

Andrei Piryatinski

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69
papers

3,551
citations

29
h-index

59
g-index

81
ext. papers

3,822
ext. citations

7.3
avg, IF

4.91
L-index

#	Paper	IF	Citations
69	Single-exciton optical gain in semiconductor nanocrystals. <i>Nature</i> , 2007 , 447, 441-6	50.4	786
68	Type-II core/shell CdS/ZnSe nanocrystals: synthesis, electronic structures, and spectroscopic properties. <i>Journal of the American Chemical Society</i> , 2007 , 129, 11708-19	16.4	359
67	Inverted Core/Shell Nanocrystals Continuously Tunable between Type-I and Type-II Localization Regimes. <i>Nano Letters</i> , 2004 , 4, 1485-1488	11.5	206
66	Effect of quantum and dielectric confinement on the exciton-exciton interaction energy in type II core/shell semiconductor nanocrystals. <i>Nano Letters</i> , 2007 , 7, 108-15	11.5	189
65	Real-time observation of nonlinear coherent phonon dynamics in single-walled carbon nanotubes. <i>Nature Physics</i> , 2006 , 2, 515-520	16.2	160
64	Light Amplification Using Inverted Core/Shell Nanocrystals: Towards Lasing in the Single-Exciton Regime. <i>Journal of Physical Chemistry B</i> , 2004 , 108, 10625-10630	3.4	152
63	Two-Dimensional Raman Echoes: Femtosecond View of Molecular Structure and Vibrational Coherence. <i>Accounts of Chemical Research</i> , 1999 , 32, 145-154	24.3	128
62	Suppressed blinking and Auger recombination in near-infrared type-II InP/CdS nanocrystal quantum dots. <i>Nano Letters</i> , 2012 , 12, 5545-51	11.5	109
61	Signatures of beta-peptide unfolding in two-dimensional vibrational echo spectroscopy: a simulation study. <i>Journal of the American Chemical Society</i> , 2001 , 123, 3114-24	16.4	95
60	Absorption cross sections and Auger recombination lifetimes in inverted core-shell nanocrystals: Implications for lasing performance. <i>Journal of Applied Physics</i> , 2006 , 99, 034309	2.5	85
59	Light Amplification in the Single-Exciton Regime Using Exciton-Exciton Repulsion in Type-II Nanocrystal Quantum Dots. <i>Journal of Physical Chemistry C</i> , 2007 , 111, 15382-15390	3.8	74
58	Vibrational spectroscopy of HOD in liquid D ₂ O. V. Infrared three-pulse photon echoes. <i>Journal of Chemical Physics</i> , 2003 , 118, 9672-9679	3.9	74
57	Simulations of two-dimensional femtosecond infrared photon echoes of glycine dipeptide. <i>Journal of Raman Spectroscopy</i> , 2000 , 31, 125-135	2.3	64
56	Vibrational spectral diffusion of azide in water. <i>Journal of Physical Chemistry B</i> , 2006 , 110, 18933-8	3.4	61
55	Determining Vibrational Solvation-Correlation Functions from Three-Pulse Infrared Photon Echoes. <i>Journal of Physical Chemistry B</i> , 2002 , 106, 8055-8063	3.4	61
54	Super-Poissonian statistics of photon emission from single CdSe-CdS core-shell nanocrystals coupled to metal nanostructures. <i>Physical Review Letters</i> , 2013 , 110, 117401	7.4	60
53	DFT Study of Ligand Binding to Small Gold Clusters. <i>Journal of Physical Chemistry Letters</i> , 2010 , 1, 927-931	3.4	57

52	Vibrational spectroscopy of HOD in liquid D2O. IV. Infrared two-pulse photon echoes. <i>Journal of Chemical Physics</i> , 2003 , 118, 9664-9671	3.9	55
51	Elucidation of two giants: challenges to thick-shell synthesis in CdSe/ZnSe and ZnSe/CdS core/shell quantum dots. <i>Journal of the American Chemical Society</i> , 2015 , 137, 3755-8	16.4	52
50	Cross-polarized excitons in carbon nanotubes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, 6797-802	11.5	45
49	Excitons and Peierls distortion in conjugated carbon nanotubes. <i>Nano Letters</i> , 2007 , 7, 86-92	11.5	44
48	Giant PbSe/CdSe/CdSe Quantum Dots: Crystal-Structure-Defined Ultrastable Near-Infrared Photoluminescence from Single Nanocrystals. <i>Journal of the American Chemical Society</i> , 2017 , 139, 11081-11088	16.4	39
47	An exciton scattering model for carrier multiplication in semiconductor nanocrystals: theory. <i>Journal of Chemical Physics</i> , 2010 , 133, 084508	3.9	35
46	Numerical study of carrier multiplication pathways in photoexcited nanocrystal and bulk forms of PbSe. <i>Physical Review Letters</i> , 2011 , 106, 207401	7.4	35
45	Bright and dark excitons in semiconductor carbon nanotubes: insights from electronic structure calculations. <i>Physical Chemistry Chemical Physics</i> , 2009 , 11, 4113-23	3.6	35
44	Non-van der Waals treatment of the hydrophobic solubilities of CF4. <i>Journal of the American Chemical Society</i> , 2007 , 129, 10133-40	16.4	35
43	Semiclassical simulations of multidimensional Raman echoes. <i>Journal of Chemical Physics</i> , 1999 , 110, 1711-1725	3.9	31
42	Influences of Exciton Diffusion and Exciton-Exciton Annihilation on Photon Emission Statistics of Carbon Nanotubes. <i>Physical Review Letters</i> , 2015 , 115, 017401	7.4	29
41	Vibrational-exciton relaxation probed by three-pulse echoes in polypeptides. <i>Chemical Physics</i> , 2001 , 266, 285-294	2.3	29
40	Ligand Effects on Optical Properties of Small Gold Clusters: A TDDFT Study. <i>Journal of Physical Chemistry C</i> , 2012 , 116, 3242-3249	3.8	25
39	Two-dimensional correlation spectroscopies of localized vibrations. <i>Chemical Physics</i> , 2001 , 266, 311-322	2.3	24
38	Plasmonic giant quantum dots: hybrid nanostructures for truly simultaneous optical imaging, photothermal effect and thermometry. <i>Chemical Science</i> , 2015 , 6, 2224-2232	9.4	22
37	Bandgap Engineering of Indium Phosphide-Based Core/Shell Heterostructures Through Shell Composition and Thickness. <i>Frontiers in Chemistry</i> , 2018 , 6, 567	5	21
36	Hybrid Graphene-Giant Nanocrystal Quantum Dot Assemblies with Highly Efficient Biexciton Emission. <i>Advanced Optical Materials</i> , 2015 , 3, 39-43	8.1	19
35	First-principles-based calculations of vibrational normal modes in polyatomic materials with translational symmetry: application to PETN molecular crystal. <i>Journal of Physical Chemistry B</i> , 2008 , 112, 13252-7	3.4	17

34	Semiclassical scattering on conical intersections. <i>Physical Review Letters</i> , 2005 , 95, 223001	7.4	17
33	Extending the Near-Infrared Emission Range of Indium Phosphide Quantum Dots for Multiplexed Imaging. <i>Nano Letters</i> , 2021 , 21, 3271-3279	11.5	16
32	Numerical analysis of carrier multiplication mechanisms in nanocrystalline and bulk forms of PbSe and PbS. <i>Physical Review B</i> , 2012 , 86,	3.3	15
31	Influence of exciton dimensionality on spectral diffusion of single-walled carbon nanotubes. <i>ACS Nano</i> , 2014 , 8, 10613-20	16.7	14
30	Vibrational spectroscopy of polyatomic materials: Semiempirical calculations of anharmonic couplings and infrared and Raman linewidths in naphthalene and PETN crystals. <i>Physical Review B</i> , 2007 , 75,	3.3	14
29	When excitons and plasmons meet: Emerging function through synthesis and assembly. <i>MRS Bulletin</i> , 2015 , 40, 768-776	3.2	13
28	Real Space Analysis of Excitonic Interactions and Coherence Length in Helical Aggregates. <i>Journal of Physical Chemistry A</i> , 2002 , 106, 3524-3530	2.8	13
27	Excimer states and enhanced two-photon absorption in intramolecular charge-transfer crystals. <i>Chemical Physics Letters</i> , 1997 , 269, 156-160	2.5	12
26	On the existence of photoexcited breathers in conducting polymers. <i>Physical Review B</i> , 2004 , 70,	3.3	12
25	Intrinsic limits of defect-state photoluminescence dynamics in functionalized carbon nanotubes. <i>Nanoscale</i> , 2019 , 11, 9125-9132	7.7	11
24	Probing dynamical symmetry breaking using quantum-entangled photons. <i>Quantum Science and Technology</i> , 2018 , 3, 015003	5.5	11
23	PbS/CdS Quantum Dot Room-Temperature Single-Emitter Spectroscopy Reaches the Telecom O and S Bands via an Engineered Stability. <i>ACS Nano</i> , 2021 , 15, 575-587	16.7	9
22	Resonance Raman signature of intertube excitons in compositionally-defined carbon nanotube bundles. <i>Nature Communications</i> , 2018 , 9, 637	17.4	8
21	Quantum Light Emission from Coupled Defect States in DNA-Functionalized Carbon Nanotubes. <i>ACS Nano</i> , 2021 , 15, 10406-10414	16.7	8
20	Probing interband coulomb interactions in semiconductor nanostructures with 2D double-quantum coherence spectroscopy. <i>Journal of Physical Chemistry B</i> , 2011 , 115, 5372-82	3.4	7
19	Quantum Symmetry Breaking of Exciton/Polaritons in a Metal-Nanorod Plasmonic Array. <i>Journal of Physical Chemistry A</i> , 2016 , 120, 3109-16	2.8	6
18	Complete Determination of Relaxation Parameters From Two-Dimensional Raman Spectroscopy. <i>Laser Chemistry</i> , 1999 , 19, 109-116		6
17	Modeling of diamond field emitter arrays for a compact source of high brightness electron beams. <i>Journal of Applied Physics</i> , 2019 , 125, 164501	2.5	5

16	Effect of localized surface-plasmon mode on exciton transport and radiation emission in carbon nanotubes. <i>Journal of Physical Chemistry B</i> , 2014 , 118, 8070-80	3.4	5
15	Femtosecond pump-probe spectroscopy of the dendrimeric nanostar. <i>Journal of Luminescence</i> , 2001 , 94-95, 569-573	3.8	5
14	Cooperative Light Emission in the Presence of Strong Inhomogeneous Broadening. <i>Physical Review Letters</i> , 2019 , 123, 123605	7.4	4
13	Photon entanglement entropy as a probe of many-body correlations and fluctuations. <i>Journal of Chemical Physics</i> , 2019 , 150, 184106	3.9	4
12	Probing exciton/exciton interactions with entangled photons: Theory. <i>Journal of Chemical Physics</i> , 2020 , 152, 071101	3.9	4
11	Three-pulse photon-echo spectroscopy as a probe of the photoexcited electronic state manifold in coupled electron-phonon systems. <i>Physical Review B</i> , 2004 , 70,	3.3	4
10	Thermoelectric properties of semiconductor nanowire networks. <i>Journal of Applied Physics</i> , 2016 , 119, 125107	2.5	4
9	Second-harmonic generation in nonlinear plasmonic lattices enhanced by quantum emitter gain medium. <i>Journal of Chemical Physics</i> , 2021 , 154, 084703	3.9	3
8	Dynamical variational approach to non-adiabatic electronic structure. <i>Chemical Physics</i> , 2008 , 347, 25-38	2.3	2
7	Luminescence from interacting Frenkel excitons at high-level optical excitation. <i>Physical Review B</i> , 1998 , 57, 3867-3873	3.3	2
6	Nonequilibrium states of a plasmonic Dicke model with coherent and dissipative surface-plasmon-quantum-emitter interactions. <i>Physical Review Research</i> , 2020 , 2,	3.9	2
5	Low-temperature hopping dynamics with energy disorder: renormalization group approach. <i>Journal of Chemical Physics</i> , 2013 , 139, 084118	3.9	1
4	Nonlinear two-dimensional IR spectroscopy of unfolding processes in peptides. <i>Springer Series in Chemical Physics</i> , 2001 , 507-509	0.3	1
3	Two-Dimensional Raman-Echo Spectroscopy; Femtosecond View of Vibrational Coherence. <i>Springer Series in Chemical Physics</i> , 1998 , 541-543	0.3	1
2	Theory of electron transport and emission from a semiconductor nanotip. <i>Journal of Applied Physics</i> , 2019 , 125, 214301	2.5	0
1	Effect of periodic potential on exciton states in semiconductor carbon nanotubes. <i>Chemical Physics</i> , 2016 , 481, 177-183	2.3	