

Technical Program
Oral Contributions

Wednesday 7th July 2010

Time	High Torr One	The Ridge
10.30 to 11.30	Plenary 1 Title TBA Diana Huffaker, UCLA	
11.30 to 12.30	Plenary 2 "Issues and solutions for co-integration of Ge and III-V MOSFETs for beyond 22 nm technology generation CMOS" Matty Caymax, IMEC	
		Symposium E (i)
11.45		E-O-1 Defect reduction in nonpolar a-plane GaN grown on sapphire without a nucleation layer R. Hao, M.J. Kappers, M.A. Moram, C.J. Humphreys <i>Department of Materials Science and Metallurgy, University of Cambridge, Cambridge, CB2 3QZ, UK</i>
12.00		E-O-2 Can indium nitride surfaces be passivated? L. R. Bailey, T. D. Veal, and C. F. McConville <i>Department of Physics, University of Warwick, Coventry, CV4 7AL, United Kingdom</i>
12.15		E-O-3 Nitride alloys: Study of nonlinearities in

		structural and elastic properties using an interatomic potential model M. A. Caro ^{1,2} , S. Schulz ¹ , S. B. Healy ¹ and E. P. O'Reilly ^{1,2} ¹ <i>Tyndall National Institute, Lee Maltings, Cork, Ireland</i> ² <i>Department of Physics, University College Cork, Cork, Ireland</i>		
12.30		E-O-4 Highly-doped marker layers reveal the relationship between island coalescence and unintentional doping in GaN on sapphire R. Oliver <i>Department of Materials Science and Metallurgy, University of Cambridge, Pembroke Street, Cambridge, CB2 3QZ</i>		
Lunch, exhibition and poster session 1 (Symposia C, D, E) in Exhibition Hall				
	High Torr Two	High Torr Five	The Ridge	
	Symposium D (i)	Symposium C (i)	Symposium E (ii)	
14.00	D-O-1 Laser Writing of Nanoscale LEDs O. Makarovskiy, A. Nasir, S. Kumar, A. Rastelli, A. Patané, L. Eaves, A.G. Balanov ³ , O.G. Schmidt ² , R. Campion ¹ , C. T. Foxon ¹ ¹ <i>School of Physics & Astronomy, University of Nottingham, Nottingham NG7 2RD, UK</i>		E-O-5 Non-polar a-plane GaN quantum wells: Electronic and optical properties A. S. Schulz ^{1,†} , T. J. Badcock ² , M. A. Moram ³ , P. Dawson ² , M. J. Kappers ³ , C. J. Humphreys ³ and E. P. O'Reilly ^{1,4} ¹ <i>Photonics Theory Group, Tyndall National Institute, Lee Maltings, Cork, Ireland</i> ² <i>Photon Science Institute, Alan Turing Building, University of Manchester,</i>	

	² <i>Institute for Integrative Nanosciences, IFW Dresden, D-01069 Dresden, Germany</i> ³ <i>Department of Physics, Loughborough University, Loughborough LE11 3TU, UK</i>		<i>Manchester, UK</i> ³ <i>Dept. of Materials Science & Metallurgy, University of Cambridge, Pembroke St., Cambridge, UK</i> ⁴ <i>Department of Physics, University College Cork, Ireland</i>
14.15			E-O-6 Carrier dynamics in a-plane GaN/AlGaIn quantum wells grown on r-plane sapphire substrates T. J. Badcock ¹ , S. Hammersley ¹ , P. Dawson ¹ , M. J. Kappers ² and C. J. Humphreys ² ¹ <i>School of Physics and Astronomy, University of Manchester, UK</i> ² <i>Department of Material Science and Metallurgy, University of Cambridge, UK</i>
14.30	D-O-2 Temperature Behaviour of Recombination Processes of 1.55µm (100) InAs/InP-based Quantum Dot Lasers Sayid A. Sayid ¹ , Igor P. Marko ¹ , Stephen J. Sweeney ¹ , Pedro Barrios ² and Philip Poole ² ¹ <i>Advanced Technology Institute and Department of Physics, University of Surrey, Guildford, Surrey, GU2 7XH, UK</i> ² <i>Institute for Microstructural Sciences, National Research Council of Canada, Canada</i>	C-O-1 A comparison of traps in Metal/HfO₂ and poly/ HfO₂ Mosfets S. Sicre and M.M. De Souza <i>Dept. of Electronic & Electrical Engineering, University of Sheffield</i>	E-O-7 Cathodoluminescence hyperspectral imaging of semipolar {1011} InGaIn/GaN single quantum wells fabricated on nanofacets K. J. Lethya, P.A. Shieldsb, P.R. Edwardsa, C.Liub, D.W.E. Allsoppb and R.W.Martina <i>a Department of Physics, SUPA, Strathclyde University, Glasgow, G4 0NG, U.K</i> <i>b Department of Electronic and Electrical Engineering, University of Bath, Bath</i>
14.45	D-O-3 TE/TM Polarisation Response of	C-O-2 Interface Defect Characterisation by	E-O-8 Microstructural, optical and electrical

	<p>InAs/GaAs Quantum Dot Bilayers</p> <p>E. Clarke, S. C. Heck, P. Spencer, M. Taylor and R. Murray</p> <p><i>Department of Physics, Imperial College London, U. K.</i></p>	<p>Electrical Analysis of High-k/In_{0.53}Ga_{0.47}As Devices: Methods of Passivation and Reduction</p> <p>S. Monaghan, É. O'Connor, K. Cherkaoui, R. D. Long, R. E. Nagle, V. Djara, A. O'Mahony, I. M. Povey, M. G. Nolan, A. Blake, D. O'Connell, M. E. Pemble, and P. K. Hurley</p> <p><i>Tyndall National Institute, University College Cork, Lee Maltings, Prospect Row, Cork, Ireland</i></p>	<p>characterization of semi-polar (11-22) GaN grown by epitaxial lateral overgrowth</p> <p>T. Zhu*, C.F. Johnston, M.J. Kappers, and R.A. Oliver</p> <p><i>Department of Materials Science and Metallurgy, Pembroke Street, Cambridge, CB2 3QZ</i></p>
15.00	<p>D-O-4</p> <p>High quality positioned InAs quantum dots grown on patterned GaAs(001) substrates</p> <p>A. Jamil⁽¹⁾, J. Skiba-Szymanska⁽²⁾, I. Farrer⁽¹⁾, C.A. Nicoll⁽¹⁾, D.J.P. Ellis⁽²⁾, M.B. Ward⁽²⁾, J.P. Griffiths⁽¹⁾, D. Anderson⁽¹⁾, G.A.C. Jones⁽¹⁾, A.J. Shields⁽²⁾, D.A. Ritchie⁽¹⁾</p> <p>⁽¹⁾ <i>Cavendish Laboratory, Cambridge University, JJ Thomson Avenue, Cambridge CB3 0HE, UK</i></p> <p>⁽²⁾ <i>Toshiba Research Europe Limited, Cambridge Research Laboratory, 208 Science Park, Milton Road, Cambridge CB4 0GZ, UK</i></p>	<p>C-O-3</p> <p>Bipolar Transistor Manufacture on Germanium substrates</p> <p>K. Li, H. S. Gamble and B. M. Armstrong</p> <p><i>Northern Ireland Semiconductor Research Centre, School of Electronics, Electrical Engineering and Computer Science, Queen's University of Belfast, Northern Ireland, UK</i></p>	<p>E-O-9</p> <p>Thermal activation energies of Mg in GaN:Mg on HT AlN/sapphire characterized by admittance spectroscopy</p> <p>O. S. Elsherif^{1*}, K.D. Vernon-Parry¹, I. M. Dharmadasa¹, J. Evans-Freeman², R. J. Airey³ and M. Kappers⁴.</p> <p>1. <i>Materials and Engineering Research Institute, Sheffield Hallam University, Sheffield, UK.</i></p> <p>2. <i>College of Engineering, University of Canterbury, Christchurch, New Zealand.</i></p> <p>3. <i>Department of Electronic and Electrical Engineering, The University of Sheffield, UK.</i></p> <p>4. <i>Department of Materials Science and Metallurgy. University of Cambridge, UK.</i></p>
15.15	<p>D-O-5</p> <p>Transition of GaSb Quantum Dots to Quantum Rings</p> <p>M Ahmad Kamarudin¹, Q D Zhuang¹, R Young¹, T Ben², S I Molina² and M Hayne¹</p> <p><i>1Department of Physics, Lancaster University, Lancaster LA1 4YB, UK</i></p> <p><i>2Departamento de Ciencia de los Materiales e I.M. y Q.I., Facultad de Ciencias, Universidad de Cádiz, Campus Río San</i></p>	<p>C-O-4</p> <p>Silicon-compatible process for heterogeneous integration of III-V and silicon</p> <p>Richard K. Oxland, Xu Li, Wout Jansen, Susan Ferguson, Steven Bentley and Iain G. Thayne</p> <p><i>Nanoelectronics Research Centre, Department of Electronics and Electrical Engineering, University of Glasgow, Glasgow, UK. G12 8LT</i></p>	<p>E-O-10</p> <p>(S)TEM characterization of a UV laser structure: analyses of the GaN interlayer and AlGaIn/GaN superlattice region</p> <p>Leonardo Lari, T. Wang and T. Walther</p> <p><i>Electronic & Electrical Engineering Dept., University of Sheffield, Sheffield, S1 3JD, UK</i></p>

	<i>Pedro, 11510 Puerto Real, Cádiz, Spain.</i>		
15.30	<p>D-O-6</p> <p>The Effect of Segregation and Strain in InAs/GaAs Quantum Dot capped with a Strain Reduction Layer of GaAsSb</p> <p>V. Haxha,¹ I. Drouzas,^{2,3} J. M. Ulloa,³ M. Bozkurt,³ P. M. Koenraad,³ D. J. Mowbray,² H. Y. Liu,⁴ M. J. Steer,⁴ M. Hopkinson,⁴ and M. A. Migliorato¹</p> <p><i>1 School of Electrical and Electronic Engineering, University of Manchester, Sackville Street, Manchester</i></p> <p><i>2 Department of Physics and Astronomy, University of Sheffield, Sheffield</i></p> <p><i>3 Department of Applied Physics, COBRA Inter-University Research Institute, Eindhoven University of Technology, MB Eindhoven, The Netherlands</i></p> <p><i>4 EPSRC National Centre for III-V Technologies, Sheffield</i></p>	<p>C-O-5</p> <p>Indium Antimonide based High-speed Transistors for Low Power Dissipation Applications</p> <p>T. Ashley, M.T. Emeny, M. Fearn, D.G. Hayes, K.P. Hilton, R. Jefferies, J.O. Maclean, S.J. Smith, W.H.A. Tang, D.J. Wallis, P.J. Webber and G.M. Williams</p> <p><i>QinetiQ, Malvern Technology Centre, St Andrew's Road, Malvern, WR14 3PS, UK</i></p>	<p>E-O-11</p> <p>Surface, bulk and interface electronic properties of non-polar InN</p> <p>W. M. Linhart, P. D. C. King, L. R. Bailey, T. D. Veal, and C. F. McConville</p> <p><i>Department of Physics, University of Warwick, Coventry CV4 7AL, United Kingdom</i></p> <p>G. Koblmüller, C. S. Gallinat and J. S. Speck</p> <p><i>Department of Materials, University of California, Santa Barbara, California 93106, USA</i></p>
15.45	Refreshments in Exhibition Hall		
	Symposium D (ii)	Symposium C (ii)	Symposium E (iii)
16.15	<p>D-O-7</p> <p>Strong coupling of a single quantum dot in a photonic crystal waveguide cavity</p> <p>F.S.F. Brossard¹, X. L. Xu¹, D.A. Williams¹, M. Hadjipanayi², M. Hopkinson³, X. Wang² and R.A. Taylor²</p> <p><i>1Hitachi Cambridge Laboratory, Hitachi Europe Ltd., J. J. Thomson Avenue, Cambridge, United Kingdom</i></p> <p><i>2Department of Physics, University of Oxford,</i></p>	<p>C-O-6</p> <p>Suppression of Kink Effect in GaN HFETs</p> <p>M J Uren, D J Wallis, P A Lane, J O Maclean, M J Kane, P J Wright, D E J Soley, T Martin</p> <p><i>QinetiQ Ltd, Great Malvern, Worcestershire WR14 3PS, UK</i></p>	<p>E-O-12</p> <p>Foundry Compatible GaN LEDs on 150mm Si Substrates</p> <p>DJ Wallis¹, M Kane¹, P Wright¹, D Soley¹, P Lane¹, T Martin¹,</p> <p>D Zhu², T Thrush², C Humphries², R Davies³, R Davis³, J M monagle³</p> <p><i>¹ QinetiQ, Malvern technology Centre, St Andrews Road, Malvern, WR14 3PS</i></p>

	Parks Road, Oxford, 3Department of Electronic and Electrical Engineering, University of Sheffield, Mappin Street, Sheffield.		² Dept. of Materials Science and Metallurgy, University of Cambridge, Pembroke Street, Cambridge, CB2 3QZ ³ RFMD (UK), Heighington Lane Business Park, Newton Aycliffe, Durham, DL5 6JW
16.30		C-O-7 Contribution of the non linear input capacitance in the performance of class-D power amplifiers in GaN Nicolas Chevaux and Maria Merlyne De Souza <i>Department of Electronic and Electrical Engineering, The University of Sheffield, Mappin Street, Sheffield S1 3JD, United Kingdom</i>	E-O-13 343.7 nm lasing from III-nitride based Vertical Cavity Surface Emitting Laser via optical pumping Y P Gong, T Wang* <i>Department of Electronic & Electrical Engineering, University of Sheffield,</i> R Chen, H D Sun <i>Division of Physics & Applied Physics, Nanyang Technological University, Singapore</i> K N Hui and H W Choi <i>Department of Electrical and Electronic Engineering, University of Hong Kong</i>
16.45	D-O-9 Embedding Nanoparticles in Nitride Photonic Crystals Joy Sumner*, ¹ Philip Shields ¹ , Duncan Allsopp ¹ , Terry Ireland ² , Robert Withnall ² , and Jack Silver ¹ <i>Department of Electronic and Electrical Engineering, University of Bath, Bath.</i> ² <i>Wolfson Centre for Materials Processing, Brunel University, Umbridge, UB8 3PH</i>	C-O-8 Novel high breakdown InGaAs-InAlAs pHEMT for low noise and high power applications M. Mohamad Isa ¹ , K.W. Ian ¹ , D. Saguatti ² and M. Missous ¹ ¹ <i>M&N Group, School of E&EE, The University of Manchester, UK,</i> ² <i>DISMI, Università di Modena e Reggio Emilia, Reggio Emilia, Italy.</i>	E-O-14 High Q-factor Photonic Donor State Localized at Point Defect in GaPhotonic Crystal Slab S. Lis ¹ , R. Dylewicz ² and S. Patela ¹ ¹ <i>Faculty of Microsystem Electronics and Photonics, Wroclaw University of Technology, Wroclaw, Poland</i> ² <i>Department of Electronics and Electrical Engineering, University of Glasgow, Glasgow, United Kingdom</i>
17.00	D-O-10 Dispersion Controlled Cavity: Gentle	C-O-9 Millimeter-Wave Planar Gunn Diodes	E-O-15 Temperature Dependence & Efficiency

	<p>confinement with larger defect modifications</p> <p>Karl Welna¹, Liam O'Faolain¹, Luca Portalupi², Matteo Galli², Lucio Claudio Andreani¹ and Thomas F. Krauss¹</p> <p>¹ School of Physics and Astronomy, University of St Andrews, UK</p> <p>² Dipartimento di Fisica "Alessandro Volta", University of Pavia, Italy</p>	<p>Chong Li*, A. Khalid*, Lai Bun Lok*, Neil J. Pilgrim#, Martin H. Holland*, Geoff M. Dunn#, and David R. S. Cumming*</p> <p>*Department of Electronics and Electrical Engineering, University of Glasgow, Glasgow, G12 8LT</p> <p>#School of Engineering and Physical Sciences, University of Aberdeen, Aberdeen, AB24 SFX</p>	<p>Droop in InGaN Quantum Wells</p> <p>S Hammersley¹, T.J Badcock¹, P Dawson¹, C. McAleese², M.J. Kappers² and C.J. Humphreys²</p> <p>¹ School of Physics and Astronomy, Photon Science Institute, Alan Turing Building, The University of Manchester, M13 9PL</p> <p>² Department of Materials Science and metallurgy, University of Cambridge, Cambridge, CB2 3QZ</p>
17.15	<p>D-O-11</p> <p>Effect of interactions on vortices in the nonequilibrium polariton condensate in semiconductor microcavities</p> <p>K.Guda^{1*}, R.A. Bradley¹, D.N. Krizhanovskii¹, D.M. Whittaker¹, D. Sarkar¹, D. Sanvitto², L.Vina², E.Cerda³, P.Santos³, K. Biermann³, R. Hey³, M.S. Skolnick¹,</p> <p>¹ Department of Physics & Astronomy, University of Sheffield, Sheffield S3 7RH.</p> <p>² Departamento Fisica de Materiales, Universidad Autonoma de Madrid, 28049 Madrid, Spain</p> <p>Paul-Drude-Institut für Festkörperelektronik, Berlin, Germany</p>	<p>C-O-10</p> <p>Ultra High Speed All Ternary InGaAs/InAlAs Double Heterojunction Bipolar Transistor</p> <p>J. Sexton (1), R. Knight (1), M. Mohiuddin (1), T. Tauqeer (2) and M. Missous (1)</p> <p>(1) School of EEE, The University of Manchester, Manchester, M13 9PL, UK</p> <p>(2) School of EE and Computer Science, NUST, Islamabad, Pakistan</p>	<p>E-O-16</p> <p>Formation of low-resistance and transparent Sn-Ag/ITO p-type ohmic contacts to GaN-based light-emitting diodes</p> <p>Y Zhuang and D W E Allsopp</p> <p>Department of Electrical and Electronic Engineering, University of Bath, BA2 7AY, UK</p>
17.30	<p>D-O-12</p> <p>Phonon induced Rabi frequency</p>		<p>E-O-17</p> <p>Greatly enhanced internal quantum</p>

	<p>renormalization of optically driven semiconductor quantum dots</p> <p>A. J. Ramsay¹, T. M. Godden¹, S. J. Boyle¹, A. Nazir², E. M. Gauger³, B. W. Lovett³, A. M. Fox¹, and M. S. Skolnick¹</p> <p>1. <i>Department of Physics and Astronomy, University of Sheffield, Sheffield S3 7RH</i></p> <p>2. <i>Department of Physics and Astronomy, University College London, London WC1E 6BT</i></p> <p>3. <i>Department of Materials, University of Oxford, Oxford OX1 3PH</i></p>		<p>efficiency of InGaN/GaN quantum well due to surface plasmon coupling effect</p> <p>P Renwick, F Ryder, Q Wang and T Wang*</p> <p><i>Department of Electronic and Electrical Engineering, University of Sheffield, Mappin Street, Sheffield, S1 3JD, United Kingdom</i></p>
17.45	<p>D-O-13</p> <p>Pumping of nuclear spins via “dark” exciton states in a quantum dot using arbitrary polarised light</p> <p>E. A. Chekhovich^{1,2 *}, A. B. Krysa³, M. S. Skolnick¹ and A. I. Tartakovskii¹</p> <p>¹Department of Physics and Astronomy, University of Sheffield, Sheffield S3 7RH, UK ²Institute of Solid State Physics, 142432, Chernogolovka, Russia ³Department of Electronic and Electrical Engineering, University of Sheffield, Sheffield S1 3JD, UK</p>		
18.00	Exhibition and drinks in Exhibition Hall.		
From 19.00	Conference Dinner – The Edge		
21.00	Rump Session - TBA		

**Technical Program
Thursday 8th July 2010**

Time	High Torr One
08.30 to 09.30	<p style="text-align: center;">Plenary 3</p> <p style="text-align: center;">"Bright and Colorful LEDs built with Nanostructured Semiconductors"</p> <p style="text-align: center;">Vladimir Bulović, Massachusetts Institute of Technology</p>
09.30 to 10.30	<p style="text-align: center;">Plenary 4</p> <p style="text-align: center;">"Probing the electronic and magnetic structure of a single impurity in a semiconductor"</p> <p style="text-align: center;">Paul Koenraad, Eindhoven University of Technology</p>
10.30	<p style="text-align: center;">Refreshments in Exhibition Hall</p>
	<p style="text-align: center;">Photovoltaics Focus Session</p>
11.00 to 11.45	<p style="text-align: center;">"Quantum Well Solar Cells for High Concentration Applications"</p> <p style="text-align: center;">Keith Barnham, Imperial College London</p>
11.45	<p>PV-O-1</p> <p>Catalyst-free, III-V nanowire photovoltaics</p> <p>D.G.Davies¹, N.Lambert¹, P.W.Fry², A.B.Krysa², L.R. Wilson¹</p> <p>¹ <i>Department of Physics and Astronomy, University of Sheffield, United Kingdom</i></p> <p>² <i>National Centre for III-V Technologies, Department of Electronic Engineering, University of Sheffield, United Kingdom</i></p>
12.00	<p>PV-O-2</p> <p>Delayed luminescence spectroscopy of organic donor – acceptor photovoltaic blend films</p> <p>Panagiotis E. Keivanidis^{a)}, Valentin Kamm^{b)}, Clare Dye – Smith^{a)}, Weiming Zhang^{c)}, Frederic Laquai^{b)}, Iain McCulloch^{c)}, Donal D. C. Bradley^{a)}, Jenny Nelson^{a)}</p> <p><i>a) Department of Physics, Imperial College, London SW7 2BW, UK</i></p>

	<p>b) Max Planck Institute for Polymer Research, Ackermannweg, D-55120, Mainz, Germany</p> <p>c) Department of Chemistry, Imperial College, London SW7 2BW, UK</p>			
12.15	<p>PV-O-3</p> <p>New Low Cost Materials for Thin Film Photovoltaics</p> <p>Laura M. Droessler, Miriam S. Hoener, Alexandros Stavrinadis, John Topping, Andrew G. Cook, Hazel E. Assender, Andrew A.R. Watt, University of Oxford, Oxford, UK</p>			
12.30	<p>Lunch, exhibition and poster session 2 (Symposia A, B, F, G) in Exhibition Hall</p>			
	High Torr Two	High Torr Five	Middleton	Johnson
	Symposium B (i)	Symposium A (i)	Symposium F (i)	Symposium G (i)
13.45				<p>Invited: Threaded molecular wires as model conjugated polymers with controlled interstrand interactions</p> <p>Franco Cacialli, Francesco DiStasio, Bukem Bilen, Gustaf Winroth, Sergio Brovelli, Mattia Lazzerini, Jo Wilson, Giuseppe Sforazzini, Michael Frampton, Jasper Michels, Peter Taylor, Harry Anderson</p> <p>Department of Physics and Astronomy, and London Centre for Nanotechnology, University College London, Gower Street, WC1E 6BT, London, UK</p>
14.00	<p>B-O-1</p> <p>Pumping of nuclear spins by optical excitation of spin-forbidden transitions in a quantum dot</p> <p>E. A. Chekhovich^{1,2}, M. N. Makhonin¹, K. V. Kavokin³, A. B. Krysa⁴, M. S. Skolnick¹, A. I. Tartakovskii^{1*}</p> <p>¹Department of Physics and Astronomy, University of Sheffield,</p> <p>²Institute of Solid State Physics, 142432, Chernogolovka, Russia</p> <p>³A. F. Ioffe Physico-Technical Institute, 194021, St. Petersburg,</p>	<p>A-O-1</p> <p>The Coulomb drag technique as a probe for the emergence of a non Fermi liquid-like state in an electron-hole bilayer</p> <p>A.F. Croxall, J. Waldie, K. Das Gupta, C.A. Nicoll, I. Farrer, H.E. Beere and D.A. Ritchie</p> <p><i>Cavendish Laboratory, University of Cambridge, JJ Thomson Avenue, Cambridge, CB3 0HE, UK</i></p>	<p>F-O-1</p> <p>Third Order Grating Distributed Feedback InGaAs/AlAs(Sb)/InP Quantum Cascade Lasers Operating at $\lambda \sim 3.36 \mu\text{m}$</p> <p>J. P. Commin¹, K. Kennedy², D. G. Revin¹, S. Y. Zhang², A. B. Krysa², and J. W. Cockburn</p> <p>¹ Department of Physics and Astronomy, University of Sheffield, Sheffield, S3 7RH, UK</p> <p>² Department of Electronic S3 7RH, UK</p>	<p>Invited: Threaded molecular wires as model conjugated polymers with controlled interstrand interactions</p> <p>Franco Cacialli, Francesco DiStasio, Bukem Bilen, Gustaf Winroth, Sergio Brovelli, Mattia Lazzerini, Jo Wilson, Giuseppe Sforazzini, Michael Frampton, Jasper Michels, Peter Taylor, Harry Anderson</p> <p>Department of Physics and Astronomy, and London Centre for Nanotechnology, University College London, Gower Street, WC1E 6BT, London, UK</p>

	<i>4Department of Electronic and Electrical Engineering, University of Sheffield.</i>			
14.15	<p>B-O-2</p> <p>The dependence of lateral ambipolar diffusion in S-K self-assembled quantum-dots on carrier injection-level</p> <p>Deepal S. Naidu^{1*}, Peter M. Snowton¹, Huw D. Summers²</p> <p><i>1School of Physics & Astronomy, Cardiff University, The Parade, Cardiff, CF24 3AA</i></p> <p><i>2Multidisciplinary Nanotechnology Centre, Swansea University, SA2 8PP</i></p>		<p>F-O-2</p> <p>Dual wavelength emission from a terahertz quantum cascade laser</p> <p>J. R. Freeman¹, J. Madéo², A. Brewer¹, S. Dhillon², O. P. Marshall¹, N. Jukam², D. Oustinov², J. Tignon², H. E. Beere¹ and D. A. Ritchie¹</p> <p><i>1Semiconductor Physics, Cavendish Laboratory, University of Cambridge, JJ Thomson Avenue, Cambridge, UK.</i></p> <p><i>2Laboratoire Pierre Aigrain, Ecole Normale Supérieure,</i></p> <p><i>UMR 8551 CNRS, UPMC Univ. Paris 6 75005 Paris, France.</i></p>	
14.30	<p>B-O-3</p> <p>Photoconductivity of mesoporous titania sensitised with PbS nano crystals</p> <p>L. Turyanska¹, U. Elfurawi¹, O. Makarovskiy¹, A. Patané¹, M. W. Fay², J.W.³ Bowers³, H. M. Upadhyaya</p> <p><i>1 School of Physics and Astronomy, The University of Nottingham, NG7 2RD, UK</i></p> <p><i>2 Nottingham Nanotechnology and Nanoscience Centre, The</i></p>	<p>A-O-2</p> <p>Electrical Single Spin Manipulation in Gated Quantum Dots</p> <p>M. Fearn, J.H. Jefferson</p> <p><i>QinetiQ,</i></p> <p><i>Malvern Technology Centre,</i></p> <p><i>St. Andrews Road, Malvern, UK.</i></p>	<p>F-O-3</p> <p>Temperature Dependence of Leakage Current in InAs Avalanche Photodiodes</p> <p>P.J. Ker, A.R.J. Marshall, A.B. Krysa, J.P.R. David and C.H. Tan</p> <p><i>Department of Electronic and Electrical Engineering, The University of Sheffield,</i></p> <p><i>Sir Frederick Mappin Building, Mappin Street, Sheffield, S1 3JD, United Kingdom.</i></p>	<p>G-O-1</p> <p>An Optical Nano-Cavity Incorporating a Fluorescent Organic Dye Having a High Quality-Factor</p> <p>Ali M. Adawi^{1*}, Mohamed M. Murshidy¹, Paul W. Fry² and David G. Lidzey¹</p> <p><i>1 Department of Physics and Astronomy, The University of Sheffield, Hicks Building, Hounsfield Road, Sheffield</i></p> <p><i>2 Nanoscience and Technology Centre, University of Sheffield,</i></p>

	<p>University of Nottingham. ³ Centre for Renewable Energy Systems Technology, Loughborough University.</p>			<p>North Campus, Broad Lane, Sheffield.</p>
14.45	<p>B-O-4 Design, Fabrication and Characterization of Electrically Pumped VECSELs J.R. Orchard, D.T.D. Childs, L-C Lin, B.J. Stevens, and R.A.Hogg <i>Electronic & Electrical Engineering Department, University of Sheffield, Centre for Nanoscience and Technology, Sheffield.</i></p>		<p>F-O-4 Mid-Infrared Photoluminescence of InAsNSb/InAs Multi Quantum Wells Grown by Molecular Beam Epitaxy M. de la Mare, Q. Zhuang, P. Carrington, R. Wheatley & A. Krier <i>Physics Department, Lancaster University, Lancaster.</i></p>	<p>G-O-2 A Hybrid Silicon/Organic Semiconductor Photodiode with Enhanced UV Response Jack W. Levell*, Mario E. Giardini and Ifor D. W. Samuel <i>School of Physics and Astronomy, University of St Andrews, North Haugh, St Andrews, Fife, UK</i></p>
15.00	<p>B-O-5 The Potential of III-Bismides for Near- and Mid-IR Photonic Devices Stephen J. Sweeney^{1,2}, Z. Batool^{1,2}, T. J. C. Hosea and S. R. Jin <i>Advanced Technology Institute and Department of Physics, University of Surrey, Guildford, UK</i></p>	<p>A-O-3 Extraordinary Magnetoresistance in Hybrid Semiconductor Metal Systems T.H. Hewett and F.V.Kusmartsev <i>Department of Physics, Loughborough University, Loughborough, LE11 3TU, UK</i></p>	<p>F-O-5 Controlling the optical properties of mid-infrared metamaterials via electrical modulation of the substrate refractive index K.C. Larsen¹, D. Austin¹, I.C. Sandall¹, D.G. Davies¹, D.G. Revin¹, J.W. Cockburn¹, A.M. Adawi¹, R.J. Airy², P.W. Fry², M. Hopkinson² and L.R. Wilson¹ <i>1Department of Physics and Astronomy, University of Sheffield. 2Department of Electronic and Electrical Engineering, University of Sheffield, UK</i></p>	<p>G-O-3 FRET optoelectronics for light harvesting and light emitting applications Junis Rindermann, Soontorn Chanyawadee, Pavlos Lagoudakis <i>School of Physics and Astronomy, University of Southampton, UK</i></p>
15.15	Refreshments in Exhibition Hall			
	Symposium B (ii)	Symposium A (ii)	Symposium F (ii)	Symposium G (ii)

15.45	<p>B-O-6</p> <p>Excited State Bi-Layer Quantum Dot Lasers at 1.3 μm</p> <p>M. A. Majid, D. T. D. Childs, R. Airey, K. Kennedy, R. A. Hogg</p> <p><i>EPSRC National Centre for III-V Technologies Electronic and Electrical Engineering Department, University of Sheffield, UK</i></p> <p>E. Clarke, P. Spencer, and R. Murray</p> <p><i>Department of Physics, Imperial College, London, UK</i></p>	<p>A-O-4</p> <p>Tunable quasi-localized states and Kondo physics in open quantum point contacts</p> <p>M. J. Iqbal*, J. de Jong, E. J. Koop, C. H. van der Wal</p> <p><i>Zernike Institute for Advanced Materials, University of Groningen, NL-9747AG Groningen, The Netherlands</i></p> <p>D. Reuter, A. D. Wieck</p> <p><i>Angewandte Festkörperphysik, Ruhr-Universität Bochum, D-44780 Bochum, Germany</i></p>	<p>F-O-6</p> <p>Effects of annealing on quantum dot infrared photodiodes</p> <p>J.Xie¹, P.Vines, A.S.Idris, M.Hugues, J.P.David and C.H.Tan</p> <p><i>The University Of Sheffield, Department of Electronic and Electrical Engineering, Mappin Street, Sheffield, S1 3JD, U.K.</i></p>	<p>G-O-4</p> <p>Advanced materials for low-threshold organic semiconductor lasers</p> <p>Y Wang¹, G Tsiminis¹, A L Kanibolotsky², P J Skabara², M D Dawson³, G A Turnbull¹ and I D W Samuel</p> <p><i>1 Organic Semiconductor Centre, SUPA, School of Physics and Astronomy, University of St. Andrews, UK</i></p> <p><i>2 WestCHEM, Department of Pure and Applied Chemistry, University of Strathclyde, Glasgow, UK</i></p> <p><i>3 Institute of Photonics, University of Strathclyde, Glasgow, UK</i></p>
16.00	<p>B-O-7</p> <p>Pseudopotential Study of Electronic and Optical Properties in InAs Semiconductor Nanostructures : Quantum Dots and Nanorods</p> <p>Theerapong Puangmali, Marco Califano and Paul Harrison</p> <p><i>School of Electronic and Electrical Engineering, University of Leeds, Leeds LS2 9JT</i></p>	<p>A-O-5</p> <p>Ballistic transport in InSb quantum well nanostructures: towards room temperature</p> <p>A. M. Gilbertson^{1*}, M. Fearn², A. Kormányos³, D. E. Read¹, C. J. Lambert³, L. Buckle², S. A. Solin⁴ and L. F. Cohen¹</p> <p><i>1 Blackett Laboratory, Imperial College, London, SW7 2BZ, UK</i></p> <p><i>2 QinetiQ, St. Andrews Road, Malvern.</i></p> <p><i>3 Department of Physics, Lancaster University, Lancaster.</i></p> <p><i>4 Center for Material Innovations & Department of Physics, Washington University in St. Louis, USA</i></p>	<p>F-O-7</p> <p>Performance of improved mid-infrared “W” interband cascade lasers emitting around 4μm</p> <p>Barnabas A. Ikyo, Igor P. Marko, Alf R Adams and Stephen J. Sweeney</p> <p><i>Advanced Technology Institute and Department of Physics, University of Surrey, Guildford, Surrey GU2 7XH, United Kingdom</i></p> <p>Chadwick L. Canedy, Chul Soo Kim, Mijin Kim, William W. Bewley, Igor Vurgafman, and Jerry R. Meyer</p> <p><i>Naval Research Laboratory, Washington DC USA</i></p>	<p>G-O-5</p> <p>Magnetoresistance in an Organic Single-Carrier Device</p> <p>Jianpu Wang and Neil C. Greenham</p> <p><i>Cavendish Laboratory, JJ Thomson Avenue, Cambridge CB3 0HE</i></p>

16.15	<p>B-O-8</p> <p>Magneto-Optical studies of doped In2O3</p> <p>M. Alshammari^{1,2}, D. S. Score¹, K. Addison¹, M. Al-Qahtani¹, A. M. Fox¹, G. A. Gehring¹, F-X Jiang^{3,4}, X-H Xu³, J. Zhang³, X-C Fan³, H-S Wu^{3,4}, A. Alamani², A. M. H. R. Hakimi⁵, and M. G. Blamire⁵</p> <p><i>1 Dept. of Physics and Astronomy, University of Sheffield, Sheffield</i></p> <p><i>2 National Nanotechnology Centre, KACST, Riyadh, Saudi Arabia</i></p> <p><i>3 School of Chemistry and Materials Science, Shanxi Normal University, Linfen, P.R. China</i></p> <p><i>4 College of Chemistry and Chemical Engineering, Taiyuan University of Technology</i></p> <p><i>5 Dept. of Materials Science and Metallurgy, University of Cambridge, Cambridge</i></p>	<p>A-O-6</p> <p>Interactions in coupled rows of electrons in low-density GaAs quantum wires</p> <p>L. W. Smith¹, K. J. Thomas², M. Pepper³, I. Farrer¹, D. Anderson¹, G. A. C Jones¹, and D. A. Ritchie¹</p> <p><i>1 Cavendish Laboratory, J. J. Thomson Avenue, Cambridge, CB3 0HE, UK</i></p> <p><i>2 Dept. of Electronic and Electrical Engineering, Sungkyunkwan University, Suwon 440-746, Korea</i></p> <p><i>3 Dept. of Electronic and Electrical Engineering, University College London, WC1E 7JE, UK</i></p>	<p>F-O-8</p> <p>Development of High Power THz sources for Imaging Applications</p> <p>F. Amir¹, C. Mitchell¹, N. Farrington² and M. Missous¹.</p> <p><i>1Microelectronics And Nanostructures (M&N) Group, School of E&EE, The University of Manchester, UK, M60 1QD.</i></p> <p><i>2e2v Technologies (UK) Plc.</i></p>	<p>G-O-6</p> <p>Monitoring morphology evolution of polymer:fullerene films using field-effect transistors</p> <p>John G. Labram, Donal D.C. Bradley, Thomas D. Anthopoulos</p> <p><i>Department of Physics, Blackett Laboratory, Imperial College London, London, SW7 2BW, United Kingdom</i></p>
16.30	<p>B-O-9</p> <p>The Effect of Charging and Band Bending on the Photoluminescence Energy of Type-II Quantum Dots</p> <p>G. Fouldsa, R. Younga, B. Bansalb, M. Ahmad Kamarudina,</p>	<p>A-O-7</p> <p>Study of electron-spin relaxation in GaAs-based devices using Ensemble Monte-Carlo technique</p> <p>Sheetal Kapoor¹, Fausto Rossi² and Irene D'Amico¹</p>	<p>F-O-9</p> <p>Tunability of the Piezoelectric fields in Strained III-V Semiconductors</p> <p>G. Tse¹, R. Garg¹, A. Hue¹, V. Haxha¹, M. A. Migliorato¹, T. Hammerschmidt², G. P.</p>	<p>G-O-7</p> <p>Thermal deposition of large organic molecules for photovoltaic applications</p> <p>P. Kovacic*, S. Willis, J. Holder, G. Sforazzini[†], H.E. Assender and A.A.R. Watt</p>

	<p>Q. Zhuanga and M. Haynea</p> <p><i>a Department of Physics, Lancaster University, Lancaster LA1 4YB, UK</i></p> <p><i>b Indian Institute of Science and Education Research Kolkata, Kolkata, India</i></p>	<p><i>1. Department of Physics, University of York, YO10 5DD, UK</i></p> <p><i>2. Department of Physics, Politecnico di Torino, Torino, Italy</i></p>	<p>Srivastava³</p> <p><i>1 School of Electrical and Electronic Engineering, University of Manchester, UK.</i></p> <p><i>2 Department of Materials, University of Oxford, Parks Road, Oxford OX1 3PH, UK</i></p> <p><i>3 School of Physics, University of Exeter, Stocker Road, Exeter.</i></p>	<p><i>Department of Materials, University of Oxford, Parks Road, OX1 3PH Oxford, UK</i></p> <p><i>† Department of Chemistry, University of Oxford, Mansfield Road, OX1 3TA Oxford, UK</i></p>
16.45				<p>G-O-8</p> <p>Spintronics in organic semiconductors: transition metal phthalocyanines</p> <p>Wei Wua^b, Andrew Kerridge^a, Andrew Fisher^a, Tony Harker^a, Marshall Stoneham^a, Nicolas Harrison^b, Sandrine Heutz^a, Chiranjib Mitra^a, Julie Gardener^a, Hsiang-Han Tseng^b, Tim S. Jones^b, Christoph Renner^a, and Gabriel Aeppli^a</p> <p><i>London Centre for Nanotechnology and The Department of Physics and Astronomy, University College London^a, The Department of Chemistry, Imperial College London^b</i></p>

Poster Contributions

**Wednesday 1st July,
12.30 -14.30 Exhibition Hall
Symposia C, C, C**

Symposium C

C-P-1

InAlAs-InGaAs pHEMT TCAD Simulation and Optimization

D. Saguatti¹, M. Mohamad Isa², K. W. Ian² and M. Missous²

1 DISMI, Università di Modena e Reggio Emilia, Reggio Emilia, Italy

2 Microelectronics and Nanostructures (M&N) Group, School of E&EE,

The University of Manchester, UK, M60 1QD

C-P-2

Bi-layer SixNy passivation on AlGaN/GaN HEMTs to improve breakdown and suppress current slump

K. B. Lee^a, R. T. Green^a, P. A. Houston^a, W. S. Tan^a, M. J. Uren^b, D. J. Wallis^b and T. Martin^b

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^b*QinetiQ Ltd, St. Andrews Road, Great Malvern, WR14 3PS, Worcestershire, UK*

C-P-3

Variation of dielectric permittivity through Insulator/Silicon interface: Effect on Coulomb-limited mobility in MOSFETs

Damien Casterman and Maria Merlyne De Souza

University of Sheffield, Department of Electronic and Electrical Engineering, Mappin Street, S1 3JD, Sheffield United kingdom

C-P-5

TOWARDS INKJET PRINTED HIGH-EFFICIENCY BULK HETEROJUNCTION SOLAR CELLS

D. Caras-Quintero^{1,2*}, M-B. Madec¹, M. Horie¹, B. R. Saunders², M. L. Turner¹ and

S. G. Yeates¹

1 Organic Materials Innovation Centre, School of Chemistry, University of Manchester, UK

2 School of Materials, University of Manchester, UK

C-P-6

Thermal Stability of Strained Ge Layers Grown on Reverse-Graded Si_{0.2}Ge_{0.8} Relaxed Buffers by RP-CVD

A. Dobbie, M. Myronov, Van Huy Nguyen, Xue-Chao Liu and D. R. Leadley

Department of Physics, University of Warwick, Coventry CV4 7AL, UK

C-P-7

Defect Evaluation in Ge and Si_{1-x}Gex Epitaxial Layers using an Iodine-Based Selective Etchant

Van Huy Nguyen, A. Dobbie, M. Myronov, D. R. Leadley

Department of Physics, University of Warwick, Coventry CV4 7AL, UK

Symposium D

D-P-1

Shallow junctions in antimony (Sb) implanted silicon (Si) Shaped Electrical Profiles

¹T. Alzanki, ²R. Gwilliam, ²N. Emerson and ²B. J. Sealy

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D-P-2

Ultrasonic Force Microscopy of Subsurface Self-Assembled GaSb/GaAs Quantum Dots

A Robson¹, M Hayne, R J Young, O V Kolosov and Q D Zhuang

Physics Department, Lancaster University, Lancaster LA1 4YB, UK

D-P-3

High quality epitaxial Ge layers on Si (001) substrates for Optoelectronic Applications

V.A. Shah, A. Dobbie, M. Myronov, D.R. Leadley

Department of Physics, The University of Warwick, Coventry CV4 7AL, United Kingdom

D-P-4

Modeling of Nitrogen Cluster Fluctuations on Band Dispersion in Dilute Nitride Semiconductors by Using Quantum Dot Approach

X. Sun, and J. M. Rorison

Electrical and Electronics Engineering Department, Room 2.14, Queen's Building, University of Bristol, BS8 1TR, United Kingdom

D-P-5

Triggered high fidelity hole spin initialisation in a InGaAs quantum dot.

T M Godden¹, S J Boyle¹, A J Ramsay¹, A M Fox¹ and M S Skolnick¹

¹*Department of Physics and Astronomy, University of Sheffield, Sheffield, S3 7RH, UK*

D-P-6

Photoluminescence and Structural Properties of Nanocrystalline CuCl Hybrid Films

M. M. Alam^{1*}, F. Olabanji Lucas¹, S. Daniels¹ and P. J. McNally¹

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D-P-7

Low-Computational-Cost Modelling of Intraband Absorption for Quantum-Dot-in-Well Structures

B.H. Honga, S.I. Rybchenkoa, I.E. Itskevicha, S.K. Haywooda, C.H. Tanb, P. Vinesb, and M. Huguesb

a Department of Engineering, University of Hull, UK

b Department of Electronic and Electrical Engineering, University of Sheffield, UK

D-P-8

A Transmission Electron Microscopical Analysis of SiGe Grown on a Range of Differently Oriented Si Wafers

DJ Norris¹, T Walther¹, AG Cullis¹, A Dobbie², M Myronov², T Whall², EHC Parker²,

DR Leadley², B De Jaeger³, W Lee³, M Meuris³, J Watling⁴ and A Asenov⁴

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Mappin Building, Mappin Street, Sheffield, S1 3JD, UK

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3 IMEC, Kapeldreef 75, B-3001 Leuven, Belgium

4 Dept of Electronics and Electrical Engineering, Rankine Building, Oakfield Avenue, Glasgow, G12 8LT, UK

D-P-9

Far-infrared spectra of coupled donors in oval-shaped quantum ring

W Gutiérrez , L F García Russi and I D Mikhailov

Escuela de Física. Universidad Industrial de Santander. A A 678, Bucaramanga. COLOMBIA

D-P-10

InP quantum dots in GaInP photonic crystal nanocavities

E D Ahmadi^{1*}, I J Luxmoore¹, N A Wasley¹, A I Tartakovskii¹, A M Fox¹, A B Krysa², M S Skolnick¹

¹ *Department of Physics and Astronomy, University of Sheffield, UK*

² *Department of Electronic and Electrical Engineering, University of Sheffield, UK*

D-P-11

Tuning of quantum dot emission in photonic crystal cavities using p-i-n diode structures.

N.A. Wasley¹, I.J. Luxmoore¹, M. Hughes², A.M. Fox¹, M.S. Skolnick¹

¹ *Department of Physics and Astronomy, University of Sheffield, Sheffield, S3 7RH*

² *Department of Electronic and Electrical Engineering, University of Sheffield, Sheffield, S1 3JD*

Symposium E

E-P-1

Self-assembled InGaN Quantum Dots with an Increased Barrier to Carrier Escape

F C Christie^a, H W A R El-Ella^a, M J Kappers^a, D Collins^b, R A Taylor^b, R A Oliver^a

a. *Department of Materials Science and Metallurgy, University of Cambridge, Pembroke Street, Cambridge, CB3 3QZ*

b. *Department of Physics, University of Oxford, The Clarendon Laboratory, Parks Road, Oxford, OX1 3PU*

E-P-2

Internal quantum efficiency of an InGaN/GaN quantum dot structure grown on GaN using high temperature AlN buffer

Q Wang, P Renwick, F Ryder and T Wang*

*Department of Electronic and Electrical Engineering, University of Sheffield, Mappin Street,
Sheffield, S1 3JD, United Kingdom*

E-P-3

Optical gain in AlGaIn/AlGaIn multiple quantum well grown on high temperature AlN multiple buffers

Y P Gong and T Wang*

Department of Electronic and Electrical Engineering, University of Sheffield, Sheffield, United Kingdom

E-P-4

Experimental study of X-ray intensities from AlGaIn epitaxial layers investigated by energy-dispersive X-ray spectroscopy in a transmission electron microscope

H. Amari, L. Lari, T. Wang and T. Walther

Dept. Electronic & Electrical Engineering, University of Sheffield, Sheffield, UK

E-P-5

Advancing Monte Carlo Simulations of Electron Transport in Bulk GaN

M. Aldegunde^{1,3,*}, A. Loureiro², B. Benbakhti³ and K. Kalna⁴

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**Thursday 2nd July,
12.30 -14.00 Exhibition Hall
Symposia A, B, F**

Symposium A

A-P-1

Compressibility measurements in quasi-one-dimensional wires

L. W. Smith¹, A. R. Hamilton², K. J. Thomas³, M. Pepper⁴, I. Farrer¹, D. Anderson¹, G. A. C Jones¹, and D. A. Ritchie¹

1 Cavendish Laboratory, J. J. Thomson Avenue, Cambridge, CB3 0HE, UK

2 School of Physics, The University of New South Wales, Sydney, NSW 2052, Australia

3 Dept. of Electronic and Electrical Engineering, Sungkyunkwan University, Suwon 440-746, Korea

4 Dept. of Electronic and Electrical Engineering, University College London, WC1E 7JE, UK

A-P-2

Theoretical investigation of the mobility in bulk GaAsN through a Monte-Carlo approach

N. Vogiatzis and J.M Rorison

Electrical and Electronic Engineering, Merchant Venturers Building, University of Bristol, UK

A-P-3

Independent determination of background impurities in GaAs and AlGaAs, using ultra shallow undoped heterostructures

W.Y. Mak, K. Das Gupta*, F. Sfigakis, H.E. Beere, I. Farrer and D. A. Ritchie

Cavendish Laboratory, University of Cambridge, Cambridge CB3 0HE, U.K.

A-P-4

Electron Mobility in Remote Doped InSb/AlInSb Quantum Well Heterostructures

O J Pooley*,^{1,2} A M Gilbertson,³ P D Buckle,¹ R S Hall,¹ L Buckle,¹ M T Emeny,¹ M Fearn,¹ M P Halsall,² L Cohen,³ T Ashley¹

1 QinetiQ, Malvern, Worcestershire, WR14 3PS, UK

2 School of Electrical and Electronic Engineering, University of Manchester, M60 1QD, UK

3 Department of Physics, Imperial College, London, UK

A-P-5

Effect of La doping on electrical transport properties of BaFeMO₆ (M=Nb, Ta)

K. Shahzad, G. Shabbir and J. Bashir

Physics Division, PINSTECH, P. O. Nilore, Islamabad

Symposium B

B-P-1

Study of the Gain Spectra of 1.3 μm Quantum Dot Lasers at High Carrier Densities

H. Shahid, D.T.D. Childs, B. J. Stevens, R.A. Hogg.

Department of Electronic and Electrical Engineering, University of Sheffield, S3 7HQ, UK

B-P-2

Growth of Low Density InP/GaInP Quantum Dots

C. J. Elliott.¹, E. A. Chekhovich¹, A. B. Krysa², M. S. Skolnick, A. I. Tartakovskii

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B-P-3

In_{0.53}Ga_{0.47}As/ In_{0.52}Al_{0.48}As Avalanche Photodiodes with a Gain-Bandwidth Product of 160GHz

S. Xie, A. R. J. Marshall, S. Ong, J. P. R. David, and C. H. Tan

Department of Electronic and Electrical Engineering, The University Of Sheffield, Mappin Street, S1 3JD, U.K.

B-P-4

Time Domain Numerical Simulation of InP/InGaAs/InP PIN Photodiode beyond the 3dB Bandwidth

Qian Yi and Duncan Allsopp

Department of Electronic and Electrical Engineering, University of Bath

B-P-5

Temperature Dependence of Quantum Dot Infrared Photodetectors with Variable Dot Doping

M.Hobbs¹, J.Xie, P. Vines, M. Hugues, J. P. R. David and C.H.Tan

Department of Electronic and Electrical Engineering, The University of Sheffield, Sir Frederick Mappin Building, Mappin Street, Sheffield, United Kingdom.

B-P-6

Drift –Diffusion Approach to Solar Cells Modeling With the Application of Dilute Nitride

Dr. Judy Rorison, Miss Onlada Kengradomying

University of Bristol, Department of Electrical and Electronic Engineering, Bristol, UK

Symposium F

F-P-1

Growth and characterization of Ge/Si_{0.4}Ge_{0.6} multiple quantum wells

Xue-Chao Liu, M. Myronov, A. Dobbie, and D. R. Leadley

Nano-Silicon group, Department of Physics, The University of Warwick, Coventry

F-P-2

High THz frequency coupling through a horn waveguide photoconductive antenna.

Richard Faulks,¹ Samir Rihani,¹ Mike Evans,² Harvey Beere,¹ Michael Pepper,^{1,2} and Dave Ritchie¹

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2 TeraView LTd. St John's Innovation Park, Cambridge CB4 0WS.

F-P-3

Narrow Bandgap GaInAsSbP Pentanary Thermophotovoltaic Cells

K. J. Cheetham*, P. J. Carrington, N. B. Cook, M. Yin, A. Krier

Physics Department, Lancaster University, Lancaster, UK

F-P-4

Far field mapping of metal-metal terahertz quantum cascade lasers with focused ion beam milled photonic structures

A. M. Brewer, J.R. Freeman, O. P. Marshall, S. Badhwar, H. E. Beere and D. A. Ritchie

1 Semiconductor Physics, Cavendish Laboratory, University of Cambridge, JJ Thomson Avenue, Cambridge, UK, CB3 0HE.