Marco Califano

List of Publications by Year
in descending order

56 papers	3,043 citations	257450 24 h-index	182427 51 g-index
56 all docs	56 docs citations	56 times ranked	3990 citing authors

#	Article	IF	Citations
1	Size-Dependent Valence and Conduction Band-Edge Energies of Semiconductor Nanocrystals. ACS Nano, 2011, 5, 5888-5902.	14.6	600
2	Re-examination of the Size-Dependent Absorption Properties of CdSe Quantum Dots. Journal of Physical Chemistry C, 2009, 113, 19468-19474.	3.1	523
3	Pseudopotential Theory of Auger Processes in CdSe Quantum Dots. Physical Review Letters, 2003, 91, 056404.	7.8	254
4	Auger-Assisted Electron Transfer from Photoexcited Semiconductor Quantum Dots. Nano Letters, 2014, 14, 1263-1269.	9.1	197
5	Temperature Dependence of Excitonic Radiative Decay in CdSe Quantum Dots:Â The Role of Surface Hole Traps. Nano Letters, 2005, 5, 2360-2364.	9.1	179
6	Optical properties of single semiconductor nanocrystals. Physical Chemistry Chemical Physics, 2006, 8, 4989-5011.	2.8	127
7	Presentation and experimental validation of a single-band, constant-potential model for self-assembled InAs/GaAs quantum dots. Physical Review B, 2000, 61, 10959-10965.	3.2	100
8	Direct carrier multiplication due to inverse Auger scattering in CdSe quantum dots. Applied Physics Letters, 2004, 84, 2409-2411.	3.3	100
9	Lifetime and polarization of the radiative decay of excitons, biexcitons, and trions in CdSe nanocrystal quantum dots. Physical Review B, 2007, 75, .	3.2	96
10	Hole Surface Trapping in CdSe Nanocrystals: Dynamics, Rate Fluctuations, and Implications for Blinking. Nano Letters, 2012, 12, 4508-4517.	9.1	78
11	Efficient Inverse Auger Recombination at Threshold in CdSe Nanocrystals. Nano Letters, 2004, 4, 525-531.	9.1	77
12	Universal Trapping Mechanism in Semiconductor Nanocrystals. Nano Letters, 2013, 13, 2047-2052.	9.1	55
13	Excited-state relaxation in PbSe quantum dots. Journal of Chemical Physics, 2008, 128, 164720.	3.0	47
14	Interband and intraband optical transitions in InAs nanocrystal quantum dots: A pseudopotential approach. Physical Review B, 2008, 78, .	3.2	42
15	Prediction of a Shape-Induced Enhancement in the Hole Relaxation in Nanocrystals. Nano Letters, 2003, 3, 1197-1202.	9.1	41
16	Approximate methods for the solution of quantum wires and dots: Connection rules between pyramidal, cuboidal, and cubic dots. Journal of Applied Physics, 1999, 86, 5054-5059.	2.5	40
17	Composition, volume, and aspect ratio dependence of the strain distribution, band lineups and electron effective masses in self-assembled pyramidal In[sub 1â^'x]Ga[sub x]As/GaAs and Si[sub x]Ge[sub 1â^'x]/Si quantum dots. Journal of Applied Physics, 2002, 91, 389.	2.5	40
18	Interwell relaxation times inpâ^'Siâ^•SiGeasymmetric quantum well structures: Role of interface roughness. Physical Review B, 2007, 75, .	3.2	32

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19	Direct and Inverse Auger Processes in InAs Nanocrystals: Can the Decay Signature of a Trion Be Mistaken for Carrier Multiplication?. ACS Nano, 2009, 3, 2706-2714.	14.6	32
20	Origins of Photoluminescence Decay Kinetics in CdTe Colloidal Quantum Dots. ACS Nano, 2015, 9, 2960-2967.	14.6	31
21	Anisotropy of interband transitions in InAs quantum wires:â€ƒAn atomistic theory. Physical Review B, 2004, 70, .	3.2	30
22	Off-State Quantum Yields in the Presence of Surface Trap States in CdSe Nanocrystals: The Inadequacy of the Charging Model To Explain Blinking. Journal of Physical Chemistry C, 2011, 115, 18051-18054.	3.1	30
23	Effect of Chloride Passivation on Recombination Dynamics in CdTe Colloidal Quantum Dots. ChemPhysChem, 2015, 16, 1239-1244.	2.1	26
24	Quantum box energies as a route to the ground state levels of self-assembled InAs pyramidal dots. Journal of Applied Physics, 2000, 88, 5870-5874.	2.5	25
25	Photoinduced Surface Trapping and the Observed Carrier Multiplication Yields in Static CdSe Nanocrystal Samples. ACS Nano, 2011, 5, 3614-3621.	14.6	24
26	Ultrafast Trap State-Mediated Electron Transfer for Quantum Dot Redox Sensing. Journal of Physical Chemistry C, 2018, 122, 10173-10180.	3.1	22
27	Si/SiGe quantum cascade superlattice designs for terahertz emission. Journal of Applied Physics, 2010, 107, 053109.	2.5	21
28	Exciton Dynamics in InSb Colloidal Quantum Dots. Journal of Physical Chemistry Letters, 2016, 7, 31-35.	4.6	20
29	High-Mobility Toolkit for Quantum Dot Films. ACS Photonics, 2016, 3, 2059-2067.	6.6	15
30	Suppression of Auger Recombination in Nanocrystals via Ligand-Assisted Wave Function Engineering in Reciprocal Space. Journal of Physical Chemistry Letters, 2018, 9, 2098-2104.	4.6	15
31	Tuning the Radiative Lifetime in InP Colloidal Quantum Dots by Controlling the Surface Stoichiometry. Journal of Physical Chemistry Letters, 2020, 11, 10124-10130.	4.6	15
32	Theoretical Characterization of GaSb Colloidal Quantum Dots and Their Application to Photocatalytic CO₂ Reduction with Water. ACS Applied Materials & Interfaces, 2019, 11, 640-646.	8.0	11
33	Indirect to Direct Band Gap Transformation by Surface Engineering in Semiconductor Nanostructures. ACS Nano, 2021, 15, 20181-20191.	14.6	11
34	Efficient Auger Electron Cooling in Seemingly Unfavorable Configurations: Hole Traps and Electrochemical Charging. Journal of Physical Chemistry C, 2008, 112, 8570-8574.	3.1	10
35	Monotonic Evolution of the Optical Properties in the Transition from Three- to Quasi-Two-Dimensional Quantum Confinement in InAs Nanorods. Journal of Physical Chemistry C, 2010, 114, 6901-6908.	3.1	9
36	Origins of improved carrier multiplication efficiency in elongated semiconductor nanostructures. Physical Chemistry Chemical Physics, 2015, 17, 2573-2581.	2.8	9

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37	Efficient, non-stochastic, Monte-Carlo-like-accurate method for the calculation of the temperature-dependent mobility in nanocrystal films. Nanoscale, 2018, 10, 9679-9690.	5.6	9
38	Band-like electron transport in 2D quantum dot periodic lattices: the effect of realistic size distributions. Physical Chemistry Chemical Physics, 2019, 21, 25872-25879.	2.8	8
39	Multiscale in modelling and validation for solar photovoltaics. EPJ Photovoltaics, 2018, 9, 10.	1.6	6
40	Optical properties of nanocrystal films: blue shifted transitions as signature of strong coupling. Nanoscale Advances, 2020, 2, 384-393.	4.6	5
41	Giant suppression of Auger electron cooling in charged nanocrystals. Applied Physics Letters, 2007, 91, 172114.	3.3	4
42	Electron Relaxation Following UV Excitation in CdSe Nanocrystals: Sub-Picosecond-Fast Population of the 1<i>P</i> States Across a Gap Wider Than 10 Phonon Energies. Journal of Physical Chemistry C, 2009, 113, 19859-19862.	3.1	4
43	Inverse-designed semiconductor nanocatalysts for targeted CO₂ reduction in water. Nanoscale, 2021, 13, 10024-10034.	5.6	4
44	Model-independent determination of the carrier multiplication time constant in CdSe nanocrystals. Physical Chemistry Chemical Physics, 2009, 11, 10180.	2.8	3
45	New strategies for colloidal-quantum-dot-based intermediate-band solar cells. Journal of Chemical Physics, 2019, 151, 154101.	3.0	3
46	Effective Approach for an Order-of-Magnitude-Accurate Evaluation of the Electron Mobility in Colloidal Quantum Dot Films. Journal of Nanomaterials, 2019, 2019, 1-9.	2.7	3
47	Spin precession in a fractional quantum Hall state with spin-orbit coupling. Applied Physics Letters, 2005, 87, 112508.	3.3	2
48	SiGe/Si quantum cascade structures deposited by low-energy plasma-enhanced CVD. , 2008, , .		2
49	The effect of small elongations on the electronic and optical signatures in InAs nanocrystal quantum dots. Journal of Physics Condensed Matter, 2009, 21, 144212.	1.8	2
50	Decoupling Radiative and Auger Processes in Semiconductor Nanocrystals by Shape Engineering. Journal of Physical Chemistry Letters, 2021, 12, 9155-9161.	4.6	2
51	A Single-Band Constant-Confining-Potential Model for Self-Assembled InAs/GaAs Quantum Dots. Materials Research Society Symposia Proceedings, 2000, 642, 141.	0.1	1
52	Charge Dynamics in Quantum-Dotâ€“Acceptor Complexes in the Presence of Confining and Deconfining Ligands. Journal of Physical Chemistry Letters, 2020, 11, 280-285.	4.6	1
53	Non radiative decay processes in nanocrystals: Is the Auger model consistent with experiment?. , 2008, , .		0
54	Pseudopotential study of electronic and optical properties of InAs semiconductor nanostructures. , 2010, , .		0

#	Article	IF	Citations
55	Efficient Mobility Calculation for Quantum Dot Superlattices. , 2018, , .		0
56	Band-like transport in â€œgreenâ€•quantum dot films: The effect of composition and stoichiometry. Journal of Chemical Physics, 2022, 156, 104704.	3.0	0