Masaru K Kuno

List of Publications by Citations

138 papers	17,964 citations	53 h-index	134 g-index
151 ext. papers	19,404 ext. citations	10.4 avg, IF	6.74 L-index

#	Paper	IF	Citations
138	Progress, challenges, and opportunities in two-dimensional materials beyond graphene. *ACS Nano*, **2013**, 7, 2898-926	16.7	3414
137	Quantum dot solar cells. harvesting light energy with CdSe nanocrystals molecularly linked to mesoscopic TiO2 films. *Journal of the American Chemical Society*, **2006**, 128, 2385-93	16.4	1621
136	Quantum dot solar cells. Tuning photoresponse through size and shape control of CdSe-TiO2 architecture. *Journal of the American Chemical Society*, **2008**, 130, 4007-15	16.4	1463
135	Band-edge exciton in quantum dots of semiconductors with a degenerate valence band: Dark and bright exciton states. *Physical Review B*, **1996**, 54, 4843-4856	3.3	1077
134	Size-dependent electron injection from excited CdSe quantum dots into TiO2 nanoparticles. *Journal of the American Chemical Society*, **2007**, 129, 4136-7	16.4	767
133	Observation of the "Dark exciton" in CdSe quantum dots. *Physical Review Letters*, **1995**, 75, 3728-3731	7.4	695
132	Nonexponential "blinking" kinetics of single CdSe quantum dots: A universal power law behavior. *Journal of Chemical Physics*, **2000**, 112, 3117-3120	3.9	616
131	The band edge luminescence of surface modified CdSe nanocrystallites: Probing the luminescing state. *Journal of Chemical Physics*, **1997**, 106, 9869-9882	3.9	545
130	Avidin: a natural bridge for quantum dot-antibody conjugates. *Journal of the American Chemical Society*, **2002**, 124, 6378-82	16.4	468
129	"On/off" fluorescence intermittency of single semiconductor quantum dots. *Journal of Chemical Physics*, **2001**, 115, 1028-1040	3.9	465
128	Universal emission intermittency in quantum dots, nanorods and nanowires. *Nature Physics*, **2008**, 4, 519-522	16.2	418
127	Organometallic Synthesis and Spectroscopic Characterization of Manganese-Doped CdSe Nanocrystals. *Journal of the American Chemical Society*, **2000**, 122, 2532-2540	16.4	416
126	Light-Induced Anion Phase Segregation in Mixed Halide Perovskites. *ACS Energy Letters*, **2018**, 3, 204-213	20.1	307
125	Rationalizing the light-induced phase separation of mixed halide organic-inorganic perovskites. *Nature Communications*, **2017**, 8, 200	17.4	264
124	Tracking Iodide and Bromide Ion Segregation in Mixed Halide Lead Perovskites during Photoirradiation. *ACS Energy Letters*, **2016**, 1, 290-296	20.1	251
123	Modeling distributed kinetics in isolated semiconductor quantum dots. *Physical Review B*, **2003**, 67,	3.3	250
122	Storable, thermally activated, near-infrared chemiluminescent dyes and dye-stained microparticles for optical imaging. *Nature Chemistry*, **2010**, 2, 1025-30	17.6	216

121	Shift Happens. How Halide Ion Defects Influence Photoinduced Segregation in Mixed Halide Perovskites. *ACS Energy Letters*, **2017**, 2, 1507-1514	20.1	209
120	Solution-Based Straight and Branched CdSe Nanowires. *Chemistry of Materials*, **2004**, 16, 5260-5272	9.6	206
119	Origin of the Size-Dependent Stokes Shift in CsPbBr Perovskite Nanocrystals. *Journal of the American Chemical Society*, **2017**, 139, 12201-12208	16.4	171
118	An overview of solution-based semiconductor nanowires: synthesis and optical studies. *Physical Chemistry Chemical Physics*, **2008**, 10, 620-39	3.6	143
117	Spatially Non-uniform Trap State Densities in Solution-Processed Hybrid Perovskite Thin Films. *Journal of Physical Chemistry Letters*, **2016**, 7, 715-21	6.4	133
116	Solution-Based Straight and Branched CdTe Nanowires. *Chemistry of Materials*, **2006**, 18, 5722-5732	9.6	125
115	Efficient Photocatalytic Hydrogen Generation from Ni Nanoparticle Decorated CdS Nanosheets. *ACS Catalysis*, **2015**, 5, 6615-6623	13.1	122
114	Exciton recombination dynamics in CdSe nanowires: bimolecular to three-carrier Auger kinetics. *Nano Letters*, **2006**, 6, 1344-9	11.5	121
113	Fluorescence Intermittency in Single InP Quantum Dots. *Nano Letters*, **2001**, 1, 557-564	11.5	95
112	Band-filling of solution-synthesized CdS nanowires. *ACS Nano*, **2008**, 2, 357-67	16.7	94
111	A CdSe Nanowire/Quantum Dot Hybrid Architecture for Improving Solar Cell Performance. *Advanced Functional Materials*, **2010**, 20, 1464-1472	15.6	93
110	Induced Branching in Confined PbSe Nanowires. *Chemistry of Materials*, **2005**, 17, 4416-4425	9.6	92
109	Solution-based II-VI core/shell nanowire heterostructures. *Journal of the American Chemical Society*, **2008**, 130, 14822-33	16.4	88
108	Polarization-sensitive nanowire photodetectors based on solution-synthesized CdSe quantum-wire solids. *Nano Letters*, **2007**, 7, 2999-3006	11.5	88
107	Experimental determination of the absorption cross-section and molar extinction coefficient of CdSe and CdTe nanowires. *Journal of Physical Chemistry B*, **2006**, 110, 25322-31	3.4	83
106	Disorder-Induced Optical Heterogeneity in Single CdSe Nanowires. *Advanced Materials*, **2005**, 17, 2942-2949	24	82
105	Photoinduced Anion Segregation in Mixed Halide Perovskites. *Trends in Chemistry*, **2020**, 2, 282-301	14.8	81
104	To Exchange or Not to Exchange. Suppressing Anion Exchange in Cesium Lead Halide Perovskites with PbSO4/Oleate Capping. *ACS Energy Letters*, **2018**, 3, 1049-1055	20.1	80

103	Photocatalytic Hydrogen Generation Efficiencies in One-Dimensional CdSe Heterostructures. *Journal of Physical Chemistry Letters*, **2012**, 3, 3234-40	6.4	77
102	How Interplay between Photo and Thermal Activation Dictates Halide Ion Segregation in Mixed Halide Perovskites. *ACS Energy Letters*, **2020**, 5, 56-63	20.1	75
101	Existence of a Size-Dependent Stokes Shift in CsPbBr3 Perovskite Nanocrystals. *ACS Energy Letters*, **2017**, 2, 1487-1488	20.1	72
100	Synthesis and Characterization of Au/Bi Core/Shell Nanocrystals: A Precursor toward III-VI Nanowires. *Journal of Physical Chemistry B*, **2004**, 108, 9745-9751	3.4	72
99	Magnetic circular dichroism study of CdSe quantum dots. *Journal of Chemical Physics*, **1998**, 108, 4242-4247	3.9	70
98	Vacancy-Mediated Anion Photosegregation Kinetics in Mixed Halide Hybrid Perovskites: Coupled Kinetic Monte Carlo and Optical Measurements. *ACS Energy Letters*, **2018**, 3, 2321-2328	20.1	70
97	Molecular Clusters of Binary and Ternary Mercury Chalcogenides: Colloidal Synthesis, Characterization, and Optical Spectra. *Journal of Physical Chemistry B*, **2003**, 107, 5758-5767	3.4	69
96	Super-Resolution Far-Field Infrared Imaging by Photothermal Heterodyne Imaging. *Journal of Physical Chemistry B*, **2017**, 121, 8838-8846	3.4	65
95	Optical constants and dynamic conductivities of single layer MoS2, MoSe2, and WSe2. *Applied Physics Letters*, **2015**, 107, 083103	3.4	64
94	Nanostructure Absorption: A Comparative Study of Nanowire and Colloidal Quantum Dot Absorption Cross Sections. *Journal of Physical Chemistry Letters*, **2010**, 1, 3340-3348	6.4	61
93	Photon counting statistics for blinking CdSe-ZnS quantum dots: a Lévy walk process. *Journal of Physical Chemistry B*, **2006**, 110, 19053-60	3.4	60
92	Synthesis and Characterization of Colloidal HgS Quantum Dots. *Journal of Physical Chemistry B*, **2002**, 106, 9982-9985	3.4	59
91	Facile synthesis and size control of II-VI nanowires using bismuth salts. *Small*, **2009**, 5, 1112-6	11	57
90	Luminescent Quantum Dot-Adaptor Protein-Antibody Conjugates for Use in Fluoroimmunoassays. *Physica Status Solidi (B): Basic Research*, **2002**, 229, 407-414	1.3	57
89	Evidence of photo- and electrodarkening of (CdSe)ZnS quantum dot composites. *Journal of Applied Physics*, **2000**, 87, 8526-8534	2.5	57
88	Single nanowire extinction spectroscopy. *Nano Letters*, **2011**, 11, 3307-11	11.5	55
87	Carrier recombination dynamics in individual CdSe nanowires. *Physical Review B*, **2011**, 83,	3.3	55
86	Molecular fluorescence in the vicinity of a nanoscopic probe. *Journal of Chemical Physics*, **2001**, 114, 8596-8609	3.9	53

85	Ultrafast Transient Absorption Measurements of Charge Carrier Dynamics in Single III-VI Nanowires. *Journal of Physical Chemistry C*, **2009**, 113, 19077-19081	3.8	50
84	Experimental determination of single CdSe nanowire absorption cross sections through photothermal imaging. *ACS Nano*, **2010**, 4, 358-64	16.7	49
83	CdSe nanowires with illumination-enhanced conductivity: Induced dipoles, dielectrophoretic assembly, and field-sensitive emission. *Journal of Applied Physics*, **2007**, 101, 073704	2.5	48
82	Wavelength Sensitivity of Single Nanowire Excitation Polarization Anisotropies Explained through a Generalized Treatment of Their Linear Absorption. *ACS Nano*, **2009**, 3, 1979-87	16.7	47
81	Controlled synthesis of compositionally tunable ternary PbSe(x)S(1-x) as well as binary PbSe and PbS nanowires. *ACS Nano*, **2012**, 6, 2833-43	16.7	46
80	Spatial and intensity modulation of nanowire emission induced by mobile charges. *Journal of the American Chemical Society*, **2007**, 129, 13160-71	16.4	43
79	Synthesis of Ultrathin and Thickness-Controlled Cu2-xSe Nanosheets via Cation Exchange. *Journal of Physical Chemistry Letters*, **2014**, 5, 3608-13	6.4	42
78	Crystal Structure of Individual CsPbBr Perovskite Nanocubes. *Inorganic Chemistry*, **2019**, 58, 1555-1560	5.1	38
77	Halide Ion Migration in Perovskite Nanocrystals and Nanostructures. *Accounts of Chemical Research*, **2021**, 54, 520-531	24.3	38
76	Double heterojunction nanowire photocatalysts for hydrogen generation. *Nanoscale*, **2014**, 6, 4117-24	7.7	37
75	Direct observation of spatially heterogeneous single-layer graphene oxide reduction kinetics. *Nano Letters*, **2013**, 13, 5777-84	11.5	37
74	Synthetic Strategy and Structural and Optical Characterization of Thin Highly Crystalline Titanium Disulfide Nanosheets. *Journal of Physical Chemistry Letters*, **2012**, 3, 1554-8	6.4	36
73	Charge carrier trapping and acoustic phonon modes in single CdTe nanowires. *ACS Nano*, **2012**, 6, 5274-82	16.7	35
72	Single Nanowire Microscopy and Spectroscopy. *Journal of Physical Chemistry C*, **2012**, 116, 12379-12396	3.8	35
71	A quantitative and spatially resolved analysis of the performance-bottleneck in high efficiency, planar hybrid perovskite solar cells. *Energy and Environmental Science*, **2018**, 11, 960-969	35.4	34
70	Subdiffraction Infrared Imaging of Mixed Cation Perovskites: Probing Local Cation Heterogeneities. *ACS Energy Letters*, **2018**, 3, 469-475	20.1	34
69	Excitation and photoluminescence polarization anisotropy of single CdSe nanowires. *Applied Physics Letters*, **2008**, 92, 183110	3.4	34
68	CdSe nanowire solar cells using carbazole as a surface modifier. *Journal of Materials Chemistry A*, **2013**, 1, 5487	13	31

67	Direct observation of single layer graphene oxide reduction through spatially resolved, single sheet absorption/emission microscopy. *Nano Letters*, **2014**, 14, 3172-9	11.5	30
66	Photoluminescence Up-Conversion in CsPbBr3 Nanocrystals. *ACS Energy Letters*, **2017**, 2, 2514-2515	20.1	29
65	Imaging and Absolute Extinction Cross-Section Measurements of Nanorods and Nanowires through Polarization Modulation Microscopy *Journal of Physical Chemistry C*, **2010**, 114, 16029-16036	3.8	29
64	Photocurrent polarization anisotropy of randomly oriented nanowire networks. *Nano Letters*, **2008**, 8, 1352-7	11.5	29
63	Nanowire-functionalized cotton textiles. *ACS Applied Materials & Interfaces*, **2014**, 6, 2262-9	9.5	28
62	Bismuth-Assisted CdSe and CdTe Nanowire Growth on Plastics. *Chemistry of Materials*, **2010**, 22, 77-84	9.6	27
61	Ultrathin CdSe nanowire field-effect transistors. *Journal of Electronic Materials*, **2006**, 35, 170-172	1.9	27
60	Suppressing Cation Migration in Triple-Cation Lead Halide Perovskites. *ACS Energy Letters*, **2020**, 5, 2802-2810	20.1	26
59	Superlattices are Greener on the Other Side: How Light Transforms Self-Assembled Mixed Halide Perovskite Nanocrystals. *ACS Energy Letters*, **2020**, 5, 1465-1473	20.1	24
58	Colloidal Semiconductor Quantum Dot Conjugates in Biosensing **2002**, 537-569		23
57	Universal Size-Dependent Stokes Shifts in Lead Halide Perovskite Nanocrystals. *Journal of Physical Chemistry Letters*, **2020**, 11, 4937-4944	6.4	22
56	Defect-Mediated CdS Nanobelt Photoluminescence Up-Conversion. *Journal of Physical Chemistry C*, **2017**, 121, 16607-16616	3.8	22
55	Electric field-induced emission enhancement and modulation in individual CdSe nanowires. *ACS Nano*, **2012**, 6, 9133-40	16.7	22
54	Low temperature solution-phase growth of ZnSe and ZnSe/CdSe core/shell nanowires. *Nanoscale*, **2011**, 3, 3145-51	7.7	22
53	Approaches to mid-infrared, super-resolution imaging and spectroscopy. *Physical Chemistry Chemical Physics*, **2020**, 22, 4313-4325	3.6	21
52	Direct Measurement of Single CdSe Nanowire Extinction Polarization Anisotropies. *Journal of Physical Chemistry Letters*, **2012**, 3, 2215-20	6.4	20
51	Fluorescence of single ZnS overcoated CdSe quantum dots studied by apertureless near-field scanning optical microscopy. *Optics Communications*, **2002**, 210, 11-23	2	20
50	High temperature structural studies of HgS and HgSe quantum dots. *Applied Physics Letters*, **2003**, 83, 4011-4013	3.4	19

49	Supercontinuum spatial modulation spectroscopy: detection and noise limitations. *Review of Scientific Instruments*, **2013**, 84, 113104	1.7	18
48	Transforming Layered to Nonlayered Two-Dimensional Materials: Cation Exchange of SnS2 to Cu2SnS3. *ACS Energy Letters*, **2016**, 1, 175-181	20.1	18
47	Spectroscopic signatures of ligand field states in {Ru(II)(imine)} complexes. *Dalton Transactions*, **2016**, 45, 5464-75	4.3	16
46	Infrared photothermal heterodyne imaging: Contrast mechanism and detection limits. *Journal of Applied Physics*, **2020**, 127, 165101	2.5	15
45	Progress in laser cooling semiconductor nanocrystals and nanostructures. *NPG Asia Materials*, **2019**, 11,	10.3	15
44	Far-field midinfrared superresolution imaging and spectroscopy of single high aspect ratio gold nanowires. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 2288-2293	11.5	14
43	Light induced nanowire assembly: the electrostatic alignment of semiconductor nanowires into functional macroscopic yarns. *Advanced Materials*, **2013**, 25, 601-5	24	14
42	Can lasers really refrigerate CdS nanobelts?. *Nature*, **2019**, 570, E60-E61	50.4	13
41	Single Semiconductor Nanostructure Extinction Spectroscopy. *Journal of Physical Chemistry C*, **2018**, 122, 16443-16463	3.8	12
40	Dimensional crossover in semiconductor nanostructures. *Nature Communications*, **2016**, 7, 12726	17.4	12
39	Heterogeneous Fluorescence Intermittency in Single Layer Reduced Graphene Oxide. *Nano Letters*, **2015**, 15, 4317-21	11.5	11
38	What Exactly Causes Light-Induced Halide Segregation in Mixed-Halide Perovskites?. *Matter*, **2020**, 2, 21-23	12.7	11
37	Power-Law Blinking Quantum Dots: Stochastic and Physical Models. *Advances in Chemical Physics*, **2005**, 327-356		11
36	Introductory Nanoscience		10
35	Thermal Decoherence of Superradiance in Lead Halide Perovskite Nanocrystal Superlattices. *Nano Letters*, **2020**, 20, 7382-7388	11.5	10
34	Near-field scanning optical microscopy of colloidal CdSe nanowires. *Physica Status Solidi (B): Basic Research*, **2010**, 247, 1416-1419	1.3	8
33	Concerted single-nanowire absorption and emission spectroscopy: Explaining the origin of the size-dependent Stokes shift in single cadmium selenide nanowires. *Physical Review B*, **2015**, 91,	3.3	7
32	Super-resolution imaging with mid-IR photothermal microscopy on the single particle level **2015**,		6

31	Modulation of Photoinduced Iodine Expulsion in Mixed Halide Perovskites with Electrochemical Bias. *Journal of Physical Chemistry Letters*, **2021**, 12, 2615-2621	6.4	6
30	Tailoring the Inherent Optical and Electrical Properties of Nanostructures. *Journal of Physical Chemistry Letters*, **2014**, 5, 3817-8	6.4	5
29	Colloidal Quantum Dots: A Model Nanoscience System. *Journal of Physical Chemistry Letters*, **2013**, 4, 680	6.4	5
28	Excitation Energy Dependence of Semiconductor Nanocrystal Emission Quantum Yields. *Journal of Physical Chemistry Letters*, **2021**, 12, 4024-4031	6.4	5
27	Distinguishing Models for Mixed Halide Lead Perovskite Photosegregation via Terminal Halide Stoichiometry. *ACS Energy Letters*, **2021**, 6, 2064-2071	20.1	5
26	Spectroscopy and Microscopy of Graphene Oxide and Reduced Graphene Oxide **2015**, 29-60		4
25	Synthesis and characterization of colloidal mercury chalcogenide quantum dots **2002**,		4
24	Surface Derivatization of Nanocrystalline CdSe Semiconductors. *Materials Research Society Symposia Proceedings*, **1996**, 452, 323		4
23	Using Infrared Photothermal Heterodyne Imaging to Characterize Micro- and Nanoplastics in Complex Environmental Matrices. *Environmental Science & Technology*, **2021**, 55, 15891-15899	10.3	4
22	Molybdenum Carbamate Nanosheets as a New Class of Potential Phase Change Materials. *Nano Letters*, **2017**, 17, 3902-3906	11.5	3
21	II-VI heterostructures obtained by encapsulation of colloidal CdSe nanowires by molecular beam epitaxy deposition of ZnSe. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2011**, 29, 03C102	1.3	3
20	Photoluminescent Mn-Doped ZNS Nanoclusters Synthesized within Block Copolymer Nanoreactors. *Materials Research Society Symposia Proceedings*, **1997**, 471, 313		3
19	Quantitative infrared photothermal microscopy **2020**,		3
18	Super-resolution Mid-infrared Imaging using Photothermal Microscopy **2016**,		3
17	Energy Spotlight: New Inroads in Metal Halide Perovskite Research. *ACS Energy Letters*, **2019**, 4, 3036-3038	28.1	3
16	Fluorescence intermittency originates from reclustering in two-dimensional organic semiconductors. *Nature Communications*, **2017**, 8, 14521	17.4	2
15	Up-conversion emission thermometry for semiconductor laser cooling. *Journal of Luminescence*, **2020**, 222, 117088	3.8	2
14	The Band Edge Luminescence of Surface Modified CdSe Nanocrystallites. *Materials Research Society Symposia Proceedings*, **1996**, 452, 347		2

13	Charge and thermal modeling of a semiconductor-based optical refrigerator. *Applied Physics Letters* , **2018**, 113, 181105	3.4	2
12	Energy Selects. *ACS Energy Letters*, **2019**, 4, 2351-2352	20.1	1
11	Synthesis and Application of Solution-Based II-VI and IV-VI Semiconductor Nanowires. *Nanoscience and Technology*, **2015**, 119-156	0.6	1
10	Intrawire absorption and emission spectroscopies of individual CdSe nanowires. *Applied Physics Letters*, **2015**, 107, 083106	3.4	1
9	Molecular Clusters of Binary and Ternary Mercury Chalcogenides: Colloidal Synthesis, Characterization, and Optical Spectra.. *ChemInform*, **2003**, 34, no		1
8	Organometallic Synthesis and Spectroscopic Characterization of Manganese Doped CdSe Nanocrystals. *Materials Research Society Symposia Proceedings*, **1999**, 582, 56		1
7	Shining more light on photoinduced segregation. *Nature Materials*, **2021**, 20, 6-7	27	1
6	Deep image restoration for infrared photothermal heterodyne imaging. *Journal of Chemical Physics*, **2021**, 155, 214202	3.9	0
5	TEM Analysis of CsPbBr3 Nanocrystals: Challenges and Perspectives.. *Microscopy and Microanalysis*, **2017**, 23, 2096-2097	0.5	
4	CdSe Heterostructures for Photocatalytic Hydrogen Generation. *Microscopy and Microanalysis*, **2013** , 19, 328-329	0.5	
3	Solution Phase Synthesis of Semiconductor Nanowires. *Materials Research Society Symposia Proceedings*, **2004**, 848, 394		
2	Binary and Ternary Mercury Chalcogenide Quantum Dots and Clusters. *Materials Research Society Symposia Proceedings*, **2002**, 737, 206		
1	Deciphering the US News and World Report Ranking of US Chemistry Graduate Programs. *Scientometrics*,1	3	