Robert H Hadfield

List of Publications by Year
in descending order

146 papers	7,703 citations	71102 41 h-index	49909 87 g-index
148 all docs	148 docs citations	148 times ranked	6145 citing authors

#	Article	IF	Citations
1	Infrared single-photon sensitivity in atomic layer deposited superconducting nanowires. Applied Physics Letters, 2021, 118, 191106.	3.3	12
2	Analysis of Excitability in Resonant Tunneling Diode-Photodetectors. Nanomaterials, 2021, 11, 1590.	4.1	6
3	Strong magnonâ€"photon coupling with chip-integrated YIG in the zero-temperature limit. Applied Physics Letters, 2021, 119, .	3.3	20
4	Generation and characterization of two-photon entanglement in the mid infrared. , 2021, , .		0
5	Near-Maximal Two-Photon Entanglement for Optical Quantum Communication at <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mn>2.1</mml:mn><mml:mspace width="0.2em" /><mml:mi>Î¼</mml:mi><mml:mi mathvariant="normal">m</mml:mi></mml:math>. Physical Review Applied, 2021, 16, .	3.8	3
6	Near-maximal Polarization Entanglement for Quantum Communications at 2.1 Âµm. , 2021, , .		0
7	Measurement of Near-maximal Polarization Entanglement at 2.1 Î¼ m. , 2021, , .		0
8	Superconducting photon detectors. Contemporary Physics, 2021, 62, 69-91.	1.8	20
9	Superfast photon counting. Nature Photonics, 2020, 14, 201-202.	31.4	8
10	Two-photon quantum interference and entanglement at 2.1 Î¼m. Science Advances, 2020, 6, eaay5195.	10.3	42
11	Long-range depth imaging with 13ps temporal resolution using a superconducting nanowire singlephoton detector. , 2020, , .		1
12	Enhanced Optics for Time-Resolved Singlet Oxygen Luminescence Detection. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-7.	2.9	8
13	Niobium diselenide superconducting photodetectors. Applied Physics Letters, 2019, 114, .	3.3	28
14	Timing Jitter Characterization of the SFQ Coincidence Circuit by Optically Time-Controlled Signals From SSPDs. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-4.	1.7	1
15	A compact 4 K cooling system for superconducting nanowire single photon detectors. IOP Conference Series: Materials Science and Engineering, 2019, 502, 012193.	0.6	4
16	Photon Pair Generation at 2.080Î¼m by Down-Conversion. , 2019, , .		0
17	2.3Î¼m wavelength single photon LIDAR with superconducting nanowire detectors. , 2019, , .		1
18	Photon counting LIDAR at 23Âµm wavelength with superconducting nanowires. Optics Express, 2019, 27, 38147.	3.4	62

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19	Integrated Joule switches for the control of current dynamics in parallel superconducting strips. Superconductor Science and Technology, 2018, 31, 06LT01.	3.5	3
20	Design and Characterisation of Titanium Nitride Subarrays of Kinetic Inductance Detectors for Passive Terahertz Imaging. Journal of Low Temperature Physics, 2018, 193, 196-202.	1.4	4
21	Nano-optical photoresponse mapping of superconducting nanowires with enhanced near infrared absorption. Superconductor Science and Technology, 2018, 31, 125012.	3.5	9
22	Space QUEST mission proposal: experimentally testing decoherence due to gravity. New Journal of Physics, 2018, 20, 063016.	2.9	36
23	Optical properties of refractory metal based thin films. Optical Materials Express, 2018, 8, 2072.	3.0	41
24	Superconducting coincidence photon detector with short timing jitter. Applied Physics Letters, 2018, 112, .	3.3	17
25	Chip-based quantum key distribution. Nature Communications, 2017, 8, 13984.	12.8	232
26	A miniaturized 4 K platform for superconducting infrared photon counting detectors. Superconductor Science and Technology, 2017, 30, 11LT01.	3.5	29
27	Characterisation of amorphous molybdenum silicide (MoSi) superconducting thin films and nanowires. Superconductor Science and Technology, 2017, 30, 084010.	3.5	45
28	A compact fiberâ€optic probeâ€based singlet oxygen luminescence detection system. Journal of Biophotonics, 2017, 10, 320-326.	2.3	22
29	Silicon photonic processor of two-qubit entangling quantum logic. Journal of Optics (United) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf	2.2	29
30	Integration of Molybdenum Silicide Superconducting Nanowires with Quantum Photonic Circuits for On-Chip Single Photon Detection. , 2017, , .		0
31	Modelling of a Two-Signal SFQ Detection Scheme for the Readout of Superconducting Nanowire Single Photon Detectors. , 2017, , .		0
32	High-extinction ratio integrated photonic filters for silicon quantum photonics. Optics Letters, 2017, 42, 815.	3.3	72
33	A Comparison of Singlet Oxygen Explicit Dosimetry (SOED) and Singlet Oxygen Luminescence Dosimetry (SOLD) for Photofrin-Mediated Photodynamic Therapy. Cancers, 2016, 8, 109.	3.7	23
34	Nano-optical single-photon response mapping of waveguide integrated molybdenum silicide (MoSi) superconducting nanowires. Optics Express, 2016, 24, 13931.	3.4	29
35	A tunable fiber-coupled optical cavity for agile enhancement of detector absorption. Journal of Applied Physics, 2016, 120, .	2.5	3
36	Resonance fluorescence from a telecom-wavelength quantum dot. Applied Physics Letters, 2016, 109, .	3.3	17

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37	Superconducting nanowire single-photon detectors with non-periodic dielectric multilayers. Scientific Reports, 2016, 6, 35240.	3.3	20
38	Photon-sparse microscopy: Trans-wavelength ghost imaging. Proceedings of SPIE, 2016, , .	0.8	0
39	Chip-to-chip quantum photonic interconnect by path-polarization interconversion. Optica, 2016, 3, 407.	9.3	108
40	A feasibility study of singlet oxygen explicit dosmietry (SOED) of PDT by intercomparison with a singlet oxygen luminescence dosimetry (SOLD) system. , 2016, 9694, .		4
41	A Compact Fiber Optic Based Singlet Oxygen Luminescence Sensor. , 2016, , .		0
42	Comparison of Photon Pair Generation in a-Si:H and c-Si Microring Resonators. , 2016, , .		0
43	A Compact Fiber Optic Based Singlet Oxygen Luminescence Sensor. , 2016, , .		0
44	Passive High-Extinction Integrated Photonic Filters for Silicon Quantum Photonics. , 2016, , .		1
45	Experimental evidence of photoinduced vortex crossing in current carrying superconducting strips. Physical Review B, 2015, 92, .	3.2	8
46	Amorphous molybdenum silicon superconducting thin films. AIP Advances, 2015, 5, .	1.3	12
47	Photon-sparse microscopy: visible light imaging using infrared illumination. Optica, 2015, 2, 1049.	9.3	109
48	Integrated Photonic Devices for Quantum Key Distribution. , 2015, , .		0
49	Chip-to-chip quantum entanglement distribution. , 2015, , .		1
50	Nanoantenna Enhancement for Telecom-Wavelength Superconducting Single Photon Detectors. Nano Letters, 2015, 15, 819-822.	9.1	28
51	Two-photon interference at telecom wavelengths for time-bin-encoded single photons from quantum-dot spin qubits. Nature Communications, 2015, 6, 8955.	12.8	31
52	Background-free Quantum Frequency Downconversion for Two-photon Interference of Heterogeneous Photon Sources. , 2015, , .		0
53	Entanglement distribution between integrated silicon photonic chips. , 2015, , .		0
54	Optimised quantum hacking of superconducting nanowire single-photon detectors. Optics Express, 2014, 22, 6734.	3.4	39

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55	Gallium arsenide (GaAs) quantum photonic waveguide circuits. Optics Communications, 2014, 327, 49-55.	2.1	98
56	Nano-optical observation of cascade switching in a parallel superconducting nanowire single photon detector. Applied Physics Letters, 2014, 104, .	3.3	12
57	On-chip quantum interference between silicon photon-pair sources. Nature Photonics, 2014, 8, 104-108.	31.4	407
58	Parallel superconducting strip-line detectors: reset behaviour in the single-strip switch regime. Superconductor Science and Technology, 2014, 27, 044029.	3.5	6
59	Complete tomography of a high-fidelity solid-state entangled spinâ€"photon qubit pair. Nature Communications, 2013, 4, 2228.	12.8	31
60	Single spins in semiconductor quantum dot microcavities. , 2013, , .		0
61	Infrared photon counting with superconducting nanowire single-photon detectors. , 2013, , .		0
62	Investigations of afterpulsing and detection efficiency recovery in superconducting nanowire single-photon detectors. Journal of Applied Physics, 2013, 113, 213102.	2.5	14
63	Current distribution in a parallel configuration superconducting strip-line detector. Applied Physics Letters, 2013, 103, .	3.3	14
64	Singlet oxygen luminescence detection with a fibre-coupled superconducting nanowire single-photon detector. , 2013, , .		0
65	Quantum detector tomography of a time-multiplexed superconducting nanowire single-photon detector at telecom wavelengths. Optics Express, 2013, 21, 893.	3.4	58
66	Kilometer-range, high resolution depth imaging via 1560 nm wavelength single-photon detection. Optics Express, 2013, 21, 8904.	3.4	239
67	Photon pair generation in a silicon micro-ring resonator with reverse bias enhancement. Optics Express, 2013, 21, 27826.	3.4	137
68	Kilometre-range, high resolution depth imaging using 1560 nm wavelength single-photon detection. , 2013, , .		0
69	Singlet oxygen luminescence detection with a fiber-coupled superconducting nanowire single-photon detector. Optics Express, 2013, 21, 5005.	3.4	125
70	Monolithic generation and manipulation of nondegenerate photon pairs within a silicon-on-insulator quantum photonic circuit. , 2013, , .		0
71	Photon pair generation and manipulation in an integrated silicon chip. , 2013, , .		0
72	Ultrafast optical control of individual electron and hole spin qubits: entanglement between a single quantum dot electron spin and a downconverted 1560-nm single photon. Proceedings of SPIE, 2013, , .	0.8	0

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73	Singlet Oxygen luminescence detection with a fiber-coupled superconducting nanowire single-photon detector. , 2013, , .		1
74	Ultrafast downconversion quantum interface for a single quantum dot spin and 1550-nm single-photon channel. , 2013, , .		0
75	Analysis of a distributed fiber-optic temperature sensor using single-photon detectors. Optics Express, 2012, 20, 3456.	3.4	41
76	Downconversion quantum interface for a single quantum dot spin and 1550-nm single-photon channel. Optics Express, 2012, 20, 27510.	3.4	57
77	Fast electro-optics of a single self-assembled quantum dot in a charge-tunable device. Journal of Applied Physics, 2012, 111, 043112.	2.5	4
78	Silicon Quantum Photonic Sources and Circuits. , 2012, , .		0
79	Quantum-dot spinâ€“photon entanglement via frequency downconversion to telecom wavelength. Nature, 2012, 491, 421-425.	27.8	423
80	Superconducting nanowire single-photon detectors: physics and applications. Superconductor Science and Technology, 2012, 25, 063001.	3.5	731
81	Depth imaging at kilometer range using time-correlated single-photon counting at wavelengths of 850 nm and 1560 nm. , 2012, , .		2
82	A superconducting nanowire single photon detector on lithium niobate. Nanotechnology, 2012, 23, 505201.	2.6	38
83	Quantum interference and manipulation of entanglement in silicon wire waveguide quantum circuits. New Journal of Physics, 2012, 14, 045003.	2.9	71
84	Fast Path and Polarization Manipulation of Telecom Wavelength Single Photons in Lithium Niobate Waveguide Devices. Physical Review Letters, 2012, 108, 053601.	7.8	87
85	Quantum interference in silicon waveguide circuits. , 2011, , .		2
86	Generation of degenerate, factorizable, pulsed squeezed light at telecom wavelengths. Optics Express, 2011, 19, 24434.	3.4	68
87	An Analysis of Single-Photon Detectors in an Environmentally Robust GigaHertz Clock Rate Quantum Key Distribution System. , 2011, , .		0
88	Characterization of high-purity, pulsed squeezed light at telecom wavelengths from pp-KTP for quantum information applications. , 2011, , .		0
89	Single-photon detection in time-of-flight-depth imaging and quantum key distribution. Proceedings of SPIE, 2011, , .	0.8	0
90	Correlated photon-pair generation in a periodically poled MgO doped stoichiometric lithium tantalate reverse proton exchanged waveguide. Applied Physics Letters, 2011, 99, .	3.3	27

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91	Single-photon counting imaging systems. , 2011, , .		0
92	Generation of correlated photon pairs in a chalcogenide As2S3 waveguide. Applied Physics Letters, 2011, 98, .	3.3	62
93	Spatial dependence of output pulse delay in a niobium nitride nanowire superconducting single-photon detector. Applied Physics Letters, 2011, 98, 201116.	3.3	34
94	High-resolution single-mode fiber-optic distributed Raman sensor for absolute temperature measurement using superconducting nanowire single-photon detectors. Applied Physics Letters, 2011, 99, .	3.3	82
95	Analysis of detector performance in a gigahertz clock rate quantum key distribution system. New Journal of Physics, 2011, 13, 075008.	2.9	27
96	Kilometer range depth imaging using time-correlated single-photon counting. , 2011, , .		1
97	Biexciton cascade in telecommunication wavelength quantum dots. Journal of Physics: Conference Series, 2010, 210, 012036.	0.4	3
98	High Spatial Resolution Distributed Fiber Sensor Using Raman Scattering in Single-Mode Fiber. , 2010, , .		2
99	A superconducting nanowire single-photon detector system for single-photon source characterization. , 2010, , .		0
100	Commentary: New developments in single photon detection in the short wavelength infrared regime. Journal of Nanophotonics, 2010, 4, 040301.	1.0	8
101	Position controlled nanowires for infrared single photon emission. Applied Physics Letters, 2010, 97, .	3.3	55
102	Operating quantum waveguide circuits with superconducting single-photon detectors. Applied Physics Letters, 2010, 96, 211101.	3.3	42
103	Enhanced telecom wavelength single-photon detection with NbTiN superconducting nanowires on oxidized silicon. Applied Physics Letters, 2010, 96, .	3.3	99
104	Linewidth narrowing and Purcell enhancement in photonic crystal cavities on an Er-doped silicon nitride platform. Optics Express, 2010, 18, 2601.	3.4	45
105	Nano-Optical Studies of Superconducting Nanowire Single Photon Detectors. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2010, , 158-166.	0.3	0
106	Superconducting Nanowire Single-Photon Detectors for Quantum Communication Applications. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2010, , 225-232.	0.3	2
107	Gigahertz bandwidth electrical control over a dark exciton-based memory bit in a single quantum dot. Applied Physics Letters, 2009, 94, .	3.3	41
108	Practical long-distance quantum key distribution system using decoy levels. New Journal of Physics, 2009, 11, 045009.	2.9	63

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109	Infrared wavelength-dependent optical characterization of NbN nanowire superconducting single-photon detectors. Journal of Modern Optics, 2009, 56, 358-363.	1.3	6
110	Single-photon detectors for optical quantum information applications. Nature Photonics, 2009, 3, 696-705.	31.4	1,302
111	Nano-optical studies of superconducting nanowire single-photon detectors. Proceedings of SPIE, 2009, , .	0.8	1
112	Space-quest, experiments with quantum entanglement in space. Europhysics News, 2009, 40, 26-29.	0.3	77
113	Large sensitive-area NbN nanowire superconducting single-photon detectors fabricated on single-crystal MgO substrates. Applied Physics Letters, 2008, 92, .	3.3	101
114	Solid immersion lens applications for nanophotonic devices. Journal of Nanophotonics, 2008, 2, 021854.	1.0	55
115	Long-distance entanglement-based quantum key distribution over optical fiber. Optics Express, 2008, 16, 19118.	3.4	82
116	Demonstration of a Quantum Controlled-NOT Gate in the Telecommunications Band. Physical Review Letters, 2008, 100, 133603.	7.8	77
117	Designing high electron mobility transistor heterostructures with quantum dots for efficient, number-resolving photon detection. Journal of Vacuum Science & Technology B, 2008, 26, 1174.	1.3	8
118	Long Distance Quantum Key Distribution in Optical Fiber. , 2008, , .		3
119	Publisherâ€™s Note: Demonstration of a Quantum Controlled-NOT Gate in the Telecommunications Band [Phys. Rev. Lett.100, 133603 (2008)]. Physical Review Letters, 2008, 100, .	7.8	2
120	Single-photon source characterization with twin infrared-sensitive superconducting single-photon detectors. Journal of Applied Physics, 2007, 101, 103104.	2.5	28
121	Submicrometer photoresponse mapping of nanowire superconducting single-photon detectors. Applied Physics Letters, 2007, 91, .	3.3	29
122	Subcentimeter depth resolution using a single-photon counting time-of-flight laser ranging system at 1550 nm wavelength. Optics Letters, 2007, 32, 2266.	3.3	105
123	Characterization of fiber-generated entangled photon pairs with superconducting single-photon detectors. Optics Express, 2007, 15, 1322.	3.4	37
124	Photon-number-discriminating detection using a quantum-dot, optically gated, field-effect transistor. Nature Photonics, 2007, 1, 585-588.	31.4	103
125	Quantum key distribution over a 40-dB channel loss using superconducting single-photon detectors. Nature Photonics, 2007, 1, 343-348.	31.4	640
126	Operational Analysis of a Quantum Dot Optically Gated Field-Effect Transistor as a Single-Photon Detector. IEEE Journal of Selected Topics in Quantum Electronics, 2007, 13, 967-977.	2.9	14

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127	Quantum key distribution at 1550nm with twin superconducting single-photon detectors. Applied Physics Letters, 2006, 89, 241129.	3.3	111
128	Single-photon detection using a quantum dot optically gated field-effect transistor with high internal quantum efficiency. Applied Physics Letters, 2006, 89, 253505.	3.3	52
129	Quantum Dot Single Photon Sources Studied with Superconducting Single Photon Detectors. IEEE Journal of Selected Topics in Quantum Electronics, 2006, 12, 1255-1268.	2.9	9
130	Fast lifetime measurements of infrared emitters using a low-jitter superconducting single-photon detector. Applied Physics Letters, 2006, 89, 031109.	3.3	76
131	Single photon detector comparison in a quantum key distribution test. , 2006, , .		1
132	Time-correlated single-photon counting with superconducting single-photon detectors. , 2006, , .		2
133	Heralding of telecommunication photon pairs with a superconducting single photon detector. Applied Physics Letters, 2006, 89, 031112.	3.3	19
134	Low-frequency phase locking in high-inductance superconducting nanowires. Applied Physics Letters, 2005, 87, 203505.	3.3	48
135	Antenna Coupled Niobium Bolometers for 10<tex>$murm m$</tex>Wavelength Radiation Detection. IEEE Transactions on Applied Superconductivity, 2005, 15, 541-544.	1.7	0
136	Single photon source characterization with a superconducting single photon detector. Optics Express, 2005, 13, 10846.	3.4	146
137	A superconducting antenna-coupled microbolometer for THz applications. , 2004, , .		10
138	Corbino geometry Josephson junction. Physical Review B, 2003, 67, .	3.2	7
139	Fabrication of nanoscale heterostructure devices with a focused ion beam microscope. Nanotechnology, 2003, 14, 630-632.	2.6	63
140	Asymmetry modulated SQUIDs made by direct focused ion beam milling. Physica C: Superconductivity and Its Applications, 2002, 368, 241-245.	1.2	4
141	Nanoscale superconductorâ€“normal metalâ€“superconductor junctions fabricated by focused ion beam. Physica C: Superconductivity and Its Applications, 2002, 372-376, 14-17.	1.2	4
142	Nanofabricated SNS junction series arrays in superconductor-normal metal bilayers. Superconductor Science and Technology, 2001, 14, 1086-1089.	3.5	5
143	Nanoscale SNS junction fabrication in superconductor-normal metal bilayers. IEEE Transactions on Applied Superconductivity, 2001, 11, 1126-1129.	1.7	11
144	Capacitance as a probe of high angle grain boundary transport in oxide superconductors. IEEE Transactions on Applied Superconductivity, 2001, 11, 418-421.	1.7	11

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145	Josephson junctions with hysteretic current voltage characteristics at high temperatures. IEEE Transactions on Applied Superconductivity, 1999, 9, 3468-3471.	1.7	6
146	Viewpoint: Compact cryogenics for superconducting photon detectors. Superconductor Science and Technology, 0, , .	3.5	0