

# Indian Journal of Pure & Applied Physics

<http://www.niscair.res.in>; <http://nopr.niscair.res.in>; Impact Factor 0.711 (JCR 2013)

VOLUME 53

NUMBER 7

JULY 2015

CODEN:IJOPAU 53(7) 425-496

ISSN:0019-5596 (Print); 0975-1041 (Online)

## CONTENTS

### Condensed Matter: Structural, Mechanical and Thermal Properties

- Elastic properties of elemental, binary and ternary semiconductor materials 429  
 V Kumar\*, J K Singh & G M Prasad
- Thermophysical properties of alkyl acetates in aqueous solutions of ionic liquid {1-butyl-3-methylimidazolium chloride} [bmim][Cl] at different temperatures 436  
 Amalendu Pal\*, Harsh Kumar, Ritu Maan & Harish Kumar Sharma
- Investigation of gain characteristics of GRIN-InGaAsP/InP nano-heterostructure 447  
 Rashmi Yadav, Meha Sharma, Swati Jha, Pyare Lal, M J Siddiqui, F Rahman, S Dalela & P A Alvi\*

### Condensed Matter: Electronic Structure, Electrical, Magnetic and Optical Properties

- Study of structural, electrical and thermal properties of polyaniline/ZnO composites synthesized by *in-situ* polymerization 456  
 Sneha Lata Goyal, Smriti Sharma, Deepika Jain & N Kishore
- Effect of frequency and bias voltage on the electrical and dielectric properties of atomic layer deposited Al/Al<sub>2</sub>O<sub>3</sub>/p-Si MOS structure at room temperature 464  
 Anu Philip, Subin Thomas, R Nisha & K Rajeev Kumar\*

### Interdisciplinary Physics and Related Areas of Science and Technology

- Current mode MISO filter using CCCDTAs and grounded capacitors 470  
 Amornchai Chaichana\*, Adirek Jantakun, Montree Kumngern & Winai Jaikla
- Ultra low-voltage low-power current conveyor transconductance amplifier 478  
 Fabian Khateb\*, Montree Kumngern, Salma Bay Abo Dabbous, Tomasz Kulczyk & Abhirup Lahiri
- Instability of relativistic electron beam-dielectric system for backward microwave amplification 488  
 Wang Hong Yu, Kong Ling-Bao, Sun Peng\* & Hou Zhi-Ling

Authors for correspondence are indicated by (\*)