

Mansoo Choi

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118
papers

8,574
citations

35
h-index

92
g-index

133
ext. papers

9,866
ext. citations

11.6
avg, IF

6.3
L-index

#	Paper	IF	Citations
118	Highly Reproducible Perovskite Solar Cells with Average Efficiency of 18.3% and Best Efficiency of 19.7% Fabricated via Lewis Base Adduct of Lead(II) Iodide. <i>Journal of the American Chemical Society</i> , 2015 , 137, 8696-9	16.4	1751
117	Ultrasensitive mechanical crack-based sensor inspired by the spider sensory system. <i>Nature</i> , 2014 , 516, 222-6	50.4	868
116	Self-formed grain boundary healing layer for highly efficient CH ₃ NH ₃ PbI ₃ perovskite solar cells. <i>Nature Energy</i> , 2016 , 1,	62.3	757
115	Nanofluids containing multiwalled carbon nanotubes and their enhanced thermal conductivities. <i>Journal of Applied Physics</i> , 2003 , 94, 4967	2.5	576
114	Trapped charge-driven degradation of perovskite solar cells. <i>Nature Communications</i> , 2016 , 7, 13422	17.4	390
113	Control of I-V hysteresis in CH ₃ NH ₃ PbI ₃ perovskite solar cell. <i>Journal of Physical Chemistry Letters</i> , 2015 , 6, 4633-9	6.4	379
112	Superflexible, high-efficiency perovskite solar cells utilizing graphene electrodes: towards future foldable power sources. <i>Energy and Environmental Science</i> , 2017 , 10, 337-345	35.4	307
111	Hysteresis-free low-temperature-processed planar perovskite solar cells with 19.1% efficiency. <i>Energy and Environmental Science</i> , 2016 , 9, 2262-2266	35.4	232
110	Electronic modulation of infrared radiation in graphene plasmonic resonators. <i>Nature Communications</i> , 2015 , 6, 7032	17.4	161
109	Transparent Conductive Oxide-Free Graphene-Based Perovskite Solar Cells with over 17% Efficiency. <i>Advanced Energy Materials</i> , 2016 , 6, 1501873	21.8	161
108	Intact 2D/3D halide junction perovskite solar cells via solid-phase in-plane growth. <i>Nature Energy</i> , 2021 , 6, 63-71	62.3	155
107	Parallel patterning of nanoparticles via electrodynamic focusing of charged aerosols. <i>Nature Nanotechnology</i> , 2006 , 1, 117-21	28.7	138
106	Stretchable and Transparent Kirigami Conductor of Nanowire Percolation Network for Electronic Skin Applications. <i>Nano Letters</i> , 2019 , 19, 6087-6096	11.5	136
105	Tunable large resonant absorption in a midinfrared graphene Salisbury screen. <i>Physical Review B</i> , 2014 , 90,	3.3	129
104	Moth-Eye TiO ₂ Layer for Improving Light Harvesting Efficiency in Perovskite Solar Cells. <i>Small</i> , 2016 , 12, 2443-9	11	115
103	Carbon Nanotubes versus Graphene as Flexible Transparent Electrodes in Inverted Perovskite Solar Cells. <i>Journal of Physical Chemistry Letters</i> , 2017 , 8, 5395-5401	6.4	107
102	Three-dimensional assembly of nanoparticles from charged aerosols. <i>Nano Letters</i> , 2011 , 11, 119-24	11.5	83

101	Thermodynamic regulation of CH ₃ NH ₃ PbI ₃ crystal growth and its effect on photovoltaic performance of perovskite solar cells. <i>Journal of Materials Chemistry A</i> , 2015 , 3, 19901-19906	13	78
100	Ultra-flexible perovskite solar cells with crumpling durability: toward a wearable power source. <i>Energy and Environmental Science</i> , 2019 , 12, 3182-3191	35.4	78
99	Carbon-sandwiched perovskite solar cell. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 1382-1389	13	77
98	Ultra-sensitive Pressure sensor based on guided straight mechanical cracks. <i>Scientific Reports</i> , 2017 , 7, 40116	4.9	68
97	Transparent ITO mechanical crack-based pressure and strain sensor. <i>Journal of Materials Chemistry C</i> , 2016 , 4, 9947-9953	7.1	68
96	Highly Reproducible Large-Area Perovskite Solar Cell Fabrication via Continuous Megasonic Spray Coating of CH ₃ NH ₃ PbI ₃ . <i>Small</i> , 2019 , 15, e1804005	11	68
95	High-Performance Solution-Processed Double-Walled Carbon Nanotube Transparent Electrode for Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2019 , 9, 1901204	21.8	64
94	Hotspot-engineered 3D multipetal flower assemblies for surface-enhanced Raman spectroscopy. <i>Advanced Materials</i> , 2014 , 26, 5924-9	24	64
93	Opto-electronic properties of TiO ₂ nanohelices with embedded HC(NH ₂) ₂ PbI ₃ perovskite solar cells. <i>Journal of Materials Chemistry A</i> , 2015 , 3, 9179-9186	13	60
92	Water-repellent perovskite solar cell. <i>Journal of Materials Chemistry A</i> , 2014 , 2, 20017-20021	13	55
91	Coalescence enhanced synthesis of nanoparticles to control size, morphology and crystalline phase at high concentrations. <i>Journal of Aerosol Science</i> , 2002 , 33, 1-16	4.3	55
90	Multiplex lithography for multilevel multiscale architectures and its application to polymer electrolyte membrane fuel cell. <i>Nature Communications</i> , 2015 , 6, 8484	17.4	49
89	Replication of flexible polymer membranes with geometry-controllable nano-apertures via a hierarchical mould-based dewetting. <i>Nature Communications</i> , 2014 , 5, 3137	17.4	47
88	Controlled formation of nanoparticles utilizing laser irradiation in a flame and their characteristics. <i>Applied Physics Letters</i> , 2001 , 79, 2459-2461	3.4	43
87	Rational Core-shell Design of Open Air Low Temperature In Situ Processable CsPbI ₃ Quasi-Nanocrystals for Stabilized p-i-n Solar Cells. <i>Advanced Energy Materials</i> , 2019 , 9, 1901787	21.8	41
86	Electrospun Magnetic Nanoparticle-Decorated Nanofiber Filter and Its Applications to High-Efficiency Air Filtration. <i>Environmental Science & Technology</i> , 2017 , 51, 11967-11975	10.3	40
85	A study of pin-to-plate type spark discharge generator for producing unagglomerated nanoaerosols. <i>Journal of Aerosol Science</i> , 2012 , 52, 80-88	4.3	39
84	Electron field emission from nanocarbons: A two-process model. <i>Applied Physics Letters</i> , 2004 , 84, 1126-1128	3.1	39

83	High-performance Fuel Cell with Stretched Catalyst-Coated Membrane: One-step Formation of Cracked Electrode. <i>Scientific Reports</i> , 2016 , 6, 26503	4.9	35
82	Facile fabrication of three-dimensional TiO ₂ structures for highly efficient perovskite solar cells. <i>Nano Energy</i> , 2016 , 22, 499-506	17.1	34
81	Multifunctional Moth-Eye TiO/PDMS Pads with High Transmittance and UV Filtering. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 44038-44044	9.5	34
80	Precise Morphology Control and Continuous Fabrication of Perovskite Solar Cells Using Droplet-Controllable Electro spray Coating System. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 7879-7884	9.5	33
79	Electro-spray deposition of a mesoporous TiO ₂ charge collection layer: toward large scale and continuous production of high efficiency perovskite solar cells. <i>Nanoscale</i> , 2015 , 7, 20725-33	7.7	33
78	Highly durable crack sensor integrated with silicone rubber cantilever for measuring cardiac contractility. <i>Nature Communications</i> , 2020 , 11, 535	17.4	33
77	An atomistic mechanism for the degradation of perovskite solar cells by trapped charge. <i>Nanoscale</i> , 2019 , 11, 11369-11378	7.7	32
76	Room temperature CO and H ₂ sensing with carbon nanoparticles. <i>Nanotechnology</i> , 2011 , 22, 485501	3.4	31
75	Numerical simulation of microscopic motion and deposition of nanoparticles via electrodynamic focusing. <i>Journal of Aerosol Science</i> , 2007 , 38, 1140-1149	4.3	30
74	Three-dimensional nanoprinting via charged aerosol jets. <i>Nature</i> , 2021 , 592, 54-59	50.4	30
73	Unipolar Charging of Nanosized Aerosol Particles Using Soft X-ray Photoionization. <i>Aerosol Science and Technology</i> , 2003 , 37, 330-341	3.4	28
72	Crack-based strain sensor with diverse metal films by inserting an inter-layer. <i>RSC Advances</i> , 2017 , 7, 34810-34815	3.7	27
71	High-resolution, parallel patterning of nanoparticles via an ion-induced focusing mask. <i>Small</i> , 2010 , 6, 2146-52	11	27
70	Guided cracking of electrodes by stretching prism-patterned membrane electrode assemblies for high-performance fuel cells. <i>Scientific Reports</i> , 2018 , 8, 1257	4.9	24
69	Polyimide Encapsulation of Spider-Inspired Crack-Based Sensors for Durability Improvement. <i>Applied Sciences (Switzerland)</i> , 2018 , 8, 367	2.6	24
68	Moth-eye Structured Polydimethylsiloxane Films for High-Efficiency Perovskite Solar Cells. <i>Nano-Micro Letters</i> , 2019 , 11, 53	19.5	24
67	Nanoparticle pattern deposition from gas phase onto charged flat surface. <i>Microelectronic Engineering</i> , 2004 , 71, 229-236	2.5	24
66	Room-Temperature Vapor Deposition of Cobalt Nitride Nanofilms for Mesoscopic and Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2018 , 8, 1703114	21.8	23

65	Interface Design of Hybrid Electron Extraction Layer for Relieving Hysteresis and Retarding Charge Recombination in Perovskite Solar Cells. <i>Advanced Materials Interfaces</i> , 2018 , 5, 1800993	4.6	23
64	Unconventional Alloys Confined in Nanoparticles: Building Blocks for New Matter. <i>Matter</i> , 2020 , 3, 1646-1663	15.6	23
63	One-step flame method for the synthesis of coated composite nanoparticles. <i>Journal of Nanoparticle Research</i> , 2009 , 11, 1767-1775	2.3	22
62	Charge Transport Layer-Dependent Electronic Band Bending in Perovskite Solar Cells and Its Correlation to Light-Induced Device Degradation. <i>ACS Energy Letters</i> , 2020 , 5, 2580-2589	20.1	22
61	Facile Multiscale Patterning by Creep-Assisted Sequential Imprinting and Fuel Cell Application. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 11459-65	9.5	22
60	Comparison of cellular toxicity between multi-walled carbon nanotubes and onion-like shell-shaped carbon nanoparticles. <i>Journal of Nanoparticle Research</i> , 2015 , 17, 1	2.3	21
59	Multifurcation Assembly of Charged Aerosols and Its Application to 3D Structured Gas Sensors. <i>Advanced Materials</i> , 2017 , 29, 1604159	24	20
58	Auxetic lattice of multipods. <i>Physica Status Solidi (B): Basic Research</i> , 2009 , 246, 2098-2101	1.3	20
57	Investigation of Defect-Tolerant Perovskite Solar Cells with Long-Term Stability via Controlling the Self-Doping Effect. <i>Advanced Energy Materials</i> , 2021 , 11, 2100555	21.8	19
56	Dual function of a high-contrast hydrophobic/hydrophilic coating for enhanced stability of perovskite solar cells in extremely humid environments. <i>Nano Research</i> , 2017 , 10, 3885-3895	10	18
55	Focused patterning of nanoparticles by controlling electric field induced particle motion. <i>Applied Physics Letters</i> , 2009 , 94, 053104	3.4	18
54	Fragmentation of Fe ₂ O ₃ nanoparticles driven by a phase transition in a flame and their magnetic properties. <i>Applied Physics Letters</i> , 2003 , 83, 4842-4844	3.4	18
53	A rollable ultra-light polymer electrolyte membrane fuel cell. <i>NPG Asia Materials</i> , 2017 , 9, e384-e384	10.3	17
52	Membrane/Electrode Interface Design for Effective Water Management in Alkaline Membrane Fuel Cells. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 34805-34811	9.5	15
51	Development of an automated wet-cyclone system for rapid, continuous and enriched bioaerosol sampling and its application to real-time detection. <i>Sensors and Actuators B: Chemical</i> , 2019 , 284, 525-533	8.5	15
50	Multiscale structured low-temperature solid oxide fuel cells with 13 W power at 500 °C. <i>Energy and Environmental Science</i> , 2020 , 13, 3459-3468	35.4	15
49	Enhanced Light Harvesting in Mesoscopic Solar Cells by Multilevel Multiscale Patterned Photoelectrodes with Superpositioned Optical Properties. <i>Advanced Functional Materials</i> , 2016 , 26, 6584-6592	15.6	15
48	Degradation of CH ₃ NH ₃ PbI ₃ perovskite materials by localized charges and its polarity dependency. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 12075-12085	13	14

47	A light-trapping strategy for nanocrystalline silicon thin-film solar cells using three-dimensionally assembled nanoparticle structures. <i>Nanotechnology</i> , 2016 , 27, 055403	3.4	14
46	Multifunctional Nafion/CeO Dendritic Structures for Enhanced Durability and Performance of Polymer Electrolyte Membrane Fuel Cells. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 806-815	9.5	14
45	Metal-elastomer bilayered switches by utilizing the superexponential behavior of crack widening. <i>Journal of Materials Chemistry C</i> , 2017 , 5, 10920-10925	7.1	13
44	Reliable doping and carrier concentration control in graphene by aerosol-derived metal nanoparticles. <i>Journal of Materials Chemistry C</i> , 2015 , 3, 8294-8299	7.1	12
43	Selective nanopatterning of protein via ion-induced focusing and its application to metal-enhanced fluorescence. <i>Small</i> , 2011 , 7, 1790-4	11	12
42	Three-dimensionally patterned Ag-Pt alloy catalyst on planar Si photocathodes for photoelectrochemical H evolution. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 4184-4192	3.6	9
41	Research in Korea on Gas Phase Synthesis and Control of Nanoparticles. <i>Journal of Nanoparticle Research</i> , 2001 , 3, 201-211	2.3	9
40	Wire-in-Hole-Type Spark Discharge Generator for Long-Time Consistent Generation of Unagglomerated Nanoparticles. <i>Aerosol Science and Technology</i> , 2015 , 49, 463-471	3.4	8
39	Large-area assembly of three-dimensional nanoparticle structures via ion assisted aerosol lithography with a multi-pin spark discharge generator. <i>Nanotechnology</i> , 2014 , 25, 225302	3.4	8
38	Tailoring ceramic membrane structures of solid oxide fuel cells via polymer-assisted electrospray deposition. <i>Journal of Membrane Science</i> , 2017 , 544, 234-242	9.6	8
37	Nanoxerography utilizing bipolar charge patterns. <i>Applied Physics Letters</i> , 2012 , 101, 203106	3.4	8
36	Efficient Microfluidic Power Generator Based on Interaction between DI Water and Hydrophobic-Channel Surface. <i>International Journal of Precision Engineering and Manufacturing - Green Technology</i> , 2018 , 5, 255-260	3.8	7
35	High throughput nanoparticle generation utilizing high-frequency spark discharges via rapid spark plasma removal. <i>Aerosol Science and Technology</i> , 2017 , 51, 116-122	3.4	7
34	Abnormal spatial heterogeneity governing the charge-carrier mechanism in efficient Ruddlesden-Popper perovskite solar cells. <i>Energy and Environmental Science</i> , 2021 , 14, 4915-4925	35.4	7
33	High-Efficiency Flexible Perovskite Solar Cells Enabled by an Ultrafast Room-Temperature Reactive Ion Etching Process. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 7125-7134	9.5	6
32	Generation of carbon nano-onions by laser irradiation of gaseous hydrocarbons for high durability catalyst support in proton exchange membrane fuel cells. <i>Journal of Industrial and Engineering Chemistry</i> , 2019 , 80, 65-73	6.3	6
31	Crystallinity control of flame generated composite nanoparticles by laser irradiation. <i>Powder Technology</i> , 2012 , 229, 246-252	5.2	6
30	Magnetism of adsorbed oxygen at low coverage. <i>Physical Review B</i> , 2003 , 67,	3.3	6

29	Assembly of Nanoparticles: Towards Multiscale Three-Dimensional Architecturing. <i>KONA Powder and Particle Journal</i> , 2013 , 30, 31-46	3.4	5
28	Nature-inspired rollable electronics. <i>NPG Asia Materials</i> , 2019 , 11,	10.3	5
27	A highly activated and integrated nanoscale interlayer of cathodes in low-temperature solid oxide fuel cells via precursor-solution electro spray method. <i>International Journal of Hydrogen Energy</i> , 2019 , 44, 4476-4483	6.7	5
26	Fabrication of micro patterned fibronectin for studying adhesion and alignment behavior of human dermal fibroblasts. <i>Macromolecular Research</i> , 2007 , 15, 348-356	1.9	4
25	Stabilization of spinel structure during combustion synthesis of iron nanooxides. <i>Journal of Nanoparticle Research</i> , 2004 , 6, 633-637	2.3	4
24	Preparation and characterization of SiO ₂ B ₂ O ₃ B ₂ O ₅ particles and films generated by flame hydrolysis deposition for planar light-wave circuits. <i>Journal of Materials Research</i> , 2002 , 17, 315-322	2.5	4
23	A micro-patterned electrode/electrolyte interface fabricated by soft-lithography for facile oxygen reduction in solid oxide fuel cells. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 16534-16541	13	4
22	Imaging Real-Time Amorphization of Hybrid Perovskite Solar Cells under Electrical Biasing. <i>ACS Energy Letters</i> , 3530-3537	20.1	4
21	Vertical stacking of three-dimensional nanostructures via an aerosol lithography for advanced optical applications. <i>Nanotechnology</i> , 2017 , 28, 475302	3.4	3
20	Hotspots: Hotspot-Engineered 3D Multipetal Flower Assemblies for Surface-Enhanced Raman Spectroscopy (Adv. Mater. 34/2014). <i>Advanced Materials</i> , 2014 , 26, 5923-5923	24	3
19	Ultrasensitive Near-Infrared Circularly Polarized Light Detection Using 3D Perovskite Embedded with Chiral Plasmonic Nanoparticles.. <i>Advanced Science</i> , 2022 , e2104598	13.6	3
18	Directionally Selective Polyhalide Molecular Glue for Stable Inverted Perovskite Solar Cells. <i>Solar Rrl</i> , 2020 , 4, 2000244	7.1	2
17	Multiscale Hierarchical Patterning by Sacrificial Layer-Assisted Creep Lithography. <i>Advanced Materials Interfaces</i> , 2019 , 6, 1900606	4.6	2
16	Light Harvesting: Enhanced Light Harvesting in Mesoscopic Solar Cells by Multilevel Multiscale Patterned Photoelectrodes with Superpositioned Optical Properties (Adv. Funct. Mater. 36/2016). <i>Advanced Functional Materials</i> , 2016 , 26, 6583-6583	15.6	2
15	A Low-Field Temperature Dependent EPR Signal in Terraced MgO:Mn ²⁺ Nanoparticles: An Enhanced Zeeman Splitting in the Wide-Bandgap Oxide. <i>Journal of Spectroscopy</i> , 2017 , 2017, 1-6	1.5	1
14	Photocurable PUA (Poly Urethaneacrylat) cantilever integrated with ultra-high sensitive crack-based sensor 2017 ,		1
13	Laser induced transition from soot generation to shell shaped carbon nanoparticles in an acetylene flow: aerosol characterization. <i>Journal of Mechanical Science and Technology</i> , 2008 , 22, 134-140	1.6	1
12	Bioinspired liquid-repelling sealing films for flexible perovskite solar cells. <i>Materials Today Energy</i> , 2021 , 20, 100622	7	1

11	Perovskite Solar Cells: Moth-Eye TiO ₂ Layer for Improving Light Harvesting Efficiency in Perovskite Solar Cells (Small 18/2016). <i>Small</i> , 2016 , 12, 2530-2530	11	1
10	Light emission induced by electric current at room temperature through the defect networks of MgO nanocubes. <i>AIP Advances</i> , 2019 , 9, 125305	1.5	1
9	Controlled Enhancement in Hole Injection at Gold-Nanoparticle-on-Organic Electrical Contacts Fabricated by Spark-Discharge Aerosol Technique. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 6276-6282 ¹	2.5	1
8	Effects of photon recycling and scattering in high-performance perovskite solar cells.. <i>Science Advances</i> , 2021 , 7, eabj1363	14.3	1
7	Assembly of charged aerosols on non-conducting substrates via ion-assisted aerosol lithography (IAAL). <i>Particuology</i> , 2017 , 33, 17-23	2.8	0
6	Layer-by-Layer Polydimethylsiloxane Modification Using a Two-Nozzle Spray Process for High Durability of the Cathode Catalyst in Proton-Exchange Membrane Fuel Cells. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 56014-56024	9.5	0
5	Hydrophilicity control of laser-induced amorphous carbon-encapsulated carbon nano-onions and their application to proton exchange membrane fuel cells under low humidity. <i>Carbon</i> , 2021 , 184, 910-922 ^{10.4}	10.4	0
4	Nanostructured Material Synthesis in the Gas Phase 2014 , 291-325		
3	International Symposium on 'Nanoparticles: Technology and Sustainable Development,' Taipei, Taiwan, September 9-10, 2002. <i>Journal of Nanoparticle Research</i> , 2002 , 4, 571-573	2.3	
2	International Symposium on 'Nanoparticles: Aerosols and Materials,' Pusan, Korea, July 5-8, 2001. <i>Journal of Nanoparticle Research</i> , 2003 , 5, 573-576	2.3	
1	Virtually probing Baraday three-dimensional nanoprinting <i>Additive Manufacturing</i> , 2021 , 102432	6.1	