Carsten Agert

List of Publications by Year in Descending Order

120 papers	1,731 citations	23 h-index	37 g-index
141 ext. papers	2,090 ext. citations	4.5 avg, IF	5.08 L-index

#	Paper	IF	Citations
120	Switchable photovoltaic window for on-demand shading and electricity generation. *Solar Energy*, **2022**, 232, 433-443	6.8	2
119	Picosecond laser patterning for ultrathin spectrally selective solar mini-modules with transparent metal-oxide multilayer electrodes. *Applied Surface Science Advances*, **2022**, 7, 100206	2.6	1
118	Multi-unit Japanese auction for device agnostic energy management. *International Journal of Electrical Power and Energy Systems*, **2022**, 136, 107350	5.1	1
117	Investigation of Quantum Size Effects on the Optical Absorption in Ultrathin Single Quantum Well Solar Cell Embedded as a Nanophotonic Resonator. *IEEE Journal of Photovoltaics*, **2022**, 1-11	3.7	1
116	Fuel Cell Electrical Vehicles as Mobile Coupled Heat and Power Backup-Plant in Neighbourhoods. *Energies*, **2022**, 15, 2704	3.1	1
115	Voltage-Based Load Recognition in Low Voltage Distribution Grids with Deep Learning. *Energies*, **2022**, 15, 104	3.1	1
114	Deduction of Optimal Control Strategies for a Sector-Coupled District Energy System. *Energies*, **2021**, 14, 7257	3.1	
113	Calendar aging model for lithium-ion batteries considering the influence of cell characterization. *Journal of Energy Storage*, **2021**, 45, 103506	7.8	0
112	Monte-Carlo Evaluation of Residential Energy System Morphologies Applying Device Agnostic Energy Management. *IEEE Access*, **2021**, 1-1	3.5	0
111	Incremental Capacity Analysis as a State of Health Estimation Method for Lithium-Ion Battery Modules with Series-Connected Cells. *Batteries*, **2021**, 7, 2	5.7	4
110	Improved Metal Oxide Electrode for CIGS Solar Cells: The Application of an AgO Wetting Layer. *Nanoscale Research Letters*, **2021**, 16, 50	5	3
109	Adaptive Online-Learning Volt-Var Control for Smart Inverters Using Deep Reinforcement Learning. *Energies*, **2021**, 14, 1991	3.1	6
108	Efficient Thin Polymer Coating as a Selective Thermal Emitter for Passive Daytime Radiative Cooling. *ACS Applied Materials & Interfaces*, **2021**, 13, 24130-24137	9.5	8
107	Technology Pathways and Economic Analysis for Transforming High Temperature to Low Temperature District Heating Systems. *Energies*, **2021**, 14, 3218	3.1	
106	A Forecast-Based Load Management Approach for Commercial Buildings Demonstrated on an Integration of BEV. *Energies*, **2021**, 14, 3576	3.1	1
105	Optical Switching of Quantum Confinement-Tunable Semi-Transparent Solar Cell Based on Ultrathin Germanium **2021**,		1
104	A non-intrusive load monitoring approach for very short-term power predictions in commercial buildings. *Applied Energy*, **2021**, 292, 116860	10.7	6

103	Ultrathin Solar Cell With Magnesium-Based Optical Switching for Window Applications. *IEEE Journal of Photovoltaics*, **2021**, 1-7	3.7	2
102	Spectral engineering of ultrathin germanium solar cells for combined photovoltaic and photosynthesis. *Optics Express*, **2021**, 29, 938-950	3.3	8
101	Power Hardware-in-the-Loop: Response of Power Components in Real-Time Grid Simulation Environment. *Energies*, **2021**, 14, 593	3.1	5
100	Influence of spectrally selective solar cells on microalgae growth in photo-bioreactors **2021**,		1
99	Assessment of the regionalised demand response potential in Germany using an open source tool and dataset. *Advances in Applied Energy*, **2021**, 1, 100001		7
98	Forecast of Renewable Curtailment in Distribution Grids Considering Uncertainties. *IEEE Access*, **2021**, 9, 60828-60840	3.5	3
97	Quantum confinement-tunable solar cell based on ultrathin amorphous germanium. *Nano Energy*, **2020**, 76, 105048	17.1	10
96	Switchable Photocurrent Generation in an Ultrathin Resonant Cavity Solar Cell. *ACS Photonics*, **2020** , 7, 1022-1029	6.3	9
95	Optimised curtailment of distributed generators for the provision of congestion management services considering discrete controllability. *IET Generation, Transmission and Distribution*, **2020**, 14, 735-744	2.5	3
94	Sustainable Residential Energy Supply: A Literature Review-Based Morphological Analysis. *Energies*, **2020**, 13, 432	3.1	6
93	Ultrathin Nano-Absorbers in Photovoltaics: Prospects and Innovative Applications. *Coatings*, **2020**, 10, 218	2.9	6
92	Development of a Decision-Making Framework for Distributed Energy Systems in a German District. *Energies*, **2020**, 13, 552	3.1	13
91	Determination of the Required Power Response of Inverters to Provide Fast Frequency Support in Power Systems with Low Synchronous Inertia. *Energies*, **2020**, 13, 816	3.1	3
90	Time delay effects in the control of synchronous electricity grids. *Chaos*, **2020**, 30, 013122	3.3	10
89	Electrolyte Imbalance Determination of a Vanadium Redox Flow Battery by Potential-Step Analysis of the Initial Charging. *ChemSusChem*, **2020**, 13, 2066-2071	8.3	8
88	A Machine Learning Approach to Low-Cost Photovoltaic Power Prediction Based on Publicly Available Weather Reports. *Energies*, **2020**, 13, 735	3.1	12
87	Quantum Well Solar Cell Using Ultrathin Germanium Nanoabsorber **2020**,		1
86	Enhancing passive radiative cooling properties of flexible CIGS solar cells for space applications using single layer silicon oxycarbonitride films. *Solar Energy Materials and Solar Cells*, **2020**, 209, 110456	6.4	17

85	The Impact of Environmental Factors on the Thermal Characteristic of a Lithium-Ion Battery. *Batteries*, **2020**, 6, 3	5.7	8
84	Regionalised heat demand and power-to-heat capacities in Germany – An open dataset for assessing renewable energy integration. *Applied Energy*, **2020**, 259, 114161	10.7	9
83	Simulation of Incidental Distributed Generation Curtailment to Maximize the Integration of Renewable Energy Generation in Power Systems. *Energies*, **2020**, 13, 4173	3.1	7
82	Two-Dimensional Absorbers for Solar Windows: A Simulation. *Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences*, **2019**, 74, 683-688	1.4	4
81	Parameterization and Validation of an Electrochemical Thermal Model of a Lithium-Ion Battery. *Batteries*, **2019**, 5, 62	5.7	7
80	Development of a GIS-based platform for the allocation and optimisation of distributed storage in urban energy systems. *Applied Energy*, **2019**, 251, 113360	10.7	19
79	Hydrothermal Carbonization-Derived Carbon from Waste Biomass as Renewable Pt Support for Fuel Cell Applications: Role of Carbon Activation. *Energy Technology*, **2019**, 7, 1900344	3.5	12
78	Assessment of protective coatings on flexible CIGS modules for satellites **2019**,		1
77	Comparison of Open Source Power Grid Models—Combining a Mathematical, Visual and Electrical Analysis in an Open Source Tool. *Energies*, **2019**, 12, 4728	3.1	5
76	Simulation of vertical power flow at MV/HV transformers for quantification of curtailed renewable power. *IET Renewable Power Generation*, **2019**, 13, 3071-3079	2.9	4
75	A vapor-phase-assisted growth route for large-scale uniform deposition of MoS monolayer films.. *RSC Advances*, **2018**, 9, 107-113	3.7	3
74	Ultrathin Resonant-Cavity-Enhanced Amorphous Germanium Solar Cells on ZnO Honeycomb Electrodes. *IEEE Journal of Photovoltaics*, **2018**, 8, 3-7	3.7	12
73	Durability of Electrocatalysts for ORR: Pt on Nanocomposite of Reduced Graphene Oxide with FTO versus Pt/C. *Journal of the Electrochemical Society*, **2018**, 165, F3373-F3382	3.9	24
72	Improved amorphous silicon passivation layer for heterojunction solar cells with post-deposition plasma treatment. *Nano Energy*, **2018**, 43, 228-235	17.1	10
71	Effect of EV Movement Schedule and Machine Learning-Based Load Forecasting on Electricity Cost of a Single Household. *Energies*, **2018**, 11, 2913	3.1	8
70	FlexiGIS: an open source GIS-based platform for the optimisation of flexibility options in urban energy systems. *Energy Procedia*, **2018**, 152, 941-946	2.3	12
69	Optimal combination of energy storages for prospective power supply systems based on Renewable Energy Sources. *Journal of Energy Storage*, **2018**, 20, 581-589	7.8	6
68	Modelling urban energy requirements using open source data and models. *Applied Energy*, **2018**, 231, 1100-1108	10.7	16

67	Structural characterization of the interface structure of amorphous silicon thin films after post-deposition argon or hydrogen plasma treatment. *Applied Surface Science*, **2017**, 403, 200-205	6.7	7
66	GIS-based urban energy systems models and tools: Introducing a model for the optimisation of flexibilisation technologies in urban areas. *Applied Energy*, **2017**, 191, 1-9	10.7	69
65	Light trapping in a-Si:H thin film solar cells using silver nanostructures. *AIP Advances*, **2017**, 7, 015019	1.5	12
64	Energy forecast for mobile photovoltaic systems with focus on trucks for cooling applications. *Progress in Photovoltaics: Research and Applications*, **2017**, 25, 525-532	6.8	3
63	Doped microcrystalline silicon as front surface field layer in bifacial silicon heterojunction solar cells. *Energy Procedia*, **2017**, 124, 371-378	2.3	3
62	Stability of Pt Nanoparticles on Alternative Carbon Supports for Oxygen Reduction Reaction. *Journal of the Electrochemical Society*, **2017**, 164, F995-F1004	3.9	39
61	Investigation of Reduced Graphene Oxide with F-Doped SnO2as Catalyst Support in Fuel Cells. *ECS Transactions*, **2017**, 80, 879-895	1	2
60	Optimized Optical Field Profile in Resonant-Cavity-Enhanced a-Ge:H Nanoabsorber Solar Cells for Tandem Cell Application. *IEEE Journal of Photovoltaics*, **2017**, 7, 3-10	3.7	6
59	OpenStreetMap data in modelling the urban energy infrastructure: a first assessment and analysis. *Energy Procedia*, **2017**, 142, 1968-1976	2.3	16
58	Potential Energy Flexibility for a Hot-Water Based Heating System in Smart Buildings via Economic Model Predictive Control **2017**,		1
57	Integration of a-Ge:H nanocavity solar cells in tandem devices. *Solar Energy Materials and Solar Cells* , **2016**, 145, 148-153	6.4	10
56	Carrier collection losses in interface passivated amorphous silicon thin-film solar cells. *Applied Physics Letters*, **2016**, 109, 043903	3.4	6
55	A European Perspective: Potential of Grid and Storage for Balancing Renewable Power Systems. *Energy Technology*, **2016**, 4, 114-122	3.5	24
54	Improved Light Management in Silicon Heterojunction Solar Cells by Application of a ZnO Nanorod Antireflective Layer. *Energy Procedia*, **2016**, 92, 284-290	2.3	3
53	Resonant-cavity-enhanced a-Ge:H nanoabsorber solar cells for application in multijunction devices. *Nano Energy*, **2016**, 27, 658-663	17.1	11
52	Amorphous single-junction cells for vertical BIPV application with high bifaciality. *Energy Science and Engineering*, **2016**, 4, 183-189	3.4	3
51	DC-sputtered ZnO:Al as transparent conductive oxide for silicon heterojunction solar cells with μc-Si:H emitter. *Progress in Photovoltaics: Research and Applications*, **2015**, 23, 1340-1352	6.8	23
50	Laser perforated ultrathin metal films for transparent electrode applications. *Optics Express*, **2015**, 23, A254-62	3.3	7

49	Ultrathin Resonant-Cavity-Enhanced Solar Cells with Amorphous Germanium Absorbers. *Advanced Optical Materials*, **2015**, 3, 182-186	8.1	33
48	Integration of Renewable Energy Sources in future power systems: The role of storage. *Renewable Energy*, **2015**, 75, 14-20	8.1	272
47	Comparison of silicon oxide and silicon carbide absorber materials in silicon thin-film solar cells. *EPJ Photovoltaics*, **2015**, 6, 65302	0.7	5
46	Effects of process parameters on - Si1 XGeX:H solar cells performance and material properties. *EPJ Photovoltaics*, **2015**, 6, 65301	0.7	1
45	. *IEEE Journal of Photovoltaics*, **2015**, 5, 479-486	3.7	8
44	Argon Plasma Treatment at the i-/p-Interface in Silicon Thin-Film Solar Cells and its Influence on the Light Induced Degradation. *Energy Procedia*, **2015**, 84, 242-250	2.3	3
43	Amorphous Silicon Oxinitride in Silicon Thin-film Solar Cells. *Energy Procedia*, **2014**, 44, 203-208	2.3	2
42	ZnO nanorod arrays as light trapping structures in amorphous silicon thin-film solar cells. *Solar Energy Materials and Solar Cells*, **2014**, 125, 305-309	6.4	33
41	Effect of the Vertical Transportation Component of the TCO Layer on the Electrical Properties of Silicon Heterojunction Solar Cells. *IEEE Journal of Photovoltaics*, **2014**, 4, 859-865	3.7	1
40	Comparison of Ag and SiO2 Nanoparticles for Light Trapping Applications in Silicon Thin Film Solar Cells. *Journal of Physical Chemistry Letters*, **2014**, 5, 3302-6	6.4	13
39	AZO-Ag-AZO transparent electrode for amorphous silicon solar cells. *Thin Solid Films*, **2014**, 558, 294-297	2.2	36
38	ZnO Nanorods with Broadband Antireflective Properties for Improved Light Management in Silicon Thin-Film Solar Cells. *Advanced Optical Materials*, **2014**, 2, 94-99	8.1	37
37	Energy system modelling Interactions and synergies in a highly renewable Pan-European power system. *EPJ Web of Conferences*, **2014**, 79, 00001	0.3	1
36	Thin metal layer as transparent electrode in n-i-p amorphous silicon solar cells. *EPJ Photovoltaics*, **2014**, 5, 55205	0.7	3
35	Enhanced passivation at amorphous/crystalline silicon interface and suppressed Schottky barrier by deposition of microcrystalline silicon emitter layer in silicon heterojunction solar cells. *Applied Physics Letters*, **2014**, 104, 113901	3.4	27
34	Cost-effective nanostructured thin-film solar cell with enhanced absorption. *Applied Physics Letters*, **2014**, 105, 183106	3.4	12
33	Laser textured substrates for light in-coupling in thin-film solar cells. *Journal of Photonics for Energy* , **2014**, 4, 044598	1.2	6
32	Modeling of concentrating photovoltaic and thermal systems. *Progress in Photovoltaics: Research and Applications*, **2014**, 22, 427-439	6.8	30

31	Integration of n-doped ZnO nanorod structures as novel light-trapping concept in amorphous thin film silicon solar cells. *Solar Energy Materials and Solar Cells*, **2013**, 111, 153-159	6.4	23
30	Study of the local SOC distribution in a lithium-ion battery by physical and electrochemical modeling and simulation. *Applied Mathematical Modelling*, **2013**, 37, 2016-2027	4.5	22
29	Study of Surface Passivation of CZ c-Si by PECVD a-Si:H Films; A Comparison Between Quasi-Steady-State and Transient Photoconductance Decay Measurement. *Materials Research Society Symposia Proceedings*, **2013**, 1536, 1		1
28	Correlation between optical emission spectroscopy of hydrogen/germane plasma and the Raman crystallinity factor of germanium layers. *Applied Physics Letters*, **2013**, 102, 152109	3.4	4
27	Highly Transparent AZO/Ag/AZO Multilayer Front Contact for n-i-p Silicon Thin-Film Solar Cells. *Materials Research Society Symposia Proceedings*, **2012**, 1426, 93-98		1
26	MOSES – A modelling tool for the analysis of scenarios of the European electricity supply system. *EPJ Web of Conferences*, **2012**, 33, 01002	0.3	1
25	A simulation study towards a new concept for realization of thin film triple junction solar cells based on group IV elements. *Progress in Photovoltaics: Research and Applications*, **2012**, 20, 74-81	6.8	11
24	Optical modeling of thin-film silicon solar cells by combination of the transfer-matrix method and the raytracer algorithm. *Optical Engineering*, **2012**, 51, 073801	1.1	1
23	Investigation on Nanorod TCO Light-trapping for a-Si:H Solar Cells in Superstrate Configuration. *Materials Research Society Symposia Proceedings*, **2012**, 1426, 111-116		
22	Protic ionic liquid and ionic melts prepared from methanesulfonic acid and 1H-1,2,4-triazole as high temperature PEMFC electrolytes. *Journal of Materials Chemistry*, **2011**, 21, 10426		60
21	Three dimensional optical modeling of amorphous silicon thin film solar cells using the finite-difference time-domain method including real randomly surface topographies. *Journal of Applied Physics*, **2011**, 110, 023102	2.5	30
20	Thermal Behaviours and Single Cell Performance of PBI-OO/PFSA Blend Membranes Composited with Lewis Acid Nanoparticles for Intermediate Temperature DMFC Application. *Fuel Cells*, **2011**, 11, 756-763	2.9	9
19	Numerical 3D-Simulation of Micromorph Silicon Thin Film Solar Cells. *Materials Research Society Symposia Proceedings*, **2011**, 1321, 273		2
18	Optical modeling of light trapping in thin film silicon solar cells using the FDTD method **2010**,		1
17	Anhydrous proton conducting membranes based on electron-deficient nanoparticles/PBI-OO/PFSA composites for high-temperature PEMFC. *Electrochemistry Communications*, **2009**, 11, 2324-2327	5.1	32
16	Completely passive operation of vapor-fed direct methanol fuel cells for portable applications. *Journal of Micromechanics and Microengineering*, **2008**, 18, 104010	2	15
15	Passively operated vapor-fed direct methanol fuel cells for portable applications. *Journal of Power Sources*, **2008**, 182, 565-579	8.9	64
14	An impedance-based predictive control strategy for the state-of-health of PEM fuel cell stacks. *Journal of Power Sources*, **2008**, 180, 742-747	8.9	49

13	Growth of Sb-based materials by MOVPE. *Journal of Crystal Growth*, **2003**, 248, 265-273	1.6	37
12	Origin of the photoluminescence line at 0.8 eV in undoped and Si-doped GaSb grown by MOVPE. *Semiconductor Science and Technology*, **2002**, 17, 39-46	1.8	23
11	Advanced III/V solar cell structures grown by MOVPE. *Solar Energy Materials and Solar Cells*, **2001**, 66, 541-550	6.4	18
10	High-efficiency (AlGa)As/GaAs solar cells grown by MOVPE using TBAs at low-temperatures and low V/III-ratios. *Solar Energy Materials and Solar Cells*, **2001**, 66, 637-644	6.4	8
9	MOVPE of GaSb, (AlGa)Sb and (AlGa)(AsSb) in a multiwafer planetary reactor. *Journal of Crystal Growth*, **2001**, 225, 426-430	1.6	13
8	Low oxygen content trimethylaluminium and trimethylindium for MOVPE of light emitting devices. *Journal of Crystal Growth*, **2000**, 221, 86-90	1.6	9
7	Coherence in real space: the transition range from bulk to confined states studied by the Franz-Keldysh effect. *Physica E: Low-Dimensional Systems and Nanostructures*, **2000**, 6, 173-176	3	2
6	Growth of antimony-based materials in a multiwafer planetary MOVPE-reactor. *IEE Proceedings: Optoelectronics*, **2000**, 147, 188-192		4
5	(GaIn)(NAs)/GaAs vertical-cavity surface-emitting laser with ultrabroad temperature operation range. *Applied Physics Letters*, **2000**, 76, 271-272	3.4	51
4	Confinement effects in bulk samples derived from the Franz-Keldysh effect. *Physical Review B*, **1999**, 59, 14896-14898	3.3	7
3	Ultrafast (GaIn)(NAs)/GaAs vertical-cavity surface-emitting laser for the 1.3 μm wavelength regime. *Applied Physics Letters*, **1999**, 74, 2271-2273	3.4	69
2	Investigations of (GaIn)(NAs) bulk layers and (GaIn)(NAs)/GaAs multiple quantum well structures grown using tertiarybutylarsine (TBAs) and 1,1-dimethylhydrazine (UDMHy). *Journal of Crystal Growth*, **1998**, 195, 391-396	1.6	64
1	Optoelectronic Properties of MoS 2 in Proximity to Carrier Selective Metal Oxides. *Advanced Optical Materials*,2102226	8.1	1