

Dr N P Johnson Conference Proceedings and Presentations Publication List

97 Highly sensitive optical detection of organic materials using asymmetric split ring resonators

(Invited) Nigel P Johnson, Basudev Lahiri, Richard M De La Rue, Scott McMeekin
Highly sensitive optical detection of organic materials using asymmetric split ring resonators Paper no **8423-18** SPIE Photonics Europe Brussels April 2012

96 Silicon-on-insulator (SOI) nanobeam optical cavities for refractive index-based sensing ,Ghazali A Rahman, Philippe Velha, Richard M De La Rue and **Nigel P Johnson** Paper **8439-62** SPIE Photonics Europe Brussels April 2012

95 Fabrication of 70 nm split ring resonators by nanoimprint lithography Graham J. Sharp, Ali Z. Khokhar, **Nigel P. Johnson**
Paper no **8423-12** SPIE Photonics Europe Brussels April 2012

94 Nanophotonic Sensors

(Invited) Nigel P Johnson, Basudev Lahiri, Graham Sharp, Ali Khokhar, Ghazali A Rahman, Philippe Velha, Richard M De La Rue, Scott McMeekin Paper no **8439-28** SPIE Photonics Europe Brussels April 2012

93 NIL fabrication of a polymer based photonic sensor device in P3SENS, D. Giannone F. Dortu, D. Bernier, T. Aalto, K. Kolari, **N.P. Johnson**, A Z Khokhar, H. Egger, Paper no **8435-83** SPIE Photonics Europe Brussels April 2012

92 Nanophotonic Sensors

(Invited) Nigel P Johnson, Basudev Lahiri, Graham Sharp, Ali Khokhar, Ghazali A Rahman, Philippe Velha, Richard M De La Rue, Scott McMeekin, Micro- and nanophotonic materials and devices, COST MP0702 Jan 2012 Trento Italy

91 Planar nanophotonic devices and integration technologies, Richard M. De La Rue, Marc Sorel, Antonio Samarelli, Philippe Velha, Michael Strain, **Nigel P. Johnson**, Graham Sharp, Faiz Rahman, Ali Z. Khokhar, Douglas S. Macintyre, Scott G.McMeekin and Basudev Lahiri
Proc. SPIE 8414, 841402 (2011)

90 Resonance hybridization in asymmetric split-ring resonator arrays - and detection of organic molecular Fano resonances, **(Invited) Nigel Johnson**, Basudev Laharir, Richard De La Rue, Ce Lang, Scott McMeekin, Metamaterials '2011': The Fifth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Barcelona, Spain, (October 2011)

89 Single and double asymmetric split ring resonators: Resonance hybridization model **(Invited) N.P. Johnson**, B. Lahiri, R.M. De La Rue, C. Zhang, S.G. McMeekin, 13th International Conference on Transparent Optical Networks ICTON. Stockholm, Sweden (June 2011) Paper We.C2.1

88 Nanoscale double asymmetric split ring resonators

Basudev Lahiri, Ce Zhang, Scott G McMeekin, Richard M. De La Rue and

Nigel P. Johnson, SPIE Optics and Optoelectronics Prague, Czech Republic (April 2011) Paper 8070-20

87 Design and process development of a photonic crystal polymer biosensor for point of care diagnostics.

F. Dortu, H. Egger, K. Kolari, T. Haatainen, P. Furjes, Z. Fekete, D. Bernier, G. Sharp, B. Lahiri, S. Kurunczi, J.-C. Sanchez, N. Turck, P. Petrik, D. Patko, R. Horvath, S. Eiden, T. Aalto, S. Watts, **N.P. Johnson**, R.M. De La Rue, D. Giannone, Proc. SPIE, 8087, 80870D (2011); doi:10.1117/12.889420.

86 Resonance Hybridisation in Nano-Antenna Arrays Based on Asymmetric Split-Ring Resonators Basudev Lahiri, Scott G. McMeekin, Richard M. De La Rue and **Nigel P. Johnson**, Ninth International Conference on Photonic and Electromagnetic Crystal Structures (PECS IX) Granada, Spain (September 2010)

85 Split ring resonators: from visible magnetic response to organic sensors (**Invited**) **Nigel P. Johnson**, Basudev Lahiri, Ali Z. Khokhar, Richard M. De La Rue and Scott G. McMeekin, Fourth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Karlsruhe, Germany, (September 2010)

84 Photonic Quasi-Crystal Light Emitting Diodes, - comparisons of device performance with pattern pitch ,Martin Tillin, Martin D. B. Charlton, Zheng Gong, Ali Z. Khokhar, David Massoubre, , Ian M. Watson, Erdan Gu, Martin D. Dawson, Faiz Rahman, **Nigel P. Johnson**, Douglas Macintyre, Richard M. De La Rue, Keith Parsons, Sean Lin Proceedings of SPIE Vol. 7713 77130B-1-11 (2010)

83 Split ring resonators: from organic sensors to visible magnetic response (**Invited**) **Nigel P. Johnson**, Basudev Lahiri, Scott G. McMeekin, Ali Z. Khokhar and Richard M. De La Rue, SPIE Photonics Europe Brussels April 2010

82 Split ring resonators: the effect of titanium adhesion layers on the optical response, Lahiri, B., Dylewicz, R., McMeekin, S. G. Meekin, R M De La Rue and **N P Johnson** Proceedings of SPIE Vol. 7711, 771116 (2010).

81 Micro-/nano-photonic device structures applied to communications, sensing and consumer optoelectronic R. M. De La Rue, B. Lahiri, A. Samarelli, D. Logan, A. Z. Khokhar, R. Dylewicz, P. Velha, D. Macintyre, N. P. Johnson, F. Rahman, M. Sorel, 2010 International Conference on Advanced Optoelectronics and Lasers (CAOL), IEEE Proceedings, Sevastopol, Ukraine; 2010

80 The effect of titanium adhesion layers of the optical response of split ring resonators. B Lahiri, R Dylewicz, S G McMeekin, R M De La Rue and **N P Johnson** 2nd International Conference on Metamaterials, Photonic Crystals and Plasmonics, Cairo Egypt, February 2010

79 Asymmetric split ring resonators for Infra Red optical sensing of organic materials **Nigel P. Johnson**, Basudev Lahiri, Ali Z. Khokhar, Richard M. De La Rue, and Scott G. McMeekin

The third international congress on advanced electromagnetic materials in microwaves and optics, Metamaterials London Aug 30th- Sept 4th 2009 (**Invited**)

78 All Optical Switching in Silicon-on-Insulator Photonic Wire Nano-Cavities
M. Belotti, M. Galli, D. Gerace, L. C. Andreani, G. Guizzetti, A. R. Md Zain, **N. P. Johnson**, **M. Sorel**, and R. M. De La Rue, " in *Integrated Photonics and Nanophotonics Research and Applications*, OSA Technical Digest (CD) (Optical Society of America, 2009), paper JMA3. IPNRA and SL meetings (joint session), Honolulu, Hawaii, July 2009

77 All-optical logical operation in photonic wire nano-cavities
M. Belotti, M. Galli, D. Gerace, L.C. Andreani, A. R. Md Zain, **N. P. Johnson**, M. Sorel and R. M. De La Rue, CLEO Europe, Munich, Germany, June 2009

76 Asymmetric Split Ring Resonators for Organic Sensing
Basudev Lahiri, Scott G. McMeekin, Ali Z. Khokhar, Richard M. De La Rue, and **Nigel P. Johnson**, 11th International Conference on Transparent Optical Network June 28 – July 2, 2009 Island of São Miguel, Azores, Portugal, Paper Tu.B4.4

75 Asymmetric split ring resonators for optical sensing.
Basudev Lahiri, Ali Z. Khokhar, Richard M. De La Rue, Scott G. McMeekin and **Nigel P. Johnson**. SPIE Europe Optics and Optoelectronics, Prague April 2009 Paper 7353-39

74 Patterning of Photonic Quasi-Crystals on GaN LEDs
Ali Z. Khokhar, Douglas S. Macintyre, Faiz Rahman, Richard M. De La Rue, **Nigel P. Johnson**, Martin Charlton, Ian M. Watson, Chang Xiong, Pawel Kelm, Haoxiang Zhang, Erdan Gu and Martin D. Dawson
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73 All-Optical Switching in Silicon-on-Insulator Photonic Wire Nano-cavities
M. Belotti, M. Galli, D. Gerace and L.C. Andreani A. R. Md Zain, **N. P. Johnson**, M. Sorel and R. M. De La Rue, IEEE LEOS Annual Meeting, Innsbruck, Austria, January 2009

72 Photonic Crystal (PhC) and Photonic Quasi Crystal (PQC) Light Extraction Structures for Enhanced Efficiency and Beamshape Control in Light-emitting Devices
Richard M. De La Rue, Ali Z. Khokhar, Rafal Dylewicz, Douglas S. Macintyre, **Nigel P. Johnson**, Faiz Rahman, Martin Charlton, Ian M. Watson, Chang Xiong, Pawel Kelm, Haoxiang Zhang, Erdan Gu and Martin D. Dawson
Photonics 2008, Indian Institute of Technology (IIT) New Delhi (India), December 15th to 17th 2008

71 Photonic Crystal (PhC) and Photonic Quasi Crystal (PQC) Light Extraction Structures for Enhanced Efficiency and Beamshape Control in Light-emitting Devices
Richard M. De La Rue, Ali Z. Khokhar, Rafal Dylewicz, Douglas S. Macintyre,

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70 Lithographic Processing of Photonic Crystal Structures on GaN Epilayers for LED Applications

Ali Z. Khokhar, Douglas P. MacIntyre, Faiz Rahman, **Nigel Johnson**, Ian M. Watson, Erdan Gu, Haoxiang Zhang, Martin D. Dawson and Richard M. De La Rue
UK Nitride Consortium Winter Meeting, 9th January 2008, Glasgow, Scotland, U.K.

69 High transmission 1 D photonic crystal/photonic wire micro-cavities in silicon-on-insulator. Zain, A. R. M., **Johnson, N.P.**, De La Rue, R.M., Photonic Crystal Materials and Devices Proc. SPIE, Vol. 6989, 69891A (2008);
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67 Electromagnetic bandgap calculations of Tb₃Sc₂Al₃O₁₂-TbScO₃ eutectic with rod-like microstructure, Della Villa, F. Capollino, B. Lahiri, **N. P. Johnson**, S. Turczynski, D. A. Pawlak,
NATO Advanced Research Workshop Metamaterials for Secure Information and Communication
Technologies, META'08, 7-10 May, Marrakesh, Marocco

66 Optical Properties of Split Ring Resonator Metamaterial Structures on Semiconductor Substrates **Nigel P. Johnson**, Basudev Lahiri, Ali Z. Khokhar, Richard M. De La Rue and Scott McMeekin
Photonics Europe, 7 – 11, April 2008, Strasbourg, France, Proc. of SPIE Vol. 6987 69871F-1

65 Self-organization approach towards photonic crystals and metamaterials
D. A. Pawlak, S. Turczynski, K. Kolodziejek, **N. Johnson**, P. Haring Bolivar, F. Voltolina,
Photonics Europe, 7 – 11, April 2008, Strasbourg, France

64 High Transmission 1D Photonic Crystal/Photonic Wire Multiple Cavity Structures Based on Silicon-on-Insulator
Ahmad Rifqi Md Zain, **Nigel P. Johnson** and Richard M. De La Rue
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63 Reflectance measurements of self-organized microstructure of Tb₃Sc₂Al₃O₁₂-TbScO₃ eutectic (Invited)

Nigel P Johnson, Basu Lahiri, Richard M De La Rue, Dorota A. Pawlak, Sebastian Turczyński, Katarzyna Kołodziejak, *Metamaterials 2007 First International Congress on Advanced Electromagnetic Materials in Microwaves and Optics* Rome, Italy 22-24 October 2007

62 Recent advances in photonic crystals and metamaterials. **Nigel P. Johnson**, Ali Z. Khokhar, Scott G McMeekin, Basudev Lahiri, Richard M. De La Rue, Ahmad R. Md Zain, C. Debus, and P. Haring Bolivar *ICTON, Rome 3rd July* International Conference on Telecommunications and Optical Networking July Rome 2007

61 Emission of semiconductor nano-dots modified by 3-D photonic crystals, **N.P. Johnson**, R.M. De La Rue and Ali Z. Khokhar " , *COST P11 Workshop in Prague*, 18-20 April 2007

60 Analysis of Split Ring Resonators Using Conformal Mapping Techniques, S G McMeekin, A Z Khokhar, B. Lahiri, R M De La Rue and **N P Johnson**, *Optics and Optoelectronics, Proc. SPIE Vol. 6581, 65810V (May. 4, 2007)*

59 Investigating Split Ring Resonators from 1.3 to 10 microns, A Z Khokhar, S G McMeekin, B. Lahiri, R M De La Rue and **N P Johnson**, *Optics and Optoelectronics, Prague April 16th 2007 6581-16*

58 Modifications of Luminescent Properties of Gallium Nitride through Dislocation Engineering and Impurity Doping
Faiz Rahman, **Nigel P. Johnson** and Richard M. De La Rue, *UK Nitride Consortium Annual Meeting, 4-5 January 2007, Cambridge (England)*
www.uknc.org/papers/Jan07/Rahman.pdf

57 Correlation of split ring resonator (SRR) resonant features in the near infrared with geometry **N P Johnson**, A Khokhar, S McMeekin, C Jin, H Chong, R DeLaRue . *Photon 06 Manchester (2006) QEP: Metamaterials*

56 Stibnite inverse opal A Khokhar, R De La Rue, **N P Johnson**. *Photon 06 Manchester (2006) P3.25*

55 Manipulation of Yellow Luminescence in Gallium Nitride Epilayers Grown on Sapphire
Faiz Rahman and **Nigel P. Johnson**
UK Compound Semiconductor 2006 Conference, July 2006, Sheffield (England)

54 The influence of metal type on Split Ring Resonator (SRR) resonant features in the near infra red. Invited presentation **N. P. Johnson**, A. Z. Khokhar, S. McMeekin, C. Jin, H. M. Chong, and R M De La Rue *Progress In Electromagnetics Research Symposium, 2006 in Tokyo, Japan August (2006)*

53 Split Ring Resonator (SRR) structures on silicon for increased functionality in the infra-red, **Nigel P Johnson**, Ali Z Khokhar, Richard M De La Rue, Scott McMeekin, International Workshop on Physics of Photonic Crystals and Metamaterials 12 – 13 June 2006 Vrije Universiteit Brussel, Brussels (Belgium)

52 Ultra-Small Mach-Zehnder Interferometer Devices in Thin Silicon-on-Insulator, Hua Zhang, Marco Gnan, **Nigel P. Johnson**, Richard M. De La Rue Oral presentation at the 2006 Integrated Photonics Research and Applications (IPRA) Topical Meeting or the Nanophotonics (NANO) Topical Meeting, Connecticut USA

51 Elements of nanophotonics: Photonic crystals, photonic wires, metamaterials and more, De La Rue, R. M., Khokhar, A. Z., Lahiri, B., Sorel, M., Rahman, F., Gnan, M., Chong, H. M. H., Pottier, P., Zain, A. R. M., Ironside, C. N., Ogungbenro, J. W., **Johnson, N. P.**, and McMeekin, S., 2006 Conference on Optoelectronic and Microelectronic Materials & Devices, pp318-320, (2006)

50 Photonic crystal and photonic wire device structures
(**Invited presented by Nigel Johnson**)

Richard De La Rue, Marc Sorel, **Nigel Johnson**, Faiz Rahman, Charles Ironside, Lee Cronin, Ian Watson, Robert Martin, Chongjun Jin, Pierre Pottier, Harold Chong, Marco Gnan, Aju Jugessur, Edilson Camargo, Grant Erwin, Ahmad Md Zain, Iraklis Ntakos, Lois Hobbs, Hua Zhang, Mario Armenise, Caterina Ciminelli, Dominique Coquillat Proc. SPIE Vol. 5950, p. 14-25, (2005) Photonic Crystals and Fibers; Waclaw Urbanczyk, Bozena Jaskorzynska, Philip S. Russell; Eds.

49 Increasing Optical Metamaterials Functionality,
Nigel P Johnson, Ali Z Khokhar, Harold M Chong, Chongjun Jin, Jharna Mandel, Scott McMeekin and R M De La Rue, Proc. SPIE **5955** 59550O-1- 59550O-6 (2005). Metamaterials Ed Tomasz Szoplik, Ekmel Ozbay, Costas M Soukoulis, Nikolay I Zheludev.

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Semiconductor-Based Active and Passive Nanophotonics
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<http://www.opticsinfobase.org/abstract.cfm?URI=NPIS-2005-NWC2>

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A. Z. Khokhar, R. M. De La Rue, **N. P. Johnson**, International Congress on Optics and Optoelectronics 28 Aug. - 2 Sept. 2005 Warsaw, Poland. [5955-14]

46 Defect formation in (100) oriented photonic crystal fabricated by template-assisted convective self-assembly,

Chongjun Jin, Richard M De La Rue, **Nigel P Johnson**, International Congress on Optics and Optoelectronics 28 Aug. - 2 Sept. 2005 Warsaw, Poland. [5950-07]

45 Nanophotonic Structures: from Photonic Crystals to Metamaterials, **Nigel P Johnson**, Chongjun Jin, Ali Khokhar, Marco Gnan, Ahmad R M Zain, Harold M H Chong, Jharna Mandel and Richard De La Rue, Proceedings of 7th International Conference on Transparent Optical Networks, Barcelona, Spain July 3-7, Ed Marian Marciniak p171-171b ISBN 0-7803-9236-1

44 Towards Optical (IR) Split Ring Resonators, **Nigel P Johnson**, Harold M Chong Ali Z Khokhar, Jharna Mandal and R M De La Rue. Seminar on Metamaterials and Circuit Designed Based on SRRs, Barcelona, Spain April (2005)

43 Enhanced transmission of photonic crystal coupled-resonator waveguide structure via mode matching,

Chongjun Jin, **Nigel P Johnson**, Harold M H Chong, Aju S Jugessur, Stephen Day, Dominic Gallagher and Richard M De La Rue, CLEO/Europe-EQEC Conference, 12-17 June 2005, Munich, Germany.

42 Template-assisted self-assembly growth of (100) oriented three-dimensional photonic crystal, Chongjun Jin, Martyn A McLachlan, David W McComb, Richard M De La Rue, and **Nigel P Johnson**, CLEO/Europe-EQEC Conference, 12-17 June 2005, Munich, Germany.

41 Template directed growth of (100) oriented 3D photonic crystal, Jin C., McLachlan M. A, McComb D. W., De La Rue R. M., **Johnson N. P.**, International Symposium on Photonic Crystals and Meta-materials. 19-22 Dec. 2004. Beijing, China

40 Tools for Metamaterials Applications from GHz to Optical Frequencies

N P Johnson, A Z Khokhar, K Elgaid, I G Thayne, T D Drysdale, D R.S. Cumming First Workshop of the METAMORPHOSE NoE 24-26 November 2004 Lille - Louvain-la-Neuve (Belgium/France)

39 Enhanced transmission of photonic crystal coupled-resonator optical waveguide via mode matching

Chongjun Jin, **Nigel P Johnson**, Harold Chung and Richard M De La Rue

Photon04 Glasgow 6-9 September 2004 QEP.P3.14

38 Design and Fabrication of a Silicon/Air Photonic Crystal Beam Splitter

Nigel P Johnson, Jacobus C de Koning, Harold M Chong, Richard M De La Rue

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37 Fabrication Scheme for Metamaterials based on Polystyrene Opal Photonic Crystals

Nigel P Johnson, Ali Z Khokhar and Richard M De La Rue

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36 Application of pressure to shift the bandgap in polystyrene based photonic crystals

Nigel P Johnson, Ali Z Khokhar, Martyn A. McLachlan, David W McComb and Richard M De La Rue

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35 Summer School France (NANOPHOTONICS SCHOOL19-30 April 2004, Cargese (Corsica), France)

Investigation of Photonic Crystals on Indium Tin Oxide (ITO)

A Z Khokhar, R M De La Rue and **N P Johnson**

34 Prep 2004 (Conference), 5th to 7th April 2004 University of Hertfordshire.

Investigation of Photonic Crystals on Conducting Material

A Z Khokhar, R M De La Rue and **N P Johnson**

33 Growth of Large, Low Defect Density Photonic Crystals

M A McLachlan, D W McComb, R De La Rue, C Jin and **N P Johnson**

MC6 - sixth International Conference on Materials Chemistry (Royal Society of Chemistry) Sheffield, 29th July- 1 August 2003

32 Photonic Crystals and Photonic Wire Technology and Devices

R. De La Rue, P. Pottier, H. Chong, I. Ntakis, A. Jungesser,

D. McComb, **N.P. Johnson**, M. McLachlan, J.H. Marsh, A.C. Bryce, S.S. Kim, A. Craven, W. Smith

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31 Photonic Crystals and Photonic Wire Technology and Devices

Richard De la Rue, **Nigel Johnson**, David McComb, Pierre Pottier, Chongjun Jin, Belinda Treble, Martyn McLachlan, Aju Jugessur, Iraklis Ntakis, Edilson Camargo Electrochemical Society Meeting Paris 28th April- 2nd May 2003

30 Controlling Self-assembly of Photonic Crystal Thin Films,

M. McLachlan, D W McComb R M De La Rue and **N P Johnson**, Presented at Fall meeting of MRS Boston (December 2002)

29 Photonic Crystals, Nanostructures and Microstructures,

R.M. De La Rue M. De La Rue, A S. Jugessur, B M. Treble, I Ntakis, P Pottier, H Chong, **N P Johnson**, M McLachlan and D W McComb IQEC, Moscow, 24th- 28th June 2002

28 Real Time Implementation of a HVDC-VSC Model for Application in a scaled down Wind Energy Conversion System (WECS),

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- 27 Synthesis and properties of Thin Film Photonic Crystals,
B.M. Treble, D.W. McComb, D. Taylor, R.M. Amos, T. J. Shepherd, R.M. De La Rue, **N.P. Johnson** Quantum Electronics and Photonics 15, Glasgow (September 2001) IoP Technical Digest P3-38
- 26 A New Feature of Capillary Grown Synthetic Opal Revealed by Reflectance Spectroscopy,
F G Award, D W McComb, B. M. Treble R.M. De La Rue, **N.P. Johnson**, Quantum Electronics and Photonics 15, Glasgow (September 2001) IoP Technical Digest P3-41
- 25 Three-Dimensional Photonic Crystals: Approaches to Fabrication,
Richard De La Rue, David McComb, Belinda Treble, Arnaud Richel, **Nigel Johnson**, Martyn Pemble and Heather Yates, in: Nanoscale Linear and Nonlinear Optics, International School on Quantum Electronics, Erice, Sicily, 2000, Editors M.Bertolotti, C.M.Bowden and C.Sibilia, AIP Conference Processings, **560**, pp. 424-448, (2001)
- 24 Angular Dependence of the Stopband of an Inverse Opal Structure.
G. H. Harrison J. M Arnold, **N. P. Johnson** CLEO Europe –IQEC 2000 (Nice) Conference Digest JSTuA4
- 23 Synthesis of Opal – A Photonic Crystal, B.M. Treble, D.W. McComb, R.M. De La Rue, **N.P. Johnson** Royal Society of Chem. (UMIST April 2000)
- 22 Optical measurement and synthesis of opal based photonic crystals
N P Johnson, R Thompson, B Treble, D MacLaren, D McComb, R M De La Rue 14th National Quantum Electronics Conference QE14 Manchester p195 Conference digest (1999)
- 21 Light manipulation with the photonic bandgap structure of GaP-coated opals
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- 20 Thin-film coated opals- an approach to three-dimensional photonic crystals,
S G Romanov, **N P Johnson**, R M De la Rue, H M Yates, M E Pemble, A V Fokin ‘CLEO’ Paper QThG11 Baltimore (1999)
- 19 The Impact of Energy Saving Apparatus on Power Quality
E Acha and **N P Johnson**
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17 Deep Levels Induced by Impurity Free Vacancy Disorder
N P Johnson, A S Helmy, A C Bryce, J H Marsh CLEO Paper CThK6 Glasgow
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15 New developments in research on photonic microstructures based on epitaxial III-V
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J.H. Marsh¹, A.C. Bryce¹, A. Ribayrol¹, S. Aitchison¹, C.D.W. Wilkinson¹,
C.R. Stanley¹, S.K. Murad¹, S.G. Romanov^{1,3}, **N.P. Johnson**¹, D. Coquillat^{1,4},
O. Painter², A. Scherer², A.V. Fokin³, V.Y. Butko³, V.I. Alperovich³, O. Briot⁴,
R. Aulombard⁴, D. Cassagne⁴, C. Jouanin⁴, R.S. Grant⁵, M.G. Burt⁵, M. Dawson⁶,
M.E. Pemble⁷, H.M. Yates⁷, J.S. Roberts⁸, H. Benisty⁹, D. Labilloy⁹, C. Weisbuch⁹,
R. Houdré¹⁰, U. Oesterle¹⁰, V. Bardinal¹⁰, C. Sotomayor-Torres¹¹, S. Brand¹², B.
Vögele¹³. QE-13 (UK National Quantum Electronics Meeting) in Cardiff. (pp.61-63 of
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14 New developments in research on photonic microstructures based on epitaxial III-V
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Bryce, A. Ribayrol, C.D.W. Wilkinson, C.R Stanley, S.K Murad, S.G Romanov,
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M.D. Dawson, M.E Pemble, H. Yates, J.S Roberts, and V.I Alperovich, (invited
paper) XIth International Vavilov Conference on Nonlinear Optics, Novsibirsk, June,
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13 Optical Properties of Nano Crystalline InP in Opal 3- Dimensional Gratings
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