

0972-8821

Volume 52 · Issue 2 · June 2023

Journal of Optics

Official Publication of the
Optical Society of India

58

21/11/23

For circulation in India only



Springer



RESEARCH ARTICLES

Evaluation of a composite nickel mirror as a back mirror of a flashlamp-pumped Nd:YAG laser system in free running regime

M.R. Moghaddam · M. Barzan · D. Razzaghi · M. Akbari · M. Montazerolghaem · M.H. Maleki · M. Daneshian **455**

Optical studies of low-birefringence liquid crystal solutions using a multi-wavelength hollow prism refractometer

A. Kanwar · V. Gajghate **461**

Good cleavers for fiber-optic communication technology

H.J. Jawad · A.F. Sultan **468**

Non-iterative deep neural networks for compressed coded aperture imaging

C. Zhang · M. Chen · Q. Chen · C. Shen · S. Wei **474**

Design and analysis of a 1×2 microstrip patch antenna array based on photonic crystals with a graphene load in THZ

M.E. Benlakéhal · A. Hocini · D. Khedrouche · M.N. Temmar · T.A. Denidni · I. Shayea **483**

Entanglement between optical and mechanical modes in a hybrid optomechanical system

A. Samanta · P.C. Jana **494**

Ultra-compact photonic crystal nanocavity-based sensor for simultaneous detection of refractive index and temperature

P. Sharma · S. Medhekar **504**

Anti-interference aerial target tracking for infrared seeker via spatiotemporal correlation of topological graph networks

X. Yang · S. Li · X. Zhang · C. Zhong · S. Wang · J. Yan **510**

Effect of boron in single quantum well blue light-emitting diodes

B. Bouchachia · A. Hamdoune · C. Boudaoud · Z. Allam **520**

Multi-image encryption based on singular value decomposition ghost imaging and RSA public-key cryptography

M. Wang · X. Yang · X. Meng · Y. Wang · Y. Yin · G. Dong **527**

Flower core photonic crystal fibres for supercontinuum generation with low birefringent structure for biomedical imaging

V. Devika · M.S. Mani Rajan · H. Thenmozhi · A. Sharaf **539**

Optical characterization of *Azadirachta Indica* (Neem) leaves using spectroscopic techniques

R. Kumari · A. Dwivedi · R. Kumar · M.K. Gundawar · A.K. Rai **548**

Strong self-focusing of an intense cosh-Gaussian laser beam in magnetized plasma under relativistic effect

G. Purohit · A. Raizada **564**

Performance enhancement of SAC-OCDMA system using modified EDW code

O.M. Abdulrahman · I.M.M. Mohamed **573**

Research on effect of centrifugal speed on the light color characteristics of COB light source and its mechanism

J. Liu · B. Li · M. Yang · Z. Wen · R. Zhang · Z. Xia · Z. Feng **582**

Engineering axially polarized sub-wavelength scale focal structures using annular Walsh filter

N. Umamageswari · D. Thiruarul · M. Lavanya · J.W. Charles · Jaroszewicz · K.B. Rajesh **589**

Bolometric properties of uncooled semiconductor carbon nanotubes

H.I. Murad · M.A. Mohammed · A.B. Taha · R.K. Jamal **597**

A review of electro-optic, semiconductor optical amplifier and photonic crystal-based optical switches for application in quantum computing

M. Mandal · P. De · S. Lakshan · M.N. Sarfaraj · S. Hazra · A. Dey · S. Mukhopadhyay **603**

Coherent manipulation of optical energy density of two-wave interference in atomic medium

M. Hammad · M. Tariq · A. Hamza · B.A. Bacha · A. Ahmad **612**

Mitigation of fiber impairments by developing a novel coherent optical 16-QAM OFDM modulation technique

V. Kaushik · H. Saini **619**

Optical fiber sensor based on surface plasmon resonance for detection of *Escherichia coli* (*E. coli*)

H.S. Raham · S.S. Al-Bassam **631**

The generation and manipulation of spatiotemporal vortex in nonlocal self-temporal photorefractive media
S. Wang 637

Comparative study of electron acceleration by linearly and circularly polarized Hermite-cosh-Gaussian laser pulse in a vacuum

J. Rajput · A.K. Pramanik · P. Kumar · S.S. Gaur · R. Singh · N. Kant 642

Three-dimensional reconstruction of subsurface defects in fused silica optical components using cadmium selenide/zinc sulphide quantum dots
B. Xiao · X. Liu · Y. Cui · C. Wang · T. Li 648

Infrared image fusion for quality enhancement
E.A. Donia · E.-S.M. El-Rabaie · F.E.A. El-Samie · O.S. Faragallah · N.A. El-Hag 658

High birefringence and nonlinearity photonic crystal fiber
Z. Du · F. Wei · J. He 665

An investigation on organic and inorganic materials for hole transport layer in lead-free third-generation solar cell
R. Sen · M. Yadav 672

The effect of tapered photonic crystal fiber structure on the performance of Mach-Zehnder interferometer to detection of toxic metal ion (Zinc)
G. Mohammed Jassam · Soudad S. Ahmed 683

Theoretical study of the aberrations for the single-gap magnetic lens
A.A. Al-Azawy 691

High-output power GaN-LED based on surface plasmon enhancement
J. Zhu · B. Ying · L. Qin 696

Comparative analysis and design of high-performance photonic crystal add-drop filter for optical switching
A. Asthana · A. Kumar · P. Sharan 704

Evaluation of feature extraction methods for different types of images
E.S. Sabry · S.S. Elagooz · F.E.A. El-Samie · N.A. El-Bahnasawy · G.M. El-Banby · R.A. Ramadan 716

Realizing multiple Fano resonance in an end-coupled semi-ring resonator-coupled waveguide structure
Y. Pan · Q. Meng · F. Chen 742

Optomechanical behaviour of optical sensor for measurement of Wagon weight at different speeds of the train

S. Mishra · P. Sharan · K. Saara 751

Structural and optical characterization of $\text{CCBi}_x\text{Ti}_{1-x}\text{O}$ (for $x=0.04$) thin film
D. Dwibedy · A.K. Sahoo · M.R. Panigrahi 763

Enhanced performance of double perovskite solar cell using WO_3 as an electron transport material
S. Yadav · P. Lohia · A. Sahu 776

Cdq2 nanorods capped with CTAB and SLS: amalgamation, investigations for optoelectronic applications
V. Malarvizhi · A. Steephen 783

Effect of substrate temperature and precursor salt molarities on the nickel oxide physical properties
F.M.M. Almutairi · N. Al-Khalli · N.B. Arkook · N.M.K. Sebhi · M.S. Aida 793

Effect of molarity on the properties of CuO thin films prepared by air-pressurized spray pyrolysis
Salem.D. Alghamdi · A.O.M. Alzahrani · M.S. Aida 803

Performance enhancement of multi-beam FSO communication system with the application of MIMO with CO-OFDM
Payal · D. Sharma · S. Kumar 810

Efficient algorithms for compression and classification of brain tumor images
F.M. Ghamry · H.M. Emara · A. Hagag · W. El-Shafai · G.M. El-Banby · M.I. Dessouky · A.S. El-Fishawy · N.A. El-Hag · F.E.A. El-Samie 818

Bifurcations, stationary optical solitons and exact solutions for complex Ginzburg-Landau equation with nonlinear chromatic dispersion in non-Kerr law media

T. Han · Z. Li · C. Li · L. Zhao 831

Application of relative total variation optical decomposition fusion method on medical images
C. Ghandour · W. El-Shafai · S. El-Rabaie 845

On-chip coronavirus shape antenna for wide band applications in terahertz band
S. Kiani · P. Rezaei · M. Fakhr 860

COVER ARTICLE

UV excited emission spectra of gadolinium aluminium garnet
A. Bala · S. Rani 868

SHORT NOTES

A note on “Variable-focus liquid lens based on electrically responsive fluid”
A. Banerjee 875

Adaptive liquid lens based on electrowetting of two immiscible liquids: a study with numerical simulation and analysis
M.C. Dubey · D. Mohanta 877

Impact of quadruple pumping for thulium-doped amplifier for SD-WDM system
G. Kumar · C. Kumar **885**

BOOK REVIEW

Spatial and temporal methods for fringe pattern analysis: a review

E. Zendejas-Hernández · G. Trujillo-Schiaffino · M. Anguiano-Morales · D.P. Salas-Peimbert · L.F. Corral-Martínez · N. Tornero-Martínez **888**

DISCUSSIONS

Analysis of RWA in WDM optical networks using machine learning for traffic prediction and pattern extraction

S. Rai · A.K. Garg **900**

Study on the characteristic curve of laser-induced delayed luminescence in leaves of *Scindapsus*

M. Jiang · C. Li · B.Q. Tang · P. Gao · J. Wang · Y. Yang · X. Zhang · Y. Liu **908**

TUTORIAL PAPERS

Imaging analysis of cone beam computed tomography for present Egyptians facial soft tissue thicknesses

T.I. Shehata · N. Khattab · T.M.A. Wahab · A.M. Ekram · Y.H. Elbasher **915**

Investigations on challenges faced by hybrid FSO/RF high-speed networks
S. Ghatwal · H. Saini **924**

CORRECTIONS

Correction to: Investigations on challenges faced by hybrid FSO/RF high-speed networks

S. Ghatwal · H. Saini **935**

Correction to: Multilayers method for designing the W-shape raised cosine few-mode fibers

S. Chebaane · S. Ben Khalifa · F. Benabdallah · M. Mohamad · F. Hedhili · S.M. Al-Shomar **937**

Abstracted/Indexer in SCOPUS, INSPEC, Google Scholar, CNKI, EBSCO Discovery Service, EI Compendex, Emerging Sources Citation Index, Gale, Indian Science Abstracts, INIS Atomindex, OCLC, ProQuest - Summon, ProQuest Advanced Technologies & Aerospace Database, ProQuest SciTech Premium Collection, ProQuest Technology Collection

Instructions for Authors for *J Opt* are available at www.springer.com/12596