

# Carsten Agert

## List of Publications by Citations

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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	Integration of Renewable Energy Sources in future power systems: The role of storage. <i>Renewable Energy</i> , <b>2015</b> , 75, 14-20	8.1	272
119	GIS-based urban energy systems models and tools: Introducing a model for the optimisation of flexibilisation technologies in urban areas. <i>Applied Energy</i> , <b>2017</b> , 191, 1-9	10.7	69
118	Ultrafast (GaIn)(NAs)/GaAs vertical-cavity surface-emitting laser for the 1.3 $\mu$ m wavelength regime. <i>Applied Physics Letters</i> , <b>1999</b> , 74, 2271-2273	3.4	69
117	Investigations of (GaIn)(NAs) bulk layers and (GaIn)(NAs)/GaAs multiple quantum well structures grown using tertiarybutylarsine (TBAs) and 1,1-dimethylhydrazine (UDMHy). <i>Journal of Crystal Growth</i> , <b>1998</b> , 195, 391-396	1.6	64
116	Passively operated vapor-fed direct methanol fuel cells for portable applications. <i>Journal of Power Sources</i> , <b>2008</b> , 182, 565-579	8.9	64
115	Protic ionic liquid and ionic melts prepared from methanesulfonic acid and 1H-1,2,4-triazole as high temperature PEMFC electrolytes. <i>Journal of Materials Chemistry</i> , <b>2011</b> , 21, 10426		60
114	(GaIn)(NAs)/GaAs vertical-cavity surface-emitting laser with ultrabroad temperature operation range. <i>Applied Physics Letters</i> , <b>2000</b> , 76, 271-272	3.4	51
113	An impedance-based predictive control strategy for the state-of-health of PEM fuel cell stacks. <i>Journal of Power Sources</i> , <b>2008</b> , 180, 742-747	8.9	49
112	Stability of Pt Nanoparticles on Alternative Carbon Supports for Oxygen Reduction Reaction. <i>Journal of the Electrochemical Society</i> , <b>2017</b> , 164, F995-F1004	3.9	39
111	ZnO Nanorods with Broadband Antireflective Properties for Improved Light Management in Silicon Thin-Film Solar Cells. <i>Advanced Optical Materials</i> , <b>2014</b> , 2, 94-99	8.1	37
110	Growth of Sb-based materials by MOVPE. <i>Journal of Crystal Growth</i> , <b>2003</b> , 248, 265-273	1.6	37
109	AZO-Ag-AZO transparent electrode for amorphous silicon solar cells. <i>Thin Solid Films</i> , <b>2014</b> , 558, 294-297.2	7.2	36
108	Ultrathin Resonant-Cavity-Enhanced Solar Cells with Amorphous Germanium Absorbers. <i>Advanced Optical Materials</i> , <b>2015</b> , 3, 182-186	8.1	33
107	ZnO nanorod arrays as light trapping structures in amorphous silicon thin-film solar cells. <i>Solar Energy Materials and Solar Cells</i> , <b>2014</b> , 125, 305-309	6.4	33
106	Anhydrous proton conducting membranes based on electron-deficient nanoparticles/PBI-OO/PFSA composites for high-temperature PEMFC. <i>Electrochemistry Communications</i> , <b>2009</b> , 11, 2324-2327	5.1	32
105	Modeling of concentrating photovoltaic and thermal systems. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2014</b> , 22, 427-439	6.8	30
104	Three dimensional optical modeling of amorphous silicon thin film solar cells using the finite-difference time-domain method including real randomly surface topographies. <i>Journal of Applied Physics</i> , <b>2011</b> , 110, 023102	2.5	30

103	Enhanced passivation at amorphous/crystalline silicon interface and suppressed Schottky barrier by deposition of microcrystalline silicon emitter layer in silicon heterojunction solar cells. <i>Applied Physics Letters</i> , <b>2014</b> , 104, 113901	3.4	27
102	Durability of Electrocatalysts for ORR: Pt on Nanocomposite of Reduced Graphene Oxide with FTO versus Pt/C. <i>Journal of the Electrochemical Society</i> , <b>2018</b> , 165, F3373-F3382	3.9	24
101	A European Perspective: Potential of Grid and Storage for Balancing Renewable Power Systems. <i>Energy Technology</i> , <b>2016</b> , 4, 114-122	3.5	24
100	DC-sputtered ZnO:Al as transparent conductive oxide for silicon heterojunction solar cells with $\mu\text{c-Si:H}$ emitter. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2015</b> , 23, 1340-1352	6.8	23
99	Integration of n-doped ZnO nanorod structures as novel light-trapping concept in amorphous thin film silicon solar cells. <i>Solar Energy Materials and Solar Cells</i> , <b>2013</b> , 111, 153-159	6.4	23
98	Origin of the photoluminescence line at 0.8 eV in undoped and Si-doped GaSb grown by MOVPE. <i>Semiconductor Science and Technology</i> , <b>2002</b> , 17, 39-46	1.8	23
97	Study of the local SOC distribution in a lithium-ion battery by physical and electrochemical modeling and simulation. <i>Applied Mathematical Modelling</i> , <b>2013</b> , 37, 2016-2027	4.5	22
96	Development of a GIS-based platform for the allocation and optimisation of distributed storage in urban energy systems. <i>Applied Energy</i> , <b>2019</b> , 251, 113360	10.7	19
95	Advanced III-V solar cell structures grown by MOVPE. <i>Solar Energy Materials and Solar Cells</i> , <b>2001</b> , 66, 541-550	6.4	18
94	Enhancing passive radiative cooling properties of flexible CIGS solar cells for space applications using single layer silicon oxycarbonitride films. <i>Solar Energy Materials and Solar Cells</i> , <b>2020</b> , 209, 110456	6.4	17
93	OpenStreetMap data in modelling the urban energy infrastructure: a first assessment and analysis. <i>Energy Procedia</i> , <b>2017</b> , 142, 1968-1976	2.3	16
92	Modelling urban energy requirements using open source data and models. <i>Applied Energy</i> , <b>2018</b> , 231, 1100-1108	10.7	16
91	Completely passive operation of vapor-fed direct methanol fuel cells for portable applications. <i>Journal of Micromechanics and Microengineering</i> , <b>2008</b> , 18, 104010	2	15
90	Development of a Decision-Making Framework for Distributed Energy Systems in a German District. <i>Energies</i> , <b>2020</b> , 13, 552	3.1	13
89	Comparison of Ag and SiO <sub>2</sub> Nanoparticles for Light Trapping Applications in Silicon Thin Film Solar Cells. <i>Journal of Physical Chemistry Letters</i> , <b>2014</b> , 5, 3302-6	6.4	13
88	MOVPE of GaSb, (AlGa)Sb and (AlGa)(AsSb) in a multiwafer planetary reactor. <i>Journal of Crystal Growth</i> , <b>2001</b> , 225, 426-430	1.6	13
87	Light trapping in a-Si:H thin film solar cells using silver nanostructures. <i>AIP Advances</i> , <b>2017</b> , 7, 015019	1.5	12
86	Ultrathin Resonant-Cavity-Enhanced Amorphous Germanium Solar Cells on ZnO Honeycomb Electrodes. <i>IEEE Journal of Photovoltaics</i> , <b>2018</b> , 8, 3-7	3.7	12

85	Hydrothermal Carbonization-Derived Carbon from Waste Biomass as Renewable Pt Support for Fuel Cell Applications: Role of Carbon Activation. <i>Energy Technology</i> , <b>2019</b> , 7, 1900344	3.5	12
84	Cost-effective nanostructured thin-film solar cell with enhanced absorption. <i>Applied Physics Letters</i> , <b>2014</b> , 105, 183106	3.4	12
83	A Machine Learning Approach to Low-Cost Photovoltaic Power Prediction Based on Publicly Available Weather Reports. <i>Energies</i> , <b>2020</b> , 13, 735	3.1	12
82	FlexiGIS: an open source GIS-based platform for the optimisation of flexibility options in urban energy systems. <i>Energy Procedia</i> , <b>2018</b> , 152, 941-946	2.3	12
81	A simulation study towards a new concept for realization of thin film triple junction solar cells based on group IV elements. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2012</b> , 20, 74-81	6.8	11
80	Resonant-cavity-enhanced a-Ge:H nanoabsorber solar cells for application in multijunction devices. <i>Nano Energy</i> , <b>2016</b> , 27, 658-663	17.1	11
79	Quantum confinement-tunable solar cell based on ultrathin amorphous germanium. <i>Nano Energy</i> , <b>2020</b> , 76, 105048	17.1	10
78	Time delay effects in the control of synchronous electricity grids. <i>Chaos</i> , <b>2020</b> , 30, 013122	3.3	10
77	Integration of a-Ge:H nanocavity solar cells in tandem devices. <i>Solar Energy Materials and Solar Cells</i> , <b>2016</b> , 145, 148-153	6.4	10
76	Improved amorphous silicon passivation layer for heterojunction solar cells with post-deposition plasma treatment. <i>Nano Energy</i> , <b>2018</b> , 43, 228-235	17.1	10
75	Switchable Photocurrent Generation in an Ultrathin Resonant Cavity Solar Cell. <i>ACS Photonics</i> , <b>2020</b> , 7, 1022-1029	6.3	9
74	Thermal Behaviours and Single Cell Performance of PBI-OO/PFSA Blend Membranes Compositated with Lewis Acid Nanoparticles for Intermediate Temperature DMFC Application. <i>Fuel Cells</i> , <b>2011</b> , 11, 756-763	2.9	9
73	Low oxygen content trimethylaluminium and trimethylindium for MOVPE of light emitting devices. <i>Journal of Crystal Growth</i> , <b>2000</b> , 221, 86-90	1.6	9
72	Regionalised heat demand and power-to-heat capacities in Germany [An open dataset for assessing renewable energy integration. <i>Applied Energy</i> , <b>2020</b> , 259, 114161	10.7	9
71	Electrolyte Imbalance Determination of a Vanadium Redox Flow Battery by Potential-Step Analysis of the Initial Charging. <i>ChemSusChem</i> , <b>2020</b> , 13, 2066-2071	8.3	8
70	. <i>IEEE Journal of Photovoltaics</i> , <b>2015</b> , 5, 479-486	3.7	8
69	High-efficiency (AlGa)As/GaAs solar cells grown by MOVPE using TBAs at low-temperatures and low V/III-ratios. <i>Solar Energy Materials and Solar Cells</i> , <b>2001</b> , 66, 637-644	6.4	8
68	The Impact of Environmental Factors on the Thermal Characteristic of a Lithium-Ion Battery. <i>Batteries</i> , <b>2020</b> , 6, 3	5.7	8

67	Efficient Thin Polymer Coating as a Selective Thermal Emitter for Passive Daytime Radiative Cooling. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2021</b> , 13, 24130-24137	9.5	8
66	Spectral engineering of ultrathin germanium solar cells for combined photovoltaic and photosynthesis. <i>Optics Express</i> , <b>2021</b> , 29, 938-950	3.3	8
65	Effect of EV Movement Schedule and Machine Learning-Based Load Forecasting on Electricity Cost of a Single Household. <i>Energies</i> , <b>2018</b> , 11, 2913	3.1	8
64	Structural characterization of the interface structure of amorphous silicon thin films after post-deposition argon or hydrogen plasma treatment. <i>Applied Surface Science</i> , <b>2017</b> , 403, 200-205	6.7	7
63	Parameterization and Validation of an Electrochemical Thermal Model of a Lithium-Ion Battery. <i>Batteries</i> , <b>2019</b> , 5, 62	5.7	7
62	Laser perforated ultrathin metal films for transparent electrode applications. <i>Optics Express</i> , <b>2015</b> , 23, A254-62	3.3	7
61	Confinement effects in bulk samples derived from the Franz-Keldysh effect. <i>Physical Review B</i> , <b>1999</b> , 59, 14896-14898	3.3	7
60	Simulation of Incidental Distributed Generation Curtailment to Maximize the Integration of Renewable Energy Generation in Power Systems. <i>Energies</i> , <b>2020</b> , 13, 4173	3.1	7
59	Assessment of the regionalised demand response potential in Germany using an open source tool and dataset. <i>Advances in Applied Energy</i> , <b>2021</b> , 1, 100001		7
58	Sustainable Residential Energy Supply: A Literature Review-Based Morphological Analysis. <i>Energies</i> , <b>2020</b> , 13, 432	3.1	6
57	Ultrathin Nano-Absorbers in Photovoltaics: Prospects and Innovative Applications. <i>Coatings</i> , <b>2020</b> , 10, 218	2.9	6
56	Optimized Optical Field Profile in Resonant-Cavity-Enhanced a-Ge:H Nanoabsorber Solar Cells for Tandem Cell Application. <i>IEEE Journal of Photovoltaics</i> , <b>2017</b> , 7, 3-10	3.7	6
55	Laser textured substrates for light in-coupling in thin-film solar cells. <i>Journal of Photonics for Energy</i> , <b>2014</b> , 4, 044598	1.2	6
54	Adaptive Online-Learning Volt-Var Control for Smart Inverters Using Deep Reinforcement Learning. <i>Energies</i> , <b>2021</b> , 14, 1991	3.1	6
53	A non-intrusive load monitoring approach for very short-term power predictions in commercial buildings. <i>Applied Energy</i> , <b>2021</b> , 292, 116860	10.7	6
52	Carrier collection losses in interface passivated amorphous silicon thin-film solar cells. <i>Applied Physics Letters</i> , <b>2016</b> , 109, 043903	3.4	6
51	Optimal combination of energy storages for prospective power supply systems based on Renewable Energy Sources. <i>Journal of Energy Storage</i> , <b>2018</b> , 20, 581-589	7.8	6
50	Comparison of silicon oxide and silicon carbide absorber materials in silicon thin-film solar cells. <i>EPJ Photovoltaics</i> , <b>2015</b> , 6, 65302	0.7	5

49	Comparison of Open Source Power Grid Models Combining a Mathematical, Visual and Electrical Analysis in an Open Source Tool. <i>Energies</i> , <b>2019</b> , 12, 4728	3.1	5
48	Power Hardware-in-the-Loop: Response of Power Components in Real-Time Grid Simulation Environment. <i>Energies</i> , <b>2021</b> , 14, 593	3.1	5
47	Two-Dimensional Absorbers for Solar Windows: A Simulation. <i>Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences</i> , <b>2019</b> , 74, 683-688	1.4	4
46	Correlation between optical emission spectroscopy of hydrogen/germane plasma and the Raman crystallinity factor of germanium layers. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 152109	3.4	4
45	Growth of antimony-based materials in a multiwafer planetary MOVPE-reactor. <i>IEE Proceedings: Optoelectronics</i> , <b>2000</b> , 147, 188-192		4
44	Incremental Capacity Analysis as a State of Health Estimation Method for Lithium-Ion Battery Modules with Series-Connected Cells. <i>Batteries</i> , <b>2021</b> , 7, 2	5.7	4
43	Simulation of vertical power flow at MV/HV transformers for quantification of curtailed renewable power. <i>IET Renewable Power Generation</i> , <b>2019</b> , 13, 3071-3079	2.9	4
42	Energy forecast for mobile photovoltaic systems with focus on trucks for cooling applications. <i>Progress in Photovoltaics: Research and Applications</i> , <b>2017</b> , 25, 525-532	6.8	3
41	Doped microcrystalline silicon as front surface field layer in bifacial silicon heterojunction solar cells. <i>Energy Procedia</i> , <b>2017</b> , 124, 371-378	2.3	3
40	A vapor-phase-assisted growth route for large-scale uniform deposition of MoS monolayer films.. <i>RSC Advances</i> , <b>2018</b> , 9, 107-113	3.7	3
39	Optimised curtailment of distributed generators for the provision of congestion management services considering discrete controllability. <i>IET Generation, Transmission and Distribution</i> , <b>2020</b> , 14, 735-744	2.5	3
38	Determination of the Required Power Response of Inverters to Provide Fast Frequency Support in Power Systems with Low Synchronous Inertia. <i>Energies</i> , <b>2020</b> , 13, 816	3.1	3
37	Argon Plasma Treatment at the i-/p-Interface in Silicon Thin-Film Solar Cells and its Influence on the Light Induced Degradation. <i>Energy Procedia</i> , <b>2015</b> , 84, 242-250	2.3	3
36	Thin metal layer as transparent electrode in n-i-p amorphous silicon solar cells. <i>EPJ Photovoltaics</i> , <b>2014</b> , 5, 55205	0.7	3
35	Improved Metal Oxide Electrode for CIGS Solar Cells: The Application of an AgO Wetting Layer. <i>Nanoscale Research Letters</i> , <b>2021</b> , 16, 50	5	3
34	Improved Light Management in Silicon Heterojunction Solar Cells by Application of a ZnO Nanorod Antireflective Layer. <i>Energy Procedia</i> , <b>2016</b> , 92, 284-290	2.3	3
33	Amorphous single-junction cells for vertical BIPV application with high bifaciality. <i>Energy Science and Engineering</i> , <b>2016</b> , 4, 183-189	3.4	3
32	Forecast of Renewable Curtailment in Distribution Grids Considering Uncertainties. <i>IEEE Access</i> , <b>2021</b> , 9, 60828-60840	3.5	3

31	Investigation of Reduced Graphene Oxide with F-Doped SnO <sub>2</sub> as Catalyst Support in Fuel Cells. <i>ECS Transactions</i> , <b>2017</b> , 80, 879-895	1	2
30	Amorphous Silicon Oxinitride in Silicon Thin-film Solar Cells. <i>Energy Procedia</i> , <b>2014</b> , 44, 203-208	2.3	2
29	Numerical 3D-Simulation of Micromorph Silicon Thin Film Solar Cells. <i>Materials Research Society Symposia Proceedings</i> , <b>2011</b> , 1321, 273		2
28	Coherence in real space: the transition range from bulk to confined states studied by the Franz-Keldysh effect. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2000</b> , 6, 173-176	3	2
27	Switchable photovoltaic window for on-demand shading and electricity generation. <i>Solar Energy</i> , <b>2022</b> , 232, 433-443	6.8	2
26	Ultrathin Solar Cell With Magnesium-Based Optical Switching for Window Applications. <i>IEEE Journal of Photovoltaics</i> , <b>2021</b> , 1-7	3.7	2
25	Effect of the Vertical Transportation Component of the TCO Layer on the Electrical Properties of Silicon Heterojunction Solar Cells. <i>IEEE Journal of Photovoltaics</i> , <b>2014</b> , 4, 859-865	3.7	1
24	Energy system modelling – Interactions and synergies in a highly renewable Pan-European power system. <i>EPJ Web of Conferences</i> , <b>2014</b> , 79, 00001	0.3	1
23	Potential Energy Flexibility for a Hot-Water Based Heating System in Smart Buildings via Economic Model Predictive Control <b>2017</b> ,		1
22	Effects of process parameters on $\eta$ - Si <sub>1-x</sub> Ge <sub>x</sub> :H solar cells performance and material properties. <i>EPJ Photovoltaics</i> , <b>2015</b> , 6, 65301	0.7	1
21	Highly Transparent AZO/Ag/AZO Multilayer Front Contact for n-i-p Silicon Thin-Film Solar Cells. <i>Materials Research Society Symposia Proceedings</i> , <b>2012</b> , 1426, 93-98		1
20	MOSES – A modelling tool for the analysis of scenarios of the European electricity supply system. <i>EPJ Web of Conferences</i> , <b>2012</b> , 33, 01002	0.3	1
19	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. <i>Materials Research Society Symposia Proceedings</i> , <b>2013</b> , 1536, 1		1
18	Optical modeling of thin-film silicon solar cells by combination of the transfer-matrix method and the raytracer algorithm. <i>Optical Engineering</i> , <b>2012</b> , 51, 073801	1.1	1
17	Optical modeling of light trapping in thin film silicon solar cells using the FDTD method <b>2010</b> ,		1
16	Picosecond laser patterning for ultrathin spectrally selective solar mini-modules with transparent metal-oxide multilayer electrodes. <i>Applied Surface Science Advances</i> , <b>2022</b> , 7, 100206	2.6	1
15	Quantum Well Solar Cell Using Ultrathin Germanium Nanoabsorber <b>2020</b> ,		1
14	Multi-unit Japanese auction for device agnostic energy management. <i>International Journal of Electrical Power and Energy Systems</i> , <b>2022</b> , 136, 107350	5.1	1

13	A Forecast-Based Load Management Approach for Commercial Buildings Demonstrated on an Integration of BEV. <i>Energies</i> , <b>2021</b> , 14, 3576	3.1	1
12	Optical Switching of Quantum Confinement-Tunable Semi-Transparent Solar Cell Based on Ultrathin Germanium <b>2021</b> ,		1
11	Assessment of protective coatings on flexible CIGS modules for satellites <b>2019</b> ,		1
10	Influence of spectrally selective solar cells on microalgae growth in photo-bioreactors <b>2021</b> ,		1
9	Investigation of Quantum Size Effects on the Optical Absorption in Ultrathin Single Quantum Well Solar Cell Embedded as a Nanophotonic Resonator. <i>IEEE Journal of Photovoltaics</i> , <b>2022</b> , 1-11	3.7	1
8	Optoelectronic Properties of MoS <sub>2</sub> in Proximity to Carrier Selective Metal Oxides. <i>Advanced Optical Materials</i> , <b>2022</b> , 2102226	8.1	1
7	Fuel Cell Electrical Vehicles as Mobile Coupled Heat and Power Backup-Plant in Neighbourhoods. <i>Energies</i> , <b>2022</b> , 15, 2704	3.1	1
6	Voltage-Based Load Recognition in Low Voltage Distribution Grids with Deep Learning. <i>Energies</i> , <b>2022</b> , 15, 104	3.1	1
5	Calendar aging model for lithium-ion batteries considering the influence of cell characterization. <i>Journal of Energy Storage</i> , <b>2021</b> , 45, 103506	7.8	0
4	Monte-Carlo Evaluation of Residential Energy System Morphologies Applying Device Agnostic Energy Management. <i>IEEE Access</i> , <b>2021</b> , 1-1	3.5	0
3	Investigation on Nanorod TCO Light-trapping for a-Si:H Solar Cells in Superstrate Configuration. <i>Materials Research Society Symposia Proceedings</i> , <b>2012</b> , 1426, 111-116		
2	Deduction of Optimal Control Strategies for a Sector-Coupled District Energy System. <i>Energies</i> , <b>2021</b> , 14, 7257	3.1	
1	Technology Pathways and Economic Analysis for Transforming High Temperature to Low Temperature District Heating Systems. <i>Energies</i> , <b>2021</b> , 14, 3218	3.1	