Ian A Walmsley

List of Publications by Citations

332 papers	15,411 citations	67 h-index	113 g-index
455 ext. papers	18,359 ext. citations	5.7 avg, IF	6.57 L-index

#	Paper	IF	Citations
332	Spectral phase interferometry for direct electric-field reconstruction of ultrashort optical pulses. *Optics Letters*, **1998**, 23, 792-4	3	878
331	Boson sampling on a photonic chip. *Science*, **2013**, 339, 798-801	33.3	526
330	Heralded generation of ultrafast single photons in pure quantum States. *Physical Review Letters*, **2008**, 100, 133601	7.4	387
329	Spectral information and distinguishability in type-II down-conversion with a broadband pump. *Physical Review A*, **1997**, 56, 1627-1634	2.6	345
328	Quantum memories. *European Physical Journal D*, **2010**, 58, 1-22	1.3	323
327	Optimal quantum phase estimation. *Physical Review Letters*, **2009**, 102, 040403	7.4	307
326	Continuous frequency entanglement: effective finite hilbert space and entropy control. *Physical Review Letters*, **2000**, 84, 5304-7	7.4	304
325	Eliminating frequency and space-time correlations in multiphoton states. *Physical Review A*, **2001**, 64,	2.6	286
324	Characterization of ultrashort electromagnetic pulses. *Advances in Optics and Photonics*, **2009**, 1, 308	16.7	275
323	Experimental determination of the quantum-mechanical state of a molecular vibrational mode using fluorescence tomography. *Physical Review Letters*, **1995**, 74, 884-887	7.4	266
322	Quantum Physics Under Control. *Physics Today*, **2003**, 56, 43-49	0.9	237
321	Entangling macroscopic diamonds at room temperature. *Science*, **2011**, 334, 1253-6	33.3	230
320	Towards high-speed optical quantum memories. *Nature Photonics*, **2010**, 4, 218-221	33.9	222
319	Fiber-assisted detection with photon number resolution. *Optics Letters*, **2003**, 28, 2387-9	3	200
318	Tomography of quantum detectors. *Nature Physics*, **2009**, 5, 27-30	16.2	197
317	Quantum enhanced multiple phase estimation. *Physical Review Letters*, **2013**, 111, 070403	7.4	189
316	The quantum technologies roadmap: a European community view. *New Journal of Physics*, **2018**, 20, 080201	2.9	188

315	Quantum phase estimation with lossy interferometers. *Physical Review A*, **2009**, 80,	2.6	182
314	Measurement of the intensity and phase of ultraweak, ultrashort laser pulses. *Optics Letters*, **1996**, 21, 884-6	3	178
313	Experimental quantum-enhanced estimation of a lossy phase shift. *Nature Photonics*, **2010**, 4, 357-360	33.9	170
312	Quantum path interferences in high-order harmonic generation. *Physical Review Letters*, **2008**, 100, 143902	7.4	148
311	Single-photon-level quantum memory at room temperature. *Physical Review Letters*, **2011**, 107, 053603	7.4	147
310	The role of dispersion in ultrafast optics. *Review of Scientific Instruments*, **2001**, 72, 1-29	1.7	143
309	Mapping broadband single-photon wave packets into an atomic memory. *Physical Review A*, **2007**, 75,	2.6	141
308	Characterization of sub-6-fs optical pulses with spectral phase interferometry for direct electric-field reconstruction. *Optics Letters*, **1999**, 24, 1314-6	3	137
307	Spatio-temporal focusing of an ultrafast pulse through a multiply scattering medium. *Nature Communications*, **2011**, 2, 447	17.4	135
306	Photon pair-state preparation with tailored spectral properties by spontaneous four-wave mixing in photonic-crystal fiber. *Optics Express*, **2007**, 15, 14870-86	3.3	132
305	Quantum theory of spatial and temporal coherence properties of stimulated Raman scattering. *Physical Review A*, **1985**, 32, 332-344	2.6	124
304	Tailored photon-pair generation in optical fibers. *Physical Review Letters*, **2009**, 102, 123603	7.4	119
303	Efficient conditional preparation of high-fidelity single photon states for fiber-optic quantum networks. *Physical Review Letters*, **2004**, 93, 093601	7.4	116
302	Fabrication of Ultrathin Single-Crystal Diamond Membranes. *Advanced Materials*, **2008**, 20, 4793-4798	24	112
301	Joint estimation of phase and phase diffusion for quantum metrology. *Nature Communications*, **2014**, 5, 3532	17.4	111
300	Experimental determination of the dynamics of a molecular nuclear wave packet via the spectra of spontaneous emission. *Physical Review Letters*, **1993**, 70, 3388-3391	7.4	111
299	Broadband single-photon-level memory in a hollow-core photonic crystal fibre. *Nature Photonics*, **2014**, 8, 287-291	33.9	110
298	Photon-number-resolving detection using time-multiplexing. *Journal of Modern Optics*, **2004**, 51, 1499-1515	1.1	109

297	Multimode memories in atomic ensembles. *Physical Review Letters*, **2008**, 101, 260502	7.4	108
296	Quantum teleportation on a photonic chip. *Nature Photonics*, **2014**, 8, 770-774	33.9	106
295	Multiphoton quantum interference in a multiport integrated photonic device. *Nature Communications*, **2013**, 4, 1356	17.4	106
294	Generation of correlated photons in controlled spatial modes by downconversion in nonlinear waveguides. *Optics Letters*, **2001**, 26, 1367-9	3	102
293	Large-alphabet time-frequency entangled quantum key distribution by means of time-to-frequency conversion. *Optics Express*, **2013**, 21, 15959-73	3.3	98
292	Photon pair generation in birefringent optical fibers. *Optics Express*, **2009**, 17, 23589-602	3.3	95
291	Precision metrology using weak measurements. *Physical Review Letters*, **2015**, 114, 210801	7.4	92
290	Conditional preparation of single photons using parametric downconversion: a recipe for purity. *New Journal of Physics*, **2008**, 10, 093011	2.9	88
289	Chronocyclic tomography for measuring the amplitude and phase structure of optical pulses. *Optics Letters*, **1993**, 18, 2041	3	88
288	High quantum-efficiency photon-number-resolving detector for photonic on-chip information processing. *Optics Express*, **2013**, 21, 22657-70	3.3	87
287	Coherent control of decoherence. *Science*, **2008**, 320, 638-43	33.3	87
286	Linear optical quantum computing in a single spatial mode. *Physical Review Letters*, **2013**, 111, 150501	7.4	86
285	On-chip low loss heralded source of pure single photons. *Optics Express*, **2013**, 21, 13522-32	3.3	86
284	Phase-controlled integrated photonic quantum circuits. *Optics Express*, **2009**, 17, 13516-25	3.3	86
283	Photon counting with a loop detector. *Optics Letters*, **2003**, 28, 52-4	3	85
282	Optimal control of quantum gates and suppression of decoherence in a system of interacting two-level particles. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **2007**, 40, S103-S125	1.3	84
281	Interferometric technique for measuring broadband ultrashort pulses at the sampling limit. *Optics Letters*, **2005**, 30, 326-8	3	83
280	Optimal Measurements for Simultaneous Quantum Estimation of Multiple Phases. *Physical Review Letters*, **2017**, 119, 130504	7.4	82

279	Tradeoff in simultaneous quantum-limited phase and loss estimation in interferometry. *Physical Review A*, **2014**, 89,	2.6	82
278	Macroscopic non-classical states and terahertz quantum processing in room-temperature diamond. *Nature Photonics*, **2012**, 6, 41-44	33.9	82
277	Violation of Bell's inequality by a generalized einstein-podolsky-rosen state using homodyne detection. *Physical Review Letters*, **2000**, 85, 1349-53	7.4	82
276	Observation of Macroscopic Quantum Fluctuations in Stimulated Raman Scattering. *Physical Review Letters*, **1983**, 50, 962-965	7.4	80
275	Enhancing multiphoton rates with quantum memories. *Physical Review Letters*, **2013**, 110, 133601	7.4	76
274	Real-world quantum sensors: evaluating resources for precision measurement. *Physical Review Letters*, **2011**, 107, 113603	7.4	76
273	Simplified field wave equations for the nonlinear propagation of extremely short light pulses. *Physical Review A*, **2002**, 66,	2.6	76
272	Quantum metrology with imperfect states and detectors. *Physical Review A*, **2011**, 83,	2.6	75
271	Theory of quantum beats in optical transmission-correlation and pump-probe experiments for a general Raman configuration. *Physical Review A*, **1988**, 38, 4681-4689	2.6	75
270	Quantum optics: science and technology in a new light. *Science*, **2015**, 348, 525-30	33.3	74
269	Characterization of the electric field of ultrashort optical pulses. *Journal of the Optical Society of America B: Optical Physics*, **1996**, 13, 2453	1.7	71
268	Two-photon quantum walk in a multimode fiber. *Science Advances*, **2016**, 2, e1501054	14.3	70
267	Analysis of ultrashort pulse-shape measurement using linear interferometers. *Optics Letters*, **1994**, 19, 287	3	69
266	Distinguishability and Many-Particle Interference. *Physical Review Letters*, **2017**, 118, 153603	7.4	68
265	Sub-10 fs pulse characterization using spatially encoded arrangement for spectral phase interferometry for direct electric field reconstruction. *Optics Letters*, **2006**, 31, 1914-6	3	67
264	Spectral distinguishability in ultrafast parametric down-conversion. *Physical Review A*, **1998**, 57, R2289-R2292	2.6	66
263	Engineering the Indistinguishability and Entanglement of Two Photons. *Physical Review Letters*, **1999**, 83, 955-958	7.4	65
262	Coherent control of ultracold molecule dynamics in a magneto-optical trap by use of chirped femtosecond laser pulses. *Physical Review Letters*, **2006**, 96, 173002	7.4	62

261	On-chip, photon-number-resolving, telecommunication-band detectors for scalable photonic information processing. *Physical Review A*, **2011**, 84,	2.6	61
260	Measurement of group delay with high temporal and spectral resolution. *Optics Letters*, **1990**, 15, 492-4	3	61
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258	Direct, loss-tolerant characterization of nonclassical photon statistics. *Physical Review Letters*, **2006**, 97, 043602	7.4	60
257	Time-resolved luminescence from coherently excited molecules as a probe of molecular wave-packet dynamics. *Physical Review A*, **1990**, 42, 5622-5626	2.6	60
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251	Photon number statistics of multimode parametric down-conversion. *Physical Review Letters*, **2008**, 101, 053601	7.4	57
250	Cavity-Enhanced Room-Temperature Broadband Raman Memory. *Physical Review Letters*, **2016**, 116, 090501	7.4	56
249	Generation of two-photon States with an arbitrary degree of entanglement via nonlinear crystal superlattices. *Physical Review Letters*, **2006**, 97, 223602	7.4	56
248	Multipulse addressing of a Raman quantum memory: configurable beam splitting and efficient readout. *Physical Review Letters*, **2012**, 108, 263602	7.4	55
247	Femtosecond to attosecond light pulses from a molecular modulator. *Nature Photonics*, **2011**, 5, 664-671	33.9	54
246	Measuring measurement: theory and practice. *New Journal of Physics*, **2009**, 11, 093038	2.9	54
245	Direct space time-characterization of the electric fields of ultrashort optical pulses. *Optics Letters*, **2002**, 27, 548-50	3	54
244	Multiphoton state engineering by heralded interference between single photons and coherent states. *Physical Review A*, **2012**, 86,	2.6	53

243	Invited review article: technology for attosecond science. *Review of Scientific Instruments*, **2012**, 83, 071101	1.7	52
242	Spatially resolved amplitude and phase characterization of femtosecond optical pulses. *Optics Letters*, **2001**, 26, 96-8	3	50
241	Applied physics. Toward quantum-information processing with photons. *Science*, **2005**, 307, 1733-4	33.3	48
240	Accuracy criterion for ultrashort pulse characterization techniques: application to spectral phase interferometry for direct electric field reconstruction. *Journal of the Optical Society of America B: Optical Physics*, **2002**, 19, 1019	1.7	48
239	Temporal quantum fluctuations in stimulated Raman scattering: Coherent-modes description. *Physical Review Letters*, **1989**, 63, 1586-1589	7.4	48
238	Experimental determination of hot-carrier scattering processes in AlxGa1−xAs. *Applied Physics Letters*, **1987**, 51, 605-607	3.4	48
237	Interfacing GHz-bandwidth heralded single photons with a warm vapour Raman memory. *New Journal of Physics*, **2015**, 17, 043006	2.9	47
236	High-speed noise-free optical quantum memory. *Physical Review A*, **2018**, 97,	2.6	47
235	Self-referencing, spectrally, or spatially encoded spectral interferometry for the complete characterization of attosecond electromagnetic pulses. *Physical Review Letters*, **2005**, 94, 033905	7.4	47
234	Pure-state single-photon wave-packet generation by parametric down-conversion in a distributed microcavity. *Physical Review A*, **2005**, 72,	2.6	47
233	Quantum detector tomography of a time-multiplexed superconducting nanowire single-photon detector at telecom wavelengths. *Optics Express*, **2013**, 21, 893-902	3.3	46
232	Strategies for enhancing quantum entanglement by local photon subtraction. *Physical Review A*, **2013**, 87,	2.6	45
231	Direct observation of sub-binomial light. *Physical Review Letters*, **2013**, 110, 173602	7.4	45
230	Compact continuous-variable entanglement distillation. *Physical Review Letters*, **2012**, 108, 060502	7.4	44
229	Continuous-variable quantum computing in optical time-frequency modes using quantum memories. *Physical Review Letters*, **2014**, 113, 130502	7.4	42
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223	Experimental study of the macroscopic quantum fluctuations of partially coherent stimulated Raman scattering. *Physical Review A*, **1986**, 33, 382-390	2.6	38
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221	Decoherence of molecular vibrational wave packets: Observable manifestations and control criteria. *Physical Review A*, **2001**, 63,	2.6	37
220	Efficient Classical Algorithm for Boson Sampling with Partially Distinguishable Photons. *Physical Review Letters*, **2018**, 120, 220502	7.4	37
219	Theoretical and experimental analysis of quantum path interferences in high-order harmonic generation. *Physical Review A*, **2009**, 80,	2.6	36
218	8□ reconfigurable quantum photonic processor based on silicon nitride waveguides. *Optics Express* , **2019**, 27, 26842-26857	3.3	36
217	Tomography of photon-number resolving continuous-output detectors. *New Journal of Physics*, **2015**, 17, 103044	2.9	35
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215	Characterization of the nonclassical nature of conditionally prepared single photons. *Physical Review A*, **2005**, 72,	2.6	35
214	Homodyne detection in spectral phase interferometry for direct electric-field reconstruction. *Optics Letters*, **2001**, 26, 1510-2	3	35
213	Using an imperfect photonic network to implement random unitaries. *Optics Express*, **2017**, 25, 28236	3.3	34
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211	Absolute efficiency estimation of photon-number-resolving detectors using twin beams. *Optics Express*, **2009**, 17, 4397-411	3.3	33
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209	Emission tomography for quantum state measurement in matter. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **1998**, 31, 1825-1863	1.3	32
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206	High-fidelity polarization storage in a gigahertz bandwidth quantum memory. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **2012**, 45, 124008	1.3	30
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202	Dynamics of photoinduced collisions of cold atoms probed with picosecond laser pulses. *Physical Review A*, **2001**, 64,	2.6	29
201	Optimal experiment design for quantum state tomography: Fair, precise, and minimal tomography. *Physical Review A*, **2010**, 81,	2.6	28
200	A characterization of the single-photon sensitivity of an electron multiplying charge-coupled device. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **2009**, 42, 114011	1.3	28
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196	Temporal modes in quantum optics: then and now. *Physica Scripta*, **2020**, 95, 064002	2.6	26
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182	Pump-probe study of the formation of rubidium molecules by ultrafast photoassociation of ultracold atoms. *Physical Review A*, **2009**, 80,	2.6	23
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178	Compact spectral shearing interferometer for ultrashort pulse characterization. *Optics Letters*, **2007**, 32, 181-3	3	22
177	Observation of Brillouin optomechanical strong coupling with an 11 GHz mechanical mode. *Optica*, **2019**, 6, 7	8.6	21
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173	Space QUEST mission proposal: experimentally testing decoherence due to gravity. *New Journal of Physics*, **2018**, 20, 063016	2.9	20
172	Quasiprobability representation of quantum coherence. *Physical Review A*, **2018**, 97,	2.6	19

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169	Resolution of the relative phase ambiguity in spectral shearing interferometry of ultrashort pulses. *Optics Letters*, **2010**, 35, 1971-3	3	19
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161	Integrated photonic sensing. *New Journal of Physics*, **2011**, 13, 055024	2.9	17
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159	Photon-number-resolving detection using time-multiplexing		17
158	Molecular emission tomography of anharmonic vibrations. *Physical Review A*, **1997**, 56, R2491-R2494	2.6	16
157	Measurement of ultrashort optical pulses with βBaB2O4. *Applied Physics Letters*, **1988**, 52, 519-521	3.4	16
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