Eugene A Katz

List of Publications by Year
in descending order

93 papers	5,024 citations	126907 33 h-index	88630 70 g-index
97 all docs	97 docs citations	97 times ranked	6433 citing authors

#	Article	IF	Citations
1	Consensus stability testing protocols for organic photovoltaic materials and devices. Solar Energy Materials and Solar Cells, 2011, 95, 1253-1267.	6.2	812
2	Consensus statement for stability assessment and reporting for perovskite photovoltaics based on ISOS procedures. Nature Energy, 2020, 5, 35-49.	39.5	797
3	Temperature- and Component-Dependent Degradation of Perovskite Photovoltaic Materials under Concentrated Sunlight. Journal of Physical Chemistry Letters, 2015, 6, 326-330.	4.6	472
4	Temperature dependence for the photovoltaic device parameters of polymer-fullerene solar cells under operating conditions. Journal of Applied Physics, 2001, 90, 5343-5350.	2.5	184
5	An inter-laboratory stability study of roll-to-roll coated flexible polymer solar modules. Solar Energy Materials and Solar Cells, 2011, 95, 1398-1416.	6.2	132
6	Identifying Fundamental Limitations in Halide Perovskite Solar Cells. Advanced Materials, 2016, 28, 2439-2445.	21.0	129
7	Electrical and Photoâ€Induced Degradation of ZnO Layers in Organic Photovoltaics. Advanced Energy Materials, 2011, 1, 836-843.	19.5	123
8	Out-door testing and long-term stability of plastic solar cells. EPJ Applied Physics, 2006, 36, 307-311.	0.7	111
9	Interlaboratory outdoor stability studies of flexible roll-to-roll coated organic photovoltaic modules: Stability over 10,000 h. Solar Energy Materials and Solar Cells, 2013, 116, 187-196.	6.2	107
10	Effect of Electronâ€Transport Material on Lightâ€Induced Degradation of Inverted Planar Junction Perovskite Solar Cells. Advanced Energy Materials, 2017, 7, 1700476.	19.5	103
11	Toward ultrahigh-flux photovoltaic concentration. Applied Physics Letters, 2004, 84, 3642-3644.	3.3	87
12	Dynamics of Photoinduced Degradation of Perovskite Photovoltaics: From Reversible to Irreversible Processes. ACS Applied Energy Materials, 2018, 1, 799-806.	5.1	85
13	Bias-dependent degradation of various solar cells: lessons for stability of perovskite photovoltaics. Energy and Environmental Science, 2019, 12, 550-558.	30.8	84
14	Reconsidering figures of merit for performance and stability of perovskite photovoltaics. Energy and Environmental Science, 2018, 11, 739-743.	30.8	79
15	Effects of concentrated sunlight on organic photovoltaics. Applied Physics Letters, 2010, 96, 073501.	3.3	69
16	Photovoltaic characterization of concentrator solar cells by localized irradiation. Journal of Applied Physics, 2006, 100, 044514.	2.5	66
17	Efficient solar cells are more stable: the impact of polymer molecular weight on performance of organic photovoltaics. Journal of Materials Chemistry A, 2016, 4, 7274-7280.	10.3	66
18	MoS₂ Hybrid Nanostructures: From Octahedral to Quasiâ€Spherical Shells within Individual Nanoparticles. Angewandte Chemie - International Edition, 2011, 50, 1810-1814.	13.8	62

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19	Effect of Halide Composition on the Photochemical Stability of Perovskite Photovoltaic Materials. ChemSusChem, 2016, 9, 2572-2577.	6.8	62
20	Origin of size effect on efficiency of organic photovoltaics. Journal of Applied Physics, 2011, 109, 074508.	2.5	59
21	Conjugated polymers â€•carbon nanotubesâ€based functional materials for organic photovoltaics: a critical review. Polymers for Advanced Technologies, 2012, 23, 1129-1140.	3.2	58
22	Temperature dynamics of multijunction concentrator solar cells up to ultraâ€high irradiance. Progress in Photovoltaics: Research and Applications, 2013, 21, 202-208.	8.1	57
23	Enhancing functionality of ZnO hole blocking layer in organic photovoltaics. Solar Energy Materials and Solar Cells, 2012, 98, 491-493.	6.2	56
24	Photovoltaic performance enhancement by external recycling of photon emission. Energy and Environmental Science, 2013, 6, 1499.	30.8	53
25	Perovskite: Name Puzzle and Germanâ€Russian Odyssey of Discovery. Helvetica Chimica Acta, 2020, 103, e2000061.	1.6	51
26	Light-induced generation of free radicals by fullerene derivatives: an important degradation pathway in organic photovoltaics?. Journal of Materials Chemistry A, 2017, 5, 8044-8050.	10.3	46
27	Effects of ultra-high flux and intensity distribution in multi-junction solar cells. Progress in Photovoltaics: Research and Applications, 2006, 14, 297-303.	8.1	45
28	Localized irradiation effects on tunnel diode transitions in multi-junction concentrator solar cells. Solar Energy Materials and Solar Cells, 2009, 93, 1692-1695.	6.2	42
29	Basic aspects of the temperature coefficients of concentrator solar cell performance parameters. Progress in Photovoltaics: Research and Applications, 2013, 21, 1087-1094.	8.1	40
30	High-flux characterization of ultrasmall multijunction concentrator solar cells. Applied Physics Letters, 2007, 91, .	3.3	39
31	Band Gap Engineering of Multi-Junction Solar Cells: Effects of Series Resistances and Solar Concentration. Scientific Reports, 2017, 7, 1766.	3.3	39
32	Singular MoS₂, SiO₂and Si nanostructuresâ€"synthesis by solar ablation. Journal of Materials Chemistry, 2008, 18, 458-462.	6.7	35
33	Reversible degradation of inverted organic solar cells by concentrated sunlight. Nanotechnology, 2011, 22, 225401.	2.6	35
34	Perovskite/Silicon Tandem Solar Cells: Effect of Luminescent Coupling and Bifaciality. Solar Rrl, 2021, 5, 2000628.	5.8	33
35	Reversible degradation in ITO-containing organic photovoltaics under concentrated sunlight. Physical Chemistry Chemical Physics, 2015, 17, 3891-3897.	2.8	29
36	Reliability of Small Molecule Organic Photovoltaics with Electronâ€Filtering Compound Buffer Layers. Advanced Energy Materials, 2016, 6, 1601094.	19.5	28

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37	Lead iodide as a buffer layer in UV-induced degradation of CH3NH3PbI3 films. Solar Energy, 2018, 159, 794-799.	6.1	28
38	Study of organic photovoltaics by localized concentrated sunlight: Towards optimization of charge collection in large-area solar cells. Applied Physics Letters, 2011, 99, .	3.3	27
39	Current-limiting behavior in multijunction solar cells. Applied Physics Letters, 2011, 98, .	3.3	27
40	Assessing high-temperature photovoltaic performance for solar hybrid power plants. Solar Energy Materials and Solar Cells, 2018, 182, 61-67.	6.2	26
41	Performance bounds and perspective for hybrid solar photovoltaic/thermal electricity-generation strategies. Sustainable Energy and Fuels, 2018, 2, 2060-2067.	4.9	26
42	Application of luminescence downshifting materials for enhanced stability of CH3NH3PbI3(1-x)Cl3x perovskite photovoltaic devices. Organic Electronics, 2017, 49, 129-134.	2.6	25
43	Multiple-bandgap vertical-junction architectures for ultra-efficient concentrator solar cells. Energy and Environmental Science, 2012, 5, 8523.	30.8	24
44	Changes in the photoelectrical properties and generation of photoinduced defects under light/air exposure of C60 thin films. Journal of Applied Physics, 1998, 84, 3333-3337.	2.5	23
45	Worldwide outdoor round robin study of organic photovoltaic devices and modules. Solar Energy Materials and Solar Cells, 2014, 130, 281-290.	6.2	23
46	Photovoltaic hysteresis and its ramifications for concentrator solar cell design and diagnostics. Applied Physics Letters, 2005, 86, 073508.	3.3	22
47	UV-Cross-linkable Donorâ€"Acceptor Polymers Bearing a Photostable Conjugated Backbone for Efficient and Stable Organic Photovoltaics. ACS Applied Materials & Interfaces, 2018, 10, 35430-35440.	8.0	22
48	Synthesis of Inorganic Fullereneâ€like Nanostructures by Concentrated Solar and Artificial Light. Israel Journal of Chemistry, 2010, 50, 417-425.	2.3	20
49	InGaN/GaN multiâ€quantumâ€well solar cells under high solar concentration and elevated temperatures for hybrid solar thermalâ€photovoltaic power plants. Progress in Photovoltaics: Research and Applications, 2020, 28, 1167-1174.	8.1	20
50	Open-circuit voltage of organic photovoltaics: Implications of the generalized Einstein relation for disordered semiconductors. Solar Energy Materials and Solar Cells, 2012, 97, 132-138.	6.2	19
51	An Interlaboratory Study on the Stability of Allâ€Printable Hole Transport Materialâ€"Free Perovskite Solar Cells. Energy Technology, 2020, 8, 2000134.	3.8	18
52	Outdoor operation of small-molecule organic photovoltaics. Organic Electronics, 2017, 41, 274-279.	2.6	17
53	Stability of organic solar cells with PCDTBT donor polymer: An interlaboratory study. Journal of Materials Research, 2018, 33, 1909-1924.	2.6	17
54	Mutual Composition Transformations Among 2D/3D Organolead Halide Perovskites and Mechanisms Behind. Solar Rrl, 2018, 2, 1800125.	5.8	17

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55	Impact of P3HT materials properties and layer architecture on OPV device stability. Solar Energy Materials and Solar Cells, 2019, 202, 110151.	6.2	17
56	Biasâ€Dependent Stability of Perovskite Solar Cells Studied Using Natural and Concentrated Sunlight. Solar Rrl, 2020, 4, 1900335.	5.8	17
57	Initial Stages of Photodegradation of MAPbI₃ Perovskite: Accelerated Aging with Concentrated Sunlight. Solar Rrl, 2020, 4, 1900270.	5.8	17
58	Photoluminescence kinetics for monitoring photoinduced processes in perovskite solar cells. Solar Energy, 2020, 195, 114-120.	6.1	17
59	Electrospun fibers of functional nanocomposites composed of singleâ€walled carbon nanotubes, fullerene derivatives, and poly(3â€hexylthiophene). Journal of Polymer Science, Part B: Polymer Physics, 2011, 49, 1263-1268.	2.1	16
60	Temperature and spectral dependence of CH3NH3PbI3 films photoconductivity. Applied Physics Letters, 2017, 110, .	3.3	15
61	A Photovoltaic C₆₀-Si Heterojunction. Fullerenes, Nanotubes, and Carbon Nanostructures, 1998, 6, 103-111.	0.6	14
62	Hybrid organic nanocrystal/carbon nanotube film electrodes for air- and photo-stable perovskite photovoltaics. Nanoscale, 2019, 11, 3733-3740.	5.6	14
63	Assessing the outdoor photochemical stability of conjugated polymers by EPR spectroscopy. Journal of Materials Chemistry A, 2016, 4, 13166-13170.	10.3	13
64	Concentrated Sunlight for Materials Synthesis and Diagnostics. Advanced Materials, 2018, 30, e1800444.	21.0	12
65	Bias-Dependent Dynamics of Degradation and Recovery in Perovskite Solar Cells. ACS Applied Energy Materials, 2021, 4, 6562-6573.	5.1	11
66	Initial photo-degradation of PCDTBT:PC70BM solar cells studied under various illumination conditions: Role of the hole transport layer. Solar Energy, 2019, 183, 234-239.	6.1	9
67	Morphology control of perovskite films: a two-step, all solution process for conversion of lead selenide into methylammonium lead iodide. Materials Chemistry Frontiers, 2021, 5, 1410-1417.	5.9	9
68	Donorâ€“acceptor photovoltaic polymers based on 1,4â€dithienylâ€2,5â€dialkoxybenzene with intramolecular noncovalent interactions. Journal of Polymer Science Part A, 2018, 56, 689-698.	2.3	8
69	Bucky-corn: van der Waals composite of carbon nanotube coated by fullerenes. Molecular Physics, 2016, 114, 92-101.	1.7	7
70	All carbon non-covalent exohedral hybrids: C60 aggregates on nanotube networks. Journal of Energy Chemistry, 2018, 27, 957-961.	12.9	7
71	Light-induced electron paramagnetic resonance evidence of charge transfer in electrospun fibers containing conjugated polymer/fullerene and conjugated polymer/fullerene/carbon nanotube blends. Applied Physics Letters, 2012, 100, 113303.	3.3	6
72	Potential of fullerene-based materials for the utilization of solar energy. Physics of the Solid State, 2002, 44, 647-651.	0.6	4

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73	A Two-Step, All Solution Process for Conversion of Lead Sulfide to Methylammonium Lead Iodide Perovskite Thin Films. Thin Solid Films, 2020, 714, 138367.	1.8	4
74	Thin Glassy Carbon Coating for Protection Against Oxygen Penetration into the C60 Fullerite. Fullerenes Nanotubes and Carbon Nanostructures, 2005, 12, 187-191.	2.1	3
75	Accelerated stability testing of organic photovoltaics using concentrated sunlight. , 2012, , .		3
76	Temperature coefficients of concentrator solar cells up to ultra-high irradiance. , 2012, , .		2
77	High quality large single crystals of metal halide perovskites for optoelectronic applications. Science China Chemistry, 2017, 60, 1326-1327.	8.2	2
78	Preparation and stabilization of C60-carbon nanotube exohedral hybrids with controlled nano-morphology. SN Applied Sciences, 2019, 1, 1.	2.9	2
79	Relaxed current-matching constraints by bifacial operation and luminescent coupling in perovskite/silicon tandem solar cells. , 2021, , .		2
80	Electrodiffusion phenomena in C60 thin films. Physics of the Solid State, 2002, 44, 493-496.	0.6	1
81	Geometrical Analysis of Radiolaria and Fullerene Structures: Who Gets the Credit?. Mathematical Intelligencer, 2014, 36, 34-36.	0.2	1
82	Fullerenes, Polyhedra, and Chinese Guardian Lions. Mathematical Intelligencer, 2016, 38, 61-68.	0.2	1
83	A Solution-Processed Tetra-Alkoxylated Zinc Phthalocyanine as Hole Transporting Material for Emerging Photovoltaic Technologies. International Journal of Photoenergy, 2018, 2018, 1-9.	2.5	1
84	Naphthalene dithiol additive reduces trap-assisted recombination and improves outdoor operational stability of organic solar cells. Sustainable Energy and Fuels, 0, , .	4.9	1
85	Carbon Encapsulated Magnetic Nanoparticles Produced by a Catalytic Disproportionation of Carbon Monoxide. Materials Research Society Symposia Proceedings, 2005, 877, 1.	0.1	0
86	Spinoza and the Icosahedron. Mathematical Intelligencer, 2011, 33, 77-77.	0.2	0
87	Innentitelbild: MoS2 Hybrid Nanostructures: From Octahedral to Quasi-Spherical Shells within Individual Nanoparticles (Angew. Chem. 8/2011). Angewandte Chemie, 2011, 123, 1766-1766.	2.0	0
88	Inside Cover: MoS2 Hybrid Nanostructures: From Octahedral to Quasi-Spherical Shells within Individual Nanoparticles (Angew. Chem. Int. Ed. 8/2011). Angewandte Chemie - International Edition, 2011, 50, 1728-1728.	13.8	0
89	Irradiance-dependent current-limiting behavior of multijunction solar cells. , 2012, , .		0
90	Up-Conversion Threshold under Concentrated Sunlight. , 2019, , .		0

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91	In-Situ Photoluminescence Kinetics of Lead Halide Perovskites under Sunlight Excitation. , 2019, , .		0
92	Initial Stages of Phoodegradation of MAPBI3 Perovskite: Accelerated Study by Concentrated Sunlight. , 0, , .		0
93	Bias-Dependent Stability of Perovskite Solar Cells: Degradation Mechanisms Reconsidered. , 0, , .		0