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Book Chapter

- 1) Continuously Tunable 1.5 μ m Multiple-Quantum-Well InGaAs/InGaAsP Distributed-Bragg-Reflector Lasers; *T.L. Koch, U. Koren, R.P. Gnall, C.A. Burrus, and B.I. Miller*; Chapter 2.5 in Coherent Lightwave Communications, edited by P.S. Henry and S.D. Personick, pp. 87-88, 1990 by IEEE PRESS, ISBN 0-87942-262-9 (Reprint of Paper # 32 below).

Papers

- 1) Phase Grating Masks for Photonic Integrated Circuits Fabricated by E-Beam Writing and Dry Etching: Challenges to Commercial Applications; *D.M. Tennant, K. Feder, K.F. Dreyer, R.P. Gnall, T.L. Koch, U. Koren, B.I. Miller, M.G. Young*; Microelectronic Engineering, 27(1-4) pp. 427-437, Feb 1995; International Conference on Micro and Nano Engineering (MNE '94), Davos Switzerland, Sep 26 1994.
- 2) Advances in Near Field Holographic Grating Mask Technology; *D.M. Tennant, K.F. Dreyer, K. Feder, R.P. Gnall, T.L. Koch, U. Koren, B.I. Miller, C. Vartuli, M.G. Young*; Journal of Vacuum Science and Technology B, 12(6) pp. 3689-3694, Nov/Dec 1994; Presented at 38th International Symposium on Electron, Ion, and Photon Beams (EIPB'94), New Orleans LA, May 31 1994.
- 3) Monolithic Integration of GaInAs/GaInAsP Strained Quantum Well DFB Laser, Electroabsorption Modulator and Optical Amplifier by Nonplanar MOVPE; *F. Koyama, K.-Y. Liou, A.G. Dentai, R.P. Gnall, G. Raybon, H.M. Presby, C.A. Burrus*; Proceedings of 1994 Conference on Lasers and Electro-Optics CLEO/IQEC (CLEO '94), 8() pp. 240-241, Anaheim CA, May 8 1994.
- 4) Monolithically Integrated Distributed Feedback Laser with an Electro-Absorption Modulator and a Monitoring Photodetector; *K.-Y. Liou, A.G. Dentai, E.C. Burrows, F. Koyama, R.P. Gnall, G. Raybon, C.A. Burrus*; Presented at Integrated Photonics Research Topical Meeting, San Francisco CA, February 17 1994.
- 5) Integrated MQW Optical Amplifier/Noise Filter/Photodetector Photonic Circuit; *R.C. Alferness, L.L. Buhl, U. Koren, T.L. Koch, I. Kim, B.I. Miller, M.A. Newkirk, M.G. Young, R.P. Gnall, F. Hernandez-Gil, H.M. Presby, G. Raybon, C.A. Burrus*; Photonics Technology Letters, 5(12) pp. 1401-1403, Dec 1993.
- 6) Multiwavelength Distributed Bragg Reflector Laser Array Fabricated using Near Field Holographic Printing with an Electron-Beam Generated Phase Grating Mask; *D.M. Tennant, T.L. Koch, J.M. Verdiell, K. Feder, R.P. Gnall, U. Koren, M.G. Young, B.I. Miller, M.A. Newkirk, B. Tell*; Journal of Vacuum Science and Technology B, 11(6) pp. 2509-2513, Nov/Dec 1993; Presented at International Symposium on Electron, Ion, and Photon Beams, San Diego CA, June 1993.
- 7) InGaAs/InGaAsP Integrated Tunable Detector Grown by Chemical Beam Epitaxy; *F.S. Choa, W.T. Tsang, R.A. Logan, R.P. Gnall, T.L. Koch, C.A. Burrus, M.C. Wu, Y.K. Chen, R. Kapre*; Applied Physics Letters, 63(13) pp. 1836-1838, Sep 27 1993; IEEE Integrated Optoelectronics Summer Topical Meeting Digest, pp. B11-B12, Santa Barbara CA, August 5 1992.

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- 8) 8-Wavelength DBR Laser Array Fabricated with a Single-Step Bragg Grating Printing Technique; *J.M. Verdiell, T.L. Koch, D.M. Tennant, K. Feder, R.P. Gnall, M.G. Young, B.I. Miller, U. Koren, M.A. Newkirk, B. Tell;* Photonics Technology Letters, 5(6) pp. 619-621, June 1993.
- 9) An N-frequency Laser Matched to a Fabry-Perot Etalon Frequency Standard; *U. Koren, M.A. Newkirk, Y.C. Chung, B.I. Miller, M.G. Young, R.P. Gnall, M.D. Chien;* Presented at Integrated Photonics Research Topical Meeting, San Francisco CA, Feb 1994.
- 10) Incoherent Contact-Print Grating Technology for WDM Laser Sources; *T.L. Koch, J.M. Verdiell, D.M. Tennant, R.P. Gnall, K. Feder, M.G. Young, B.I. Miller, U. Koren, M.A. Newkirk, B. Tell;* Presented at Optical Fiber Conference (OFC '93), San Jose CA, Feb 21 1993.
- 11) A Frequency Reference Photonic Integrated Circuit for WDM with Low Polarization Dependence; *J.M. Verdiell, M.A. Newkirk, T.L. Koch, R.P. Gnall, U. Koren, B.I. Miller, B. Tell;* Photonics Technology Letters, 5(4) pp. 451-454, April 1993; Presented at Integrated Photonics Research Conference, Palm Springs CA, Mar 1 1993.
- 12) Aspheric Waveguide Lenses for Photonic Integrated Circuits; *J. Verdiell, M.A. Newkirk, T.L. Koch, R.P. Gnall, U. Koren, B.I. Miller, L.L. Buhl;* Applied Physics Letters, 62(8) pp. 808-810, Feb 22 1993.
- 13) Single Step Contact Printing of Bragg Gratings Using a Conventional Incoherent Source and a Phase Mask: Application to a Multi-Wavelength DBR Laser Array; *J.M. Verdiell, T.L. Koch, D.M. Tennant, R.P. Gnall, K. Feder, M.G. Young, B.I. Miller, B. Tell, U. Koren, M.A. Newkirk;* Bell Labs Technical Memorandum.
- 14) Characterization of Near Field Holography Grating Masks for Optoelectronics Fabricated by Electron Beam Lithography; *D.M. Tennant, T.L. Koch, P.M. Mulgrew, R.P. Gnall, F. Ostermeyer, J-M. Verdiell;* Journal of Vacuum Science and Technology B, 10(6) pp. 2530-2535, Nov/Dec 1992; Presented at International Symposium on Electron, Ion, and Photon Beams, Orlando FL, May 1992.
- 15) Design, Fabrication, and Performance of a Very High Side-Mode-Suppression-Ratio Distributed-Bragg-Reflector Laser; *F.S. Choa, W.T. Tsang, R.A. Logan, R.P. Gnall, U. Koren, T.L. Koch, P.D. Magill, K.C. Reichmann, C.A. Burrus, M.C. Wu, Y.K. Chen, P.F. Sciortino;* Paper DLTA6.3 at IEEE Lasers and Electro-Optics Society Annual Meeting (LEOS '92), Boston MA, Nov 16 1992.
- 16) Experimental Demonstration of Fiber Transmission of Compressed Digital Video; *P. Magill, K.C. Reichmann, B. Desai, T.L. Koch, R.P. Gnall, U. Koren, B.I. Miller, M.G. Young, G. Raybon;* Presented at 18th European Conference on Optical Communications (ECOC '92), Berlin Germany, Sep 27 1992.
- 17) Quantum Well Interferometric Modulator Monolithically Integrated with a 1.55 μ m Tunable Distributed Bragg Reflector Laser; *J.E. Zucker, K.L. Jones, M. Newkirk, R.P. Gnall, B.I. Miller, M.G. Young, U. Koren, C.A. Burrus, B. Tell;* Electronics Letters, 28(20) pp. 1888-1889, Sep 24 1992.
- 18) High-Power Multiple-Quantum-Well Distributed Feedback Laser Arrays and Fabry-Perot Laser Arrays at 1.5 μ m Wavelength; *K.Y. Liou, A.G. Dentai, E.C. Burrows, R.P. Gnall, C.H. Joyner, C.A. Burrus;* 13th IEEE International Semiconductor Laser Conference Digest, pp. 88 - 89, Takamatsu Japan, Sep 21 1992.

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- 19) Self-Aligned Ridge Guide Lasers, Monolithic Laser Arrays, and Photonic Integrated Circuits; *K.Y. Liou, A.G. Dentai, E.C. Burrows, R.P. Gnall, C.H. Joyner and C.A. Burrus;* Paper ThB1 at LEOS Summer Topical Meeting on Integrated Optoelectronics, Santa Barbara CA, Aug 5 1992.
- 20) Very High Side-Mode-Suppression-Ratio Distributed-Bragg-Reflector Lasers Grown by Chemical Beam Epitaxy; *F.S. Choa, W.T. Tsang, R.A. Logan, R.P. Gnall, U. Koren, T.L. Koch, C.A. Burrus, M.C. Wu, Y.K. Chen, P. F. Sciortino, A.M. Sergent, P.J. Corvini;* Electronics Letters, 28(11) pp. 1001-1002, May 21 1992.
- 21) Strained Multiple Quantum Well 1.55 μ m Distributed Feedback Lasers with Polyimide-Buried Self-Aligned-Contact Ridge Guide Structure; *K.Y. Liou, A.G. Dentai, C.H. Joyner, R.P. GNALL, E.C. Burrows, C.A. Burrus;* Paper CTuA4 at Conference on Lasers and Electro-Optics (CLEO '92), Anaheim CA, May 10 1992.
- 22) Efficient Coupling of High-Intensity Sub-Picosecond Laser Pulses into Dilute Solid Targets; *M. Murnane, H. Kapteyn, S. Gordon, S. Verghese, J. Bokor, W. Mansfield, R.P. Gnall, E. Glytsis, T. Gaylord, R.W. Falcone;* Short Wavelength Coherent Radiation, 11, pp. 281-284, 1991.
- 23) Efficient Coupling of High-Intensity Sub-Picosecond Laser Pulses into Solid Grating Targets; *J. Bokor, W.M. Mansfield, R.P. Gnall, E. Glytsis, T. Gaylord, R. Falcone, M. Murnane, H. Kapteyn;* Presented at Short Wavelength Coherent Radiation Generation & Application Topical Meeting, Monterey CA, April 8 1991.
- 24) Bi-directional Transmission Experiment Using a 1.5 μ m/1.3 μ m In-Line Transceiver; *K.C. Reichman, A.H. Gnauck, T.L. Koch, U. Koren, G. Raybon, R.P. Gnall, M. Oron, M.G. Young, J.L. deMiguel, B.I. Miller;* Bell Labs Technical Memorandum.
- 25) Balanced Operation of a GaInAs/GaInAsP Multiple-Quantum-Well Integrated Heterodyne Receiver; *T.L. Koch, F.S. Choa, U. Koren, R.P. Gnall, F. Hernandez- Gil, C.A. Burrus, M.G. Young, M. Oron, B.I. Miller;* Photonics Technology Letters, 2(8) pp. 577-80, Aug 1990.
- 26) Tertiarybutylarsine as a substitute for AsH₃: Application to InGaAsP/InP Photonic Integrated Circuits; *B.I. Miller, M.G. Young, U. Koren, T.L. Koch, M. Oron, R.P. Gnall, F. Hernandez-Gil, J.E. Zucker, K.E. Jones, and J.L. DeMiguel;* Proceedings of 2nd International Conference on Indium Phosphide and Related Compounds, pp. 161 - 164, Denver CO, Apr 23 1990.
- 27) Simple In-Line Bi-directional 1.5 μ m/1.3 μ m Transceivers; *T.L. Koch, U. Koren, A.H. Gnauck, K.C. Reichmann, H. Kogelnik, G. Raybon, R.P. Gnall, M. Oron, M.G. Young, J.L. DeMiguel, B.I. Miller;* 12th International Semiconductor Laser Conference Digest, pp. 166 - 167, Davos Switzerland, Sep 9 1990.
- 28) GaInAs/GaInAsP Multiple-Quantum-Well Integrated Heterodyne Receiver; *T.L. Koch, U. Koren, R.P. Gnall, F.S. Choa, F. Hernandez-Gil, C.A. Burrus, M.G. Young, M. Oron, B.I. Miller;* Electronics Letters, 25(24) pp. 1621-1623, Nov 23 1989; Paper PD1 at IEEE Lasers and Electro-Optics Society Annual Meeting (LEOS '89), Orlando FL, Oct 19 1989.
- 29) Tunable MQW-DBR Laser with Monolithically Integrated InGaAsP/InP Directional Coupler Switch; *F. Hernandez-Gil, T.L. Koch, U. Koren, R.P. Gnall, and C.A. Burrus;* Electronics Letters, 25(19) pp. 1271-1272, Sep 14 1989; Paper PD17 at Conference on Lasers and Electro-Optics (CLEO '89), Baltimore MD, 1989.

(continued)

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- 30) Demonstration of Mutilevel FSK Modulation; *P.D. Magill, T.L. Koch, U. Koren, B.I. Miller, R.P. Gnall, and C.A. Burrus;*
Presented at Optical Fiber Conference (OFC '89), Houston TX, Feb 6 1989.
- 31) Monolithically Integrated InGaAsP/InP Distributed Feedback Laser with Y-Branching Waveguide and a Monitoring Photodetector Grown by Metalorganic Chemical Vapor Deposition; *K.Y. Liou, U. Koren, S. Chandrasekhar, T.L. Koch, A. Shahar, C.A. Burrus, and R.P. Gnall* ;
Applied Physics Letters, 54(2) pp. 114-116, Jan 9 1989;
Paper PD13 at 11th IEEE International Semiconductor Laser Conference, Boston MA, Aug 25 1988;
Paper TuCC2-1 at Topical Meeting on Integrated and Guided Wave Optics (IGWO '89), Houston TX, Feb 6 1989.
- 32) Continuously Tunable 1.5μm Multiple-Quantum-Well InGaAs/InGaAsP Distributed-Bragg-Reflector Lasers; *T.L. Koch, U. Koren, R.P. Gnall, C.A. Burrus, and B.I. Miller*;
Electronics Letters, 24(23) pp. 1431-1433, Nov 10 1988;
Paper J:1 at IEEE International Semiconductor Laser Conference, Boston MA, 1988;
Reprinted in Coherent Lightwave Communications, edited by P.S. Henry and S.D. Personick, pp. 87-88, 1990 by IEEE PRESS, ISBN 0-87942-262-9;
Cover Photo, IEEE Circuits and Devices Magazine, 5(6), Nov 1989.
- 33) Very High-Transconductance Heterojunction Field-Effect Transistor (HFET); *G.W. Taylor, M.S. Lebby, T.Y. Chang, R.P. Gnall, N. Sauer, B. Tell, and J.G. Simmons*;
Electronics Letters, 23(2) pp. 77-9, Jan 16 1987.
- 34) A New Heterostructure FET; *G.W. Taylor, M.S. Lebby, T.Y. Chang, R.P. Gnall, N. Sauer, B. Tell, D.M. Tennant, J.G. Simmons* ;
1986 International Electron Devices Meeting Technical Digest, pp. 817-821, Los Angeles CA, Dec 7 1986.
- 35) A GaAs/AlGaAs Bipolar Inversion Channel Field Effect Transistor (BICFET); *G.W. Taylor, M.S. Lebby, R.P. Gnall, T.Y. Chang, B. Tell, N.J. Sauer, J.G. Simmons*;
Bell Labs Technical Memorandum, 1986.