

Aditya Sadhanala

List of Publications by Citations

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108
papers

18,331
citations

54
h-index

110
g-index

110
ext. papers

20,931
ext. citations

14.8
avg, IF

6.49
L-index

#	Paper	IF	Citations
108	Bright light-emitting diodes based on organometal halide perovskite. <i>Nature Nanotechnology</i> , 2014 , 9, 687-92	28.7	2958
107	Overcoming the electroluminescence efficiency limitations of perovskite light-emitting diodes. <i>Science</i> , 2015 , 350, 1222-5	33.3	1963
106	Lead-free organo-inorganic tin halide perovskites for photovoltaic applications. <i>Energy and Environmental Science</i> , 2014 , 7, 3061-3068	35.4	1635
105	Enhanced photovoltage for inverted planar heterojunction perovskite solar cells. <i>Science</i> , 2018 , 360, 1442-1446	33.3	915
104	Ultrasoft organic-inorganic perovskite thin-film formation and crystallization for efficient planar heterojunction solar cells. <i>Nature Communications</i> , 2015 , 6, 6142	17.4	695
103	Approaching disorder-free transport in high-mobility conjugated polymers. <i>Nature</i> , 2014 , 515, 384-8	50.4	692
102	Heterojunction modification for highly efficient organic-inorganic perovskite solar cells. <i>ACS Nano</i> , 2014 , 8, 12701-9	16.7	546
101	Enhanced optoelectronic quality of perovskite thin films with hypophosphorous acid for planar heterojunction solar cells. <i>Nature Communications</i> , 2015 , 6, 10030	17.4	492
100	Efficient Visible Quasi-2D Perovskite Light-Emitting Diodes. <i>Advanced Materials</i> , 2016 , 28, 7515-20	24	451
99	Hot-carrier cooling and photoinduced refractive index changes in organic-inorganic lead halide perovskites. <i>Nature Communications</i> , 2015 , 6, 8420	17.4	373
98	Blue-Green Color Tunable Solution Processable Organolead Chloride-Bromide Mixed Halide Perovskites for Optoelectronic Applications. <i>Nano Letters</i> , 2015 , 15, 6095-101	11.5	369
97	Preparation of Single-Phase Films of CH ₃ NH ₃ Pb(I _{1-x} Br _x) ₃ with Sharp Optical Band Edges. <i>Journal of Physical Chemistry Letters</i> , 2014 , 5, 2501-5	6.4	347
96	Enhancing photoluminescence yields in lead halide perovskites by photon recycling and light out-coupling. <i>Nature Communications</i> , 2016 , 7, 13941	17.4	331
95	Defect-Assisted Photoinduced Halide Segregation in Mixed-Halide Perovskite Thin Films. <i>ACS Energy Letters</i> , 2017 , 2, 1416-1424	20.1	307
94	Performance and Stability Enhancement of Dye-Sensitized and Perovskite Solar Cells by Al Doping of TiO ₂ . <i>Advanced Functional Materials</i> , 2014 , 24, 6046-6055	15.6	294
93	Understanding charge transport in lead iodide perovskite thin-film field-effect transistors. <i>Science Advances</i> , 2017 , 3, e1601935	14.3	284
92	High operational and environmental stability of high-mobility conjugated polymer field-effect transistors through the use of molecular additives. <i>Nature Materials</i> , 2017 , 16, 356-362	27	276

91	Comprehensive defect suppression in perovskite nanocrystals for high-efficiency light-emitting diodes. <i>Nature Photonics</i> , 2021 , 15, 148-155	33.9	257
90	Low-Temperature Solution-Grown CsPbBr ₃ Single Crystals and Their Characterization. <i>Crystal Growth and Design</i> , 2016 , 16, 5717-5725	3.5	256
89	Highly Efficient Light-Emitting Diodes of Colloidal Metal-Halide Perovskite Nanocrystals beyond Quantum Size. <i>ACS Nano</i> , 2017 , 11, 6586-6593	16.7	233
88	Stable Light-Emitting Diodes Using Phase-Pure Ruddlesden-Popper Layered Perovskites. <i>Advanced Materials</i> , 2018 , 30, 1704217	24	210
87	Harvesting the Full Potential of Photons with Organic Solar Cells. <i>Advanced Materials</i> , 2016 , 28, 1482-8	24	177
86	Ligand-engineered bandgap stability in mixed-halide perovskite LEDs. <i>Nature</i> , 2021 , 591, 72-77	50.4	172
85	Impact of Monovalent Cation Halide Additives on the Structural and Optoelectronic Properties of CH ₃ NH ₃ PbI ₃ Perovskite. <i>Advanced Energy Materials</i> , 2016 , 6, 1502472	21.8	171
84	High Open-Circuit Voltages in Tin-Rich Low-Bandgap Perovskite-Based Planar Heterojunction Photovoltaics. <i>Advanced Materials</i> , 2017 , 29, 1604744	24	166
83	What Controls the Rate of Ultrafast Charge Transfer and Charge Separation Efficiency in Organic Photovoltaic Blends. <i>Journal of the American Chemical Society</i> , 2016 , 138, 11672-9	16.4	154
82	Atmospheric influence upon crystallization and electronic disorder and its impact on the photophysical properties of organic-inorganic perovskite solar cells. <i>ACS Nano</i> , 2015 , 9, 2311-20	16.7	152
81	Electronic Structure of Low-Temperature Solution-Processed Amorphous Metal Oxide Semiconductors for Thin-Film Transistor Applications. <i>Advanced Functional Materials</i> , 2015 , 25, 1873-1885	15.6	144
80	Size-Dependent Photon Emission from Organometal Halide Perovskite Nanocrystals Embedded in an Organic Matrix. <i>Journal of Physical Chemistry Letters</i> , 2015 , 6, 446-50	6.4	137
79	Enhanced Efficiency and Stability of Perovskite Solar Cells Through Nd-Doping of Mesoporous TiO ₂ . <i>Advanced Energy Materials</i> , 2016 , 6, 1501868	21.8	130
78	Two-dimensional carrier distribution in top-gate polymer field-effect transistors: correlation between width of density of localized states and Urbach energy. <i>Advanced Materials</i> , 2014 , 26, 728-33	24	123
77	Real-Time Observation of Exciton-Phonon Coupling Dynamics in Self-Assembled Hybrid Perovskite Quantum Wells. <i>ACS Nano</i> , 2017 , 11, 10834-10843	16.7	120
76	Remarkable enhancement of charge carrier mobility of conjugated polymer field-effect transistors upon incorporating an ionic additive. <i>Science Advances</i> , 2016 , 2, e1600076	14.3	115
75	Fundamental Carrier Lifetime Exceeding 1 μ s in Cs ₂ AgBiBr ₆ Double Perovskite. <i>Advanced Materials Interfaces</i> , 2018 , 5, 1800464	4.6	114
74	Organic Cation Rotation and Immobilization in Pure and Mixed Methylammonium Lead-Halide Perovskites. <i>Journal of the American Chemical Society</i> , 2017 , 139, 4068-4074	16.4	87

73	Charge extraction via graded doping of hole transport layers gives highly luminescent and stable metal halide perovskite devices. <i>Science Advances</i> , 2019 , 5, eaav2012	14.3	85
72	High-Efficiency Polycrystalline Perovskite Light-Emitting Diodes Based on Mixed Cations. <i>ACS Nano</i> , 2018 , 12, 2883-2892	16.7	84
71	Fabrication of ZnO/Cu ₂ O heterojunctions in atmospheric conditions: Improved interface quality and solar cell performance. <i>Solar Energy Materials and Solar Cells</i> , 2015 , 135, 43-48	6.4	83
70	Improved Open-Circuit Voltage in ZnO-PbSe Quantum Dot Solar Cells by Understanding and Reducing Losses Arising from the ZnO Conduction Band Tail. <i>Advanced Energy Materials</i> , 2014 , 4, 1301544	21.8	82
69	Tunable Near-Infrared Luminescence in Tin Halide Perovskite Devices. <i>Journal of Physical Chemistry Letters</i> , 2016 , 7, 2653-8	6.4	81
68	Charge Mobility Enhancement for Conjugated DPP-Selenophene Polymer by Simply Replacing One Bulky Branching Alkyl Chain with Linear One at Each DPP Unit. <i>Chemistry of Materials</i> , 2018 , 30, 3090-3100	8.6	80
67	Visualizing excitations at buried heterojunctions in organic semiconductor blends. <i>Nature Materials</i> , 2017 , 16, 551-557	27	78
66	Impact of a Mesoporous Titania-Perovskite Interface on the Performance of Hybrid Organic-Inorganic Perovskite Solar Cells. <i>Journal of Physical Chemistry Letters</i> , 2016 , 7, 3264-9	6.4	75
65	Lead-Free Perovskite Semiconductors Based on Germanium in Solid Solutions: Structural and Optoelectronic Properties. <i>Journal of Physical Chemistry C</i> , 2018 , 122, 5940-5947	3.8	73
64	Dedoping of Lead Halide Perovskites Incorporating Monovalent Cations. <i>ACS Nano</i> , 2018 , 12, 7301-7311	16.7	73
63	Efficient Ruddlesden-Popper Perovskite Light-Emitting Diodes with Randomly Oriented Nanocrystals. <i>Advanced Functional Materials</i> , 2019 , 29, 1901225	15.6	70
62	Limits for Recombination in a Low Energy Loss Organic Heterojunction. <i>ACS Nano</i> , 2016 , 10, 10736-10744	16.7	64
61	High-mobility, trap-free charge transport in conjugated polymer diodes. <i>Nature Communications</i> , 2019 , 10, 2122	17.4	61
60	Efficient room temperature aqueous Sb ₂ S ₃ synthesis for inorganic-organic sensitized solar cells with 5.1% efficiencies. <i>Chemical Communications</i> , 2015 , 51, 8640-3	5.8	58
59	Lanthanide-doped inorganic nanoparticles turn molecular triplet excitons bright. <i>Nature</i> , 2020 , 587, 594-599	59.9	57
58	Azaisoindigo conjugated polymers for high performance n-type and ambipolar thin film transistor applications. <i>Journal of Materials Chemistry C</i> , 2016 , 4, 9704-9710	7.1	56
57	Electroluminescence from Organometallic Lead Halide Perovskite-Conjugated Polymer Diodes. <i>Advanced Electronic Materials</i> , 2015 , 1, 1500008	6.4	55
56	Improved Exciton Dissociation at Semiconducting Polymer:ZnO Donor:Acceptor Interfaces via Nitrogen Doping of ZnO. <i>Advanced Functional Materials</i> , 2014 , 24, 3562-3570	15.6	55

55	Chemical sintering reduced grain boundary defects for stable planar perovskite solar cells. <i>Nano Energy</i> , 2019 , 56, 741-750	17.1	55
54	Performance Improvements in Conjugated Polymer Devices by Removal of Water-Induced Traps. <i>Advanced Materials</i> , 2018 , 30, e1801874	24	52
53	Proton-transfer-induced 3D/2D hybrid perovskites suppress ion migration and reduce luminance overshoot. <i>Nature Communications</i> , 2020 , 11, 3378	17.4	51
52	Interfacial disorder in efficient polymer solar cells: the impact of donor molecular structure and solvent additives. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 24749-24757	13	48
51	Local Versus Long-Range Diffusion Effects of Photoexcited States on Radiative Recombination in Organic-Inorganic Lead Halide Perovskites. <i>Advanced Science</i> , 2015 , 2, 1500136	13.6	47
50	Long-range ballistic propagation of carriers in methylammonium lead iodide perovskite thin films. <i>Nature Physics</i> , 2020 , 16, 171-176	16.2	44
49	A solvent-based surface cleaning and passivation technique for suppressing ionic defects in high-mobility perovskite field-effect transistors. <i>Nature Electronics</i> , 2020 , 3, 694-703	28.4	43
48	Device Performance of Small-Molecule Azomethine-Based Bulk Heterojunction Solar Cells. <i>Chemistry of Materials</i> , 2015 , 27, 2990-2997	9.6	40
47	Sub-10 fs Time-Resolved Vibronic Optical Microscopy. <i>Journal of Physical Chemistry Letters</i> , 2016 , 7, 4854-4859	4.8	39
46	A Highly Emissive Surface Layer in Mixed-Halide Multication Perovskites. <i>Advanced Materials</i> , 2019 , 31, e1902374	24	39
45	Triple-Cation-Based Perovskite Photocathodes with AZO Protective Layer for Hydrogen Production Applications. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 23198-23206	9.5	37
44	Excitonic Properties of Low-Band-Gap Lead-Free Halide Perovskites. <i>ACS Energy Letters</i> , 2019 , 4, 615-621	20.1	36
43	Improved Performance of ZnO/Polymer Hybrid Photovoltaic Devices by Combining Metal Oxide Doping and Interfacial Modification. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 18945-18950	3.8	36
42	Air-Stable n-channel Diketopyrrolopyrrole-Diketopyrrolopyrrole Oligomers for High Performance Ambipolar Organic Transistors. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 25415-27	9.5	32
41	Correlation between Photovoltaic Performance and Interchain Ordering Induced Delocalization of Electronics States in Conjugated Polymer Blends. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 20243-50	9.5	31
40	Thieno[3,2-b]thiophene Flanked Isoindigo Polymers for High Performance Ambipolar OFET Applications. <i>Advanced Functional Materials</i> , 2014 , 24, n/a-n/a	15.6	31
39	High Quality Hybrid Perovskite Semiconductor Thin Films with Remarkably Enhanced Luminescence and Defect Suppression via Quaternary Alkyl Ammonium Salt Based Treatment. <i>Advanced Materials Interfaces</i> , 2017 , 4, 1700562	4.6	31
38	Short contacts between chains enhancing luminescence quantum yields and carrier mobilities in conjugated copolymers. <i>Nature Communications</i> , 2019 , 10, 2614	17.4	29

37	In Situ Atmospheric Deposition of Ultrasoother Nickel Oxide for Efficient Perovskite Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 41849-41854	9.5	29
36	Förster Resonance Energy Transfer Drives Higher Efficiency in Ternary Blend Organic Solar Cells. <i>ACS Applied Energy Materials</i> , 2018 , 1, 4874-4882	6.1	27
35	Engineering Schottky contacts in open-air fabricated heterojunction solar cells to enable high performance and ohmic charge transport. <i>ACS Applied Materials & Interfaces</i> , 2014 , 6, 22192-8	9.5	23
34	Sequentially Deposited versus Conventional Nonfullerene Organic Solar Cells: Interfacial Trap States, Vertical Stratification, and Exciton Dissociation. <i>Advanced Energy Materials</i> , 2019 , 9, 1902145	21.8	22
33	Understanding the Origin of Ultrasharp Sub-bandgap Luminescence from Zero-Dimensional Inorganic Perovskite Cs ₄ PbBr ₆ . <i>ACS Applied Energy Materials</i> , 2020 , 3, 192-199	6.1	21
32	Slow Carrier Cooling in Hybrid Pb _n Halide Perovskites. <i>ACS Energy Letters</i> , 2019 , 4, 736-740	20.1	21
31	Size and Energy Level Tuning of Quantum Dot Solids via a Hybrid Ligand Complex. <i>Journal of Physical Chemistry Letters</i> , 2015 , 6, 3510-4	6.4	20
30	Coulomb Enhanced Charge Transport in Semicrystalline Polymer Semiconductors. <i>Advanced Functional Materials</i> , 2016 , 26, 8011-8022	15.6	20
29	Exciton-Phonon Interactions Govern Charge-Transfer-State Dynamics in CdSe/CdTe Two-Dimensional Colloidal Heterostructures. <i>Journal of the American Chemical Society</i> , 2018 , 140, 14097-14111	16.4	20
28	Anisotropy of Charge Transport in a Uniaxially Aligned Fused Electron-Deficient Polymer Processed by Solution Shear Coating. <i>Advanced Materials</i> , 2020 , 32, e2000063	24	18
27	Naphthacenodithiophene Based Polymers: New Members of the Acenodithiophene Family Exhibiting High Mobility and Power Conversion Efficiency. <i>Advanced Functional Materials</i> , 2016 , 26, 6961-6969	15.6	18
26	Ultra-broadband optical amplification at telecommunication wavelengths achieved by bismuth-activated lead iodide perovskites. <i>Journal of Materials Chemistry C</i> , 2017 , 5, 2591-2596	7.1	16
25	Role of PbSe Structural Stabilization in Photovoltaic Cells. <i>Advanced Functional Materials</i> , 2015 , 25, 928-935	9.5	16
24	Correlation of Disorder and Charge Transport in a Range of Indacenodithiophene-Based Semiconducting Polymers. <i>Advanced Electronic Materials</i> , 2018 , 4, 1700410	6.4	16
23	Direct Bandgap Behavior in Rashba-Type Metal Halide Perovskites. <i>Advanced Materials</i> , 2018 , 30, e1803379	17.9	16
22	Partial oxidation of the absorber layer reduces charge carrier recombination in antimony sulfide solar cells. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 1425-1430	3.6	15
21	Kinetic Control of Perovskite Thin-Film Morphology and Application in Printable Light-Emitting Diodes. <i>ACS Energy Letters</i> , 2017 , 2, 81-87	20.1	15
20	Phosphonic anchoring groups in organic dyes for solid-state solar cells. <i>Physical Chemistry Chemical Physics</i> , 2015 , 17, 18780-9	3.6	15

19	Negative Correlation between Intermolecular vs Intramolecular Disorder in Bulk-Heterojunction Organic Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 44576-44582	9.5	14
18	Zinc tin oxide thin film transistors produced by a high rate reactive sputtering: Effect of tin composition and annealing temperatures. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2017 , 214, 1600470	1.6	12
17	Monovalent Cation Doping of CH ₃ NH ₃ PbI ₃ for Efficient Perovskite Solar Cells. <i>Journal of Visualized Experiments</i> , 2017 ,	1.6	12
16	Linking Glass-Transition Behavior to Photophysical and Charge Transport Properties of High-Mobility Conjugated Polymers. <i>Advanced Functional Materials</i> , 2021 , 31, 2007359	15.6	11
15	Organic/inorganic hybrid and inorganic halide perovskites: structural and chemical engineering, interfaces and optoelectronic properties. <i>Journal Physics D: Applied Physics</i> , 2021 , 54, 133002	3	11
14	Bright and efficient blue polymer light emitting diodes with reduced operating voltages processed entirely at low-temperature. <i>Journal of Materials Chemistry C</i> , 2015 , 3, 9327-9336	7.1	10
13	Synthetic Manipulation of Hybrid Perovskite Systems in Search of New and Enhanced Functionalities. <i>ChemSusChem</i> , 2017 , 10, 3722-3739	8.3	10
12	Charge Generation and Electron-Trapping Dynamics in Hybrid Nanocrystal-Polymer Solar Cells. <i>Journal of Physical Chemistry C</i> , 2016 , 120, 19064-19069	3.8	10
11	Opal-like Multicolor Appearance of Self-Assembled Photonic Array. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 20783-20789	9.5	10
10	Role of Morphology and Föster Resonance Energy Transfer in Ternary Blend Organic Solar Cells. <i>ACS Applied Energy Materials</i> , 2020 , 3, 12025-12036	6.1	8
9	Perovskite Light-Emitting Diodes: Efficient Visible Quasi-2D Perovskite Light-Emitting Diodes (Adv. Mater. 34/2016). <i>Advanced Materials</i> , 2016 , 28, 7550-7550	24	8
8	Charge transport physics of a unique class of rigid-rod conjugated polymers with fused-ring conjugated units linked by double carbon-carbon bonds. <i>Science Advances</i> , 2021 , 7,	14.3	7
7	Phenothiazine-Based D-A- π A Dyes for Highly Efficient Dye-Sensitized Solar Cells: Effect of Internal Acceptor and Non-Conjugated π Spacer on Device Performance. <i>ChemPlusChem</i> , 2017 , 82, 280-286	2.8	5
6	Optical absorption and photoluminescence spectroscopy 2020 , 49-79		5
5	Rational Design of Donor-Acceptor Based Semiconducting Copolymers with High Dielectric Constants. <i>Journal of Physical Chemistry C</i> , 2021 , 125, 6886-6896	3.8	4
4	Chain Coupling and Luminescence in High-Mobility, Low-Disorder Conjugated Polymers. <i>ACS Nano</i> , 2019 , 13, 13716-13727	16.7	3
3	Electroluminescence from Solution-Processed Pinhole-Free Nanometer-Thickness Layers of Conjugated Polymers. <i>Nano Letters</i> , 2018 , 18, 5382-5388	11.5	2
2	A Novel Mitigation Mechanism for Photo-Induced Trapping in an Anthradithiophene Derivative Using Additives. <i>Advanced Electronic Materials</i> , 2020 , 6, 2000250	6.4	2

1 Nanoscale investigation of organic–inorganic halide perovskites. *Journal of Physics: Conference Series*, **2015**, 644, 012024

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