Donghoe Kim

List of Publications by Year
in descending order

103 papers	9,134 citations	57758 44 h-index	39675 94 g-index
105 all docs	105 docs citations	105 times ranked	10925 citing authors

#	Article	IF	Citations
1	Carrier lifetimes of >1 Î¼s in Sn-Pb perovskites enable efficient all-perovskite tandem solar cells. Science, 2019, 364, 475-479.	12.6	781
2	Scalable fabrication of perovskite solar cells. Nature Reviews Materials, 2018, 3, .	48.7	764
3	Highly efficient and bending durable perovskite solar cells: toward a wearable power source. Energy and Environmental Science, 2015, 8, 916-921.	30.8	602
4	Perovskite ink with wide processing window for scalable high-efficiency solar cells. Nature Energy, 2017, 2, .	39.5	499
5	Extrinsic ion migration in perovskite solar cells. Energy and Environmental Science, 2017, 10, 1234-1242.	30.8	458
6	Facile fabrication of large-grain CH3NH3PbI3â^'xBrx films for high-efficiency solar cells via CH3NH3Br-selective Ostwald ripening. Nature Communications, 2016, 7, 12305.	12.8	444
7	Efficient, stable silicon tandem cells enabled by anion-engineered wide-bandgap perovskites. Science, 2020, 368, 155-160.	12.6	420
8	Boosting the solar water oxidation performance of a BiVO₄ photoanode by crystallographic orientation control. Energy and Environmental Science, 2018, 11, 1299-1306.	30.8	330
9	Enhanced Charge Transport in 2D Perovskites via Fluorination of Organic Cation. Journal of the American Chemical Society, 2019, 141, 5972-5979.	13.7	274
10	Bimolecular Additives Improve Wide-Band-Gap Perovskites for Efficient Tandem Solar Cells with CIGS. Joule, 2019, 3, 1734-1745.	24.0	227
11	Nb-Doped TiO₂: A New Compact Layer Material for TiO₂ Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2009, 113, 6878-6882.	3.1	210
12	Retarding charge recombination in perovskite solar cells using ultrathin MgO-coated TiO₂ nanoparticulate films. Journal of Materials Chemistry A, 2015, 3, 9160-9164.	10.3	167
13	Two-Step Solâ^'Gel Method-Based TiO₂ Nanoparticles with Uniform Morphology and Size for Efficient Photo-Energy Conversion Devices. Chemistry of Materials, 2010, 22, 1958-1965.	6.7	166
14	Outlook and Challenges of Perovskite Solar Cells toward Terawatt-Scale Photovoltaic Module Technology. Joule, 2018, 2, 1437-1451.	24.0	162
15	Do grain boundaries dominate non-radiative recombination in CH₃NH₃PbI₃ perovskite thin films?. Physical Chemistry Chemical Physics, 2017, 19, 5043-5050.	2.8	161
16	Scalable slot-die coating of high performance perovskite solar cells. Sustainable Energy and Fuels, 2018, 2, 2442-2449.	4.9	155
17	Highly Efficient Perovskite Solar Modules by Scalable Fabrication and Interconnection Optimization. ACS Energy Letters, 2018, 3, 322-328.	17.4	143
18	Niobium Doping Effects on TiO₂ Mesoscopic Electron Transport Layerâ€Based Perovskite Solar Cells. ChemSusChem, 2015, 8, 2392-2398.	6.8	139

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19	Selective dissolution of halide perovskites as a step towards recycling solar cells. Nature Communications, 2016, 7, 11735.	12.8	129
20	Insights into operational stability and processing of halide perovskite active layers. Energy and Environmental Science, 2019, 12, 1341-1348.	30.8	125
21	Acid Additives Enhancing the Conductivity of Spiroâ€OMeTAD Toward Highâ€Efficiency and Hysteresisâ€Less Planar Perovskite Solar Cells. Advanced Energy Materials, 2017, 7, 1601451.	19.5	123
22	300% Enhancement of Carrier Mobility in Uniaxialâ€Oriented Perovskite Films Formed by Topotacticâ€Oriented Attachment. Advanced Materials, 2017, 29, 1606831.	21.0	120
23	Zn₂SnO₄-Based Photoelectrodes for Organolead Halide Perovskite Solar Cells. Journal of Physical Chemistry C, 2014, 118, 22991-22994.	3.1	92
24	Wide-Bandgap Metal Halide Perovskites for Tandem Solar Cells. ACS Energy Letters, 2021, 6, 232-248.	17.4	89
25	Crystallographically preferred oriented TiO2 nanotube arrays for efficient photovoltaic energy conversion. Energy and Environmental Science, 2012, 5, 7989.	30.8	88
26	Sustainable lead management in halide perovskite solar cells. Nature Sustainability, 2020, 3, 1044-1051.	23.7	87
27	Highly Efficient and Uniform 1â€...cm² Perovskite Solar Cells with an Electrochemically Deposited NiO_{<i>x</i>} Holeâ€Extraction Layer. ChemSusChem, 2017, 10, 2660-2667.	6.8	84
28	Enhancing Charge Transport of 2D Perovskite Passivation Agent for Wideâ€Bandgap Perovskite Solar Cells Beyond 21%. Solar Rrl, 2020, 4, 2000082.	5.8	79
29	BaSnO₃ Perovskite Nanoparticles for High Efficiency Dyeâ€Sensitized Solar Cells. ChemSusChem, 2013, 6, 449-454.	6.8	78
30	Scalable Deposition of High-Efficiency Perovskite Solar Cells by Spray-Coating. ACS Applied Energy Materials, 2018, 1, 1853-1857.	5.1	78
31	Stable Formamidiniumâ€Based Perovskite Solar Cells via In Situ Grain Encapsulation. Advanced Energy Materials, 2018, 8, 1800232.	19.5	78
32	Synthesis and photovoltaic property of fine and uniform Zn₂SnO₄nanoparticles. Nanoscale, 2012, 4, 557-562.	5.6	71
33	New Hybrid Hole Extraction Layer of Perovskite Solar Cells with a Planar pâ€"iâ€"n Geometry. Journal of Physical Chemistry C, 2015, 119, 27285-27290.	3.1	71
34	Effects of crystal and electronic structures of ANb2O6 (A=Ca, Sr, Ba) metaniobate compounds on their photocatalytic H2 evolution from pure water. International Journal of Hydrogen Energy, 2010, 35, 12954-12960.	7.1	69
35	Electronic band structures and photovoltaic properties of MWO4 (M=Zn, Mg, Ca, Sr) compounds. Journal of Solid State Chemistry, 2011, 184, 2103-2107.	2.9	68
36	Formamidine disulfide oxidant as a localised electron scavenger for >20% perovskite solar cell modules. Energy and Environmental Science, 2021, 14, 4903-4914.	30.8	63

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37	3D/2D multidimensional perovskites: Balance of high performance and stability for perovskite solar cells. Current Opinion in Electrochemistry, 2018, 11, 105-113.	4.8	59
38	Effect of TiO2 particle size and layer thickness on mesoscopic perovskite solar cells. Applied Surface Science, 2019, 477, 131-136.	6.1	57
39	Tailored 2D/3D Halide Perovskite Heterointerface for Substantially Enhanced Endurance in Conducting Bridge Resistive Switching Memory. ACS Applied Materials & Interfaces, 2020, 12, 17039-17045.	8.0	55
40	Effect of Rubidium Incorporation on the Structural, Electrical, and Photovoltaic Properties of Methylammonium Lead Iodide-Based Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2017, 9, 41898-41905.	8.0	51
41	Controlled Interfacial Electron Dynamics in Highly Efficient Zn₂SnO₄â€Based Dyeâ€Sensitized Solar Cells. ChemSusChem, 2014, 7, 501-509.	6.8	50
42	Epitaxial 1D electron transport layers for high-performance perovskite solar cells. Nanoscale, 2015, 7, 15284-15290.	5.6	49
43	The effect of the number, position, and shape of methoxy groups in triphenylamine donors on the performance of dye-sensitized solar cells. Dyes and Pigments, 2015, 113, 390-401.	3.7	46
44	The effect of N-substitution and ethylthio substitution on the performance of phenothiazine donors in dye-sensitized solar cells. Dyes and Pigments, 2013, 97, 262-271.	3.7	45
45	Anatase TiO2 nanorod-decoration for highly efficient photoenergy conversion. Nanoscale, 2013, 5, 11725.	5.6	44
46	A Simple Method To Control Morphology of Hydroxyapatite Nano- and Microcrystals by Altering Phase Transition Route. Crystal Growth and Design, 2013, 13, 3414-3418.	3.0	41
47	All-in-One Lewis Base for Enhanced Precursor and Device Stability in Highly Efficient Perovskite Solar Cells. ACS Energy Letters, 2021, 6, 3425-3434.	17.4	41
48	Facile fabrication of three-dimensional TiO 2 structures for highly efficient perovskite solar cells. Nano Energy, 2016, 22, 499-506.	16.0	40
49	26.7% Efficient 4-Terminal Perovskiteâ€“Silicon Tandem Solar Cell Composed of a High-Performance Semitransparent Perovskite Cell and a Doped Poly-Si/SiOx Passivating Contact Silicon Cell. IEEE Journal of Photovoltaics, 2020, 10, 417-422.	2.5	40
50	Synthesis and adsorption properties of gelatin-conjugated hematite (Î±-Fe2O3) nanoparticles for lead removal from wastewater. Journal of Hazardous Materials, 2021, 416, 125696.	12.4	38
51	Size-controlled synthesis of monodispersed mesoporous Î±-Alumina spheres by a template-free forced hydrolysis method. Dalton Transactions, 2011, 40, 6901.	3.3	35
52	Transmittance optimized nb-doped TiO2/Sn-doped In2O3 multilayered photoelectrodes for dye-sensitized solar cells. Solar Energy Materials and Solar Cells, 2012, 96, 276-280.	6.2	35
53	1-D Structured Flexible Supercapacitor Electrodes with Prominent Electronic/Ionic Transport Capabilities. ACS Applied Materials & Interfaces, 2014, 6, 268-274.	8.0	34
54	Indiumâ€“Tinâ€“Oxide Nanowire Array Based CdSe/CdS/TiO₂ One-Dimensional Heterojunction Photoelectrode for Enhanced Solar Hydrogen Production. ACS Sustainable Chemistry and Engineering, 2016, 4, 1161-1168.	6.7	33

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55	High Efficiency Perovskite Solar Cells Exceeding 22% via a Photoâ€Assisted Twoâ€Step Sequential Deposition. Advanced Functional Materials, 2021, 31, 2006718.	14.9	33
56	Defect Healing in FAPb(I_{1â€•}<i>_x</i>Br<i>_x</i>)₃ Perovskites: Multifunctional Fluorinated Sulfonate Surfactant Anchoring Enables >21%ÂModules with Improved Operation Stability. Advanced Energy Materials, 2022, 12, .	19.5	32
57	Effect of non-stoichiometric solution chemistry on improving the performance of wide-bandgap perovskite solar cells. Materials Today Energy, 2018, 7, 232-238.	4.7	31
58	Simultaneous Ligand Exchange Fabrication of Flexible Perovskite Solar Cells using Newly Synthesized Uniform Tin Oxide Quantum Dots. Journal of Physical Chemistry Letters, 2018, 9, 5460-5467.	4.6	31
59	Unassisted Water Splitting Exceeding 9% Solar-to-Hydrogen Conversion Efficiency by Cu(In, Ga)(S, Se)2 Photocathode with Modified Surface Band Structure and Halide Perovskite Solar Cell. ACS Applied Energy Materials, 2020, 3, 2296-2303.	5.1	31
60	A Newly Designed Nb-Doped TiO₂/Al-Doped ZnO Transparent Conducting Oxide Multilayer for Electrochemical Photoenergy Conversion Devices. Journal of Physical Chemistry C, 2010, 114, 13867-13871.	3.1	30
61	Aligned Photoelectrodes with Large Surface Area Prepared by Pulsed Laser Deposition. Journal of Physical Chemistry C, 2012, 116, 8102-8110.	3.1	29
62	Roughness of Ti Substrates for Control of the Preferred Orientation of TiO₂ Nanotube Arrays as a New Orientation Factor. Journal of Physical Chemistry C, 2015, 119, 13297-13305.	3.1	26
63	Surface-area-tuned, quantum-dot-sensitized heterostructured nanoarchitectures for highly efficient photoelectrodes. Nano Research, 2014, 7, 144-153.	10.4	25
64	Intermediate Phaseâ€Free Process for Methylammonium Lead Iodide Thin Film for Highâ€Efficiency Perovskite Solar Cells. Advanced Science, 2021, 8, e2102492.	11.2	20
65	Tailoring nanobranches in three-dimensional hierarchical rutile heterostructures: a case study of TiO2â€“SnO2. CrystEngComm, 2013, 15, 2939.	2.6	19
66	Green-emitting Lu₃Al₅O₁₂:Ce³⁺ phosphor as a visible light amplifier for dye-sensitized solar cells. RSC Advances, 2015, 5, 24737-24741.	3.6	19
67	Revisiting Effects of Ligand-Capped Nanocrystals in Perovskite Solar Cells. ACS Energy Letters, 2020, 5, 1032-1034.	17.4	19
68	CdS-sensitized 1-D single-crystalline anatase TiO2 nanowire arrays for photoelectrochemical hydrogen production. International Journal of Hydrogen Energy, 2015, 40, 863-869.	7.1	18
69	Perovskite microcells fabricated using swelling-induced crack propagation for colored solar windows. Nature Communications, 2022, 13, 1946.	12.8	18
70	Template-free synthesis of monodispersed Y3Al5O12:Ce3+ nanosphere phosphor. Journal of Materials Chemistry, 2012, 22, 12275.	6.7	17
71	Facile hydrothermal synthesis of InVO4 microspheres and their visible-light photocatalytic activities. Materials Letters, 2012, 72, 98-100.	2.6	14
72	Ternary diagrams of the phase, optical bandgap energy and photoluminescence of mixed-halide perovskites. Acta Materialia, 2019, 181, 460-469.	7.9	14

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73	Lowâ€Temperature Synthesis of Phaseâ€Pure 0Dâ€“1D BaTiO₃ Nanostructures Using H₂Ti₃O₇ Templates. European Journal of Inorganic Chemistry, 2010, 2010, 1343-1347.	2.0	13
74	Synthesis and Characteristics of Tb-Doped Y₂SiO₅ Nanophosphors and Luminescent Layer for Enhanced Photovoltaic Cell Performance. Journal of Nanoscience and Nanotechnology, 2011, 11, 8748-8753.	0.9	13
75	Influence of Solvent and Bridge Structure in Alkylthioâ€Substituted Triphenylamine Dyes on the Photovoltaic Properties of Dyeâ€Sensitized Solar Cells. Chemistry - an Asian Journal, 2012, 7, 1817-1826.	3.3	13
76	Observation of anatase nanograins crystallizing from anodic amorphous TiO₂ nanotubes. CrystEngComm, 2015, 17, 7346-7353.	2.6	13
77	TiO2 nanocrystals shell layer on highly conducting indium tin oxide nanowire for photovoltaic devices. Nanoscale, 2013, 5, 3520.	5.6	12
78	Nb-doped TiO₂ air-electrode for advanced Li-air batteries. Journal of Asian Ceramic Societies, 2015, 3, 77-81.	2.3	12
79	Î³-Al2O3 nanospheres-directed synthesis of monodispersed BaAl2O4:Eu2+ nanosphere phosphors. CrystEngComm, 2013, 15, 4797.	2.6	11
80	Electron emission of Au nanoparticles embedded in ZnO for highly conductive oxide. Applied Physics Letters, 2014, 104, .	3.3	11
81	Influence of Niobium Doping in Hierarchically Organized Titania Nanostructure on Performance of Dye-Sensitized Solar Cells. Journal of Nanoscience and Nanotechnology, 2012, 12, 5091-5095.	0.9	10
82	Anionic Ligand Assisted Synthesis of 3-D Hollow TiO₂ Architecture with Enhanced Photoelectrochemical Performance. Langmuir, 2014, 30, 15531-15539.	3.5	10
83	A Hierarchically Organized Photoelectrode Architecture for Highly Efficient CdS/CdSeâ€Sensitized Solar Cells. Advanced Energy Materials, 2014, 4, 1300395.	19.5	10
84	Enhanced ferroelectric photovoltaic effect in semiconducting single-wall carbon nanotube/BiFeO₃ heterostructures enabled by wide-range light absorption and efficient charge separation. Journal of Materials Chemistry A, 2020, 8, 10377-10385.	10.3	10
85	Improved spectral response of sensitized photoelectrodes with the optical modulation layer. Electrochemistry Communications, 2012, 15, 29-33.	4.7	9
86	Controlled synthesis and Li-electroactivity of rutile TiO2 nanostructure with walnut-like morphology. Dalton Transactions, 2013, 42, 4278.	3.3	8
87	Electronic Band Structure, Optical Properties, and Photocatalytic Hydrogen Production of Barium Niobium Phosphate Compounds (BaOâ€“Nb₂O₅â€“P₂O₅). European Journal of Inorganic Chemistry, 2011, 2011, 2206-2210.	2.0	7
88	Transparent-conducting-oxide nanowire arrays for efficient photoelectrochemical energy conversion. Nanoscale, 2014, 6, 8649.	5.6	7
89	Room-Temperature-Processed Amorphous Sn-In-O Electron Transport Layer for Perovskite Solar Cells. Materials, 2020, 13, 32.	2.9	7
90	Rationally Designed Window Layers for High Efficiency Perovskite/Si Tandem Solar Cells. Advanced Optical Materials, 2021, 9, 2100788.	7.3	7

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91	Rheological and Electrochemical Properties of Nanoclay Added Electrolyte for Dye Sensitized Solar Cells. Electrochimica Acta, 2014, 144, 275-281.	5.2	6
92	SnO 2 nanowires decorated with forsythia-like TiO 2 for photoenergy conversion. Materials Letters, 2017, 202, 48-51.	2.6	6
93	Largeâ€Scale Assembly of Peptideâ€Based Hierarchical Nanostructures and Their Antiferroelectric Properties. Small, 2020, 16, e2003986.	10.0	6
94	Surface Modified TiO2 Nanostructure with 3D Urchin-Like Morphology for Dye-Sensitized Solar Cell Application. Journal of Nanoscience and Nanotechnology, 2012, 12, 1305-1309.	0.9	4
95	Fabrication of TiO2/Tin-Doped Indium Oxide-Based Photoelectrode Coated with Overlayer Materials and Its Photoelectrochemical Behavior. Journal of Nanoscience and Nanotechnology, 2012, 12, 1390-1394.	0.9	4
96	In situ formation of <scp>Imidazoleâ€Based 2D</scp> interlayer for efficient perovskite solar cells and modules. International Journal of Energy Research, 2022, 46, 15419-15427.	4.5	3
97	Enhancing Charge Transport of 2D Perovskite Passivation Agent for Wideâ€Bandgap Perovskite Solar Cells Beyond 21%. Solar Rrl, 2020, 4, 2070065.	5.8	2
98	Perovskite Solar Cells: Stable Formamidinium-Based Perovskite Solar Cells via In Situ Grain Encapsulation (Adv. Energy Mater. 22/2018). Advanced Energy Materials, 2018, 8, 1870101.	19.5	1
99	Ultimate Charge Extraction of Monolayer PbS Quantum Dot for Observation of Multiple Exciton Generation. ChemPhysChem, 2019, 20, 2657-2661.	2.1	1
100	Organic-Inorganic Perovskite for Highly Efficient Tandem Solar Cells. Ceramist, 2019, 22, 146-169.	0.1	1
101	Scalable Deposition of Polycrystalline Perovskite Thin Films towards High-Efficiency and Large-Area Perovskite Photovoltaics. , 2018, , .		0
102	Real Impacts of Ligand-Capped Nanocrystals in Perovskite Solar Cells. ECS Meeting Abstracts, 2020, MA2020-02, 1901-1901.	0.0	0
103	Defect Healing in FAPb(I_{1â€}<i>_x</i>Br<i>_x</i>)₃ Perovskites: Multifunctional Fluorinated Sulfonate Surfactant Anchoring Enables >21%ÂModules with Improved Operation Stability (Adv. Energy Mater. 20/2022). Advanced Energy Materials, 2022, 12, .	19.5	0