Russell J Holmes

List of Publications by Year
in descending order

99 papers	4,554 citations	136885 32 h-index	102432 66 g-index
100 all docs	100 docs citations	100 times ranked	6204 citing authors

#	Article	IF	Citations
1	Blue and Near-UV Phosphorescence from Iridium Complexes with Cyclometalated Pyrazolyl orN-Heterocyclic Carbene Ligands. Inorganic Chemistry, 2005, 44, 7992-8003.	1.9	629
2	Ultrahigh Energy Gap Hosts in Deep Blue Organic Electrophosphorescent Devices. Chemistry of Materials, 2004, 16, 4743-4747.	3.2	473
3	High-Efficiency Silicon Nanocrystal Light-Emitting Devices. Nano Letters, 2011, 11, 1952-1956.	4.5	337
4	Exciton diffusion in organic photovoltaic cells. Energy and Environmental Science, 2014, 7, 499-512.	15.6	332
5	Tailored exciton diffusion in organic photovoltaic cells for enhanced power conversion efficiency. Nature Materials, 2013, 12, 152-157.	13.3	183
6	Plasmonic nanocavity arrays for enhanced efficiency in organic photovoltaic cells. Applied Physics Letters, 2008, 93, 123308.	1.5	165
7	Investigation of Energy Transfer in Organic Photovoltaic Cells and Impact on Exciton Diffusion Length Measurements. Advanced Functional Materials, 2011, 21, 764-771.	7.8	133
8	Hybrid Silicon Nanocrystalâˆ’Organic Light-Emitting Devices for Infrared Electroluminescence. Nano Letters, 2010, 10, 1154-1157.	4.5	132
9	Efficient Organic Photovoltaic Cells Based on Nanocrystalline Mixtures of Boron Subphthalocyanine Chloride and C₆₀. Advanced Functional Materials, 2012, 22, 617-624.	7.8	123
10	Enhanced exciton diffusion in an organic photovoltaic cell by energy transfer using a phosphorescent sensitizer. Applied Physics Letters, 2009, 94, .	1.5	96
11	Engineering Efficiency Rollâ€Off in Organic Lightâ€Emitting Devices. Advanced Functional Materials, 2014, 24, 6074-6080.	7.8	90
12	Graded Donorâ€Acceptor Heterojunctions for Efficient Organic Photovoltaic Cells. Advanced Materials, 2010, 22, 5301-5305.	11.1	86
13	Investigating the Role of Emissive Layer Architecture on the Exciton Recombination Zone in Organic Lightâ€Emitting Devices. Advanced Functional Materials, 2013, 23, 5190-5198.	7.8	71
14	An All-Gas-Phase Approach for the Fabrication of Silicon Nanocrystal Light-Emitting Devices. Nano Letters, 2012, 12, 2822-2825.	4.5	66
15	Consensus statement: Standardized reporting of power-producing luminescent solar concentrator performance. Joule, 2022, 6, 8-15.	11.7	66
16	Highly efficient, single-layer organic light-emitting devices based on a graded-composition emissive layer. Applied Physics Letters, 2010, 97, 083308.	1.5	65
17	Efficient, bulk heterojunction organic photovoltaic cells based on boron subphthalocyanine chloride-C70. Applied Physics Letters, 2012, 101, .	1.5	63
18	Computational Study of Structural and Electronic Properties of Lead-Free CsMI₃ Perovskites (M = Ge, Sn, Pb, Mg, Ca, Sr, and Ba). Journal of Physical Chemistry C, 2018, 122, 7838-7848.	1.5	62

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19	Connecting Molecular Structure and Exciton Diffusion Length in Rubrene Derivatives. Advanced Materials, 2013, 25, 3689-3693.	11.1	59
20	Best practices for measuring emerging light-emitting diode technologies. Nature Photonics, 2019, 13, 818-821.	15.6	59
21	Highâ€Transconductance Organic Thinâ€Film Electrochemical Transistors for Driving Lowâ€Voltage Redâ€Greenâ€Blue Active Matrix Organic Lightâ€Emitting Devices. Advanced Functional Materials, 2012, 22, 1623-1631.	7.8	54
22	Femtosecond to nanosecond excited state dynamics of vapor deposited copper phthalocyanine thin films. Physical Chemistry Chemical Physics, 2016, 18, 11454-11459.	1.3	45
23	Subâ€“turn-on exciton quenching due to molecular orientation and polarization in organic light-emitting devices. Science Advances, 2020, 6, eabb2659.	4.7	45
24	Impact of Thermal Annealing on Organic Photovoltaic Cells Using Regioisomeric Donorâ€“Acceptorâ€“Acceptor Molecules. ACS Applied Materials & Interfaces, 2017, 9, 25418-25425.	4.0	43
25	Formation of aligned periodic patterns during the crystallization of organic semiconductor thin films. Nature Materials, 2019, 18, 725-731.	13.3	43
26	Diarylindenotetracenes via a Selective Cross-Coupling/Câ€“H Functionalization: Electron Donors for Organic Photovoltaic Cells. Organic Letters, 2012, 14, 1390-1393.	2.4	40
27	Exciton Transport in an Organic Semiconductor Exhibiting Thermally Activated Delayed Fluorescence. Journal of Physical Chemistry C, 2016, 120, 8502-8508.	1.5	38
28	Temperatureâ€Dependent Bias Poling and Hysteresis in Planar Organoâ€Metal Halide Perovskite Photovoltaic Cells. Advanced Energy Materials, 2016, 6, 1501994.	10.2	36
29	Tandem organic photodetectors with tunable, broadband response. Applied Physics Letters, 2012, 101, .	1.5	35
30	Lead-free double perovskites Cs₂InCuCl₆ and (CH₃NH₃)₂InCuCl₆: electronic, optical, and electrical properties. Nanoscale, 2019, 11, 11173-11182.	2.8	35
31	Formation of Stable Metal Halide Perovskite/Perovskite Heterojunctions. ACS Energy Letters, 2020, 5, 3443-3451.	8.8	35
32	Influence of a MoOx interlayer on the open-circuit voltage in organic photovoltaic cells. Applied Physics Letters, 2013, 103, .	1.5	34
33	7.9% efficient vapor-deposited organic photovoltaic cells based on a simple bulk heterojunction. Journal of Materials Chemistry A, 2014, 2, 12397.	5.2	34
34	Characterizing the charge collection efficiency in bulk heterojunction organic photovoltaic cells. Applied Physics Letters, 2012, 100, 083303.	1.5	31
35	Crystal Morphology and Growth in Annealed Rubrene Thin Films. Crystal Growth and Design, 2016, 16, 4720-4726.	1.4	31
36	Energy-Cascade Organic Photovoltaic Devices Incorporating a Hostâ€“Guest Architecture. ACS Applied Materials & Interfaces, 2015, 7, 2912-2918.	4.0	29

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37	Isolating Degradation Mechanisms in Mixed Emissive Layer Organic Light-Emitting Devices. ACS Applied Materials & Interfaces, 2018, 10, 5693-5699.	4.0	29
38	Self-assembled plasmonic electrodes for high-performance organic photovoltaic cells. Applied Physics Letters, 2011, 99, 103306.	1.5	28
39	Intrinsic measurements of exciton transport in photovoltaic cells. Nature Communications, 2019, 10, 1156.	5.8	28
40	Blue-Emitting Arylalkynyl Naphthalene Derivatives via a Hexadehydro-Dielsâ€“Alder Cascade Reaction. Journal of the American Chemical Society, 2016, 138, 12739-12742.	6.6	27
41	Tin naphthalocyanine complexes for infrared absorption in organic photovoltaic cells. Organic Electronics, 2013, 14, 804-808.	1.4	26
42	Intermolecular Interactions Determine Exciton Lifetimes in Neat Films and Solid State Solutions of Metal-Free Phthalocyanine. Journal of Physical Chemistry C, 2015, 119, 27340-27347.	1.5	23
43	Unified analysis of transient and steady-state electrophosphorescence using exciton and polaron dynamics modeling. Journal of Applied Physics, 2016, 120, .	1.1	23
44	Probing dark exciton diffusion using photovoltage. Nature Communications, 2017, 8, 14215.	5.8	23
45	Nanoporous Poly(3,4-ethylenedioxythiophene) Derived from Polymeric Bicontinuous Microemulsion Templates. Macromolecules, 2012, 45, 599-601.	2.2	22
46	Correlation between the Open-Circuit Voltage and Charge Transfer State Energy in Organic Photovoltaic Cells. ACS Applied Materials & Interfaces, 2015, 7, 18306-18311.	4.0	22
47	Electrical excitation of microcavity polaritons by radiative pumping from a weakly coupled organic semiconductor. Physical Review B, 2010, 82, .	1.1	20
48	Polarization splitting in polariton electroluminescence from an organic semiconductor microcavity with metallic reflectors. Applied Physics Letters, 2011, 98, .	1.5	19
49	Directing Energy Transport in Organic Photovoltaic Cells Using Interfacial Exciton Gates. ACS Nano, 2015, 9, 4543-4552.	7.3	19
50	The Role of Exciton Ionization Processes in Bulk Heterojunction Organic Photovoltaic Cells. Advanced Energy Materials, 2015, 5, 1500019.	10.2	18
51	Mitigating Damage to Hybrid Perovskites Using Pulsed-Beam TEM. ACS Omega, 2020, 5, 31867-31871.	1.6	18
52	Nanowire lasers go organic. Nature Nanotechnology, 2007, 2, 141-142.	15.6	17
53	Relating charge transport and performance in single-layer graded-composition organic light-emitting devices. Journal of Applied Physics, 2011, 110, .	1.1	17
54	Interpreting impedance spectra of organic photovoltaic cellsâ€”Extracting charge transit and recombination rates. Journal of Applied Physics, 2014, 116, 124513.	1.1	17

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55	Organic Photovoltaic Cells Based on Continuously Graded Donorâ€"Acceptor Heterojunctions. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 1537-1543.	1.9	14
56	Decoupling degradation in exciton formation and recombination during lifetime testing of organic light-emitting devices. Applied Physics Letters, 2017, 111, .	1.5	13
57	Overcoming the trade-off between exciton dissociation and charge recombination in organic photovoltaic cells. Applied Physics Letters, 2018, 113, .	1.5	13
58	Long-Range, Photon-Mediated Exciton Hybridization in an All-Organic, One-Dimensional Photonic Crystal. Physical Review Letters, 2012, 109, 096401.	2.9	12
59	Evaluating the role of energetic disorder and thermal activation in exciton transport. Journal of Materials Chemistry C, 2016, 4, 3437-3442.	2.7	12
60	Carrier-gas assisted vapor deposition for highly tunable morphology of halide perovskite thin films. Sustainable Energy and Fuels, 2019, 3, 2447-2455.	2.5	12
61	Reducing Spontaneous Orientational Polarization via Semiconductor Dilution Improves OLED Efficiency and Lifetime. Physical Review Applied, 2022, 17, .	1.5	12
62	Role of impurities in determining the exciton diffusion length in organic semiconductors. Applied Physics Letters, 2016, 108, 163301.	1.5	11
63	Photovoltage as a quantitative probe of carrier generation and recombination in organic photovoltaic cells. Journal of Materials Chemistry C, 2017, 5, 11885-11891.	2.7	11
64	Understanding rateâ€limiting processes for the sublimation of small molecule organic semiconductors. AICHE Journal, 2014, 60, 1347-1354.	1.8	10
65	Depth profiling organic light-emitting devices by gas-cluster ion beam sputtering and X-ray photoelectron spectroscopy. Organic Electronics, 2014, 15, 2988-2992.	1.4	10
66	Measurement of the triplet exciton diffusion length in organic semiconductors. Journal of Materials Chemistry C, 2019, 7, 5695-5701.	2.7	10
67	Relating photocurrent, photovoltage, and charge carrier density to the recombination rate in organic photovoltaic cells. Applied Physics Letters, 2015, 107, .	1.5	9
68	Decoupling Photocurrent Loss Mechanisms in Photovoltaic Cells Using Complementary Measurements of Exciton Diffusion. Advanced Energy Materials, 2018, 8, 1702339.	10.2	9
69	Nanoporous Polyethylene Thin Films Templated by Polymeric Bicontinuous Microemulsions: Evolution of Morphology on Non-neutral Substrates. ACS Applied Materials & Interfaces, 2011, 3, 4101-4111.	4.0	8
70	Impact of molecular structure on singlet and triplet exciton diffusion in phenanthroline derivatives. Journal of Materials Chemistry C, 2020, 8, 6118-6123.	2.7	7
71	Probing Enhanced Exciton Diffusion in a Triplet-Sensitized Organic Photovoltaic Cell. Journal of Physical Chemistry C, 2020, 124, 3489-3495.	1.5	7
72	22.1: Invited Paper: Color Tuning Dopants for Electrophosphorescent Devices: Toward Efficient Blue Phosphorescence from Metal Complexes. Digest of Technical Papers SID International Symposium, 2005, 36, 1058.	0.1	6

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73	Thermally activated population of microcavity polariton states under optical and electrical excitation. Physical Review B, 2011, 83, .	1.1	6
74	Solid-State Properties and Spectroscopic Analysis of Thin-Film TPBi. Journal of Physical Chemistry C, 2020, 124, 23716-23723.	1.5	6
75	Optical spacing effect in organic photovoltaic cells incorporating a dilute acceptor layer. Applied Physics Letters, 2014, 104, 243302.	1.5	5
76	Mechanism for the separation of organic semiconductors via thermal gradient sublimation. Organic Electronics, 2015, 24, 212-218.	1.4	5
77	Effects of Additives on Crystallization in Thin Organic Films. Crystal Growth and Design, 2017, 17, 4522-4526.	1.4	5
78	Enhancing energy transport in conjugated polymers. Science, 2018, 360, 854-855.	6.0	5
79	Migration of Charge-Transfer States at Organic Semiconductor Heterojunctions. ACS Applied Materials & Interfaces, 2020, 12, 31677-31686.	4.0	5
80	Effect of Rapid Pressurization on the Solubility of Small Organic Molecules. Crystal Growth and Design, 2016, 16, 1404-1408.	1.4	4
81	Investigation of Excitonic Gates in Organic Semiconductor Thin Films. Physical Review Applied, 2019, 11, .	1.5	4
82	Improved stability in organic lightâ€emitting devices by mixing ambipolar and wide energy gap hosts. Journal of the Society for Information Display, 2019, 27, 434-441.	0.8	4
83	Plasmonic nanocomposites of zinc oxide and titanium nitride. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, 042404.	0.9	4
84	Role of host excimer formation in the degradation of organic light-emitting devices. Applied Physics Letters, 2020, 116, .	1.5	4
85	Device-Based Probe of Triplet Exciton Diffusion in Singlet Fission Materials. Journal of Physical Chemistry Letters, 2021, 12, 966-972.	2.1	4
86	Experimental Characterization of Charge and Exciton Transport in Organic Semiconductors. Materials and Energy, 2016, , 231-291.	2.5	3
87	Sublimation as a function of diffusion. AICHE Journal, 2016, 62, 861-867.	1.8	3
88	Impact of Grain Boundaries on Triplet Exciton Diffusion in Organic Singlet-Fission Materials. Journal of Physical Chemistry C, 2022, 126, 4792-4798.	1.5	3
89	Long-distance relationships. Nature Materials, 2014, 13, 669-670.	13.3	1
90	Volume diffusion in purification by sublimation. AICHE Journal, 2017, 63, 1757-1764.	1.8	1

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91	Impacts of degradation on annihilation and efficiency roll-off in organic light-emitting devices. , 2019, , .		1
92	Emerging materials and devices for efficient light generation. Journal of Applied Physics, 2022, 131, .	1.1	1
93	Hybridization of Frenkel and Wannier-Mott excitons in an optical microcavity. , 2006, , .		0
94	Plasmonic nanocavity arrays for enhanced efficiency in organic photovoltaic cells. , 2008, , .		0
95	Enhancing exciton diffusion in organic photovoltaics cells incorporating dilute donor layers. , 2014, , .		0
96	10â€2: <i>Invited Paper</i>: Unified Analysis of Transient and Steadyâ€State Electroluminescence â€"Establishing an Analytical Formalism for OLED Charge Balance. Digest of Technical Papers SID International Symposium, 2017, 48, 115-118.	0.1	0
97	17.3: Invited Paper: Inâ€operando Measurements of Photoluminescence to Probe Degradation and Lowâ€Bias Excitonâ€Polaron Quenching in OLEDs. Digest of Technical Papers SID International Symposium, 2021, 52, 230-230.	0.1	0
98	Understanding and Engineering Exciton Transport. Materials and Energy, 2018, , 209-264.	2.5	0
99	Measurements of dark triplet exciton diffusion in a phosphor-sensitized organic photovoltaic cell. , 2019, , .		0