

Ahmad R Kirmani

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

52
papers

4,317
citations

29
h-index

65
g-index

65
ext. papers

5,145
ext. citations

13.2
avg, IF

5.31
L-index

#	Paper	IF	Citations
52	Conjugated polymers with controllable interfacial order and energetics enable tunable heterojunctions in organic and colloidal quantum dot photovoltaics. <i>Journal of Materials Chemistry A</i> , 2022 , 10, 1788-1801	13	2
51	Technoeconomic Model Suggests Scaling-Up Perovskite Quantum Dots for Optoelectronics Warrants Improved Synthesis Yield, Solvent Recycling, and Automation. <i>ACS Energy Letters</i> , 2022 , 7, 1255-1259 ³	29.1	3
50	Combined Precursor Engineering and Grain Anchoring Leading to MA-Free, Phase-Pure, and Stable Formamidinium Lead Iodide Perovskites for Efficient Solar Cells. <i>Angewandte Chemie - International Edition</i> , 2021 , 60, 27299	16.4	10
49	Fresh insights into detonation nanodiamond aggregation: An X-ray photoelectron spectroscopy, thermogravimetric analysis, and nuclear magnetic resonance study. <i>Engineering Reports</i> , 2021 , 3, e12375 ^{1.2}	1.2	1
48	Control Over Ligand Exchange Reactivity in Hole Transport Layer Enables High-Efficiency Colloidal Quantum Dot Solar Cells. <i>ACS Energy Letters</i> , 2021 , 6, 468-476	20.1	14
47	Efficient electrically powered CO ₂ -to-ethanol via suppression of deoxygenation. <i>Nature Energy</i> , 2020 , 5, 478-486	62.3	163
46	Colloidal Quantum Dot Photovoltaics Using Ultrathin, Solution-Processed Bilayer In ₂ O ₃ /ZnO Electron Transport Layers with Improved Stability. <i>ACS Applied Energy Materials</i> , 2020 , 3, 5135-5141	6.1	5
45	Role of the electronically-active amorphous state in low-temperature processed In ₂ O ₃ thin-film transistors. <i>Materials Advances</i> , 2020 , 1, 167-176	3.3	11
44	Facile and noninvasive passivation, doping and chemical tuning of macroscopic hybrid perovskite crystals. <i>PLoS ONE</i> , 2020 , 15, e0230540	3.7	3
43	A Chemically Orthogonal Hole Transport Layer for Efficient Colloidal Quantum Dot Solar Cells. <i>Advanced Materials</i> , 2020 , 32, e1906199	24	38
42	CO electrolysis to multicarbon products at activities greater than 1 A cm. <i>Science</i> , 2020 , 367, 661-666	33.3	403
41	Optimizing Solid-State Ligand Exchange for Colloidal Quantum Dot Optoelectronics: How Much Is Enough?. <i>ACS Applied Energy Materials</i> , 2020 , 3, 5385-5392	6.1	21
40	Dynamical evolution of the 2D/3D interface: a hidden driver behind perovskite solar cell instability. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 2343-2348	13	60
39	Colloidal Quantum Dot Photovoltaics: Current Progress and Path to Gigawatt Scale Enabled by Smart Manufacturing. <i>ACS Energy Letters</i> , 2020 , 5, 3069-3100	20.1	37
38	Coating Thickness Controls Crystallinity and Enables Homoepitaxial Growth of Ultra-Thin-Channel Blade-Coated In ₂ O ₃ Transistors. <i>Advanced Electronic Materials</i> , 2020 , 6, 2000354	6.4	3
37	Crystal Orientation Drives the Interface Physics at Two/Three-Dimensional Hybrid Perovskites. <i>Journal of Physical Chemistry Letters</i> , 2019 , 10, 5713-5720	6.4	29
36	In Situ Back-Contact Passivation Improves Photovoltage and Fill Factor in Perovskite Solar Cells. <i>Advanced Materials</i> , 2019 , 31, e1807435	24	112

35	Efficient upgrading of CO to C fuel using asymmetric C-C coupling active sites. <i>Nature Communications</i> , 2019 , 10, 5186	17.4	55
34	Climate change and materials virology. <i>MRS Bulletin</i> , 2018 , 43, 77-77	3.2	
33	2D matrix engineering for homogeneous quantum dot coupling in photovoltaic solids. <i>Nature Nanotechnology</i> , 2018 , 13, 456-462	28.7	196
32	The Impact of Molecular p-Doping on Charge Transport in High-Mobility Small-Molecule/Polymer Blend Organic Transistors. <i>Advanced Electronic Materials</i> , 2018 , 4, 1700464	6.4	52
31	Hybrid Tandem Quantum Dot/Organic Solar Cells with Enhanced Photocurrent and Efficiency via Ink and Interlayer Engineering. <i>ACS Energy Letters</i> , 2018 , 3, 1307-1314	20.1	26
30	Solution-Processed In ₂ O ₃ /ZnO Heterojunction Electron Transport Layers for Efficient Organic Bulk Heterojunction and Inorganic Colloidal Quantum-Dot Solar Cells. <i>Solar Rrl</i> , 2018 , 2, 1800076	7.1	32
29	Contributions of the lead-bromine weighted bands to the occupied density of states of the hybrid tri-bromide perovskites. <i>Applied Physics Letters</i> , 2018 , 113, 022101	3.4	6
28	Solar Cells: Overcoming the Ambient Manufacturability-Scalability-Performance Bottleneck in Colloidal Quantum Dot Photovoltaics (Adv. Mater. 35/2018). <i>Advanced Materials</i> , 2018 , 30, 1870260	24	3
27	Overcoming the Ambient Manufacturability-Scalability-Performance Bottleneck in Colloidal Quantum Dot Photovoltaics. <i>Advanced Materials</i> , 2018 , 30, e1801661	24	58
26	Programmable and coherent crystallization of semiconductors. <i>Science Advances</i> , 2017 , 3, e1602462	14.3	27
25	Hybrid Doping of Few-Layer Graphene via a Combination of Intercalation and Surface Doping. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 20020-20028	9.5	9
24	Hybrid tandem quantum dot/organic photovoltaic cells with complementary near infrared absorption. <i>Applied Physics Letters</i> , 2017 , 110, 223903	3.4	17
23	Molecular Doping of the Hole-Transporting Layer for Efficient, Single-Step-Deposited Colloidal Quantum Dot Photovoltaics. <i>ACS Energy Letters</i> , 2017 , 2, 1952-1959	20.1	39
22	Hybrid organic-inorganic inks flatten the energy landscape in colloidal quantum dot solids. <i>Nature Materials</i> , 2017 , 16, 258-263	27	432
21	Surface Restructuring of Hybrid Perovskite Crystals. <i>ACS Energy Letters</i> , 2016 , 1, 1119-1126	20.1	115
20	10-fold enhancement in light-driven water splitting using niobium oxynitride microcone array films. <i>Solar Energy Materials and Solar Cells</i> , 2016 , 151, 149-153	6.4	25
19	Ligand-Stabilized Reduced-Dimensionality Perovskites. <i>Journal of the American Chemical Society</i> , 2016 , 138, 2649-55	16.4	889
18	Remote Molecular Doping of Colloidal Quantum Dot Photovoltaics. <i>ACS Energy Letters</i> , 2016 , 1, 922-930	20.1	34

17	On the relation between chemical composition and optical properties of detonation nanodiamonds. <i>Carbon</i> , 2015 , 94, 79-84	10.4	39
16	Hybrid tandem solar cells with depleted-heterojunction quantum dot and polymer bulk heterojunction subcells. <i>Nano Energy</i> , 2015 , 17, 196-205	17.1	34
15	A Au/Cu ₂ O/TiO ₂ system for photo-catalytic hydrogen production. A pn-junction effect or a simple case of in situ reduction?. <i>Journal of Catalysis</i> , 2015 , 322, 109-117	7.3	100
14	Highly efficient perovskite solar cells based on a nanostructured WO ₃ /TiO ₂ core-shell electron transporting material. <i>Journal of Materials Chemistry A</i> , 2015 , 3, 9051-9057	13	170
13	Quantum Dots: Overcoming the Cut-Off Charge Transfer Bandgaps at the PbS Quantum Dot Interface (Adv. Funct. Mater. 48/2015). <i>Advanced Functional Materials</i> , 2015 , 25, 7548-7548	15.6	
12	Overcoming the Cut-Off Charge Transfer Bandgaps at the PbS Quantum Dot Interface. <i>Advanced Functional Materials</i> , 2015 , 25, 7435-7441	15.6	16
11	Solution-printed organic semiconductor blends exhibiting transport properties on par with single crystals. <i>Nature Communications</i> , 2015 , 6, 8598	17.4	188
10	The complete in-gap electronic structure of colloidal quantum dot solids and its correlation with electronic transport and photovoltaic performance. <i>Advanced Materials</i> , 2014 , 26, 937-42	24	51
9	Photovoltaics: The Complete In-Gap Electronic Structure of Colloidal Quantum Dot Solids and Its Correlation with Electronic Transport and Photovoltaic Performance (Adv. Mater. 6/2014). <i>Advanced Materials</i> , 2014 , 26, 822-822	24	1
8	Effect of solvent environment on colloidal-quantum-dot solar-cell manufacturability and performance. <i>Advanced Materials</i> , 2014 , 26, 4717-23	24	75
7	Synthesis of Copper Hydroxide Branched Nanocages and Their Transformation to Copper Oxide. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 19374-19379	3.8	30
6	Air-stable n-type colloidal quantum dot solids. <i>Nature Materials</i> , 2014 , 13, 822-8	27	466
5	A scalable synthesis of highly stable and water dispersible Ag ₄₄ (SR) ₃₀ nanoclusters. <i>Journal of Materials Chemistry A</i> , 2013 , 1, 10148	13	66
4	Materials processing strategies for colloidal quantum dot solar cells: advances, present-day limitations, and pathways to improvement. <i>MRS Communications</i> , 2013 , 3, 83-90	2.7	30
3	The donor-supply electrode enhances performance in colloidal quantum dot solar cells. <i>ACS Nano</i> , 2013 , 7, 6111-6	16.7	105
2	Combined Precursor Engineering and Grain Anchoring Leading to MA-Free, Phase-Pure, and Stable Formamidinium Lead Iodide Perovskites for Efficient Solar Cells. <i>Angewandte Chemie</i> ,	3.6	3
1	Photoactivated p-Doping of Organic Interlayer Enables Efficient Perovskite/Silicon Tandem Solar Cells. <i>ACS Energy Letters</i> , 1987-1993	20.1	4