Richard J Warburton

List of Publications by Year
in descending order

135 papers	7,772 citations	46918 47 h-index	51492 86 g-index
135 all docs	135 docs citations	135 times ranked	5491 citing authors

#	Article	IF	Citations
1	Optical emission from a charge-tunable quantum ring. Nature, 2000, 405, 926-929.	13.7	832
2	Optical pumping of a single hole spin in a quantum dot. Nature, 2008, 451, 441-444.	13.7	355
3	Charge noise and spin noise in a semiconductor quantum device. Nature Physics, 2013, 9, 570-575.	6.5	320
4	A Coherent Single-Hole Spin in a Semiconductor. Science, 2009, 325, 70-72.	6.0	319
5	Single spins in self-assembled quantum dots. Nature Materials, 2013, 12, 483-493.	13.3	277
6	A bright and fast source of coherent single photons. Nature Nanotechnology, 2021, 16, 399-403.	15.6	268
7	Voltage-Controlled Optics of a Quantum Dot. Physical Review Letters, 2004, 93, 217401.	2.9	216
8	The nonlinear Fano effect. Nature, 2008, 451, 311-314.	13.7	200
9	Effect of uniaxial stress on excitons in a self-assembled quantum dot. Applied Physics Letters, 2006, 88, 203113.	1.5	199
10	Transform-limited single photons from a single quantum dot. Nature Communications, 2015, 6, 8204.	5.8	180
11	Voltage Control of the Spin Dynamics of an Exciton in a Semiconductor Quantum Dot. Physical Review Letters, 2005, 94, 197402.	2.9	153
12	Giant permanent dipole moments of excitons in semiconductor nanostructures. Physical Review B, 2002, 65, .	1.1	147
13	A gated quantum dot strongly coupled to an optical microcavity. Nature, 2019, 575, 622-627.	13.7	145
14	Probing Single-Charge Fluctuations at a<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>GaAs</mml:mi><mml:mo>/</mml:mo><mml:mi>AlAs</mml:mi></mml:math>Interface Using Laser Spectroscopy on a Nearby InGaAs Quantum Dot. Physical Review Letters, 2012, 108, 107401.	2.9	125
15	Fine Structure of Highly Charged Excitons in Semiconductor Quantum Dots. Physical Review Letters, 2003, 90, 247403.	2.9	124
16	Hybridization of electronic states in quantum dots through photon emission. Nature, 2004, 427, 135-138.	13.7	113
17	Laser micro-fabrication of concave, low-roughness features in silica. AIP Advances, 2012, 2, .	0.6	112
18	A dark-field microscope for background-free detection of resonance fluorescence from single semiconductor quantum dots operating in a set-and-forget mode. Review of Scientific Instruments, 2013, 84, 073905.	0.6	108

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19	Deterministic Enhancement of Coherent Photon Generation from a Nitrogen-Vacancy Center in Ultrapure Diamond. Physical Review X, 2017, 7, .	2.8	108
20	Enhanced telecom wavelength single-photon detection with NbTiN superconducting nanowires on oxidized silicon. Applied Physics Letters, 2010, 96, .	1.5	99
21	Peculiar many-body effects revealed inÂtheÂspectroscopy of highly charged quantumÂdots. Nature Physics, 2007, 3, 774-779.	6.5	96
22	High-detection efficiency and low-timing jitter with amorphous superconducting nanowire single-photon detectors. Applied Physics Letters, 2018, 112, .	1.5	89
23	Indistinguishable and efficient single photons from a quantum dot in a planar nanobeam waveguide. Physical Review B, 2017, 96, .	1.1	85
24	Spinâ€“photon interface and spin-controlled photon switching in a nanobeam waveguide. Nature Nanotechnology, 2018, 13, 398-403.	15.6	85
25	Nanoscale optical microscopy in the vectorial focusing regime. Nature Photonics, 2008, 2, 311-314.	15.6	84
26	Stable fiber-based Fabry-PÃ©rot cavity. Applied Physics Letters, 2006, 89, 111110.	1.5	83
27	Low-noise GaAs quantum dots for quantum photonics. Nature Communications, 2020, 11, 4745.	5.8	79
28	Power law carrier dynamics in semiconductor nanocrystals at nanosecond timescales. Applied Physics Letters, 2008, 92, 101111.	1.5	78
29	Simple Atomic Quantum Memory Suitable for Semiconductor Quantum Dot Single Photons. Physical Review Letters, 2017, 119, 060502.	2.9	77
30	Coulomb interactions in single charged self-assembled quantum dots: Radiative lifetime and recombination energy. Physical Review B, 2008, 77, .	1.1	76
31	Decoupling a hole spin qubit from the nuclearÂspins. Nature Materials, 2016, 15, 981-986.	13.3	76
32	Spin-polarized electrons in monolayer MoS2. Nature Nanotechnology, 2019, 14, 432-436.	15.6	76
33	Controlling interlayer excitons in MoS2 layers grown by chemical vapor deposition. Nature Communications, 2020, 11, 2391.	5.8	73
34	Giant Stark splitting of an exciton in bilayer MoS2. Nature Nanotechnology, 2020, 15, 901-907.	15.6	72
35	A small mode volume tunable microcavity: Development and characterization. Applied Physics Letters, 2014, 105, .	1.5	71
36	A hole spin qubit in a fin field-effect transistor above 4â€‰kelvin. Nature Electronics, 2022, 5, 178-183.	13.1	69

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37	Absorption and photoluminescence spectroscopy on a single self-assembled charge-tunable quantum dot. Physical Review B, 2005, 72, .	1.1	65
38	Magneto-optical properties of charged excitons in quantum dots. Physical Review B, 2002, 66, .	1.1	63
39	Optically tunable mechanics of microlevers. Applied Physics Letters, 2003, 83, 1337-1339.	1.5	62
40	Quantum-Confined Stark Effect in a MoS₂ Monolayer van der Waals Heterostructure. Nano Letters, 2018, 18, 1070-1074.	4.5	55
41	An artificial Rb atom in a semiconductor with lifetime-limited linewidth. Physical Review B, 2015, 92, .	1.1	54
42	A fiber-coupled quantum-dot on a photonic tip. Applied Physics Letters, 2016, 108, .	1.5	54
43	Optical transmission and reflection spectroscopy of single quantum dots. Superlattices and Microstructures, 2003, 33, 311-337.	1.4	50
44	Spin-selective optical absorption of singly charged excitons in a quantum dot. Applied Physics Letters, 2005, 86, 221905.	1.5	49
45	A tunable microcavity. Journal of Applied Physics, 2011, 110, 053107.	1.1	49
46	Quantum Optics with Near-Lifetime-Limited Quantum-Dot Transitions in a Nanophotonic Waveguide. Nano Letters, 2018, 18, 1801-1806.	4.5	49
47	Optical Detection of Single-Electron Spin Resonance in a Quantum Dot. Physical Review Letters, 2008, 100, 156803.	2.9	48
48	On-chip deterministic operation of quantum dots in dual-mode waveguides for a plug-and-play single-photon source. Nature Communications, 2020, 11, 3782.	5.8	48
49	Quantum interference of identical photons from remote GaAs quantum dots. Nature Nanotechnology, 2022, 17, 829-833.	15.6	48
50	Temperature-dependent linewidth of charged excitons in semiconductor quantum dots: Strongly broadened ground state transitions due to acoustic phonon scattering. Physical Review B, 2004, 69, .	1.1	47
51	Structure of quantum dots as seen by excitonic spectroscopy versus structural characterization: Using theory to close the loop. Physical Review B, 2009, 80, .	1.1	45
52	Gigahertz bandwidth electrical control over a dark exciton-based memory bit in a single quantum dot. Applied Physics Letters, 2009, 94, .	1.5	41
53	Coherent and robust high-fidelity generation of a biexciton in a quantum dot by rapid adiabatic passage. Physical Review B, 2017, 95, .	1.1	41
54	High Resolution Coherent Population Trapping on a Single Hole Spin in a Semiconductor Quantum Dot. Physical Review Letters, 2014, 112, 107401.	2.9	40

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55	Resonant driving of a single photon emitter embedded in a mechanical oscillator. Nature Communications, 2017, 8, 76.	5.8	39
56	A superconducting nanowire single photon detector on lithium niobate. Nanotechnology, 2012, 23, 505201.	1.3	38
57	Optically Induced Hybridization of a Quantum Dot State with a Filled Continuum. Physical Review Letters, 2008, 100, 176801.	2.9	37
58	Electrically tunable hole<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>g</mml:mi></mml:math>factor of an optically active quantum dot for fast spin rotations. Physical Review B, 2015, 91, .	1.1	35
59	Epitaxial liftoff of ZnSe-based heterostructures using a II-VI release layer. Applied Physics Letters, 2005, 86, 011915.	1.5	34
60	Spatial dependence of output pulse delay in a niobium nitride nanowire superconducting single-photon detector. Applied Physics Letters, 2011, 98, 201116.	1.5	34
61	Rabi splitting and ac-Stark shift of a charged exciton. Applied Physics Letters, 2008, 92, .	1.5	33
62	Role of the electron spin in determining the coherence of the nuclear spins in a quantum dot. Nature Nanotechnology, 2016, 11, 885-889.	15.6	32
63	Optically probing the detection mechanism in a molybdenum silicide superconducting nanowire single-photon detector. Applied Physics Letters, 2017, 110, .	1.5	32
64	Three-dimensional nanoscale subsurface optical imaging of silicon circuits. Applied Physics Letters, 2007, 90, 131101.	1.5	31
65	Demonstrating the decoupling regime of the electron-phonon interaction in a quantum dot using chirped optical excitation. Physical Review B, 2017, 95, .	1.1	31
66	Frequency-Stabilized Source of Single Photons from a Solid-State Qubit. Physical Review X, 2013, 3, .	2.8	29
67	Narrow optical linewidths and spin pumping on charge-tunable close-to-surface self-assembled quantum dots in an ultrathin diode. Physical Review B, 2017, 96, .	1.1	29
68	Resonant two-color high-resolution spectroscopy of a negatively charged exciton in a self-assembled quantum dot. Physical Review B, 2008, 78, .	1.1	28
69	Towards high-cooperativity strong coupling of a quantum dot in a tunable microcavity. Physical Review B, 2015, 92, .	1.1	28
70	Near Transform-Limited Quantum Dot Linewidths in a Broadband Photonic Crystal Waveguide. ACS Photonics, 2020, 7, 2343-2349.	3.2	28
71	Low-Charge-Noise Nitrogen-Vacancy Centers in Diamond Created Using Laser Writing with a Solid-Immersion Lens. ACS Photonics, 2021, 8, 1726-1734.	3.2	28
72	Controlling the Interaction of Electron and Nuclear Spins in a Tunnel-Coupled Quantum Dot. Physical Review Letters, 2011, 106, 046802.	2.9	27

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73	Manipulation of the nuclear spin ensemble in a quantum dot with chirped magnetic resonance pulses. Nature Nanotechnology, 2014, 9, 671-675.	15.6	27
74	Coherent Spin-Photon Interface with Waveguide Induced Cycling Transitions. Physical Review Letters, 2021, 126, 013602.	2.9	27
75	Fabrication of mirror templates in silica with micron-sized radii of curvature. Applied Physics Letters, 2017, 110, .	1.5	26
76	Self-aligned gates for scalable silicon quantum computing. Applied Physics Letters, 2021, 118, .	1.5	26
77	Excitons in InGaAs quantum dots without electron wetting layer states. Communications Physics, 2019, 2, .	2.0	25
78	Optical second harmonic generation in encapsulated single-layer InSe. AIP Advances, 2018, 8, .	0.6	24
79	Radiative Auger process in the single-photon limit. Nature Nanotechnology, 2020, 15, 558-562.	15.6	23
80	Kondo excitons in self-assembled quantum dots. Physical Review B, 2003, 67, .	1.1	22
81	First-Order Magnetic Phase Transition of Mobile Electrons in Monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>MoS</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></r Physical Review Letters, 2020, 124, 187602.	2.9	22
82	Coherent Optical Control of a Quantum-Dot Spin-Qubit in a Waveguide-Based Spin-Photon Interface. Physical Review Applied, 2019, 11, .	1.5	20
83	Dark exciton decay dynamics of a semiconductor quantum dot. Physica Status Solidi (A) Applications and Materials Science, 2005, 202, 2591-2597.	0.8	18
84	Prospects for storage and retrieval of a quantum-dot single photon in an ultracold<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mn>87</mml:mn></mml:msup></mml:math>Rb ensemble. Physical Review A, 2013, 88, .	1.0	18
85	Far-field nanoscopy on a semiconductor quantum dot via a rapid-adiabatic-passage-based switch. Nature Photonics, 2018, 12, 68-72.	15.6	18
86	Exciton fine-structure splitting of telecom-wavelength single quantum dots: Statistics and external strain tuning. Physical Review B, 2013, 88, .	1.1	17
87	On-demand semiconductor source of 780-nm single photons with controlled temporal wave packets. Physical Review B, 2018, 97, .	1.1	17
88	Cavity-Enhanced Raman Scattering for <i>In Situ</i> Alignment and Characterization of Solid-State Microcavities. Physical Review Applied, 2020, 13, .	1.5	17
89	Hole recapture limited single photon generation from a single n-type charge-tunable quantum dot. Applied Physics Letters, 2008, 92, .	1.5	16
90	Intrinsically-limited timing jitter in molybdenum silicide superconducting nanowire single-photon detectors. Journal of Applied Physics, 2019, 126, 164501.	1.1	16

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91	Ultra-low charge and spin noise in self-assembled quantum dots. Journal of Crystal Growth, 2017, 477, 193-196.	0.7	15
92	Laser spectroscopy of individual quantum dots charged with a single hole. Applied Physics Letters, 2011, 99, .	1.5	14
93	Correlations between optical properties and Voronoi-cell area of quantum dots. Physical Review B, 2019, 100, .	1.1	13
94	Statistically modeling optical linewidths of nitrogen vacancy centers in microstructures. Physical Review B, 2020, 102, .	1.1	13
95	A deterministic source of single photons. Physics Today, 2022, 75, 44-50.	0.3	13
96	Intraband and interband magneto-optics ofp-typeIn0.18Ga0.82As/GaAs quantum wells. Physical Review B, 1991, 43, 14124-14133.	1.1	12
97	Noninvasive probing of persistent conductivity in high quality ZnCdSe/ZnSe quantum wells using surface acoustic waves. Journal of Applied Physics, 2010, 107, 093717.	1.1	12
98	Nano-optical observation of cascade switching in a parallel superconducting nanowire single photon detector. Applied Physics Letters, 2014, 104, .	1.5	12
99	Large-range frequency tuning of a narrow-linewidth quantum emitter. Applied Physics Letters, 2020, 117, .	1.5	12
100	Resonant transmission spectroscopy on the p to p transitions of a charge tunable InGaAs quantum dot. Applied Physics Letters, 2008, 92, 153103.	1.5	11
101	Suppression of Surface-Related Loss in a Gated Semiconductor Microcavity. Physical Review Applied, 2021, 15, .	1.5	11
102	A diamond-confined open microcavity featuring a high quality-factor and a small mode-volume. Journal of Applied Physics, 2022, 131, .	1.1	10
103	Wafer-scale epitaxial modulation of quantum dot density. Nature Communications, 2022, 13, 1633.	5.8	9
104	Electronics lightens up. Nature Physics, 2008, 4, 676-677.	6.5	8
105	Temperature dependent high resolution resonant spectroscopy on a charged quantum dot. Physica Status Solidi (B): Basic Research, 2009, 246, 795-798.	0.7	7
106	Tuning the Mode Splitting of a Semiconductor Microcavity with Uniaxial Stress. Physical Review Applied, 2021, 15, .	1.5	6
107	Charge Tunable GaAs Quantum Dots in a Photonic n-i-p Diode. Nanomaterials, 2021, 11, 2703.	1.9	6
108	Optically driving the radiative Auger transition. Nature Communications, 2021, 12, 6575.	5.8	6

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109	Growth and Spectroscopy of CdSe: Mn Quantum Dots. Journal of Superconductivity and Novel Magnetism, 2003, 16, 19-22.	0.5	5
110	Temperature dependent photoluminescence of CdSe quantum dots grown in MgS and ZnSe. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 755-758.	0.8	5
111	Direct and exchange Coulomb energies in CdSe/ZnSe quantum dots. Physica Status Solidi (B): Basic Research, 2006, 243, 782-786.	0.7	5
112	Epitaxial lift-off for solid-state cavity quantum electrodynamics. Journal of Applied Physics, 2015, 118, .	1.1	5
113	Magnetic properties of charged excitons in self-assembled quantum dots. Physica Status Solidi (B): Basic Research, 2003, 238, 293-296.	0.7	4
114	Controlled charging of the same single quantum dot from +6e to -8e: emission, shell filling and configuration interactions. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 3806-3810.	0.8	4
115	RESONANT INTERACTION BETWEEN A QUANTUM DOT AND A NARROWBAND LASER: SPECTROSCOPY AND OPTICAL PUMPING OF A SINGLE SPIN. International Journal of Modern Physics B, 2007, 21, 1307-1315.	1.0	4
116	Fast electro-optics of a single self-assembled quantum dot in a charge-tunable device. Journal of Applied Physics, 2012, 111, 043112.	1.1	4
117	A chiral one-dimensional atom using a quantum dot in an open microcavity. Npj Quantum Information, 2022, 8, .	2.8	4
118	Voltage-Controlled Electron-Hole Interaction in a Single Quantum Dot. Journal of Superconductivity and Novel Magnetism, 2005, 18, 245-249.	0.5	3
119	Determination of the etching mechanism in MgS and ZnMgSSe epitaxial liftâ€off layers. Physica Status Solidi (B): Basic Research, 2010, 247, 1399-1401.	0.7	3
120	A tunable fiber-coupled optical cavity for agile enhancement of detector absorption. Journal of Applied Physics, 2016, 120, .	1.1	3
121	Modulation spectroscopy on a single self assembled quantum dot. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 381-389.	0.8	2
122	Charged Excitons in Self-assembled Quantum Dots. Materials Research Society Symposia Proceedings, 2002, 737, 75.	0.1	1
123	Kondo-excitons and Auger processes in self-assembled quantum dots. Materials Research Society Symposia Proceedings, 2002, 737, 86.	0.1	1
124	Dark exciton signatures in time-resolved photoluminescence of single quantum dots. Materials Research Society Symposia Proceedings, 2003, 789, 365.	0.1	0
125	Fine structure of highly charged quantum dot excitons: turning dark into bright states. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 421-425.	0.8	0
126	Electronic quantum dot states induced through photon emission. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 2079-2093.	0.8	0

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127	Coherent spin dynamics in semiconductor quantum dots. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 3157-3162.	0.8	0
128	The effects of in situ annealing on CdSe quantum dots grown by ALE. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 908-911.	0.8	0
129	Nanometric three-dimensional sub-surface imaging of a silicon flip-chip. , 2007, , .		0
130	Angle resolved transmission spectroscopy of ZnSe based microcavities fabricated using epitaxial liftoff technique. , 2007, , .		0
131	Nanometric three-dimensional sub-surface imaging of a silicon flip-chip. , 2007, , .		0
132	Single-Photon Radiative Auger Emission from a Quantum Dot. , 2021, , .		0
133	Low-noise GaAs quantum dots in a p-i-n diode. , 2021, , .		0
134	A Self-assembled Quantum Dot as Single Photon Source and Spin Qubit: Charge Noise and Spin Noise. Nano-optics and Nanophotonics, 2017, , 287-323.	0.2	0
135	Towards Spin-Multiphoton Entanglement using Quantum Dots with Asymmetric Waveguide Coupling. , 2020, , .		0