

Patanjali Kambhampati

List of Publications by Year in descending order

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81
papers

7,593
citations

87888

38
h-index

64796

79
g-index

81
all docs

81
docs citations

81
times ranked

7394
citing authors

#	ARTICLE	IF	CITATIONS
1	Surface-enhanced Raman scattering. <i>Chemical Society Reviews</i> , 1998, 27, 241.	38.1	2,771
2	Unraveling the Structure and Dynamics of Excitons in Semiconductor Quantum Dots. <i>Accounts of Chemical Research</i> , 2011, 44, 1-13.	15.6	337
3	Hot Exciton Relaxation Dynamics in Semiconductor Quantum Dots: Radiationless Transitions on the Nanoscale. <i>Journal of Physical Chemistry C</i> , 2011, 115, 22089-22109.	3.1	330
4	Get the Basics Right: Jacobian Conversion of Wavelength and Energy Scales for Quantitative Analysis of Emission Spectra. <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 3316-3318.	4.6	264
5	On the chemical mechanism of surface enhanced Raman scattering: Experiment and theory. <i>Journal of Chemical Physics</i> , 1998, 108, 5013-5026.	3.0	260
6	Breaking the Phonon Bottleneck for Holes in Semiconductor Quantum Dots. <i>Physical Review Letters</i> , 2007, 98, .	7.8	187
7	State-resolved studies of biexcitons and surface trapping dynamics in semiconductor quantum dots. <i>Journal of Chemical Physics</i> , 2008, 129, 084701.	3.0	179
8	False multiple exciton recombination and multiple exciton generation signals in semiconductor quantum dots arise from surface charge trapping. <i>Journal of Chemical Physics</i> , 2011, 134, 094706.	3.0	171
9	Unified picture of electron and hole relaxation pathways in semiconductor quantum dots. <i>Physical Review B</i> , 2007, 75, .	3.2	170
10	State-to-state exciton dynamics in semiconductor quantum dots. <i>Physical Review B</i> , 2006, 74, .	3.2	168
11	Size dependent, state-resolved studies of exciton-phonon couplings in strongly confined semiconductor quantum dots. <i>Physical Review B</i> , 2008, 77, .	3.2	162
12	Challenge to the deep-trap model of the surface in semiconductor nanocrystals. <i>Physical Review B</i> , 2013, 87, .	3.2	127
13	Multiexcitons in Semiconductor Nanocrystals: A Platform for Optoelectronics at High Carrier Concentration. <i>Journal of Physical Chemistry Letters</i> , 2012, 3, 1182-1190.	4.6	119
14	Solvation Dynamics of the Hydrated Electron Depends on Its Initial Degree of Electron Delocalization. <i>Journal of Physical Chemistry A</i> , 2002, 106, 2374-2378.	2.5	112
15	Gain Control in Semiconductor Quantum Dots via State-Resolved Optical Pumping. <i>Physical Review Letters</i> , 2009, 102, 127404.	7.8	101
16	Direct observation of the structure of band-edge biexcitons in colloidal semiconductor CdSe quantum dots. <i>Physical Review B</i> , 2009, 80, .	3.2	93
17	Linking surface chemistry to optical properties of semiconductor nanocrystals. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 18882-18894.	2.8	83
18	Chemical and Thermodynamic Control of the Surface of Semiconductor Nanocrystals for Designer White Light Emitters. <i>ACS Nano</i> , 2013, 7, 5922-5929.	14.6	82

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19	A Unified Electron Transfer Model for the Different Precursors and Excited States of the Hydrated Electron. <i>Journal of Physical Chemistry A</i> , 2001, 105, 8434-8439.	2.5	80
20	On the kinetics and thermodynamics of excitons at the surface of semiconductor nanocrystals: Are there surface excitons?. <i>Chemical Physics</i> , 2015, 446, 92-107.	1.9	71
21	Solvent Effects on Vibrational Coherence and Ultrafast Reaction Dynamics in the Multicolor Pump-Probe Spectroscopy of Intervalence Electron Transfer. <i>Journal of Physical Chemistry A</i> , 2000, 104, 10637-10644.	2.5	70
22	A microscopic picture of surface charge trapping in semiconductor nanocrystals. <i>Journal of Chemical Physics</i> , 2013, 138, 204705.	3.0	69
23	State-Resolved Exciton-Phonon Couplings in CdSe Semiconductor Quantum Dots. <i>Journal of Physical Chemistry C</i> , 2008, 112, 9124-9127.	3.1	65
24	Femtosecond Multicolor Pump-Probe Study of Ultrafast Electron Transfer of [(NH ₃) ₅ Ru(II)NCr(CN) ₅]-in Aqueous Solution. <i>Journal of Physical Chemistry A</i> , 2002, 106, 4591-4597.	2.5	64
25	Two-dimensional electronic spectroscopy reveals liquid-like lineshape dynamics in CsPbI ₃ perovskite nanocrystals. <i>Nature Communications</i> , 2019, 10, 4962.	12.8	63
26	State-resolved manipulations of optical gain in semiconductor quantum dots: Size universality, gain tailoring, and surface effects. <i>Journal of Chemical Physics</i> , 2009, 131, 164706.	3.0	62
27	Connecting the Dots: The Kinetics and Thermodynamics of Hot, Cold, and Surface-Trapped Excitons in Semiconductor Nanocrystals. <i>Journal of Physical Chemistry C</i> , 2014, 118, 7730-7739.	3.1	61
28	Toward Ratiometric Nanothermometry via Intrinsic Dual Emission from Semiconductor Nanocrystals. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 718-721.	4.6	61
29	Light Harvesting and Carrier Transport in Core/Barrier/Shell Semiconductor Nanocrystals. <i>Journal of Physical Chemistry C</i> , 2007, 111, 708-713.	3.1	59
30	Controlling Piezoelectric Response in Semiconductor Quantum Dots via Impulsive Charge Localization. <i>Nano Letters</i> , 2010, 10, 3062-3067.	9.1	59
31	Ultrafast Electron Trapping at the Surface of Semiconductor Nanocrystals: Excitonic and Biexcitonic Processes. <i>Journal of Physical Chemistry B</i> , 2013, 117, 4412-4421.	2.6	52
32	Temperature Dependence of Emission Line Widths from Semiconductor Nanocrystals Reveals Vibronic Contributions to Line Broadening Processes. <i>Journal of Physical Chemistry C</i> , 2017, 121, 28537-28545.	3.1	52
33	State-resolved observation in real time of the structural dynamics of multiexcitons in semiconductor nanocrystals. <i>Physical Review B</i> , 2011, 84, .	3.2	50
34	Experimental tests of effective mass and atomistic approaches to quantum dot electronic structure: Ordering of electronic states. <i>Applied Physics Letters</i> , 2009, 94, .	3.3	49
35	One-photon UV detrapping of the hydrated electron. <i>Chemical Physics Letters</i> , 2001, 342, 571-577.	2.6	44
36	Correction to "Get the Basics Right: Jacobian Conversion of Wavelength and Energy Scales for Quantitative Analysis of Emission Spectra". <i>Journal of Physical Chemistry Letters</i> , 2014, 5, 3497-3497.	4.6	44

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37	Seeing Multiexcitons through Sample Inhomogeneity: Band-Edge Biexciton Structure in CdSe Nanocrystals Revealed by Two-Dimensional Electronic Spectroscopy. Nano Letters, 2018, 18, 2999-3006.	9.1	44
38	Extending Semiconductor Nanocrystals from the Quantum Dot Regime to the Molecular Cluster Regime. Journal of Physical Chemistry C, 2017, 121, 26102-26107.	3.1	40
39	Improving Optical Gain Performance in Semiconductor Quantum Dots via Coupled Quantum Shells. Journal of Physical Chemistry C, 2012, 116, 5407-5413.	3.1	37
40	Single Dot Spectroscopy of Two-Color Quantum Dot/Quantum Shell Nanostructures. Journal of Physical Chemistry C, 2008, 112, 14229-14232.	3.1	36
41	Ligand Surface Chemistry Dictates Light Emission from Nanocrystals. Journal of Physical Chemistry Letters, 2015, 6, 4292-4296.	4.6	33
42	Nanoparticles, Nanocrystals, and Quantum Dots: What are the Implications of Size in Colloidal Nanoscale Materials?. Journal of Physical Chemistry Letters, 2021, 12, 4769-4779.	4.6	32
43	Investigating the electronic structure of confined multiexcitons with nonlinear spectroscopies. Journal of Chemical Physics, 2020, 152, 104710.	3.0	29
44	Atomic fluctuations in electronic materials revealed by dephasing. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 11940-11946.	7.1	27
45	Electron Dynamics at the Surface of Semiconductor Nanocrystals. Journal of Physical Chemistry C, 2017, 121, 26519-26527.	3.1	26
46	Noise analysis and noise reduction methods in kilohertz pump-probe experiments. Review of Scientific Instruments, 2007, 78, 073101.	1.3	25
47	Photophysical Action Spectra of Emission from Semiconductor Nanocrystals Reveal Violations to the Vavilov Rule Behavior from Hot Carrier Effects. Journal of Physical Chemistry C, 2019, 123, 5092-5098.	3.1	24
48	Polaronic quantum confinement in bulk CsPbBr_3 perovskite crystals revealed by state-resolved pump/probe spectroscopy. Physical Review Research, 2021, 3, .	3.6	24
49	Two-dimensional localization of adsorbate/substrate charge-transfer excited states of molecules adsorbed on metal surfaces. Journal of Chemical Physics, 1999, 110, 551-558.	3.0	23
50	Simple fiber-based solution for coherent multidimensional spectroscopy in the visible regime. Optics Letters, 2017, 42, 643.	3.3	23
51	Investigating exciton structure and dynamics in colloidal CdSe quantum dots with two-dimensional electronic spectroscopy. Journal of Chemical Physics, 2018, 149, 074702.	3.0	22
52	Independent Control of Electron and Hole Localization in Core/Barrier/Shell Nanostructures. Journal of Physical Chemistry C, 2012, 116, 8154-8160.	3.1	21
53	The Effect of Exciton Delocalizing Thiols on Intrinsic Dual Emitting Semiconductor Nanocrystals. ChemPhysChem, 2016, 17, 665-669.	2.1	21
54	Two-Color Two-Dimensional Electronic Spectroscopy Using Dual Acousto-Optic Pulse Shapers for Complete Amplitude, Phase, and Polarization Control of Femtosecond Laser Pulses. Journal of Physical Chemistry A, 2013, 117, 6264-6269.	2.5	20

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55	Direct Observation of Vibronic Coupling between Excitonic States of CdSe Nanocrystals and Their Passivating Ligands. <i>Journal of Physical Chemistry C</i> , 2019, 123, 5084-5091.	3.1	20
56	Efficient Optical Gain in CdSe/CdS Dots-in-Rods. <i>ACS Photonics</i> , 2019, 6, 382-388.	6.6	20
57	Control of Phonons in Semiconductor Nanocrystals via Femtosecond Pulse Chirp-Influenced Wavepacket Dynamics and Polarization. <i>Journal of Physical Chemistry B</i> , 2013, 117, 15651-15658.	2.6	19
58	Interfacial Electronic Structure in Graded Shell Nanocrystals Dictates Their Performance for Optical Gain. <i>Journal of Physical Chemistry C</i> , 2016, 120, 19409-19415.	3.1	19
59	Understanding and Exploiting the Interface of Semiconductor Nanocrystals for Light Emissive Applications. <i>ACS Photonics</i> , 2017, 4, 412-423.	6.6	19
60	Terahertz Bandwidth All-Optical Modulation and Logic Using Multiexcitons in Semiconductor Nanocrystals. <i>Nano Letters</i> , 2013, 13, 722-727.	9.1	18
61	Controlling the Surface of Semiconductor Nanocrystals for Efficient Light Emission from Single Excitons to Multiexcitons. <i>Journal of Physical Chemistry C</i> , 2015, 119, 16383-16389.	3.1	17
62	Surface and interface effects on non-radiative exciton recombination and relaxation dynamics in CdSe/Cd,Zn,S nanocrystals. <i>Chemical Physics</i> , 2016, 471, 11-17.	1.9	17
63	Strategy for Exploiting Self-Trapped Excitons in Semiconductor Nanocrystals for White Light Generation. <i>ACS Photonics</i> , 2019, 6, 1118-1124.	6.6	16
64	Fifth-order two-quantum absorptive two-dimensional electronic spectroscopy of CdSe quantum dots. <i>Journal of Chemical Physics</i> , 2020, 153, 234703.	3.0	16
65	Coherent multi-dimensional spectroscopy at optical frequencies in a single beam with optical readout. <i>Journal of Chemical Physics</i> , 2017, 147, 094203.	3.0	14
66	The Temperature Dependence of the Photoluminescence of CsPbBr ₃ Nanocrystals Reveals Phase Transitions and Homogeneous Linewidths. <i>Journal of Physical Chemistry C</i> , 2021, 125, 27504-27508.	3.1	14
67	Emitting State of Bulk CsPbBr ₃ Perovskite Nanocrystals Reveals a Quantum-Confined Excitonic Structure. <i>Journal of Physical Chemistry C</i> , 2020, 124, 18816-18822.	3.1	13
68	Probing Photoinduced Charge Transfer at Atomically Smooth Metal Surfaces Using Surface Enhanced Raman Scattering. <i>Physica Status Solidi A</i> , 1999, 175, 233-239.	1.7	11
69	Unraveling photoluminescence quenching pathways in semiconductor nanocrystals. <i>Chemical Physics Letters</i> , 2015, 633, 65-69.	2.6	11
70	Learning about the Structural Dynamics of Semiconductor Perovskites from Electron Solvation Dynamics. <i>Journal of Physical Chemistry C</i> , 2021, 125, 23571-23586.	3.1	9
71	Colloidal and Self-Assembled Quantum Dots for Optical Gain. , 2011, , 493-542.		8
72	Excited State Phononic Processes in Semiconductor Nanocrystals Revealed by Excitonic State-Resolved Pump/Probe Spectroscopy. <i>Journal of Physical Chemistry C</i> , 2019, 123, 3868-3875.	3.1	8

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73	Kilohertz generation of high contrast polarization states for visible femtosecond pulses via phase-locked acousto-optic pulse shapers. Journal of Applied Physics, 2015, 118, .	2.5	7
74	OPA-driven hollow-core fiber as a tunable, broadband source for coherent multidimensional spectroscopy. Optics Express, 2021, 29, 28352.	3.4	6
75	An analysis of hollow-core fiber for applications in coherent femtosecond spectroscopies. Journal of Applied Physics, 2020, 128, .	2.5	4
76	Spectral and spatial contributions to white light generation from InGaN/GaN dot-in-a-wire nanostructures. Journal of Applied Physics, 2013, 114, 164305.	2.5	3
77	Investigating the influence of ligands on the surface-state emission of colloidal CdSe quantum dots. Proceedings of SPIE, 2017, , .	0.8	3
78	Two-dimensional spectroscopy using dual acousto-optic pulse shapers for complete polarization, phase and amplitude control. EPJ Web of Conferences, 2013, 41, 11004.	0.3	1
79	Probing biexciton structure in CdSe nanocrystals using 2D optical spectroscopy. EPJ Web of Conferences, 2019, 205, 06020.	0.3	1
80	Resonance Raman Vibrational Mode Enhancement of Adsorbed Benzenethiols on CdSe Is Predominantly Franck-Condon in Nature and Governed by Symmetry. Journal of Physical Chemistry Letters, 2021, 12, 7935-7941.	4.6	1
81	Learning about the Structural Dynamics of Semiconductor Perovskites from Ultrafast Solvation Dynamics. , 0, , .		0