energy Materials*, **2018**, 1, 1853-1857	6.1	59
57	Degradation of Highly Alloyed Metal Halide Perovskite Precursor Inks: Mechanism and Storage Solutions. *ACS Energy Letters*, **2018**, 3, 979-985	20.1	57
56	Sputtered Nb- and Ta-doped TiO2 transparent conducting oxide films on glass. *Journal of Materials Research*, **2007**, 22, 2832-2837	2.5	44
55	Improving Low-Bandgap Tin□lead Perovskite Solar Cells via Contact Engineering and Gas Quench Processing. *ACS Energy Letters*, **2020**, 5, 1215-1223	20.1	43
54	Effect of deposition distance and temperature on electrical, optical and structural properties of radio-frequency magnetron-sputtered gallium-doped zinc oxide. *Thin Solid Films*, **2010**, 519, 190-196	2.2	33
53	The Molybdenum Oxide Interface Limits the High-Temperature Operational Stability of Unencapsulated Perovskite Solar Cells. *ACS Energy Letters*, **2020**, 5, 2349-2360	20.1	31
52	Scalable Fabrication of Perovskite Solar Cells to Meet Climate Targets. *Joule*, **2018**, 2, 2464-2476	27.8	29
51	Three-terminal III□V/Si tandem solar cells enabled by a transparent conductive adhesive. *Sustainable Energy and Fuels*, **2020**, 4, 549-558	5.8	28
50	Radiative Thermal Annealing/in Situ X-ray Diffraction Study of Methylammonium Lead Triiodide: Effect of Antisolvent, Humidity, Annealing Temperature Profile, and Film Substrates. *Chemistry of Materials*, **2017**, 29, 5931-5941	9.6	26
49	Toward Scalable Perovskite Solar Modules Using Blade Coating and Rapid Thermal Processing. *ACS Applied Energy Materials*, **2020**, 3, 3714-3720	6.1	26
48	Hydrazine-Free Solution-Deposited CuIn(S,Se)2 Solar Cells by Spray Deposition of Metal Chalcogenides. *ACS Applied Materials & Interfaces*, **2016**, 8, 11893-7	9.5	26
47	Influence of dipping cycles on physical, optical, and electrical properties of Cu2NiSnS4: Direct solution dip coating for photovoltaic applications. *Journal of Alloys and Compounds*, **2017**, 725, 510-518	5.7	25
46	Superhydrophilic Transparent Titania Films by Supersonic Aerosol Deposition. *Journal of the American Ceramic Society*, **2013**, 96, 1596-1601	3.8	23
45	Stability at Scale: Challenges of Module Interconnects for Perovskite Photovoltaics. *ACS Energy Letters*, **2018**, 3, 2502-2503	20.1	23
44	Stable p□i□n FAPbBr3 Devices with Improved Efficiency Using Sputtered ZnO as Electron Transport Layer. *Advanced Materials Interfaces*, **2017**, 4, 1601143	4.6	22
43	Improved fill factors in solution-processed ZnO/Cu2O photovoltaics. *Thin Solid Films*, **2013**, 536, 280-285	2.2	22

42	Niobium-Doped Titania Photocatalyst Film Prepared via a Nonaqueous Sol-Gel Method. *Journal of the American Ceramic Society*, **2013**, 96, 2623-2627	3.8	22
41	Carbon- and oxygen-free Cu(InGa)(SSe)□ solar cell with a 4.63% conversion efficiency by electrostatic spray deposition. *ACS Applied Materials & Interfaces*, **2014**, 6, 8369-77	9.5	20
40	Fabrication of nanoporous titania on glass and transparent conducting oxide substrates by anodization of titanium films. *Journal of Materials Research*, **2007**, 22, 681-687	2.5	20
39	III-V/Si wafer bonding using transparent, conductive oxide interlayers. *Applied Physics Letters*, **2015**, 106, 263904	3.4	18
38	Learning from existing photovoltaic technologies to identify alternative perovskite module designs. *Energy and Environmental Science*, **2020**, 13, 3393-3403	35.4	18
37	A novel blanket annealing process to achieve highly transparent and conducting Al doped ZnO thin films: Its mechanism and application in perovskite solar cells. *Solar Energy*, **2018**, 174, 815-825	6.8	18
36	Curtailing Perovskite Processing Limitations via Lamination at the Perovskite/Perovskite Interface. *ACS Energy Letters*, **2018**, 3, 1192-1197	20.1	17
35	Combinatorial Growth and Analysis of the Transparent Conducting Oxide ZnO/In (IZO). *Macromolecular Rapid Communications*, **2004**, 25, 344-347	4.8	16
34	Combinatorial Chemical Bath Deposition of CdS Contacts for Chalcogenide Photovoltaics. *ACS Combinatorial Science*, **2016**, 18, 583-9	3.9	16
33	Transparent Conductive Adhesives for Tandem Solar Cells Using Polymer-Particle Composites. *ACS Applied Materials & Interfaces*, **2018**, 10, 8086-8091	9.5	14
32	Stabilization of wide band-gap p-type wurtzite MnTe thin films on amorphous substrates. *Journal of Materials Chemistry C*, **2018**, 6, 6297-6304	7.1	14
31	Tuning Hydrophobicity with Honeycomb Surface Structure and Hydrophilicity with CF4 Plasma Etching for Aerosol-Deposited Titania Films. *Journal of the American Ceramic Society*, **2012**, 95, 3955-3961	3.8	13
30	Radio-frequency superimposed direct current magnetron sputtered Ga:ZnO transparent conducting thin films. *Journal of Applied Physics*, **2012**, 111, 093718	2.5	12
29	Solution synthesis and characterization of indium-zinc formate precursors for transparent conducting oxides. *Inorganic Chemistry*, **2010**, 49, 5424-31	5.1	12
28	Atmospheric pressure synthesis of In2Se3, Cu2Se, and CuInSe2 without external selenization from solution precursors. *Journal of Materials Research*, **2009**, 24, 1375-1387	2.5	9
27	Measurement of band offsets and shunt resistance in CdTe solar cells through temperature and intensity dependence of open circuit voltage and photoluminescence. *Solar Energy*, **2019**, 189, 389-397	6.8	8
26	Multi-Layer Inkjet Printed Contacts for Silicon Solar Cells **2006**,		8
25	Measurement of Relaxation Time of Excess Carriers in Si and CIGS Solar Cells by Modulated Electroluminescence Technique. *Physica Status Solidi (A) Applications and Materials Science*, **2018**, 215, 1700267	1.6	7

24	Inkjet printed metallizations for Cu(In1 Ga x)Se2 photovoltaic cells. *Progress in Photovoltaics: Research and Applications*, **2011**, 19, 973-976	6.8	7
23	Direct write metallization for photovoltaic cells and scaling thereof **2010**,		7
22	Effect of supersonic spraying impact velocity on opto-electric properties of transparent conducting flexible films consisting of silver nanowire, ITO, and polyimide multilayers. *Journal of Alloys and Compounds*, **2018**, 739, 653-659	5.7	6
21	Indium zinc oxide mediated wafer bonding for III /Si tandem solar cells **2015**,		6
20	Wettability and photocatalysis of CF4 plasma etched titania films of honeycomb structure. *Ceramics International*, **2013**, 39, 9737-9742	5.1	5
19	Spray deposition of high quality CuInSe2 and CdTe films. *Conference Record of the IEEE Photovoltaic Specialists Conference*, **2008**,		4
18	Synthesis of CZTS/Se and Their Solid Solution from Electrodeposited Cu Sn Zn Metal Precursor: A Study of S and Se Replacement Reaction. *ACS Applied Energy Materials*, **2018**, 1, 3351-3358	6.1	3
17	Non-contact printed aluminum for metallization of Si photovoltaics. *Thin Solid Films*, **2014**, 556, 525-528	2.2	3
16	Back contact band offset study of Mo-CZTS based solar cell structure by using XPS/UPS techniques **2015**,		3
15	Improving mechanical stability and electrical properties of silver nanowire films with a zinc tin oxide overcoat **2014**,		3
14	Non-contact printed aluminum metallization of Si photovoltaic devices **2012**,		3
13	Inkjet printed contacts for use in photovoltaics **2009**,		3
12	Direct Deposition of Nonaqueous SnO2 Dispersion by Blade Coating on Perovskites for the Scalable Fabrication of p Perovskite Solar Cells. *ACS Applied Energy Materials*,	6.1	3
11	Processing-phase diagrams: a new tool for solution-deposited thin-film development applied to the In5O(OPri)13 In2O3 system. *Journal of Materials Chemistry C*, **2014**, 2, 2360	7.1	2
10	Printed monolithic interconnects for photovoltaic applications **2014**,		2
9	Solution deposition of amorphous IZO films by ultrasonic spray pyrolysis **2009**,		2
8	Direct-write contacts: Metallization and contact formation. *Conference Record of the IEEE Photovoltaic Specialists Conference*, **2008**,		2
7	Development of solution-processed nanowire composites for opto-electronics. *MRS Communications*, **2016**, 6, 341-347	2.7	2

6	Field assisted simultaneous synthesis and transfer FASST method used in conjunction with liquid precursors to produce CIGS solar cells **2010**,		1
5	Solvation of NiOfor hole transport layer deposition in perovskite solar cells. *Nanotechnology*, **2021**, 33,	3.4	1
4	Rapid thermal processing of cost-effective contacts for silicon solar cells. *Progress in Photovoltaics: Research and Applications*, **2019**, 27, 453-459	6.8	1
3	Carrier gradients and the role of charge selective contacts in lateral heterojunction all back contact perovskite solar cells. *Cell Reports Physical Science*, **2021**, 2, 100520	6.1	1
2	Photovoltaics. *Advanced Micro & Nanosystems*,279-294		1
1	High-Efficiency Low-Cost Photovoltaic Modules Based on CIGS Thin Films from Solution Precursors. *Materials Research Society Symposia Proceedings*, **2010**, 1247, 1		