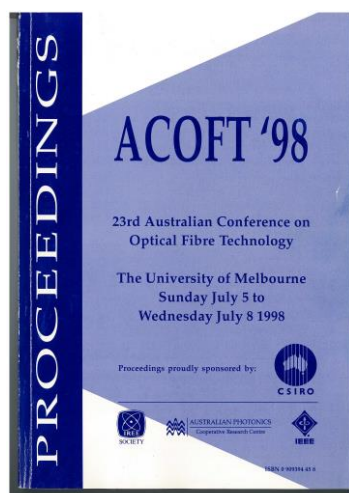


23rd Australian Conference on Optical Fibre Technology Melbourne, 5-8 July 1998



Proceedings were published by IREE, Milsons Point NSW

ISBN: 0 909394 45 8

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 |
|---|--|------|
| A Gambling | Light reflections in glass | 1 |
| J Lacey | Wavelength conversion for WDM telecommunications systems | 9 |
| G H Smith, C Lim & D Novak | Demonstration of a full-duplex fibre-radio access network incorporating WDM/SCM with a star-tree architecture | 13 |
| K Hinton | Long haul system issues with Bragg fibre grating based dispersion compensation | 17 |
| G H Smith, A Nirmalathas, D Novak & J Yates | Broadband millimetre-wave fibre-radio CDMA | 21 |
| C Su, P Kung & W H Loh | Experimental results of dispersion compensating chirped fiber Bragg grating for 10 Gb/s system | 25 |
| B Jaskorzynska | Active planar waveguides in glass - problems and advances | 29 |
| M Aslund, J Canning, D Moss & M Bazylenko | High temperature stable gratings in germanosilicate planar waveguides | 33 |
| R B Charters, B Luther-Davies & F Ladouceur | Laser direct writing of polymeric PLC's using a TEM ₀₁ beam | 37 |
| H P Chan S Y Cheng, P S Chung | Design of a wide-angle low-loss 1x3 integrated optical branching waveguide | 41 |
| T W Whitbread, H Hu & P L Chu | Development of an optical low coherence reflectometer | 45 |
| J M Dudley, L P Barry & J D Harvey | Characterisation of high-order soliton evolution in optical fibre using frequency-resolved optical gating | 49 |
| A Arraf & C M de Sterke | Bloch function approach for light propagation in quadratically nonlinear deep gratings | 53 |
| M D Thamson, J M Dudley, L P Barry & J D Harvey | Waveguide-enhanced frequency-resolved optical gating at 1.5 μm using the Kerr nonlinearity in optical fibre | 57 |
| B Wu, M Gross, P L Chu & M Bazylenko | Er-doped silicate glass films with large nonlinearity | 61 |
| R Kashyap | On the dispersion of chirped fibre Bragg gratings | 65 |
| L Poladian | Iterative and non-iterative design algorithms for Bragg gratings | 69 |



| | | |
|--|---|-----|
| J Canning, D Y Stepanov & H J J Verheijen | Direct imaging of spatial modes within optical waveguide gratings | 73 |
| G W Yoffe & J Bryce | Tunable reflectivity from complex fibre gratings | 77 |
| D Y Stepanov, J Canning & Z Brodzeli | 100 kHz resolution of fibre Bragg grating transmission measurements | 81 |
| A C Lindsay | Photonics in electronic warfare | 85 |
| A M Kuver, M W Austin, Y Cao, R Green, A Mitchell, S T Winnall & A C Lindsay | Development of a packaged wideband integrated optical modulator | 89 |
| H H Tan & C Jagadish | Use of ion implantation in wavelength tuning of quantum well lasers and a fabrication of quantum wire laser arrays | 93 |
| K Ghorbani, A Mitchell, R B Waterhouse & M W Austin | An RF phase shifter incorporating variable optical directional coupler | 97 |
| R M Howard | Halving the amplifier contribution to the input equivalent noise of an opto-electronic receiver with a dual sensing structure | 101 |
| P A Krug, M I Large & R G Davison | Optical fibre technique for remote stabilisation of RF phase | 105 |
| M J L Cahill | Capacity of coherence-multiplexed networks employing balanced receivers with finite common-mode rejection | 109 |
| H Gan, A Lowery & R Lauder | Inexpensive "virtual-optical-isolator" for customer access network | 113 |
| J Arkwright, G Yoffe, B Smith & G Town | All-fibre tunable optical delay line based on a uniform Bragg reflection grating | 117 |
| Z H Wang & P L Chu | Analytic solutions of the radiation modes for multilayer planar dielectric waveguides | 121 |
| B Smith, J Canning & G Yoffe | Birefringence measurements of fibre Bragg gratings | 125 |
| G E Town & C O'Malley, | Chaotic fibre lasers for secure optical communications | 129 |
| A E Ash, M W Austin & J L Love | Efficient coupling of a laser to a waveguide using a taper designed by conformal mapping | 133 |
| J Katsifolis, L W Cahill & J L Love | Fabrication of passive waveguide devices using focussed ion beam implantation | 137 |
| M L von Bibra, M Bromley & A Roberts | Fabrication and characterisation of tapered multimode optical fibre devices | 141 |
| S Yuan, H H Tan, G Li C Jagadish, Y Chang & F Karouta | High power 980-nm InGaAs lasers with zinc or carbon doping in the P-cladding layer | 145 |
| N Q Ngo & L N Binh | Synthesis of tunable optical waveguide filters with arbitrary IIR characteristics | 149 |
| I R Mitchell & P M Farrell | Temperature dependence of Judd-Ofelt parameters for Pr:ZBLANP and Nd:ZBLANP glasses | 153 |
| A Barty, S T Huntington, D Paganin, A Roberts, K A Nugent & P Mulvaney | Two new techniques for the characterisation of optical fibres and waveguides: a comparison | 157 |
| R Perera, Hunter, L Thompson, | Use of WDM and TDM as complementary technologies to optimise the benefits | 161 |
| L G Luo & P L Chu | Wavelength conversion in an erbium-doped fiber laser system | 165 |
| D Y Stepanov, J Canning, L Poladian, R Wyatt, G Maxwell, R Smith & R Kashyap | Large side-mode suppression in a distributed-feedback fibre laser | 169 |



| | | |
|---|--|-----|
| K K Gupta, D Novak & H F Liu, | Reduced optical pulse amplitude noise and timing jitter in a regeneratively mode-locked fibre ring laser | 173 |
| N G R Broderick, H L Offerhaus, D J Richardson, J E Caplan, L Dong & R A Sammut | Large mode area fibres for high power lasers | 177 |
| M A Englund & E C Magi | A novel polarisation modulator based on Mach-Zehnder interferometers | 181 |
| D Y Stepanov, I M Bassett & G I Cowle | Brillouin/erbium fibre laser current monitor | 185 |
| S A Wade, S F Collins & G W Baxter | Fluorescence intensity-ratio-based optical fibre temperature sensing using neodymium-doped materials | 189 |
| G D Peng, L Ng & P L Chu | Bending related effects in a new type of polarisation maintaining optical fibre | 193 |
| D Wong, W Xu, R Hall & M Janos | Thermal poling of aluminium co-doped germanosilicate fibres | 197 |
| W Xu, D Wong, S Fleming, M Janos & K Lo | Direct measurement of frozen-in field in thermally poled fibre devices | 201 |
| S Ashby, J D Love, F Ladouceur, R B Charters & M Elias | Spectral shifts in UV-exposed fused taper fibre couplers | 205 |
| G D Peng, Z Xiong, L G Luo, B Wu & P L Chu | Photosensitivity in dye-doped polymer optical fibre | 209 |

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