Erkan Aydn

List of Publications by Citations

56 papers	2,404 citations	23 h-index	48 g-index
66 ext. papers	3,437 ext. citations	16.3 avg, IF	5.44 L-index

#	Paper	IF	Citations
56	Efficient tandem solar cells with solution-processed perovskite on textured crystalline silicon. *Science*, **2020**, 367, 1135-1140	33.3	298
55	Defect and Contact Passivation for Perovskite Solar Cells. *Advanced Materials*, **2019**, 31, e1900428	24	276
54	A Universal Double-Side Passivation for High Open-Circuit Voltage in Perovskite Solar Cells: Role of Carbonyl Groups in Poly(methyl methacrylate). *Advanced Energy Materials*, **2018**, 8, 1801208	21.8	268
53	Multi-cation Synergy Suppresses Phase Segregation in Mixed-Halide Perovskites. *Joule*, **2019**, 3, 1746-1764	67.8	118
52	Temperature Dependence of the Urbach Energy in Lead Iodide Perovskites. *Journal of Physical Chemistry Letters*, **2019**, 10, 1368-1373	6.4	116
51	Enhanced optical path and electron diffusion length enable high-efficiency perovskite tandems. *Nature Communications*, **2020**, 11, 1257	17.4	114
50	Zr-Doped Indium Oxide (IZRO) Transparent Electrodes for Perovskite-Based Tandem Solar Cells. *Advanced Functional Materials*, **2019**, 29, 1901741	15.6	83
49	Tantalum Nitride Electron-Selective Contact for Crystalline Silicon Solar Cells. *Advanced Energy Materials*, **2018**, 8, 1800608	21.8	76
48	Efficient bifacial monolithic perovskite/silicon tandem solar cells via bandgap engineering. *Nature Energy*, **2021**, 6, 167-175	62.3	76
47	Interplay between temperature and bandgap energies on the outdoor performance of perovskite/silicon tandem solar cells. *Nature Energy*, **2020**, 5, 851-859	62.3	70
46	Tin Oxide Electron-Selective Layers for Efficient, Stable, and Scalable Perovskite Solar Cells. *Advanced Materials*, **2021**, 33, e2005504	24	70
45	High-Performance Perovskite Single-Junction and Textured Perovskite/Silicon Tandem Solar Cells via Slot-Die-Coating. *ACS Energy Letters*, **2020**, 5, 3034-3040	20.1	65
44	Dual-Function Electron-Conductive, Hole-Blocking Titanium Nitride Contacts for Efficient Silicon Solar Cells. *Joule*, **2019**, 3, 1314-1327	27.8	61
43	Kinetic Stabilization of the Sol-Gel State in Perovskites Enables Facile Processing of High-Efficiency Solar Cells. *Advanced Materials*, **2019**, 31, e1808357	24	57
42	Room-Temperature-Sputtered Nanocrystalline Nickel Oxide as Hole Transport Layer for p-i-n Perovskite Solar Cells. *ACS Applied Energy Materials*, **2018**, 1, 6227-6233	6.1	57
41	Damp heat-stable perovskite solar cells with tailored-dimensionality 2D/3D heterojunctions.. *Science*, **2022**, eabm5784	33.3	57
40	Defect Passivation in Perovskite Solar Cells by Cyano-Based π-Conjugated Molecules for Improved Performance and Stability. *Advanced Functional Materials*, **2020**, 30, 2002861	15.6	43

39	Concurrent cationic and anionic perovskite defect passivation enables 27.4% perovskite/silicon tandems with suppression of halide segregation. *Joule*, **2021**, 5, 1566-1586	27.8	43
38	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	5.7	29
37	Mitigating Plasmonic Absorption Losses at Rear Electrodes in High-Efficiency Silicon Solar Cells Using Dopant-Free Contact Stacks. *Advanced Functional Materials*, **2020**, 30, 1907840	15.6	29
36	Recombination junctions for efficient monolithic perovskite-based tandem solar cells: physical principles, properties, processing and prospects. *Materials Horizons*, **2020**, 7, 2791-2809	14.4	27
35	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	6.1	26
34	Ligand-bridged charge extraction and enhanced quantum efficiency enable efficient n□p perovskite/silicon tandem solar cells. *Energy and Environmental Science*,	35.4	26
33	Interfacial Dynamics and Contact Passivation in Perovskite Solar Cells. *Advanced Electronic Materials*, **2019**, 5, 1800500	6.4	22
32	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	9.5	20
31	Linked Nickel Oxide/Perovskite Interface Passivation for High-Performance Textured Monolithic Tandem Solar Cells. *Advanced Energy Materials*,2101662	21.8	19
30	Conventional and rapid thermal annealing of spray pyrolyzed copper indium gallium sulfide thin films. *Journal of Alloys and Compounds*, **2014**, 615, 461-468	5.7	18
29	Dynamics of Antisolvent Processed Hybrid Metal Halide Perovskites Studied by In Situ Photoluminescence and Its Influence on Optoelectronic Properties. *ACS Applied Energy Materials*, **2020**, 3, 2386-2393	6.1	15
28	Eco-Friendly Spray Deposition of Perovskite Films on Macroscale Textured Surfaces. *Advanced Materials Technologies*, **2020**, 5, 1901009	6.8	15
27	Influence of excitation frequency on structural and electrical properties of spray pyrolyzed CuInS2 thin films. *Journal of Materials Processing Technology*, **2014**, 214, 1879-1885	5.3	15
26	Preparation and characterization of cost effective spray pyrolyzed absorber layer for thin film solar cells. *Solar Energy*, **2013**, 95, 21-29	6.8	14
25	How Humidity and Light Exposure Change the Photophysics of Metal Halide Perovskite Solar Cells. *Solar Rrl*, **2020**, 4, 2000382	7.1	13
24	Potassium Thiocyanate-Assisted Enhancement of Slot-Die-Coated Perovskite Films for High-Performance Solar Cells. *Small Science*, **2021**, 1, 2000044		13
23	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	5.7	12
22	Scalable Pulsed Laser Deposition of Transparent Rear Electrode for Perovskite Solar Cells. *Advanced Materials Technologies*, **2021**, 6, 2000856	6.8	12

21	Triarylphosphine Oxide as Cathode Interfacial Material for Inverted Perovskite Solar Cells. *Advanced Materials Interfaces*, **2019**, 6, 1900434	4.6	11
20	Carrier Extraction from Perovskite to Polymeric Charge Transport Layers Probed by Ultrafast Transient Absorption Spectroscopy. *Journal of Physical Chemistry Letters*, **2019**, 10, 6921-6928	6.4	11
19	AZO/metal/AZO transparent conductive oxide thin films for spray pyrolyzed copper indium sulfide based solar cells. *Thin Solid Films*, **2018**, 653, 29-36	2.2	10
18	Photon recycling in perovskite solar cells and its impact on device design. *Nanophotonics*, **2021**, 10, 2023-2042	6.5	9
17	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	20.1	9
16	Impact of Cation Multiplicity on Halide Perovskite Defect Densities and Solar Cell Voltages. *Journal of Physical Chemistry C*, **2020**, 124, 27333-27339	3.8	7
15	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**, 9626-9639	2.2	6
14	Heat generation and mitigation in silicon solar cells and modules. *Joule*, **2021**, 5, 631-645	27.8	6
13	All Set for Efficient and Reliable Perovskite/Silicon Tandem Photovoltaic Modules?. *Solar Rrl*,2100493	7.1	6
12	Electrode metallization for scaled perovskite/silicon tandem solar cells: Challenges and opportunities. *Progress in Photovoltaics: Research and Applications*,	6.8	5
11	Cost-effective fabrication of nanostructured zinc oxide based electrodes for photoelectrochemical water splitting. *Materials Science in Semiconductor Processing*, **2016**, 42, 159-164	4.3	4
10	Potassium Thiocyanate-Assisted Enhancement of Slot-Die-Coated Perovskite Films for High-Performance Solar Cells. *Small Science*, **2021**, 1, 2170013		4
9	Photoactivated p-Doping of Organic Interlayer Enables Efficient Perovskite/Silicon Tandem Solar Cells. *ACS Energy Letters*,1987-1993	20.1	4
8	Efficient Hybrid Amorphous Silicon/Organic Tandem Solar Cells Enabled by Near-Infrared Absorbing Nonfullerene Acceptors. *Advanced Energy Materials*, **2021**, 11, 2100166	21.8	3
7	Spray Pyrolysis of Nano-Structured Optical and Electronic Materials **2015**, 127-181		2
6	Spray pyrolized copper indium gallium sulfide abosrober layers for thin film solar cells **2013**,		2
5	Mechanical Reliability of Fullerene/Tin Oxide Interfaces in Monolithic Perovskite/Silicon Tandem Cells. *ACS Energy Letters*, **2022**, 7, 827-833	20.1	2
4	Unleashing the Full Power of Perovskite/Silicon Tandem Modules with Solar Trackers. *ACS Energy Letters*,1604-1610	20.1	2

List of Publications

3	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		1
2	3-D Modeling of Ultrathin Solar Cells with Nanostructured Dielectric Passivation: Case Study of Chalcogenide Solar Cells. *Advanced Theory and Simulations*,2100191	3.5	1
1	Linked Nickel Oxide/Perovskite Interface Passivation for High-Performance Textured Monolithic Tandem Solar Cells (Adv. Energy Mater. 40/2021). *Advanced Energy Materials*, **2021**, 11, 2170160	21.8	