

# Uwe Rau

## 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.

401  
papers

13,907  
citations

64  
h-index

102  
g-index

435  
ext. papers

15,594  
ext. citations

5  
avg, IF

6.83  
L-index

#	Paper	IF	Citations
401	Multilayer Capacitances: How Selective Contacts Affect Capacitance Measurements of Perovskite Solar Cells <b>2022</b> , 1,		4
400	Prediction of Limits of Solar-to-Hydrogen Efficiency from Polarization Curves of the Electrochemical Cells. <i>Solar Rrl</i> , <b>2022</b> , 6, 2100783	7.1	1
399	Quantifying the Absorption Onset in the Quantum Efficiency of Emerging Photovoltaic Devices. <i>Advanced Energy Materials</i> , <b>2021</b> , 11, 2100022	21.8	20
398	Interface Optimization via Fullerene Blends Enables Open-Circuit Voltages of 1.35V in CH <sub>3</sub> NH <sub>3</sub> Pb(I <sub>0.8</sub> Br <sub>0.2</sub> ) <sub>3</sub> Solar Cells. <i>Advanced Energy Materials</i> , <b>2021</b> , 11, 2003386	21.8	28
397	Quantum Transport across Amorphous-Crystalline Interfaces in Tunnel Oxide Passivated Contact Solar Cells: Direct versus Defect-Assisted Tunneling. <i>Chinese Physics Letters</i> , <b>2021</b> , 38, 036301	1.8	1
396	Understanding Transient Photoluminescence in Halide Perovskite Layer Stacks and Solar Cells. <i>Advanced Energy Materials</i> , <b>2021</b> , 11, 2003489	21.8	44
395	A silicon carbide-based highly transparent passivating contact for crystalline silicon solar cells approaching efficiencies of 24%. <i>Nature Energy</i> , <b>2021</b> , 6, 529-537	62.3	29
394	Transparent-conductive-oxide-free front contacts for high-efficiency silicon heterojunction solar cells. <i>Joule</i> , <b>2021</b> , 5, 1535-1547	27.8	9
393	Device Performance of Emerging Photovoltaic Materials (Version 1). <i>Advanced Energy Materials</i> , <b>2021</b> , 11, 2002774	21.8	56
392	Low-resistivity p-type a-Si:H/AZO hole contact in high-efficiency silicon heterojunction solar cells. <i>Applied Surface Science</i> , <b>2021</b> , 542, 148749	6.7	8
391	Influence of Oxygen on Sputtered Titanium-Doped Indium Oxide Thin Films and Their Application in Silicon Heterojunction Solar Cells. <i>Solar Rrl</i> , <b>2021</b> , 5, 2000501	7.1	6
390	High-quality amorphous silicon thin films for tunnel oxide passivating contacts deposited at over 150 nm/min. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2021</b> , 29, 16-23	6.8	2
389	Defect tolerant device geometries for lead-halide perovskites. <i>Materials Advances</i> , <b>2021</b> , 2, 3655-3670	3.3	6
388	Design of deterministic light-trapping structures for thin silicon heterojunction solar cells. <i>Optics Express</i> , <b>2021</b> , 29, 7410-7417	3.3	0
387	Improved Infrared Light Management with Transparent Conductive Oxide/Amorphous Silicon Back Reflector in High-Efficiency Silicon Heterojunction Solar Cells. <i>Solar Rrl</i> , <b>2021</b> , 5, 2000576	7.1	6
386	Reply to Ideal solar cell efficiencies <i>Nature Photonics</i> , <b>2021</b> , 15, 165-166	33.9	4
385	Function Analysis of the Phosphine Gas Flow for n-Type Nanocrystalline Silicon Oxide Layer in Silicon Heterojunction Solar Cells. <i>ACS Applied Energy Materials</i> , <b>2021</b> , 4, 7544-7551	6.1	1

384	Storage batteries in photovoltaic-electrochemical device for solar hydrogen production. <i>Journal of Power Sources</i> , <b>2021</b> , 509, 230367	8.9	4
383	Phosphorus Catalytic Doping on Intrinsic Silicon Thin Films for the Application in Silicon Heterojunction Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 56615-56621	9.5	2
382	From room to roof: How feasible is direct coupling of solar-battery power unit under variable irradiance?. <i>Solar Energy</i> , <b>2020</b> , 206, 732-740	6.8	6
381	Development of Conductive SiC:H as a New Hydrogenation Technique for Tunnel Oxide Passivating Contacts. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 29986-29992	9.5	1
380	A Bias-Free, Stand-Alone, and Scalable Photovoltaic-Electrochemical Device for Solar Hydrogen Production. <i>Advanced Sustainable Systems</i> , <b>2020</b> , 4, 2000070	5.9	10
379	Effect of reabsorption and photon recycling on photoluminescence spectra and transients in lead-halide perovskite crystals. <i>JPhys Materials</i> , <b>2020</b> , 3, 025003	4.2	9
378	Impact of Laser Treatment on Hydrogenated Amorphous Silicon Properties. <i>Advanced Engineering Materials</i> , <b>2020</b> , 22, 1901437	3.5	1
377	Front contact optimization for rear-junction SHJ solar cells with ultra-thin n-type nanocrystalline silicon oxide. <i>Solar Energy Materials and Solar Cells</i> , <b>2020</b> , 209, 110471	6.4	19
376	Transparent silicon carbide/tunnel SiO <sub>2</sub> passivation for c-Si solar cell front side: Enabling J <sub>sc</sub> > 42 mA/cm <sup>2</sup> and iVoc of 742 mV. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2020</b> , 28, 321-327	6.8	12
375	What is a deep defect? Combining Shockley-Read-Hall statistics with multiphonon recombination theory. <i>Physical Review Materials</i> , <b>2020</b> , 4,	3.2	21
374	How solar cell efficiency is governed by the $\beta$ product. <i>Physical Review Research</i> , <b>2020</b> , 2,	3.9	10
373	How to Report Record Open-Circuit Voltages in Lead-Halide Perovskite Solar Cells. <i>Advanced Energy Materials</i> , <b>2020</b> , 10, 1902573	21.8	94
372	Optimization of Transparent Passivating Contact for Crystalline Silicon Solar Cells. <i>IEEE Journal of Photovoltaics</i> , <b>2020</b> , 10, 46-53	3.7	11
371	Efficient Area Matched Converter Aided Solar Charging of Lithium Ion Batteries Using High Voltage Perovskite Solar Cells. <i>ACS Applied Energy Materials</i> , <b>2020</b> , 3, 431-439	6.1	15
370	Luminescence Analysis of Charge-Carrier Separation and Internal Series-Resistance Losses in Cu(In,Ga)Se <sub>2</sub> Solar Cells. <i>Physical Review Applied</i> , <b>2020</b> , 14,	4.3	5
369	Bifunctional CoFeVO <sub>x</sub> Catalyst for Solar Water Splitting by using Multijunction and Heterojunction Silicon Solar Cells. <i>Advanced Materials Technologies</i> , <b>2020</b> , 5, 2000592	6.8	6
368	Influence of Room Temperature Sputtered Al-Doped Zinc Oxide on Passivation Quality in Silicon Heterojunction Solar Cells. <i>IEEE Journal of Photovoltaics</i> , <b>2019</b> , 9, 1485-1491	3.7	9
367	Solar hydrogen production: a bottom-up analysis of different photovoltaic-electrolysis pathways. <i>Sustainable Energy and Fuels</i> , <b>2019</b> , 3, 801-813	5.8	24

366	Poly-Si/SiO <sub>x</sub> /c-Si passivating contact with 738 mV implied open circuit voltage fabricated by hot-wire chemical vapor deposition. <i>Applied Physics Letters</i> , <b>2019</b> , 114, 153901	3.4	13
365	In Situ-Doped Silicon Thin Films for Passivating Contacts by Hot-Wire Chemical Vapor Deposition with a High Deposition Rate of 42 nm/min. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2019</b> , 11, 30493-30498	3.5	4
364	Charge Carrier Collection and Contact Selectivity in Solar Cells. <i>Advanced Materials Interfaces</i> , <b>2019</b> , 6, 1900252	4.6	22
363	Geometrical Light Trapping in Thin c-Si Solar Cells beyond Lambertian Limit <b>2019</b> ,		1
362	Open-Circuit Voltages Exceeding 1.26 V in Planar Methylammonium Lead Iodide Perovskite Solar Cells. <i>ACS Energy Letters</i> , <b>2019</b> , 4, 110-117	20.1	216
361	Application of Raman spectroscopy for depth-dependent evaluation of the hydrogen concentration of amorphous silicon. <i>Thin Solid Films</i> , <b>2018</b> , 653, 223-228	2.2	7
360	Quantitative analysis of the transient photoluminescence of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> /PC61BM heterojunctions by numerical simulations. <i>Sustainable Energy and Fuels</i> , <b>2018</b> , 2, 1027-1034	5.8	61
359	Wet-Chemical Preparation of Silicon Tunnel Oxides for Transparent Passivated Contacts in Crystalline Silicon Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2018</b> , 10, 14259-14263	9.5	22
358	. <i>IEEE Journal of Photovoltaics</i> , <b>2018</b> , 8, 272-277	3.7	4
357	Impact of Small Phonon Energies on the Charge-Carrier Lifetimes in Metal-Halide Perovskites. <i>Journal of Physical Chemistry Letters</i> , <b>2018</b> , 9, 939-946	6.4	66
356	What Makes a Good Solar Cell?. <i>Advanced Energy Materials</i> , <b>2018</b> , 8, 1703385	21.8	104
355	Optical design of spectrally selective interlayers for perovskite/silicon heterojunction tandem solar cells. <i>Optics Express</i> , <b>2018</b> , 26, A750-A760	3.3	22
354	Statistics of the Auger Recombination of Electrons and Holes via Defect Levels in the Band Gap-Application to Lead-Halide Perovskites. <i>ACS Omega</i> , <b>2018</b> , 3, 8009-8016	3.9	34
353	Linking structural properties with functionality in solar cell materials [the effective mass and effective density of states. <i>Sustainable Energy and Fuels</i> , <b>2018</b> , 2, 1550-1560	5.8	11
352	Development of a Transparent Passivated Contact as a Front Side Contact for Silicon Heterojunction Solar Cells <b>2018</b> ,		5
351	How Contact Layers Control Shunting Losses from Pinholes in Thin-Film Solar Cells. <i>Journal of Physical Chemistry C</i> , <b>2018</b> , 122, 27263-27272	3.8	14
350	Application of Room Temperature Sputtered Al-doped Zinc Oxide in Silicon Heterojunction Solar Cells <b>2018</b> ,		1
349	Cu(In,Ga)Se <sub>2</sub> Thin-Film Solar Cells <b>2018</b> , 371-418		1

348	Wide gap microcrystalline silicon carbide emitter for amorphous silicon oxide passivated heterojunction solar cells. <i>Japanese Journal of Applied Physics</i> , <b>2017</b> , 56, 022302	1.4	7
347	Photovoltaics: Nanoengineered Materials and Their Functionality in Solar Cells <b>2017</b> , 181-206		1
346	Decreasing Radiative Recombination Coefficients via an Indirect Band Gap in Lead Halide Perovskites. <i>Journal of Physical Chemistry Letters</i> , <b>2017</b> , 8, 1265-1271	6.4	47
345	Bandgap imaging in Cu(In,Ga)Se <sub>2</sub> photovoltaic modules by electroluminescence. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2017</b> , 25, 184-191	6.8	3
344	Manipulating the Net Radiative Recombination Rate in Lead Halide Perovskite Films by Modification of Light Outcoupling. <i>Journal of Physical Chemistry Letters</i> , <b>2017</b> , 8, 5084-5090	6.4	42
343	Selection Metric for Photovoltaic Materials Screening Based on Detailed-Balance Analysis. <i>Physical Review Applied</i> , <b>2017</b> , 8,	4.3	41
342	Compatibility study towards monolithic self-charging power unit based on all-solid thin-film solar module and battery. <i>Journal of Power Sources</i> , <b>2017</b> , 365, 303-307	8.9	12
341	Performance stability of photovoltaic modules in different climates. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2017</b> , 25, 968-981	6.8	19
340	Approaching Solar-Grade a-Si:H for Photovoltaic Applications via Atmospheric Pressure CVD Using a Trisilane-Derived Liquid Precursor. <i>Solar Rrl</i> , <b>2017</b> , 1, 1700030	7.1	4
339	Efficiency Potential of Photovoltaic Materials and Devices Unveiled by Detailed-Balance Analysis. <i>Physical Review Applied</i> , <b>2017</b> , 7,	4.3	154
338	Microscopic Perspective on Photovoltaic Reciprocity in Ultrathin Solar Cells. <i>Physical Review Letters</i> , <b>2017</b> , 118, 247702	7.4	21
337	Illumination intensity and spectrum-dependent performance of thin-film silicon single and multijunction solar cells. <i>Solar Energy Materials and Solar Cells</i> , <b>2017</b> , 159, 427-434	6.4	22
336	Understanding the energy yield of photovoltaic modules in different climates by linear performance loss analysis of the module performance ratio. <i>IET Renewable Power Generation</i> , <b>2017</b> , 11, 558-565	2.9	25
335	Light-induced degradation of adapted quadruple junction thin film silicon solar cells for photoelectrochemical water splitting. <i>Solar Energy Materials and Solar Cells</i> , <b>2016</b> , 145, 142-147	6.4	26
334	Field Emission at Grain Boundaries: Modeling the Conductivity in Highly Doped Polycrystalline Semiconductors. <i>Physical Review Applied</i> , <b>2016</b> , 5,	4.3	20
333	In Situ Real-Time Characterization of Thin-Film Growth <b>2016</b> , 441-467		3
332	Introduction to Thin-Film Photovoltaics <b>2016</b> , 1-40		1
331	Characterizing the Light-Trapping Properties of Textured Surfaces with Scanning Near-Field Optical Microscopy <b>2016</b> , 257-274		1

330	Photoluminescence Analysis of Thin-Film Solar Cells <b>2016</b> , 275-297		16
329	Scanning Probe Microscopy on Inorganic Thin Films for Solar Cells <b>2016</b> , 343-369		
328	Electron Microscopy on Thin Films for Solar Cells <b>2016</b> , 371-420		3
327	Soft X-ray and Electron Spectroscopy: A Unique Tool Chest to Characterize the Chemical and Electronic Properties of Surfaces and Interfaces <b>2016</b> , 501-522		1
326	Fundamental Electrical Characterization of Thin-Film Solar Cells <b>2016</b> , 41-69		3
325	Hydrogen Effusion Experiments <b>2016</b> , 569-595		6
324	One-Dimensional Electro-Optical Simulations of Thin-Film Solar Cells <b>2016</b> , 633-657		2
323	Two- and Three-Dimensional Electronic Modeling of Thin-Film Solar Cells <b>2016</b> , 659-674		
322	Electroluminescence Analysis of Solar Cells and Solar Modules <b>2016</b> , 71-92		3
321	Capacitance Spectroscopy of Thin-Film Solar Cells <b>2016</b> , 93-119		4
320	Transient Optoelectronic Characterization of Thin-Film Solar Cells <b>2016</b> , 147-162		2
319	Reciprocity between Charge Injection and Extraction and Its Influence on the Interpretation of Electroluminescence Spectra in Organic Solar Cells. <i>Physical Review Applied</i> , <b>2016</b> , 5,	4-3	30
318	Post passivation light trapping back contacts for silicon heterojunction solar cells. <i>Nanoscale</i> , <b>2016</b> , 8, 18726-18733	7-7	4
317	Upscaling of integrated photoelectrochemical water-splitting devices to large areas. <i>Nature Communications</i> , <b>2016</b> , 7, 12681	17.4	76
316	Beyond Bulk Lifetimes: Insights into Lead Halide Perovskite Films from Time-Resolved Photoluminescence. <i>Physical Review Applied</i> , <b>2016</b> , 6,	4-3	144
315	Pronounced Surface Band Bending of Thin-Film Silicon Revealed by Modeling Core Levels Probed with Hard X-rays. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2016</b> , 8, 17685-93	9-5	4
314	Photoelectrochemical application of thin-film silicon triple-junction solar cell in batteries. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2016</b> , 213, 1926-1931	1.6	11
313	Multijunction Si photocathodes with tunable photovoltages from 2.0 V to 2.8 V for light induced water splitting. <i>Energy and Environmental Science</i> , <b>2016</b> , 9, 145-154	35.4	107

312	Influence of the operating temperature on the performance of silicon based photoelectrochemical devices for water splitting. <i>Materials Science in Semiconductor Processing</i> , <b>2016</b> , 42, 142-146	4.3	17
311	Prototyping of nanophotonic grating back contacts for light trapping in planar silicon solar cells. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2016</b> , 213, 1949-1954	1.6	2
310	Modeling and practical realization of thin film silicon-based integrated solar water splitting devices. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2016</b> , 213, 1738-1746	1.6	18
309	Mechanism for crystalline Si surface passivation by the combination of SiO <sub>2</sub> tunnel oxide and $\beta$ -c-SiC:H thin film. <i>Physica Status Solidi - Rapid Research Letters</i> , <b>2016</b> , 10, 233-236	2.5	6
308	Analysis of Cu(In,Ga)Se <sub>2</sub> thin-film modules by electro-modulated luminescence. <i>Journal of Applied Physics</i> , <b>2016</b> , 119, 095704	2.5	7
307	Detailed balance analysis of photovoltaic materials and devices <b>2016</b> ,		1
306	Imaging photocurrent collection losses in solar cells. <i>Applied Physics Letters</i> , <b>2016</b> , 109, 223502	3.4	7
305	Photon Tunneling in Tandem Solar Cells With Intermediate Reflector. <i>IEEE Journal of Photovoltaics</i> , <b>2016</b> , 6, 597-603	3.7	3
304	Impact of Photon Recycling on the Open-Circuit Voltage of Metal Halide Perovskite Solar Cells. <i>ACS Energy Letters</i> , <b>2016</b> , 1, 731-739	20.1	96
303	Effects of Thermochemical Treatment on CuSbS <sub>2</sub> Photovoltaic Absorber Quality and Solar Cell Reproducibility. <i>Journal of Physical Chemistry C</i> , <b>2016</b> , 120, 18377-18385	3.8	51
302	Extracting Information about the Electronic Quality of Organic Solar-Cell Absorbers from Fill Factor and Thickness. <i>Physical Review Applied</i> , <b>2016</b> , 6,	4.3	44
301	Development towards cell-to-cell monolithic integration of a thin-film solar cell and lithium-ion accumulator. <i>Journal of Power Sources</i> , <b>2016</b> , 327, 340-344	8.9	25
300	Advanced large area characterization of thin-film solar modules by electroluminescence and thermography imaging techniques. <i>Solar Energy Materials and Solar Cells</i> , <b>2015</b> , 135, 35-42	6.4	38
299	Analysis of the light-induced degradation of differently matched tandem solar cells with and without an intermediate reflector using the Power Matching Method. <i>Solar Energy Materials and Solar Cells</i> , <b>2015</b> , 143, 1-8	6.4	4
298	Direct analysis of the current density vs. voltage curves of a CdTe module during outdoor exposure. <i>Solar Energy</i> , <b>2015</b> , 113, 88-100	6.8	4
297	Application and modeling of an integrated amorphous silicon tandem based device for solar water splitting. <i>Solar Energy Materials and Solar Cells</i> , <b>2015</b> , 140, 275-280	6.4	44
296	Solar water splitting with earth-abundant materials using amorphous silicon photocathodes and Al/Ni contacts as hydrogen evolution catalyst. <i>Chemical Physics Letters</i> , <b>2015</b> , 638, 25-30	2.5	23
295	Nanoscale Investigation of Polarization-Dependent Light Coupling to Individual Waveguide Modes in Nanophotonic Thin-Film Solar Cells. <i>IEEE Journal of Photovoltaics</i> , <b>2015</b> , 5, 1523-1527	3.7	3

294	Electric properties and carrier multiplication in breakdown sites in multi-crystalline silicon solar cells. <i>Journal of Applied Physics</i> , <b>2015</b> , 117, 205703	2.5	1
293	Electrical Repair of Incomplete Back Contact Insulation (P1) in Cu(In,Ga)Se <sub>2</sub> Photovoltaic Thin-Film Modules. <i>IEEE Journal of Photovoltaics</i> , <b>2015</b> , 5, 1197-1205	3.7	1
292	Coupling Incident Light to Guided Modes in Thin-Film Tandem Solar Cells With Intermediate Reflector. <i>IEEE Journal of Photovoltaics</i> , <b>2015</b> , 5, 3-8	3.7	1
291	Preparation and measurement of highly efficient a-Si:H single junction solar cells and the advantages of $\text{F-SiO}_x\text{:H}$ n-layers. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2015</b> , 23, 939-948	6.8	37
290	Angular dependence of light trapping in nanophotonic thin-film solar cells. <i>Optics Express</i> , <b>2015</b> , 23, A1575-88	3.5	9
289	Thermography and electroluminescence imaging of scribing failures in Cu(In,Ga)Se <sub>2</sub> thin film solar modules. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2015</b> , 212, 2877-2888	1.6	1
288	Shunt mitigation in ZnO:Al/i-ZnO/CdS/Cu(In,Ga)Se <sub>2</sub> solar modules by the i-ZnO/CdS buffer combination. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2015</b> , 212, 541-546	1.6	12
287	Defect Diagnostics of Scribing Failures and Cu-Rich Debris in Cu(In,Ga)Se <sub>2</sub> Thin-Film Solar Modules With Electroluminescence and Thermography. <i>IEEE Journal of Photovoltaics</i> , <b>2015</b> , 5, 1179-1187	3.7	6
286	Current Concepts for Optical Path Enhancement in Solar Cells <b>2015</b> , 1-20		4
285	Fluorescent Concentrators for Photovoltaic Applications <b>2015</b> , 283-321		4
284	The Principle of Detailed Balance and the Opto-Electronic Properties of Solar Cells <b>2015</b> , 21-48		1
283	Rear Side Diffractive Gratings for Silicon Wafer Solar Cells <b>2015</b> , 49-90		
282	Light-Trapping in Solar Cells by Directionally Selective Filters <b>2015</b> , 183-207		1
281	Linear Optics of Plasmonic Concepts to Enhance Solar Cell Performance <b>2015</b> , 209-230		1
280	A new 2D model for the electrical potential in a cell stripe in thin-film solar modules including local defects. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2015</b> , 23, 331-339	6.8	4
279	Solution-Based Silicon in Thin-Film Solar Cells. <i>Advanced Energy Materials</i> , <b>2014</b> , 4, 1301871	21.8	26
278	Disorder improves nanophotonic light trapping in thin-film solar cells. <i>Applied Physics Letters</i> , <b>2014</b> , 104, 131102	3.4	42
277	Optically active defects in SiC, SiO <sub>x</sub> single layers and SiC/SiO <sub>x</sub> hetero-superlattices. <i>Solar Energy Materials and Solar Cells</i> , <b>2014</b> , 129, 3-6	6.4	3



276	On the thermodynamics of light trapping in solar cells. <i>Nature Materials</i> , <b>2014</b> , 13, 103-4	27	20
275	Impact of doped microcrystalline silicon oxide layers on crystalline silicon surface passivation. <i>Canadian Journal of Physics</i> , <b>2014</b> , 92, 758-762	1.1	7
274	Nanoscale observation of waveguide modes enhancing the efficiency of solar cells. <i>Nano Letters</i> , <b>2014</b> , 14, 6599-605	11.5	28
273	Thermodynamics of light management in photovoltaic devices. <i>Physical Review B</i> , <b>2014</b> , 90,	3.3	137
272	Effect of localized states on the reciprocity between quantum efficiency and electroluminescence in Cu(In,Ga)Se <sub>2</sub> and Si thin-film solar cells. <i>Solar Energy Materials and Solar Cells</i> , <b>2014</b> , 129, 95-103	6.4	22
271	Cu(In,Ga)Se <sub>2</sub> AND RELATED SOLAR CELLS. <i>Series on Photoconversion of Solar Energy</i> , <b>2014</b> , 245-305		2
270	a-Si:H/μc-Si:H tandem junction based photocathodes with high open-circuit voltage for efficient hydrogen production. <i>Journal of Materials Research</i> , <b>2014</b> , 29, 2605-2614	2.5	34
269	Photocurrent collection efficiency mapping of a silicon solar cell by a differential luminescence imaging technique. <i>Applied Physics Letters</i> , <b>2014</b> , 105, 163507	3.4	20
268	Advancing tandem solar cells by spectrally selective multilayer intermediate reflectors. <i>Optics Express</i> , <b>2014</b> , 22 Suppl 5, A1270-7	3.3	20
267	Small-signal lock-in thermography at the maximum power point of an a-Si solar mini-module. <i>Physica Status Solidi - Rapid Research Letters</i> , <b>2014</b> , 8, 894-897	2.5	1
266	Degradation of tandem solar cells: Separating matching effects from Staebler-Wronski Effect using the Power-Matching-Method <b>2014</b> ,		1
265	On the geometry of plasmonic reflection grating back contacts for light trapping in prototype amorphous silicon thin-film solar cells. <i>Journal of Photonics for Energy</i> , <b>2014</b> , 5, 057004	1.2	11
264	Development of Thin Film Amorphous Silicon Tandem Junction Based Photocathodes Providing High Open-Circuit Voltages for Hydrogen Production. <i>International Journal of Photoenergy</i> , <b>2014</b> , 2014, 1-10	2.1	36
263	Deposition of intrinsic hydrogenated amorphous silicon for thin-film solar cells by comparative study for layers grown statically by RF-PECVD and dynamically by VHF-PECVD. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2014</b> , 22, 198-207	6.8	5
262	Novel series connection concept for thin film solar modules. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2013</b> , 21, 972-979	6.8	10
261	Analysis of short circuit current gains by an anti-reflective textured cover on silicon thin film solar cells. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2013</b> , 21, 1672-1681	6.8	62
260	Cu(In,Ga)Se <sub>2</sub> Thin-Film Solar Cells <b>2013</b> , 261-304		4
259	Microcrystalline siliconoxygen alloys for application in silicon solar cells and modules. <i>Solar Energy Materials and Solar Cells</i> , <b>2013</b> , 119, 134-143	6.4	98

258	Effect of light soaking on the electro- and photoluminescence of Cu(In,Ga)Se <sub>2</sub> solar cells. <i>Applied Physics Letters</i> , <b>2013</b> , 103, 183504	3.4	11
257	Plasmonic back contacts with non-ordered Ag nanostructures for light trapping in thin-film silicon solar cells. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , <b>2013</b> , 178, 630-634	3.1	13
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255	Electrical characterization of P3 isolation lines patterned with a UV laser incident from the film side on thin-film silicon solar cells. <i>Solar Energy Materials and Solar Cells</i> , <b>2013</b> , 108, 87-92	6.4	6
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253	Matching of Silicon Thin-Film Tandem Solar Cells for Maximum Power Output. <i>International Journal of Photoenergy</i> , <b>2013</b> , 2013, 1-7	2.1	22
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249	Measurement and modeling of reverse biased electroluminescence in multi-crystalline silicon solar cells. <i>Journal of Applied Physics</i> , <b>2013</b> , 114, 134509	2.5	8
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246	Spectrally selective intermediate reflectors for tandem thin-film silicon solar cells <b>2013</b> ,		4
245	. <i>IEEE Journal of Photovoltaics</i> , <b>2012</b> , 2, 169-172	3.7	49
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241	Optical simulations of microcrystalline silicon solar cells applying plasmonic reflection grating back contacts. <i>Journal of Photonics for Energy</i> , <b>2012</b> , 2, 027002	1.2	13

240	Simulations of geometry effects and loss mechanisms affecting the photon collection in photovoltaic fluorescent collectors. <i>EPJ Photovoltaics</i> , <b>2012</b> , 3, 30101	0.7	7
239	Silicon heterojunction solar cell with amorphous silicon oxide buffer and microcrystalline silicon oxide contact layers. <i>Physica Status Solidi - Rapid Research Letters</i> , <b>2012</b> , 6, 193-195	2.5	44
238	Cu(In,Ga)Se <sub>2</sub> Thin-Film Solar Cells <b>2012</b> , 323-371		3
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236	Analysis of sub-stoichiometric hydrogenated silicon oxide films for surface passivation of crystalline silicon solar cells. <i>Journal of Applied Physics</i> , <b>2012</b> , 112, 054905	2.5	30
235	Understanding junction breakdown in multicrystalline solar cells. <i>Journal of Applied Physics</i> , <b>2011</b> , 109, 071101	2.5	92
234	Silicon quantum dot formation in SiC/SiO <sub>x</sub> hetero-superlattice. <i>Energy Procedia</i> , <b>2011</b> , 10, 249-254	2.3	15
233	Design of nanostructured plasmonic back contacts for thin-film silicon solar cells. <i>Optics Express</i> , <b>2011</b> , 19 Suppl 6, A1219-30	3.3	74
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226	Scanning Probe Microscopy on Inorganic Thin Films for Solar Cells <b>2011</b> , 275-298		2
225	Electron Microscopy on Thin Films for Solar Cells <b>2011</b> , 299-345		2
224	Soft X-Ray and Electron Spectroscopy: A Unique Tool Chest to Characterize the Chemical and Electronic Properties of Surfaces and Interfaces <b>2011</b> , 387-409		1
223	Hydrogen Effusion Experiments <b>2011</b> , 449-475		8

222	One-Dimensional Electro-Optical Simulations of Thin-Film Solar Cells <b>2011</b> , 501-527		8
221	Fundamental Electrical Characterization of Thin-Film Solar Cells <b>2011</b> , 33-60		11
220	Two- and Three-Dimensional Electronic Modeling of Thin-Film Solar Cells <b>2011</b> , 529-540		3
219	Electroluminescence Analysis of Solar Cells and Solar Modules <b>2011</b> , 61-80		6
218	Capacitance Spectroscopy of Thin-Film Solar Cells <b>2011</b> , 81-105		24
217	Photoluminescence Analysis of Thin-Film Solar Cells <b>2011</b> , 151-175		28
216	Structure and electronic properties of $\beta$ -SiC:H for photovoltaic applications. <i>Journal of Physics: Conference Series</i> , <b>2011</b> , 326, 012019	0.3	7
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214	Localized plasmonic losses at metal back contacts of thin-film silicon solar cells <b>2010</b> ,		18
213	Enhanced light trapping in thin amorphous silicon solar cells by directionally selective optical filters <b>2010</b> ,		1
212	Enhanced light trapping in thin-film solar cells by a directionally selective filter. <i>Optics Express</i> , <b>2010</b> , 18 Suppl 2, A133-8	3-3	27
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210	Inverted-opal photonic crystals for ultra light-trapping in solar cells <b>2010</b> ,		1
209	Ray tracing analysis of light scattering properties of randomly nano-textured ZnO films <b>2010</b> ,		1
208	Quantitative electroluminescence analysis of resistive losses in Cu(In, Ga)Se <sub>2</sub> thin-film modules. <i>Solar Energy Materials and Solar Cells</i> , <b>2010</b> , 94, 979-984	6.4	71
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189	Finite mobility effects on the radiative efficiency limit of pn-junction solar cells. <i>Physical Review B</i> , <b>2008</b> , 77,	3.3	53
188	Geometry effects on photon collection in photovoltaic fluorescent collectors <b>2008</b> ,		2
187	Directional selectivity and light-trapping in solar cells <b>2008</b> ,		4

186	Material development for dye solar modules: results from an integrated approach. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2008</b> , 16, 489-501	6.8	54
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184	Directional selectivity and ultra-light-trapping in solar cells. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2008</b> , 205, 2831-2843	1.6	51
183	Detailed balance and reciprocity in solar cells. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2008</b> , 205, 2737-2751	1.6	87
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170	Improvement of photon collection in Cu(In,Ga)Se <sub>2</sub> solar cells and modules by fluorescent frequency conversion. <i>Thin Solid Films</i> , <b>2007</b> , 515, 5964-5967	2.2	36
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167	Electroluminescence from Cu(In,Ga)Se <sub>2</sub> Thin-film Solar Cells. <i>Materials Research Society Symposia Proceedings</i> , <b>2007</b> , 1012, 1		1
166	Resistive Losses at c-Si/a-Si:H/ZnO Contacts for Heterojunction Solar Cells. <i>Materials Research Society Symposia Proceedings</i> , <b>2007</b> , 989, 4		
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159	Glass Frit Sealed Dye Solar Modules with Adaptable Screen Printed Design <b>2006</b> ,		4
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151	Efficiency limitations of polycrystalline thin film solar cells: case of Cu(In,Ga)Se <sub>2</sub> . <i>Thin Solid Films</i> , <b>2005</b> , 480-481, 399-409	2.2	191

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134	Modification of Cu(In, Ga)Se <sub>2</sub> Surface by Treatment in Cadmium Solutions. <i>Materials Research Society Symposia Proceedings</i> , <b>2003</b> , 763, 8171		2
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