

# Annual Report 2004



The Centre for Ultrahigh bandwidth Devices for Optical Systems (CUDOS)  
An Australian Research Council Centre of Excellence

# CUDOS Publications

## Refereed Journal Publications

- Alexander TJ, Sukhorukov AA, Kivshar YS  
Asymmetric vortex solitons in nonlinear periodic lattices  
PHYSICAL REVIEW LETTERS 93 (6): Art. No. 063901 AUG 6 2004
- Blows JL  
Design strategy for controlling four-wave mixing-induced crosstalk between channels in a fibre optical parametric amplifier  
OPTICS COMMUNICATIONS 236 (1-3): 115-122 JUN 1 2004
- Blows JL, Hu PF  
Cross-talk-induced limitations of two-pump optical fiber parametric amplifiers  
JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS 21 (5): 989-995 MAY 2004
- Botten LC, White TP, de Sterke CM, McPhedran RC, Asatryan AA, Langtry T  
Photonic crystal devices modelled as grating stacks: matrix generalizations of thin film optics  
OPTICS EXPRESS 12 (8): 1592-1604 APR 19 2004  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-8-1592>
- Botten LC, White TP, Asatryan AA, Langtry TN, de Sterke CM, McPhedran RC  
Bloch mode scattering matrix methods for modelling extended photonic crystal structures. I. Theory,  
PHYSICAL REVIEW E 70, 056606:1 - 13 2004  
<http://link.aps.org/abstract/PRE/v70/e056606>
- Campbell S, McPhedran RC, de Sterke CM, Botten LC  
Differential multipole method for microstructured optical fibers  
JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS 21 (11): 1919-1928 NOV 2004
- de Sterke CM, Botten LC, Asatryan AA, White TP, McPhedran RC  
Modes of coupled photonic crystal waveguides  
OPTICS LETTERS 29 (12): 1384-1386 JUN 15 2004
- Domachuk P, Eggleton BJ  
Photonics - Shrinking optical fibres  
NATURE MATERIALS 3 (2): 85-86 FEB 2004
- Domachuk P, Nguyen HC, Eggleton BJ  
Transverse probed microfluidic switchable photonic crystal fiber devices  
IEEE PHOTONICS TECHNOLOGY LETTERS 16 (8): 1900-1902 AUG 2004
- Domachuk P, Nguyen HC, Eggleton BJ, Straub M, Gu M  
Microfluidic tunable photonic band-gap device  
APPLIED PHYSICS LETTERS 84 (11): 1838-1840 MAR 15 2004
- Farahmand M, de Sterke CM  
Parametric amplification in presence of dispersion fluctuations  
OPTICS EXPRESS 12 (1): 136-142 JAN 12 2004  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-1-136>
- Feise MW, Shadrivov IV, Kivshar YS  
Tunable transmission and bistability in left-handed band-gap structures  
APPLIED PHYSICS LETTERS 85 (9): 1451-1453 AUG 30 2004
- D.P. Fussell, R.C. McPhedran, C. Martijn de Sterke  
Three dimensional Green's tensor, local density of states and spontaneous emission infinite two-dimensional photonic crystals composed of cylinders  
PHYS. REV. E 70, 066608:1-19 (2004)
- Gamaly EG, Rode AV, Uteza O, Kolev V, Luther-Davies B, Bauer T, Koch J, Korte F, Chichkov BN  
Control over a phase state of the laser plume ablated by femtosecond laser: Spatial pulse shaping  
JOURNAL OF APPLIED PHYSICS 95, 2250-57 2004  
[http://scitation.aip.org/journals/doc/JAPIAU-ft/vol\\_95/iss\\_5/2250\\_1.html](http://scitation.aip.org/journals/doc/JAPIAU-ft/vol_95/iss_5/2250_1.html)
- Grillet C, Domachuk P, Ta'eed V, Magi E, Bolger JA, Eggleton BJ, Rodd LE, Cooper-White J,  
Compact tunable microfluidic interferometer  
OPTICS EXPRESS 12, 5440-5447 (2004)  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-22-5440>
- Kerbage C, Eggleton BJ  
Manipulating light by microfluidic motion in microstructured optical fibers  
OPTICAL FIBER TECHNOLOGY 10 (2): 133-149 APR 2004
- Kuhlmeiy BT, McPhedran RC, de Sterke CM  
Bloch method for the analysis of modes in microstructured optical fibers  
OPTICS EXPRESS 12 (8): 1769-1774 APR 19 2004  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-8-1769>
- Lee K, Hu P, Blows JL, Thorncraft D, Baxter J  
A 200 m Optical Fibre with Integrated Electrode And Its Poling  
OPTICS LETTERS 29 (18), 2124-2126, September 2004  
<http://www.opticsinfobase.org/abstract.cfm?id=81118>
- Litchinitser NM, Dunn SC, Steinvurzel PE, Eggleton BJ, White TP, McPhedran RC, de Sterke CM  
Application of an ARROW model for designing tunable photonic devices  
OPTICS EXPRESS 12 (8): 1540-1550 APR 19 2004  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-8-1540>
- Lize YK, Magi EC, Ta'eed VG, Bolger JA, Steinvurzel PE, Eggleton BJ  
Microstructured optical fiber photonic wires with subwavelength core diameter  
OPTICS EXPRESS 12 (14): 3209-3217 JUL 12 2004  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-14-3209>
- Magi EC, Steinvurzel P, Eggleton BJ  
Tapered photonic crystal fibers  
OPTICS EXPRESS 12 (5): 776-784 MAR 8 2004  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-5-776>
- Magi E C, Steinvurzel P, Eggleton B J  
Transverse characterization of tapered photonic crystal fibers  
JOURNAL OF APPLIED PHYSICS 96(7): 3976-3982 (2004)  
[http://content.aip.org/JAPIAU/v96/i7/3976\\_1.html](http://content.aip.org/JAPIAU/v96/i7/3976_1.html)
- Matthews AF, Mingaleev SF, Kivshar YS  
Band-gap engineering and defect modes in photonic crystals with rotated hexagonal holes  
LASER PHYSICS 14 (5): 631-634 MAY 2004
- McKerracher RW, Blows JL, de Sterke CM  
Systematic analysis of wavelength conversion in a fiber optical parametric device with a single, tunable pump  
OPTICS EXPRESS 12 (12): 2810-2815 JUN 14 2004  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-12-2810>
- McPhedran RC, Botten LC, McOrist J, Asatryan AA, de Sterke CM, Nicorovici NA  
Density of states functions for photonic crystals  
PHYSICAL REVIEW E 69 (1): Art. No. 016609 Part 2 JAN 2004
- Mok JT, Eggleton BJ  
Impact of group delay ripple on repetition-rate multiplication through Talbot self-imaging effect  
OPTICS COMMUNICATIONS 232 (1-6): 167-178 MAR 1 2004
- Mok JT, Blows JL, Eggleton BJ  
Investigation of group delay ripple distorted signals transmitted through all-optical 2R regenerators  
OPTICS EXPRESS 12: 4411-4422 (2004)  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-19-4411>
- Moss DJ, Taaed VG, Eggleton BJ, Freeman D, Madden S, Samoc M, Luther-Davies B, Janz S, Xu D-X  
Bragg gratings in silicon-on-insulator waveguides by focused ion beam milling  
APPLIED PHYSICS LETTERS 85 (21) 4860-4862  
<http://dx.doi.org/10.1063/1.1824182>
- Neshev D, Sukhorukov AA, Hanna B, Krolikowski W, Kivshar YS  
Controlled generation and steering of spatial gap solutions  
PHYSICAL REVIEW LETTERS 93 (8): Art. No. 083905 AUG 20 2004
- Neshev D, Sukhorukov AA, Kivshar YS, Krolikowski W  
Observation of transverse instabilities in optically induced lattices  
OPTICS LETTERS 29 (3): 259-261 FEB 1 2004
- Neshev DN, Alexander TJ, Ostrovskaya EA, Kivshar YS, Martin H, Makasyuk I, Chen ZG  
Observation of discrete vortex solitons in optically induced photonic lattices  
PHYSICAL REVIEW LETTERS 92 (12): Art. No. 123903 MAR 26 2004
- Nguyen HC, Domachuk P, Eggleton BJ, Steel M, Straub MJ, Gu M, Sumetsky M  
New slant on photonic crystal fibers  
OPTICS EXPRESS 12 (8): 1528-1539 APR 19 2004  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-8-1528>

33. Nguyen HC, Domachuk P, Steel MJ, Eggleton BJ  
Experimental and finite difference time domain technique characterization of transverse in-line photonic crystal fiber  
IEEE PHOTONICS TECHNOLOGY LETTERS 16 (8): 1852-1854 AUG 2004
  34. Norton AH, de Sterke CM  
Aperiodic 1-dimensional structures for quasi-phase matching  
OPTICS EXPRESS 12 (5): 841-846 MAR 8 2004  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-5-841>
  35. Pelinovsky DE, Sukhorukov AA, Kivshar YS  
Bifurcations and stability of gap solitons in periodic potentials  
PHYSICAL REVIEW E 70 (3): Art. No. 036618 Part 2 SEP 2004
  36. Ruan Y, Li W, Jarvis R, Madsen, Rode A, Luther-Davies B  
Fabrication and characterization of low loss rib chalcogenide waveguides made by dry etching  
OPTICS EXPRESS 12, 5140-5145 (2004)  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-21-5140>
  37. Shadrivov I, Zharova N, Zharov A, Kivshar Y  
Defect Modes and Transmission Properties of Left-handed Bandgap Structures  
PHYSICAL REVIEW E 70 (4) 046615:1-6 2004  
<http://link.aps.org/abstract/PRE/v70/e046615>
  38. Steel MJ  
Reflection symmetry and mode transversality in microstructured fibers  
OPTICS EXPRESS 12, 1497-1509 2004  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-8-1497>
  39. Steinvurzel P, Kuhlmei BT, White TP, Steel MJ, de Sterke CM, Eggleton BJ  
Long wavelength anti-resonant guidance in high index inclusion microstructured fibers  
OPTICS EXPRESS 12, 5424-5433 (2004)  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-22-5424>
  40. Straub M, Ventura M, Gu M  
Microvoid channel polymer photonic crystals with large infrared stop gaps and a multitude of higher-order bandgaps fabricated by femtosecond laser drilling in solid resin  
THIN SOLID FILMS 453-54: 522-526 APR 1 2004
  41. Sukhorukov AA, Neshev D, Krolkowski W, Kivshar YS  
Nonlinear Bloch-wave interaction and Bragg scattering in optically induced lattices  
PHYSICAL REVIEW LETTERS 92 (9): Art. No. 093901 MAR 5 2004
  42. Ta'eed V G, Moss D J, Eggleton B J, Freeman D, Madden S, Samoc M, Luther-Davies B, Janz S, Xu D  
Higher order mode conversion via focused ion beam milled Bragg gratings in Silicon-on-Insulator waveguides  
OPTICS EXPRESS 12, 5274-5284 (2004)  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-21-5274>
  43. Vicencio RA, Molina MI, Kivshar YS  
Switching of discrete optical solitons in engineered waveguide arrays  
PHYSICAL REVIEW E 70 (2): Art. No. 026602 Part 2 AUG 2004
  44. Wan J, Domachuk P, Dignam MM, de Sterke CM  
Electron dynamics and dynamic localization in asymmetric periodic potentials  
PHYSICAL REVIEW B 69 (11): Art. No. 113304 MAR 2004
  45. Wan J, de Sterke CM, Dignam MM  
Dynamic localization and quasi-Bloch oscillations in general periodic ac-dc electric fields  
PHYSICAL REVIEW B 70 (12): Art. No. 125311 SEP 2004
  46. Wang XH, Kivshar YS, Gu BY  
Giant Lamb shift in photonic crystals  
PHYSICAL REVIEW LETTERS 93 (7): Art. No. 073901 AUG 13 2004
  47. White TP, Botten LC, de Sterke CM, McPhedran RC, Asatryan AA, Langtry TN  
Bloch mode scattering matrix methods for modelling extended photonic crystal structures. II. Applications  
PHYSICAL REVIEW E 70, 056607:1 - 10 2004  
<http://link.aps.org/abstract/PRE/v70/e056607>
  48. White TP, de Sterke CM, McPhedran RC, Huang T, Botten LC  
Recirculation-enhanced switching in photonic crystal Mach-Zehnder interferometers  
OPTICS EXPRESS 12 (13): 3035-3045 JUN 28 2004  
<http://www.opticsexpress.org/abstract.cfm?URI=OPEX-12-13-3035>
  49. Zhou GY, Ventura MJ, Straub M, Gu M, Ono A, Kawata S, Wang X, Kivshar Y  
In-plane and out-of-plane band-gap properties of a two-dimensional triangular polymer-based void channel photonic crystal  
APPLIED PHYSICS LETTERS 84 (22): 4415-4417 MAY 31 2004
  50. Zhou Gy, Ventura MJ, Vanner MR, Gu M  
Use of ultrafast-laser-driven micro-explosion for fabricating three-dimensional void-based diamond-lattice photonic crystals in a solid polymer material  
OPTICS LETTERS 29, 2240 2004
- ### Book chapters
51. Ventura M, Zhou G, Straub M, Gu M,  
Femtosecond fabrication of photonic crystals inside a bulk polymer material, in Nanophotonics, Hiroshi Masuhara and Satoshi Kawata eds. (Elsevier Science, Amsterdam, 2004).
  52. Westbrook P, Eggleton BJ  
Fiber Gratings, in Encyclopedia of Modern Optics, Elsevier 2004
- ### Invited Presentations
1. L.C. Botten, A.A. Asatryan, T.N. Langtry, T.P. White, C.M. de Sterke and R.C. McPhedran, "Bloch mode scattering matrix methods for modeling extended photonic crystal devices", Optical Society of America Conference on Integrated Photonics Research, San Francisco, USA, June 29 - July 2, 2004.
  2. L.C. Botten, A.A. Asatryan, T.P. White, R.C. McPhedran and C.M. de Sterke, "Scattering Matrix Techniques for modelling extended photonic crystal devices", presented at SIAM (MS04) Conference on Mathematical Aspects of Materials Science, Los Angeles, May 2004.
  3. B.J. Eggleton, "Functional fiber devices", Asia Pacific Conference on Photonics and Optical Communications, Beijing, China, November, 2004.
  4. B.J. Eggleton, "Microphotonic crystal fibers", Frontiers in Optics OSA Annual Meeting, Rochester, New York, October, 2004.
  5. B.J. Eggleton, "Photonic crystal fibers and devices", Short Course, Presented at Conference on Lasers and Electro-Optics (CLEO), San Francisco, May, 2004.
  6. M. Gu "Three-dimensional photonic crystals fabricated in polymer", 88th Annual Meeting of Optical Society of America: Frontiers in Optics 2004, Rochester, USA, October 10-14, 2004.
  7. M. Gu, "Two-dimensional void-based photonic crystals and associated devices in polymers", Photonics Asia 2004: Information Optics & Photonics Technology, Beijing, P. R. China, November 8-12, 2004.
  8. B. Luther-Davies, D. Freeman, Y. Ruan, N. Madsen, S. Madden, R. Jarvis, A. Rode, M. Samoc "Chalcogenide Glass Photonic Devices", IEEE LEOS Annual Meeting, San Juan, Puerto Rico, November 8-11, 2004.
  9. B. Luther-Davies, E. Gamaly, A. Rode, V. Kolev, N. Madsen, M. Duering, J. Giesekus, "Applications of high-power slow mode-locked lasers for ablation and nonlinear optics", High-Power Laser Ablation 2004, Proceedings SPIE 5448, Taos, New Mexico, USA, April 25-30, 2004.
  10. B. Luther-Davies, Y. Ruan, W. Li, D. Freeman, A. Rode, N. Madsen, R. Jarvis, E. Gamaly, S. Madden, V. Kolev, "Chalcogenide glass waveguide: basic properties and emerging applications", EPS Europhoton Conference, Lausanne, Switzerland, August 29 - September 3, 2004.
  11. Y.S. Kivshar, "Nonlinear photonics in optically induced lattices", Workshop on Nonlinear Guided waves, Edinburgh, UK.
  12. Y.S. Kivshar, "Optically-induced photonic lattices", International meeting on Nonlinear Optics in Liquid and Photorefractive Crystals NOLPC'2005, Crimea, October, 2005.
  13. W. Krolkowski, B. Hanna, D. Neshev, A. Sukhorukov, Y. Kivshar, "Nonlinear waves and discrete solitons in photorefractive lattices", invited talk at Nonlinear Optics Applications, Konstancin-Jeziorna, Poland, June 17-21, 2004.



14. W. Krolikowski, D. Neshev, B. Hanna, A.A. Sukhorukov, Y. Kivshar, "Nonlinear Bloch-wave interaction and discrete solitons in optically induced photorefractive lattice", SIAM Conference on Nonlinear Waves and Coherent Structures, Orlando FL, USA, October 2-5, 2004.
15. R.C. McPhedran, B.J. Eggleton, "Microstructured Fibers and Their Applications", Invited Tutorial, ECOC 2004 (30th European Conference on Optical Communication), Stockholm, Sweden, September 5-9, 2004.
16. R.C. McPhedran, B. Kuhlmeiy, B.J. Eggleton, "Second-Generation Photonic Crystal Fibers", OSA Frontiers in Optics Conference, Rochester, N.Y., October 11-14, 2004.
17. D. Neshev, A. Sukhorukov, E.A. Ostrovskaya, T.J. Alexander, Y. Kivshar, B. Hanna, W. Krolikowski, "Photonics in optically induced lattices, invited talk (JtuF6)", CLEO/IQEC Conference on Lasers and Electro Optics International Quantum Electronics Conference, Moscone Center West, San Francisco, California, USA, May 16-21, 2004.
18. M. Straub, M.J. Ventura, M. Gu, "Femtosecond fabrication of photonic crystals in polymers", The First Pacific International Conference on Applications of Lasers and Optics (PICALO), Melbourne, Australia, April 19-21, 2004.
19. A.A. Sukhorukov, "Optical vortices in nonlinear periodic lattices", VII INTERNATIONAL WORKSHOP on NONLINEAR OPTICS APPLICATIONS, Konstancin, Poland, June 17-20, 2004.
20. A.A. Sukhorukov, D. Neshev, B. Hanna, W. Krolikowski, and Y. Kivshar, "Gap solitons and nonlinear inter-band interactions in periodic lattices" SIAM Conference on Nonlinear Waves and Coherent Structures, Orlando FL, USA, October 2-5, 2004.
21. G. Zhou, M.J. Ventura, M. Straub, M. Gu, A. Ono, S. Kawata, X. Wang, Y. Kivshar "Fabrication and characterization of two-dimensional triangular polymer based void-channel photonic crystals", International Conference on Nanophotonics, Osaka, Japan, January 10-12, 2004.
9. S. Desyatnikov, A.A. Sukhorukov, D. Neshev, E.A. Ostrovskaya, H. Martin, Z. Chen, C. Denz, Y.S. Kivshar, "Composite optical solitons in self-induced lattices", Proceedings of CLEO/IQEC conference, San Francisco, California, CMT5, 2004.
10. P. Domachuk, H. Nguyen, B.J. Eggleton, "Microfluidic tunable PC fibre switch", Presented at the Australia Conference on Optical Fiber Technology/ Australian Optical Society (ACOFT/AOS), July 5, 2004.
11. P. Domacuk, H. Nguyen, B.J. Eggleton, M. Straub, M. Gu, "Micro-fluidic switchable photonic bandgap devices", Presented at Conference on Lasers and Electro-Optics (CLEO), May, 2004.
12. P. Domachuk, H.C. Nguyen, B.J. Eggleton, "Microfluidic Tuned Transverse Photonic Crystal Fibre", Presented at the European Conference on Optical Communications (ECOC), Sept 6, 2004.
13. P. Domachuk, H. Nguyen, M.J. Steel, B.J. Eggleton, "Experimental and Finite Difference Time Domain Technique Characterization of Transverse In-line Photonic Crystal Fiber", Presented at the Australia Conference on Optical Fiber Technology/Australian Optical Society (ACOFT/AOS), July 5, 2004.
14. D. Freeman, Y. Ruan, N. Madsen, S. Madden, R. Jarvis, A. Rode, "Marek Samoc, and Barry Luther-Davies, Fabrication of Planar Photonic Crystals in Chalcogenide Glass Films by Focused Ion Beam Milling", 2004 Conference on Optoelectronic and Microelectronic Materials and Devices (COMMAD2004), Brisbane, December 8-10, 2004.
15. D. Freeman, Y. Ruan, N. Madsen, S. Madden, R. Jarvis, A. Rode, M. Samoc, B. Luther-Davies, "Nanophotonic Structures Fabricated in Chalcogenide Glass Films by Focused Ion Beam Milling", ACOFT/AOS'04, Canberra, July 5-8, 2004.
16. D.P. Fussell, R. McPhedran, M. de Sterke, "Three-dimensional local density of states in two-dimensional photonic crystals", Conference on Laser Electro-Optics/International Quantum Optics Conference (CLEO/IQEC) Conference Program, paper IThE5.

## Refereed Conferences

1. A.A. Asatryan, L.C. Botten, R.C. McPhedran, C.M. de Sterke, T.N. Langtry, N.N. Nicorovici, "Conductance of photons and Anderson localization of light", Conference on Laser Electro-Optics/International Quantum Optics Conference (CLEO/IQEC) Conference Program, paper IFB6.
2. L.C. Botten, A.A. Asatryan, T.N. Langtry, T.P. White, C.M. de Sterke, R.C. McPhedran, "Bloch mode scattering matrix methods for modeling extended photonic crystal devices", Optical Society of America Conference on Integrated Photonics Research, San Francisco, USA, June 29 - July 2, 2004 (Invited paper).
3. L.C. Botten, A.A. Asatryan, T.P. White, R.C. McPhedran, C.M. de Sterke, "Scattering Matrix Techniques for modelling extended photonic crystal devices", presented at SIAM (MS04) Conference on Mathematical Aspects of Materials Science, Los Angeles, May, 2004.
4. L.C. Botten, A.A. Asatryan, T.P. White, R.C. McPhedran, C.M. de Sterke, T.N. Langtry, "Modelling of extended photonic crystal devices using scattering matrix techniques", PIERS 2004 Proceedings, Pisa, Italy, March, 2004.
5. L.C. Botten, C.M. de Sterke, A.A. Asatryan, T.P. White, R.C. McPhedran, "Symmetry of modes in coupled photonic crystal waveguides", ACOFT 2004, Canberra, July, 2004.
6. M. de Sterke, A. Lobo, J. Besley, "N-fold symmetric crossed gratings as gain flattening filters", Conference on Laser Electro-Optics, International Quantum Optics Conference (CLEO/IQEC) Conference Program, paper CThM4.
7. C.M. de Sterke, T.P. White, R.C. McPhedran, L.C. Botten, A.A. Asatryan, "Modal symmetry for coupled photonic crystal waveguides", Conference on Laser Electro-Optics/International Quantum Optics Conference (CLEO/IQEC) Conference Program, San Francisco, USA, May, 2004, paper IThG20.
8. S. Desyatnikov, D. Neshev, Y.S. Kivshar, N. Sagemerten, C. Denz, Y.V. Kartashov, "Robust two-dimensional soliton lattices in photorefractive medium", Proceedings of ACOFT conference, Canberra, Australia, Tu11.45, 2004.
17. E.G. Gamaly, S. Juodkazis, A.V. Rode, B. Luther-Davies, H. Misawa "3-D optical memory bits: Recording and reading with fs-lasers", 2nd School FEMTO'04 on Femtosecond Technologies, Sources, and Laser Systems, Porquerolles, France, September 20-24, 2004.
18. E.G. Gamaly, S. Juodkazis, A.V. Rode, B. Luther-Davies, H. Misawa, "3-D memory bits recording and reading with femtosecond laser", ACOFT/AOS'04, Canberra, July 5-8, 2004.
19. C. Grillet, P. Domachuk, V. Ta'eed, L. Rodd, E. Mägi, J. Bolger, J. Cooper-White, B.J. Eggleton, "Microfluidic tunable interferometer", Presented at Optics Within Life Sciences 8 (OWLS8), Dec 1, 2004.
20. B. Hanna, W. Krolikowski, D. Neshev, A. Sukhorukov, Y. Kivshar, "Gap solitons and mutual focusing in nonlinear periodic lattices", OSA Annual Meeting, Rochester NY, USA, October 10-14, 2004, paper FTuJ4.
21. B. Hanna, D. Neshev, A.A. Sukhorukov, W. Krolikowski, Y.S. Kivshar, "Observation of multi-gap vector solitons", Technical Digest of OSA Topical meeting on Nonlinear Guided Waves and Their Applications, Toronto, Canada Post deadline, 2004, paper PD6.
22. P.F. Hu, J.L. Blows, "Crosstalk in parametric amplifiers with orthogonal pumps", OSA Topical meeting on Optical amplifiers and their Applications, 2004.
23. P.F. Hu, J.L. Blows, "Four-Wave-Mixing Induced Crosstalk in Optical Fibre Parametric Amplifiers with orthogonally polarized Pumps", ACOFT, 2004.
24. R. Jarvis, Y. Ruan, N. Madsen, A.V. Rode, B. Luther-Davies, "Characterisation of Chalcogenide Glass for Magneto-Optic Waveguide's", ACOFT/AOS'04, Canberra, July 5-8, 2004.
25. K. Lee, P. Hu, J.L. Blows, "A 200m Long Fiber with Internal Electrode and Poling Demonstration", Tu4.3.5, European conference on Optical Communications, 2004.
26. K. Lee, P. Hu, J.L. Blows, "Thermal poling of long lengths of optical fiber with internal electrodes integrated during the draw process and demonstration of poling", ACOFT, 2004.
27. K. Lee, P. Hu, J. Blows, "Towards long lengths of silica fiber with permanent second order nonlinearities", post deadline presentation PD-2 OSA Topical meeting on Nonlinear Guided Waves and Their Application, Toronto Canada, 2004.

28. Y. Lize, E. Magi, J. Bolger, V. Ta'eed, P.E. Steinvurzel, B.J. Eggleton, "Low-loss single-mode nanostructured silica photonic wire", Presented at the Australia Conference on Optical Fiber Technology/Australian Optical Society (ACOFT/AOS), July, 2004.
29. Y. Lize, E. Magi, J. Bolger, V. Ta'eed, P. Steinvurzel, B.J. Eggleton, "Nanostructured silica photonic wires", Presented at the OSA Annual Meeting 2004, October 12, 2004.
30. B. Luther-Davies, V.Z. Kolev, M.J. Lederer, N.R. Madsen, A.V. Rode, E.G. Gamaly, J. Giesekeus, K.-M. Du, M. Duering "Table-top 50-W laser system for ultra-fast laser ablation", 2nd School FEMTO'04 on Femtosecond Technologies, Sources, and Laser Systems, Porquerolles, France, September 20-24, 2004.
31. E.C. Mägi, B.J. Eggleton, "Tapered micro-photonic crystal fibers", Presented at Conference on Lasers and Electro-Optics (CLEO), May 20, 2004.
32. E.C. Magi, B.J. Eggleton, "Transverse characterisation of tapered PC fibres", Presented at the Australia Conference on Optical Fiber Technology/Australian Optical Society (ACOFT/AOS), July 5, 2004.
33. E. Magi, P. Steinvurzel, B.J. Eggleton, "Transverse Characterisation of Tapered Photonic Crystal Fibres", Presented at the European Conference on Optical Communications (ECOC), Sept 6, 2004.
34. R. McKerracker, J.L. Blows, C.M. de Sterke, "Tunable Wavelength Conversion in One Pump Fibre Parametric Amplifiers", ACOFT, 2004.
35. D.K. McPhail, M. Straub, M. Gu, "Photonic stop gap in a liquid crystal doped polymer", Presentation on the First Pacific International Congress on Applications of Lasers and Optics, Melbourne, Australia, April 19-21, 2004.
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