Publications

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BOOK CHAPTERS

o A. J. Lowery, Chapter 12, "Photonic Simulation Tools" in *Optical Fiber Telecommunications IV-B: Systems and Impairments*, by Ivan Kaminow and Tingye Li (Academic Press, 2002, New Jersey)

o A. J. Lowery, Chapter 10, "WDM Systems Simulations" in *DWDM Network Designs and Engineering Solutions*", by Ashwin Gumast and Tony Anthony, (CISCO Press, 2003), pp. 303-323 (including software examples)

o Simulation Examples for "Optical Communications Essentials (Telecommunications)" by Gerd Keiser, McGraw-Hill Professional, 2003 (see www.vpiphotonics.com/VPIplayer for free downloads and simulator).

o G. Morthier and A. J. Lowery, "Modelling of DFB Laser Diodes", Chapter 7 in G. Guekos, Ed.*, Photonic Devices for Telecommunications: How to Model and Measure*, (Springer, Berlin 1998). pp. 183-211

o A. J. Lowery, Chapter "Active Photonic Integrated Circuits" in *Advanced Simulation and Analysis of Optoelectronic Devices* (Springer, Berlin, 2004) (Ed: J. Piprek, University of California, USA)

PATENTS

- Optical Transmission System (PCT, Aug 2006)
- Optical Transmission System (PCT, Aug 2007)
- Dispersion Compensator (US 6,882,772)
- Noise Suppression in Lightwave Communications Systems (US 6,711,309)
- Self-Tuned Mode-Locked Laser (US 5,509,022)
- one provisional patent (Logic Probe)

PRODUCTS

The web pages for www.vpiphotonics.com show the products I was responsible for (VPIplayer, VPItransmissionMaker and VPIcomponentMaker) while General Manager at VPIsystems, Melbourne (1996-2004).

VPIsystems was the result of a merger between Virtual Photonics Inc and BNeD Inc. Virtual Photonics Inc was founded by Dr Phil Gurney and Dr Arthur Lowery in March 1996. VPI has become the leading global supplier of Photonic Design Automation tools to the electronics industry.

PUBLISHED PAPERS to Dec 2007

1. B. J. C. Schmidt, A. J. Lowery, and J. Armstrong, "Experimental demonstrations of electronic dispersion compensation for long haul transmission using direct-detection optical OFDM," accepted *Journal of Lightwave Technology*, 2008

2.	A. J. Lowery, S. Wang, and M. Premaratne, "Calculation of power limit due to fiber nonlinearity in optical OFDM systems," Opt. Express **15**, 13282-13287 (2007) http://www.opticsinfobase.org/abstract.cfm?URI=oe-15-20-13282

3.	A. J. Lowery, "Fiber nonlinearity pre- and post-compensation for long-haul optical links using OFDM," Opt. Express **15**, 12965-12970 (2007) http://www.opticsinfobase.org/abstract.cfm?URI=oe-15-20-12965

4.	A. J. Lowery, "Fiber nonlinearity mitigation in optical links that use OFDM for dispersion compensation," IEEE Photon. Technol. Lett. 1819, 1556-1558 (2007)

5.	A. J. Lowery, "Invited Tutorial: Adaptation of Orthogonal Frequency Division Multiplexing, OFDM to Compensate Impairments in Optical Transmission Systems" European Conference on Optical Communications (ECOC), 2008, Berlin, Germany, paper 4.2.1.

6.	A. J. Lowery, "Nonlinearity and its compensation in optical-OFDM systems", Workshop on Electronic signal processing for transmission impairment mitigation: future challenges, European Conference on Optical Communications (ECOC), 2008, Berlin, Germany, paper 4.2.1.

7.	B. J. C. Schmidt, A. J. Lowery, and J. Armstrong, " Experimental Demonstrations of 20 Gbit/s Direct-Detection Optical OFDM and 12 Gbit/s with a Colorless Transmitter," in Optical Fiber Communication Conference and Exposition and The National Fiber Optic Engineers Conference, OSA Technical Digest Series (CD) (Optical Society of America, 2007), paper PDP18. http://www.opticsinfobase.org/abstract.cfm?URI=OFC-2007-PDP18 (Postdeadline)

8.	A. J. Lowery and J. Armstrong, "Dispersion compensation in long haul transmission systems, an orthogonal approach", Invited paper: Australian Conference on Optical Fibre Technology, *ACOFT* 2007 24-27, Melbourne, June 2007.

9.	A. J. Lowery and J. Armstrong, "Orthogonal Frequency Division Multiplexing for Optical Dispersion Compensation," (Invited Paper) *Technical Digest of Optical Fibre Communication (OFC/NFOEC 2007)*, 25-29 March 2007, Anaheim, USA.

10.	A. J. Lowery, L. B. Y. Du, and J. Armstrong, "Performance of optical OFDM in ultralong-haul WDM lightwave systems," J. Lightwave Technol. 25, 131-138 (2007).

11.	A. J. Lowery and J. Armstrong, "Orthogonal-frequency-division multiplexing for dispersion compensation of long-haul optical systems," Opt. Express 14, 2079-2084 (2006) http://www.opticsinfobase.org/abstract.cfm?URI=oe-14-6-2079

12.	J. Armstrong and A. J. Lowery, "Power efficient optical OFDM", Electronics Letters, Volume 42, Issue 6, 16 March 2006, pp. 370 – 372

13.	Dallaali, M.A.; Premaratne, M.; Lowery, A.J., **"**Cost Optimal Strategies for Placement of Amplifiers in a Point to Point Optical Link" Numerical Simulation of Semiconductor Optoelectronic Devices, 2006 International Conference on, Sept. 2006 Page(s):69 - 70

14.	Gopalakrishnapillai, B.S.; Lee, K.L.; Lowery, A.J.; Premaratne, M.; Shinada, S.; Wada, N.; Miyazaki, T.; Nirmalathas, A.; Lim, C., "Experimental demonstration of a simple time-of-flight rangefinder based on semiconductor optical amplifier" Optical Fiber Communication Conference, 2006 and the 2006 National Fiber Optic Engineers Conference 5-10 March 2006 Page(s):3 pp

15.	Lowery, A.J.; Liang Du; Armstrong, J.; **"**Orthogonal Frequency Division Multiplexing for Adaptive Dispersion Compensation in Long Haul WDM Systems"**,** Optical Fiber Communication Conference, 2006 and the 2006 National Fiber Optic Engineers Conference 5-10 March 2006 Page(s):1 – 3 (Postdeadline)

16. Armstrong, Jean; Schmidt, Brendon J. C.; Kalra, Dhruv; Suraweera, H. A.; Lowery, Arthur J.; "Performance of Asymmetrically Clipped Optical OFDM in AWGN for an Intensity Modulated Direct Detection System", Global Telecommunications Conference, 2006. GLOBECOM '06. IEEE, Nov. 27 2006-Dec. 1 2006 Page(s):1 - 5

17. M. Premaratne and A. J. Lowery , "Semiclassical analysis of the impact of noise in SOA-based optical pulse delay discriminator." Accepted for publication in IEEE J. Special Topics in Quantum Electronics, 2006.

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19. A. J. Lowery and M. Premaratne, "Programmed wavelength-hopping semiconductor laser," IEEE Lasers and Electro-Optics Society (LEOS) 2005 Meeting, Sydney, Australia, paper ThK6, Oct 27th 2005.

20. A. J. Lowery and M. Premaratne, "Active photonic circuits and biophotonics and Monash University, Australia," IEEE Lasers and Electro-Optics Society (LEOS) 2005 Meeting, Sydney, Australia, paper CARP9, Sun Oct 23rd 2005

21. M. Premaratne and A. J. Lowery , "Analytical characterization of SOA-based optical pulse delay discriminator," *J. Lightwave Technology*, vol. 23(9), pp.2778-2787, September 2005

22. A. J. Lowery , "Performance predictions and improvements for optical serrodyne comb generators," *J. Lightwave Technology*, vol. 23(8), pp.2371-2379, August 2005

23. A. J. Lowery and M. Premaratne, "Design and simulation of a simple laser rangefinder using a semiconductor optical amplifier-detector," Opt. Express 13 (10), 3647-3652 (2005), http://www.opticsexpress.org/abstract.cfm?URI=OPEX-13-10-3647

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27. Arthur J Lowery, Eugene Myslivets, Jerry Wood, "Efficient Simulation of Electronic Dispersion Compensation for 10 Gbps Single-Mode Links" (Presented at the Australian Conference on Optical Fibre Technology, Canberra, July 5-8, 2004.)

28. Arthur J Lowery, "Effect of Laser Intensity and Frequency Noise on an Optical Signal Processing Circuit". (Presented at the Australian Conference on Optical Fibre Technology, Canberra, July 5-8, 2004.)

29. Arthur J Lowery, "Efficient Simulation of Microwave Photonic Systems". (Presented at the Australian Conference on Optical Fibre Technology, Canberra, July 5-8, 2004.)

30. Arthur J Lowery and Don F Hewitt, "Improving Performance of Red-Shift Wavelength Converters". (Presented at the Australian Conference on Optical Fibre Technology, Canberra, July 5-8, 2004.)

31. A. J. Lowery, "Free take-home virtual laboratories using professional simulation software", Presentation EMD2, Education and Training in Photonics (ETOP'03), Oct 6-8, 2003, Tucson, Arizona (organized by the Optical Society of America, available on CD-ROM)

32. I. Poloyko, A. Khilo, E. Myslivets, V. Volkov, I. Koltchanov, A. Richter, A. Lowery, "Photonic Design Automation of Raman-amplified Systems" Technical Proceedings of National Fiber Optics Engineers Conference, 7-11 September 2003, Orlando, FL, USA, pp. 192-201

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88.   Title: "Outside-in evaluation of commercial WDM systems", Authors: R. Damle, R. Freund, D. Breuer, Organization: Sprint ATL, VPIsystems', Source: NFOEC 1999, Chicago, Il, paper B3-3, Vol. 1, pp. 450-454, VPIsystems' Products used: PTDS (predecessor of VPItransmissionMaker™)

Photonic Device and Systems Demos (running in VPItransmissionMaker/VPIcomponentMaker)

Please see www.VPIphotonics.com for a selection of screen grabs from the the 450 demos supplied with the products. A list is on the following page.

Educational demos (under VPIplayer – a free simulator)

Please see www.VPIphotonics.com/VPIplayer for a selection of the free demos for VPIplayer (please download if you like), including educational demos for use by students.

Dynamic WDM Comb Generation	VCSEL Thermal Behavior
Dynamic WDM Comb with Control	10Gbps-40Gbps Upgrade using Raman Amplifier
Dynamically Controlled EDFA	160x20Gbps over 1500 km
EDFA Dynamics using Switched WDM Channels	320x10Gbps over 600 km
CD Penalty Measurement	40x42.7Gbps over 3600 km Raman
Chirped Gaussian Pulse Propagation	82x10Gbps Bidirectional DRA
CRZ Pulse Compression	82x10Gbps using Dual Band DRA
Four Wave Mixing	82x10Gbps using Raman in DCF
Intrachannel FWM and XPM	82x40Gbps over 300 km
Modulation Instability	8x10Gbps OTDM System
NRZ pre-post compensation	OTDM to WDM 4x10Gbps Transmultiplexer
RZ pre-post compensation	BER vs. Length Optimization
Soliton vs. RZ System	Simple Optimization
SPM and XPM	Yield of a 1 to 8 Splitter
MultiModeFiber1 (presumably)	2R Regenerated System
MultiModeFiber2 (presumably)	32x10Gbps over 7500 km
MultiModeFiber3 (presumably)	64x10Gbps over 7500 km
MultiModeFiber4 (presumably)	Chirped Modulation 5400 km
Channel Offset Penalty	Chirped RZ System
Extinction Ratio	Collision-Induced Jitter (Matlab)
Inband Crosstalk Penalty	Dispersion Managed Sections
Inband vs. Interband Crosstalk	Jitter versus Distance (Matlab)
Multipath Crosstalk - CW Source	Nearly-Constant Signal Levels
Multipath Crosstalk - Modulated	1000x2.5Gbps Metro Ring
Number of Interferers	CWDM with Amplifier ASExASE
Orthogonal and Parallel Polarization	CWDM with Amplifier BER Curves
Polarization Alignment	Mixed Services Metro
Disp Comp Filter Characterization	Multimode Fiber - Impulse Response
Dispersion and Attenuation Compensation	Multimode Fiber - Signal Response
Maximally Flat ARMA Filter	CRZ vs RZ
Random Parameter Fluctuations	Dispersion Supported System
BER vs Threshold Level	DPSK compared to NRZ
Coherent Binary FSK System	DQPSK decoding
Coherent Binary PSK System	DQPSK vs NRZ modulation
Direct Detection Example	Duobinary System with Precoding
Electronics in an Optical Receiver	Duobinary Type 1 Data Generator
Full Phase-Locked Loop	Duobinary Type 1 System
Histograms from Eye Diagrams_Py	Duobinary Type 1 Transmitter
Histograms from Eyes using Signal Processing	Duobinary vs. NRZ
Homodyne Example	IM-DPSK compared with NRZ
Limiting Amplifier Transfer Characteristic	Manchester decoding
Link Illustrating Receiver Integrated Circuits	Phase-Shaped Binary System
Lossy Electrical Integrator Performance	Quaternary NRZ System
Modelling Noise in Amplifiers or Photodiodes	Single Side-Band (SSB) System
PLL Phase and Jitter Detector	Vestigial Side-Band (VSB) Modulation
Power Penalty Estimation	3x Ring with OXC & ADMs
Setting the Sensitivity of a Receiver	Bandwidth Limitation
Thresholder with Hysteresis	EDFA Transient Analysis
SBS Eye Opening Penalty	Optical Crosstalk
SBS Threshold	OSNR Variations in OADM Chain
Bidirectional Raman Processes	OXC Interconnected Rings
Import of OTDR Data	Protection Switching 1
PMD Statistics of Raman Gain	Protection Switching 2
Raman Power Transfer	Ring Crosstalk
Raman Power Transfer System	Ring Routing
Chirp of MZ Modulator	SOA Data Patterning (XGM)
CW vs. RE Model - External Modulation	SOA XPM Wavelength Converter
Data Sheet Model - Direct Modulation	Wavelength Converting OXC
Drive Signals with Variable Crossing Level	Wavelength Routing 3xOXC
Laser Parameter Extraction	WDM Cross-Connect
New MZI test	1st Order Compensator
Peak Optical Frequency Detector	2nd Order Compensator
RE Model - Direct Modulation	40Gbps NRZ with All Orders of PMD
RE Model - External Modulation	40Gbps NRZ with PMD Emulator
RIN Characterization	40Gbps RZ with PMD Emulator
Speed of Direct Modulation	Adaptive Filters for PMD compensation
VCSEL LI Characteristic	Chromatic Dispersion Insensitive PMD Monitoring

Distortion Estimation by RF Spectrum
Importance Sampling for PMD (part 1)
Importance Sampling for PMD (part 2)
Performance Limitations due to PMD
PMD Test Waveform Generator
Source Polarization PMD Compensation
20 Channel NTSC System
Direct Detection Example
Frequency Response
BER Auto Gain with Script
BER Automatic Gain Setting
BER Estimator Comparison I
BER Estimator Comparison II
BER from Deterministic Noise
BER from Sampled Signals
BER Penalty Calculation
BER Stochastic - Chi2 Mode
BER Stochastic - Gauss Mode
BER Stochastic - Multiple Runs
BER vs Jitter
BER vs. Polarization azimuth
BER vs. Degree of Polarization of noise
BER vs. Extinction Ratio (Amplified System)
ISI Length with DM Laser
ISI Length with Fiber
LP filter in BER_Deterministic
Electrical LP Filter
Electrical Signal Generation (Lib)
Filter (Library)
FP Filter (T&R)
Optical Signal Generation (Lib)
Optical Signal Resampling in a DLL
Power Meter (Library)
Sample Mode Filter
Electrical Signal Generation (Matlab)
Filter (Matlab)
Optical Signal Generation (Matlab)
Power Meter (Matlab)
Trapezoidal AWG (Matlab)
Filter (Python)
Optical Signal Generation (Python)
Power Meter (Python)
Design Assistant Tutorial
A Simple WDM System
Creating SFB and MFBs
Gibbs Phenomenon
GUI Example Stage 1
GUI Example Stage 2
GUI Example Stage 3
Mixed MFB and SFBs
Mixed Signal Representations
Resampling and Limiting
Setting the Source Representation
BER Curve vs. BW
BER Curve vs. BW, run first
BER Curve vs. Dispersion
BER Curve vs. Length
BER vs. Length and D
BER vs. Received Power Graph
Component Comparison
2nd Order Emulator Impulse Response
2nd Order Emulator vs. Coarse Step
Averaged SOP and DOP
Coarse Step Model - Biased PMD Statistics
Coarse Step Model - Width Deviation
TSJM - Birefringence
TSJM - Fiber

TSJM - Polarization Transformation
ViStokes_Ave (galaxy)
1-input Expression (10log10x)
2-input Expression (IIR Filter)
3-Bit Ripple Counter
3-input Expression (simple controller)
4-input Expression (sine addition)
4-stage PRBS Generator
4-Stage Shift Register
Adding Jitter To Electrical Waveform
Automatic Gain Flattening
Binary Counter
Data Post Processing
Decimation using Signal Processing Modules
Downsampling using Signal Processing Modules
D-Type Latch
Edge-Triggered D-Type Flip-Flop
Electrical Phase Shift (Signal Proc)
Electrical Signal Sources
Finding Minimum and Maximum Values
Generating Ramps and Control Waveforms
Interpolation using Signal Processing Modules
Logic Gate Truth Tables
Matrices - Basic Matrix Functions
Matrices - Inverters and Transposers
Matrices - Simple Arithmetic Functions
Matrices - Toeplitz Matrix Decomposition
Microwave Signal Generation
Optical Amplifier Gain Slope Measurement
Set-Reset Latch
Signal Processing FIR Filters
Signal Processing IIR Filters
Slew-Rate Limiter (Signal Proc)
S-R Latch with Enable
Upsampling using Signal Processing Modules
VCO Driven by Digital Data
BER vs. Laser Power
File Input using a Simulation Script
File Output using a Simulation Script
Laser Power Control
Laser Tuning Control
Optimization using Bisection Method
OSNR Meter galaxy
OSNR Pre-Emphasis
Sweep using a Simulation Script
XPM Converter Transfer Characteristic
Controlling Parameterized Signals
Demultiplexing WDM Channels
Efficient WDM System Design
Measured Transfer Function
PRBS Settings
Resampling Options
Three EDFA Model Types
Using FiberNLS Joined Bands
Using FiberNLS Overlapped Bands
CD - Dispersion Delay Measurement
CD - Modulation Phase Shift Method
CD - Swept Homodyne Method
PMD - Fixed Analyzer Method
PMD - Modulation Response Method
PMD - Pulse Delay Method
Import Agilent HRS Data
Importing Agilent Chirp Files
Measured DM and EM Laser Penalty
Read from File using ReadFile
Extinction Ratio Measurement
Heterodyne Linewidth Measurement

RIN Measurement Methods
Self-Heterodyne Linewidth Measurement
Self-Homodyne Linewidth Measurement
Black Box vs. EDFA 1480nm
BlackBox vs. EDFA 980nm
Convert to Black-Box
Verify Black-Box
Amplifiers - Getting Started
Concentration Quenching
EDF_Giles - Design Issues
EDF_Giles - Rayleigh Backscatter Issues
EDF_Giles_FWM
Excited State Absorption
Spectral Hole Burning
Temperature Dependence
EDWA - Full Approach vs. Effective Overlap
EDWA - Index Profile vs. Refractive Index
EDFA Design Validation
Gain and Noise Figure Spectra
Gain and Power
Gain Tilt Measurement
OSNR vs. Transmission Distance
Power Conversion Efficiency
Pump Efficiency
Raman Gain vs. Wavelength
Sat Gain Spectrum
Saturation Characterization
Spectral Characterization
EDF Ring Laser
EDFA Preamplifier Design
L-Band Preamplifier using 3-Level Laser Model
Saturation of Preamplifier
Single Stage L-Band Amplifier
Two Stage C-Band Amplifier
Two Stage L-Band Amplifier
YDFA gain and noise spectra
Er Concentration - Influence on Gain
Upconversion Coefficient - Influence on Gain
Waveguide Length - Influence on Gain
Discrete Raman with EDFA
Distributed Raman with EDFA
Bidirectional Dual Band
Cascaded Raman Amplified Spans
Cascaded Raman Scattering
Dual Band DRA
Dual Band in DCF
Gain Flattening of DRA Output
Multi-Pump Gain Flattening
Optimization of a 12-Pump FRA
Optimization of a 2-stage FRA
Noise Generation
Polarization Measurement
Probe & Saturating Signals
Pump and Multiplexer
Separating Combs with Labels
WDM Comb
20 Channel NTSC CSO CTB IMD
80 Channel NTSC CSO CTB IMD
97 Channel PAL CSO & CTB
CSO Fiber Dispersion Compensation
Data Sheet Laser Model
NTSC system CNR
Directly Modulated Laser\BFR90 Laser Driver
Directly Modulated Laser\Dynamic and Adiabatic Chirp
Directly Modulated Laser\Dynamic Clipping Distortion

Directly Modulated Laser\Dynamic Clipping Distortion CTB
Directly Modulated Laser\Frequency Response
Directly Modulated Laser\Two-Tone Intermodulation Distortion
Externally Modulated Tx\EA Dynamic Chirp IMD
Externally Modulated Tx\MZ Clipping Distortion
Externally Modulated Tx\MZ Dynamic Chirp IMD
Externally Modulated Tx\MZ Frequency Response
Externally Modulated Tx\MZ Predistorted 80ch System
Externally Modulated Tx\MZ Predistortion Linearity Test
Externally Modulated Tx\MZ Two-Tone Intermodulation Distortion
Optical Fiber Link\Amplifier Noise to CNR
Optical Fiber Link\Chirped DM Laser IMD
Optical Fiber Link\Chirped MZ Frequency Response
Optical Fiber Link\Chirped MZ IMD
Optical Fiber Link\Chirpless MZ Frequency Response
Optical Fiber Link\Multipath Emulator in System
Optical Fiber Link\Multipath System with YAG Laser
Optical Fiber Link\Parasitic Fabry-Perot Model
Optical Fiber Link\Rayleigh Backscatter with Optical Amplifier
256-QAM over RF Channel
64-QAM and 77 Analog SNR
64-QAM over Optical Channel
64-QAM over RF Channel
64-QAM RX Phase
64-QAM using DM Laser
Constellation Display of Receiver Error
Laser Clipping Impulse Noise
Multimode Fiber - QAM Subcarrier Response
Two 64-QAM and 70 Analog
4 WDM each with Thirty 30 MBps QAM
5x2.5Gbps SCM over Optical SSB
Crosstalk from non-ideal Demultiplexer
FWM interference with unequal spacing
Noise Power Ratio Test - Digital Return
Upstream with Baseband Digital Return
Upstream with Frequency Stacking
XPM Optical Crosstalk
70 NTSC plus Thirty 30 Mbps QAM
70 NTSC plus Two 30 Mbps QAM
BER and Dynamic Range
FTTH SNR vs. Fiber Loss
FTTH with Distribution
FTTH with Multipath
QAM with 256 Mbps Baseband
Distortion vs Length
Fiber Link Distortion
Fiber Link Noise
Filter Induced Distortion
Frequency & Phase Response
Frequency Response with Filter
mm-Wave with Photonic Upconversion
Notch Filter using Dispersive Fiber
Notch Filter using MZI Real Laser
Optical Feedforward Linearizer
Push-Pull Analog Transmission
DBR Impulse Response
Electrical Filter Frequency Response
Electrical Filter Impulse Response

Optical Filter Impulse Response
Above Threshold Static Spectrum
Active Photonics - Getting Started
Below Threshold Spectrum
Dynamic Time-Averaged Spectrum
Freq Fluctuation Spect. and Linewidth
IM and FM Response
Junction Voltage
Laser Model Comparison TLLM vs SMRE
Mode Partition Noise
Phase Portrait - Modulated MQW DFB
Phase Portrait - Unstable DFB
Relative Intensity Noise
SOA Transfer Characteristic
Time Resolved Freq. Chirp
Timing Jitter
TLM Material Gain Calibration
Wavelength and Power
Complex Coupled Laser
Fabry Perot Laser
FBG Stabilized Laser
Integrated DFB and EA
Laser Model Comparison
Loss Coupled Laser
MQW DFB Laser
Push-Pull DFB Laser
Tapered MOPA
Two Section DFB
MZI XPM Wavelength Converter
NRZ to RZ Converter
Sagnac Loop Switch
SOA Amplifier-Detector
SOA Gate Switch
SOA Phase Shift
SOA XGM Regenerator
WDM to OTDM Transmultiplexer
4x40Gbps OTDM Transmitter
BER for Aperiodic Boundary Conditions
Directly Modulated NRZ System
Integrated DFB-SOA Regenerator System
Laser with Feedback
LED System
Propagation of Multiple Laser Modes
Soliton with Mode Locked Laser
Grating Controlled Fabry-Perot
Injection Locked Laser
Three Section FP-DBR
Two Section FP-DBR
Actively Mode-Locked Laser
Hybrid Mode Locked Laser
Passively Mode-Locked Laser
Soliton Pulse Compression
YDFA gain vs fiber length
DFB laser with chirped Bragg Grating
DFB laser with distributed quarter wave grating
phase
Selfpulsation regimes in multi section DFB Laser
SOA Phase Discriminator