Sangwook Lee

List of Publications by Year
in descending order

120 papers	6,321 citations	71102 41 h-index	69250 77 g-index
120 all docs	120 docs citations	120 times ranked	10844 citing authors

#	Article	IF	Citations
1	Highly efficient and bending durable perovskite solar cells: toward a wearable power source. Energy and Environmental Science, 2015, 8, 916-921.	30.8	602
2	Elastic Properties of Chemical-Vapor-Deposited Monolayer MoS₂, WS₂, and Their Bilayer Heterostructures. Nano Letters, 2014, 14, 5097-5103.	9.1	512
3	Recent progresses on physics and applications of vanadium dioxide. Materials Today, 2018, 21, 875-896.	14.2	318
4	Anisotropic in-plane thermal conductivity of black phosphorus nanoribbons at temperatures higher than 100â€‰K. Nature Communications, 2015, 6, 8573.	12.8	311
5	Anomalously low electronic thermal conductivity in metallic vanadium dioxide. Science, 2017, 355, 371-374.	12.6	307
6	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
7	Preparation of Nanoporous MgO-Coated TiO2Nanoparticles and Their Application to the Electrode of Dye-Sensitized Solar Cells. Langmuir, 2005, 21, 10332-10335.	3.5	191
8	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
9	Synthesis of Cu₂PO₄OH Hierarchical Superstructures with Photocatalytic Activity in Visible Light. Advanced Functional Materials, 2008, 18, 2154-2162.	14.9	141
10	Niobium Doping Effects on TiO₂ Mesoscopic Electron Transport Layerâ€Based Perovskite Solar Cells. ChemSusChem, 2015, 8, 2392-2398.	6.8	139
11	Photophysical, Photoelectrochemical, and Photocatalytic Properties of Novel SnWO₄ Oxide Semiconductors with Narrow Band Gaps. Journal of Physical Chemistry C, 2009, 113, 10647-10653.	3.1	136
12	Al-Doped ZnO Thin Film: A New Transparent Conducting Layer for ZnO Nanowire-Based Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2010, 114, 7185-7189.	3.1	134
13	Ferroelectrically Gated Atomically Thin Transitionâ€Metal Dichalcogenides as Nonvolatile Memory. Advanced Materials, 2016, 28, 2923-2930.	21.0	134
14	Temperature-Gated Thermal Rectifier for Active Heat Flow Control. Nano Letters, 2014, 14, 4867-4872.	9.1	126
15	Effect of ball size and powder loading on the milling efficiency of a laboratory-scale wet ball mill. Ceramics International, 2013, 39, 8963-8968.	4.8	105
16	Axially Engineered Metalâ€“Insulator Phase Transition by Graded Doping VO₂ Nanowires. Journal of the American Chemical Society, 2013, 135, 4850-4855.	13.7	96
17	Crystallographically preferred oriented TiO2 nanotube arrays for efficient photovoltaic energy conversion. Energy and Environmental Science, 2012, 5, 7989.	30.8	88
18	BaSnO₃ Perovskite Nanoparticles for High Efficiency Dyeâ€Sensitized Solar Cells. ChemSusChem, 2013, 6, 449-454.	6.8	78

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19	Powerful, Multifunctional Torsional Micromuscles Activated by Phase Transition. Advanced Materials, 2014, 26, 1746-1750.	21.0	76
20	Carrier Transport in Dye-Sensitized Solar Cells Using Single Crystalline TiO₂ Nanorods Grown by a Microwave-Assisted Hydrothermal Reaction. Journal of Physical Chemistry C, 2011, 115, 14534-14541.	3.1	71
21	A Quasiâ€Inverse Opal Layer Based on Highly Crystalline TiO₂ Nanoparticles: A New Lightâ€Scattering Layer in Dyeâ€Sensitized Solar Cells. Advanced Energy Materials, 2011, 1, 546-550.	19.5	71
22	Synthesis and photovoltaic property of fine and uniform Zn₂SnO₄nanoparticles. Nanoscale, 2012, 4, 557-562.	5.6	71
23	Correlation between Photocatalytic Efficacy and Electronic Band Structure in Hydrothermally Grown TiO₂ Nanoparticles. Journal of Physical Chemistry C, 2010, 114, 15292-15297.	3.1	70
24	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
25	Influence of nitrogen chemical states on photocatalytic activities of nitrogen-doped TiO2 nanoparticles under visible light. Journal of Photochemistry and Photobiology A: Chemistry, 2010, 213, 129-135.	3.9	65
26	Pressureâ€“Temperature Phase Diagram of Vanadium Dioxide. Nano Letters, 2017, 17, 2512-2516.	9.1	65
27	Effects of heterojunction on photoelectrocatalytic properties of ZnOâ€“TiO2ZnOâ€“TiO2 films. International Journal of Hydrogen Energy, 2007, 32, 3137-3140.	7.1	61
28	Functional Multilayered Transparent Conducting Oxide Thin Films for Photovoltaic Devices. Journal of Physical Chemistry C, 2009, 113, 1083-1087.	3.1	60
29	Preparation of a Nanoporous CaCO3-Coated TiO2 Electrode and Its Application to a Dye-Sensitized Solar Cell. Langmuir, 2007, 23, 11907-11910.	3.5	58
30	Effect of TiO2 particle size and layer thickness on mesoscopic perovskite solar cells. Applied Surface Science, 2019, 477, 131-136.	6.1	57
31	Synthesis of CdSeâ^TiO₂ Nanocomposites and Their Applications to TiO₂ Sensitized Solar Cells. Langmuir, 2009, 25, 5348-5351.	3.5	56
32	Recent progressive efforts in perovskite solar cells toward commercialization. Journal of Materials Chemistry A, 2018, 6, 12215-12236.	10.3	56
33	Effects of carbon content on the photocatalytic activity of C/BiVO4 composites under visible light irradiation. Materials Chemistry and Physics, 2010, 119, 106-111.	4.0	54
34	Acid Adsorption on TiO₂ Nanoparticlesâ€”An Electrochemical Properties Study. Journal of Physical Chemistry C, 2008, 112, 8476-8480.	3.1	53
35	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
36	Nanowireâ€Based Threeâ€Dimensional Transparent Conducting Oxide Electrodes for Extremely Fast Charge Collection. Advanced Energy Materials, 2011, 1, 829-835.	19.5	50

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37	Epitaxial 1D electron transport layers for high-performance perovskite solar cells. Nanoscale, 2015, 7, 15284-15290.	5.6	49
38	Visible-Light-Induced Photocatalytic Activity in FeNbO₄ Nanoparticles. Journal of Physical Chemistry C, 2008, 112, 18393-18398.	3.1	45
39	Sb:SnO₂@TiO₂ Heteroepitaxial Branched Nanoarchitectures for Li Ion Battery Electrodes. Journal of Physical Chemistry C, 2012, 116, 21717-21726.	3.1	45
40	Anatase TiO2 nanorod-decoration for highly efficient photoenergy conversion. Nanoscale, 2013, 5, 11725.	5.6	44
41	Enhancement of the photoelectric performance of dye-sensitized solar cells by using a CaCO3-coated TiO2 nanoparticle film as an electrode. Solar Energy Materials and Solar Cells, 2006, 90, 2405-2412.	6.2	43
42	Synthesis of vanadium dioxide thin films and nanostructures. Journal of Applied Physics, 2020, 128, .	2.5	42
43	Photophysical and Photocatalytic Properties of Ag₂M₂O₇ (M=Mo, W). Journal of the American Ceramic Society, 2010, 93, 3867-3872.	3.8	41
44	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
45	Indiumâ˜Tinâ˜Oxide-Based Transparent Conducting Layers for Highly Efficient Photovoltaic Devices. Journal of Physical Chemistry C, 2009, 113, 7443-7447.	3.1	35
46	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
47	Highâ€Detectivity Flexible Nearâ€Infrared Photodetector Based on Chalcogenide Ag₂Se Nanoparticles. Advanced Optical Materials, 2019, 7, 1900812.	7.3	35
48	Wide range tuning of band gap energy of A3B2X9 perovskite-like halides. Scripta Materialia, 2019, 166, 107-111.	5.2	34
49	Defect energy levels in Ta2O5 and nitrogen-doped Ta2O5. Journal of Applied Physics, 2008, 104, .	2.5	33
50	Enhanced photovoltaic properties of overlayer-coated nanocrystalline TiO2 dye-sensitized solar cells (DSSCs). Journal of Electroceramics, 2009, 23, 422-425.	2.0	32
51	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
52	3-D TiO₂nanoparticle/ITO nanowire nanocomposite antenna for efficient charge collection in solid state dye-sensitized solar cells. Nanoscale, 2014, 6, 6127-6132.	5.6	30
53	Modulating Photoluminescence of Monolayer Molybdenum Disulfide by Metalâ€“Insulator Phase Transition in Active Substrates. Small, 2016, 12, 3976-3984.	10.0	30
54	Enhancing photocatalytic activity by using TiO2â€“MgO core-shell-structured nanoparticles. Applied Physics Letters, 2006, 88, 013107.	3.3	29

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55	Aligned Photoelectrodes with Large Surface Area Prepared by Pulsed Laser Deposition. Journal of Physical Chemistry C, 2012, 116, 8102-8110.	3.1	29
56	SrNb2O6 nanotubes with enhanced photocatalytic activity. Journal of Materials Chemistry, 2010, 20, 3979.	6.7	28
57	Effective passivation of Ag nanowire-based flexible transparent conducting electrode by TiO2 nanoshell. Nano Convergence, 2016, 3, 20.	12.1	27
58	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
59	Heteroepitaxy-Induced Rutile VO₂ with Abundantly Exposed (002) Facets for High Lithium Electroactivity. ACS Energy Letters, 2016, 1, 216-224.	17.4	23
60	Surfactant-Assisted Shape Evolution of Thermally Synthesized TiO₂ Nanocrystals and Their Applications to Efficient Photoelectrodes. Langmuir, 2008, 24, 4316-4319.	3.5	22
61	Fine tuning of emission property of white light-emitting diodes by quantum-dot-coating on YAG:Ce nanophosphors. Applied Surface Science, 2016, 379, 467-473.	6.1	22
62	Growth and NO₂-Sensing Properties of Biaxial p-SnO/n-ZnO Heterostructured Nanowires. ACS Applied Materials & Interfaces, 2020, 12, 34274-34282.	8.0	22
63	Effect of Oxygen Partial Pressure During Liquidâ€Phase Sintering on the Dielectric Properties of 0.9MgTiO₃â€“0.1CaTiO₃. Journal of the American Ceramic Society, 2008, 91, 132-138.	3.8	20
64	Visible-light photocatalytic activity of NH3-heat-treated Ta2O5 to decompose rhodamine B in aqueous solution. Reaction Kinetics, Mechanisms and Catalysis, 2012, 106, 67-81.	1.7	20
65	Intermediate Phaseâ€Free Process for Methylammonium Lead Iodide Thin Film for Highâ€Efficiency Perovskite Solar Cells. Advanced Science, 2021, 8, e2102492.	11.2	20
66	Tailoring nanobranches in three-dimensional hierarchical rutile heterostructures: a case study of TiO2â€“SnO2. CrystEngComm, 2013, 15, 2939.	2.6	19
67	Nanoscale photocurrent mapping in perovskite solar cells. Nano Energy, 2018, 48, 543-550.	16.0	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	Correlation of anatase particle size with photocatalytic properties. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 2288-2291.	1.8	17
70	Photophysical and Photocatalytic Properties of <scp><scp>Zn</scp>₃<scp>M</scp>₂<scp>O</scp>₈</scp> (MÂ=Â<scp><scp>Nb</scp></scp>, <scp><scp>Ta</scp></scp>). Journal of the American Ceramic Society, 2012, 95, 227-231.	3.8	17
71	Oxygen-vacancy-modified brookite TiO2 nanorods as visible-light-responsive photocatalysts. Materials Letters, 2018, 232, 146-149.	2.6	17
72	Room-temperature NO2 sensor based on a hybrid nanomaterial of methylammonium tin iodide submicron spheres and tin dioxide nanowires. Scripta Materialia, 2020, 188, 107-111.	5.2	15

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73	Photoluminescence and electrical properties of epitaxial Alâ€doped ZnO transparent conducting thin films. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 2133-2138.	1.8	14
74	Surface hydroxylation of TiO2 yields notable visible-light photocatalytic activity to decompose rhodamine B in aqueous solution. Journal of Physics and Chemistry of Solids, 2013, 74, 1136-1142.	4.0	14
75	Cerium-Doped Yttrium Aluminum Garnet Hollow Shell Phosphors Synthesized via the Kirkendall Effect. ACS Applied Materials & Interfaces, 2014, 6, 1145-1151.	8.0	14
76	Ternary diagrams of the phase, optical bandgap energy and photoluminescence of mixed-halide perovskites. Acta Materialia, 2019, 181, 460-469.	7.9	14
77	Growth and gas sensing properties of methylammonium tin iodide thin film. Scripta Materialia, 2020, 178, 108-113.	5.2	14
78	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
79	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
80	Growth of anatase and rutile TiO2@Sb:SnO2 heterostructures and their application in photoelectrochemical water splitting. International Journal of Hydrogen Energy, 2014, 39, 17508-17516.	7.1	13
81	Observation of anatase nanograins crystallizing from anodic amorphous TiO₂ nanotubes. CrystEngComm, 2015, 17, 7346-7353.	2.6	13
82	Photo-annealed amorphous titanium oxide for perovskite solar cells. Nanoscale, 2019, 11, 19488-19496.	5.6	12
83	Hydrothermal Synthesis, Characterization and Photocatalytic Properties of Cu₂PO₄OH with Hierarchical Morphologies. Journal of Nanoscience and Nanotechnology, 2010, 10, 1185-1190.	0.9	11
84	Mesoporous TiO2 nanowires as bi-functional materials for dye-sensitized solar cells. Electrochimica Acta, 2012, 74, 83-86.	5.2	11
85	Enhancing Modulation of Thermal Conduction in Vanadium Dioxide Thin Film by Nanostructured Nanogaps. Scientific Reports, 2017, 7, 7131.	3.3	11
86	Synthesis of Cs2TeI6 thin film and its NO2 gas-sensing properties under blue-light illumination. Scripta Materialia, 2022, 207, 114305.	5.2	11
87	Correlation between dispersion properties of TiO2 colloidal sols and photoelectric characteristics of TiO2 films. Journal of Colloid and Interface Science, 2004, 279, 479-483.	9.4	10
88	Infiltration of methylammonium metal halide in highly porous membranes using sol-gel-derived coating method. Applied Surface Science, 2017, 416, 96-102.	6.1	10
89	Facile Hydrothermal Synthesis of SrNb₂O₆Nanotubes with Rhombic Cross Sections. Crystal Growth and Design, 2010, 10, 2447-2450.	3.0	9
90	Improved spectral response of sensitized photoelectrodes with the optical modulation layer. Electrochemistry Communications, 2012, 15, 29-33.	4.7	9

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91	Sintering and Dielectric Properties of <scp><scp>Li₂O</scp></scp>â€“<scp><scp>B₂O₃</scp></scp>â€“<scp><scp>Al₂</su Glassâ€Added (<scp><scp>Ca</scp></scp>_{0.7}<scp><scp>Sr</scp></scp>_{0.3}<scp><scp>O</scp></scp>)_{1.03} for Copper Electrode. International Journal of Applied Ceramic Technology, 2013, 10, 716-722.	2.1	8
92	Facile transfer fabrication of transparent, conductive and flexible In2O3:Sn (ITO) nanowire arrays electrode via selective wet-etching ZnO sacrificial layer. Materials Letters, 2015, 158, 304-308.	2.6	8
93	High-Efficiency Flexible Perovskite Solar Cells Enabled by an Ultrafast Room-Temperature Reactive Ion Etching Process. ACS Applied Materials & Interfaces, 2020, 12, 7125-7134.	8.0	8
94	Cost-Effective High-Throughput Calculation Based on Hybrid Density Functional Theory: Application to Cubic, Double, and Vacancy-Ordered Halide Perovskites. Journal of Physical Chemistry Letters, 2021, 12, 7885-7891.	4.6	8
95	Effect of Glass Composition on the Dielectric Properties of a Liquidâ€Phaseâ€Sintered MgOâ€Doped BaTiO₃. Journal of the American Ceramic Society, 2008, 91, 2205-2210.	3.8	7
96	Transparent-conducting-oxide nanowire arrays for efficient photoelectrochemical energy conversion. Nanoscale, 2014, 6, 8649.	5.6	7
97	Epitaxial Anatase TiO2Nanorods Array with Reduced Interfacial Charge Recombination for Solar Water Splitting. Journal of the Electrochemical Society, 2016, 163, H469-H473.	2.9	7
98	Excitation dynamics of MAPb(I1-xBrx)3 during phase separation by photoirradiation: Evidence of sink, band filling, and Br-Rich phase coarsening. Journal of Alloys and Compounds, 2019, 806, 1180-1187.	5.5	7
99	Room-Temperature-Processed Amorphous Sn-In-O Electron Transport Layer for Perovskite Solar Cells. Materials, 2020, 13, 32.	2.9	7
100	Preparation of N-Doped CaNb₂O₆ Nanoplates with Ellipsoid-Like Morphology and Their Photocatalytic Activities Under Visible-Light Irradiation. Journal of Nanoscience and Nanotechnology, 2010, 10, 1196-1202.	0.9	6
101	SnO 2 nanowires decorated with forsythia-like TiO 2 for photoenergy conversion. Materials Letters, 2017, 202, 48-51.	2.6	6
102	Photo induced NO2 sensing properties of bismuth triiodide (BiI3) nanoplates at room temperature. Scripta Materialia, 2019, 172, 17-22.	5.2	6
103	Real time observation of photo-instability of ternary-halide mixed CH3NH3Pb(Br1-x-yClxIy)3 perovskite: Preferential diffusion of small halide ions. Journal of Alloys and Compounds, 2019, 808, 151716.	5.5	5
104	Thermal-assisted photo-annealed TiO2 thin films for perovskite solar cells fabricated under ambient air. Applied Surface Science, 2020, 530, 147221.	6.1	5
105	Hydrogen halide-free synthesis of organohalides for organometal trihalide perovskite solar cells. Journal of Industrial and Engineering Chemistry, 2020, 89, 375-382.	5.8	5
106	In-Situ Nano-Auger Probe of Chloride-Ions during CH3NH3PbI3â^'xClx Perovskite Formation. Materials, 2021, 14, 1102.	2.9	5
107	Seed-layer mediated orientation evolution in dielectric Biâ€“Znâ€“Tiâ€“Nbâ€“O thin films. Applied Physics Letters, 2007, 91, 232903.	3.3	4
108	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

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109	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
110	Correlation between photoactivity of TiO2 and diffusion of Na+ ions from soda lime glass. Materials Letters, 2018, 228, 351-355.	2.6	4
111	Effect of tin (II and IV) iodide doping on organicâ€“inorganic bismuth (III) iodide perovskite. Materials Letters, 2020, 262, 127166.	2.6	4
112	Thermal Evaporation Synthesis of Vertically Aligned Zn2SnO4/ZnO Radial Heterostructured Nanowires Array. Nanomaterials, 2021, 11, 1500.	4.1	4
113	Growth and NO2 sensing properties of Cs2SnI6 thin film. Materials Research Bulletin, 2022, 147, 111628.	5.2	4
114	Synthesis and Characterization of Nano-Particulate BaTiO₃ for Ceramic/Polymer Composite Capacitor. Journal of Nanoscience and Nanotechnology, 2010, 10, 1361-1366.	0.9	3
115	Role of oxygen atmosphere on fabrication and photovoltaic properties of amorphous Sn-I-O electron transport layer. Materials Letters, 2020, 273, 127960.	2.6	2
116	Fabrication of MASnI3 and MASnxPb(1-x)I3 Thin Films by Conversion from SnS Thin Film. Applied Science and Convergence Technology, 2018, 27, 169-172.	0.9	2
117	Room-Temperature-Grown amorphous Indium-Tin-Silicon-Oxide thin film as a new electron transporting layer for perovskite solar cells. Applied Surface Science, 2022, 581, 151570.	6.1	2
118	Structural, optical, and electrical properties of tin iodide-based vacancy-ordered-double perovskites synthesized via mechanochemical reaction. Ceramics International, 2021, , .	4.8	2
119	Structure and dielectric properties of cubic Bi2(Zn1âˆ•3Ta2âˆ•3)2O7 thin films. Journal of Applied Physics, 2009, 106, .	2.5	0
120	3D Transparent Conducting Oxides: Nanowireâ€Based Threeâ€Dimensional Transparent Conducting Oxide Electrodes for Extremely Fast Charge Collection (Adv. Energy Mater. 5/2011). Advanced Energy Materials, 2011, 1, 702-702.	19.5	0