

Selected Publications

- 1) 'A field momentum approach to the semiclassical theory of light forces on atoms' A.V.Durrant, K.Hill, S.Hopkins and E.Usadi, *J. Mod. Opt.* **42**, 131, (1995).
- 2) 'Proposed temperature measurements of laser-cooled samples by coherent optical transients' A.V.Durrant, E.Usadi, K.E.Hill and S.Hopkins, Session QTuG5, IEEE Technical Digest European Quantum Electronics Conference, Amsterdam, (1994).
- 3) 'Electromagnetically induced transparency of laser-cooled rubidium atoms in three-level Λ -type systems' S.A.Hopkins, E.Usadi, H.X.Chen and A.V.Durrant, *Opt.Comm.* **138**, 185, (1997).
- 4) 'Parameters for polarisation gradients in three-dimensional standing waves' S.A.Hopkins and A.V.Durrant, *Phys.Rev.A* **56**, 4012, (1997).
- 5) 'Stochastic wavefunction diagrams for electromagnetically induced transparency and inversionless gain' J.A.Vaccaro, A.V.Durrant, D.Richards, S.A.Hopkins, H.X.Chen and K.E.Hill, *J.Mod.Opt.* **45**, 315, (1998).
- 6) 'Zeeman-coherence-induced transparency and gain without inversion in laser-cooled rubidium' A.V.Durrant, H.X.Chen, S.A.Hopkins and J.A.Vaccaro, *Opt. Comm.* **151**, 136, (1998).
- 7) 'Suppression of collisional loss from a magnetic trap' J.Arlt, P.Bance, S.Hopkins, J.Martin, S.Webster, A.Wilson, K.Zetie and C.J.Foot, *J.Phys.B: At.Mol.Opt.Phys* **31**, L321, (1998).
- 8) 'A pyramidal magneto-optical trap as a source of slow atoms' J.Arlt, S.Hopkins, O.Maragò, S.Webster and C.J.Foot, *Opt.Comm.* **157**, 303, (1998).
- 9) 'Measurement of elastic cross-section for cold caesium atoms' S.A.Hopkins, S.Webster, J.Arlt, P.Bance, S.Cornish, O.Maragò, and C.J.Foot, *Phys.Rev.A* **61**, 032707, (2000).
- 10) 'Bose-Einstein condensation in a rotating anisotropic TOP trap' J.Arlt, O.Maragò, E.Hodby, S.A.Hopkins, G.Hechenblaikner, S.Webster and C.J.Foot, *J.Phys.B: At.Mol.Opt.Phys* **32**, 5861, (1999).
- 11) 'Observation of the scissors mode and evidence for superfluidity of a trapped Bose-Einstein condensed gas' O.M.Maragò, S.A.Hopkins, J.Arlt, E.Hodby, G.Hechenblaikner and C.J.Foot, *Phys.Rev.Lett.* **84**, 2056, (2000).
- 12) 'Observation of harmonic generation and non-linear coupling in the collective dynamics of a Bose condensate' G.Hechenblaikner, O.M.Maragò, E.Hodby, J.Arlt, S.Hopkins and C.J.Foot, *Phys.Rev.Lett.* **85**, 692, (2000).
- 13) 'Bose-Einstein condensation in a stiff TOP trap with adjustable geometry' E.Hodby, G.Hechenblaikner, O.M.Maragò, J.Arlt, S.Hopkins and C.J.Foot, *J.Phys.B: At.Mol.Opt.Phys.* **33**, 4087, (2000).
- 14) 'Dipole force trapping of caesium atoms' S.A.Webster, G.Hechenblaikner, S.A.Hopkins, J.Arlt and C.J.Foot, *J.Phys.B: At.Mol.Opt.Phys.* **33**, 1, (2000).
- 15) 'UHV-compatible magnetic material for atom optics' S.A.Hopkins, E.A.Hinds, and M.G.Boshier, *Appl.Phys.B* **73**, 51 (2001).
- 16) 'The Moment of Inertia and the Scissors Mode of a Bose-condensed Gas', O.Maragò, G.Hechenblaikner, E.Hodby, S.A.Hopkins, C.J.Foot, *J.Phys.: Condens. Matter* **14**, 343 (2002).
- 17) 'Vortex nucleation in Bose-Einstein condensates in an oblate, purely magnetic potential', E. Hodby, G. Hechenblaikner, S.A. Hopkins, O.M. Maragò, C.J.Foot, *Phys. Rev. Lett.* **88**, 010405 (2002).
- 18) 'Direct observation of irrotational flow and evidence of superfluidity in a rotating Bose-Einstein condensate', G. Hechenblaikner, E. Hodby, S.A. Hopkins, O.M. Maragò, C.J. Foot. *Phys. Rev. Lett.* **88**, 070406 (2002).
- 19) 'Experimental observation of a superfluid gyroscope in a dilute Bose-Einstein condensate', E. Hodby, S.A. Hopkins, G. Hechenblaikner, N.L.Smith and C.J. Foot, *Phys.Rev.Lett.* **91**, 090403 (2003).

- 20) 'Strong evaporative cooling towards Bose-Einstein condensation of a magnetically trapped caesium gas', A.M. Thomas, S. Hopkins, S.L. Cornish and C.J. Foot, *J.Opt.B: Quantum Semiclass. Opt.* **5**, S107 (2003).
- 21) 'Off-resonance laser frequency stabilization using the Faraday effect', A.L. Marchant, S. Händel, T.P. Wiles, S.A. Hopkins, C.S. Adams, and S.L. Cornish, *Opt. Lett.*, **36**, 64 (2011).
- 22) 'Magnetic merging of ultracold atomic gases of 85Rb and 87Rb', S. Händel, T.P. Wiles, A.L. Marchant, S.A. Hopkins, C.S. Adams, S.L. Cornish, *Phys. Rev. A*, **83**, 053633 (2011).
- 23) 'Bose-Einstein condensation of 87Rb in a levitated crossed dipole trap', D.L. Jenkin, D.J. McCarron, M.P. Köppinger, H-W. Cho, S.A. Hopkins, S.L. Cornish, *Eur. Phys. J. D*, **65**, 11 (2011).
- 24) 'Guided transport of ultracold gases of rubidium up to a room-temperature dielectric surface', A.L. Marchant, S. Händel, T.P. Wiles, S.A. Hopkins, S.L. Cornish, *New J. Phys.*, **13**, 125003 (2011).
- 25) 'Magnetic transport apparatus for the production of ultracold atomic gases in the vicinity of a dielectric surface', S. Händel, A.L. Marchant, T.P. Wiles, S.A. Hopkins, S.L. Cornish, *Rev. Sci. Instrum.*, **83**, 013105 (2012).
- 26) 'Bose-Einstein condensation of 85Rb by direct evaporation in an optical dipole trap', A.L. Marchant, S. Händel, S. A. Hopkins, T.P. Wiles and S. L. Cornish, *Phys. Rev., A* **85**, 053647 (2012).
- 27) 'Quantum Gases, Finite Temperature and Non-Equilibrium Dynamics, chapter 2, 'Experimental Consideration', S.A. Hopkins and S.L. Cornish, eds: N. Proukakis, S. Gardiner and M. Davis, *World Scientific Press* (2012).