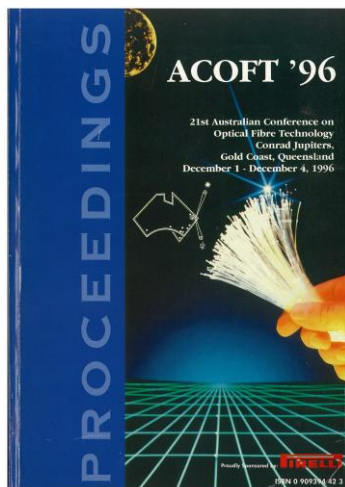


21st Australian Conference on Optical Fibre Technology Gold Coast, 1-4 December 1996



Proceedings were published by IREE, Milsons Point NSW

ISBN: 0 909394 42 3

The Australian Optical Society (AOS) has digitised the contents/index pages of this conference*.

The conference volume contains the individual papers, and is held by one or more libraries in Australia; please refer to the website:

<http://optics.org.au/ACOFT>

Authors	Paper title	Page
T Li	Innovations and competition transform lightwave communications	1
H Bradlow	The inevitable evolution to the data paradigm	2
D Cotter	Ultrafast optical networking	4
W T Holloway , R D T Lauder, J M Badcock, A J Keating & D D Samson J	Four-channel demonstration of a spectrum-sliced, WDM ring network	5
J M Yates, J P R Lacey, M A Summerfield & D E Everitt	Blocking in WDM networks with noisy four-wave mixing wavelength converters	9
S D Dods, J P R Lacey & R S Tucker	Combined effects of coherent and incoherent crosstalk in WDM ring and bus networks	13
M A Summerfield	Long-term wavelength stability requirements of transmitters in wide-area WDM networks	17
J M Dudley, Boland P G, L P Barry, J D Harvey & R Leonhardt	Modelocked fiber laser characterisation using frequency resolved optical gating	21
M Baldo, G E Town & M Romagnoli,	Generation of highly chirped 5nJ pulses in a diode-pumped actively modelocked optical fibre laser	25
D Stepanov & G J Cowie	Frequency pulling in a Brillouin/erbium fibre laser	29
P G Boland, L P Barry, J M Dudley, J D Harvey & R Leonhardt	Autocorrelation of modelocked fiber laser pulses exploiting a non-linear response in silicon photodiodes	33
M N Huber	All-optical transport networks	37
K Hinton	Dispersion compensation using Bragg fibre gratings in transmission	41
F Ruhl	Nonlinear gain interactions in optically amplified WDM systems	45
S Watanabe, H Sakuyama, S Yamaguchi, H Okazaki & S Mlkaml	Design method of channel pre-emphasis for long haul WDM transmission systems	49
M Armiraglio & P Rolle	The Wellington to Christchurch WDM system	53



M Gustafsson	Optics in the access network	57
M J L Cahill, G J Pendock, G J, D D Sampson	All-optical customer access network based on coherence multiplexing	61
P G Hale, D A Brewer & D Brittain	Cost reducing the access network - A genetic algorithm approach	65
G J Pendock & D D Sampson	Excess noise in transmitted pulses of ASE	69
N N Akhmediev & P D Miller	X-junctions without cross-talk	73
C B Clausen, O Bang & Y S Kivshar	The effects of a fluctuating phase mismatch on self-guided a _ beams in quadratic media,	77
E A Ostrovskaya, N N Akhmediev, J U Kang, G I Stegeman & J S Aitchison	Polarization dynamics, bifurcations and switching o spatial solitons in semiconductor waveguides	81
A V Buryak & Y S Kivshar	Stabilization, multistability and optimal generation of $X^{(2)}$ solitons	85
Y Ohmori	Recent progress in planar lightwave circuit technology	89
L P Shi, E Y B Pun & P S Chung	Optical couplers fabricated in $KTiOPO_4$ substrates	93
F Ladouceur	Roughness in integrated optics	97
M V Bazylenko, M Gross & M Faith	The effect of reactive ion etching - generated sidewall roughness on the propagation loss of buried-channel silica waveguides	101
M A Webster, M W Austin & S T Winnall	Fabrication of a balanced-bridge Mach-Zehnder optical modulator with an electrical bandwidth exceeding 30 GHz	105
M Janos & R A Minasian	Simple technique for measurement of pump-induced refractive index variation in erbium-doped optical fibre	109
B P Petreski, S P Schilders, P M Farrell & M Gu	Imaging concentration profiles of rare earth doped optical fibres	113
P Elango, J W Arkwright, T Whitbread & G R Atkins	Experimental evidence of the UV contribution to the resonant nonlinearity observed in ytterbium doped fibre	117
T Okuno, M Ohnishi, M Nishimura & M Mogi	Study on optical fibers suitable for generating supercontinuum pulses with high efficiency	121
E A Swanson, S R Chinn, S A Bopart, B Bouma, M R Hee, G J Teary, J G Fujimoto & M B Brezinski	Optical coherence tomography: Principles, instrumentation, and applications	125
C Davis & A Mazzolini	A new biomedical sensor utilizing macrobending losses in optical fibres	129
A J Higgins, I K Hook & A D Stokes	High voltage current sensor	133
H Zhou, C J R Sheppard & M Gu	An optical-fibre version of confocal interference microscope	137
G H Smith, D Novak & Z Ahmed	Optimisation of link distance in fibre-radio systems incorporating external modulators	141
Z Ahmed, D Novak, , H F Liu & R B Waterhouse	Optically-fed millimetre-wave (37 GHz) systems for distribution of broadband signals	145
C C Wang, R S Tucker & M A Summerfield	Tunable-output all-optical wavelength converter with reconfigurable functionality	149
K Clarke, D Coulson, L Kiss, M McKiterick & M P Gardner	Longitudinal compression of fibre optic cables: a new loss mechanism in "black soils"	153



G J Siule, L D Pedersen & P Kjeidsen	Optimal WDM scheme for OTDR based remote fiber test systems	157
S Marazzi & D Henderson	Return loss connectors for customer access networks	161
J P Gelose	Fiber optic cable administration system, system benefits	165
L V T Nguyen, A J Lowery, R S Tucker & D Novak	Signal-routing model for arrayed-waveguide grating multiplexers	169
L V T Nguyen, A J Lowery, D Novak & P C R Gurney	Dynamics of polarisation asymmetry in dual-polarisation SOW lasers	173
G J Pendock & D D Sampson	Noise in coherence-multiplexed interferometric systems	177
M Premaratne & A J Lowery	Design of single-mode high-efficiency fibre grating external cavity lasers	181
W R Philp, W Jin ,A Mencaglia, G Stewart & B Culshaw	Interferometric noise in frequency modulated optical gas sensors	185
E D J Smith, P T Gough, D P Taylor & R J Blaikie	Spectral-amplitude-coding optical CDMA with pulse-position modulation	189
W M Henry & J K Shaw	Elliptical core step-index waveguides based on the characteristic numbers of Matthieu's equation invoking the weakly guiding analysis	193
L P Barry, P Guignard, J Debeau, R Boittin, B Kennedy & J D Harvey	Effect of control pulse deformation on the switching characteristics of a NOLM	197
P Moar, L Cahill & J Katsifolis	Numerical modelling of tapered optical fibres using a modified FD-BPM	201
W D Zhong, J P R Lacey & R S Tucker	Multiwavelength cross-connects with reduced hardware complexity	205
M D Pelusi, H F Liu, D Novak & Y Ogawa	Generation of THz optical signals from a monolithic semiconductor DBR laser	209
A Nimwaiathas, H F Liu, Z Ahmed & D Novak	Characterisation of a 33 GHz optical pulse train from a monolithic laser with subharmonic synchronous mode-locking	213
R W Micallef, Y S Kivshar & J D Love	All-optical switching in single-mode nonlinear-cladding Y-splitters	217
Y Chen & J Atai	Femtosecond soliton pulses in birefringent optical fibres	221
O Bang, L Berge, J J Rasmussen & V K Mezentsev	Self-focussing of CW-beams in bulk media with both quadratic and cubic nonlinearity	225
J A Besley, J D Love & G Scelsi	Local coupled supermode analysis of a tapered fibre sensor	229
D R Beltrami, J D Love, A Durandet, A Samoc & C Cogswell	Characterisation of a planar grin PECVD lens	233
V V Stebilna, J D Love, R H Stolen & J-S Wang	Bend birefringence in W-fibres	237
M K Islam, B A Malomed, T O Tsun & P L Chu	Soliton compression in optical fibre by piece-wise dispersion management	241
L Luo & P L Chu	Application of laser chaos to secure communication system	245
M L Majewski, A Rakic & M Cohen	Effect of external reflections on light-current characteristics in vertical cavity surface-emitting laser diodes	249
E C Magi	Polarisation induced phase dependent loss in 2x2 output coupler of a Mach-Zehnder interferometric sensor	253

Z Xiong, G D Peng & P L Chu,	Investigation on photostability of rhodamine B doped in polymer optical fibre	257
J-M Beaufils	Optical submarine technologies	261
H K Kim, S Y Park, D H Lee & C S Park	Gain flatness control of the EDFA by utilizing a rejected amplified spontaneous emission in the 1530 nm region	266
D H Lee, H K Kim & C S Park	Quasi equi-spaced channel allocation using a Michelson interferometric filter in multichannel optical transmission systems	270
T Iwano, T Tajma, M Fujita, N Watanabe & Y Lida	Design and performance of 8 channel 2.4 Gbps narrow band WDM optical transmission system	274
G J Pendock	Reducing the impact of stimulated Raman scattering in WDM transmission systems by using mid-span spectral inversion	278
P A Henderson, P J Henderson, W R Wiszniewski & A D Stokes	Frequency-encoded temperature sensor using interferometric microresonators	282
Z Zhao, M S Demokan & J M K MacAipine	Optical fiber acoustic sensor for sensing and locating partial discharges in high voltage oil-filled power transformers	286
S A Wade, E Maurice, G W Baxter, K A Ahmed, G Monnom, S F Collins & A Stringer	Industrial application of fluorescence intensity ratio point temperature sensor	290
J Katsifolis & W M Henry	T tapered optical fibre evanescent field pH sensors	294
S Fleming, Zhao, Y	An all solid state blue fibre laser	298
D J Moss, J Canning, M Faith, P Kemeny, L Poladian, M Bazylenko, F Ladouceur & J D Love,	Ultra-strong UV written gratings in PECVD grown germanosilicate waveguides	299
K Ennser, M N Zewas & R I Laming	Optimum system management design using cascaded chirped grating dispersion compensator	301
K E Alameh & R A Minasian	Novel beamformer architecture for microwave phased arrays	305
S Morasca, D Scarano, St Schmid & W G Lati	LiNbO ₃ acousto optic tunable switches and filters in WDM transmission networks	309
W L R Perera, A Ankiewicz, D A C C Jayasinghe & P L Chu	Graded elliptical inner-cladding for efficient pumping of double-clad fibre lasers/amplifiers	313
H Takakura & K Kuroda	Optical delay line using waveguide	317
D A C C Jayasinghe, S J Madden, W L R Perera & P L Chu	Statistics of cross-talk in fibre loop memories with single-substrate space switches	321
M I Cohen, A D Rakic & M L Majewski	Measurement of transverse modes in vertical cavity surface emitting lasers	325

*AOS provides this document as a service to the community, but accepts no responsibility for any errors it might contain.

