

Xiaoyong Wang

List of Publications by Year in descending order

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95
papers

5,570
citations

136740

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79541

73
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all docs

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98
times ranked

8041
citing authors

#	ARTICLE	IF	CITATIONS
1	Efficient and Stable White LEDs with Silica-Coated Inorganic Perovskite Quantum Dots. <i>Advanced Materials</i> , 2016, 28, 10088-10094.	11.1	765
2	Two-Photon-Pumped Perovskite Semiconductor Nanocrystal Lasers. <i>Journal of the American Chemical Society</i> , 2016, 138, 3761-3768.	6.6	496
3	An In Situ Simultaneous Reduction-Hydrolysis Technique for Fabrication of TiO ₂ -Graphene 2D Sandwich-Like Hybrid Nanosheets: Graphene-Promoted Selectivity of Photocatalytic-Driven Hydrogenation and Coupling of CO ₂ into Methane and Ethane. <i>Advanced Functional Materials</i> , 2013, 23, 1743-1749.	7.8	357
4	Superior Optical Properties of Perovskite Nanocrystals as Single Photon Emitters. <i>ACS Nano</i> , 2015, 9, 12410-12416.	7.3	297
5	Phase segregation due to ion migration in all-inorganic mixed-halide perovskite nanocrystals. <i>Nature Communications</i> , 2019, 10, 1088.	5.8	271
6	Charge Separation from an Intra-Moiety Intermediate State in the High-Performance PM6:Y6 Organic Photovoltaic Blend. <i>Journal of the American Chemical Society</i> , 2020, 142, 12751-12759.	6.6	228
7	Probing Carrier Transport and Structure-Property Relationship of Highly Ordered Organic Semiconductors at the Two-Dimensional Limit. <i>Physical Review Letters</i> , 2016, 116, 016602.	2.9	220
8	Construction and Nanoscale Detection of Interfacial Charge Transfer of Elegant Z-Scheme WO ₃ /Au/In ₂ S ₃ Nanowire Arrays. <i>Nano Letters</i> , 2016, 16, 5547-5552.	4.5	217
9	Slow Auger Recombination of Charged Excitons in Nonblinking Perovskite Nanocrystals without Spectral Diffusion. <i>Nano Letters</i> , 2016, 16, 6425-6430.	4.5	129
10	Bright-Exciton Fine-Structure Splittings in Single Perovskite Nanocrystals. <i>Physical Review Letters</i> , 2017, 119, 026401.	2.9	129
11	Vacancy-defect modulated pathway of photoreduction of CO ₂ on single atomically thin AgInP ₂ S ₆ sheets into olefiant gas. <i>Nature Communications</i> , 2021, 12, 4747.	5.8	128
12	Elegant Construction of ZnIn ₂ S ₄ /BiVO ₄ Hierarchical Heterostructures as Direct Z-Scheme Photocatalysts for Efficient CO ₂ Photoreduction. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 15092-15100.	4.0	115
13	Core-shell amorphous cobalt phosphide/cadmium sulfide semiconductor nanorods for exceptional photocatalytic hydrogen production under visible light. <i>Journal of Materials Chemistry A</i> , 2016, 4, 1598-1602.	5.2	108
14	Electron-phonon coupling-assisted universal red luminescence of o-phenylenediamine-based carbon dots. <i>Light: Science and Applications</i> , 2022, 11, .	7.7	102
15	Efficient plasmon-hot electron conversion in Ag-CsPbBr ₃ hybrid nanocrystals. <i>Nature Communications</i> , 2019, 10, 1163.	5.8	97
16	Synthesis of highly fluorescent InP/ZnS small-core/thick-shell tetrahedral-shaped quantum dots for blue light-emitting diodes. <i>Journal of Materials Chemistry C</i> , 2017, 5, 8243-8249.	2.7	93
17	Composition-Dependent Energy Splitting between Bright and Dark Excitons in Lead Halide Perovskite Nanocrystals. <i>Nano Letters</i> , 2018, 18, 2074-2080.	4.5	79
18	Band Structure Engineering of Interfacial Semiconductors Based on Atomically Thin Lead Iodide Crystals. <i>Advanced Materials</i> , 2019, 31, e1806562.	11.1	79

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19	Hollow spheres consisting of $\text{Ti}_{0.91}\text{O}_2/\text{CdS}$ nanohybrids for CO_2 photofixation. <i>Chemical Communications</i> , 2015, 51, 13354-13357.	2.2	71
20	Rational construction of a CdS/reduced graphene oxide/ TiO_2 core-shell nanostructure as an all-solid-state Z-scheme system for CO_2 photoreduction into solar fuels. <i>RSC Advances</i> , 2015, 5, 88409-88413.	1.7	71
21	Mo-O bond doping and related-defect assisted enhancement of photoluminescence in monolayer MoS_2 . <i>AIP Advances</i> , 2014, 4, 123004.	0.6	69
22	Artificial Trees for Artificial Photosynthesis: Construction of Dendrite-Structured $\text{Fe}_2\text{O}_3/\text{g-C}_3\text{N}_4$ Z-Scheme System for Efficient CO_2 Reduction into Solar Fuels. <i>ACS Applied Energy Materials</i> , 2020, 3, 6561-6572.	2.5	67
23	Nonradiative Triplet Loss Suppressed in Organic Photovoltaic Blends with Fluoridated Nonfullerene Acceptors. <i>Journal of the American Chemical Society</i> , 2021, 143, 4359-4366.	6.6	60
24	High Color Rendering Index Hybrid InN /Nanocrystals White Light-Emitting Diodes. <i>Advanced Functional Materials</i> , 2016, 26, 36-43.	7.8	58
25	Anchoring of black phosphorus quantum dots onto WO_3 nanowires to boost photocatalytic CO_2 conversion into solar fuels. <i>Chemical Communications</i> , 2020, 56, 7777-7780.	2.2	57
26	Magnetic dipolar interaction between correlated triplets created by singlet fission in tetracene crystals. <i>Nature Communications</i> , 2015, 6, 8602.	5.8	56
27	Ultrafast hole transfer mediated by polaron pairs in all-polymer photovoltaic blends. <i>Nature Communications</i> , 2019, 10, 398.	5.8	56
28	Ultra-Bright and Stable Pure Blue Light-Emitting Diode from O, N Co-Doped Carbon Dots. <i>Laser and Photonics Reviews</i> , 2021, 15, 2000412.	4.4	54
29	Free-triplet generation with improved efficiency in tetracene oligomers through spatially separated triplet pair states. <i>Nature Chemistry</i> , 2021, 13, 559-567.	6.6	46
30	Carrier Multiplication in a Single Semiconductor Nanocrystal. <i>Physical Review Letters</i> , 2016, 116, 106404.	2.9	41
31	Hollow InVO_4 Nanocuboid Assemblies toward Promoting Photocatalytic N_2 Conversion Performance. <i>Advanced Materials</i> , 2021, 33, e2006780.	11.1	38
32	Quantum Interference in a Single Perovskite Nanocrystal. <i>Nano Letters</i> , 2019, 19, 4442-4447.	4.5	35
33	Coherent optical phonon oscillation and possible electronic softening in WTe_2 crystals. <i>Scientific Reports</i> , 2016, 6, 30487.	1.6	33
34	Electrocatalytic fixation of N_2 into NO_3^- : electron transfer between oxygen vacancies and loaded Au in Nb_2O_5 nanobelts to promote ambient nitrogen oxidation. <i>Journal of Materials Chemistry A</i> , 2021, 9, 17442-17450.	5.2	33
35	Realization of vertical and lateral van der Waals heterojunctions using two-dimensional layered organic semiconductors. <i>Nano Research</i> , 2017, 10, 1336-1344.	5.8	30
36	Optical studies of semiconductor perovskite nanocrystals for classical optoelectronic applications and quantum information technologies: a review. <i>Advanced Photonics</i> , 2020, 2, .	6.2	30

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37	Photon antibunching in a cluster of giant CdSe/CdS nanocrystals. <i>Nature Communications</i> , 2018, 9, 1536.	5.8	28
38	Series of ZnSn(OH) ₆ Polyhedra: Enhanced CO ₂ Dissociation Activation and Crystal Facet-Based Homojunction Boosting Solar Fuel Synthesis. <i>Inorganic Chemistry</i> , 2017, 56, 5704-5709.	1.9	27
39	Tailoring exciton dynamics of monolayer transition metal dichalcogenides by interfacial electron-phonon coupling. <i>Communications Physics</i> , 2019, 2, .	2.0	27
40	Bimetallic oxyhydroxide <i>in situ</i> derived from an Fe ₂ Co-MOF for efficient electrocatalytic oxygen evolution. <i>Journal of Materials Chemistry A</i> , 2021, 9, 13271-13278.	5.2	27
41	Polarization-dependent exciton dynamics in tetracene single crystals. <i>Journal of Chemical Physics</i> , 2014, 141, 244303.	1.2	26
42	Mott behavior in Kx_2 Fe_2Se_2 superconductors studied by pump-probe spectroscopy. <i>Physical Review B</i> , 2014, 89, .	1.1	26
43	Ultrafast Carrier Dynamics and Efficient Triplet Generation in Black Phosphorus Quantum Dots. <i>Journal of Physical Chemistry C</i> , 2017, 121, 12972-12978.	1.5	26
44	Broadband two-dimensional electronic spectroscopy in an actively phase stabilized pump-probe configuration. <i>Optics Express</i> , 2017, 25, 21115.	1.7	26
45	Low-Threshold Amplified Spontaneous Emission and Lasing from Thick CdSe/CdS Core/Shell Nanoplatelets Enabled by High-Temperature Growth. <i>Advanced Optical Materials</i> , 2020, 8, 1901615.	3.6	26
46	Engineering the Phases and Heterostructures of Ultrathin Hybrid Perovskite Nanosheets. <i>Advanced Materials</i> , 2020, 32, e2002392.	11.1	25
47	Inhomogeneous Biexciton Binding in Perovskite Semiconductor Nanocrystals Measured with Two-Dimensional Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 10173-10181.	2.1	25
48	Large Optical Nonlinearity Induced by Singlet Fission in Pentacene Films. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 6222-6226.	7.2	24
49	Quantum-confined stark effect in the ensemble of phase-pure CdSe/CdS quantum dots. <i>Nanoscale</i> , 2019, 11, 12619-12625.	2.8	24
50	Single-Mode Lasing from Giant CdSe/CdS Core-Shell Quantum Dots in Distributed Feedback Structures. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 13293-13303.	4.0	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. <i>RSC Advances</i> , 2016, 6, 113991-113996.	1.7	21
52	Energy Transfer of Biexcitons in a Single Semiconductor Nanocrystal. <i>Nano Letters</i> , 2016, 16, 2492-2496.	4.5	20
53	Size-Dependent Hot Carrier Dynamics in Perovskite Nanocrystals Revealed by Two-Dimensional Electronic Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 238-244.	2.1	20
54	The Impact of Carrier Transport Confinement on the Energy Transfer Between InGaN/GaN Quantum Well Nanorods and Colloidal Nanocrystals. <i>Advanced Functional Materials</i> , 2012, 22, 3146-3152.	7.8	17

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55	Two-photon excited photoluminescence of single perovskite nanocrystals. <i>Journal of Chemical Physics</i> , 2019, 151, 154201.	1.2	17
56	Polarized emission from single perovskite FAPbBr ₃ nanocrystals. <i>Journal of Luminescence</i> , 2020, 221, 117032.	1.5	17
57	Ultrafast dynamics of photoexcited carriers in perovskite semiconductor nanocrystals. <i>Nanophotonics</i> , 2021, 10, 1943-1965.	2.9	16
58	Excitation-tailored dual-color emission of manganese(II)-doped perovskite nanocrystals. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	15
59	Singlet Fission Dynamics in Tetracene Single Crystals Probed by Polarization-Dependent Two-Dimensional Electronic Spectroscopy. <i>Journal of Physical Chemistry A</i> , 2020, 124, 10447-10456.	1.1	14
60	3D Hydrangea-like InVO ₄ /Ti ₃ C ₂ T _x Hierarchical Heterosystem Collaborating with 2D/2D Interface Interaction for Enhanced Photocatalytic CO ₂ Reduction. <i>ChemNanoMat</i> , 2021, 7, 815-823.	1.5	14
61	Exciton linewidth broadening induced by exciton-phonon interactions in CsPbBr ₃ nanocrystals. <i>Journal of Chemical Physics</i> , 2021, 154, 214502.	1.2	14
62	Enhancing Optoelectronic Properties of Low-Dimensional Halide Perovskite via Ultrasonic-Assisted Template Refinement. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 39602-39609.	4.0	12
63	Long Persistent Luminescence Enabled by Dissociation of Triplet Intermediate States in an Organic Guest/Host System. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 3582-3588.	2.1	12
64	Defect-Induced Photoluminescence Blinking of Single Epitaxial InGaAs Quantum Dots. <i>Scientific Reports</i> , 2015, 5, 8898.	1.6	11
65	Ultrathin nanosheet-anchored hexahedral prismatic Bi ₂ MoO ₆ arrays: one-step constructed and crystal facet-based homojunctions boosting photocatalytic CO ₂ reduction and N ₂ fixation. <i>Catalysis Science and Technology</i> , 2019, 9, 7045-7050.	2.1	11
66	Enhanced Multiexciton Emission Property in Gradient Alloy Core/Shell CdZnSeS/ZnS Quantum Dots: Balance between Surface Passivation and Strain-Induced Lattice Defect. <i>Journal of Physical Chemistry C</i> , 2021, 125, 10759-10767.	1.5	11
67	Weakly coupled triplet pair states probed by quantum beating in delayed fluorescence in tetracene crystals. <i>Journal of Chemical Physics</i> , 2019, 151, 134309.	1.2	10
68	Exciton-acoustic phonon coupling revealed by resonant excitation of single perovskite nanocrystals. <i>Nature Communications</i> , 2021, 12, 2192.	5.8	10
69	Electrical Switching of Optical Gain in Perovskite Semiconductor Nanocrystals. <i>Nano Letters</i> , 2021, 21, 7831-7838.	4.5	10
70	Universal Existence of Localized Single-Photon Emitters in the Perovskite Film of All-Inorganic CsPbBr ₃ Microcrystals. <i>Advanced Materials</i> , 2022, 34, e2106278.	11.1	10
71	Photoisomerization and optical behavior study of a subphthalocyanine-bisazobenzene-subphthalocyanine triad with visible-light response. <i>Journal of Materials Chemistry C</i> , 2016, 4, 7783-7789.	2.7	9
72	Photoisomerization and optical properties of a subphthalocyanine-azobenzene-subphthalocyanine triad. <i>RSC Advances</i> , 2016, 6, 71199-71205.	1.7	9

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73	Transition from Doublet to Triplet Excitons in Single Perovskite Nanocrystals. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 5750-5755.	2.1	9
74	Probing Permanent Dipole Moments and Removing Exciton Fine Structures in Single Perovskite Nanocrystals by an Electric Field. <i>Physical Review Letters</i> , 2021, 126, 197403.	2.9	9
75	$\text{Fe}^{2+}/\text{O}^{3-}/\text{Ag}/\text{CdS}$ ternary heterojunction photoanode for efficient solar water oxidation. <i>Catalysis Science and Technology</i> , 2021, 11, 5859-5867.	2.1	7
76	Few-Layer PbI_2 Nanoparticle: A 2D Semiconductor with Lateral Quantum Confinement. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 7863-7869.	2.1	6
77	Hole Transfer Promoted by a Viscosity Additive in an All-Polymer Photovoltaic Blend. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 1384-1389.	2.1	6
78	Two-photon-pumped optical gain in dye-polymer composite materials. <i>Applied Physics Letters</i> , 2012, 100, 133305.	1.5	5
79	Ultrafast pump-probe spectroscopic signatures of superconducting and pseudogap phases in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ films. <i>Journal of Applied Physics</i> , 2013, 113, 083901.	1.1	5
80	Transient electronic anisotropy in overdoped $\text{NaF}_x\text{Ce}_{1-x}\text{O}$ superconductors. <i>Physical Review B</i> , 2018, 97, .	1.1	5
81	Quantized Exciton Motion and Fine Energy-Level Structure of a Single Perovskite Nanowire. <i>Nano Letters</i> , 2022, 22, 2907-2914.	4.5	5
82	An energy level alignment strategy to boost the open-circuit voltage via a $\text{Mg}:\text{TiO}_2$ compact layer in the planar heterojunction CsPbBr_3 solar cells. <i>Applied Physics Letters</i> , 2022, 120, .	1.5	5
83	Defect recombination induced by density-activated carrier diffusion in nonpolar InGaN quantum wells. <i>Applied Physics Letters</i> , 2013, 103, 123506.	1.5	4
84	Giant Up-Conversion Efficiency of InGaAs Quantum Dots in a Planar Microcavity. <i>Scientific Reports</i> , 2015, 4, 3953.	1.6	4
85	Charged two-exciton emission from a single semiconductor nanocrystal. <i>Applied Physics Letters</i> , 2015, 106, 133106.	1.5	4
86	Extended storage of multiple excitons in trap states of semiconductor nanocrystals. <i>Applied Physics Letters</i> , 2016, 108, .	1.5	3
87	Nonblinking Colloidal Quantum Dots via Efficient Multiexciton Emission. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 2371-2378.	2.1	3
88	Trion-Facilitated Dexter-Type Energy Transfer in a Cluster of Single Perovskite CsPbBr_3 Nanocrystals. <i>Chinese Physics Letters</i> , 2020, 37, 127801.	1.3	2
89	Single-Photon Emission from Single Microplate MAPbI_3 Nanocrystals with Ultranarrow Photoluminescence Linewidths and Exciton Fine Structures. <i>Advanced Optical Materials</i> , 0, , 2200606.	3.6	2
90	Multiple Dark Excitons in Semiconductor CdSe Nanocrystals. <i>Journal of Physical Chemistry C</i> , 2018, 122, 23758-23763.	1.5	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. <i>Nanoscale</i> , 2022, 14, 5369-5376.	2.8	1
92	Electrical control of biexciton Auger recombination in single CdSe/CdS nanocrystals. <i>Nanoscale</i> , 2022, 14, 7674-7681.	2.8	1
93	Light-Emitting Diodes: High Color Rendering Index Hybrid III-Nitride/Nanocrystals White Light-Emitting Diodes (Adv. Funct. Mater. 1/2016). <i>Advanced Functional Materials</i> , 2016, 26, 156-156.	7.8	0
94	Band Engineering: Band Structure Engineering of Interfacial Semiconductors Based on Atomically Thin Lead Iodide Crystals (Adv. Mater. 17/2019). <i>Advanced Materials</i> , 2019, 31, 1970121.	11.1	0
95	Thickness dependent properties of ultrathin perovskite nanosheets with Ruddlesden-Popper-like atomic stackings. <i>Nanoscale</i> , 2021, 13, 18961-18966.	2.8	0