

EWAN M. WRIGHT - Professor

Date and place of birth: 5/31/58 Edinburgh, Scotland

Citizenship: United States of America & UK

Education background:

Heriot-Watt University, Scotland Dept. of Physics	PhD	1983
Heriot-Watt University, Scotland Dept. of Physics	BSc (Hons.)	1980

Employment history:

Heriot-Watt University School of Engineering & Physics Sciences	Honorary Professor	2014-date
NP Photonics, Tucson	Member of Technical Staff	2001-2002
University of St. Andrews School of Physics & Astronomy	Honorary Professor	2001-date
University of Arizona College of Optical Sciences	Professor	1999-date
	Associate Professor	1993-1999
	Assistant Professor	1989-1993
	Research Assistant Professor	1987-1989
	Research Associate	1985-1987
Max-Planck-Institut für Quantenoptik Garching, Germany	Research Associate	1983-1985

Current research areas

Theory and simulation of ultrashort pulse propagation in dielectric media, microscopic nonlinear optical response of gases, physics of light filament propagation. Theory and simulation of vertical external cavity surface emitting lasers. Photon fluids, synthetic gauge fields, quantum time crystals, Penrose and Zel'dovich effects in acoustics and nonlinear optics.

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References

- [1] W. J. Firth and E. M. Wright. Theory of Gaussian beam optical bistability. *Opt. Commun.*, 40:233, 1982.
- [2] E. M. Wright and W. J. Firth. Orthogonality properties of general optical resonator eigenmodes. *Opt. Commun.*, 40:410, 1982.
- [3] W. J. Firth and E. M. Wright. Oscillation and chaos in a Fabry-Perot bistable cavity with Gaussian input beam. *Phys. Letts. A*, 92:211, 1982.
- [4] J. D. McCullen, P. Meystre, and E. M. Wright. Mirror confinement and control through radiation pressure. *Opt. Lett.*, 9:193, 1984.
- [5] A. Dorsel, J. D. McCullen, P. Meystre, H. Walther, and E. M. Wright. Radiation pressure driven optical resonators. *Phil. Trans. Roy. Soc. of Lond. A*, 313:341, 1984.
- [6] W. J. Firth, E. Abraham, E. M. Wright, I. Galbraith, and B. S. Wherrett. Diffusion, diffraction and reflection in semiconductor optically bistable devices. *Phil. Trans. Roy. Soc. of Lond. A*, 313:299, 1984.
- [7] E. M. Wright. Path integral approach to the Schrödinger equation with a complex potential. *Phys. Letts. A*, 104:119, 1984.
- [8] E. M. Wright, P. Meystre, and W. J. Firth. Nonlinear theory of self-oscillations in a phase-conjugate resonator. *Opt. Commun.*, 51:428, 1984.
- [9] E. M. Wright, D. P. J. O'Brien, and W. J. Firth. Reciprocity and orthogonality relations for ring resonators. *IEEE J. Quant. Electron.*, 20:1307, 1984.
- [10] E. M. Wright, W. J. Firth, and I. Galbraith. Beam propagation in a medium with a diffusive Kerr-type nonlinearity. *J. Opt. Soc. Am. B*, 2:383, 1985.
- [11] J. C. Garrison and E. M. Wright. Complex trajectories and Feynman path integrals. *Phys. Letts. A*, 108:129, 1985.
- [12] G. Reiner, P. Meystre, and E. M. Wright. Period-doubling induced phase-hopping in a phase conjugate resonator. *J. Opt. Soc. Am. B*, 2:982, 1985.
- [13] E. M. Wright and P. Meystre. Nonlinear theory of near-degenerate four-wave mixing in a Kerr medium in the Raman-Nath approximation. *Opt. Commun.*, 53:269, 1985.
- [14] W. J. Firth, I. Galbraith, and E. M. Wright. Diffusion and diffraction in dispersive optical bistability. *J. Opt. Soc. Am. B*, 2:1005, 1985.
- [15] E. M. Wright, P. Meystre, W. J. Firth, and A. E. Kaplan. Theory of the nonlinear Sagnac effect in a fiber-optic gyroscope. *Phys. Rev. A*, 32:2857, 1985.
- [16] P. Meystre, E. M. Wright, J. D. McCullen, and E. Vignes. Theory of radiation pressure driven interferometers. *J. Opt. Soc. Am. B*, 2:1830, 1985.

- [17] G. Reiner, E. M. Wright, P. Meystre, and W. J. Firth. Theory of an all-optical AM-FM device. *J. Opt. Soc. Am. B*, 3:45, 1986.
- [18] F. Marquis, P. Dobiashch, P. Meystre, and E. M. Wright. Slaved bistability and self-pulsing in a nonlinear interferometer. *J. Opt. Soc. Am. B*, 3:50, 1986.
- [19] J. C. Garrison and E. M. Wright. Summing over Feynman histories by functional contour integration. *J. Phys. A*, 19:3241, 1986.
- [20] G. I. Stegeman, E. M. Wright, C. T. Seaton, J. V. Moloney, T. P. Shen, A. A. Maradudin, and R. F. Walls. Nonlinear slab-guided waves in non-Kerr-like media. *IEEE J. Quant. Electron.*, 22:977, 1986.
- [21] L. Thylen, E. M. Wright, G. I. Stegeman, C. T. Seaton, and J. V. Moloney. Beam propagation method analysis of a nonlinear directional coupler. *Opt. Lett.*, 11:739, 1986.
- [22] E. M. Wright, G. I. Stegeman, C. T. Seaton, and J. V. Moloney. Gaussian beam excitation of TE₀ nonlinear guided waves. *Appl. Phys. Lett.*, 4:435, 1986.
- [23] E. M. Wright, G. I. Stegeman, C. T. Seaton, J. V. Moloney, and A. D. Boardman. Multi-soliton emission from a nonlinear waveguide. *Phys. Rev. A*, 34:4442, 1986.
- [24] R. M. Fortenberry, R. Moshrefzadeh, G. Assanto, Xu Mai, E. M. Wright, C. T. Seaton, and G. I. Stegeman. Power-dependent coupling and fast switching in distributed coupling to ZnO waveguides. *Appl. Phys. Lett.*, 4:687, 1986.
- [25] S. Wabnitz, E. M. Wright, C. T. Seaton, and G. I. Stegeman. Instabilities and all-optical phase-controlled switching in a nonlinear directional coherent coupler. *Appl. Phys. Lett.*, 49:838, 1986.
- [26] P. Fillopowicz, J. C. Garrison, P. Meystre, and E. M. Wright. Noise-induced switching of photonic logic elements. *Phys. Rev. A*, 35:1172, 1987.
- [27] F. Marquis, P. Meystre, E. M. Wright, and A. E. Kaplan. The optical Fredericisz transition: Higher-order longitudinal modes and transverse dynamics. *Phys. Rev. A*, 36:875, 1987.
- [28] M. Gubbels, E. M. Wright, G. I. Stegeman, C. T. Seaton, and J. V. Moloney. Effects of absorption on TE₀ nonlinear guided waves. *Opt. Commun.*, 61:357, 1987.
- [29] G. Reiner, P. Meystre, and E. M. Wright. Transverse dynamics of a phase-conjugate resonator I: Sluggish nonlinear medium. *J. Opt. Soc. Am. B*, 4:675, 1987.
- [30] G. Reiner, P. Meystre, and E. M. Wright. Transverse dynamics of a phase-conjugate resonator II: Fast nonlinear medium. *J. Opt. Soc. Am. B*, 4:865, 1987.
- [31] S. W. Koch and E. M. Wright. Effects of transverse diffusion on increasing absorption optical bistability. *Phys. Rev. A*, 35:2542, 1987.
- [32] D. Mihalache, G. I. Stegeman, C. T. Seaton, E. M. Wright, R. Zononi, A. D. Boardman, and T. Twardowski. Exact dispersion relation for TM polarized guided waves at a nonlinear interface. *Opt. Lett.*, 12:187, 1987.

- [33] A. D. Boardman, A. A. Maradudin, G. I. Stegeman, T. Twardowski, and E. M. Wright. Exact theory of p-polarized optical waves. *Phys. Rev. A*, 35:1159, 1987.
- [34] E. M. Wright and J. C. Garrison. Path integral derivation of the complex ABCD Huygens integral. *J. Opt. Soc. Am. B*, 4:1751, 1987.
- [35] M. A. Gubbels, E. M. Wright, G. I. Stegeman, C. T. Seaton, and J. V. Moloney. Numerical study of soliton emission from a nonlinear waveguide. *J. Opt. Soc. Am. B*, 4:1837, 1987.
- [36] N. Finlayson, E. M. Wright, C. T. Seaton, G. I. Stegeman, and Y. Silberberg. Beam propagation study of nonlinear coupling between transverse electric modes of a slab waveguide. *Appl. Phys. Lett.*, 50:1562, 1987.
- [37] P. Meystre and E. M. Wright. Measurements-induced dynamics of a micromaser. *Phys. Rev. A*, 37:2524, 1988.
- [38] D. R. Heatley, E. M. Wright, J. Ehrlich, and G. I. Stegeman. Nonlinear directional coupler with a diffusive Kerr-type nonlinearity. *Opt. Lett.*, 13:419, 1988.
- [39] L. Thylen, E. M. Wright, and G. I. Stegeman. Numerical analysis of nonlinear coherent couplers exhibiting saturable index changes. *J. Opt. Soc. Am. B*, 5:467, 1988.
- [40] Sang-Yung Shin, E. M. Wright, and G. I. Stegeman. Nonlinear TE waves of coupled waveguides bounded by nonlinear media. *J. Lightwave Technol.*, 6:977, 1988.
- [41] G. I. Stegeman, E. M. Wright, N. Finlayson, R. Zaroni, and C. T. Seaton. Third-order nonlinear integrated optics. *J. Lightwave Technol.*, 6:953, 1988.
- [42] T. A. B. Kennedy and E. M. Wright. Quantization and phase-space methods for slowly varying optical fields in a dispersive nonlinear medium. *Phys. Rev. A*, 38:212, 1988.
- [43] J. C. Garrison and E. M. Wright. Complex geometrical phases for dissipative systems. *Phys. Letts. A*, 128:177, 1988.
- [44] E. M. Wright, S. W. Koch, J. E. Ehrlich, and G. I. Stegeman. Semiconductor figure of merit for nonlinear directional couplers. *Appl. Phys. Lett.*, 52:2127, 1988.
- [45] S. Trillo, S. Wabnitz, E. M. Wright, and G. I. Stegeman. Soliton switching in fiber nonlinear directional couplers. *Opt. Lett.*, 13:672, 1988.
- [46] D. R. Heatley, E. M. Wright, and G. I. Stegeman. Soliton coupler. *Appl. Phys. Lett.*, 53:172, 1988.
- [47] P. Varatharajah, A. Aceves, J. V. Moloney, D. R. Heatley, and E. M. Wright. Stationary nonlinear surface waves and their stability in diffusive Kerr media. *Opt. Lett.*, 13:690, 1988.
- [48] G. I. Stegeman, E. M. Wright, and C. T. Seaton. Degenerate four-wave mixing from a waveguide with guided wave pump beams. *J. Appl. Phys.*, 64:4318, 1988.
- [49] S. Trillo, S. Wabnitz, E. M. Wright, and G. I. Stegeman. Optical solitary waves induced by cross-phase modulation. *Opt. Lett.*, 13:871, 1988.

- [50] N. Finlayson, W. C. Banyai, E. M. Wright, C. T. Seaton, G. I. Stegeman, T. J. Cullen, and C. N. Ironside. Picosecond switching induced by saturable absorption in a nonlinear directional coupler. *Appl. Phys. Lett.*, 53:1145, 1988.
- [51] E. M. Wright, D. Richardson, and S. W. Koch. Bifurcation of scattering orders in degenerate four-wave mixing. *Opt. Lett.*, 14:75, 1989.
- [52] E. M. Wright and P. Meystre. Collapse and revival in the micromaser. *Opt. Lett.*, 14:177, 1989.
- [53] S. Trillo, S. Wabnitz, E. M. Wright, and G. I. Stegeman. Polarized soliton instability and branching in birefringent fibers. *Opt. Commun.*, 70:166, 1989.
- [54] S. Trillo, S. Wabnitz, E. M. Wright, and G. I. Stegeman. Parametric amplification and modulational instabilities in dispersive nonlinear directional couplers with relaxing nonlinearity. *J. Opt. Soc. Am. B*, 6:889, 1989.
- [55] E. M. Wright, G. I. Stegeman, and S. W. Koch. Numerical simulation of guided wave phenomena in semiconductors. *J. Opt. Soc. Am. B*, 6:1598, 1989.
- [56] A. M. Guzman, P. Meystre, and E. M. Wright. Semiclassical theory of a micromaser. *Phys. Rev. A*, 40:2471, 1989.
- [57] E. M. Wright, D. R. Heatley, G. I. Stegeman, and K. Blow. Variation of the switching power with diffusion length in a nonlinear directional coupler. *Opt. Commun.*, 73:385, 1989.
- [58] E. M. Wright, S. Wabnitz, and G. I. Stegeman. Solitary wave decay and symmetry breaking instabilities in two-mode fibers. *Phys. Rev. A*, 40:4455, 1989.
- [59] B. P. McGinnis, E. M. Wright, S. W. Koch, and N. Peyghambarian. Observation of new scattering orders in degenerate four-wave mixing. *Phys. Rev. A*, 41:523, 1990.
- [60] D. Richardson, E. M. Wright, and S. W. Koch. Raman-Nath theory of degenerate four-wave mixing in semiconductors. *Phys. Rev. A*, 41:1620, 1990.
- [61] G. I. Stegeman and E. M. Wright. All-optical switching. *Opt. and Quant. Electron.*, 22:95, 1990.
- [62] N. Finlayson, E. M. Wright, and G. I. Stegeman. Nonlinear pulse propagation in a semiconductor in the transient regime I: Temporal and spectral effects. *IEEE J. Quant. Electron.*, 26:770, 1990.
- [63] E. M. Wright, D. R. Heatley, and G. I. Stegeman. Emission of spatial solitons from nonlinear waveguides. *Phys. Rep.*, 194:309, 1990.
- [64] D. R. Heatley, E. M. Wright, and G. I. Stegeman. Solitary wave emission from a nonlinear slab waveguide in three dimensions. *Appl. Phys. Lett.*, 56:215, 1990.
- [65] P. Varatharajah, A. Aceves, J. V. Moloney, and E. M. Wright. Stationary nonlinear surface waves and their stability in diffusive Kerr media. *J. Opt. Soc. Am. B*, 7:220, 1990.

- [66] J. J. Slosser, P. Meystre, and E. M. Wright. Generation of macroscopic superpositions in a micromaser. *Opt. Lett.*, 15:233, 1990.
- [67] E. M. Wright. Quantum theory of self-phase modulation. *J. Opt. Soc. Am. B*, 6:1142, 1990.
- [68] B. P. McGinnis, E. M. Wright, S. W. Koch, and N. Peyghambarian. Formation of transverse spatial ring structures in increasing absorption optical bistability. *Opt. Lett.*, 15:258, 1990.
- [69] D. R. Heatley, E. M. Wright, and G. I. Stegeman. Numerical calculations of spatial solitary wave emission from a nonlinear waveguide: Two-level saturable media. *J. Opt. Soc. Am. B*, 6:990, 1990.
- [70] A. B. Aceves, P. Varatharajah, A. C. Newell, E. M. Wright, G. I. Stegeman, D. R. Heatley, J. V. Moloney, and H. Adachihara. Particle aspects of collimated light channel reflection at nonlinear interfaces and waveguides. *J. Opt. Soc. Am. B*, 6:963, 1990.
- [71] E. M. Wright and P. Meystre. Theory of an atomic interferometer in the Raman-Nath regime. *Opt. Commun.*, 75:388, 1990.
- [72] A. D. Boardman, T. Twardowski, and E. M. Wright. The effect of diffusion on surface guided nonlinear TM waves: A finite element approach. *Opt. Commun.*, 74:347, 1990.
- [73] S. Wabnitz, E. M. Wright, and G. I. Stegeman. Polarization instabilities of dark and bright coupled solitary waves in birefringent optical fibers. *Phys. Rev. A*, 41:6415, 1990.
- [74] N. N. Akhmediev, D. R. Heatley, E. M. Wright, and G. I. Stegeman. Pseudo-recurrence in two-dimensional modulation instability with a saturable self-focusing medium. *Phys. Rev. Lett.*, 65:1423, 1990.
- [75] P. Meystre, E. Schumaker, and E. M. Wright. Quantum pendellösung in atom diffraction by a light grating. *Ann. Physik Leipzig*, 48:141, 1991.
- [76] I. H. Deutsch, J. C. Garrison, and E. M. Wright. Excess noise in gain guided amplifiers. *J. Opt. Soc. Am. B*, 8:1244, 1991.
- [77] D. R. Heatley, E. M. Wright, and G. I. Stegeman. Spatial ring emission in an optical fiber with nonlinear cladding. *Opt. Lett.*, 16:291, 1991.
- [78] S. Trillo, S. Wabnitz, J. M. Soto-Crespo, and E. M. Wright. Ultrashort pulse self-switching in coupled semiconductor travelling-wave amplifiers. *IEEE J. Quant. Electron.*, 27:410, 1991.
- [79] J. M. Soto-Crespo, D. R. Heatley, E. M. Wright, and N. N. Akhmediev. Stability of higher bound states in a saturable self-focusing medium. *Phys. Rev. A*, 44:636, 1991.
- [80] S. Glasgow, P. Meystre, M. Wilkens, and E. M. Wright. Theory of an atomic beam splitter based on velocity tuned resonances. *Phys. Rev. A*, 43:2455, 1991.
- [81] S. Wabnitz, S. Trillo, E. M. Wright, and G. I. Stegeman. Wavelength dependent soliton self-routing in birefringent fiber filters. *J. Opt. Soc. Am. B*, 8:602, 1991.

- [82] E. M. Wright. Quantum theory of soliton propagation in an optical fiber using the Hartree approximation. *Phys. Rev. A*, 43:3836, 1991.
- [83] D. Richardson, B. P. McGinnis, E. M. Wright, N. Peyghambarian, and S. W. Koch. Raman-Nath theory of degenerate four-wave mixing in semiconductors II: Time-dependent analysis and comparison with pulse experiments. *Phys. Rev. A*, 44:628, 1991.
- [84] J. M. Soto-Crespo and E. M. Wright. Generation of pulse trains in the normal dispersion regime of a dielectric medium. *Appl. Phys. Lett.*, 59:2489, 1991.
- [85] J. Wilson, G. I. Stegeman, and E. M. Wright. Soliton switching in an erbium-doped nonlinear fiber coupler. *Opt. Lett.*, 16:1653, 1991.
- [86] J. M. Soto-Crespo and E. M. Wright. All-optical switching of solitons in two- and three-core nonlinear fiber couplers. *J. Appl. Phys.*, 70:7240, 1991.
- [87] D. Hart and E. M. Wright. Stability of the TE_0 guided wave of a nonlinear waveguide with a self-defocusing bounding medium. *Opt. Lett.*, 17:121, 1992.
- [88] R. Chang, W. J. Firth, R. Indik, J. V. Moloney, and E. M. Wright. Three-dimensional simulations of degenerate counterpropagating beam instabilities in a nonlinear medium. *Opt. Commun.*, 88:167, 1992.
- [89] J. M. Soto-Crespo, E. M. Wright, and N. N. Akhmediev. Recurrence and azimuthal symmetry breaking of a cylindrical Gaussian beam in a saturable self-focusing medium. *Phys. Rev. A*, 45:3168, 1992.
- [90] E. M. Wright. Quantum beam collapse in a self-focusing medium. *Phys. Letts. A*, 165:217, 1992.
- [91] P. A. Harten, A. Knorr, J. P. Sokoloff, F. de Colstoun, S. G. Lee, R. Jin, E. M. Wright, G. Khitrova, H. M. Gibbs, S. W. Koch, and N. Peyghambarian. Propagation-induced escape from adiabatic following in a semiconductor. *Phys. Rev. Lett.*, 69:852, 1992.
- [92] J. Wilson, G. I. Stegeman, and E. M. Wright. All-optical switching of solitons in an active nonlinear directional coupler. *Opt. and Quant. Electron.*, 24:S1325, 1992.
- [93] P. Varatharajah, J. V. Moloney, A. C. Newell, and E. M. Wright. Stationary nonlinear waves guided by thin films bounded by nonlinear diffusive Kerr media. *J. Opt. Soc. Am. B*, 10:46, 1993.
- [94] E. M. Wright, J. C. Eilbeck, M. H. Hays, P. D. Miller, and A. C. Scott. The quantum discrete self-trapping equation in the Hartree approximation. *Physica D*, 69:18, 1993.
- [95] A. Knorr, R. Binder, E. M. Wright, and S. W. Koch. Amplification, absorption, and lossless propagation of femtosecond pulses in inverted semiconductors. *Opt. Lett.*, 18:1538, 1993.
- [96] G. Lenz, P. Meystre, and E. M. Wright. Nonlinear atom optics. *Phys. Rev. Lett.*, 71:3271, 1993.

- [97] J. Powell, E. M. Wright, and J. V. Moloney. Reflection of localized beams from a nonlinear absorbing interface. *SIAM J. Appl. Math.*, 54:774, 1994.
- [98] G. G. Luther, A. C. Newell, J. V. Moloney, and E. M. Wright. Conical emission and supercontinuum generation in normally dispersive bulk media. *Opt. Lett.*, 19:789, 1994.
- [99] G. G. Luther, J. V. Moloney, A. C. Newell, and E. M. Wright. Self-focusing threshold in normally dispersive media. *Opt. Lett.*, 19:862, 1994.
- [100] J. B. Geddes, J. Lega, J. V. Moloney, R. A. Indik, E. M. Wright, and W. J. Firth. Pattern selection in passive and active nonlinear optical systems. *Chaos, Solitons, and Fractals*, 4:1261, 1994.
- [101] E. M. Wright. Quantum fluctuations in nonlinear optical self-focusing. *Chaos, Solitons, and Fractals*, 4:1805, 1994.
- [102] E. M. Wright, R. Y. Chiao, and J. C. Garrison. Optical anyons: Atoms trapped on electromagnetic vortices. *Chaos, Solitons, and Fractals*, 4:1797, 1994.
- [103] G. Lenz, P. Meystre, and E. M. Wright. Nonlinear atom optics: General formalism and atomic solitons. *Phys. Rev. A*, 50:1681, 1994.
- [104] J. B. Geddes, J. V. Moloney, E. M. Wright, and W. J. Firth. Polarization patterns in a nonlinear cavity. *Opt. Commun.*, 111:623, 1994.
- [105] E. M. Wright, R. J. Hawkins, and R. J. Deri. Coupled-mode theory of vertically integrated impedance-matched waveguide/photodetectors. *Opt. Commun.*, 117:170, 1995.
- [106] W. P. Zhang, P. Meystre, and E. M. Wright. Self-induced modulation and compression of an ultracold atomic cloud in a nonlinear atomic cavity. *Phys. Rev. A*, 52:498, 1995.
- [107] A. S. Rodrigues, M. Santagiustina, and E. M. Wright. Nonlinear pulse propagation in the vicinity of a two-photon resonance. *Phys. Rev. A*, 52:3231, 1995.
- [108] M. Santagiustina and E. M. Wright. Suppression of third-order dispersion radiation in solid-state soliton lasers. *Opt. Lett.*, 20:2267, 1995.
- [109] Q. Feng, J. V. Moloney, A. C. Newell, and E. M. Wright. Light-induced breakdown versus self-focusing for focused picosecond pulses in water. *Opt. Lett.*, 20:1958, 1995.
- [110] L. Torner, D. Mihalache, D. Mazilu, E. M. Wright, and G. I. Stegeman. Stationary trapping of light beams in bulk second-order nonlinear media. *Opt. Commun.*, 121:149, 1995.
- [111] E. M. Wright, B. L. Lawrence, W. Torruellas, and G. I. Stegeman. Stable self-trapping and ring formation in *para*-toluene sulfonate. *Opt. Lett.*, 20:2481, 1995.
- [112] L. Torner and E. M. Wright. Soliton excitation and mutual-locking of light beams in bulk quadratic nonlinear crystals. *J. Opt. Soc. Am. B*, 13:864, 1996.

- [113] P. T. Guerreiro, S. G. Lee, A. S. Rodrigues, Y. Z. Hu, E. M. Wright, N. Peyghambarian, S. I. Najafi, and J. Mackenzie. Femtosecond pulse propagation near a two-photon transition in a semiconductor quantum dot waveguide. *Opt. Lett.*, 21:659, 1996.
- [114] W. Forysiak, R. Flesch, J. V. Moloney, and E. M. Wright. Doppler shift of self-reflected optical pulses at an interface: The dynamic nonlinear optical skin effect. *Phys. Rev. Lett.*, 76:3695, 1996.
- [115] A. M. Dunlop, W. J. Firth, D. R. Heatley, and E. M. Wright. A generalized mean-field or master equation for nonlinear cavities with transverse effects. *Opt. Lett.*, 21:770, 1996.
- [116] E. M. Wright, P. S. Jessen, and G. Lapeyre. Two-dimensional motion of cold atoms in an off-resonant annular laser beam: Artificial two-dimensional molecules. *Opt. Commun.*, 129:423, 1996.
- [117] E. M. Wright, D. F. Walls, and J. C. Garrison. Collapses and revivals of Bose-Einstein condensates formed in small atomic samples. *Phys. Rev. Lett.*, 77:2158, 1996.
- [118] Q. Feng, J. V. Moloney, A. C. Newell, E. M. Wright, K. Cook, P. K. Kennedy, D. X. Hammer, B. A. Rockwell, and C. R. Thompson. Theory and simulation of laser-induced breakdown and self-focusing of ultrashort focused laser pulses in water. *IEEE J. Quant. Electron.*, QE-33:127, 1997.
- [119] W. Forysiak, J. V. Moloney, and E. M. Wright. Nonlinear focusing of femtosecond pulses due to self-reflection from a saturable absorber. *Opt. Lett.*, 22:239, 1997.
- [120] A. M. Dunlop, W. J. Firth, and E. M. Wright. Master equation for spatio-temporal beam propagation and Kerr-lens mode-locking. *Opt. Commun.*, 138:211, 1997.
- [121] G. J. Milburn, J. Corney, E. M. Wright, and D. F. Walls. Quantum dynamics of an atomic Bose-Einstein condensate in a double-well potential. *Phys. Rev. A*, 55:4318, 1997.
- [122] E. M. Wright, T. Wong, M. J. Collet, S. M. Tan, and D. F. Walls. Collapses and revivals in the interference between two Bose-Einstein condensates formed in small atomic samples. *Phys. Rev. A*, 56:591, 1997.
- [123] D. F. Walls, M. J. Collet, T. Wong, S. M. Tan, and E. M. Wright. Phase dynamics and Bose-broken symmetry in atomic Bose-Einstein condensates. *Phil. Trans. R. Soc. Lond. A*, 355:2393, 1997.
- [124] K. P. Marzlin, W. Zhang, and E. M. Wright. Vortex coupler for atomic Bose-Einstein condensates. *Phys. Rev. Lett.*, 79:4728, 1997.
- [125] A. S. Rodrigues, M. Santagiustina, and E. M. Wright. Femtosecond pulse propagation and optical solitons in semiconductor-doped glass waveguides in the vicinity of a two-photon resonance. *Opt. Quant. Electron.*, 29:961, 1997.
- [126] R. Graham, D. F. Walls, M. J. Collet, and E. M. Wright. Collapses and revivals of collective excitations in trapped Bose condensates. *Phys. Rev. A*, 57:503, 1998.
- [127] E. V. Goldstein, E. M. Wright, and P. Meystre. Dressed Bose-Einstein condensates in high-Q cavities. *Phys. Rev. A*, 57:1223, 1998.

- [128] M. Mlejnek, E. M. Wright, and J. V. Moloney. Dynamic spatial replenishment of femtosecond pulses propagating in air. *Opt. Lett.*, 23:382, 1998.
- [129] A. M. Dunlop, W. J. Firth, and E. M. Wright. Pulse shapes and stability in Kerr and active mode-locking (KAML). *Optics Express*, 2:204, 1998.
- [130] A. M. Dunlop, E. M. Wright, and W. J. Firth. Spatial soliton laser. *Opt. Commun.*, 147:393, 1998.
- [131] E. V. Goldstein, E. M. Wright, and P. Meystre. On the detection of condensate vortex states. *Phys. Rev. A*, 58:576, 1998.
- [132] M. Mlejnek, E. M. Wright, and J. V. Moloney. Femtosecond pulse propagation in Argon - A pressure dependence study. *Phys. Rev. E*, 58:4903, 1998.
- [133] P. Pax and E. M. Wright. Solitary wave emission from a nonlinear waveguide with a PTS cladding. *Opt. Quant. Electron.*, 30:673, 1998.
- [134] K. J. Kasunic and E. M. Wright. Nonlinear dynamics of circular-grating distributed-feedback semiconductor devices. *J. Opt. Soc. Am. B*, 16:96, 1999.
- [135] O. Zobay S. Poetting, P. Meystre, and E. M. Wright. Creation of gap solitons in Bose-Einstein condensates. *Phys. Rev. A*, 59:643, 1999.
- [136] M. Mlejnek, E. M. Wright, and J. V. Moloney. Moving-focus versus self-waveguiding model for long distance propagation of femtosecond pulse in air. *IEEE J. Quant. Electron.*, 35:1771, 1999.
- [137] M. Mlejnek, E. M. Wright, J. V. Moloney, and N. Bloembergen. Second harmonic generation of femtosecond pulses at the boundary of a nonlinear dielectric. *Phys. Rev. Lett.*, 83:2934, 1999.
- [138] M. Mlejnek, E. M. Wright, and J. V. Moloney. Power dependence of dynamic spatial replenishment of femtosecond pulses propagating in air. *Optics Express*, 4:223, 1999.
- [139] E. M. Wright, M. Mansuripur, A. K. Bates, and V. Liberman. Spatial pattern of microchannel formation in fused silica irradiated by nanosecond ultraviolet pulses. *Appl. Opt.*, 38:5785, 1999.
- [140] M. Mlejnek, M. Kolesik, J. V. Moloney, and E. M. Wright. Optically turbulent femtosecond light guide in air. *Phys. Rev. Lett.*, 83:2938, 1999.
- [141] J. P. Watson, E. M. Wright, and N. Peyghambarian. Numerical investigation of cavity mode instabilities induced by a gaussian gain medium. *Opt. Commun.*, 172:103, 1999.
- [142] M. Mlejnek, M. Kolesik, E. M. Wright, and J. V. Moloney. A dynamic spatial replenishment scenario for femtosecond pulses propagating in air - a route to optical turbulence? *Laser Physics*, 10:107, 2000.
- [143] A. M. Dunlop, W. J. Firth, and E. M. Wright. Time-domain master equation for pulse evolution and laser mode-locking. *Opt. Quant. Electron.*, 32:1131, 2000.

- [144] E. M. Wright, P. K. Khulbe, and M. Mansuripur. Dynamical theory of crystallization in $\text{Ge}_2\text{Sb}_{2.3}\text{Te}_5$ phase-change optical recording media. *Appl. Opt.*, 39:6695, 2000.
- [145] P. K. Khulbe, E. M. Wright, and M. Mansuripur. Crystallization behavior of as-deposited, melt quenched, and primed amorphous states of $\text{Ge}_2\text{Sb}_{2.3}\text{Te}_5$ films in phase-change optical recording. *J. Appl. Phys.*, 88:3926, 2000.
- [146] J. V. Moloney, M. Kolesik, M. Mlejnek, and E. M. Wright. Femtosecond self-guided atmospheric light strings. *Chaos*, 10:559, 2000.
- [147] J. Schwarz, P. Rambo, J. C. Diels, M. Kolesik, E. M. Wright, and J. V. Moloney. Ultra-violet filamentation in air. *Opt. Comm.*, 180:383, 2000.
- [148] M. D. Girardeau and E. M. Wright. Dark solitons in a one-dimensional condensate of hard core bosons. *Phys. Rev. Lett.*, 84:5691, 2000.
- [149] M. D. Girardeau and E. M. Wright. Breakdown of time-dependent mean-field theory for a one-dimensional condensate of hard core bosons. *Phys. Rev. Lett.*, 84:5239, 2000.
- [150] S. Poetting, O. Zobay, P. Meystre, and E. M. Wright. Magneto-optical control of bright atomic solitons. *J. Modern Optics*, 47:2653, 2000.
- [151] J. S. Eriksen, J. V. Moloney, E. M. Wright, Q. Feng, and P.L. Christiansen. Polarization instability of femtosecond pulse-splitting in normally dispersive self-focusing media. *Opt. Lett.*, 26:78, 2001.
- [152] G. Molina-Terriza, E. M. Wright, and L. Torner. Propagation and control of non-canonical optical vortices. *Opt. Lett.*, 26:163, 2001.
- [153] E. M. Wright, J. Arlt, and K. Dholakia. Toroidal optical dipole traps for atomic Bose-Einstein condensates using Laguerre-Gaussian beams. *Phys. Rev. A*, 63:013608, 2001.
- [154] M. D. Girardeau, E. M. Wright, and J. M. Triscari. Ground state properties of a one-dimensional condensate of hard core bosons in a harmonic trap. *Phys. Rev. A*, 63:033601, 2001.
- [155] D. Kouznetsov and J. V. Moloney E. M. Wright. Efficiency of pump absorption in double-clad fiber amplifiers: 1. fibers with circular symmetry. *J. Opt. Soc. Am. B*, 18:743, 2001.
- [156] G. Molina-Terriza, J. Reclons, J. P. Torres, L. Torner, and E. M. Wright. Observation of dynamical inversion of the topological charge of an optical vortex. *Phys. Rev. Lett.*, 87:023902, 2001.
- [157] C. C. Cheng, E. M. Wright, and J. V. Moloney. Generation of electromagnetic pulses from plasma channels induced by femtosecond light strings. *Phys. Rev. Lett.*, 87:213001, 2001.
- [158] M. D. Girardeau and E. M. Wright. Measurement of one-particle correlations and momentum distributions for 1D trapped gases. *Phys. Rev. Lett.*, 87:050403, 2001.
- [159] M. Kolesik, J. V. Moloney, and E. M. Wright. Polarization dynamics of femtosecond pulses propagating in air. *Phys. Rev. E*, 64:046607, 2001.

- [160] J. Arlt, K. Dholakia, J. Soneson, and E. M. Wright. Optical dipole traps and atomic waveguides based on Bessel light beams. *Phys. Rev. A*, 63:63602, 2001.
- [161] G. Molina-Terriza, L. Torner, E. M. Wright, J. J. Garcia-Ripoll, and V. M. Perez-Garcia. Vortex revivals with trapped light. *Opt. Lett.*, 26:1601, 2001.
- [162] M. D. Girardeau and E. M. Wright. Bose-Fermi variational theory of the Bose-Einstein condensate crossover to the Tonks gas. *Phys. Rev. Lett.*, 87:210401, 2001.
- [163] M. D. Girardeau and E. M. Wright. Quantum mechanics of one-dimensional trapped Tonks gases. *Laser Physics*, 12:8, 2002.
- [164] K. K. Das, G. J. Lapeyre, and E. M. Wright. Interference of a hard-core boson gas on a ring. *Phys. Rev. A*, 65:063603, 2002.
- [165] M. D. Girardeau, K. K. Das, and E. M. Wright. Theory of a one-dimensional double-X atom interferometer. *Phys. Rev. A*, 66:023604, 2002.
- [166] G. J. Lapeyre, M. D. Girardeau, and E. M. Wright. Momentum distribution for a one-dimensional trapped gas of hard-core bosons. *Phys. Rev. A*, 66:023606, 2002.
- [167] K. K. Das, M. D. Girardeau, and E. M. Wright. Crossover from one to three dimensions for a gas of hard-core bosons. *Phys. Rev. Lett.*, 89:110402, 2002.
- [168] K. K. Das, M. D. Girardeau, and E. M. Wright. Interference of a thermal Tonks gas on a ring. *Phys. Rev. Lett.*, 89:170404, 2002.
- [169] W. Zhang, H. Pu, C. P. Search, P. Meystre, and E. M. Wright. Two-fermion bound state in a Bose-Einstein condensate. *Phys. Rev. A*, 67:021601(R), 2003.
- [170] W. Zhang, C. P. Search, H. Pu, P. Meystre, and E. M. Wright. Feshbach resonance-induced filamentation and quantum pair correlation in atom-laser-beam propagation. *Phys. Rev. Lett.*, 90:140401, 2003.
- [171] B. P. Anderson, K. Dholakia, and E. M. Wright. Atomic-phase interference devices based on ring-shaped Bose-Einstein condensates: Two ring case. *Phys. Rev. A*, 67:033601, 2003.
- [172] M. Kolesik, G. Katona, J. V. Moloney, and E. M. Wright. Physical factors limiting the spectral extent and bandgap dependence of supercontinuum generation. *Phys. Rev. Lett.*, 91:043905, 2003.
- [173] M. Kolesik, G. Katona, J. V. Moloney, and E. M. Wright. Theory and simulation of supercontinuum generation in transparent bulk media. *Appl. Phys. B*, 77:185, 2003.
- [174] W. Zhang, E. M. Wright, H. Pu, and P. Meystre. A fundamental limit for integrated atom optics with Bose-Einstein condensates. *Phys. Rev. A*, 68:023605, 2003.
- [175] C. F. Maes and E. M. Wright. Mode properties of an external cavity laser with a gaussian gain. *Opt. Lett.*, 29:229, 2004.
- [176] D. McGloin, A. E. Carruthers, K. Dholakia, and E. M. Wright. Optically bound microscopic particles in one dimension. *Phys. Rev. E*, 69:021403, 2004.

- [177] M. Kolesik, E. M. Wright, and J. V. Moloney. Dynamic nonlinear X-waves for femtosecond pulse propagation in water. *Phys. Rev. Lett.*, 92:253901, 2004.
- [178] M. Kolesik, E. M. Wright, and J. V. Moloney. Simulation of femtosecond pulse propagation in sub-micron diameter tapered fibers. *Appl. Phys. B*, 79:293, 2004.
- [179] V. Garces-Chavez, M. Summers, H. Melville, D. McGloin, K. Dholakia, D. Roskey, and E. M. Wright. Optical levitation in a Bessel light beam. *Appl. Phys. Lett.*, 85:4001, 2004.
- [180] T. A. Niday, E. M. Wright, M. Kolesik, and J. V. Moloney. Stability and transient effects for nanosecond ultraviolet light filament in air. *Phys. Rev. E*, 72:016618, 2005.
- [181] W. Hoyer, J. V. Moloney, E. M. Wright, A. Knorr, M. Kira, and S. W. Koch. Photoluminescence and terahertz emission from femtosecond laser-induced plasma channels. *Phys. Rev. Lett.*, 94:115004, 2005.
- [182] M. Richter, M. Schaarschmidt, A. Knorr, W. Hoyer, J. V. Moloney, E. M. Wright, M. Kira, and S. W. Koch. Quantum theory of incoherent emission of an interacting electron-ion plasma. *Phys. Rev. A*, 71:053819, 2005.
- [183] A. V. Krasvirnin, A. S. Schwanecke, N. I. Zheludev, M. Reichelt, T. Stroucken, S. W. Koch, and E. M. Wright. Polarization conversion and focusing of light propagating through a small chiral hole in a metallic screen. *Appl. Phys. Lett.*, 86:201105, 2005.
- [184] M. D. Girardeau and E. M. Wright. Static and dynamic properties of trapped fermionic Tonks-Girardeau gases. *Phys. Rev. Lett.*, 46:010406, 2005.
- [185] P. Fischer, C. T. A. Brown, J. E. Morris, C. Lopez-Mariscal, E. M. Wright, W. Sibbett, and K. Dholakia. White light propagation invariant beams. *Optics Express*, 13:6657, 2005.
- [186] M. Kolesik, E. M. Wright, and J. V. Moloney. Interpretation of the spectrally resolved far field of femtosecond pulses propagating in bulk nonlinear dispersive media. *Optics Express*, 13:10729, 2005.
- [187] N. K. Metzger, K. Dholakia, and E. M. Wright. Observation of bistability and hysteresis in optical binding of two dielectric spheres. *Phys. Rev. Lett.*, 96:068102, 2006.
- [188] M. Reichelt, S. W. Koch, A. V. Krasavin, J. V. Moloney, A. S. Schwanecke, T. Stroucken, E. M. Wright, and N. I. Zheludev. Broken enantiomeric symmetry for electromagnetic waves interacting with planar chiral nanostructures. *Appl. Phys. B*, 84:97, 2006.
- [189] N. K. Metzger, E. M. Wright, W. Sibbett, and K. Dholakia. Visualization of optical binding of microparticles using a femtosecond fiber optical trap. *Optics Express*, 14:3677, 2006.
- [190] M. Kolesik, E. M. Wright, J. V. Moloney, and A. Becker. Simulation of third-harmonic and supercontinuum generation for femtosecond pulses in air. *Appl. Phys. B*, 85:531, 2006.

- [191] P. Fischer, A. E. Carruthers, K. Volke-Sepulveda, E. M. Wright, C. T. A. Brown, W. Sibbett, and K. Dholakia. Enhanced optical guiding using a supercontinuum source. *Opt. Express*, 14:5792, 2006.
- [192] N. K. Metzger, E. M. Wright, and K. Dholakia. Theory and simulation of the bistable behavior of optically bound particles in the Mie size regime. *New Journal of Physics*, 8:139, 2006.
- [193] D. E. Roskey, M. Kolesik, J. V. Moloney, and E. M. Wright. The role of linear power partitioning in beam filamentation. *Appl. Phys. B*, 86:249, 2007.
- [194] N. K. Metzger, R. F. Marchington, M. Mazilu, R. L. Smith, K. Dholakia, and E. M. Wright. Measurement of the restoring forces acting on two optically bound particles from normal mode correlations. *Phys. Rev. Lett.*, 98:068102, 2007.
- [195] P. J. Reece, E. M. Wright, and K. Dholakia. Experimental observation of modulational instability and optical spatial soliton arrays in soft condensed matter. *Phys. Rev. Lett.*, 98:203902, 2007.
- [196] R. Kanamoto, E. M. Wright, and P. Meystre. Quantum dynamics of Raman-Coupled Bose-Einstein condensates using Laguerre-Gaussian beams. *Phys. Rev. A*, 75:063623, 2007.
- [197] D. E. Roskey, M. Kolesik, J. V. Moloney, and E. M. Wright. Self-action and regularized self-guiding of pulsed bessel-like beams in air. *Optics Express*, 15:9893, 2007.
- [198] P. Fischer, S. E. Skelton, C. C. Leburn, C. T. Streuber, E. M. Wright, and K. Dholakia. Dark spots of arago. *Optics Express*, 15:11860, 2007.
- [199] M. Kolesik, J. V. Moloney, and E. M. Wright. Supercontinuum and third-harmonic generation accompanying optical filamentation as first-order scattering processes. *Opt. Lett.*, 32:2816, 2007.
- [200] M. D. Girardeau and E. M. Wright. Rotating ground states of a one-dimensional spin-polarized gas of fermionic atoms with attractive p-wave interactions on a mesoscopic ring. *Phys. Rev. Lett.*, 100:200403, 2008.
- [201] M. D. Girardeau and E. M. Wright. Bright and dark solitary waves in a one-dimensional spin-polarized gas of fermionic atoms with p-wave interactions in a hard wall trap. *Phys. Rev. A*, 77:043612, 2008.
- [202] D. M. Gherardi, A. E. Carruthers, T. Cizmar, E. M. Wright, and K. Dholakia. A dual beam photonic crystal fibre trap for microscopic particles. *Appl. Phys. Lett.*, 43:041110, 2008.
- [203] M. Kolesik, D. Faccio, E. M. Wright, P. Di Trapani, and J. V. Moloney. Supercontinuum generation in planar glass membrane fibers: Comparison with bulk media. *Opt. Lett.*, 34:286, 2009.
- [204] W. M. Lee, R. El-Ganainy, D. N. Christodoulides, K. Dholakia, and E. M. Wright. Non-linear optical response of colloidal suspensions. *Optics Express*, 17:10277, 2009.

- [205] R. El-Ganainy, D. N. Christodoulides, E. M. Wright, W. M. Lee, and K. Dholakia. Non-linear optical dynamics in non-ideal gases of interacting colloidal nano-particles. *Phys. Rev. A*, 80:053805, 2009.
- [206] M. Kolesik, E. M. Wright, and J. V. Moloney. Femtosecond filamentation in air and higher-order nonlinearities. *Opt. Lett.*, 35:2550, 2010.
- [207] J. Baumgartl, T. Cizmar, M. Mazilu, V. C. Chan, B. A. Capron, W. McNeely, E. M. Wright, and K. Dholakia. Optical path clearing and enhanced transmission through colloidal suspensions. *Optics Express*, 18:17130, 2010.
- [208] S. Singh, G. Phelps, D. S. Goldbaum, E. M. Wright, and P. Meystre. Towards all-optical optomechanics: An optical sping mirror. *Phys. Rev. Lett.*, 105:213602, 2010.
- [209] A. Teleki, E. M. Wright, and M. Kolesik. Microscopic model for the higher-order nonlinearity in optical filaments. *Phys. Rev. A*, 82:065801, 2010.
- [210] A. Mourka, J. Baumgartl, C. Shanor, K. Dholakia, and E. M. Wright. Visualization of the birth of an optical vortex using diffraction from a triangular aperture. *Optics Express*, 19:5760, 2011.
- [211] P. Polynkin, M. Kolesik, E. M. Wright, and J. V. Moloney. Experimental test of the new paradigm for laser filamentation in gases. *Phys. Rev. Lett.*, 106:153901, 2011.
- [212] R. Kanamoto and E. M. Wright. Quantum superpositions of flow states on a ring. *Journal of Optics*, 13:064011, 2011.
- [213] D. Carlson, J. Lee, J. Mongelli, E. M. Wright, and R. J. Jones. Intracavity ionization and pulse formation in femtosecond enhancement cavities. *Opt. Lett.*, 36:2991, 2011.
- [214] M. Mansuripur, A. R. Zakharian, and E. M. Wright. Spin and orbital angular momenta of light reflected from a cone. *Phys. Rev. A*, 88:038813, 2011.
- [215] J. M. Brown, E. M. Wright, J. V. Moloney, and M. Kolesik. On the relative roles of higher-order nonlinearity and ionization in ultrafast light-matter interactions. *Opt. Lett.*, 37:1604, 2012.
- [216] M. Mazilu, A. Mourka, T. Vettenburg, E. M. Wright, and K. Dholakia. Simultaneous determination of the constituent azimuthal and radial incidences for light fields possessing orbital angular momentum. *Appl. Phys. Lett.*, 100:231115, 2012.
- [217] M. Kolesik, E. M. Wright, J. Andreasen, J. M. Brown, D. R. Carlson, and R. J. Jones. Space-time resolved simulation of femtosecond nonlinear light-matter interactions using a holistic quantum atomic model: Application to near-threshold harmonics. *Optics Express*, 20:16113, 2012.
- [218] T. Graf, D. N. Christodoulides, M. Mills, J. V. Moloney, S. C. Venkataramani, and E. M. Wright. Propagation of Gaussian-apodized paraxial beams through first-order optical systems via complex coordinate transformations and ray transfer matrices. *J. Opt. Soc. Am. A*, 29:1860, 2012.

- [219] M. Mazilu, A. Rudhall, E. M. Wright, and K. Dholakia. An interacting dipole model to explore broadband transverse optical binding. *J. Phys.: Condens. Matter*, 24:464117, 2012.
- [220] S. Singh, H. Jing, E. M. Wright, and P. Meystre. Quantum state transfer between a Bose-Einstein condensate and an optomechanical mirror. *Phys. Rev. A*, 86:021801(R), 2012.
- [221] P. Polynkin, B. Pasenow, N. Driscoll, M. Scheller, E. M. Wright, and J. V. Moloney. Seeded optically driven avalanche ionization in molecular and noble gases. *Phys. Rev. A*, 86:043410, 2012.
- [222] M. S. Mills, G. A. Siviloglou, N. Efrimidis, T. Graf, E. M. Wright, J. V. Moloney, E. M. Wright, and D. N. Christodoulides. Localized waves with spherical harmonic symmetries. *Phys. Rev. A*, 86:063811, 2012.
- [223] A. Mourka, M. Mazilu, E. M. Wright, and K. Dholakia. Modal characterization using principal component analysis: application to Bessel, higher-order Gaussian beams and their superposition. *Scientific Reports*, 3:1422, 2013.
- [224] J. T. Chia, S. E. Martin, D. R. Carlson, R. J. Jones, and E. M. Wright. Operating characteristics of a femtosecond amplification cavity for infrared frequency combs. *Phys. Rev. A*, 87:023817, 2013.
- [225] R. Kanamoto, P. Öhberg, and E. M. Wright. Superpositions in atomic quantum rings. *Phys. Rev. A*, 88:013618, 2013.
- [226] M. Mansuripur, A. R. Zakharian, and E. M. Wright. Electromagnetic force distribution inside matter. *Phys. Rev. A*, 88:023826, 2013.
- [227] L. F. Buchmann, E. M. Wright, and P. Meystre. Phase conjugation in quantum optomechanics. *Phys. Rev. A*, 88:041801R, 2013.
- [228] T. W. Neely, A. S. Bradley, E. C. Samson, S. J. Rooney, E. M. Wright, K. J. H. Law, R. Carretero-Gonzalez, M. J. Davis, and B. P. Anderson. Characteristics of two-dimensional quantum turbulence in a compressible quantum fluid. *Phys. Rev. Lett.*, 111:235301, 2013.
- [229] M. Chen, M. Mazilu, Y. Arita, E. M. Wright, and K. Dholakia. The dynamics of microparticles held in a perfect vortex beam. *Opt. Lett.*, 38:4919, 2013.
- [230] T. Roger, J. J. F. Heitz, E. M. Wright, and D. Faccio. Non-collinear interaction of photons with orbital angular momentum. *Scientific Reports*, 3:3491, 2013.
- [231] J. Andreasen, E. M. Wright, and M. Kolesik. Optical response of atomic gases to ultrafast pump-probe pulses. *IEEE J. Quant. Electron.*, 49:1088, 2013.
- [232] H. Seok, L. F. Buchmann, E. M. Wright, and P. Meystre. Multimode strong-coupling quantum optomechanics. *Phys. Rev. A*, 88:063850, 2013.
- [233] J. Lowney, T. Roger, D. Faccio, and E. M. Wright. Dichroism for orbital angular momentum using stimulated parametric down conversion. *Phys. Rev. A*, 90:053828, 2014.

- [234] K. Schuh, M. Kolesik, E. M. Wright, and J. V. Moloney. Simple model for the nonlinear optical response of gases in the transparency region. *Opt. Lett.*, 39:5086, 2014.
- [235] A. Bahl, A. Teleki, P. Jakobsen, E. M. Wright, and M. Kolesik. Reflectionless beam propagation on a piecewise linear complex domain. *J. Lightwave Tech.*, 32:3670, 2014.
- [236] M. Kolesik, J. M. Brown, A. Teleki, P. Jakobsen, J. V. Moloney, and E. M. Wright. Metastable electronic states and nonlinear response for high-intensity optical pulses. *Optica*, 1:323, 2014.
- [237] H. Seok, E. M. Wright, and P. Meystre. Dynamic stabilization of an optomechanical oscillator. *Phys. Rev. A*, 90:043840, 2014.
- [238] M. Chen, M. Mazilu, Y. Arita, E. M. Wright, and K. Dholakia. Creating and probing of a perfect vortex *in situ* with a optically trapped particle. *Optical Review*, 22:162, 2015.
- [239] D. Vocke, T. Roger, F. Marino, E. M. Wright, I Carusotto, and D. Faccio. Experimental characterization of nonlocal photon fluids. *Optica*, 2:484, 2015.
- [240] Y. Arita, M. Mazilu, T. Vettenburg, E. M. Wright, and K. Dholakia. Rotation of multiple trapped microparticles in vacuum: Observation of optically mediated parametric resonances. *Opt. Lett.*, 40:4751, 2015.
- [241] A. Bahl, J. M. Brown, E. M. Wright, and M. Kolesik. Assessment of the metastable electronic state approach as a microscopically self-consistent description of the nonlinear response of atoms. *Opt. Lett.*, 40:4987, 2015.
- [242] J. M. Brown, C. Shanor, E. M. Wright, and M. Kolesik. Carrier-wave shape effects in optical filamentation. *Opt. Lett.*, 41:859, 2016.
- [243] T. Roger, C. Maitland, K. Wilson, N. Westerberg, E. M. Wright, and D. Faccio. Optical analogues of the Newton-Schrödinger equation and boson star evolution. *Nature Communications*, 7:13492, 2016.
- [244] D. Vocke, K. Wilson, F. Marino, I. Carusotto, E. M. Wright, T. Roger, B. P. Anderson, P. Öhberg, and D. Faccio. The role of geometry in the superfluid flow of nonlocal photon fluids. *Phys. Rev. A*, 94:013849, 2016.
- [245] C. Shanor, T. Ensley, D. J. Hagan, E. W. Van Stryland, E. M. Wright, and M. Kolesik. Numerical investigation of enhanced supercontinuum via a weak seed in noble gases. *Optics Express*, 24:15110, 2016.
- [246] N. Westerberg, M. Valiente, C. Maitland, D. Faccio, K. Wilson, P. Öhberg, and E. M. Wright. Synthetic magnetism for photon fluids. *Phys. Rev. A*, 94:023805, 2016.
- [247] A. Bahl, E. M. Wright, and M. Kolesik. Nonlinear optical response of noble gases via the metastable electronic state approach. *Phys. Rev. A*, 94:023850, 2016.
- [248] M. Mazilu, Y. Arita, T. Vettenburg, J. M. Auuon, E. M. Wright, and K. Dholakia. Orbital angular momentum transfer to microparticles in vacuum. *Phys. Rev. A*, 94:053821, 2016.

- [249] D. Faccio and E. M. Wright. Nonlinear Zel'dovich effect: Parametric amplification from medium rotation. *Phys. Rev. Lett.*, 118:093901, 2017.
- [250] K. Schuh, M. Kolesik, E. M. Wright, J. V. Moloney, and S. W. Koch. Self-channeling of high-power long-wave infrared pulses in atomic gases. *Phys. Rev. Lett.*, 118:063901, 2017.
- [251] Y. Arita, M. Chen, E. M. Wright, and K. Dholakia. Dynamics of a levitated microparticle in vacuum trapped by a perfect vortex: Three-dimensional motion around a complex optical potential. *J. Opt. Soc. Am. B*, 34:C14, 2017.
- [252] H. Seok and E. M. Wright. Antibunching in an optomechanical oscillator. *Phys. Rev. A*, 95:053844, 2017.
- [253] M. Mazilu, T. Vettenburg, M. Ploschner, E. M. Wright, and K. Dholakia. Modal beam splitter: determination of the transversal components of an electromagnetic light field. *Scientific Reports.*, 7:9139, 2017.
- [254] M. L. Lukowski, J. T. Meyer, C. Hassenius, E. M. Wright, and M. Fallahi. Generation of high-power spatially structured beams using vertical cavity surface emitting lasers. *Optics Express*, 25:25504, 2017.
- [255] K. Schuh, P. Rosenow, M. Kolesik, E. M. Wright, S. W. Koch, and J. V. Moloney. Non-linear rovibrational polarization response of water vapor to ultrashort long-wave infrared pulses. *Phys. Rev. A*, 96:043818, 2017.
- [256] M. L. Lukowski, C. Hassenius, J. T. Meyer, E. M. Wright, and M. Fallahi. High power two-color orbital angular momentum beam generation using vertical external cavity surface emitting lasers. *Appl. Phys. Lett.*, 112:041108, 2018.
- [257] Y. Arita, E. M. Wright, and K. Dholakia. Optical binding of two cooled micro-gyroscopes levitated in vacuum. *Optica*, 5:910, 2018.
- [258] N. Westerberg, K. E. Wilson, C. W. Duncan, D. Faccio, E. M. Wright, P. Öhberg, and M. Valiente. Self-bound droplets of light with orbital angular momentum. *Phys. Rev. A*, 98:053835, 2018.
- [259] K. E. Wilson, N. Westerberg, M. Valiente, C. W. Duncan, E. M. Wright, P. Öhberg, and D. Faccio. Observation of photon droplets and their dynamics. *Phys. Rev. Lett.*, 121:133903, 2018.
- [260] J. Lee, Y. Arita, S. Toyoshima, K. Miyamoto, P. Panagiotopoulos, E. M. Wright, K. Dholakia, and T. Omatsu. Photopolymerization with light fields possessing orbital angular momentum: Generation of helical microfibers. *ACS Photonics*, 5:4156, 2018.
- [261] D. Vocke, C. Maitland, A. Prain, K. E. Wilson, F. Biancalana, F. Marino, E. M. Wright, and D. Faccio. Rotating black hole geometries in a two-dimensional photon superfluid. *Optica*, 5:1099, 2018.
- [262] G. Mussarra, K. E. Wilson, D. Faccio, and E. M. Wright. Rotation-dependent nonlinear absorption of orbital angular momentum carrying beams in ruby. *Opt. Lett.*, 43:3073, 2018.

- [263] S. Tochitsky, E. Welch, M. Polyanskiy, I. Pogorelsky, P. Panagiotopoulos, M. Kolesik, E. M. Wright, S. W. Koch, J. V. Moloney, J. Pigeon, and C. Joshi. Megafilament in air formed by self-guided terawatt long-wavelength infrared laser. *Nature Photonics*, 13:41, 2019.
- [264] D. Faccio and E. M. Wright. Superradiant amplification of acoustic beams via medium rotation. *Phys. Rev. Lett.*, 123:044301, 2019.
- [265] M. Kolesik and E. M. Wright. Universal long-wavelength nonlinear optical response of noble gases. *to be published in Opt. Express*, 27:25445, 2019.
- [266] E. M. Wright, S. W. Koch, M. Kolesik, and J. V. Moloney. Memory effects in the long-wave infrared avalanche ionization of gases: A review of recent progress. *Reports in Progress in Physics*, 82:064401, 2019.
- [267] M. L. Lukowski, J. T. Meyer, C. Hessenius, E. M. Wright, and M Fallahi. High-power higher-order Hermite-Gaussian and Laguerre-Gaussian beams from vertical external cavity surface emitting lasers. *IEEE JSTQE*, 25:1500406, 2019.
- [268] P. Pangiotopoulos, M. Kolesik, S. W. Koch, E. M. Wright, S. Tochitsky, and J. V. Moloney. Control of the filament dynamics of 10 microns pulses via designer pulse trains. *J. Opt. Soc. Am. B*, 36:G33, 2019.
- [269] P. Öhberg and E. M. Wright. Quantum time crystals and interacting gauge theories in atomic Bose-Einstein condensates. *Phys. Rev. Lett.*, 123:250402, 2019.
- [270] J. T. Meyer, M. L. Lukowski, C. Hessenius, E. M. Wright, and M Fallahi. High peak power, sub-ps green emission in a passively mode locked W-cavity VECSEL. *Opt. Express*, 28:5794, 2020.
- [271] P. Öhberg and E. M. Wright. Reply to a Comment by Syrwid, Kosior, and Sacha on *Quantum time crystals and interacting gauge theories in atomic Bose-Einstein condensates*. *Phys. Rev. Lett.*, 124:178902, 2020.
- [272] M. Cromb, G. M. Gibson, E. Tonnenelli, M. Padgett, E. M. Wright, and D. Faccio. Amplification of waves from a rotating body. *Nature Physics*, 16:1069, 2020.
- [273] M. C. Braidotti, D. Faccio, and E. M. Wright. Penrose superradiance in nonlinear optics. *Phys. Rev. Lett.*, 125:193902, 2020.
- [274] J. T. Meyer, M. L. Lukowski, C. Hessenius, E. M. Wright, and M Fallahi. All-intracavity fourth harmonic generation in a passively mode locked VECSEL for ultrafast UV emission. *Opt. Commun.*, 499:127255, 2021.
- [275] M. C. Braidotti, R. Prizia, C. Maitland, F. Marino, A. Prain, I Starshynov, N. Westerberg, E. M. Wright, and D. Faccio. Measurement of Penrose superradiance in a photon superfluid. *Phys. Rev. Lett.*, 128:013901, 2022.
- [276] M. C. Braidotti, F. Marino, E. M. Wright, and D. Faccio. The Penrose process in nonlinear optics. *AVS Quantum Sci.*, 4:010501, 2022.

- [277] J. Betz, J. Manley, E. M. Wright, D. Grin, and S. Singh. Searching for chameleon dark energy with mechanical systems. *arXiv:2201.12372v1*, XX:XX, 2022.
- [278] N. S. Gottesman, M. L. Lukowski, J. T. Meyers, C. Hessensius, E. M. Wright, and M. Fallah. Intra-cavity astigmatic mode converting VECSEL. *IEEE Photonics Journal*, 14:153906, 2022.
- [279] Y. Arita, S. H. Simpson, G. D. Bruce, E. M. Wright, P. Zemanek, and K. Dholakia. Cooling the optical-spin driven limit cycle oscillations of a levitated gryoscope. *arXiv:2204.06925v1*, XX:XX, 2022.
- [280] M. Lovisetto, M. C. Braidotti, R. Prizia, C. Michel, D. Chamond, M. Bellec, E. M. Wright, B. Marcos, and D. Faccio. Observation of the formation of an analogue galaxy. *arXiv:2205.10948v1*, XX:XX, 2022.
- [281] D. Faccio and E. M. Wright. Photonic time crystal lasers. *Science*, 377:368, 2022.
- [282] Y. Arita, G. D. Bruce, E. M. Wright, G. D. Bruce, P. Zemanek, and K. Dholakia. All-optical sub-kelvin sympathetic cooling of a levitated microsphere in vacuum. *to be published in Optica*, XX:XX, 2022.
- [283] M. Mansuripur and E. M. Wright. Fundamental properties of beam splitters in classical and quantum optics. *submitted*, XX:XX, 2022.
- [284] J. Priestley, G. Valenti-Rojas, E. M. Wright, and P. Ohberg. The gauge-coupled two-body problem on a ring. *arXiv:2207.00996v1*, XX:XX, 2022.