



**The Institution of Electronics and  
Telecommunication Engineers**

ISSN 0377-2063 (Print)  
E-ISSN 0974-780X (Online)

# **IETE Journal of Research**

**Volume 65 • No. 1 • January-February 2019**



**Taylor & Francis**  
Taylor & Francis Group

<http://mc.manuscriptcentral.com/tijr>

Subscriber Copy : Not for Resale

Cost: Rs. 18.00

## CONTENTS

## Editorial

- 1 Scanning the Issue  
*Shiban K Koul*

## Articles

- 4 A Fast Image Encryption Algorithm Based on Convolution Operation  
*Yong Zhang*
- 19 Asymmetric H-Bridge Single-Phase Seven-Level Inverter Topology with Proportional Resonant Controller  
*P. A. Salodkar, P. S. Kulkarni, Manoj A. Waghmare, P. C. Chaturvedi and Sandeep N*
- 33 Broadband Circularly Polarized Slot Antenna Array Fed by Asymmetric CPW for C-Band Applications  
*Farzad Zandikiya and Loghman Asadpor*
- 39 Broadband Planar Log-Periodic Dipole Array Antenna Based RF-Energy Harvesting System  
*Hemant Kumar, Mahima Arrawatia and Girish Kumar*
- 44 Design of Multi-Machine Power System Stabilizers with Forecast Uncertainties in Load/Generation  
*Ram Krishan, Ashu Verma and Sukumar Mishra*
- 58 FPGA-Based Space Vector Pulse Width Modulated Single-Phase to Three-Phase Converter  
*Preeti Agrawal, Anshul Agarwal and Vineeta Agarwal*
- 69 Fuzzy PD Plus I Control-based Adaptive Cruise Control System in Simulation and Real-time Environment  
*G. Prabhakar, S. Selvaperumal and P. Nedumal Pugazhenth*
- 80 Modified Reference Model for Rotor Flux-Based MRAS Speed Observer Using Neural Network Controller  
*Giribabu D, S.P. Srivastava and M.K. Pathak*
- 96 Multi-Objective Modified Imperialist Competitive Algorithm for Brushless DC Motor Optimization  
*MohammadAli Sharifi and Hamed Mojallali*
- 104 On the Design and Analysis of I-Shaped Fractal Antenna for Emergency Management  
*Sushil Kakkar, T. S. Kamal and A. P. Singh*
- 114 Process Corners Analysis of Data Retention Voltage (DRV) for 6T, 8T, and 10T SRAM Cells at 45 nm  
*Ruchi Gupta and S. Dasgupta*
- 120 Review of Impacts of Static Var Compensator Allocation on Radial Distribution Networks  
*Milad Zamani-Gargari, Farshad Kalavani and Kazem Zare*
- 128 Semibridgeless Interleaved PFC Boost Rectifier for PHEV Battery Chargers  
*G. Kanimozhi and V. T. Sreedevi*

