Xiaoyong Wang

List of Publications by Year
in descending order

95 papers	5,570 citations	137900 32 h-index	80221 73 g-index
98 all docs	98 docs citations	98 times ranked	8041 citing authors

#	Article	IF	Citations
1	Efficient and Stable White LEDs with Silicaâ€Coated Inorganic Perovskite Quantum Dots. Advanced Materials, 2016, 28, 10088-10094.	21.7	765
2	Two-Photon-Pumped Perovskite Semiconductor Nanocrystal Lasers. Journal of the American Chemical Society, 2016, 138, 3761-3768.	14.3	496
3	An In Situ Simultaneous Reductionâ€Hydrolysis Technique for Fabrication of TiO₂â€Graphene 2D Sandwichâ€Like Hybrid Nanosheets: Grapheneâ€Promoted Selectivity of Photocatalyticâ€Driven Hydrogenation and Coupling of CO₂ into Methane and Ethane. Advanced Functional Materials, 2013, 23, 1743-1749.	15.2	357
4	Superior Optical Properties of Perovskite Nanocrystals as Single Photon Emitters. ACS Nano, 2015, 9, 12410-12416.	15.0	297
5	Phase segregation due to ion migration in all-inorganic mixed-halide perovskite nanocrystals. Nature Communications, 2019, 10, 1088.	13.1	271
6	Charge Separation from an Intra-Moiety Intermediate State in the High-Performance PM6:Y6 Organic Photovoltaic Blend. Journal of the American Chemical Society, 2020, 142, 12751-12759.	14.3	228
7	Probing Carrier Transport and Structure-Property Relationship of Highly Ordered Organic Semiconductors at the Two-Dimensional Limit. Physical Review Letters, 2016, 116, 016602.	7.9	220
8	Construction and Nanoscale Detection of Interfacial Charge Transfer of Elegant Z-Scheme WO₃/Au/In₂S₃ Nanowire Arrays. Nano Letters, 2016, 16, 5547-5552.	9.4	217
9	Slow Auger Recombination of Charged Excitons in Nonblinking Perovskite Nanocrystals without Spectral Diffusion. Nano Letters, 2016, 16, 6425-6430.	9.4	129
10	Bright-Exciton Fine-Structure Splittings in Single Perovskite Nanocrystals. Physical Review Letters, 2017, 119, 026401.	7.9	129
11	Vacancy-defect modulated pathway of photoreduction of CO2 on single atomically thin AgInP2S6 sheets into olefiant gas. Nature Communications, 2021, 12, 4747.	13.1	128
12	Elegant Construction of ZnIn₂S₄/BiVO₄ Hierarchical Heterostructures as Direct Z-Scheme Photocatalysts for Efficient CO₂ Photoreduction. ACS Applied Materials & Interfaces, 2021, 13, 15092-15100.	8.2	115
13	Coreâ€“shell amorphous cobalt phosphide/cadmium sulfide semiconductor nanorods for exceptional photocatalytic hydrogen production under visible light. Journal of Materials Chemistry A, 2016, 4, 1598-1602.	10.4	108
14	Electronâ€“phonon coupling-assisted universal red luminescence of o-phenylenediamine-based carbon dots. Light: Science and Applications, 2022, 11, .	17.1	102
15	Efficient plasmon-hot electron conversion in Agâ€“CsPbBr3 hybrid nanocrystals. Nature Communications, 2019, 10, 1163.	13.1	97
16	Synthesis of highly fluorescent InP/ZnS small-core/thick-shell tetrahedral-shaped quantum dots for blue light-emitting diodes. Journal of Materials Chemistry C, 2017, 5, 8243-8249.	5.5	93
17	Composition-Dependent Energy Splitting between Bright and Dark Excitons in Lead Halide Perovskite Nanocrystals. Nano Letters, 2018, 18, 2074-2080.	9.4	79
18	Band Structure Engineering of Interfacial Semiconductors Based on Atomically Thin Lead Iodide Crystals. Advanced Materials, 2019, 31, e1806562.	21.7	79

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19	Hollow spheres consisting of Ti_{0.91}O₂/CdS nanohybrids for CO₂ photofixation. Chemical Communications, 2015, 51, 13354-13357.	4.3	71
20	Rational construction of a CdS/reduced graphene oxide/TiO₂coreâ€"shell nanostructure as an all-solid-state Z-scheme system for CO₂photoreduction into solar fuels. RSC Advances, 2015, 5, 88409-88413.	3.7	71
21	Mo-O bond doping and related-defect assisted enhancement of photoluminescence in monolayer MoS₂. AIP Advances, 2014, 4, 123004.	1.3	69
22	Artificial Trees for Artificial Photosynthesis: Construction of Dendrite-Structured Î±-Fe₂O₃/g-C₃N₄ Z-Scheme System for Efficient CO₂ Reduction into Solar Fuels. ACS Applied Energy Materials, 2020, 3, 6561-6572.	5.3	67
23	Nonradiative Triplet Loss Suppressed in Organic Photovoltaic Blends with Fluoridated Nonfullerene Acceptors. Journal of the American Chemical Society, 2021, 143, 4359-4366.	14.3	60
24	High Color Rendering Index Hybrid IIIâ€Nitride/Nanocrystals White Lightâ€Emitting Diodes. Advanced Functional Materials, 2016, 26, 36-43.	15.2	58
25	Anchoring of black phosphorus quantum dots onto WO₃ nanowires to boost photocatalytic CO₂ conversion into solar fuels. Chemical Communications, 2020, 56, 7777-7780.	4.3	57
26	Magnetic dipolar interaction between correlated triplets created by singlet fission in tetracene crystals. Nature Communications, 2015, 6, 8602.	13.1	56
27	Ultrafast hole transfer mediated by polaron pairs in all-polymer photovoltaic blends. Nature Communications, 2019, 10, 398.	13.1	56
28	Ultraâ€Bright and Stable Pure Blue Lightâ€Emitting Diode from O, N Coâ€Doped Carbon Dots. Laser and Photonics Reviews, 2021, 15, 2000412.	8.9	54
29	Free-triplet generation with improved efficiency in tetracene oligomers through spatially separated triplet pair states. Nature Chemistry, 2021, 13, 559-567.	14.4	46
30	Carrier Multiplication in a Single Semiconductor Nanocrystal. Physical Review Letters, 2016, 116, 106404.	7.9	41
31	Hollow InVO₄ Nanocuboid Assemblies toward Promoting Photocatalytic N₂ Conversion Performance. Advanced Materials, 2021, 33, e2006780.	21.7	38
32	Quantum Interference in a Single Perovskite Nanocrystal. Nano Letters, 2019, 19, 4442-4447.	9.4	35
33	Coherent optical phonon oscillation and possible electronic softening in WTe2 crystals. Scientific Reports, 2016, 6, 30487.	3.4	33
34	Electrocatalytic fixation of N₂ into NO₃^{â^’}: electron transfer between oxygen vacancies and loaded Au in Nb₂O_{5â^’<i>x</i>} nanobelts to promote ambient nitrogen oxidation. Journal of Materials Chemistry A, 2021, 9, 17442-17450.	10.4	33
35	Realization of vertical and lateral van der Waals heterojunctions using two-dimensional layered organic semiconductors. Nano Research, 2017, 10, 1336-1344.	10.6	30
36	Optical studies of semiconductor perovskite nanocrystals for classical optoelectronic applications and quantum information technologies: a review. Advanced Photonics, 2020, 2, .	12.1	30

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37	Photon antibunching in a cluster of giant CdSe/CdS nanocrystals. Nature Communications, 2018, 9, 1536.	13.1	28
38	Series of ZnSn(OH)₆ Polyhedra: Enhanced CO₂ Dissociation Activation and Crystal Facet-Based Homojunction Boosting Solar Fuel Synthesis. Inorganic Chemistry, 2017, 56, 5704-5709.	4.2	27
39	Tailoring exciton dynamics of monolayer transition metal dichalcogenides by interfacial electron-phonon coupling. Communications Physics, 2019, 2, .	5.3	27
40	Bimetallic oxyhydroxide<i>in situ</i>derived from an Fe₂Co-MOF for efficient electrocatalytic oxygen evolution. Journal of Materials Chemistry A, 2021, 9, 13271-13278.	10.4	27
41	Polarization-dependent exciton dynamics in tetracene single crystals. Journal of Chemical Physics, 2014, 141, 244303.	3.1	26
42	Mott behavior in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">K</mml:mi><mml:mi>x</mml:mi></mml:msub><mml:msub><mml:mi mathvariant="normal">Fe</mml:mi><mml:mrow><mml:mn>2</mml:mn><mml:mo>â^’</mml:mo><mml:mi>y</mml:mi></mml:mrow>< xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">Se</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math>superconductors studied by pump-probe spectroscopy. Physical Review B, 2014, 89, .	3.3	26
43	Ultrafast Carrier Dynamics and Efficient Triplet Generation in Black Phosphorus Quantum Dots. Journal of Physical Chemistry C, 2017, 121, 12972-12978.	3.2	26
44	Broadband two-dimensional electronic spectroscopy in an actively phase stabilized pump-probe configuration. Optics Express, 2017, 25, 21115.	3.4	26
45	Lowâ€Threshold Amplified Spontaneous Emission and Lasing from Thickâ€Shell CdSe/CdS Core/Shell Nanoplatelets Enabled by Highâ€Temperature Growth. Advanced Optical Materials, 2020, 8, 1901615.	7.4	26
46	Engineering the Phases and Heterostructures of Ultrathin Hybrid Perovskite Nanosheets. Advanced Materials, 2020, 32, e2002392.	21.7	25
47	Inhomogeneous Biexciton Binding in Perovskite Semiconductor Nanocrystals Measured with Two-Dimensional Spectroscopy. Journal of Physical Chemistry Letters, 2020, 11, 10173-10181.	4.8	25
48	Large Optical Nonlinearity Induced by Singlet Fission in Pentacene Films. Angewandte Chemie - International Edition, 2015, 54, 6222-6226.	14.3	24
49	Quantum-confined stark effect in the ensemble of phase-pure CdSe/CdS quantum dots. Nanoscale, 2019, 11, 12619-12625.	5.7	24
50	Single-Mode Lasing from â€œGiantâ€•CdSe/CdS Coreâ€"Shell Quantum Dots in Distributed Feedback Structures. ACS Applied Materials & Interfaces, 2017, 9, 13293-13303.	8.2	23
51	A near IR photosensitizer based on self-assembled CdSe quantum dot-aza-BODIPY conjugate coated with poly(ethylene glycol) and folic acid for concurrent fluorescence imaging and photodynamic therapy. RSC Advances, 2016, 6, 113991-113996.	3.7	21
52	Energy Transfer of Biexcitons in a Single Semiconductor Nanocrystal. Nano Letters, 2016, 16, 2492-2496.	9.4	20
53	Size-Dependent Hot Carrier Dynamics in Perovskite Nanocrystals Revealed by Two-Dimensional Electronic Spectroscopy. Journal of Physical Chemistry Letters, 2021, 12, 238-244.	4.8	20
54	The Impact of Carrier Transport Confinement on the Energy Transfer Between InGaN/GaN Quantumâ€Well Nanorods and Colloidal Nanocrystals. Advanced Functional Materials, 2012, 22, 3146-3152.	15.2	17

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55	Two-photon excited photoluminescence of single perovskite nanocrystals. Journal of Chemical Physics, 2019, 151, 154201.	3.1	17
56	Polarized emission from single perovskite FAPbBr3 nanocrystals. Journal of Luminescence, 2020, 221, 117032.	3.2	17
57	Ultrafast dynamics of photoexcited carriers in perovskite semiconductor nanocrystals. Nanophotonics, 2021, 10, 1943-1965.	6.2	16
58	Excitation-tailored dual-color emission of manganese(II)-doped perovskite nanocrystals. Applied Physics Letters, 2019, 114, .	3.4	15
59	Singlet Fission Dynamics in Tetracene Single Crystals Probed by Polarization-Dependent Two-Dimensional Electronic Spectroscopy. Journal of Physical Chemistry A, 2020, 124, 10447-10456.	2.6	14
60	3D Hydrangeaâ€like InVO₄/Ti₃C₂T_x Hierarchical Heterosystem Collaborating with 2D/2D Interface Interaction for Enhanced Photocatalytic CO₂ Reduction. ChemNanoMat, 2021, 7, 815-823.	2.9	14
61	Exciton linewidth broadening induced by excitonâ€"phonon interactions in CsPbBr3 nanocrystals. Journal of Chemical Physics, 2021, 154, 214502.	3.1	14
62	Enhancing Optoelectronic Properties of Low-Dimensional Halide Perovskite via Ultrasonic-Assisted Template Refinement. ACS Applied Materials & Interfaces, 2017, 9, 39602-39609.	8.2	12
63	Long Persistent Luminescence Enabled by Dissociation of Triplet Intermediate States in an Organic Guest/Host System. Journal of Physical Chemistry Letters, 2020, 11, 3582-3588.	4.8	12
64	Defect-Induced Photoluminescence Blinking of Single Epitaxial InGaAs Quantum Dots. Scientific Reports, 2015, 5, 8898.	3.4	11
65	Ultrathin nanosheet-anchored hexahedral prismatic Bi₂MoO₆ arrays: one-step constructed and crystal facet-based homojunctions boosting photocatalytic CO₂ reduction and N₂ fixation. Catalysis Science and Technology, 2019, 9, 7045-7050.	4.2	11
66	Enhanced Multiexciton Emission Property in Gradient Alloy Core/Shell CdZnSeS/ZnS Quantum Dots: Balance between Surface Passivation and Strain-Induced Lattice Defect. Journal of Physical Chemistry C, 2021, 125, 10759-10767.	3.2	11
67	Weakly coupled triplet pair states probed by quantum beating in delayed fluorescence in tetracene crystals. Journal of Chemical Physics, 2019, 151, 134309.	3.1	10
68	Exciton-acoustic phonon coupling revealed by resonant excitation of single perovskite nanocrystals. Nature Communications, 2021, 12, 2192.	13.1	10
69	Electrical Switching of Optical Gain in Perovskite Semiconductor Nanocrystals. Nano Letters, 2021, 21, 7831-7838.	9.4	10
70	Universal Existence of Localized Singleâ€Photon Emitters in the Perovskite Film of Allâ€Inorganic CsPbBr₃ Microcrystals. Advanced Materials, 2022, 34, e2106278.	21.7	10
71	Photoisomerization and optical behavior study of a subphthalocyanineâ€"bisazobenzeneâ€"subphthalocyanine triad with visible-light response. Journal of Materials Chemistry C, 2016, 4, 7783-7789.	5.5	9
72	Photoisomerization and optical properties of a subphthalocyanineâ€"azobenzeneâ€"subphthalocyanine triad. RSC Advances, 2016, 6, 71199-71205.	3.7	9

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73	Transition from Doublet to Triplet Excitons in Single Perovskite Nanocrystals. Journal of Physical Chemistry Letters, 2020, 11, 5750-5755.	4.8	9
74	Probing Permanent Dipole Moments and Removing Exciton Fine Structures in Single Perovskite Nanocrystals by an Electric Field. Physical Review Letters, 2021, 126, 197403.	7.9	9
75	Î±-Fe₂O₃/Ag/CdS ternary heterojunction photoanode for efficient solar water oxidation. Catalysis Science and Technology, 2021, 11, 5859-5867.	4.2	7
76	Few-Layer PbI₂ Nanoparticle: A 2D Semiconductor with Lateral Quantum Confinement. Journal of Physical Chemistry Letters, 2019, 10, 7863-7869.	4.8	6
77	Hole Transfer Promoted by a Viscosity Additive in an All-Polymer Photovoltaic Blend. Journal of Physical Chemistry Letters, 2020, 11, 1384-1389.	4.8	6
78	Two-photon-pumped optical gain in dye-polymer composite materials. Applied Physics Letters, 2012, 100, 133305.	3.4	5
79	Ultrafast pump-probe spectroscopic signatures of superconducting and pseudogap phases in YBa2Cu3O7â^'Î´ films. Journal of Applied Physics, 2013, 113, 083901.	2.5	5
80	Transient electronic anisotropy in overdoped <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>NaF</mml:mi><mml:msub><mml:mi mathvariant="normal">e</mml:mi><mml:mrow><mml:mn>1</mml:mn><mml:mo>â^'</mml:mo><mml:mi>x</mml:mi></mml:mrow></m mathvariant="normal">C</mml:mi><mml:msub><mml:mi mathvariant="normal">o</mml:mi><mml:mi>x</mml:mi></mml:msub><mml:mi>As</mml:mi></mml:mrow></mml:math> superconductors. Physical Review B, 2018, 97, .	3.3	5
81	Quantized Exciton Motion and Fine Energy-Level Structure of a Single Perovskite Nanowire. Nano Letters, 2022, 22, 2907-2914.	9.4	5
82	An energy level alignment strategy to boost the open-circuit voltage via a Mg:TiO2 compact layer in the planar heterojunction CsPbBr3 solar cells. Applied Physics Letters, 2022, 120, .	3.4	5
83	Defect recombination induced by density-activated carrier diffusion in nonpolar InGaN quantum wells. Applied Physics Letters, 2013, 103, 123506.	3.4	4
84	Giant Up-Conversion Efficiency of InGaAs Quantum Dots in a Planar Microcavity. Scientific Reports, 2015, 4, 3953.	3.4	4
85	Charged two-exciton emission from a single semiconductor nanocrystal. Applied Physics Letters, 2015, 106, 133106.	3.4	4
86	Extended storage of multiple excitons in trap states of semiconductor nanocrystals. Applied Physics Letters, 2016, 108, .	3.4	3
87	Nonblinking Colloidal Quantum Dots via Efficient Multiexciton Emission. Journal of Physical Chemistry Letters, 2022, 13, 2371-2378.	4.8	3
88	Trion-Facilitated Dexter-Type Energy Transfer in a Cluster of Single Perovskite CsPbBr3 Nanocrystals. Chinese Physics Letters, 2020, 37, 127801.	3.4	2
89	Singleâ€Photon Emission from Single Microplate MAPbI₃ Nanocrystals with Ultranarrow Photoluminescence Linewidths and Exciton Fine Structures. Advanced Optical Materials, 2022, 10, .	7.4	2
90	Multiple Dark Excitons in Semiconductor CdSe Nanocrystals. Journal of Physical Chemistry C, 2018, 122, 23758-23763.	3.2	1

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91	Observation of high-density multi-excitons in medium-size CdSe/CdZnS/ZnS colloidal quantum dots through transient spectroscopy and their optical gain properties. Nanoscale, 2022, 14, 5369-5376.	5.7	1
92	Electrical control of biexciton Auger recombination in single CdSe/CdS nanocrystals. Nanoscale, 2022, 14, 7674-7681.	5.7	1
93	Lightâ€Emitting Diodes: High Color Rendering Index Hybrid IIIâ€Nitride/Nanocrystals White Lightâ€Emitting Diodes (Adv. Funct. Mater. 1/2016). Advanced Functional Materials, 2016, 26, 156-156.	15.2	0
94	Band Engineering: Band Structure Engineering of Interfacial Semiconductors Based on Atomically Thin Lead Iodide Crystals (Adv. Mater. 17/2019). Advanced Materials, 2019, 31, 1970121.	21.7	0
95	Thickness dependent properties of ultrathin perovskite nanosheets with Ruddlesdenâ€"Popper-like atomic stackings. Nanoscale, 2021, 13, 18961-18966.	5.7	0