

JOURNAL OF OPTICAL COMMUNICATIONS

EDITOR-IN-CHIEF

Ralf Th. Kersten, Weimar

EDITORIAL BOARD

Ishwar Aggarwal, Washington

Rui Almeida, Washington

Markus-Christian Amann, Munich

Massimo Artiglia, Milano

John Ballato, Anderson, SC

Jaafar M. H. Elmirghani, Wales

Rainer Fechner, Nürnberg

Kazuo Hotate, Tokyo

Hiroo Kanamori, Yokohama

Kurt Lösch, Stuttgart

Bishnu P. Pal, New Delhi

Thomas Pearsall, Paris

Ning Hua Zhu, Beijing

Michel Papuchon, Guyancourt

DE GRUYTER

ABSTRACTED/INDEXED IN Astrophysics Data System (ADS) · Baidu Scholar · Cabells Journalytics · CNKI Scholar (China National Knowledge Infrastructure) · CNPIEC: cnpLINKer · Dimensions · EBSCO (relevant databases) · EBSCO Discovery Service · Ei Compendex · Engineering Village · Genamics JournalSeek · Google Scholar · Inspec · Japan Science and Technology Agency (JST) · J-Gate · JournalGuide · JournalTOCs · KESLI-NDSL (Korean National Discovery for Science Leaders) · MyScienceWork · Naver Academic · Naviga (Softweco) · Primo Central (ExLibris) · ProQuest (relevant databases) · Publons · QOAM (Quality Open Access Market) · ReadCube · Reaxys · Scilit · SCImago (SJR) · SCOPUS · Semantic Scholar · Sherpa/RoMEO · Summon (ProQuest) · TDNet · TEMA Technik und Management · Ulrich's Periodicals Directory/ulrichsweb · WanFang Data · WorldCat (OCLC) · X-MOL · Yewno Discover

The publisher, together with the authors and editors, has taken great pains to ensure that all information presented in this work (programs, applications, amounts, dosages, etc.) reflects the standard of knowledge at the time of publication. Despite careful manuscript preparation and proof correction, errors can nevertheless occur. Authors, editors and publisher disclaim all responsibility for any errors or omissions or liability for the results obtained from use of the information, or parts thereof, contained in this work.

The citation of registered names, trade names, trademarks, etc. in this work does not imply, even in the absence of a specific statement, that such names are exempt from laws and regulations protecting trademarks etc. and therefore free for general use.

All information regarding notes for contributors, subscriptions, Open access, back volumes and orders is available online at www.degruyter.com/joc

ISSN 0173-4911 · e-ISSN 2191-6322

RESPONSIBLE EDITOR Prof. Dr. Ralf Th. Kersten, Haeckelstr. 2a, 99425 Weimar, Germany, e-mail: joc.editorial@degruyter.com

JOURNAL MANAGER Charlott Schönwetter, De Gruyter, Genthiner Straße 13, 10785 Berlin, Germany, e-mail: Charlott.Schoenwetter@degruyter.com

ADVERTISEMENTS e-mail: anzeigen@degruyter.com

© 2023 Walter de Gruyter GmbH, Berlin/Boston, Germany

TYPESETTING TNQ Technologies, Chennai, India



Contents

Amplifiers

Alaa Jabbar Ghazai, Ahmed H. Flayyih, Rasool R. Attab and Amin H. Al-Khursan

Effect of carrier (hole) temperature on performance of optical amplifiers quantum dot structure — 411

Devices

Assia Ahlem Harrat, Mohammed Debbal and Mohammed Chamse-Eddine Ouadah

1×2 power splitter based on photonics crystals fibers — 417

Ankur Saharia, Ashish Kumar Ghunawat, Manish Tiwari, Anton V. Bourdine, Vladimir A. Burdin, Ravi Kumar Maddila and Ghanshyam Singh

Evolution of Adder and Subtractor Circuit Using Si_3N_4 Microring Resonator — 421

Fibers

IS Amiri and Ahmed Nabih Zaki Rashed

Different Photonic Crystal Fibers Configurations with the Key Solutions for the Optimization of Data Rates Transmission — 431

Networks

Juntao Han, Rongchuan Yang and Chaosheng Tang

Design and implementation of OLT switching function in 40/10G TDM-PON experimental system — 437

Dinesh Kumar, Rajiv Kumar and Neeru Sharma

A parallel cross-connection recovery scheme for dual link failure in elastic optical networks — 447

Reza Poorzare and Siamak Abedidarabad

A Brief Review on the Methods that Improve Optical Burst Switching Network Performance — 457

Ashok Kumar, V. K. Banga and Amit Wason

MBO-Based Bandwidth Allocation and Traffic Coloring Optimization in PON — 467

Sandeep K. Sood and Kiran Deep Singh

HMM-Based Secure Framework for Optical Fog Devices in the Optical Fog/Cloud Network — 475

Rizwan Aslam Butt, M. Faheem, M. Waqar Ashraf, Attaullah Khawaja and Basit Raza

Attack-Aware Dynamic Upstream Bandwidth Assignment Scheme for Passive Optical Network — 485

Systems

Mehtab Singh and Jyoteesh Malhotra

2×10 Gbit/s–10 GHz Radio over Free Space Optics Transmission System Incorporating Mode Division Multiplexing of Hermite Gaussian Modes — 495

Jayashree Ratnam and Sabita Mali

Impact of Rayleigh-Distributed PAPR on the Performance of a Pre-Clipped DCO-OFDM System — 505

Harjit Singh and Anu Sheetal

Suitability of FBG for Gain Flatness of 64×10 Gbps DWDM System Using Hybrid (EDFA+YDFA) Optical Amplifier in C + L Band up to 50 GHz (0.4 nm) Channel Spacing — 517

Bobby Barua and S. P. Majumder

BER Performance Analysis of an Orthogonal FDM Free Space Optical Communication System with Homodyne Optical Receiver over Turbulent Atmospheric Channel — 527

Theory

M. A. Raja, S. Ranathive, M. Sivaram, L. Krishna Kumar, K. Vinoth Kumar and Iraj S Amiri

Numerical Analysis of Soliton Propagation in a Tapered Waveguide — 535

Mohammed Amine Tehami, Chahinaz Kandouci and Ali Djebbari

New Optical Codes Based on Construction of Parity Check Matrix of LDPC Codes — 539

Amit Grover and Anu Sheetal

Performance Analysis of 20 Gbit/s–40 GHz MDM-Ro-FSO Link Incorporating DPSK Modulation Scheme — 545