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- PAGE 413 **Quantum Communication without Memories or Shared Entanglement**
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- N/A **Integration of Highly Probabilistic Sources into Optical Quantum Architectures**
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- PAGE 432 **Sub-Doppler Two-Photon Excitation Spectroscopy of Atomic Xenon: Observation of Diverse Isotope Shifts**
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- PAGE 474 **A WDM-PON Enabling Broadcast Service Based on Polarization Multiplexing**
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- PAGE 483 **Demonstration of All-Optical Half-Adder Using Single Mode Fabry-Perot Laser Diode**
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- N/A **Optical Short Pulse Synthesis and its Applications**
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- PAGE 493 **Spatio-Temporal Manipulation of Femtosecond Pulses for 3D Micro/Nano-Fabrication**
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- N/A **Machining of High-Aspect Micro/Nano-Channels with a Single Femtosecond Laser Pulse Focused to a Line**
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- PAGE 499 **Surface and Volume Structuring by Ripples in Femtosecond Laser Fabrication**
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- N/A **Direct Laser Inscription of 270nm Period Waveguide Bragg Gratings**
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- N/A **Two-Dimensional All-Optical Routing and Switching in Laser-Written Waveguide Arrays**
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- PAGE 507 **Field Demonstration of Quantum Key Distribution in the Tokyo QKD Network**
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- PAGE 510 **A Room Temperature Quantum Memory**
(*M. Hosseini, Geoff Campbell, B.M. Sparkes, Ping Koy Lam, Ben C. Buchler*)
- PAGE 513 **Spectral Manipulation of Optical Pulses Using the Gradient Echo Memory Scheme**
(*B.M. Sparkes, M. Hosseini, G. Hétet, Ping Koy Lam, Ben C. Buchler*)
- N/A **Single Photon Optomechanical Memory**
(*U. Akram, Gerard J. Milburn*)
- PAGE 517 **Efficient Generation and Activation of Bound Entanglement in Optical Qubits**
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- N/A **Tellurite Glass for Use in 2.3 μ m Thulium Fibre Lasers**
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- PAGE 525 **Diode-Pumped Tunable Ho³⁺, Pr³⁺-Doped Fluoride Glass Double Clad Fibre Laser**
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- PAGE 527 **Power Scaling of 2 μ m Sources for Frequency Conversion into the Mid-Infrared**
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- PAGE 533 **High-Resolution Interferometer with Broadband Supercontinuum Light at 1550nm**
(*Yosuke Kasuya, Shuto Kojima, Ken Kashiwagi, Takashi Kurokawa*)
- N/A **Range Expansion of Single-Shot Surface Profilometry by Installing Optical Resonator into Interferometer**
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- PAGE 538 **High-Precision Interferometric Monitoring of Polymer Swelling in an One-Dollar Optofluidic Sensor**
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- PAGE 544 **Development of LED Mini-Lidar**
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- PAGE 549 **Generation of High-Order Coaxial and Multi-Axial Laguerre-Gaussian Beams from Degenerate Laser Cavities**
(*T.H. Lu, Y.C. Lin*)
- PAGE 552 **Frequency-Doubled Vortex Laser Based on a Side-Pumped Nd:YVO₄ Compact Stigmatic Bounce Amplifier**
(*T. Omatsu, M. Okida, K. Iwamatsu, A. Minassian, M.J. Damzen*)
- N/A **2 μ m Optical Vortex Output from a Degenerated Optical Parametric Oscillator**
(*K. Miyamoto, S. Miyagi, M. Yamada, M. Okida, N. Aoki, T. Omatsu*)
- N/A **Femtosecond Laser Pumped by High Brightness Coherent Polarization Locked Diode**
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- N/A **Optical Flow Switching**
(*Vincent W.S. Chan*)
- PAGE 560 **A Wideband OSNR Monitoring Technique Using an Optically Tunable Mach-Zehnder Interferometer**
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- PAGE 563 **Multiple-Impairment Monitoring for 40-Gbps RZ-OOK Using Artificial Neural Networks Trained with Reconstructed Eye Diagram Parameters**
(*Junsen Lai, Aiyang Yang, Yunan Sun*)
- N/A **Two Optical-8PSK Transmitter Schemes Based on Tandem IQ Modulators**
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- PAGE 568 **EVM Performance of Quasi Optical Single Sideband Signal Generated by Coherent Population Oscillation Effects in a Semiconductor Optical Amplifier**
(*Minho Park, Jong-In Song*)

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- N/A **Laser Irradiation Effect of ZnO Nanowires and GaN Thin Film for Fabrication of Hetero $p-n$ Junction**
(*K. Kubo, K. Okazaki, T. Shimogaki, K. Tsuta, D. Nakamura, M. Higashihata, T. Okada*)
- N/A **Combination of ZnO Nanowire UV-LED and ZnO-SiO₂ Phosphor for Fabrication of ZnO-Based White LED**
(*K. Tsuta, T. Shimogaki, K. Kubo, Y. Ishida, T. Sugie, K. Okazaki, M. Higashihata, D. Nakamura, M.S. Ramachandra Rao, T. Okada*)
- PAGE 577 **KW-fs Laser Technology — Enabling a New Dimension of Materials Processing**
(*Reinhart Poprawe, Arnold Gillner, Hans-Dieter Hoffmann, Peter Russbuehdt, Jens Gottmann*)
- PAGE 578 **New Photoresists for Super-Resolution Photo-Inhibition Nanofabrication**
(*Yaoyu Cao, Zongsong Gan, Baohua Jia, Richard A. Evans, Min Gu*)
- PAGE 580 **Generation of New Meta-Materials by Interfering Femtosecond Laser Processing with Phase Shift and Amplitude Difference Between the Beams**
(*Yoshiki Nakata, Kazuma Momoo, Noriaki Miyanaga, Takuya Hiromoto*)

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PAGE 606	Bending Properties of Anti-Symmetric Hybrid Photonic Crystal Fibers (<i>E. Coscelli, F. Poli, S. Petersen, T.T. Alkeskjold, A. Cucinotta, S. Selleri, L. Leick, J. Broeng</i>)
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- PAGE 643 **Active All-Optical Spectral Tuning of Nanorod Plasmonic Nanoantennas**
(*Ivan S. Maksymov, Andrey E. Miroshnichenko*)
- PAGE 646 **Tapered Plasmonic Yagi-Uda Nanoantennas for Emission Enhancement and Broadband Communication**
(*Artur R. Davoyan, Ivan S. Maksymov, Yuri S. Kivshar*)
- N/A **Gap Plasmon Nanoantennas and Nanolenses**
(*D.K. Gramotnev, A. Pors, S.I. Bozhevolnyi*)
- N/A **Nanophotonic Circuits Using Localized Surface Plasmon Resonances in Metallic Nanostructures**
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- PAGE 655 **Photoresponse Enhancement in Nanoscale Ge Photodetector Through Split Bull's Eye Shaped Plasmonic Antenna**
(*Fang-Fang Ren, Kah-Wee Ang, Mingbin Yu, Guo-Qiang Lo, Yi Shi*)
- PAGE 658 **Novel Plasmonic Applications in Physics and Chemistry**
(*Lorenzo Rosa, Kai Sun, Ewa Kowalska, S. Juodkazis*)
- PAGE 661 **Optimum Design of Single-Core Nanowaveguide for Surface Plasmon Polaritons**
(*Dayan Handapangoda, Malin Premaratne, Ivan D. Rukhlenko*)

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- PAGE 664 **Polymeric Hybrid Waveguide Modulators with High Optical Stability and High Electro-Optic Coefficient**
(*Yasufumi Enami, Jianxun Hong, Cheng Zhang, Jingdong Luo, Alex K.-Y. Jen*)
- PAGE 667 **On-Chip Optical Router for Optical Networks-on-Chip**
(*Ruiqiang Ji, Yonghui Tian, Lin Yang, Lei Zhang, Jianfeng Ding, Hongtao Chen, Yangyang Lu, Ping Zhou*)
- N/A **Direct Synthesis of Vertically Aligned Carbon Nanotubes for Fiber-Based Devices**
(*Huan Huan Liu, Chin Chong Yap, Dunlin Tan, Kin Kee Chow, Beng Kang Tay*)
- PAGE 673 **Functional Photonics with a Resonantly Absorbing Waveguide Array**
(*Yikun Liu, Mingneng Feng, Yongyao Li, Xiangsheng Xie, Yefeng Guan, Jianying Zhou*)
- N/A **Bending and Twisting Sensor Using Multiple-Waveguide Solid-State Dye Lasers on a Plastic Optical Fiber**
(*Hiroyuki Kubota, Soichiro Oomi, Hirofumi Watanabe, Yuji Oki*)
- PAGE 679 **Monolithic Distributed Bragg Reflector Cavities in Al₂O₃ with Quality Factors Exceeding One Million**
(*E.H. Bernhardt, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, M. Pollnau*)
- PAGE 682 **Micromechanically Tuned Ring Resonator in Silicon on Insulator**
(*L.J. Kauppinen, S.M.C. Abdulla, M. Dijkstra, M.J. de Boer, E. Berenschot, G.J.M. Krijnen, M. Pollnau, R.M. de Ridder*)

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Not Available	Using Optical Coherence Tomography to Image Tumor Blood Vessels (<i>Ben Vakoc</i>)
PAGE 685	3D Optical Coherence Tomography and Digital Pathology (<i>Barry Young, Beau Standish, Carry Sun, Gary Tearney, Rasmus Kiehl, Theodorus van der Kwast, Jarley Koo, Brian C. Wilson, Josaphat de Moraes, Leo da Costa, Victor X.D. Yang</i>)
N/A	Development Fiber Optic Probe for Optical Coherence Tomography in Dentistry by Using Lensed-Patch Cord (<i>Yuri Kim, Joo Beom Eom, Sang Jin Lee, Eun Jung Min, Byeong Ha Lee</i>)
N/A	High-Speed Spectral Domain Optical Coherence Tomography with Dual Detection of the Retina and the Cornea (<i>Hyun-Woo Jeong, Beop-Min Kim</i>)
PAGE 693	The CAI Instrument: A Novel Optical Device for Sepsis Analysis for POCT Applications (<i>F. Baldini, A. Giannetti, C. Trono, L. Bolzoni, G. Porro</i>)
N/A	High Resolution Imaging for Measurement of Oxygen Saturation in Human Retinal Vessels (<i>S. Shibasato, D. Nakamura, T. Okada, Y. Yoshinaga, T. Ueno, M. Kobayashi, H. Enaida, T. Ishibashi</i>)
PAGE 698	Chitosan-ECM Bandages for Photochemical Tissue Repair (<i>Antonio Lauto, Damia Mawad</i>)
PAGE 701	New Technique to Estimate Non-Absorbing Temporal Point Spread Function for Diffuse Optical Tomography Using Backscattered Light (<i>Takeshi Namita, Masafumi Otani, Yuji Kato, Koichi Shimizu</i>)

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N/A	Long-Term Carrier-Envelope-Phase Stabilization of a High-Power Femtosecond Laser by the Direct Locking Method (<i>Jae-hwan Lee, Eok Bong Kim, Chang Hee Nam</i>)
N/A	Zeptosecond Timing Resolution from a High-Harmonic Gouy Phase Interferometer (<i>D.E. Laban, W.C. Wallace, T.T.J. Clevis, N.S. Gaffney, M.G. Pullen, A.J. Palmer, D. Jiang, H.M. Quiney, Igor V. Litvinyuk, D. Kielbinski, R.T. Sang</i>)
PAGE 709	Generation of CEP-Stabilized Sub-3-fs Pulses (<i>Takayoshi Kobayashi, Kotaro Okamura</i>)
PAGE 712	Synthesis and Measurement of Ultrafast Optical Waveforms (<i>Han-Sung Chan, Zhi-Ming Hsieh, W.-H. Liang, A.H. Kung, C.-K. Lee, C.-J. Lai, R.-P. Pan, L.-H. Peng</i>)
PAGE 714	Ultra-Low Timing and Intensity Noise from Mode-Locked Yb-Fiber Lasers at Close-to-Zero Intra-Cavity Dispersion (<i>Chur Kim, Kwangyun Jung, Hyoji Kim, Youjian Song, Jungwon Kim</i>)
N/A	A Compact Optical Waveform Synthesizer and Measurement System (<i>Han-Sung Chan, Zhi-Ming Hsieh, A.H. Kung</i>)
PAGE 718	Second-Order Coherence Properties of Supercontinuum (<i>G. Genty, M. Närhi, M. Surakka, J. Turunen, A.T. Friberg</i>)

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- PAGE 721 **Single Photon Emission from Nanodiamond in Tellurite Glass**
(B.C. Gibson, Matthew R. Henderson, H. Ebendorff-Heidepriem, K. Kuan, Shahraam Afshar V., J.O. Orwa, Igor Aharonovich, S. Tomljenovic-Hanic, S. Praver, Tanya M. Monro, Andrew D. Greentree)
- N/A **Nitrogen-Vacancy Centres in Nanodiamond: Effects of Size, Surface and Surrounding Environment on Luminescence**
(C. Bradac, T. Gaebel, Andrei V. Zvyagin, J.R. Rabeau)
- PAGE 725 **Characterization of the Influence of Crystal Size and Dipole Orientation on the Spontaneous Emission Lifetime of Diamond NV Colour Centers**
(F.A. Inam, T. Gaebel, C. Bradac, L. Stewart, Michael J. Withford, Judith M. Dawes, M.J. Steel, J.R. Rabeau)
- PAGE 728 **Number-Phase Wigner Representation for Scalable Stochastic Simulations of Controlled Quantum Systems**
(M.R. Hush, S.S. Szigeti, A.R.R. Carvalho, J.J. Hope)
- PAGE 731 **Consistent Isolation of Individual Atoms Using Cold Collisions**
(M.F. Andersen, T. Grünzweig, A. Hilliard, M. McGovern, Y.H. Fung)
- N/A **Molecular Design Principles for Linearly Scalable, Frequency-Based, Universal Quantum Computers**
(Laura K. McKemmish, David J. Kedziora, Graham R. White, Noel S. Hush, Jeffrey R. Reimers)
- N/A **Electron-Vibration Quantum Entanglement in Chemical Bonding**
(Laura K. McKemmish, Ross H. McKenzie, Noel S. Hush, Jeffrey R. Reimers)

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- PAGE 740 **Sensors and Devices Based on Optical Fibre Microwires**
(Gilberto Brambilla)
- Self-Interference of Fiber Lloyd's Interferometer**
(Zi-Yu Weng, Cheng-Ling Lee)
- PAGE 743 **Optomechanical Magnetometer with Nano-Tesla Sensitivity**
(S. Forstner, S. Prams, E.D. van Ooijen, Jon D. Swaim, Joachim Knittel, Glen I. Harris, A. Szorkovszky, Halina Rubinsztein-Dunlop, Warwick P. Bowen)
- PAGE 746 **Volatile-Organic Gas Fiber Sensor Based on Air-Gap Long Period Fiber Grating**
(Guei-Ru Lin, En-Chiang Chang, Pei-Ping Wu, Hai-Tao Sun, Hao-Jan Sheng, Ming-Yue Fu, Wen-Fung Liu)

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- PAGE 749 **Wideband, Low Loss Terahertz Propagation Through Kagome Air-Core Microstructured Fibers**
(*Jessienta Anthony, Rainer Leonhardt, Alexander Argyros, Sergio G. Leon-Saval*)
- PAGE 752 **Direct-Drawn Metamaterial Fibers with Magnetic Response in the 100GHz Range**
(*Alessandro Tuniz, Richard Lwin, Alexander Argyros, Simon C. Fleming, Elise M. Pogson, Evan Constable, Roger A. Lewis, Boris T. Kuhlmeiy*)
- PAGE 755 **Accelerator Based Photon Beams, Generation and Applications at Kyoto University**
(*H. Ohgaki*)
- N/A **Terahertz Optical Devices by Using Single-Walled Carbon Nanotube Network Films**
(*J.T. Hong, S. Lee, Y.H. Ahn*)
- PAGE 760 **New Design of Terahertz Metallic Photonic Crystal with Mechanically Tunable Photonic-Band-Gap**
(*J. Kitagawa, M. Kodama, Y. Nishifuji, D. Armand, Yutaka Kadoya*)

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- PAGE 763 **Three-Dimensional Multi-Site Two-Photon Excitation for Probing Neuronal Signal Integration**
(*M.A. Go, C. Stricker, S. Redman, Hans-A. Bachor, Vincent R. Daria*)
- PAGE 766 **Structured Illumination Microscopy of Living Cells**
(*Liisa M. Hirvonen, Trevor A. Smith*)
- PAGE 769 **Non-Invasive Three-Dimensional Angiography of Human Eye by Doppler Optical Coherence Tomography**
(*Young-Joo Hong, Shuichi Makita, Myeong-Jin Ju, Byeong Ha Lee, Masahiro Miura, Yoshiaki Yasuno*)
- PAGE 772 **Phase and Amplitude Optimization in an Optical Coherence Tomography System Using a Programmable Spectral Filter**
(*Anna Yang, Frédérique Vanholsbeeck, Stéphane Coen, Jochen Schröder*)
- PAGE 775 **Towards Spectral-Domain Optical Coherence Tomography on a Silicon Chip**
(*B.I. Akca, V.D. Nguyen, J. Kalkman, T.G. van Leeuwen, K. Wörhoff, R.M. de Ridder, M. Pollnau*)
- PAGE 778 **Quantitative Comparison of Scattering Coefficient with Ultrahigh Resolution Optical Coherence Tomography**
(*Shutaro Ishida, Norihiko Nishizawa*)

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PAGE 781	Green Optical Networking <i>(Rodney S. Tucker)</i>
PAGE 782	Ultra-Broadband Indoor Full-Duplex WDM Optical Wireless Communication with Multi-Mode Fiber <i>(Ke Wang, Ampalavanapillai Nirmalathas, Christina Lim, Efstratios Skafidas)</i>
PAGE 784	Error Free 9.5Gb/s Transmission over 50m of Multimode Microstructured Polymer Optical Fibre <i>(Richard Provo, Stuart G. Murdoch, John D. Harvey, Richard Lwin, Sergio G. Leon-Saval, Alexander Argyros)</i>
PAGE 787	Indoor Positioning System Based on Carrier Allocation Visible Light Communication <i>(Hyun-Seung Kim, Deok-Rae Kim, Se-Hoon Yang, Yong-Hwan Son, Sang-Kook Han)</i>
PAGE 790	Experimental Demonstration of a Novel Indoor Optical Wireless Localization System for Tracking Multiple Users <i>(Ke Wang, Ampalavanapillai Nirmalathas, Christina Lim, Efstratios Skafidas)</i>

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N/A	Present Status of Fast Ignition Realization EXperiment (FIREX) and Inertial Fusion Energy Development <i>(Hiroshi Azechi, M. Murakami)</i>
N/A	Z-Backlighter Facility Upgrades: A Path to Short/Long Pulse, Multi-Frame, Multi-Color X-Ray Backlighting at the Z-Accelerator <i>(Briggs Atherton, Jens Schwarz, Patrick Rambo, Mark Kimmel, Matthias Geissel, Marius Schollmeier, Ian Smith, John Bellum, J.L. Porter)</i>
PAGE 794	Construction of LFEX PW Laser and Conceptual Design of Sub EW Laser at Osaka University <i>(Noriaki Miyanaga, J. Kawanaka)</i>
N/A	Beam Wavefront Correction Scheme for Application in a Multi-Pass Amplifier System <i>(Feng Jing, Wanjun Dai, Dongxia Hu, Deen Wang, Lanqin Liu, Wei Zhou, Xin Zhang, Wu Deng, Kun Zhang)</i>
PAGE 800	Object-Image Grating Self-Tiling Technology and Related Compressor Design for Petawatt Laser Systems <i>(Zhaoyang Li, Tao Wang, Yaping Dai, Guang Xu)</i>

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PAGE 802	Extremely Nondegenerate Two-Photon Detection of Sub-Bandgap Pulses (<i>Claudiu M. Cirloganu, Dmitry A. Fishman, Scott Webster, Lazaro A. Padilha, Morgan Monroe, David J. Hagan, Eric W. Van Stryland</i>)
PAGE 805	Observation of a Temporal Symmetry Breaking Instability in a Synchronously-Pumped Passive Fibre Ring Cavity (<i>Yiqing Xu, Stéphane Coen</i>)
PAGE 808	Generation of White-Light Optical Vortices Through Cascaded Four-Wave Mixing (<i>P. Hansinger, G. Maleshkov, Ivan L. Garanovich, D. Skryabin, Dragomir N. Neshev, Yuri S. Kivshar, A. Dreischuh, G.G. Paulus</i>)
N/A	Coherent-Mode Representation of Supercontinuum Light (<i>M. Erkintalo, G. Genty, M. Surakka, J. Turunen, A.T. Friberg</i>)
PAGE 814	Gas-Based Nonlinear Optics in Photonic Crystal Fibres (<i>P.St.J. Russell, A. Abdolvand, W. Chang, N.Y. Joly, A. Nazarkin, J.C. Travers</i>)
N/A	An Image as Viewed Through a Spinning Window: Image Rotation Enhanced by a Slow Light Medium (<i>Sonja Franke-Arnold, Graham Gibson, Robert W. Boyd, Miles J. Padgett</i>)

Session 8: Symposium 7 — Quantum Science in Atoms, Molecules and Solids 2

N/A	Sideband Cooling Micromechanical Motion to the Quantum Ground State (<i>J.D. Teufel, T. Donner, D. Li, K.W. Lehnert, R.W. Simmonds</i>)
N/A	Feedback Enhanced Sensitivity in Optomechanics: Surpassing the Parametric Instability Barrier (<i>Glen I. Harris, Ulrik L. Andersen, Joachim Knittel, Warwick P. Bowen</i>)
N/A	Rephasing Spontaneous Emission in a Rare-Earth Ion-Doped Solid (<i>Sarah E. Beavan, Jevon J. Longdell, Matthew J. Sellars</i>)
PAGE 826	Spectral Properties of Rare-Earth-Ion Doped Whispering Gallery Mode Resonators (<i>D.L. McAuslan, D. Korystov, Jevon J. Longdell</i>)
N/A	Probing Electronic States and Dynamics in Graphene by Optical Spectroscopy (<i>K.F. Mak, C.H. Lui, L.M. Malard, H.G. Yan, Z.Q. Li, D. Boschetto, M. Sfeir, J.A. Misewich, J. Shan, T.F. Heinz</i>)

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PAGE 829	Optical Fibre Coated with Diamond Nanocrystal: Novel Sensing Architecture <i>(Shahraam Afshar V., Matthew R. Henderson, Andrew D. Greentree, Tanya M. Monro)</i>
PAGE 831	Refractive Index Sensor Base on Hetero-Core-Structure Fiber <i>(Guei-Ru Lin, Jiang-Chiou Mau, Pei-Tsung Tsai, Hai-Tao Sun, Hao-Jan Sheng, Ming-Yue Fu, Wen-Fung Liu)</i>
PAGE 834	Composite Fiber Refractive Index Sensor Based on Directional Couplers Near Cutoff <i>(Boris T. Kuhlmeiy, Kwang Jo Lee, Sergio G. Leon-Saval, Alexander Argyros)</i>
PAGE 837	Refractive Index Sensor for Liquids and Solids Using Dielectric Multilayer Films Deposited on Optical Fiber End Surface <i>(K.S. Kim, Y. Mizuno, M. Nakano, S. Onoda, K. Nakamura)</i>
N/A	Characterization of Azobenzene-Coated FBG UV Sensor <i>(Dong-Seok Choi, Hoe-Seok Jeong, Chan-Young Kim, Hyun-Kyoung Kim, Su Nam Lee, Tae-Jung Ahn)</i>

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PAGE 843	Development of a Coherent Doppler Lidar to Measure Atmosphere Windshear <i>(Jiqiao Liu, Xiaopeng Zhu, Jun Zhou, Huaguo Zang, Yan He, Dan Liu, Weibiao Chen)</i>
N/A	Detection of Low Concentration Hydrogen Gas by Compact Raman Lidar <i>(Yutaro Noguchi, Tatsuo Shiina, Kazuo Noguchi, Tetsuo Fukuchi, Hideki Ninomiya, Ippei Asahi, Sachiyo Sugimoto, Yuzo Shimamoto)</i>
PAGE 848	Raman Spectroscopy and its Applications in Earth and Planetary Science <i>(Shiv K. Sharma, Anupam K. Misra, Paul G. Lucey)</i>
PAGE 851	High Resolution Optical Spectroscopy in Hollow Core Fibre for Use in Atomic Clocks <i>(C. Perrella, P.S. Light, F. Benabid, Thomas M. Stace, Andre N. Luiten)</i>
N/A	Remote Sensing of Trace Gases by a Rapidly Swept, Fiber-Optical, Continuous-Wave Cavity-Ringdown Spectrometer <i>(Brian J. Orr, Yabai He, Ruifeng Kan, Wenqing Liu)</i>

Session 9: Symposium 3 — Sources and Amplifiers

- PAGE 857 **Integrated Waveguide Amplifiers for Optical Backplanes**
(*J. Yang, T. Lamprecht, K. Wörhoff, A. Driessen, F. Horst, B.J. Offrein, F. Ay, M. Pollnau*)
- PAGE 860 **Erbium Doped Tellurium Dioxide Planar Waveguide Amplifiers with 2.8dB/cm Internal Gain**
(*Khu Vu, S. Madden*)
- PAGE 863 **Semiconductor DFB Laser with Plasmonic Metal Layers for Subwavelength Confinement of Light**
(*Tomohiro Amemiya, Takahiko Shindo, Daisuke Takahashi, Seiji Myoga, Nobuhiko Nishiyama, Shigehisa Arai*)
- PAGE 866 **Giant Optical Gain in Rare-Earth-Ion-Doped Thin Films and Waveguides**
(*D. Geskus, S. Aravazhi, S.M. García-Blanco, M. Pollnau*)
- N/A **Photonic Crystal Nanocavities Toward Low-Power On-Chip Nanophotonic Devices**
(*K. Nozaki, T. Tanabe, A. Shinya, S. Matsuo, T. Sato, Y. Kawaguchi, H. Taniyama, M. Notomi*)

Session 9: Symposium 4 — High Power Laser Physics

- PAGE 872 **Background-Free, Quasi-Monoenergetic Electron Beams from a Self-Injected Laser Wakefield Accelerator**
(*S. Banerjee, S. Kalmykov, N. Powers, V. Ramanathan, N. C.-Smith, K. Brown, S. Chen, A. Moorthi, I. Ghebregziabher, C. Maharjan, B. Shadwick, D. Umstadter, A. Beck, E. Lefebvre, A. Cowan, D. Bruhwiler*)
- PAGE 875 **Experimental Studies for Ultrahigh Laser Intensity Interaction with Targets with New Cluster Loading**
(*George H. Miley, Xiaoling Yang, Kirk Flippo, Sandrine A. Gailard, Dustin Offermann, Juan Fernandez, Heinrich Hora*)
- N/A **Strong-Field Laser-Plasma Interaction Analysed by Noncanonical Hamiltonians**
(*Brent Le Cornu, Reynaldo Castillo, Timothy Stait-Gardner, Heinrich Hora*)
- PAGE 878 **Ultrahigh Acceleration of Plasma Blocks from Direct Converting Laser Energy into Motion by Nonlinear Forces**
(*Heinrich Hora, George H. Miley, Paraskevas Lalouis, Kirk Flippo, Sandrine A. Gailard, Dustin Offermann, Juan Fernandez, Xiaoling Yang, M. Murakami, Reynaldo Castillo, Timothy Stait-Gardner, Brent Le Cornu, Julio Pozo*)
- PAGE 881 **Laser Optics Development for the Laser Assisted H⁻ Beam Stripping at Spallation Neutron Source**
(*Yun Liu, Chunning Huang, Alexander Aleksandrov*)

Session 9: Symposium 5 — Optical Storage

- PAGE 884 **Photoinduced DNA Biopolymer Nanocomposite for Organic Memory Devices**
(Ting-Yu Lin, Wei-Ting Hsu, Yu-Chueh Hung)
- PAGE 887 **Two-Photon Induced Photoluminance of Gold Nanorods Using Cylindrical Vector Beams**
(Tzu-Hsiang Lan, Xiangping Li, Chung-Hao Tien, Min Gu)
- N/A **Fundamental Understanding of Near-Field Transducers**
(Lambertus Hesselink, Paul Hansen)
- PAGE 891 **Analysis of Optical Resolution in Data Storage and Beyond**
(Matthew Foreman, Peter Török)

Session 9: Symposium 6 — Fundamentals of Nonlinear Optics - 3

- PAGE 893 **Optical Phase Transitions and Quantum Walks in Nonlinear Waveguide Arrays**
(Andrey A. Sukhorukov)
- N/A **Slow-Light Enhanced Optomechanical Interactions Between Shifted Photonic-Crystal Waveguides**
(Yue Sun, Thomas P. White, Andrey A. Sukhorukov)
- N/A **Optomechanical Backaction Amplifier Near Threshold**
(Terry McRae, Warwick P. Bowen)
- Not Available **Nonlinear Nanophotonics**
(Anatoly Zayats)

Session 9: Symposium 7 — Novel Systems: Photons, Ions, Molecules and Atoms

- N/A **Bose-Einstein Condensation of Paraxial Light**
(Jan Klaers)
- PAGE 902 **Single-Atom Absorption Imaging**
(E.W. Streed, A. Jechow, B.G. Norton, M.J. Petrasianas, D. Kielpinski)
- N/A **Imaging the Temperature of Laser-Cooled Ions**
(B.G. Norton, E.W. Streed, A. Jechow, M.J. Petrasianas, D. Kielpinski)
- PAGE 907 **Superconducting Atom Chips**
(M. Siercke, K.S. Chan, B. Zhang, M.J. Lim, R. Dumke)
- N/A **Chemical Reaction of Ultracold Atoms and Ions in a Hybrid Trap**
(Wade G. Rellergert, Scott T. Sullivan, Svetlana Kotochigova, Alexander Petrov, Steven J. Schowalter, Kuang Chen, Eric R. Hudson)

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- PAGE 911 **Broadband Mid-Infrared Source Based on Cascaded Raman Scattering in an As₂Se₃ Optical Fibre**
(Richard T. White, Tanya M. Monro)
- PAGE 914 **Spectrum Engineering of Multiwavelength Erbium Doped Fiber Lasers with Intensity-Dependent Loss**
(Feng Li, Xinhuan Feng, C. Lu, H.Y. Tam, P.K.A. Wai)
- PAGE 917 **High-Speed Frequency-Scanning Optical Beat Source for Continuous THz Wave Generation**
(Min Yong Jeon, Namje Kim, Sang Pil Han, Hyunsung Ko, Young Ahn Leem, Han-Cheol Ryu, Dae-Su Yee, Kyung Hyun Park)

Session 10: Symposium 2 — Optical Nanoscopy

- PAGE 919 **Adaptive Light Field Transmission Through a Hollow Tapered Metallic Probe**
(Xiangsheng Xie, Yongzhu Chen, Yefeng Guan, Jianying Zhou)
- PAGE 922 **Broadband Near-Field Nonlinear Raman Spectroscopy and Nanoscopy**
(Norihiko Hayazawa, Kentaro Furusawa, Satoshi Kawata)
- PAGE 925 **Using Reflection Resonances to Improve Depth of Field for Imaging at Ultra-High Numerical Apertures**
(P. Mehrotra, R.J. Blaikie)

Session 10: Symposium 3 — Holography

- PAGE 928 **In-Line Digital Holography of Nanoparticles in Optical Tweezers**
(Takayuki Higuchi, Quang Duc Pham, Satoshi Hasegawa, Yoshio Hayasaki)
- PAGE 931 **Holographic Femtosecond Laser Processing System with Adaptive Wavefront Control**
(Satoshi Hasegawa, Yoshio Hayasaki)
- N/A **Principal Fringe Patterns Analysis for Efficient Digital Hologram Synthesis**
(Zulfqar Ali, Jae-Hyeung Park, Kwan-Hee Yoo, Nam Kim)

Session 10: Symposium 4 — LEDs

- N/A **Improvement of Reducing Color Deviation by Patterned Structure of Phosphor Remote for White LEDs**
(K.J. Chen, H.C. Chen, C.W. Hung, C.H. Wang, C.C. Yeh, Chien-Chung Lin, Hao-Chung Kuo)
- PAGE 940 **Efficiency Droop Improvement in InGaN/GaN Light-Emitting Diodes by Graded-Composition Electron Blocking Layer**
(C.H. Wang, W.T. Chang, S.P. Chang, J.C. Li, Hao-Chung Kuo, Tien-Chang Lu, S.C. Wang)
- N/A **Enhanced Extraction and Efficiency of Blue GaN Based LEDs with Embedded Micro Air Voids and SiO₂ Nanomask**
(Ching-Hsueh Chiu, Chien-Chung Lin, Hao-Wei Han, Da-Wei Lin, Yan-Hao Chen, Hao-Chung Kuo, Tien-Chang Lu, Shing-Chung Wang)

: Symposium 5 — Short-Pulse Characterisation

- PAGE 944 **Characteristics of Ultrashort Pulse Generation from Incoherent Light by Trapped Pulse Amplification in Birefringent Fibers**
(Eiji Shiraki, Norihiko Nishizawa)
- PAGE 947 **Measuring the Evolution of Femtosecond Pulses in Fibre Optic Tapers by Interferometric Reflectometry**
(Keiron Boyd, Jesper Munch)
- PAGE 950 **Monocycle Pulse Generation Based on Cross-Phase Modulation in Bismuth Oxide Nonlinear Fiber**
(You Min Chang, Junsu Lee, Ju Han Lee)

Session 10: Symposium 6 — Single Photon Sources and Interference

- N/A **A Single Ion Headlight**
(Robert Maiwald, Andrea Golla, Martin Fischer, Benoît Chalopin, Marianne Bader, Simon Heugel, Vladimir Elman, Alessandro S. Villar, Markus Sondermann, Gerd Leuchs)
- N/A **From Entanglement to Neuroscience: New Uses for Laser Beams Shaped by Spatial Light Modulators**
(Hans-A. Bachor, Jean-Francois Morizur, Vincent R. Daria, Jiri Janousek, Seiji Armstrong, Warwick P. Bowen, Nicolas Treps, M.A. Go)
- PAGE 956 **High-Order Optical Vortices from Directly Machined Spiral Phase Mirrors**
(Geoff Campbell, Boris Hage, Ben C. Buchler, Ping Koy Lam)

Session 10: Symposium 7 — Application of Correlated Photons

- N/A **Photonic Components for Quantum Information Science**
(Alberto Politi, Jonathan C.F. Matthews, Anthony Laing, Alberto Peruzzo, Konstantinos Poullos, Jasmin Meinecke, Damien Bonneau, Pete Shadbolt, Pruet Kalasuwan, Xiao-Qi Zhou, Mirko Lobino, Terry Rudolph, John G. Rarity, Mark G. Thompson, Jeremy L. O'Brien)
- PAGE 962 **Photon Pair Generation and Quantum Walks in Quadratic Nonlinear Waveguide Arrays**
(Alexander S. Solntsev, Andrey A. Sukhorukov, Dragomir N. Neshev, Yuri S. Kivshar)
- PAGE 965 **Implementation of a Non-Deterministic Optical Noiseless Amplifier**
(Franck Ferreyrol, Marco Barbieri, Rémi Blandino, Rosa Tualle-Brouri, Philippe Grangier)

Session 11 : Symposium 1 — IR Astrophotonics

- PAGE 968 **Mid-Infrared Quantum Cascade Laser Based Trace Gas Technologies: Recent Progress and Applications in Health and Environmental Monitoring**
(*F.K. Tittel, L. Dong, R. Lewicki, K. Liu, V. Spagnolo*)
- PAGE 971 **Low Propagation Loss Silicon-on-Sapphire Nanowires for the Mid-IR**
(*F. Li, Stuart D. Jackson, Eric C. Magi, Christian Grillet, S. Madden, Y. Moghe, A. Read, C. O'Brien, S.G. Duvall, P. Atanackovic, Benjamin J. Eggleton, D.J. Moss*)
- PAGE 974 **Thermally Guided Mid-IR Optical Parametric Oscillator**
(*Shou-Tai Lin, Yen-Yin Lin, Yen-Chieh Huang*)
- PAGE 977 **Challenges in Photonic Pupil Remapping for Optical Stellar Interferometry**
(*B. Norris, Nemanja Jovanovic, Peter G. Tuthill, S. Lacour, S. Gross, Martin Ams, P. Stewart, J.S. Lawrence, N. Charles, Graham D. Marshall, G. Robertson, Michael Ireland, Michael J. Withford*)
- PAGE 980 **Exploration of Integrated Photonic Lanterns Fabricated by Femtosecond Laser Inscription**
(*Izabela Spaleniak, Nemanja Jovanovic, S. Gross, Michael Ireland, J.S. Lawrence, Michael J. Withford*)
- PAGE 983 **Atmospheric OH Suppression with GNOSIS at the Anglo-Australian Telescope**
(*J.S. Lawrence, S.C. Ellis, Joss Bland-Hawthorn, J. Bryant, S. Case, L. Gers, Roger Haynes, Anthony Horton, S. Lee, Sergio G. Leon-Saval, H. Loehmannsroeben, S. Mizziarski, J. O'Byrne, W. Rambold, M. Roth, K. Shortridge, S. Smedley, C. Trinh, P. Xavier, J. Zheng*)
- PAGE 986 **Potential Applications of Ring Resonators for Astronomical Instrumentation**
(*S.C. Ellis, Antoine Crouzier, Joss Bland-Hawthorn, J.S. Lawrence*)

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- N/A **A New Class of 2 μ m Waveguide Lasers Produced by fs Direct-Writing of Tm³⁺ and Ho³⁺ Doped ZBLAN Glass**
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- N/A **Novel Lateral Cavity Surface Emitting Laser on Commercial Epitaxial Waveguide Wafer without DBR Layers**
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- N/A **Optimum Design of Triple-Junction Solar Cells with Sub-Wavelength Surface**
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