Gaurav Kapil

List of Publications by Year
in descending order

99 papers	6,340 citations	94269 37 h-index	66788 78 g-index
102 all docs	102 docs citations	102 times ranked	7273 citing authors

#	Article	IF	Citations
1	CH₃NH₃Sn_{<i>x</i>}Pb_(1â€“<i>x</i>)I₃ Perovskite Solar Cells Covering up to 1060 nm. Journal of Physical Chemistry Letters, 2014, 5, 1004-1011.	2.1	852
2	Highly Luminescent Phase-Stable CsPbI₃ Perovskite Quantum Dots Achieving Near 100% Absolute Photoluminescence Quantum Yield. ACS Nano, 2017, 11, 10373-10383.	7.3	748
3	Lead-free tin-halide perovskite solar cells with 13% efficiency. Nano Energy, 2020, 74, 104858.	8.2	347
4	Colloidal Synthesis of Air-Stable Alloyed CsSn_{1â€“<i>x</i>}Pb_{<i>x</i>}I₃ Perovskite Nanocrystals for Use in Solar Cells. Journal of the American Chemical Society, 2017, 139, 16708-16719.	6.6	314
5	Mixed Snâ€“Ge Perovskite for Enhanced Perovskite Solar Cell Performance in Air. Journal of Physical Chemistry Letters, 2018, 9, 1682-1688.	2.1	206
6	Suppression of Charge Carrier Recombination in Lead-Free Tin Halide Perovskite via Lewis Base Post-treatment. Journal of Physical Chemistry Letters, 2019, 10, 5277-5283.	2.1	196
7	High Electrical Conductivity 2D MXene Serves as Additive of Perovskite for Efficient Solar Cells. Small, 2018, 14, e1802738.	5.2	193
8	All-Solid Perovskite Solar Cells with HOCO-R-NH₃⁺I^{â€“} Anchor-Group Inserted between Porous Titania and Perovskite. Journal of Physical Chemistry C, 2014, 118, 16651-16659.	1.5	191
9	<i>V</i>_{OC} Over 1.4 V for Amorphous Tin-Oxide-Based Dopant-Free CsPbI₂Br Perovskite Solar Cells. Journal of the American Chemical Society, 2020, 142, 9725-9734.	6.6	162
10	Allâ€Inorganic CsPb_{1â^'<i>x</i>}Ge_{<i>x</i>}I₂Br Perovskite with Enhanced Phase Stability and Photovoltaic Performance. Angewandte Chemie - International Edition, 2018, 57, 12745-12749.	7.2	157
11	Highly Efficient 17.6% Tinâ€“Lead Mixed Perovskite Solar Cells Realized through Spike Structure. Nano Letters, 2018, 18, 3600-3607.	4.5	114
12	Strain Relaxation and Light Management in Tinâ€“Lead Perovskite Solar Cells to Achieve High Efficiencies. ACS Energy Letters, 2019, 4, 1991-1998.	8.8	114
13	GeI₂ Additive for High Optoelectronic Quality CsPbI₃ Quantum Dots and Their Application in Photovoltaic Devices. Chemistry of Materials, 2019, 31, 798-807.	3.2	112
14	Tinâ€“Lead Perovskite Solar Cells Fabricated on Hole Selective Monolayers. ACS Energy Letters, 2022, 7, 966-974.	8.8	111
15	Effect of the conduction band offset on interfacial recombination behavior of the planar perovskite solar cells. Nano Energy, 2018, 53, 17-26.	8.2	110
16	Tinâ€Lead Perovskite Fabricated via Ethylenediamine Interlayer Guides to the Solar Cell Efficiency of 21.74%. Advanced Energy Materials, 2021, 11, 2101069.	10.2	110
17	Relationship between Lattice Strain and Efficiency for Sn-Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2019, 11, 31105-31110.	4.0	101
18	Charge transfer and recombination at the metal oxide/CH₃NH₃PbClI₂/spiro-OMeTAD interfaces: uncovering the detailed mechanism behind high efficiency solar cells. Physical Chemistry Chemical Physics, 2014, 16, 19984-19992.	1.3	88

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19	Facile Synthesis and Characterization of Sulfur Doped Low Bandgap Bismuth Based Perovskites by Soluble Precursor Route. Chemistry of Materials, 2016, 28, 6436-6440.	3.2	87
20	Optical absorption, charge separation and recombination dynamics in Sn/Pb cocktail perovskite solar cells and their relationships to photovoltaic performances. Journal of Materials Chemistry A, 2015, 3, 9308-9316.	5.2	85
21	High reduction of interfacial charge recombination in colloidal quantum dot solar cells by metal oxide surface passivation. Nanoscale, 2015, 7, 5446-5456.	2.8	82
22	Magnesium-Doped MAPbI₃ Perovskite Layers for Enhanced Photovoltaic Performance in Humid Air Atmosphere. ACS Applied Materials & Interfaces, 2018, 10, 24543-24548.	4.0	79
23	Dependence of Acetate-Based Antisolvents for High Humidity Fabrication of CH₃NH₃PbI₃ Perovskite Devices in Ambient Atmosphere. ACS Applied Materials & Interfaces, 2018, 10, 16482-16489.	4.0	78
24	Enhanced Crystallization by Methanol Additive in Antisolvent for Achieving Highâ€Quality MAPbI₃ Perovskite Films in Humid Atmosphere. ChemSusChem, 2018, 11, 2348-2357.	3.6	70
25	All-metal-electrode-type dye sensitized solar cells (transparent conductive oxide-less dye sensitized) Tj ETQq1 1 0.784314 rgBT /Overlo 2008, 92, .	1.5	69
26	Investigation of Interfacial Charge Transfer in Solution Processed Cs₂SnI₆ Thin Films. Journal of Physical Chemistry C, 2017, 121, 13092-13100.	1.5	66
27	Interfacial Sulfur Functionalization Anchoring SnO₂ and CH₃NH₃PbI₃ for Enhanced Stability and Trap Passivation in Perovskite Solar Cells. ChemSusChem, 2018, 11, 3941-3948.	3.6	58
28	Reducing trap density and carrier concentration by a Ge additive for an efficient quasi 2D/3D perovskite solar cell. Journal of Materials Chemistry A, 2020, 8, 2962-2968.	5.2	53
29	Understanding charge transfer and recombination by interface engineering for improving the efficiency of PbS quantum dot solar cells. Nanoscale Horizons, 2018, 3, 417-429.	4.1	50
30	The Role of Lanthanum in a Nickel Oxideâ€Based Inverted Perovskite Solar Cell for Efficiency and Stability Improvement. ChemSusChem, 2019, 12, 518-526.	3.6	49
31	Passivation Strategy of Reducing Both Electron and Hole Trap States for Achieving High-Efficiency PbS Quantum-Dot Solar Cells with Power Conversion Efficiency over 12%. ACS Energy Letters, 2020, 5, 3224-3236.	8.8	49
32	Addition Effect of Pyreneammonium Iodide to Methylammonium Lead Halide Perovskiteâ€2D/3D Heterostructured Perovskite with Enhanced Stability. Advanced Functional Materials, 2018, 28, 1804856.	7.8	48
33	Air Stable PbSe Colloidal Quantum Dot Heterojunction Solar Cells: Ligand-Dependent Exciton Dissociation, Recombination, Photovoltaic Property, and Stability. Journal of Physical Chemistry C, 2016, 120, 28509-28518.	1.5	45
34	Growth of Amorphous Passivation Layer Using Phenethylammonium Iodide for Highâ€Performance Inverted Perovskite Solar Cells. Solar Rrl, 2020, 4, 1900243.	3.1	43
35	Boosting the Conversion Efficiency Over 20% in MAPbI₃ Perovskite Planar Solar Cells by Employing a Solution-Processed Aluminum-Doped Nickel Oxide Hole Collector. ACS Applied Materials & Interfaces, 2020, 12, 22958-22970.	4.0	42
36	Delocalized molecule surface electronic modification for enhanced performance and high environmental stability of CsPbI2Br perovskite solar cells. Nano Energy, 2019, 66, 104180.	8.2	40

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37	Solutionâ€Processed Airâ€Stable Copper Bismuth Iodide for Photovoltaics. ChemSusChem, 2018, 11, 2930-2935.	3.6	39
38	Transparent conductive oxide layer-less dye-sensitized solar cells consisting of floating electrode with gradient TiOx blocking layer. Applied Physics Letters, 2009, 94, .	1.5	38
39	Lead Selenide Colloidal Quantum Dot Solar Cells Achieving High Open-Circuit Voltage with One-Step Deposition Strategy. Journal of Physical Chemistry Letters, 2018, 9, 3598-3603.	2.1	38
40	Nearâ€Infrared Emission from Tinâ€“Lead (Snâ€“Pb) Alloyed Perovskite Quantum Dots by Sodium Doping. Angewandte Chemie - International Edition, 2020, 59, 8421-8424.	7.2	38
41	Improvement of Photovoltaic Performance of Colloidal Quantum Dot Solar Cells Using Organic Small Molecule as Hole-Selective Layer. Journal of Physical Chemistry Letters, 2017, 8, 2163-2169.	2.1	35
42	Real-Time Photodynamics of Squaraine-Based Dye-Sensitized Solar Cells with Iodide and Cobalt Electrolytes. Journal of Physical Chemistry C, 2013, 117, 11906-11919.	1.5	33
43	High performance wide bandgap Lead-free perovskite solar cells by monolayer engineering. Chemical Engineering Journal, 2022, 436, 135196.	6.6	33
44	Performance Enhancement of Mesoporous TiO₂-Based Perovskite Solar Cells by SbI₃ Interfacial Modification Layer. ACS Applied Materials & Interfaces, 2018, 10, 29630-29637.	4.0	32
45	Dependence of ITOâ€Coated Flexible Substrates in the Performance and Bending Durability of Perovskite Solar Cells. Advanced Engineering Materials, 2019, 21, 1900288.	1.6	32
46	Ligand-dependent exciton dynamics and photovoltaic properties of PbS quantum dot heterojunction solar cells. Physical Chemistry Chemical Physics, 2017, 19, 6358-6367.	1.3	31
47	Allâ€Inorganic CsPb_{1â^’<i>x</i>}Ge_{<i>x</i>}I₂Br Perovskite with Enhanced Phase Stability and Photovoltaic Performance. Angewandte Chemie, 2018, 130, 12927-12931.	1.6	31
48	Trioctylphosphine Oxide Acts as Alkahest for SnX₂/PbX₂: A General Synthetic Route to Perovskite ASn_{<i>x</i>}Pb_{1â€“<i>x</i>}X₃ (A = Cs, FA, MA; X =) Tj ET Q q0 0 0 rg BT /Over	3.2	31
49	Simple Metal-Free Dyes Derived from Triphenylamine for DSSC: A Comparative Study of Two Different Anchoring Group. Electrochimica Acta, 2015, 169, 256-263.	2.6	30
50	Interface structure between titania and perovskite materials observed by quartz crystal microbalance system. Journal of Photonics for Energy, 2015, 5, 057410.	0.8	29
51	Growth of halide perovskites thin films for thermoelectric applications. MRS Advances, 2019, 4, 1719-1725.	0.5	27
52	Efficient, hysteresis free, inverted planar flexible perovskite solar cells <i>via</i> perovskite engineering and stability in cylindrical encapsulation. Sustainable Energy and Fuels, 2019, 3, 1739-1748.	2.5	27
53	New Tin(II) Fluoride Derivative as a Precursor for Enhancing the Efficiency of Inverted Planar Tin/Lead Perovskite Solar Cells. Journal of Physical Chemistry C, 2018, 122, 27284-27291.	1.5	26
54	Recent advancements and opportunities of decorated graphitic carbon nitride toward solar fuel production and beyond. Sustainable Energy and Fuels, 2021, 5, 4457-4511.	2.5	25

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55	Recombination Suppression in PbS Quantum Dot Heterojunction Solar Cells by Energy-Level Alignment in the Quantum Dot Active Layers. ACS Applied Materials & Interfaces, 2018, 10, 26142-26152.	4.0	24
56	Enhanced Device Performance with Passivation of the TiO₂ Surface Using a Carboxylic Acid Fullerene Monolayer for a SnPb Perovskite Solar Cell with a Normal Planar Structure. ACS Applied Materials & Interfaces, 2020, 12, 17776-17782.	4.0	24
57	Investigation of the minimum driving force for dye regeneration utilizing model squaraine dyes for dye-sensitized solar cells. Journal of Materials Chemistry A, 2017, 5, 22672-22682.	5.2	21
58	The interparticle distance limit for multiple exciton dissociation in PbS quantum dot solid films. Nanoscale Horizons, 2019, 4, 445-451.	4.1	19
59	Improving Photovoltaic Performance of ZnO Nanowires Based Colloidal Quantum Dot Solar Cells via SnO2 Passivation Strategy. Frontiers in Energy Research, 2019, 7, .	1.2	19
60	High-Efficiency Lead-Free Wide Band Gap Perovskite Solar Cells via Guanidinium Bromide Incorporation. ACS Applied Energy Materials, 2021, 4, 5615-5624.	2.5	19
61	Melamine Hydroiodide Functionalized MAPbI₃ Perovskite with Enhanced Photovoltaic Performance and Stability in Ambient Atmosphere. Solar Rrl, 2019, 3, 1800275.	3.1	18
62	Cesium Acetate-Induced Interfacial Compositional Change and Graded Band Level in MAPbI₃ Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2020, 12, 33631-33637.	4.0	18
63	Transparent conductive oxideâ€less back contact dyeâ€sensitized solar cells using cobalt electrolyte. Progress in Photovoltaics: Research and Applications, 2015, 23, 1100-1109.	4.4	17
64	A New Strategy for Increasing the Efficiency of Inverted Perovskite Solar Cells to More than 21%: Highâ€Humidity Induced Selfâ€Passivation of Perovskite Films. Solar Rrl, 2020, 4, 2000149.	3.1	17
65	Surface-Modified Graphene Oxide/Lead Sulfide Hybrid Film-Forming Ink for High-Efficiency Bulk Nano-Heterojunction Colloidal Quantum Dot Solar Cells. Nano-Micro Letters, 2020, 12, 111.	14.4	16
66	Effect of Precursor Solution Aging on the Thermoelectric Performance of CsSnI3 Thin Film. Journal of Electronic Materials, 2020, 49, 2698-2703.	1.0	15
67	Resolve deep-rooted challenges of halide perovskite for sustainable energy development and environmental remediation. Nano Energy, 2022, 99, 107401.	8.2	14
68	Research following Pb Perovskite Solar Cells. Electrochemistry, 2017, 85, 222-225.	0.6	13
69	Preparation of Perovskite Films under Liquid Nitrogen Atmosphere for High Efficiency Perovskite Solar Cells. ACS Sustainable Chemistry and Engineering, 2019, 7, 3956-3961.	3.2	13
70	Hybrid-Halide Perovskite Thin Film Growth for Thermoelectric Applications. Journal of Electronic Materials, 2020, 49, 2890-2894.	1.0	13
71	Large synergy effects of doping, a site substitution, and surface passivation in wide bandgap Pb-free ASnI2Br perovskite solar cells on efficiency and stability enhancement. Journal of Power Sources, 2022, 520, 230848.	4.0	13
72	Transparent Conductive Oxide Layer and Hole Selective Layer Free Back-Contacted Hybrid Perovskite Solar Cell. Journal of Physical Chemistry C, 2017, 121, 4214-4219.	1.5	12

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73	Enhancing the Electronic Properties and Stability of High-Efficiency Tinâ€“Lead Mixed Halide Perovskite Solar Cells via Doping Engineering. Journal of Physical Chemistry Letters, 2022, 13, 3130-3137.	2.1	12
74	The effect of CdS on the charge separation and recombination dynamics in PbS/CdS double-layered quantum dot sensitized solar cells. Chemical Physics, 2016, 478, 159-163.	0.9	10
75	Nearâ€Infrared Emission from Tinâ€“Lead (Snâ€“Pb) Alloyed Perovskite Quantum Dots by Sodium Doping. Angewandte Chemie, 2020, 132, 8499-8502.	1.6	10
76	Relationship between Carrier Density and Precursor Solution Stirring for Lead-Free Tin Halide Perovskite Solar Cells Performance. ACS Applied Energy Materials, 2022, 5, 4002-4007.	2.5	10
77	Enhancing the performance of transparent conductive oxide-less back contact dye-sensitized solar cells by facile diffusion of cobalt species through TiO₂ nanopores. RSC Advances, 2016, 6, 33353-33360.	1.7	9
78	Efficient Surface Passivation and Electron Transport Enable Low Temperature-Processed Inverted Perovskite Solar Cells with Efficiency over 20%. ACS Sustainable Chemistry and Engineering, 2020, 8, 8848-8856.	3.2	9
79	Ultra-Halide-Rich Synthesis of Stable Pure Tin-Based Halide Perovskite Quantum Dots: Implications for Photovoltaics. ACS Applied Nano Materials, 2021, 4, 3958-3968.	2.4	9
80	Synthesis, characterizations and photo-physical properties of novel lanthanum(III) complexes. Journal of Taibah University for Science, 2018, 12, 796-808.	1.1	8
81	Interdiffusion Stomatal Movement in Efficient Multiple-Cation-Based Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2020, 12, 35105-35112.	4.0	8
82	Topâ€Contactsâ€Interface Engineering for Highâ€Performance Perovskite Solar Cell With Reducing Lead Leakage. Solar Rrl, 2022, 6, .	3.1	8
83	Transparent Conductive Oxide-Less Dye-Sensitized Solar Cells Consisting of Dye-Cocktail and Cobalt Based Redox Electrolyte. Journal of Nanoscience and Nanotechnology, 2017, 17, 4748-4754.	0.9	7
84	In-Depth Exploration of the Charge Dynamics in Surface-Passivated ZnO Nanowires. Journal of Physical Chemistry C, 2020, 124, 15812-15817.	1.5	6
85	Unravelling the bottleneck of phosphonic acid anchoring groups aiming toward enhancing the stability and efficiency of mesoscopic solar cells. Frontiers of Chemical Science and Engineering, 2022, 16, 1060-1078.	2.3	6
86	Hot-injection and ultrasonic irradiation syntheses of Cs2SnI6 quantum dot using Sn long-chain amino-complex. Journal of Nanoparticle Research, 2020, 22, 1.	0.8	5
87	Electronic structure and thermal conductance of the MASnI3/Bi2Te3 interface: a first-principles study. Scientific Reports, 2022, 12, 217.	1.6	5
88	Boosting the Efficiency of Low-Cost T-C-O-Less Dye-Sensitized Solar Cells Employing Nanoparticle Spacers and Cobalt Complex Redox Shuttle. ACS Applied Electronic Materials, 2020, 2, 2721-2729.	2.0	4
89	Low-temperature Growth of Porous and Dense ZnO Films for Perovskite Solar Cells on ITO Substrate. Chemistry Letters, 2016, 45, 176-178.	0.7	3
90	Growth Mechanism of ZnO Thin Films Grown by Spray Pyrolysis Using Diethylzinc Solution. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700406.	0.8	2

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91	Perovskite solar cells with narrow band gap. Current Opinion in Electrochemistry, 2018, 11, 146-150.	2.5	2
92	Influence of charge transport layer on the crystallinity and charge extraction of pure tin-based halide perovskite film. Journal of Energy Chemistry, 2022, 69, 612-615.	7.1	2
93	New strategies to develop High-Efficiency Lead-Free wide bandgap perovskite solar cells. Chemical Engineering Journal, 2022, 448, 137622.	6.6	2
94	A New Strategy for Increasing the Efficiency of Inverted Perovskite Solar Cells to More than 21%: Highâ€Humidity Induced Selfâ€Passivation of Perovskite Films. Solar Rrl, 2020, 4, 2070094.	3.1	1
95	Synthesis of Sb(V) Complexes with Pyridyl Cations and Application for Lead-free Perovskite Solar Cells. Chemistry Letters, 2020, 49, 944-946.	0.7	1
96	Exponential optical absorption edge in PbS quantum dot-ligand systems on single crystal rutile-TiO₂ revealed by photoacoustic and absorbance spectroscopies. Materials Research Express, 2022, 9, 025005.	0.8	1
97	Perovskite solar cells with wide band gap and narrow band gap. , 0, , .		0
98	Lead-free tin halide perovskite solar cells beyond 10 % efficiency. , 0, , .		0
99	Effect of electrolyte for back contact transparent conducting oxide-less dye-sensitized solar cells: iodine versus cobalt. Journal of Photonics for Energy, 2020, 10, .	0.8	0