Matthew Pelton

List of Publications by Year
in descending order

114 papers	9,932 citations	44042 48 h-index	38368 95 g-index
116 all docs	116 docs citations	116 times ranked	10412 citing authors

#	Article	IF	Citations
1	Regulated and Entangled Photons from a Single Quantum Dot. Physical Review Letters, 2000, 84, 2513-2516.	2.9	884
2	Triggered Single Photons from a Quantum Dot. Physical Review Letters, 2001, 86, 1502-1505.	2.9	861
3	Metalâ€nanoparticle plasmonics. Laser and Photonics Reviews, 2008, 2, 136-159.	4.4	592
4	Efficient Source of Single Photons: A Single Quantum Dot in a Micropost Microcavity. Physical Review Letters, 2002, 89, 233602.	2.9	575
5	Modified spontaneous emission in nanophotonic structures. Nature Photonics, 2015, 9, 427-435.	15.6	489
6	Low-Threshold Stimulated Emission Using Colloidal Quantum Wells. Nano Letters, 2014, 14, 2772-2777.	4.5	338
7	Single-mode Spontaneous Emission from a Single Quantum Dot in a Three-Dimensional Microcavity. Physical Review Letters, 2001, 86, 3903-3906.	2.9	326
8	Simple Approach for High-Contrast Optical Imaging and Characterization of Graphene-Based Sheets. Nano Letters, 2007, 7, 3569-3575.	4.5	311
9	Atomic layer lithography of wafer-scale nanogap arrays for extreme confinement of electromagnetic waves. Nature Communications, 2013, 4, 2361.	5.8	286
10	Polarization-correlated photon pairs from a single quantum dot. Physical Review B, 2002, 66, .	1.1	212
11	Excitation of Dark Plasmons in Metal Nanoparticles by a Localized Emitter. Physical Review Letters, 2009, 102, 107401.	2.9	201
12	Quantum-dot-induced transparency in a nanoscale plasmonic resonator. Optics Express, 2010, 18, 23633.	1.7	198
13	Characterization of Thermally Reduced Graphene Oxide by Imaging Ellipsometry. Journal of Physical Chemistry C, 2008, 112, 8499-8506.	1.5	196
14	Damping of acoustic vibrations in gold nanoparticles. Nature Nanotechnology, 2009, 4, 492-495.	15.6	191
15	Optical trapping and alignment of single gold nanorods by using plasmon resonances. Optics Letters, 2006, 31, 2075.	1.7	184
16	Strong coupling and induced transparency at room temperature with single quantum dots and gap plasmons. Nature Communications, 2018, 9, 4012.	5.8	171
17	All-optical nonlinear activation function for photonic neural networks [Invited]. Optical Materials Express, 2018, 8, 3851.	1.6	162
18	Evidence for a diffusion-controlled mechanism for fluorescence blinking of colloidal quantum dots. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 14249-14254.	3.3	158

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19	Propagation Lengths and Group Velocities of Plasmons in Chemically Synthesized Gold and Silver Nanowires. ACS Nano, 2012, 6, 472-482.	7.3	148
20	Strong coupling of emitters to single plasmonic nanoparticles: exciton-induced transparency and Rabi splitting. Nanoscale, 2019, 11, 14540-14552.	2.8	124
21	Ultrafast resonant optical scattering from single gold nanorods: Large nonlinearities and plasmon saturation. Physical Review B, 2006, 73, .	1.1	120
22	A room temperature continuous-wave nanolaser using colloidal quantum wells. Nature Communications, 2017, 8, 143.	5.8	119
23	Facts and Artifacts in the Blinking Statistics of Semiconductor Nanocrystals. Nano Letters, 2010, 10, 1692-1698.	4.5	118
24	Characterizing quantum-dot blinking using noise power spectra. Applied Physics Letters, 2004, 85, 819-821.	1.5	114
25	Tip-enhanced strong coupling spectroscopy, imaging, and control of a single quantum emitter. Science Advances, 2019, 5, eaav5931.	4.7	107
26	Carrier Cooling in Colloidal Quantum Wells. Nano Letters, 2012, 12, 6158-6163.	4.5	105
27	Plasmon resonance-based optical trapping of single and multiple Au nanoparticles. Optics Express, 2007, 15, 12017.	1.7	103
28	Three-Dimensional Optical Trapping and Manipulation of Single Silver Nanowires. Nano Letters, 2012, 12, 5155-5161.	4.5	101
29	Ultralow threshold laser using a single quantum dot and a microsphere cavity. Physical Review A, 1999, 59, 2418-2421.	1.0	100
30	Reduced damping of surface plasmons at low temperatures. Physical Review B, 2009, 79, .	1.1	98
31	Guiding Spatial Arrangements of Silver Nanoparticles by Optical Binding Interactions in Shaped Light Fields. ACS Nano, 2013, 7, 1790-1802.	7.3	96
32	Transport and fractionation in periodic potential-energy landscapes. Physical Review E, 2004, 70, 031108.	0.8	95
33	Giant Modal Gain Coefficients in Colloidal IIâ€“VI Nanoplatelets. Nano Letters, 2019, 19, 277-282.	4.5	93
34	Using Shape to Control Photoluminescence from CdSe/CdS Core/Shell Nanorods. Journal of Physical Chemistry Letters, 2011, 2, 1469-1475.	2.1	91
35	Time-resolved spectroscopy of multiexcitonic decay in an InAs quantum dot. Physical Review B, 2002, 65, .	1.1	89
36	Viscoelastic Flows in Simple Liquids Generated by Vibrating Nanostructures. Physical Review Letters, 2013, 111, 244502.	2.9	88

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37	Ultrafast Resonant Dynamics of Surface Plasmons in Gold Nanorods. Journal of Physical Chemistry C, 2007, 111, 116-123.	1.5	81
38	Ultrastrong plasmonâ€"phonon coupling via epsilon-near-zero nanocavities. Nature Photonics, 2021, 15, 125-130.	15.6	78
39	Optimization of three-dimensional micropost microcavities for cavity quantum electrodynamics. Physical Review A, 2002, 66, .	1.0	72
40	Solvent-Mediated End-to-End Assembly of Gold Nanorods. Journal of Physical Chemistry Letters, 2010, 1, 2692-2698.	2.1	70
41	Bright, single-spatial-mode source of frequency non-degenerate, polarization-entangled photon pairs using periodically poled KTP. Optics Express, 2004, 12, 3573.	1.7	69
42	Long-Lived Charge-Separated States in Ligand-Stabilized Silver Clusters. Journal of the American Chemical Society, 2012, 134, 11856-11859.	6.6	64
43	Three-dimensionally confined modes in micropost microcavities: quality factors and Purcell factors. IEEE Journal of Quantum Electronics, 2002, 38, 170-177.	1.0	63
44	Ultrafast reversal of a Fano resonance in a plasmon-exciton system. Physical Review B, 2013, 88, .	1.1	62
45	Auger-Limited Carrier Recombination and Relaxation in CdSe Colloidal Quantum Wells. Journal of Physical Chemistry Letters, 2015, 6, 1032-1036.	2.1	61
46	Carrier Dynamics, Optical Gain, and Lasing with Colloidal Quantum Wells. Journal of Physical Chemistry C, 2018, 122, 10659-10674.	1.5	58
47	Entanglement of two, three, or four plasmonically coupled quantum dots. Physical Review B, 2015, 92, .	1.1	54
48	Understanding How Acoustic Vibrations Modulate the Optical Response of Plasmonic Metal Nanoparticles. ACS Nano, 2017, 11, 9360-9369.	7.3	52
49	Why Single-Beam Optical Tweezers Trap Gold Nanowires in Three Dimensions. ACS Nano, 2013, 7, 8794-8800.	7.3	49
50	Controlling the Position and Orientation of Single Silver Nanowires on a Surface Using Structured Optical Fields. ACS Nano, 2012, 6, 8144-8155.	7.3	46
51	Effects of Lattice Strain and Band Offset on Electron Transfer Rates in Type-II Nanorod Heterostructures. Journal of Physical Chemistry Letters, 2012, 3, 1094-1098.	2.1	44
52	Nonmonotonic Dependence of Auger Recombination Rate on Shell Thickness for CdSe/CdS Core/Shell Nanoplatelets. Nano Letters, 2017, 17, 6900-6906.	4.5	44
53	Mechanical Damping of Longitudinal Acoustic Oscillations of Metal Nanoparticles in Solution. Journal of Physical Chemistry C, 2011, 115, 23732-23740.	1.5	41
54	Observation of Size-Dependent Thermalization in CdSe Nanocrystals Using Time-Resolved Photoluminescence Spectroscopy. Physical Review Letters, 2011, 107, 177403.	2.9	39

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55	Vibration of Nanoparticles in Viscous Fluids. Journal of Physical Chemistry C, 2013, 117, 8536-8544.	1.5	36
56	Squeezing Millimeter Waves through a Single, Nanometer-wide, Centimeter-long Slit. Scientific Reports, 2014, 4, 6722.	1.6	34
57	Controlling the spatial location of photoexcited electrons in semiconductor CdSe/CdS core/shell nanorods. Physical Review B, 2013, 87, .	1.1	31
58	Origins and optimization of entanglement in plasmonically coupled quantum dots. Physical Review A, 2016, 94, .	1.0	30
59	Strain-Driven Stacking Faults in CdSe/CdS Core/Shell Nanorods. Journal of Physical Chemistry Letters, 2018, 9, 1900-1906.	2.1	30
60	Second Harmonic Generation from a Single Plasmonic Nanorod Strongly Coupled to a WSe₂ Monolayer. Nano Letters, 2021, 21, 1599-1605.	4.5	27
61	Emergence of Excited-State Plasmon Modes in Linear Hydrogen Chains from Time-Dependent Quantum Mechanical Methods. Physical Review Letters, 2011, 107, 196806.	2.9	26
62	Preparation and properties of plasmonic-excitonic nanoparticle assemblies. Nanophotonics, 2019, 8, 517-547.	2.9	26
63	Angle-independent plasmonic substrates for multi-mode vibrational strong coupling with molecular thin films. Journal of Chemical Physics, 2021, 154, 104305.	1.2	24
64	Nanoâ€Cavity QED with Tunable Nanoâ€Tip Interaction. Advanced Quantum Technologies, 2020, 3, 1900087.	1.8	22
65	Theory and experiment of entanglement in a quasi-phase-matched two-crystal source. Physical Review A, 2006, 73, .	1.0	21
66	Controlled etching and tapering of Au nanorods using cysteamine. Nanoscale, 2018, 10, 16830-16838.	2.8	21
67	Recombination rates for single colloidal quantum dots near a smooth metal film. Physical Chemistry Chemical Physics, 2009, 11, 5867.	1.3	20
68	Electron Transfer from Single Semiconductor Nanocrystals to Individual Acceptor Molecules. ACS Energy Letters, 2016, 1, 9-15.	8.8	19
69	Modification of Spontaneous Emission of a Single Quantum Dot. Physica Status Solidi A, 2000, 178, 341-344.	1.7	18
70	Plasmon-Enhanced Electron Injection in Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2015, 119, 22640-22645.	1.5	18
71	When Can the Elastic Properties of Simple Liquids Be Probed Using High-Frequency Nanoparticle Vibrations?. Journal of Physical Chemistry C, 2018, 122, 13347-13353.	1.5	18
72	Three-dimensional optical trapping and orientation of microparticles for coherent X-ray diffraction imaging. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 4018-4024.	3.3	18

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73	Fabrication of InAs quantum dots in AlAsâˆ•GaAs DBR pillar microcavities for single photon sources. Journal of Applied Physics, 2005, 97, 073507.	1.1	17
74	Plasmonic Split-Trench Resonator for Trapping and Sensing. ACS Nano, 2021, 15, 6669-6677.	7.3	17
75	The optical absorption edge of diamond-like carbon: A quantum well model. Journal of Applied Physics, 1998, 83, 1029-1035.	1.1	14
76	Spontaneous emission enhancement of colloidal perovskite nanocrystals by a photonic crystal cavity. Applied Physics Letters, 2017, 111, .	1.5	14
77	Plasmon-exciton coupling. Nanophotonics, 2019, 8, 513-516.	2.9	14
78	Laser-Driven Growth of Silver Nanoplates on p-Type GaAs Substrates and Their Surface-Enhanced Raman Scattering Activity. Journal of Physical Chemistry C, 2009, 113, 6061-6067.	1.5	12
79	Governing factors in stress response of nanoparticle films on water surface. Journal of Applied Physics, 2011, 110, .	1.1	12
80	An efficient source of single photons: a single quantum dot in a micropost microcavity. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 17, 564-567.	1.3	10
81	pH-Induced Surface Modification of Atomically Precise Silver Nanoclusters: An Approach for Tunable Optical and Electronic Properties. Inorganic Chemistry, 2016, 55, 11522-11528.	1.9	10
82	Viscoelasticity Enhances Nanometer-Scale Slip in Gigahertz-Frequency Liquid Flows. Journal of Physical Chemistry Letters, 2021, 12, 3449-3455.	2.1	10
83	Hot-Carrier Relaxation in CdSe/CdS Core/Shell Nanoplatelets. Journal of Physical Chemistry C, 2020, 124, 1020-1026.	1.5	9
84	Highly Spherical Nanoparticles Probe Gigahertz Viscoelastic Flows of Simple Liquids Without the No-Slip Condition. Journal of Physical Chemistry Letters, 2021, 12, 4440-4446.	2.1	9
85	Dramatic Modification of Coupled-Plasmon Resonances Following Exposure to Electron Beams. Journal of Physical Chemistry Letters, 2017, 8, 3607-3612.	2.1	8
86	Weakly conjugated bacteriochlorin-bacteriochlorin dyad: Synthesis and photophysical properties. Journal of Porphyrins and Phthalocyanines, 2021, 25, 724-733.	0.4	6
87	Solvent-dependent energy and charge transfer dynamics in hydroporphyrin-BODIPY arrays. Journal of Chemical Physics, 2020, 153, 074302.	1.2	5
88	Low-Frequency Oscillations in Optical Measurements of Metal-Nanoparticle Vibrations. Nano Letters, 2022, 22, 5365-5371.	4.5	5
89	Comment on â€œTheoretical Study of the Optical Manipulation of Semiconductor Nanoparticles under an Excitonic Resonance Conditionâ€• Physical Review Letters, 2004, 92, 089701; author reply 089702.	2.9	4
90	Visualizing Heterogeneity of Monodisperse CdSe Nanocrystals by Their Assembly into Three-Dimensional Supercrystals. ACS Nano, 2020, 14, 14989-14998.	7.3	4

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91	Single-Molecule Measurements Spatially Probe States Involved in Electron Transfer from CdSe/CdS Core/Shell Nanorods. Journal of Physical Chemistry C, 2021, 125, 21246-21253.	1.5	3
92	Triggered single photons and entangled photons from a quantum dot microcavity. European Physical Journal D, 2002, 18, 179-190.	0.6	2
93	<title>Toward high-efficiency regulated single-photon generation using a single quantum dot in a three-dimensional microcavity</title>. , 2002, 4656, 49.		1
94	Ultrafast optical nonlinearities of plasmons in single gold nanorods. , 2005, , .		1
95	Optical nonlinearities of metal nanoparticles: single-particle measurements and correlation to structure. , 2006, , .		1
96	Optical trapping and alignment of single gold nanorods using plasmon resonances. , 2006, , .		1
97	Bragg diffraction from sub-micron particles isolated by optical tweezers. AIP Conference Proceedings, 2016, , .	0.3	1
98	Second Harmonic Generation from a Single Plasmonic Nanorod Strongly Coupled to a WSe2 Monolayer. , 2021, , .		1
99	Ultrafast Optical Nonlinearities of Single Metal Nanoparticles. Springer Series in Chemical Physics, 2007, , 639-641.	0.2	1
100	Regulated Single Photons and Entangled Photons From a Quantum Dot Microcavity. Nanoscience and Technology, 2002, , 277-305.	1.5	0
101	Tuning the single optical mode spontaneous emission coupling of a quantum dot in a micropost cavity. Journal of Crystal Growth, 2003, 251, 737-741.	0.7	0
102	Spectral tuning of the coupling between isolated InAs quantum dots and the fundamental micropost cavity mode. Physica Status Solidi C: Current Topics in Solid State Physics, 2003, 0, 1205-1208.	0.8	0
103	High-efficiency triggered photons using single-cavity mode coupling of single quantum dot emission. , 2003, , .		0
104	A Source of Entangled Photon-Pairs: Optimizing Emission in Two Quasi-Phasematched Crystals. AIP Conference Proceedings, 2004, , .	0.3	0
105	Plasmon-enhanced optical trapping of individual metal nanorods. , 2007, , .		0
106	Metallic colloids and their plasmonic properties. , 2007, , .		0
107	Microcavity modified spontaneous emission of single quantum dots. Physica Status Solidi (B): Basic Research, 2007, 244, 2792-2802.	0.7	0
108	Gold Nanoparticles as Optical and Mechanical Resonators. , 2011, , .		0

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109	12.2: <i>Invited Paper</i>: Colloidal Quantum Rods and Wells for Lighting and Lasing Applications. Digest of Technical Papers SID International Symposium, 2014, 45, 134-137.	0.1	0
110	Strongly Coupled Quantum-Dot Plasmonic-Nanoparticle Assemblies for Low-Power Optical Nonlinearities. , 2020, , .		0
111	Tip-Enhanced Strong Coupling of Quantum Dot Single Photon Emitters. , 2021, , .		0
112	Ultrafast Processes in Semiconductor Nanocrystals and Metal Nanoparticles. , 2013, , .		0
113	Colloidal Quantum Wells for High-Efficiency Lasers. , 2020, , .		0
114	Room-Temperature Strong Coupling to Plasmonic Nanocavities. , 2021, , .		0