Banavoth Murali

List of Publications by Year
in descending order

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56 papers	8,122 citations	172207 29 h-index	155451 55 g-index
57 all docs	57 docs citations	57 times ranked	9724 citing authors

#	Article	IF	Citations
1	High-quality bulk hybrid perovskite single crystals within minutes by inverse temperature crystallization. Nature Communications, 2015, 6, 7586.	5.8	1,478
2	Highly Efficient Perovskiteâ€Quantumâ€Dot Lightâ€Emitting Diodes by Surface Engineering. Advanced Materials, 2016, 28, 8718-8725.	11.1	917
3	Formamidinium Lead Halide Perovskite Crystals with Unprecedented Long Carrier Dynamics and Diffusion Length. ACS Energy Letters, 2016, 1, 32-37.	8.8	752
4	CH₃NH₃PbCl₃ Single Crystals: Inverse Temperature Crystallization and Visible-Blind UV-Photodetector. Journal of Physical Chemistry Letters, 2015, 6, 3781-3786.	2.1	636
5	Air-Stable Surface-Passivated Perovskite Quantum Dots for Ultra-Robust, Single- and Two-Photon-Induced Amplified Spontaneous Emission. Journal of Physical Chemistry Letters, 2015, 6, 5027-5033.	2.1	466
6	Engineering Interfacial Charge Transfer in CsPbBr₃ Perovskite Nanocrystals by Heterovalent Doping. Journal of the American Chemical Society, 2017, 139, 731-737.	6.6	406
7	Inorganic Lead Halide Perovskite Single Crystals: Phaseâ€Selective Lowâ€Temperature Growth, Carrier Transport Properties, and Selfâ€Powered Photodetection. Advanced Optical Materials, 2017, 5, 1600704.	3.6	362
8	Heterovalent Dopant Incorporation for Bandgap and Type Engineering of Perovskite Crystals. Journal of Physical Chemistry Letters, 2016, 7, 295-301.	2.1	332
9	Zero-Dimensional Cs₄PbBr₆ Perovskite Nanocrystals. Journal of Physical Chemistry Letters, 2017, 8, 961-965.	2.1	299
10	Solutionâ€Grown Monocrystalline Hybrid Perovskite Films for Holeâ€Transporterâ€Free Solar Cells. Advanced Materials, 2016, 28, 3383-3390.	11.1	298
11	Ultralow Self-Doping in Two-dimensional Hybrid Perovskite Single Crystals. Nano Letters, 2017, 17, 4759-4767.	4.5	251
12	Pure crystal orientation and anisotropic charge transport in large-area hybrid perovskite films. Nature Communications, 2016, 7, 13407.	5.8	170
13	Engineering of CH₃NH₃PbI₃ Perovskite Crystals by Alloying Large Organic Cations for Enhanced Thermal Stability and Transport Properties. Angewandte Chemie - International Edition, 2016, 55, 10686-10690.	7.2	152
14	Optoelectronic and photovoltaic properties of the air-stable organohalide semiconductor (CH₃NH₃)₃Bi₂I₉. Journal of Materials Chemistry A, 2016, 4, 12504-12515.	5.2	151
15	Amorphous Tin Oxide as a Low-Temperature-Processed Electron-Transport Layer for Organic and Hybrid Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2017, 9, 11828-11836.	4.0	145
16	Surface Restructuring of Hybrid Perovskite Crystals. ACS Energy Letters, 2016, 1, 1119-1126.	8.8	140
17	Lead-free perovskite solar cells enabled by hetero-valent substitutes. Energy and Environmental Science, 2020, 13, 2363-2385.	15.6	109
18	Recent progress and growth in biosensors technology: A critical review. Journal of Industrial and Engineering Chemistry, 2022, 109, 21-51.	2.9	94

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19	The Surface of Hybrid Perovskite Crystals: A Boon or Bane. ACS Energy Letters, 2017, 2, 846-856.	8.8	91
20	Single Crystals: The Next Big Wave of Perovskite Optoelectronics. , 2020, 2, 184-214.		89
21	Double Charged Surface Layers in Lead Halide Perovskite Crystals. Nano Letters, 2017, 17, 2021-2027.	4.5	60
22	Robust and air-stable sandwiched organo-lead halide perovskites for photodetector applications. Journal of Materials Chemistry C, 2016, 4, 2545-2552.	2.7	53
23	Deciphering the Ultrafast Nonlinear Optical Properties and Dynamics of Pristine and Ni-Doped CsPbBr₃ Colloidal Two-Dimensional Nanocrystals. Journal of Physical Chemistry Letters, 2019, 10, 5577-5584.	2.1	50
24	Extended Ï€-conjugative n-p type homostructural graphitic carbon nitride for photodegradation and charge-storage applications. Scientific Reports, 2019, 9, 7186.	1.6	47
25	Shape-Tunable Charge Carrier Dynamics at the Interfaces between Perovskite Nanocrystals and Molecular Acceptors. Journal of Physical Chemistry Letters, 2016, 7, 3913-3919.	2.1	43
26	Quasi-2D perovskite emitters: a boon for efficient blue light-emitting diodes. Journal of Materials Chemistry C, 2020, 8, 14334-14347.	2.7	40
27	Temperature-Induced Lattice Relaxation of Perovskite Crystal Enhances Optoelectronic Properties and Solar Cell Performance. Journal of Physical Chemistry Letters, 2017, 8, 137-143.	2.1	39
28	Porousâ€“Hybrid Polymers as Platforms for Heterogeneous Photochemical Catalysis. ACS Applied Materials & Interfaces, 2016, 8, 19994-20002.	4.0	35
29	Near-infrared photoactive Cu2ZnSnS4 thin films by co-sputtering. AIP Advances, 2013, 3, .	0.6	32
30	Current Trends and Future Perspectives of Nanomaterials in Food Packaging Application. Journal of Nanomaterials, 2022, 2022, 1-32.	1.5	31
31	Transport properties of CuIn_{1â^'x}Al_xSe₂/AZnO heterostructure for low cost thin film photovoltaics. Dalton Transactions, 2014, 43, 1974-1983.	1.6	29
32	Reviewâ€”Contemporary Progresses in Carbon-Based Electrode Material in Li-S Batteries. Journal of the Electrochemical Society, 2022, 169, 020530.	1.3	28
33	Near-infrared photoactive Cu3BiS3 thin films by co-evaporation. Journal of Applied Physics, 2014, 115, .	1.1	25
34	Hybrid tandem quantum dot/organic photovoltaic cells with complementary near infrared absorption. Applied Physics Letters, 2017, 110, 223903.	1.5	23
35	High Harmonic Generation from Laser-Induced Plasmas of Ni-Doped CsPbBr₃ Nanocrystals: Implications for Extreme Ultraviolet Light Sources. ACS Applied Nano Materials, 2021, 4, 8292-8301.	2.4	21
36	Engineering of CH₃NH₃PbI₃ Perovskite Crystals by Alloying Large Organic Cations for Enhanced Thermal Stability and Transport Properties. Angewandte Chemie, 2016, 128, 10844-10848.	1.6	18

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37	Remarkably High Conversion Efficiency of Inverted Bulk Heterojunction Solar Cells: From Ultrafast Laser Spectroscopy and Electron Microscopy to Device Fabrication and Optimization. Advanced Energy Materials, 2016, 6, 1502356.	10.2	14
38	Metal-free carbazole scaffold dyes as potential nonlinear optical phores: molecular engineering. Journal of Materials Chemistry C, 2020, 8, 16188-16197.	2.7	14
39	Third-order optical nonlinearities and high-order harmonics generation in Ni-doped CsPbBr3 nanocrystals using single- and two-color chirped pulses. Journal of Materials Science, 2022, 57, 3468-3485.	1.7	14
40	Tailoring the Band Gap and Transport Properties of Cu₃BiS₃ Nanopowders for Photodetector Applications. Journal of Nanoscience and Nanotechnology, 2013, 13, 3901-3909.	0.9	13
41	Cu₂ZnSn(S,Se)₄ thin-films prepared from selenized nanocrystals ink. RSC Advances, 2019, 9, 18420-18428.	1.7	13
42	Solution based synthesis of Cu(In,Ga)Se₂ microcrystals and thin films. RSC Advances, 2019, 9, 35197-35208.	1.7	13
43	Can perovskite inspired bismuth halide nanocrystals outperform their lead counterparts?. Journal of Materials Chemistry A, 2020, 8, 12951-12963.	5.2	13
44	The impact of electrostatic interactions on ultrafast charge transfer at Ag₂₉ nanoclustersâ€“fullerene and CdTe quantum dotsâ€“fullerene interfaces. Journal of Materials Chemistry C, 2016, 4, 2894-2900.	2.7	12
45	Solventâ€Assisted [(Glycine)â€(MPâ€SiO₂NPs)] Aggregate for Drug Loading and Cancer Therapy. ChemistrySelect, 2020, 5, 8221-8232.	0.7	12
46	Reviewâ€"Carbon Electrodes in Magnesium Sulphur Batteries: Performance Comparison of Electrodes and Future Directions. Journal of the Electrochemical Society, 2021, 168, 120555.	1.3	12
47	Reviewâ€"Chemical Structures and Stability of Carbon-doped Graphene Nanomaterials and the Growth Temperature of Carbon Nanomaterials Grown by Chemical Vapor Deposition for Electrochemical Catalysis Reactions. ECS Journal of Solid State Science and Technology, 2022, 11, 041003.	0.9	11
48	Perovskite Nanowires for Next-Generation Optoelectronic Devices: Lab to Fab. ACS Applied Energy Materials, 2022, 5, 1342-1377.	2.5	9
49	Can perovskites be efficient photocatalysts in organic transformations?. Journal of Materials Chemistry A, 2022, 10, 12317-12333.	5.2	9
50	The Impact of Grain Alignment of the Electron Transporting Layer on the Performance of Inverted Bulk Heterojunction Solar Cells. Small, 2015, 11, 5272-5279.	5.2	6
51	Cost-effective Sb-doped SnO₂ films as stable and efficient alternative transparent conducting electrodes for dye-sensitized solar cells. Journal of Materials Chemistry C, 2022, 10, 7997-8008.	2.7	5
52	Oxygen deficiency induced nickel based oxides for UV & IR sensitive photo-conductive devices. Materials Research Bulletin, 2018, 107, 321-327.	2.7	4
53	Nanostructured ternary perovskite oxides as photoconversion efficiency enhancers for DSSC. Journal of Materials Chemistry C, 2022, 10, 1403-1413.	2.7	4
54	Halide Ions Distribution and Charge Dynamics in Mixedâ€Halide Perovskites. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	1.2	3

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55	Optimization of nanocrystalline Sb doped BaSnO3 for dye-sensitized solar cell applications. AIP Conference Proceedings, 2020, , .	0.3	1
56	Heterojunction Solar Cells: Remarkably High Conversion Efficiency of Inverted Bulk Heterojunction Solar Cells: From Ultrafast Laser Spectroscopy and Electron Microscopy to Device Fabrication and Optimization (Adv. Energy Mater. 11/2016). Advanced Energy Materials, 2016, 6, .	10.2	0