Dr Stephen John Sweeney

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J1. "Influence of carrier leakage on temperature performance of InAs/AlSb quantum cascade lasers", I. P. Marko, A. R. Adams, **S. J. Sweeney**, R. Teissier and A. N. Baranov, *accepted for publication in* Physica Status Solidi (b), 4 pages (2008).

J2. "Novel room temperature characterisation of InGaAlAs quantum well laser structures using electro-modulated reflectance and surface photovoltage spectroscopy", N. E. Fox, T. K. Sharma, **S. J. Sweeney** and T. J. C. Hosea, *accepted for publication in* Physica Status Solidi (a), 8 pages (2008).

J3. "Band anti-crossing and carrier recombination in dilute nitride phosphide based lasers and light emitting diodes", J. Chamings, S. Ahmed, A. R. Adams, **S. J. Sweeney**, V. A. Obnoblyudov, C. W. Tu, B. Kunert, K. Volz and W. Stolz, Physica Status Solidi (b) *accepted for publication in* Physica Status Solidi (b), 4 pages (2008).

J4. "An accurate determination of the electronic transitions in InAs/InGaAs/InP quantum dots for mid-IR lasers using simultaneous complementary spectroscopic techniques", T. K. Sharma, T. J. C. Hosea, **S. J. Sweeney** and X. Tang, *accepted for publication in* Jour. Appl. Phys., 7 pages (2008).

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D18. "The temperature dependence of the recombination processes in 1.3 μm GaInNAs-based edge emitting lasers", R. Fehse, S. R. Jin, **S. J. Sweeney**, A. R. Adams, E. P. O'Reilly, S. Illek, A. Yu. Egorov and H. Riechert, Proc. 14th LEOS, **1**, p12-13 (2001).

D19. "The effect of Auger generated hot-holes on 1.5μm InGaAs(P)-based quantum well semiconductor lasers", **S. J. Sweeney**, A. R. Adams, E. P. O'Reilly, M. Silver and P. J. A. Thijs, CLEO 00 Technical Digest, pp391-392 (2000).

D20. "-180 to +80ºC CW lasing in visible VCSELs", T. E. Sale, G. C. Knowles, S. J. Sweeney, A. Onischenko, J. E. F. Frost, S. M. Pinches and J. Woodhead, Proc. 17th ISLC, pp15-17 (2000).

D21. "Determination of the Influence of Auger Recombination on the Threshold Current of 1.3μm and 1.5μm InGaAs(P) Strained-layer Lasers and its Variation with Temperature", **S. J. Sweeney**, A. F. Phillips, A. R. Adams, E. P. O'Reilly and P. J. A. Thijs, Proc. 16th ISLC, pp63-64 (1998).

D22. "Observation of reduced non-radiative recombination current in 1.3μm AlGaInAs/InP multiple-quantum-well lasers", T. Higashi, **S. J. Sweeney**, A. F. Phillips, A. R. Adams, E. P. O'Reilly, T. Uchida and T. Fujii, Proc. 16th ISLC, pp61-62 (1998).

D23. "Transition from radiative to nonradiative recombination in 1.3μm and 1.5μm InGaAs(P) multiple quantum well semiconductor diode lasers", **S. J. Sweeney**, A. F. Phillips, A. R. Adams, E. P. O'Reilly, M. Silver and P. J. A. Thijs, CLEO 98 Technical Digest, pp304 (1998).

D24. "The Influence of Phonon-assisted Auger Recombination on the Electroluminescent Efficiency of InGaAsP Bulk, Strained and Unstrained Quantum-Well Structures", A.R. Adams, E.P. O'Reilly, M. Silver, A.F. Phillips, **S.J. Sweeney** and P.J.A. Thijs, Proc. ICPS, **1**, pp293- 296 (1996).

Conference Presentations

NB: Oral presentations are indicated by *****.
Invited presentations are indicated by ¶.

C1. * ¶ "The effect of hydrostatic pressure on the operation of quantum cascade lasers", A. R. Adams, I. P. Marko, **S. J. Sweeney**, R. Teissier, A. Baranov and S. Tomic, *to be presented at* Photonics West, San Jose, USA, January 2009.

C2. * ¶ "Quantum efficiency measurements using semiconductor lasers", **S. J. Sweeney**, *to be presented at* Photonics West, San Jose, USA, January 2009.

C3. * "The physics of dilute nitride-phosphide based QW lasers", **S. J. Sweeney**, J. Chamings, S. Ahmed, A. R. Adams, B. Kunert, K. Volz and W. Stolz, *to be presented at* Photonics West, San Jose, USA, January 2009.

C4. * "The persistence of Auger recombination in InAs/GaAs quantum dot lasers", **S. J. Sweeney**, A. R. Adams, I. P. Marko, N. F. Masse, A. D. Andreev, M. T. Crowley and E. P. O'Reilly, *to be presented at* Photonics West, San Jose, USA, January 2009.

C5. * "The Development of a compact free spectral range semiconductor laser biosensor", J. Coote, S. Reddy and **S. J. Sweeney**, European Optical Society: Topical meeting on Biophotonics, Paris, France, October 2008.

C6. * "Thermal properties of silicon compatible GaNAsP SQW lasers", J. Chamings, A. R. Adams, **S. J. Sweeney**, B. Kunert, K. Volz and W. Stolz, International Semiconductor Laser Conference (ISLC), Sorrento, Italy, September 2008.

C7. "Thermal characteristics of 1.3μm GaAsSb/GaAs-based Edge- and Surface-emitting Lasers", **S. J. Sweeney**, K. Hild, I. P. Marko, S.-Q. Yu, S. R. Johnson and Y. H. Zhang, International Semiconductor Laser Conference (ISLC), Sorrento, Italy, September 2008.

C8. * "Gamma-L scattering in InAs-based QCLs studied using high hydrostatic pressure", I. P. Marko, A. R. Adams, **S. J. Sweeney**, R. Teissier, A. N. Baranov and S. Tomic, International Semiconductor Laser Conference (ISLC), Sorrento, Italy, September 2008.

C9. "The importance of recombination via excited states in InAs/GaAs 1.3μm quantum dot lasers", M. Crowley, I. P. Marko, N. F. Masse, A. D. Andreev, **S. J. Sweeney**, E. P. O'Reilly and A. R. Adams, International Semiconductor Laser Conference (ISLC), Sorrento, Italy, September 2008.

C10. * "Band anti-crossing and carrier recombination in dilute nitride phosphide based lasers and light emitting diodes", J. Chamings, S. Ahmed, A. R. Adams, **S. J. Sweeney**, V. A. Obnoblyudov, C. W. Tu, B. Kunert, K. Volz and W. Stolz, High Pressure Semiconductor Physics (HPSP-XIII), Brazil, July 2008.

C11. * "Influence of carrier leakage on temperature performance of InAs/AlSb quantum cascade lasers", I. P. Marko, A. R. Adams, **S. J. Sweeney**, R. Teissier and A. N. Baranov, High Pressure Semiconductor Physics (HPSP-XIII), Brazil, July 2008.

C12. * "Temperature performance of short wavelength InAs/AlSb quantum cascade lasers studied using high hydrostatic pressure", I. P. Marko, A. R. Adams, **S. J. Sweeney**, R. Teissier, A. N. Baranov and S. Tomic, UK Compound Semiconductors, Sheffield, July 2008.

C13. * "Free spectral range biochemical sensor", J. Coote, B. Murdin, S. Reddy and **S. J. Sweeney**, UK Compound Semiconductors, Sheffield, July 2008.

C14. * "Dilute nitride phosphide based lasers and light emitting diodes", J. Chamings, S. Ahmed, A. R. Adams, **S. J. Sweeney**, V. A. Obnoblyudov, C. W. Tu, B. Kunert, K. Volz and W. Stolz, UK Compound Semiconductors, Sheffield, July 2008.

C15. * "Room temperature characterisation of novel InGaAlAs quantum well lasers using electro-modulated reflectance and surface photovoltage spectroscopy", N. Fox, T. K. Sharma, **S. J. Sweeney** and T. J. C. Hosea, 3rd International Workshop on Modulation Spectroscopy of Semiconductor Structures, Wroclaw, Poland, July 2008.

C16. * "Novel heterostructure design for increased spectral width of superluminescent diodes and dual-wavelength laser diodes", B. C. Green, S.-Q. Yu, **S. J. Sweeney**, D. Ding and Y. H. Zhang, Device Research Conference, Santa Barbara, USA, June, 2008.

C17. * ¶ "Materials and Light-Emitting Diode Properties of Dilute-Nitride GaNP/GaP Heterostructures", C. W. Tu, V. A. Obnoblyudov, J. Chamings, S. Ahmed, **S. J. Sweeney** and D. M. Keogh, Device Research Conference, Santa Barbara, USA, June, 2008.

C18. * ¶ "Efficiency Limiting processes in semiconductor lasers: challenges and solutions", **S. J. Sweeney**, 3rd International Conference on Smart Materials, Structures and Systems (CIMTEC 2008) , Sicily, June 2008.

C19. * ¶ "Efficiency limiting processes in infrared semiconductor lasers", **S. J. Sweeney,** Solid State Diode Laser Technology Review (SSDLTR) meeting, Albuquerque, USA, June 2008.

C20. * "Reliable 1550nm SI BH lasers fabricated using an improved Ru precursor", I. Lealman, S. Dosanjh, L. Rivers, P. Cannard, **S. J. Sweeney**, I. P. Marko and S. Rushworth, Indium Phosphide and related Materials (IPRM08), Versailles, France, May 2008.

C21. * "Investigation of the dark current in bulk GaInNAs Photodiodes", W. M. Soong, J. S. Ng, M. J. Steer, M. Hopkinson, J. P. R. David, J. Chamings, **S. J. Sweeney**, A. R .Adams and J. Allam, Semiconductor and Integrated Optoelectronics (SIOE 2008), Cardiff, UK, April 2008.

C22. * ¶ "Mid-IR Lasers: What can we learn from the near-IR?", **S. J. Sweeney**, Advanced Semiconductor Materials Conference, Tucson, USA, February 2008.

C23. * "Radiative and Non-radiative Recombination via Excited States in InAs/GaAs 1.3μm Quantum Dot Lasers", A. R. Adams, A. D. Andreev, I. P. Marko, N. F. Masse, **S. J. Sweeney**, M. Crowley and E. P. O'Reilly, IoP Quantum Dot One Day Meeting, London, UK, February 2008.

C24. * ¶ "Physics challenges for near and mid-infrared semiconductor diode lasers", **S. J. Sweeney**, Photonics West, San Jose, USA, January 2008.

C25. * "Efficiency limiting processes in long wavelength (1.5μm) GaInAsN/GaAs lasers", **S. J. Sweeney**, D. G. McConville, A. R. Adams, S. Tomic and H. Riechert Photonics West, San Jose, USA, January 2008.

C26. * ¶ "Material Properties and Light-emitting Applications of Dilute Nitride GaNP Grown on GaP", C. W. Tu, V. A. Obnoblyudov, J. Chamings, S. Ahmed and **S. J. Sweeney**, International Conference on Advanced Materials and Devices, Jeju, Korea, December 2007.

C27. * "Thermal Properties of 1.5μm InAs/InP Quantum Dot Lasers", N. F. Masse, E. Homeyer, O. Dehaese, R. Piron, F. Grillot, S. Loualiche, A. R. Adams and **S. J. Sweeney**, European Semiconductor Laser Workshop (ESLW) 2007, Berlin, Germany, September 2007.

C28. * "Semiconductor lasers as integrated optical biosensors: sensitivity optimisation", J. Coote and **S. J. Sweeney**, Institute of Physics conference on Sensors and their Applications, Liverpool, UK, September 2007.

C29. "Novel Phosphor-free white light emitting diodes for optimised eye response", S. Ahmed, D. Lancefield, **S. J. Sweeney**, P. de Mierry, F. Tinjod and S. Chenot, International Conference on Nitride Semiconductors, Las Vegas, USA, September 2007.

C30. * “Temperature Insensitive Quantum Dot Lasers – Are we really there yet?”, N. F. Masse, I. P. Marko, A. R. Adams and **S. J. Sweeney**, 2nd International Conference on Optical and Optoelectronic Properties of Materials and their Applications (ICOOPMA), London, UK, July 2007.

C31. * “Dilute Nitride Phosphide Photonic Devices”, J. Chamings, S. Ahmed, **S. J. Sweeney**, V. A. Odnoblyudov, C. W. Tu, K. Volz and W. Stolz, 2nd International Conference on Optical and Optoelectronic Properties of Materials and their Applications (ICOOPMA), London, UK, July 2007.

C32. “Can Semiconductor Lasers make good Sensors?”, J. Coote, S. Reddy and **S. J. Sweeney**, 2nd International Conference on Optical and Optoelectronic Properties of Materials and their Applications (ICOOPMA), London, UK, July 2007.

C33. “Laser Sources for High Temperature Optoelectronics”, I. P. Marko, A. R. Adams, **S. J. Sweeney**, N. D. Whitbread, A. J. Ward, B. Asplin and D. J. Robbins, 2nd International Conference on Optical and Optoelectronic Properties of Materials and their Applications (ICOOPMA), London, UK, July 2007.

C34. “Phosphor-free White Light-Emitting Diodes”, S. Ahmed, D. Lancefield, **S. J. Sweeney**, P. de Mierry, F. Tinjod and S. Chenot, 2nd International Conference on Optical and Optoelectronic Properties of Materials and their Applications (ICOOPMA), London, UK, July 2007 [***won best poster prize***].

C35. “Long Wavelength Dilute Nitride-based Lasers and Detectors”, J. Chamings, D. McConville, **S. J. Sweeney**, A. R. Adams, J. S. Ng, W. M. Soong, M. Hopkinson, J. P. R. David, S. Tomic and H. Riechert, 2nd International Conference on Optical and Optoelectronic Properties of Materials and their Applications (ICOOPMA), London, UK, July 2007.

C36. * “Carrier recombination and temperature sensitivity of 1.3-1.5µm GaInAsN/GaAs lasers”, **S. J. Sweeney**, D. G. McConville, A. R. Adams, S. Tomic and H. Riechert, UK Compound Semiconductors 2007, Sheffield, UK, July 2007.

C37. * “The influence of carrier density non-pinning on the output power of 1.55µm lasers at high temperature”, I. P. Marko, A. R. Adams, **S. J. Sweeney**, N. D. Whitbread, A. J. Ward, B. Asplin and D. J. Robbins, CLEO-Europe, Munich, Germany, June 2007.

C38. * “Temperature and Pressure Investigations of GaNAsP SQW lasers grown by MOVPE for Silicon based Optoelectronic Integrated Circuits”, J. A. Chamings, **S. J. Sweeney**, A. R. Adams, W. Stolz and B. Kunert, EMRS Spring meeting, Strasbourg, France, June 2007.

C39. * “Wavelength and temperature dependence of carrier recombination processes in GaInAsN/GaAs lasers”, **S. J. Sweeney**, D. G. McConville, A. R. Adams, S. Tomic and H. Riechert, EMRS Spring meeting, Strasbourg, France, June 2007.

C40. * “The dependence of Breakdown Voltage with Nitrogen content and Pressure of lattice-matched bulk GaInNAs for low-noise, high gain Avalanche Photodiodes”, J. A. Chamings, **S. J. Sweeney**, J. Allam, A. R. Adams, W. M. Soong, J. S. Ng, M. J. Steer, M. Hopkinson and J. P. R. David, EMRS Spring meeting, Strasbourg, France, June 2007.

C41. “Temperature and Pressure dependent properties of GaNP Light Emitting Diodes”, S. Ahmed, J. Chamings, **S. J. Sweeney**, V. A. Odnoblyudov and C. W. Tu, EMRS Spring meeting, Strasbourg, France, June 2007 [***won best poster prize***].

C42. * “High pressure studies of type-I GaInAsSb lasers”, K. O’Brien, **S. J. Sweeney**, A. R. Adams, S. R. Jin, C. N. Ahmad, B. N. Murdin, A. Salhi, Y. Rouillard, A. Joullie, Y. Cao, S. R. Johnson and Y.-H. Zhang, 8th International Conference on Mid-Infrared Optoelectronics: Materials and Devices (MIOMD), Bad Ischl, Austria, May 2007.

C43. * “Influence of de-tuning and non-radiative recombination on the temperature dependence of 1.3µm GaAsSb/GaAs VCSELs”, K. Hild, I. P. Marko, **S. J. Sweeney**, S. R. Johnson, S. A. Chaparro, S. –Q. Yu and Y. –H. Zhang, Semiconductor and Integrated Optoelectronics conference (SIOE), Cardiff, UK, April, 2007.

C44. “Optimisation of DFB Laser Biosensors”, J. Coote, S. Reddy and **S. J. Sweeney**, Semiconductor and Integrated Optoelectronics conference (SIOE), Cardiff, UK, April, 2007.

C45. * "Recombination processes in 1.5μm InAs/InP Quantum Dot Lasers", N. Masse, E. Homeyer, O. Dehaese, R. Piron, F. Grillot, S. Loualiche, A. R. Adams and **S. J. Sweeney**, Semiconductor and Integrated Optoelectronics conference (SIOE), Cardiff, UK, April, 2007.

C46. * "GaPN/GaP Light Emitting Diodes: Material and Device Properties", S. Ahmed, J. Chamings, **S. J. Sweeney**, V. A. Odnoblyudov and C. W. Tu, Institute of Physics GaInNAs One Day Meeting : Materials, Devices and Technology, Cardiff, UK, April 2007.

C47. * "Impact Ionisation in GaInNAs-based Photodiodes", J. A. Chamings, **S. J. Sweeney**, J. Allam, A. R. Adams, W. M. Soong, J. S. Ng, M. J. Steer, M. Hopkinson and J. P. R. David, Institute of Physics GaInNAs One Day Meeting : Materials, Devices and Technology, Cardiff, UK, April 2007.

C48. * "Temperature and Pressure Investigations of GaNAsP/GaP SQW lasers for silicon based Optoelectronic Integrated Circuits", J. A. Chamings, A. R. Adams, **S. J. Sweeney**, W. Stolz, K. Volz and B. Kunert, Institute of Physics GaInNAs One Day Meeting : Materials, Devices and Technology, Cardiff, UK, April 2007.

C49. * ¶ "Recombination Processes in Dilute Nitride based Devices", **S. J. Sweeney**, 3rd Metastable Systems and Heterostructures Dilute Nitride Materials Workshop, Marburg, Germany, December 2006.

C50. * "Intrinsic limitations of p-doped and undoped 1.3μm InAs/GaAs quantum dot lasers", N. F. Masse, **S. J. Sweeney**, I. P. Marko, A. D. Andreev and A. R. Adams, 20th IEEE International Semiconductor Laser Conference (ISLC), Hawaii, USA, September 2006.

C51. "Temperature variation of the threshold current and gain in p-doped and intrinsic 1.3μm InAs/GaAs quantum dot lasers", N. F. Masse, I. P. Marko, **S. J. Sweeney**, A. D. Andreev and A. R. Adams, European Semiconductor Laser Workshop, Nice, France, September 2006.

C52. "Analysis of the major loss processes in mid-infrared type-II "W" diode lasers", K. O'Brien, A. R. Adams, **S. J. Sweeney**, S. R. Jin, C, N. Ahmad, B. N. Murdin, C. L. Canedy, I. Vurgaftman and J. R. Meyer, 20th IEEE International Semiconductor Laser Conference (ISLC), Hawaii, USA, September 2006.

C53. * "The temperature dependence of the peak gain in p-doped and intrinsic 1.3μm InAs/GaAs quantum-dot lasers", N. F. Masse, I. P. Marko, **S. J. Sweeney**, A. D. Andreev, A. R. Adams, N. Hatori and M. Sugawara, Photon 06, Manchester, September 2006.

C54. * "Material challenges for the development of long wavelength GaInNAs/GaAs quantum well lasers", D. G. McConville, **S. J. Sweeney**, A. R. Adams and H. Riechert, Photon 06, Manchester, September 2006.

C55. "Bulk p-i-n GaInNAs photodiodes lattice-matched to GaAs", W. M. Soong, J. S. Ng, M. J. Steer, M. Hopkinson, J. P. R. David, J. Chamings, **S. J. Sweeney** and A. R. Adams, Photon 06, Manchester, September 2006.

C56. * ¶ "Some Trends in the Fundamental Processes Occurring in Semiconductor Optoelectronic Devices", A. R. Adams, **S. J. Sweeney** and J. Allam, 12th International Conference on High Pressure Semiconductor Physics (HPSP-XII), Barcelona, Spain, August 2006.

C57. "Temperature and Pressure Dependence of Carrier Recombination Processes in GaAsSb/GaAs Quantum Well Lasers", K. Hild, **S. J. Sweeney**, I. P. Marko, S. R. Jin, S. R. Johnson, S. A. Chaparro, S. Yu and Y.-H. Zhang, 12th International Conference on High Pressure Semiconductor Physics (HPSP-XII), Barcelona, Spain, August 2006.

C58. "Experimental study of the pressure dependence of Auger recombination in InGaAs/InP 1.5μm quantum well lasers at room temperature", N. F. Masse, **S. J. Sweeney** and A. R. Adams, 12th International Conference on High Pressure Semiconductor Physics (HPSP-XII), Barcelona, Spain, August 2006.

C59. "Carrier recombination mechanisms in mid-infrared GaInAsSb quantum well lasers", K. O'Brien, **S. J. Sweeney**, A. R. Adams, S. R. Jin, C. N. Ahmad, B. N. Murdin, A. Salhi, Y. Rouillard and A. Joullie, 12th International Conference on High Pressure Semiconductor Physics (HPSP-XII), Barcelona, Spain, August 2006.

C60. "High pressure studies of mid-infrared type-II "W" diode lasers at cryogenic temperatures", K. O'Brien, **S. J. Sweeney**, A. R. Adams, S. R. Jin, C. N. Ahmad, B. N. Murdin, C. L. Canedy, I. Vurgaftman and J. R. Meyer, 12th International Conference on High Pressure Semiconductor Physics (HPSP-XII), Barcelona, Spain, August 2006.

C61. * "Band gap dependence of the recombination processes in InAs/GaAs quantum dots studied using hydrostatic pressure", I. P. Marko, A. R. Adams, **S. J. Sweeney**, N. F. Masse, R. Krebs, J. P. Reithmaier, A. Forchel, D. J. Mowbray, M. S. Skolnick, H. Y. Liu, K. M. Groom, N. Hatori and M. Sugawara, 12th International Conference on High Pressure Semiconductor Physics (HPSP-XII), Barcelona, Spain, August 2006.

C62. "The temperature and pressure dependence of carrier recombination processes in 1.3μm and 1.5μm GaInNAs lasers", D. G. McConville, **S. J. Sweeney**, A. R. Adams, S. Tomic and H. Riechert, 12th International Conference on High Pressure Semiconductor Physics (HPSP-XII), Barcelona, Spain, August 2006.

C63. "Band alignment and carrier recombination in GaAsSb/GaAs quantum wells", K. Hild, **S. J. Sweeney**, S. R. Jin, S. Healy, E. P. O'Reilly, S. R. Johnson, S. A. Chaparro, S. Yu and Y.-H. Zhang, 28th International Conference on the Physics of Semiconductors (ICPS 2006), Vienna, Austria, July 2006.

C64. "Recombination, Transport and Loss Mechanisms in p-doped InAs/GaAs Quantum Dots", I. P. Marko, N. F. Masse, **S. J. Sweeney**, A. R. Adams, N. Hatori and M. Sugawara, 28th International Conference on the Physics of Semiconductors (ICPS 2006), Vienna, Austria, July 2006.

C65. * ¶ "Thermally Stable 1.3-1.6μm Semiconductor Lasers: Physics and Materials Challenges", **S. J. Sweeney** and A. R. Adams, International Conference on Optical and Optoelectronic Properties of Materials and Applications (ICOOPMA 2006), Darwin, Australia, July 2006.

C66. * "Wavelength dependence of recombination mechanisms in 1.3μm-1.5μm GaInNAs quantum well laser devices", D. G. McConville, **S. J. Sweeney**, A. R. Adams, H. Riechert and S. Tomic, Rank Prize Fund Mini-Symposium on Dilute Nitrides, Windermere, UK, June 2006.

C67. * "The band gap dependence of impact ionization in GaInNAs", J. Chamings, A. R. Adams, **S. J. Sweeney**, J. P. R. David, J. S. Ng and W. M. Soon, Rank Prize Fund Mini-Symposium on Dilute Nitrides, Windermere, UK, June 2006.

C68. * ¶ "Photonic–based Biosensors", **S. J. Sweeney**, DTI Gas Sensing and Analysis group meeting, Chelmsford, UK, April 2006.

C69. * "Influence of carrier transport on the gain in p-doped and intrinsic 1.3μm InAs/GaAs quantum dot lasers", N. F. Masse, I. P. Marko, **S. J. Sweeney**, A. R. Adams, N. Hatori and M. Sugawara, Semiconductor and Integrated Opto-electronics conference (SIOE 2006), Cardiff, UK, April 2006.

C70. * "The wavelength dependence of recombination mechanisms in MBE grown GaInNAs/GaAs quantum well lasers", D. G. McConville, **S. J. Sweeney**, A. R. Adams, R. Averbeck and H. Riechert, Semiconductor and Integrated Opto-electronics conference (SIOE 2006), Cardiff, UK, April 2006 [Also presented at the IoP workshop on Dilute Nitrides, Cardiff, April 2006].

C71. "The effect of Catastrophic Optical Damage on 980nm semiconductor lasers investigated using pressure and facet temperature techniques", D. Lock, **S. J. Sweeney** and A. R. Adams, Semiconductor and Integrated Opto-electronics conference (SIOE 2006), Cardiff, UK, April 2006.

C72. * "Dark current characteristics in thick bulk GaInNAs lattice-matched to GaAs", W. M. Soong, J. G. Ng, M. J. Steer, M. Hopkinson, J. P. R. David, J. Chamings, **S. J. Sweeney** and A. R. Adams, Semiconductor and Integrated Opto-electronics conference (SIOE 2006), Cardiff, UK, April 2006.

C73. "Effect of non thermal carrier distribution on the properties of 1.3μm InAs/GaAs quantum dot lasers", N. F. Masse, I. P. Marko, **S. J. Sweeney,** A. D. Andreev, A. R. Adams, N. Hatori and M. Suguwara, Condensed Matter and Materials Physics conference (CMMP 2006), Exeter, UK, April 2006.

C74. * "Temperature and Band gap Dependence of Carrier Recombination Processes in GaAsSb/GaAs Quantum Well Lasers", K. Hild, I. P. Marko, S. R. Jin, **S. J. Sweeney**, J.-B. Wang, S. R. Johnson and Y.-H. Zhang, European Physical Society Meeting (DPG/EPS 2006), Dresden, Germany, March 2006.

C75. * "Spectroscopic investigations of GaAsSb/GaAs structures for 1.3μm VCSEL applications", G. Blume, T. J. C. Hosea, **S. J. Sweeney**, P. J. Klar, G. Weiser, C. Bueckers, A. Thraenhardt, S. W. Koch, S. R. Johnson and Y. H. Zhang, European Physical Society Meeting (DPG/EPS 2006), Dresden, Germany, March 2006.

C76. * ¶ "The Physics Controlling the Sensitivity of Semiconductor Lasers to High Temperatures", A. R. Adams and **S. J. Sweeney**, OFC/NFOEC, Anaheim, USA, March 2006.

C77. * "Temperature insensitive operation of p-doped Quantum Dot lasers emitting at 1.3μm", N. F. Masse, I. P. Marko, **S. J. Sweeney**, A. R. Adams, N. Hatori and M. Sugawara, Qinetiq one day quantum dot meeting, Malvern, UK, January 2006.

C78. * "The influence of p-doping on the temperature sensitivity of 1.3μm Quantum Dot Lasers", N. F. Masse, I. P. Marko, **S. J. Sweeney**, A. R. Adams, N. Hatori and M. Sugawara, Lasers and Electro-Optics Annual Meeting (LEOS 2005), Sydney, Australia, October 2005.

C79. * "On the thermal stability of 1.3μm GaAsSb/GaAs-based lasers", K. Hild, **S. J. Sweeney**, D. A. Lock, S. Wright, J.-B. Wang, S. R. Johnson and Y.-H. Zhang, Lasers and Electro-Optics Annual Meeting (LEOS 2005), Sydney, Australia, October 2005.

C80. * "Effect of gain saturation and nonradiative recombination on the thermal characteristics of InAs/GaAs 1.3μm quantum dot lasers", I. P. Marko, N. Masse, **S. J. Sweeney**, A. R. Adams, I. R. Sellers, D. J. Mowbray, M. S. Skolnick, H. Y. Lui and K. M. Groom, Lasers and Electro-Optics Annual Meeting (LEOS 2005), Sydney, Australia, October 2005.

C81. * "Non-radiative recombination mechanisms in 2.37μm InGaAsSb/GaAs lasers", K. O'Brien, **S. J. Sweeney**, A. R. Adams, B. N. Murdin, S. R. Jin, C. N. Ahmad, A. Sahli, Y. Rouillard and A. Joullie", Mid-infrared Optoelectronic Materials and Devices (MIOMD05), Lancaster, UK, September 2005.

C82. * "Study of the dominant mechanisms of threshold current in 9.2μm GaAs/AlGaAs quantum-cascade lasers using hydrostatic pressure at cryogenic temperature", S. R. Jin, S. Tomic, C. N. Ahmad, K. O'Brien, **S. J. Sweeney**, A. R. Adams, B. N. Murdin, H. Page, X. Marcadet and C. Sitori, Mid-infrared Optoelectronic Materials and Devices (MIOMD05), Lancaster, UK, September 2005.

C83. * "Low threshold 2.37μm InGaAsSb/GaSb QW lasers: The ideal Quantum Well laser?", K. O'Brien, **S. J. Sweeney**, A. R. Adams, B. N. Murdin, A. Sahli, Y. Rouillard and A. Joullie, 12th International conference on Narrow Gap Semiconductors, Toulouse, France, July 2005.

C84. * "Influence of non-radiative recombination on the thermal properties of InAs/GaAs quantum dot lasers", I. P. Marko, A. R. Adams, **S. J. Sweeney**, I. R. Sellers, D. J. Mowbray, M. S. Skolnick, H. Y. Liu and K. M. Groom, 5th Belarussian-Russian workshop on Semiconductor lasers and systems, Minsk, Belarus, June 2005.

C85. * "Recombination processes in InGaAsN(Sb) based 1.5μm lasers", D. G. McConville, G. J. Strudwick, **S. J. Sweeney**, A. R. Adams, H. Riechert, L. Geelhaar, S. R. Bank and J. S. Harris Jnr, Semiconductor and Integrated Optoelectronics (SIOE) conference, Cardiff, March 2005.

C86. * "Photo-Modulation Studies of GaAsSb/GaAs Structures: Experimental investigations and Modelling of interference oscillations", G. Blume, T. J. C. Hosea, S. Cripps, **S. J. Sweeney**, Y.-H. Zhang and S. R. Johnson, Semiconductor and Integrated Optoelectronics (SIOE) conference, Cardiff, March 2005.

C87. * "Recombination mechanisms in InGaAsSb lasers emitting at 2.37μm", K. O'Brien, **S. J. Sweeney**, A. R. Adams, B. N. Murdin, A. Salhi, Y. Rouillard and A. Joullie, Semiconductor and Integrated Optoelectronics (SIOE) conference, Cardiff, March 2005.

C88. * "Temperature and pressure studies of indirect carrier leakage in 760nm edge-emitting lasers designed for oxygen sensing", S. Cripps, **S. J. Sweeney** and T. J. C. Hosea, Semiconductor and Integrated Optoelectronics (SIOE) conference, Cardiff, March 2005.

C89. * "The effect of Carbon on MOCVD grown GaInNAs material", D. G. McConville, **S. J. Sweeney**, A. R. Adams and K. Voltz, Semiconductor and Integrated Optoelectronics (SIOE) conference, Cardiff, March 2005.

C90. * "Carrier recombination and band alignment in 1.3μm GaAsSb/GaAs Quantum Well Lasers", K. Hild, **S. J. Sweeney**, S. Wright and D. A. Lock, Semiconductor and Integrated Optoelectronics (SIOE) conference, Cardiff, March 2005.

C91. * "Radiative and non-radiative recombination mechanisms in InAs/GaAs Quantum Dot Lasers studied using high hydrostatic pressure", I. P. Marko, A. R. Adams, **S. J. Sweeney**, I. R. Sellers, D. J. Mowbray, M. S. Skolnick, H. Y. Liu and K. M. Groom, Semiconductor and Integrated Optoelectronics (SIOE) conference, Cardiff, March 2005.

C92. "Pressure dependence of the radiative current in InGaAs/InP 1.5μm multi-quantum well lasers at room temperature", N. F. Masse, **S. J. Sweeney** and A. R. Adams, Semiconductor and Integrated Optoelectronics (SIOE) conference, Cardiff, March 2005.

C93. * "MOCVD grown GaInNAs: The effect of Carbon", D. G. McConville, **S. J. Sweeney**, A. R. Adams and K. Voltz, Institute of Physics workshop on GaInNAs, Cardiff, March 2005.

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C96. "Influence of Growth Temperature on Defect Density in 1.3μm GaInNAs-based lasers", R. Fehse, **S. J. Sweeney**, A. R. Adams, D. McConville, H. Riechert and L. Geelhaar, 19th International Conference on Semiconductor Lasers (ISLC), Matsue, Japan, September 2004.

C97. * "Experimental investigations into the thermal properties of 1.5-1.8-μm InAs/InP quantum dash lasers", I. P. Marko, A. R. Adams, **S. J. Sweeney**, S. R. Jin, B. N. Murdin, R. Schwertberger, A. Somers, J. P. Reithmaier and A. Forchel, 19th International Conference on Semiconductor Lasers (ISLC), Matsue, Japan, September 2004.

C98. * "Recombination and loss mechanisms in low-threshold InAs/GaAs 1.3 μm quantum dot lasers", I. P. Marko, A. R. Adams, **S. J. Sweeney**, I. R. Sellers, D. J. Mowbray and M. S. Skolnick, H. Y. Liu and K. M. Groom, 19th International Conference on Semiconductor Lasers (ISLC), Matsue, Japan, September 2004.

C99. * "GaAsSb/GaAs based structures for 1.3 μm VCSEL applications: A spectroscopic study", G. Blume, T. J. C. Hosea, **S. J. Sweeney**, S. R. Johnson and Y.-H. Zhang, Photon 04, Glasgow, UK, September 2004.

C100. "Experimental Characterisation of AlGaInN Resonant Cavity Light Emitting Diode Structures for Plastic Optical Fibre Applications", G. Blume, T. J. C. Hosea, **S. J. Sweeney**, P. de Mierry and D. Lancefield, Photon 04, Glasgow, UK, September 2004.

C101. ¶ * "Temperature and pressure dependence of recombination processes in 1.5μm InGaAlAs/InP-based quantum well lasers", **S. J. Sweeney**, D. McConville, N. F. Masse, R.-X. Bouyssou, A. R. Adams and C. Hanke, Eleventh International Conference on High Pressure Semiconductor Physics (HPSP), Berkeley, USA, August 2004 (invited).

C102. * "Recombination mechanisms in InAs/InP quantum dash lasers studied using high hydrostatic pressure", I. P. Marko, A. D. Andreev, **S. J. Sweeney**, A. R. Adams, R. Schwertberger, A. Somers, J. P. Reithmaier and A. Forchel, Eleventh International Conference on High Pressure Semiconductor Physics (HPSP), Berkeley, USA, August 2004.

C103. "High Pressure studies of carrier recombination in 1.3μm and 1.5μm InGaAs(P) quantum-well lasers at cryogenic temperatures", S. R. Jin, **S. J. Sweeney**, C. N. Ahmad, A. R. Adams and B. N. Murdin, Eleventh International Conference on High Pressure Semiconductor Physics (HPSP), Berkeley, USA, August 2004.

C104. "Carrier leakage suppression utilising short-period super-lattices in 980nm InGaAs/GaAs quantum well lasers", D. Lock, **S. J. Sweeney**, A. R. Adams, S. Deubner, F. Klopf, J. P. Reithmaier and A. Forchel, Eleventh International Conference on High Pressure Semiconductor Physics (HPSP), Berkeley, USA, August 2004.

C105. "Theoretical analysis of Pressure Dependence of 1.3μm InAs-based QD lasers", A. D. Andreev, I. Marko, **S. J. Sweeney** and A. R. Adams, Eleventh International Conference on High Pressure Semiconductor Physics (HPSP), Berkeley, USA, August 2004.

C106. "Pressure induced wavelength dependence of catastrophic optical damage in 980nm semiconductor diode lasers", D. Lock, **S. J. Sweeney** and A. R. Adams, Eleventh International Conference on High Pressure Semiconductor Physics (HPSP), Berkeley, USA, August 2004.

C107. "Band gap and temperature dependence of carrier recombination in InGaAs(P) quantum well laser structures", **S. J. Sweeney**, D. Lock and A. R. Adams, 27th International Conference on the Physics of Semiconductors (ICPS), Flagstaff, USA, July 2004.

C108. "Experimental and theoretical investigations of carrier recombination processes in GaInAsN/GaAs Quantum Wells", R. Fehse, **S. J. Sweeney**, A. R. Adams, S. Tomic, E. P. O'Reilly and H. Riechert, 27th International Conference on the Physics of Semiconductors (ICPS), Flagstaff, USA, July 2004.

C109. "The influence of Auger processes on recombination in long-wavelength InAs/GaAs quantum dots", I. P. Marko, A. D. Andreev, **S. J. Sweeney**, A. R. Adams, R. Krebs, S. Deubert, J. P. Reithmaier and A. Forchel, 27th International Conference on the Physics of Semiconductors (ICPS), Flagstaff, USA, July 2004.

C110. ***** "Recombination Processes in GaInAsN/GaAs Quantum Wells and their Influence on Optoelectronic Devices", R. Fehse, **S. J. Sweeney** , E. P. O'Reilly, S. Tomic, A. R. Adams and H. Riechert, Emerging Technologies in Optical Sciences (ETOS), Cork, Ireland, July 2004.

C111. ***** "Avoiding low-energy interference oscillations in photo-modulated reflectivity studies of GaAsSb/GaAs QW material for 1.3um VCSEL applications", G. Blume, T. J. C. Hosea, **S. J. Sweeney**, S. R. Johnson and Y.-H. Zhang, Modulation Spectroscopy of Semiconductor Structures (MS3), Wroclaw, Poland, July 2004.

C112. ***** "Theoretical analysis of the temperature dependence of 1.3 m AlGaInAs-based quantum well lasers", A. D. Andreev, **S. J. Sweeney** and A. R. Adams, 7th Expert Evaluation & Control of Compound Semiconductor Materials & Technologies (EXMATEC) conference, Montpellier, France, June 2004.

C113. **¶ *** "Carrier recombination processes in dilute Nitride lasers: An experimental study", **S. J. Sweeney**, International research workshop on meta-stable compound semiconductor heterostructures (MCSH), Marburg, Germany, April 2004.

C114. ***** "Spectroscopic investigations of GaAsSb/GaAs based structures for 1.3µm VCSEL applications", G. Blume, T. J. C. Hosea, **S. J. Sweeney**, S. R. Johnson and Y.-H. Zhang, Semiconductor and Integrated Optoelectronics (SIOE) conference, Cardiff, April 2004.

C115. ***** "High temperature operation of 760nm VCSELs investigated using photo-modulated reflectance measurements and temperature dependent device studies", S. Cripps, T. J. C. Hosea, **S. J. Sweeney** and M. Dumitrescu, Semiconductor and Integrated Optoelectronics (SIOE) conference, Cardiff, April 2004.

C116. ***** "AlGaInN resonant-cavity LED devices studied by electro-modulated reflectance and carrier lifetime techniques", G. Blume, T. J. C. Hosea, **S. J. Sweeney** and D. Lancefield, Semiconductor and Integrated Optoelectronics (SIOE) conference, Cardiff, April 2004.

C117. ***** "Influence of Growth Conditions on Carrier recombination in GaInNAs-based lasers", R. Fehse, **S. J. Sweeney**, A. R. Adams, D. McConville, L. Geelhaar and H. Riechert, E-MRS, Strasbourg, May 2004.

C118. ***** "Theoretical Analysis of Pressure and Temperature Dependence of 1.3µm InAs-based QD lasers", A. Andreev, I. Marko, **S. J. Sweeney** and A. R. Adams, Quantum Dots 2004, Banff, Canada, May 2004.

C119. ***** "Temperature and Wavelength Dependence of Recombination Processes in 1.5µm InGaAlAs/InP-based lasers", **S. J. Sweeney,** D. McConville, N. F. Masse, R.-X. Bouyssou, A. R. Adams and C. Hanke, Indium Phosphide and Related Materials conference (IPRM 2004), Kagoshima, Japan, May 2004.

C120. ***** "Recombination mechanisms in InAs/GaAs Quantum Dot and InAs/InP Quantum Dash Laser Diodes Studied Using High Hydrostatic Pressure", I. P. Marko, A. D. Andreev, **S. J. Sweeney**, A. R. Adams, R. Krebs, S. Deubert, J. P. Reithmaier and A. Forchel, EPSRC Quantum Dots Meeting, Sheffield, UK, January 2004.

C121. ***** "Intrinsic Temperature Sensitivities of 1.3µm GaInNAs/GaAs, InGaAsP/InP and AlGaInAs/InP-based Semiconductor Lasers", **S. J. Sweeney**, R. Fehse, A. R. Adams and H. Riechert, Laser and Electro-optics Society Annual Meeting (LEOS 2003), Tucson, USA, October 2003.

C122. ***** "Origin of the High Temperature Performance Degradation of 1.5µm InGaAs(P)/InP Quantum Well Lasers", **S. J. Sweeney** and P. J. A. Thijs, Laser and Electro-optics Society Annual Meeting (LEOS 2003), Tucson, USA, October 2003.

C123. ***** "Fundamental Limitations of High Power 980nm InGaAs/GaAs Pump Lasers", D. Lock, **S. J. Sweeney** and A. R. Adams, Laser and Electro-optics Society Annual Meeting (LEOS 2003), Tucson, USA, October 2003.

C124. ***** "Wavelength Dependence of Catastrophic Optical Damage Threshold in 980nm Semiconductor Diode Lasers", D. Lock, **S. J. Sweeney** and A. R. Adams, Laser and Electro-optics Society Annual Meeting (LEOS 2003), Tucson, USA, October 2003.

C125. "Carrier Recombination in 980nm InGaAs-based MQW Semiconductor Lasers", D. A. Lock, **S. J. Sweeney** and A. R. Adams, Expanding the Frontiers of Nano-vacuum technology, Institute of Physics meeting, London, September 2003.

C126. "Reduction in Electron Escape Due to Short-Period Super-Lattice in InGaAs QW Laser Devices Emitting at 980nm", D. A. Lock, **S. J. Sweeney** and A. R. Adams, Expanding the Frontiers of Nano-vacuum technology, Institute of Physics meeting, London, September 2003.

C127. **¶ *** "Novel Experimental Techniques for Semiconductor Laser Characterisation and Optimisation", **S. J. Sweeney**, 20th Nordic Semiconductor Meeting (NSM03), Tampere, Finland, August 2003 (invited).

C128. ***** "Novel electronic and optoelectronic properties of GaInNAs and related alloys", E. P. O'Reilly, S. Fahy, A. Lindsay, S. Tomic, R. Fehse, A. R. Adams, **S. J. Sweeney**, A. D. Andreev, P. J. Klar, H. Gruning, H. Riechert, Conference on Lasers and Electro-Optics (CLEO 03), Baltimore, USA, June 2003.

C129. ***** "Modulation speed and leakage current in 650nm resonant-cavity LEDs", K. Hild, T. E. Sale, **S. J. Sweeney**, M. Hirotani, Y. Mizuno and T. Kato, Semiconductor and Integrated Opto-Electronics (SIOE) Conference, Cardiff, Wales, April 2003.

C130. ***** "Wavelength Dependence of the Catastrophic Optical Damage threshold in InGaAs/Al(GaAs)-based MQW Semiconductor Lasers Emitting at 980nm", D. Lock, **S. J. Sweeney** and A. R. Adams, Semiconductor and Integrated Opto-Electronics (SIOE) Conference, Cardiff, Wales, April 2003.

C131. ***** "A comparison of the Thermal Stability of InGaAsP, AlGaInAs and GaInNAs Quantum-Well Lasers for 1.3μm Operation", **S. J. Sweeney**, S. Jin, R. Fehse, A. R. Adams, T. Higashi, H. Riechert and P. J. A. Thijs, 18th International Semiconductor Laser Conference (ISLC), Garmisch, Germany, October 2002.

C132. ***** "Direct Measurement of Facet Temperature up to Melting Point and COD in High Power 980nm Semiconductor Diode Lasers", **S. J. Sweeney**, L. J. Lyons, D. Lock and A. R. Adams, 18th International Semiconductor Laser Conference (ISLC), Garmisch, Germany, October 2002.

C133. ***** "The Temperature and Pressure Dependence of 1.3μm GaInNAs Vertical-Cavity Surface-Emitting Lasers (VCSELs)", G. Knowles, R. Fehse, S. Tomic, **S. J. Sweeney**, T. E. Sale, A. R. Adams, E. P. O'Reilly, G. Steinle and H. Riechert, 18th International Semiconductor Laser Conference (ISLC), Garmisch, Germany, October 2002.

C134. ***** "Experimental and Theoretical Analysis of the Recombination Processes in GaInNAs 1.3μm Lasers", S. Tomic, R. Fehse, S. A. Choulis, E. P. O'Reilly, A. R. Adams, **S. J. Sweeney**, A. D. Andreev, T. J. C. Hosea and H. Riechert, 18th International Semiconductor Laser Conference (ISLC), Garmisch, Germany, October 2002.

C135. "Optical Investigation of Recombination Processes in GaInNAs, InGaAsP and AlGaInAs Quantum-Well Lasers using Hydrostatic Pressure", S. Jin, **S. J. Sweeney**, G. Knowles, A. R. Adams, T. Higashi, H. Riechert and P. J. A. Thijs, 18th International Semiconductor Laser Conference (ISLC), Garmisch, Germany, October 2002.

C136. ***** "Temperature Dependence of 1.3μm GaInNAs vertical-cavity surface-emitting lasers (VCSELs), theory and experiment", G. Knowles, **S. J. Sweeney**, S. Jin, S. Tomic, R. Fehse, T. E. Sale, A. R. Adams, G. Steinle and H. Riechert", Photon 02 Conference, Cardiff International Arena, Cardiff, Wales, September 2002.

C137. "Hydrostatic pressure dependence of recombination mechanisms in GaInNAs, InGaAsP and AlGaInAs 1.3μm quantum well lasers", **S. J. Sweeney**, S. R. Jin, A. R. Adams, T. Higashi, H. Riechert and P. J. A. Thijs, Tenth International Conference on High Pressure Semiconductor Physics, Guildford, UK, August 2002.

C138. "Gain-cavity alignment profiling of 1.3μm emitting GaInNAs vertical cavity surface emitting lasers (VCSELs) using high pressure techniques", G. Knowles, **S. J. Sweeney**, S. Jin, S. Tomic, R. Fehse and A. R. Adams, Tenth International Conference on High Pressure Semiconductor Physics, Guildford, UK, August 2002.

C139. “Pressure dependence of recombination processes in 1.3μm InGaAsP-based quantum-well lasers under different carrier injection conditions”, S. R. Jin, **S. J. Sweeney**, A. R. Adams and P. J. A. Thijs, Tenth International Conference on High Pressure Semiconductor Physics, Guildford, UK, August 2002.

C140. “Leakage and Auger effects in 980nm InGaAs-based MQW semiconductor lasers under high pressure”, D. Lock, **S. J. Sweeney**, A. R. Adams and D. J. Robbins, Tenth International Conference on High Pressure Semiconductor Physics, Guildford, UK, August 2002.

C141. “Wavelength dependence of the modal refractive index of 1.3μm InGaAsP, AlGaInAs and GaInNAs quantum well lasers determined using hydrostatic pressure”, S. R. Jin, **S. J. Sweeney**, A. R. Adams, T. Higashi, H. Riechert and P. J. A. Thijs, Tenth International Conference on High Pressure Semiconductor Physics, Guildford, UK, August 2002.

C142. “Recombination currents in 1.3μm GaInNAs quantum-well lasers investigated using spontaneous emission measurements under high hydrostatic pressure”, S. R. Jin, **S. J. Sweeney**, A. R. Adams and H. Riechert, Tenth International Conference on High Pressure Semiconductor Physics, Guildford, UK, August 2002.

C143. ***** “Optical Investigation and Comparison of 1.3μm GaInNAs Multiple Quantum-Well Lasers with InGaAsP and AlGaInAs”, S. R. Jin, R. Fehse, **S. J. Sweeney**, G. Knowles, A. R. Adams, E. P. O’Reilly, H. Riechert, S. Illek and A. Yu. Egorov, “International Quantum Electronics Conference/Lasers, Applications and Technologies (IQEC/LAT 2002), Moscow, Russia, June 2002.

C144. ***** “Modal Refractive Index of 1.3μm InGaAsP, AlGaInAs and GaInNAs Multiple Quantum Wells under High Hydrostatic Pressure, S. R. Jin, R. Fehse, **S. J. Sweeney**, G. Knowles, A. R. Adams, E. P. O’Reilly, H. Riechert, S. Illek and A. Yu. Egorov, “International Quantum Electronics Conference/Lasers, Applications and Technologies (IQEC/LAT 2002), Moscow, Russia, June 2002.

C145. ***** “Carrier Recombination Processes in 1.3μm GaInNAs Edge-emitting Lasers”, R. Fehse, S. Tomic, A. Andreev, **S. J. Sweeney**, A. R. Adams, E. P. O'Reilly, H. Riechert, S. Illek, A. Yu. Egorov, E-MRS Spring 2002 Meeting, Strasbourg, June 2002.

C146. ***** “The Temperature Dependence of InGaAs/AlGaAs Based Ridge Waveguide MQW Semiconductor Lasers Emitting at 980nm”, D. Lock, A. R. Adams and S. J. Sweeney, Condensed Matter and Materials Physics Conference / Institute of Physics Congress, Brighton, April 2002.

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C148. ***** “Electro-modulated reflectance spectroscopy studies on 1450nm edge-emitting laser structures”, S. B. Constant, T. J. C. Hosea, D. Lock, **S. J. Sweeney** and T. E. Sale, Semiconductor and Integrated Opto-Electronics (SIOE) Conference, Cardiff, Wales, March 2002.

C149. ***** “The importance of Auger recombination in InGaAs/Al(GaAs)-based MQW semiconductor lasers emitting at 980nm”, D. Lock, A. R. Adams, A. D. Andreev, **S. J. Sweeney** and D. Robbins, Semiconductor and Integrated Opto-Electronics (SIOE) Conference, Cardiff, Wales, March 2002.

C150. ***** “The Temperature Dependence of the Recombination Processes in 1.3μm GaInNAs-based edge emitting lasers”, R. Fehse, S. Jin, **S. J. Sweeney**, A. R. Adams, E. P. O’Reilly, S. Illek, A. Yu. Egorov and H. Riechert, Laser and Electro-Optics Society (LEOS) Meeting, San Diego, 2001.

C151. ***** “Self-Heating Effects in Red (665nm) VCSELs”, G. Knowles, **S. J. Sweeney**, T. E. Sale and A. R. Adams, Semiconductor and Integrated Opto-Electronics (SIOE) Conference, Cardiff, Wales, April 2001.

C152. ***** “The Temperature Dependence of GaInNAs/GaAs Ridge-Waveguide MQW Semiconductor Lasers emitting at 1.3μm”, R. Fehse, S. Jin, **S. J. Sweeney**, A. R. Adams, E. P. O’Reilly, H. Riechert and S. Illek, Semiconductor and Integrated Opto-Electronics (SIOE) Conference, Cardiff, Wales, April 2001.

C153. ***** “Improved Performance of 1.3μm AlGaInAs Semiconductor Lasers Due to Increased Conduction Band Offset – Experimental and Theoretical Investigations”, **S. J. Sweeney**, A. Andreev, A. R. Adams, T. Higashi, T. Uchida and T. Fujii, Condensed Matter and Materials Physics Conference, Bristol, December 2000.

C154. ***** "Indirect Carrier Leakage in Visible Al(GaInP) Lasers Investigated under High Pressure and at Low Temperature", **S. J. Sweeney**, G. Knowles, T. E. Sale and A. R. Adams, Condensed Matter and Materials Physics Conference, Bristol, December 2000.

C155. ***** "The Temperature Dependence of 1.3μm GaInNAs/GaAs Ridge-Waveguide MQW Semiconductor Lasers", R. Fehse, **S. J. Sweeney**, A. R. Adams, E. P. O'Reilly, A. Y. Egorov, H. Riechert and S. Illek, Condensed Matter and Materials Physics Conference, Bristol, December 2000.

C156. ***** "New insights into carrier recombination processes in 1.3μm GaInNAs-based semiconductor lasers attained using high pressure", R. Fehse, **S. J. Sweeney**, A. R. Adams, E. P. O'Reilly, A. Y. Egorov, H. Riechert and S. Illek, Condensed Matter and Materials Physics Conference, Bristol, December 2000.

C157. "High Pressure Investigation of Gain-Cavity Alignment Effects in Efficient Visible (660nm) VCSELs", G. Knowles, **S. J. Sweeney**, T. E. Sale and A. R. Adams, Condensed Matter and Materials Physics Conference, Bristol, December 2000.

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C160. ***** "-180 to +80ºC CW Lasing in Visible VCSELs", T. E. Sale, G. Knowles, **S. J. Sweeney**, A. Onischenko, J. E. F. Frost, S. M. Pinches and J. Woodhead, 17th International Semiconductor Laser Conference (ISLC), Monterey, USA, September 2000.

C161. ***** "Superior Performance of 1.3μm AlGaInAs-based Semiconductor Lasers Investigated at High Pressure and Low Temperature", **S. J. Sweeney**, A. R. Adams, T. Higashi, T. Uchida and T. Fuijii, Ninth International Conference on High Pressure Semiconductor Physics, Sapporo, Japan, September 2000.

C162. ***** "Quantifying the Importance of Indirect Carrier Leakage on Visible Al(GaInP) Lasers using High Pressures and Low Temperatures", **S. J. Sweeney**, G. Knowles, T. E. Sale, A. R. Adams, J. Woodhead and S. M. Pinches, Ninth International Conference on High Pressure Semiconductor Physics, Sapporo, Japan, September 2000.

C163. "Assessing the Performance of Visible (665nm) Vertical Cavity Surface Emitting Lasers Using High Pressure and Low Temperature Techniques", T. E. Sale, **S. J. Sweeney**, G. Knowles, A. R. Adams, J. Woodhead and S. M. Pinches, Ninth International Conference on High Pressure Semiconductor Physics, Sapporo, Japan, September 2000.

C164. "Gain-cavity Alignment Effects in Efficient Visible VCSELs Studied using High Pressure", T. E. Sale, **S. J. Sweeney**, G. Knowles, A. R. Adams, J. Woodhead and S. M. Pinches, Ninth International Conference on High Pressure Semiconductor Physics, Sapporo, Japan, September 2000.

C165. ***** "The effect of Auger generated hot-holes on 1.5μm InGaAs(P)-based quantum well semiconductor lasers", **S. J. Sweeney**, A. R. Adams, E. P. O'Reilly, M. Silver and P. J. A. Thijs, Conference on Lasers and Electro-Optics (CLEO), San Francisco, U. S. A., May 2000.

C166. ***** "Evaluating the Performance of Bright Red Vertical Cavity Surface Emitting Lasers using High Pressure and Low Temperature Techniques", **S. J. Sweeney**, G. Knowles, T. E. Sale, J. Woodhead and S. M. Pinches, Semiconductor and Integrated Opto-Electronics (SIOE) Conference, Cardiff, Wales, April 2000.

C167. ***** "Temperature and Pressure effects on red AlGaInP Vertical-Cavity Surface-Emitting Lasers", G. Knowles, **S. J. Sweeney**, T. E. Sale, J. Woodhead and S. M. Pinches, Condensed Matter and Materials Physics Conference, Leicester, December 1999.

C168. ***** "Radiative and Non-radiative Recombination in 1.3μm and 1.5μm Telecommunications Lasers", **S. J. Sweeney**, The Rank Prize Funds Mini-Symposium on Optical Gain and Recombination in Semiconductors, Grasmere, October 1999.

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