Karen Forberich

List of Publications by Year
in descending order

63 papers	4,446 citations	126907 33 h-index	106344 65 g-index
66 all docs	66 docs citations	66 times ranked	6625 citing authors

#	Article	IF	Citations
1	Solar Power Wires Based on Organic Photovoltaic Materials. Science, 2009, 324, 232-235.	12.6	351
2	Influence of the Bridging Atom on the Performance of a Lowâ€Bandgap Bulk Heterojunction Solar Cell. Advanced Materials, 2010, 22, 367-370.	21.0	323
3	High-performance semitransparent perovskite solar cells with solution-processed silver nanowires as top electrodes. Nanoscale, 2015, 7, 1642-1649.	5.6	300
4	Interface Engineering of Perovskite Hybrid Solar Cells with Solution-Processed Peryleneâ€"Diimide Heterojunctions toward High Performance. Chemistry of Materials, 2015, 27, 227-234.	6.7	233
5	The role of exciton lifetime for charge generation in organic solar cells at negligible energy-level offsets. Nature Energy, 2020, 5, 711-719.	39.5	214
6	Overcoming the Interface Losses in Planar Heterojunction Perovskiteâ€Based Solar Cells. Advanced Materials, 2016, 28, 5112-5120.	21.0	188
7	Fabrication, Optical Modeling, and Color Characterization of Semitransparent Bulkâ€Heterojunction Organic Solar Cells in an Inverted Structure. Advanced Functional Materials, 2010, 20, 1592-1598.	14.9	182
8	Nanomorphology and Charge Generation in Bulk Heterojunctions Based on Lowâ€Bandgap Dithiophene Polymers with Different Bridging Atoms. Advanced Functional Materials, 2010, 20, 1180-1188.	14.9	173
9	ITOâ€Free and Fully Solutionâ€Processed Semitransparent Organic Solar Cells with High Fill Factors. Advanced Energy Materials, 2013, 3, 1062-1067.	19.5	172
10	Performance improvement of organic solar cells with moth eye anti-reflection coating. Thin Solid Films, 2008, 516, 7167-7170.	1.8	141
11	Spontaneously Selfâ€Assembly of a 2D/3D Heterostructure Enhances the Efficiency and Stability in Printed Perovskite Solar Cells. Advanced Energy Materials, 2020, 10, 2000173.	19.5	126
12	The fabrication of color-tunable organic light-emitting diode displays via solution processing. Light: Science and Applications, 2017, 6, e17094-e17094.	16.6	105
13	Balancing electrical and optical losses for efficient 4-terminal Siâ€"perovskite solar cells with solution processed percolation electrodes. Journal of Materials Chemistry A, 2018, 6, 3583-3592.	10.3	102
14	Design of efficient organic tandem cells: On the interplay between molecular absorption and layer sequence. Journal of Applied Physics, 2007, 102, 123109.	2.5	101
15	Coloring Semitransparent Perovskite Solar Cells <i>via</i> Dielectric Mirrors. ACS Nano, 2016, 10, 5104-5112.	14.6	100
16	Guidelines for Closing the Efficiency Gap between Hero Solar Cells and Rollâ€Toâ€Roll Printed Modules. Energy Technology, 2015, 3, 373-384.	3.8	98
17	A Generalized Crystallization Protocol for Scalable Deposition of Highâ€Quality Perovskite Thin Films for Photovoltaic Applications. Advanced Science, 2019, 6, 1901067.	11.2	97
18	Towards 15% energy conversion efficiency: a systematic study of the solution-processed organic tandem solar cells based on commercially available materials. Energy and Environmental Science, 2013, 6, 3407.	30.8	96

#	Article	IF	Citations
19	Pushing efficiency limits for semitransparent perovskite solar cells. Journal of Materials Chemistry A, 2015, 3, 24071-24081.	10.3	95
20	Fully printed organic tandem solar cells using solution-processed silver nanowires and opaque silver as charge collecting electrodes. Energy and Environmental Science, 2015, 8, 1690-1697.	30.8	83
21	Overcoming interface losses in organic solar cells by applying low temperature, solution processed aluminum-doped zinc oxide electron extraction layers. Journal of Materials Chemistry A, 2013, 1, 6004.	10.3	79
22	Controlling the crystallization dynamics of photovoltaic perovskite layers on larger-area coatings. Energy and Environmental Science, 2020, 13, 4666-4690.	30.8	79
23	Fully Solutionâ€Processed Small Molecule Semitransparent Solar Cells: Optimization of Transparent Cathode Architecture and Four Absorbing Layers. Advanced Functional Materials, 2016, 26, 4543-4550.	14.9	73
24	Sequential Deposition of Highâ€Quality Photovoltaic Perovskite Layers via Scalable Printing Methods. Advanced Functional Materials, 2019, 29, 1900964.	14.9	69
25	Fully Solution-Processing Route toward Highly Transparent Polymer Solar Cells. ACS Applied Materials & Interfaces, 2014, 6, 18251-18257.	8.0	68
26	A generic concept to overcome bandgap limitations for designing highly efficient multi-junction photovoltaic cells. Nature Communications, 2015, 6, 7730.	12.8	67
27	Nanowire Interconnects for Printed Largeâ€Area Semitransparent Organic Photovoltaic Modules. Advanced Energy Materials, 2015, 5, 1401779.	19.5	55
28	Efficiency Limits and Color of Semitransparent Organic Solar Cells for Application in Buildingâ€Integrated Photovoltaics. Energy Technology, 2015, 3, 1051-1058.	3.8	50
29	An Efficient Solutionâ€Processed Intermediate Layer for Facilitating Fabrication of Organic Multiâ€Junction Solar Cells. Advanced Energy Materials, 2013, 3, 1597-1605.	19.5	45
30	Printed Smart Photovoltaic Window Integrated with an Energyâ€Saving Thermochromic Layer. Advanced Optical Materials, 2015, 3, 1524-1529.	7.3	43
31	Interface Molecular Engineering for Laminated Monolithic Perovskite/Silicon Tandem Solar Cells with 80.4% Fill Factor. Advanced Functional Materials, 2019, 29, 1901476.	14.9	43
32	Nanostructured organosilicon luminophores in highly efficient luminescent down-shifting layers for thin film photovoltaics. Solar Energy Materials and Solar Cells, 2016, 155, 1-8.	6.2	39
33	Solution-Processed Parallel Tandem Polymer Solar Cells Using Silver Nanowires as Intermediate Electrode. ACS Nano, 2014, 8, 12632-12640.	14.6	34
34	Managing Phase Orientation and Crystallinity of Printed Dionâ€"Jacobson 2D Perovskite Layers via Controlling Crystallization Kinetics. Advanced Functional Materials, 2022, 32, .	14.9	33
35	Panchromatic ternary/quaternary polymer/fullerene BHJ solar cells based on novel silicon naphthalocyanine and silicon phthalocyanine dye sensitizers. Journal of Materials Chemistry A, 2017, 5, 2550-2562.	10.3	32
36	Semitransparent polymer solar cells. Polymer International, 2013, 62, 1408-1412.	3.1	28

#	Article	IF	Citations
37	Absence of Charge Transfer State Enables Very Low <i>V</i>_{OC} Losses in SWCNT:Fullerene Solar Cells. Advanced Energy Materials, 2019, 9, 1801913.	19.5	25
38	Detailed optical modelling and light-management of thin-film organic solar cells with consideration of small-area effects. Optics Express, 2017, 25, A176.	3.4	24
39	Printable Dielectric Mirrors with Easily Adjustable and Wellâ€Defined Reflection Maxima for Semitransparent Organic Solar Cells. Advanced Optical Materials, 2015, 3, 1424-1430.	7.3	23
40	Printing high performance reflective electrodes for organic solar cells. Organic Electronics, 2015, 17, 334-339.	2.6	23
41	Time-Resolved Analysis of Dielectric Mirrors for Vapor Sensing. ACS Applied Materials & Interfaces, 2018, 10, 36398-36406.	8.0	21
42	Numerical simulation of light propagation in silver nanowire films using time-harmonic inverse iterative method. Journal of Applied Physics, 2013, 113, 154303.	2.5	20
43	Highly transmissive luminescent down-shifting layers filled with phosphor particles for photovoltaics. Optical Materials Express, 2015, 5, 1296.	3.0	20
44	Optical model for simulation and optimization of luminescent down-shifting layers filled with phosphor particles for photovoltaics. Optics Express, 2015, 23, A882.	3.4	18
45	Optimization of Solutionâ€Processed Luminescent Downâ€Shifting Layers for Photovoltaics by Customizing Organic Dye Based Thick Films. Energy Technology, 2016, 4, 385-392.	3.8	16
46	Understanding the Microstructure Formation of Polymer Films by Spontaneous Solution Spreading Coating with a Highâ€Throughput Engineering Platform. ChemSusChem, 2021, 14, 3590-3598.	6.8	14
47	Sub-bandgap photon harvesting for organic solar cells via integrating up-conversion nanophosphors. Organic Electronics, 2015, 19, 113-119.	2.6	13
48	Understanding the Limitations of Charge Transporting Layers in Mixed Leadâ€“Tin Halide Perovskite Solar Cells. Advanced Energy and Sustainability Research, 2022, 3, .	5.8	13
49	Highly Reflective and Low Resistive Top Electrode for Organic Solar Cells and Modules by Low Temperature Silver Nanoparticle Ink. Solar Rrl, 2022, 6, 2100887.	5.8	12
50	Numerical study of plasmonic absorption enhancement in semiconductor absorbers by metallic nanoparticles. Journal of Applied Physics, 2016, 120, .	2.5	10
51	Guideline for Efficiency Enhancement in Semi-Transparent Thin-Film Organic Photovoltaics with Dielectric Mirrors. Advanced Optical Materials, 2016, 4, 1098-1105.	7.3	9
52	Determination of the complex refractive index of powder phosphors. Optical Materials Express, 2017, 7, 2943.	3.0	8
53	Printing of Largeâ€Scale, Flexible, Longâ€Term Stable Dielectric Mirrors with Suppressed Side Interferences. Advanced Optical Materials, 2018, 6, 1700518.	7.3	8
54	Building process design rules for microstructure control in wide-bandgap mixed halide perovskite solar cells by a high-throughput approach. Applied Physics Letters, 2021, 118, .	3.3	8

#	Article	IF	Citations
55	Utilizing the unique charge extraction properties of antimony tin oxide nanoparticles for efficient and stable organic photovoltaics. Nano Energy, 2021, 89, 106373.	16.0	8
56	Luminescence Analysis of PV-Module Soiling in Germany. IEEE Journal of Photovoltaics, 2022, 12, 81-87.	2.5	7
57	Overcoming Temperatureâ€Induced Degradation of Silver Nanowire Electrodes by an Ag@SnO_x Coreâ€Shell Approach. Advanced Electronic Materials, 2022, 8, .	5.1	7
58	Semitransparent Organic Light Emitting Diodes with Bidirectionally Controlled Emission. ACS Photonics, 2016, 3, 1233-1239.	6.6	6
59	Optical Model for Simulation and Optimization of Luminescent down-shifting Layers in Photovoltaics. Energy Procedia, 2015, 84, 3-7.	1.8	4
60	Tailoring the Nature of Interface States in Efficient and Stable Bilayer Organic Solar Cells by a Transferâ€Printing Technique. Advanced Materials Interfaces, 2022, 9, .	3.7	4
61	An Innovative Anode Interface Combination for Perovskite Solar Cells with Improved Efficiency, Stability, and Reproducibility. Solar Rrl, 2022, 6, .	5.8	3
62	Key parameters of efficient phosphor-filled luminescent down-shifting layers for photovoltaics. Journal of Optics (United Kingdom), 2017, 19, 095901.	2.2	2
63	Highly transmissive luminescent down-shifting layers filled with phosphor particles for photovoltaics: publisherâ€™s note. Optical Materials Express, 2015, 5, 1806.	3.0	1