Erkan AydÄ±n

List of Publications by Year
in descending order

64 papers	4,777 citations	186209 28 h-index	133188 59 g-index
66 all docs	66 docs citations	66 times ranked	4459 citing authors

#	Article	IF	Citations
1	Electrode metallization for scaled perovskite/silicon tandem solar cells: Challenges and opportunities. Progress in Photovoltaics: Research and Applications, 2023, 31, 429-442.	4.4	18
2	All Set for Efficient and Reliable Perovskite/Silicon Tandem Photovoltaic Modules?. Solar Rrl, 2022, 6, 2100493.	3.1	21
3	Mechanical Reliability of Fullerene/Tin Oxide Interfaces in Monolithic Perovskite/Silicon Tandem Cells. ACS Energy Letters, 2022, 7, 827-833.	8.8	25
4	Scaled Deposition of Ti₃C₂<i>T</i>_{<i>x</i>} MXene on Complex Surfaces: Application Assessment as Rear Electrodes for Silicon Heterojunction Solar Cells. ACS Nano, 2022, 16, 2419-2428.	7.3	28
5	Unleashing the Full Power of Perovskite/Silicon Tandem Modules with Solar Trackers. ACS Energy Letters, 2022, 7, 1604-1610.	8.8	18
6	Damp heatâ€“stable perovskite solar cells with tailored-dimensionality 2D/3D heterojunctions. Science, 2022, 376, 73-77.	6.0	366
7	Photoactivated p-Doping of Organic Interlayer Enables Efficient Perovskite/Silicon Tandem Solar Cells. ACS Energy Letters, 2022, 7, 1987-1993.	8.8	14
8	Monolithic Perovskite/Silicon Tandem Photovoltaics with Minimized Cell-to-Module Losses by Refractive-Index Engineering. ACS Energy Letters, 2022, 7, 2370-2372.	8.8	20
9	Efficient and stable perovskite-silicon tandem solar cells through contact displacement by MgF <i>_x </i>. Science, 2022, 377, 302-306.	6.0	141
10	Scalable Pulsed Laser Deposition of Transparent Rear Electrode for Perovskite Solar Cells. Advanced Materials Technologies, 2021, 6, 2000856.	3.0	28
11	Efficient bifacial monolithic perovskite/silicon tandem solar cells via bandgap engineering. Nature Energy, 2021, 6, 167-175.	19.8	164
12	Potassium Thiocyanateâ€Assisted Enhancement of Slotâ€Dieâ€Coated Perovskite Films for Highâ€Performance Solar Cells. Small Science, 2021, 1, 2000044.	5.8	26
13	Heat generation and mitigation in silicon solar cells and modules. Joule, 2021, 5, 631-645.	11.7	38
14	Tin Oxide Electronâ€Selective Layers for Efficient, Stable, and Scalable Perovskite Solar Cells. Advanced Materials, 2021, 33, e2005504.	11.1	196
15	Efficient Hybrid Amorphous Silicon/Organic Tandem Solar Cells Enabled by Nearâ€Infrared Absorbing Nonfullerene Acceptors. Advanced Energy Materials, 2021, 11, 2100166.	10.2	5
16	Potassium Thiocyanateâ€Assisted Enhancement of Slotâ€Dieâ€Coated Perovskite Films for Highâ€Performance Solar Cells. Small Science, 2021, 1, 2170013.	5.8	9
17	Concurrent cationic and anionic perovskite defect passivation enables 27.4% perovskite/silicon tandems with suppression of halide segregation. Joule, 2021, 5, 1566-1586.	11.7	119
18	Toward Stable Monolithic Perovskite/Silicon Tandem Photovoltaics: A Six-Month Outdoor Performance Study in a Hot and Humid Climate. ACS Energy Letters, 2021, 6, 2944-2951.	8.8	42

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19	Linked Nickel Oxide/Perovskite Interface Passivation for Highâ€Performance Textured Monolithic Tandem Solar Cells. Advanced Energy Materials, 2021, 11, 2101662.	10.2	77
20	3â€D Modeling of Ultrathin Solar Cells with Nanostructured Dielectric Passivation: Case Study of Chalcogenide Solar Cells. Advanced Theory and Simulations, 2021, 4, 2100191.	1.3	4
21	Ligand-bridged charge extraction and enhanced quantum efficiency enable efficient nâ€“iâ€“p perovskite/silicon tandem solar cells. Energy and Environmental Science, 2021, 14, 4377-4390.	15.6	79
22	Photon recycling in perovskite solar cells and its impact on device design. Nanophotonics, 2021, 10, 2023-2042.	2.9	29
23	Linked Nickel Oxide/Perovskite Interface Passivation for Highâ€Performance Textured Monolithic Tandem Solar Cells (Adv. Energy Mater. 40/2021). Advanced Energy Materials, 2021, 11, 2170160.	10.2	2
24	Life Cycle Assessment of Coated-Glass Recovery from Perovskite Solar Cells. ACS Sustainable Chemistry and Engineering, 2021, 9, 15239-15248.	3.2	13
25	Mitigating Plasmonic Absorption Losses at Rear Electrodes in Highâ€Efficiency Silicon Solar Cells Using Dopantâ€Free Contact Stacks. Advanced Functional Materials, 2020, 30, 1907840.	7.8	55
26	High-Performance Perovskite Single-Junction and Textured Perovskite/Silicon Tandem Solar Cells via Slot-Die-Coating. ACS Energy Letters, 2020, 5, 3034-3040.	8.8	134
27	How Humidity and Light Exposure Change the Photophysics of Metal Halide Perovskite Solar Cells. Solar Rrl, 2020, 4, 2000382.	3.1	23
28	Interplay between temperature and bandgap energies on the outdoor performance of perovskite/silicon tandem solar cells. Nature Energy, 2020, 5, 851-859.	19.8	177
29	Recombination junctions for efficient monolithic perovskite-based tandem solar cells: physical principles, properties, processing and prospects. Materials Horizons, 2020, 7, 2791-2809.	6.4	65
30	Impact of Cation Multiplicity on Halide Perovskite Defect Densities and Solar Cell Voltages. Journal of Physical Chemistry C, 2020, 124, 27333-27339.	1.5	18
31	Lewis-Acid Doping of Triphenylamine-Based Hole Transport Materials Improves the Performance and Stability of Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2020, 12, 23874-23884.	4.0	38
32	Efficient tandem solar cells with solution-processed perovskite on textured crystalline silicon. Science, 2020, 367, 1135-1140.	6.0	525
33	Enhanced optical path and electron diffusion length enable high-efficiency perovskite tandems. Nature Communications, 2020, 11, 1257.	5.8	180
34	Defect Passivation in Perovskite Solar Cells by Cyanoâ€Based Ï€â€Conjugated Molecules for Improved Performance and Stability. Advanced Functional Materials, 2020, 30, 2002861.	7.8	87
35	Dynamics of Antisolvent Processed Hybrid Metal Halide Perovskites Studied by <i>In Situ</i> Photoluminescence and Its Influence on Optoelectronic Properties. ACS Applied Energy Materials, 2020, 3, 2386-2393.	2.5	26
36	Ecoâ€Friendly Spray Deposition of Perovskite Films on Macroscale Textured Surfaces. Advanced Materials Technologies, 2020, 5, 1901009.	3.0	23

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37	Multi-cation Synergy Suppresses Phase Segregation in Mixed-Halide Perovskites. Joule, 2019, 3, 1746-1764.	11.7	159
38	Enhancing the Charge Extraction and Stability of Perovskite Solar Cells Using Strontium Titanate (SrTiO₃) Electron Transport Layer. ACS Applied Energy Materials, 2019, 2, 8090-8097.	2.5	51
39	Carrier Extraction from Perovskite to Polymeric Charge Transport Layers Probed by Ultrafast Transient Absorption Spectroscopy. Journal of Physical Chemistry Letters, 2019, 10, 6921-6928.	2.1	19
40	Kinetic Stabilization of the Solâ€“Gel State in Perovskites Enables Facile Processing of Highâ€Efficiency Solar Cells. Advanced Materials, 2019, 31, e1808357.	11.1	76
41	Triarylphosphine Oxide as Cathode Interfacial Material for Inverted Perovskite Solar Cells. Advanced Materials Interfaces, 2019, 6, 1900434.	1.9	16
42	Defect and Contact Passivation for Perovskite Solar Cells. Advanced Materials, 2019, 31, e1900428.	11.1	445
43	Dual-Function Electron-Conductive, Hole-Blocking Titanium Nitride Contacts for Efficient Silicon Solar Cells. Joule, 2019, 3, 1314-1327.	11.7	91
44	Temperature Dependence of the Urbach Energy in Lead Iodide Perovskites. Journal of Physical Chemistry Letters, 2019, 10, 1368-1373.	2.1	191
45	Zrâ€Doped Indium Oxide (IZRO) Transparent Electrodes for Perovskiteâ€Based Tandem Solar Cells. Advanced Functional Materials, 2019, 29, 1901741.	7.8	124
46	Electron-Conductive, Hole-Blocking Contact for Silicon Solar Cells. , 2019, , .		0
47	Interfacial Dynamics and Contact Passivation in Perovskite Solar Cells. Advanced Electronic Materials, 2019, 5, 1800500.	2.6	25
48	Broadband-transparent conducting oxides for efficient solar cells: case of zirconium-doped indium oxide. , 2019, , .		0
49	AZO/metal/AZO transparent conductive oxide thin films for spray pyrolyzed copper indium sulfide based solar cells. Thin Solid Films, 2018, 653, 29-36.	0.8	18
50	Tantalum Nitride Electronâ€Selective Contact for Crystalline Silicon Solar Cells. Advanced Energy Materials, 2018, 8, 1800608.	10.2	112
51	Tantalum Nitride Hole-Blocking Layer for Efficient Silicon Solar Cells. , 2018, , .		0
52	Room-Temperature-Sputtered Nanocrystalline Nickel Oxide as Hole Transport Layer for pâ€“iâ€“n Perovskite Solar Cells. ACS Applied Energy Materials, 2018, 1, 6227-6233.	2.5	88
53	A Universal Doubleâ€Side Passivation for High Openâ€Circuit Voltage in Perovskite Solar Cells: Role of Carbonyl Groups in Poly(methyl methacrylate). Advanced Energy Materials, 2018, 8, 1801208.	10.2	387
54	Photovoltaic Performance and Impedance Spectroscopy Analysis of CuInS2 Thin Film Solar Cells Deposited on Polyimide Foil via Spray Pyrolysis. International Journal of Electrochemical Science, 2017, 12, 9626-9639.	0.5	8

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55	Cost-effective fabrication of nanostructured zinc oxide based electrodes for photoelectrochemical water splitting. Materials Science in Semiconductor Processing, 2016, 42, 159-164.	1.9	5
56	Pyrolytically grown indium sulfide sensitized zinc oxide nanowires for solar water splitting. Physica Status Solidi C: Current Topics in Solid State Physics, 2015, 12, 1251-1255.	0.8	1
57	Non-toxic and environmentally friendly route for preparation of copper indium sulfide based thin film solar cells. Journal of Alloys and Compounds, 2015, 640, 468-474.	2.8	17
58	Influence of excitation frequency on structural and electrical properties of spray pyrolyzed CuInS2 thin films. Journal of Materials Processing Technology, 2014, 214, 1879-1885.	3.1	20
59	Influence of silver incorporation on the structural, optical and electrical properties of spray pyrolyzed indium sulfide thin films. Journal of Alloys and Compounds, 2014, 603, 119-124.	2.8	39
60	Conventional and rapid thermal annealing of spray pyrolyzed copper indium gallium sulfide thin films. Journal of Alloys and Compounds, 2014, 615, 461-468.	2.8	24
61	Preparation and characterization of cost effective spray pyrolyzed absorber layer for thin film solar cells. Solar Energy, 2013, 95, 21-29.	2.9	21
62	Spray pyrolized copper indium gallium sulfide abosrober layers for thin film solar cells. , 2013, , .		3
63	The multiple ways of making perovskite/silicon tandem solar cells: Which way to go?. , 0, , .		0
64	Monolithic perovskite/silicon tandem solar cells: combining stability with high performance. , 0, , .		0