

2023 International Telecommunications Conference (ITC-Egypt 2023)

**Alexandria, Egypt
18-20 July 2023**



**IEEE Catalog Number: CFP23AM4-POD
ISBN: 979-8-3503-2607-9**

**Copyright © 2023 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP23AM4-POD
ISBN (Print-On-Demand):	979-8-3503-2607-9
ISBN (Online):	979-8-3503-2606-2

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

<p>A Compact Petal Shaped Two-Port MIMO Antenna for Quad-Band Millimeter Wave 5G Applications.....</p> <p style="padding-left: 20px;"><i>B G Parveez Shariff, Tanweer Ali, Pallavi R Mane, Pradeep Kumar, Praveen Kumar</i></p>	1
<p>Characteristic Mode Analysis Based Flower Shape High Gain THz Antenna for Imaging and Defense Applications.....</p> <p style="padding-left: 20px;"><i>Praveen Kumar, Atharv Parag Dongare, Tanweer Ali, Sameena Pathan, B G Parveez Shariff, Om Prakash Kumar</i></p>	7
<p>A Sequence of Circular Slotted Nonagon Shape Extended Ultrawideband Antenna for Smart Electronic Systems Using Characteristic Mode Analysis.....</p> <p style="padding-left: 20px;"><i>B K Subhash, Praveen Kumar, Sameena Pathan, Tanweer Ali, Rajashekhar C. Biradar</i></p>	12
<p>Gain Enhancement of a Miniaturized Broadband Patch Antenna Using a Metamaterial Superstrate for Surveillance Applications in Aircraft.....</p> <p style="padding-left: 20px;"><i>M. Pallavi, Pramod Kumar, Tanweer Ali, Satish B. Shenoy</i></p>	17
<p>Characteristics Mode Analysis Based Dual-Port Sub-6 GHz Flexible Antenna for Surveillance Applications.....</p> <p style="padding-left: 20px;"><i>Deepthi Mariam John, Tanweer Ali, Shweta Vincent, Sameena Pathan, Praveen Kumar, B G Parveez Shariff</i></p>	23
<p>A Conformal Wideband Antenna for Wearable Applications at Sub-6 GHz: Characteristic Mode Analysis.....</p> <p style="padding-left: 20px;"><i>Deepthi Mariam John, Tanweer Ali, Shweta Vincent, Sameena Pathan, Praveen Kumar</i></p>	29
<p>A Thermostable Frequency Selective Surface with Both a Low-Pass and a Wide Shielding Band.....</p> <p style="padding-left: 20px;"><i>Lei Tang, Yi Wang, Jiahui Huang</i></p>	34
<p>Enhancing the Performance of Thin Film Photovoltaic Solar Cells Using Truncated Conical Nanoparticles.....</p> <p style="padding-left: 20px;"><i>Mohamed M. Gad, Mai O. Sallam, Ezzeldin A. Soliman, Yasser M. El Batawy</i></p>	38
<p>Effect of Magnetite Powder Implementation on Electromagnetic Shielding Characteristics of Electromagnetic Shelters.....</p> <p style="padding-left: 20px;"><i>Mohamed Wagih, Ismail M. Kamal, Ahmed E. Soltan, Mohamed A. E. M. Ali</i></p>	42
<p>Investigation of Triple Frequency Bands Using Nano-Graphene Patch Enclosed with Copper Frame Antenna Based on (SPPs) for J-Band Applications.....</p> <p style="padding-left: 20px;"><i>Ahmed F. Miligy, Ahmed Khairy Mahmoud, Assem H. Elfeky, Shady Hossny Elgohary</i></p>	47
<p>Analysis and Implementation of Single Feed Dual-Band Compact Slotted Antenna at 28/38 GHz for 5G Applications.....</p> <p style="padding-left: 20px;"><i>Osama M. Dardeer, Ahmed S. I. Amar, Naser Ojaroudi Parchin, Assem H. Elfeky, Ahmed F. Miligy</i></p>	54
<p>Super-Wide Band Antenna on Three-Layer Substrate for Microwave and Millimeter-Wave Applications.....</p> <p style="padding-left: 20px;"><i>Eman G. Ouf, Khalid. F. A. Hussein, Asmaa E. Farahat, Shaimaa A. Mohassieb</i></p>	58

Low-Profile Monopole Antenna Design with Dual Notch Bands and Ultra-Wide Impedance Bandwidth.....	66
<i>Ahmed S. I. Amar, Naser Ojaroudi Parchin, Mohammad Alibakhshikenari, Raed A. Abd-Alhameed, M. Fathi Ghareeb</i>	
Metasurface-Inspired UWB Antenna Design for Wireless Power Transfer Systems	69
<i>Haleh Jahanbakhsh Basherlou, Naser Ojaroudi Parchin, Ahmed S. I. Amar, Chan Hwang See, Sh. Elgohary</i>	
Leveraging Deep Learning and IoT Big Data Analytics for the Determination of Development Priorities Utilizing GeoAI in the National Project for the Development of the Egyptian Rural Villages - Decent Life "Hayah Karima"	73
<i>Eman T. Nassar, Hassan G. Elgazouly, Aly M. Elnaggar, Samy M. Ayyad</i>	
An Optimized Radar Sensors Schedule Using Genetic Algorithms.....	79
<i>Alaa Hafez, Amgad Saaed, Mohamed Emam, Mohamed Hassan, Mohamed Shalaby</i>	
AI-EgyVent: Artificial Neural Network Assisted Control Based Low-Cost Ventilator Implementation in Response to COVID-19 Pandemic	83
<i>Abdelrhman M. Abotaleb, Ahmed Abdeltatif Mohammed, Mohammed Taha Saber, Mohamed Riad</i>	
Breast Cancer Classification Using Various CNN Models	91
<i>Mariam M. Askar, Amgad A. Salama, Hassan M. Elkamchouchi, Adel M. Al-Fahar</i>	
Room-Level Activity Classification from Contextual Electricity Usage Data in a Residential Home	96
<i>Muhammad Farooq, Mahmoud A. Shawky, Aisha Fatima, Ahsen Tahir, Muhammad Z. Khan, Hasan T. Abbas, Muhammad Imran, Qammer H. Abbasi, Ahmad Taha</i>	
Recent Advances Towards Securing Smart Grids with Blockchain.....	101
<i>Ali Yassine, Mohamed Baza, Sherif Abdelfattah, Mahmoud Badr, Amar Rasheed, Ramy Amer</i>	
Performance Analysis of SAC-OCDMA Using EDW Codes in FSO Transmission Under Rainy Weather.....	107
<i>Somia A. Abd El-Mottaleb, Mehtab Singh</i>	
Particle Swarm Optimization of Machine Learning in Cognitive Radio e-Health Networks at Low SNR.....	113
<i>Israa Mohamed, Ahmed Khattab</i>	
Analytical Performance of Additional Active States on Power Saving and Average Delay During Hybrid-Directional DRX Technique.....	119
<i>Mustafa M. Sallam, Fayez Wanis Zaki, Hala B. Nafea</i>	
A Survey of the Most Common Task Scheduling Algorithms.....	126
<i>Menna Medhat Abdelrehim, Eman Hossny, H. Fatma Omara</i>	
Wireless Technology Identification Employing Dynamic Mode Decomposition Spectrum.....	134
<i>Ahmed Elsebaay, Hazem H. Refai</i>	
Human Footsteps-Based Energy Harvesting Using Piezoelectric Elements.....	140
<i>Kyriillos K. Selim, Hossam M. Yehia, Samia Abdalfatah</i>	
Evaluating Potential Security Risks of Advanced Metering Infrastructure Using EBIOS Risk Assessment Method.....	145
<i>Mostafa Shokry, Ali Ismail Awad, Mahmoud Khaled Abd-Ellah, Ashraf A. M. Khalaf</i>	

Green Computing and Security Practices for Optimizing Crawler Efficiency	151
<i>Mai Ramadan Ibraheem</i>	
Investigation of Green Hydrogen Production and Storage from PV Arrays Connected to an AC Microgrid System.....	157
<i>Mona A. Bayoumi, El Sayed F. El Tantawy, Mohamed Gomaa Abdallah, Ahmed M. Atallah, Dina Mourad Hafez</i>	
Performance Analysis and Validation of Different Meshing Element Size Used for Computational Fluid Dynamics Simulation	165
<i>Ahmed A. Al-Bana, Shady Zahran, Salah T. Shahen, Mohamed M. Ahmed</i>	
Implementing Foot Tiles in Crowded Areas with the Use of Piezoelectric Material	169
<i>Ahmed Hassan Ahmed, Ahmed Khalid, Ahmed Hassan Elsayed, Sameh O. Abdellatif, Shagird Jeetun</i>	
Three-Dimensional Mapping and Change Detection Analysis Using Aerial Images for Unmanned Aerial Vehicles.....	173
<i>Essam Hassan Hamza, Hany Abdel-Maksoud</i>	
An Enhanced System on Chip-Based Sobel Edge Detector.....	179
<i>Ahmed S. Khalil, Mohamed Shalaby, Emad Hegazi</i>	
Faster-RCNN Based Star Image Extraction Algorithm Suitable for Star Sensors Disturbed by Gaussian Noise.....	184
<i>Feng Wu, Xifang Zhu, Qingquan Xu, Ruxi Xiang, Chen Wang, Jiapeng Lu</i>	
FPGA Implementation for Multiple CFAR Algorithms.....	189
<i>Mostafa Y. Rihan, Zaki B. Nossair, Roaa I. Mubarak</i>	
Compact Triple-Band Millimeter Wave Flexible Antenna for Wearable Applications.....	194
<i>B G Parveez Shariff, Tanweer Ali, Pallavi R Mane, Pradeep Kumar, Praveen Kumar, Sameena Pathan</i>	
A Petal-Shaped Base Station Antenna Array with Down-Tilted Beam for 5G Wireless Communications.....	200
<i>Rana Tarek Allam, Aya Magdy Rashwan, Ghadah Mohamed Allam, Nourhan Ahmed Hassan, Ahmed Alieldin</i>	
Triple Band Reflective Metasurface Based Linear to Circular Polarization Converter.....	205
<i>Shaza M. El-Nady, Eman M. Eldesouki, Shima A. M. Soliman, Ahmed M. Attiya</i>	
Compact Dual Linear Polarized Antenna Feed for LEO Satellites Based on Quad Ridge Waveguide.....	210
<i>Mahmoud Gadelrab, Shoukry I. Shams, Abdelrazik Sebak</i>	
Design of a Wide-Band, Miniaturized Absorber for S-And C-Band Applications.....	215
<i>Zain Ul Abidin, Qunsheng Cao, Gulab Shah</i>	
A Comparative FEM Approach of Nanoparticles-Mediated Thermal Therapy of Breast Cancer.....	219
<i>Ehab I. Mohamed, Samar M. Abdel-Kader, Mohamed I. Badawi</i>	
An Enhanced Pseudorandom Number Generator Based Differential Lorenz System by Using Runge-Kutta Method.....	225
<i>Ahmed M. Mohy El Den, Karim H. Moussa, Roshdy A. Abdelrassoul</i>	
Neural Network-Based Classification of Hand Gestures Using Electromyography Sensor Data.....	231
<i>Amir R. Ali, Mohamed W. A. Ramadan, Abdelrahman T. Darwish</i>	

Detecting Hardware Trojans Using Structural Features for Hardware Security and Reliability.....	237
<i>Mostafa M. Helmy, Mohamed A. Y. Abdalla, Ahmed Khattab</i>	
Correcting Kernel-Based Network for SingleImage Haze	243
<i>Ruxi Xiang, Xifang Zhu, Feng Wu, Qingquan Xu, Longan Zhang</i>	
Performance Analysis of VLC-Based In frastructure-To-Vehicle Communication.....	248
<i>Noura H. El Shabasy, Samy S. Soliman, Mohammad M. Abdellatif</i>	
Performance Analysis of Cache- And SWIPT-Aided NOMA-Based CDRT Networks	254
<i>Alok K. Shukla, Jules M. Moualeu, Maurizio Magarini, Prabhat K. Upadhyay</i>	
Assessing the Efficiency of Multi-Carrier Waveforms in Next-Generation 6G Wireless Communication Systems.....	260
<i>Walid Raslan, Heba M. Abdel-Atty, B. M. El-Den</i>	
Channel Coding Challenges for Short and Moderate Block Lengths-Based Applications.....	266
<i>Amr Tarek, Amr Abdelaziz, Hisham Al-Dahshan</i>	
Origin of Capacitance in Perovskite Solar Cells: Insight Vision on the Energy Band Diagram	272
<i>Monica Roman, Sameh O. Abdellatif, Ziad Khalifa</i>	
Towards the First Sustainable Building in the British University in Egypt Campus: Applied Study on the Wind Tunnel Building.....	276
<i>Sameh O. Abdellatif, Mohamed A. Elkasrawy, Hani A. Ghali</i>	
CONVID-GRU: A Hybrid Model for Short-Term Electrical Load Forecasting.....	281
<i>Karim S. Farid, A. A. Ali, Sameh A. Salem, Amr E. Mohamed</i>	
An Analysis of the Influence that Rooftop Photovoltaic Systems Have on the Characteristics of Distribution Networks Using DIGSILENT Power Factory	287
<i>Peter Bekhet, Walid El-Khattam, Amr Magdy</i>	
Evaluation of Rooftop Photovoltaic Penetration Impact on Distribution Networks Voltage Profile and the Impact of Controlling the PV Inverter Using DIGSILENT Software	293
<i>Peter Bekhet, Walid El-Khattam, Amr Magdy</i>	
Survey on Modular Multilevel Converter: Definition, Principal of Operation, Classification, Challenges and Applications	299
<i>Karim A. Mageed, Ahmed Adel Hieba, Ghada M. Amer</i>	
Enhancing Security of Vehicle-To-Everything Communication (V2X) in AUTOSAR Architecture.....	307
<i>Mohamed Abdelazeem, Mona Helmy</i>	
Hybrid- Blowfish Security Strengths Using Side Channel Countermeasures	314
<i>Walid W. Souror, Mohamed Fouad, Ali E. Takieldeem</i>	
An In-Depth Review of AI-Based Techniques for Early Diagnosis of Breast Cancer: Evaluation of CAD System Design and Classification Methodologies.....	322
<i>Warda M. Shaban, Ahmed A. Abdullah, Eman Ashraf</i>	
Digital Twins Approaches and Methods Review.....	330
<i>Mohammed E. Helal, Hamed Shawky Zied, Ahmed Khairy Mahmoud, Manal Helal, Ali E. Takieldeem, Samia M. Abd-Alhalem</i>	

Wearable Health Monitoring and Tracking Through Whispering Gallery Mode Optical Sensors in IoT-Enabled Smartwatches	337
<i>Amir R. Ali, Abdelkarim Saleh, Eman A. Abdallah, Alaa A. Ali, Farida Moubarak, Hana Elzaky, Ibrahim El-Sahhar</i>	
Applying an Adaptive Technique to Improve Tracking Filter Performance	343
<i>Youssef Fayad, Ahmed Khairy Mahmoud, Shady El Gohary, Shady A Deraz</i>	
Ridge Gap Waveguide Monopulse Comparator for Millimeter Wave Direction Finding Systems.....	349
<i>Mohammad A. Abdelraheem, Mohamed Mamdouh M. Ali, Abdel Razik Sebak</i>	
Strip Line Unequal High Power Divider with 1:12 Division Ratio.....	355
<i>Alla M. Eid, Ahmed Alieldin, Amgad A. Salama, Ahmed S. I. Amar</i>	
Investigation of Nonlinear Optical Absorption in a Triphenylamine Derivative and Its Potential Application in Ultrafast and Broadband Laser Protection.....	359
<i>Xingzhi Wu, Rui Ruan, Xingxing Li, Yujie Zhao, Quanying Wu</i>	
An Image Restoration Method for the Sparse Aperture Optical System Based on Deep Learning	362
<i>Quanying Wu, Senmiao Wang, Junliu Fan, Baohua Chen, Xingzhi Wu</i>	
Enhanced Radar Performance Using Optimized Hybrid Signal Based on Nonlinear and Linear Frequency Modulation.....	366
<i>Ahmed Youssef, Mostafa Elhoshy</i>	
Design and Implementation of SDR Platform for Radar Applications.....	372
<i>Kamal Hussein, Ahmed S. I. Amar, Abdelhalim Zekry, Mohamed Abouelatta, Ahmed Khairy Mahmoud, Mohamed Mabrouk</i>	
Printed RGW Cascaded 3-DB Coupler with Enhanced Performance for Millimeter Wave Applications.....	376
<i>Mohammad A. Abdelraheem, Mohamed Mamdouh M. Ali, Abdel Razik Sebak</i>	
Analysis and Design of Improved Guided Wave Structure Using Matching Network/Magnetized Material and Circular Spiral-Spiral Wraparound Metamaterial Array for X-Band Radar Applications.....	382
<i>Ahmed F. Miligy</i>	
A New Approach to Analyze Solid Fuel Exhaust for Rocket Engine Based on Laser Spectroscopy.....	388
<i>Abdalmrhan Adel, Osama A. Omer, M. Anwar, Mohamed Alamir, Mostafa Elhoshy, Amir Almslmany</i>	
MIMO Slot Antenna with Polarization Diversity and Dual Notched Bands for UWB Applications.....	393
<i>Naser Ojaroudi Parchin, Ahmed S. I. Amar, Daa E. Fawzy, A. M. M. A. Allam, Alaa M. Eid, Ahmed Gamal Abdellatif Ibrahim</i>	
A 2-Bit Quad Band Frequency Selective Surface Furnishing Multifunction Behaviour at Two Bands.....	397
<i>Gulab Shah, Qunsheng Cao, Zain Ul Abidin, Amir Almslmany</i>	
Novel Design of Voltage Controlled Oscillator (VCO) Using MEMS Switch.....	402
<i>Ahmed Khairy Mahmoud, Shady El Gohary, Youssef Fayad, Mohamed A. Soliman</i>	
Optimized Performance of Attacks Detection in WSN Based on Machine Learning Algorithms.....	407
<i>Amr A. Farid, Abeer T. Khalil, Mahmoud A. Shawky, Ahmed S. Samrah, Hegazi Ibrahim</i>	

Tech-Care: A High-Tech Eye-Controlled Wheelchair for Paralyzed Patients.....	413
<i>Hanaa Salem Marie, Mohammed Alaa Al-Sabahi, Ahmed Awad El-Sayed, Ahmed Mohamed Zaki, Omar Mahmoud Salah, Mahmoud Elsayed Al-Sadani, Abdallah Mohammed Abdo, Muhammad Eyad Moawad</i>	
Classification of Voice Pathology Using SVM Classifier	419
<i>Asmaa Nabil Mohamed, Amgad A. Salama, Samy H. Darwish</i>	
A 32-Bit Quantum Encryption Algorithm Using Dynamic Pauli Gates	423
<i>Mohamed A Elbaset, Mohamed A. Soliman, Shady A Deraz, Karim H. Moussa</i>	
Performance Analysis of UAV-Based MMW/FSO Relay-Assisted System	429
<i>Moataz M. Roshdy, Ehab H. El-Shazly, Ehab Mahmoud Mohamed, Ahmed Elghandor, Kamel M. Hassan, Haitham S. Khallaf</i>	
Performance Analysis of MIMO FBMC Based OTPSK System.....	435
<i>Hossam Reda Mohamed, Mahmoud Abdelaziz, Amr A. Nagy</i>	
Machine Learning Assisted Indoor Visible Light Communication System	440
<i>Kopano V. Menu, Collins A. Leke, A. Richard Ndjiongue</i>	
Long Range Chipless RFID System Based on FMCW RADAR and Dielectric Resonators.....	446
<i>Maher Khaliel, Thomas Kaiser, Klaus Solbach, Ahmed El-Awamry</i>	
Voltage Controlled-Bandwidth Electrooptic Push-Pull Mach Zehnder Modulator with Coplanar Electrodes.....	451
<i>B. M. El-Den, Adel Zaghloul</i>	
Robust X-Haul Failure Mitigation for 6G Networks: Adding More Self-Healing Antennas to Small Cells.....	457
<i>Mohamed Y. Selim, Ahmed E. Kamal</i>	
Circularly Polarized Ka-Band Dielectric Reflectarray Antenna.....	463
<i>Mahmoud S. Abdelhady, Shima A. M. Soliman, Alois P. Freundorfer, Yahia M. M. Antar</i>	
A Circularly-Polarized Patch Antenna Design for 3.6 GHz Applications in 5G Systems	467
<i>Atta Ullah, Naser Ojaroudi Parchin, Mohammad Alibakhshikenari, Raed A. Abd-Alhameed, Ahmed S. I. Amar, Ahmed Ibrahim Salem</i>	
For Future Wireless Communications: Development of a Circularly Polarized Antenna with Low Profile	471
<i>Mohammed E. Yassin, Goma M. Elashry, Khalid. F. A. Hussein, Qammer H. Abbasi, Shaimaa A. Mohassieb</i>	
S-Band Single-Layer Balun for Wideband Applications.....	476
<i>Mohammed Mahdi, Hossam Tork, Mohammad Darwish, Ayman M. El-Tager</i>	
Design and Implementation of High-Power Laser Beam Profiler Optics Based on Practical Experiments.....	480
<i>Abdalrhman Adel, Osama A. Omer, Ahmed R. El Sawi, Mahmoud Mohamed Talaat, Mostafa Elhoshy, Amir Almslmany</i>	
Whitelisting Requirements for Effective Cyber Defense Solutions.....	484
<i>May Medhat, Samir G. Sayed, Samia M. Abd-Alhalem, Ali E. Takieldeem</i>	

Plant Disease Detection Using Artificial Intelligence Techniques for Agricultural Productivity Enhancement in Egypt.....	490
<i>Aya Osman Ibrahim, Sally Elghamrawy</i>	
An AI-Based Prediction Model for Climate Change Effects on Crop Production Using IoT.....	497
<i>Sally Elghamrawy</i>	
A Deep Learning Technique for Early Diagnosis of Skin Cancer Disease Using Biomedical Data.....	504
<i>Mohamed Shehab, Sally Elghamrawy</i>	
An Optimized Digital Signature Algorithm for Efficient and Secure Authentication in VANETs.....	512
<i>Chenyi Yun, Mahmoud A. Shawky, Shuja Ansari</i>	
Machine Learning-Based Prediction of Backhaul Capacity Requirements for Cellular Networks	518
<i>Mohamed Tharwat Waheed, Ayman Gaber, Yasmine Fahmy, Ahmed Khattab</i>	
Performance Improvement of a Space Robotic Manipulator Using Fuzzy-Based PID Controller.....	524
<i>Mohammed H. Al-Mola, Sherif I. Abdelmaksoud</i>	
Performance Analysis of Quaternion Vs Euler-Based Approaches in Reduced INS/GNSS Fusion Techniques.....	530
<i>Maher Tarek, Shady Zahran, Ahmed Radi, Sherif F Nafea, Eyad S. Oda, Alaa El-Din Sayed Hafez</i>	
A New Mean-Field Game Approach for Closed-Loop Strategic Swarm Maneuvering.....	538
<i>Mohammad Altaher, Samir Elmougy</i>	
Designing High-Performance Mismatched Filters for Radar Applications.....	545
<i>Mostafa Elhoshy, Ahmed Youssef</i>	
Parameters Extraction and Suppression of Interrupted Sampling Periodic Repeater Jammer in LFM Pulse Compression Radar	551
<i>Ahmed Fawzy Hatahet, Hossameldin Aboubakr Badr Hassan, Fathy Mohamed Abdel Kader, Ahmed Mansour Abdelfattah</i>	
Performance Analysis of LFM Radar in Presence of Different Interrupted Sampling Jamming Techniques.....	557
<i>Ahmed Fawzy Hatahet, Hossameldin Aboubakr Badr Hassan, Fathy Mohamed Abdel Kader, Ahmed Mansour Abdelfattah</i>	
An Implementation of a Digital MTI System Which Suppresses Stationary Targets and the Moving Targets with Slow Speed	563
<i>Mohamed A. Soliman, Shady A Deraz, Said H. Abd Elkhalik, Ahmed H. El-Sakka, Mohamed A Elbaset, Ahmed Khairy Mahmoud</i>	
Traveling Wave Elliptical Slotted SIW Antenna.....	569
<i>Alla M. Eid, Amgad A. Salama, Ahmed S. I. Amar, Naser Ojaroudi Parchin, Ahmed F. Miligy, Assem H. Elfeky</i>	
Metamaterial-Based MM-Wave Phased Array for Broadband Cellular Networks	573
<i>Ahmed S. I. Amar, Naser Ojaroudi Parchin, Daa E. Fawzy, A. M. M. A. Allam, Alaa M. Eid, Mohamed A. Soliman</i>	
A Multi-Band Textile-Based MTM Absorber for Energy Harvesting Applications.....	577
<i>A. M. M. A. Allam, Mahmoud. A. Helala, Daa E. Fawzy, M. Atef Abbas, Mohamed Fathy Abo Sree, Naser Ojaroudi Parchin, Ahmed S. I. Amar</i>	

A Broadband Stripline Gysel High-Power Combiner for L-Band Radar Applications.....	581
<i>Ahmed F. El-Agamy, Ahmed Alieldin, Abdelrahman M. El-Akhdar, Mohammad Darwish</i>	
Ridge Gap Waveguide Electrical Characteristics Under High Power Operation and Harsh Environmental Conditions.....	585
<i>Abdullah Muhammad Mahfouz, Shoukry I. Shams, Mahmoud Elsaadany, Ghyslain Gagnon</i>	
Performance Assessment of an Orthomode Transducer Under High Power Handling and Harsh Temperature Exposure.....	589
<i>Abdullah Muhammad Mahfouz, Shoukry I. Shams, Mahmoud Elsaadany, Ghyslain Gagnon</i>	
Spoken Digit Recognition Using Machine and Deep Learning-Based Approaches.....	592
<i>Ahmed Adel Ramadan, Khalid Mostafa Ezzat</i>	
A High Performance Shooting Simulator Independent of a Laser-Beam	597
<i>Hossam Reda Mohammed, Kamal Hussein Mustafa, Mahmoud Ahmed Khalil Mohamed, Abdelrahman Mohamed Watany, Mohamed Monier Mohamed, Youssef Fayad</i>	
Image Encryption Through Cellular Automata, S-Box and Tent Chaotic Map.....	601
<i>Salma Khaled, Mohamed Gabr, Yousef Korayem, Wassim Alexan</i>	
Double Layer Message Security for 3D Object Using Mathematical Sequences and Secret Keys	607
<i>Aya Alkhamese, Hewayda Elgawalby, Ahmad Eid, Ibrahim Hanafy, Wael Awad</i>	
Three Layered Image Encryption: An Application of Hyperchaos and Cellular Automata.....	615
<i>Ayten Mazen, Yousef Korayem, Mohamed Gabr, Wassim Alexan</i>	
Defect Diagnosis of Hot Rolling Steel Surfaces Based on Deep Learning.....	621
<i>M. Nashat Fors, Mohammad A. Younes, Samy H. Darwish, Ehab A. Kholief</i>	
A Comparative Study of User Pairing Techniques of MIMO-NOMA System in Different Channel Models.....	625
<i>Shady A Deraz, Mohamed A. Soliman, Mohamed A Elbaset, Karim H. Moussa</i>	
Effect of the Wavelength Reuse Pattern and Cell Size on the Performance of Indoor Cellular Visible Light Communication.....	629
<i>Rania A. Elsayed, Youssef A. Diab, Asmaa E. A. Farahat, Khalid. F. A. Hussein, Azhar A. Hamdi</i>	
Review: Pencil-On-Paper Electronics Devices Applications / Challenges.....	637
<i>Hamed Shawky Zied, El-Sayed M. El-Rabaie, Khalil Elkhamisy</i>	
Fast Simple Image Encryption Technique Based on Chaos Based System.....	643
<i>Tamer O. Diab, Wageda I. Al Sobky, Salwa M. Serageldin, Ahmed Khairy Mahmoud, Hany Nasry Zaky, Mofreh A. Hogo</i>	
Famous Digital Signatures Used in Smart Contracts	649
<i>Hala Saeed, M. A. Elsis, Tamer O. Diab, Wageda I. El Sobky, M. S. Abdel-Wahed, Ahmed Khairy Mahmoud</i>	
Detecting Dependent Malicious Nodes in Multi-State Target Detection Wireless Sensor Networks.....	657
<i>Samiha Mousa, Saud Althunibat, Abdullah Alhasanat, Moath Alsafasfeh</i>	
A Modified Transformer Neural Network (MTNN) for Robust Intrusion Detection in IoT Networks.....	663
<i>Syed Wahaj Ahmed, Fabio Kientz, Rasha Kashef</i>	

Design and Evaluation of a Wearable Glove for Sign Language Translation Using Cross-Correlation and Flex Sensors.....	669
<i>Amir R. Ali, Jessica Magdy, Aya Elnahas, Marina Samir, N. M. Samantha Kamel, Mariam A. Fathy</i>	
Analysis Sensing Voltage of Lead Zirconate Titanate (PZT) Piezoelectric MEMS Gyroscope and Comparing with Aluminum Nitride (AlN), Zinc Oxide (ZnO) and Barium Titanate (BaTiO ₃)	674
<i>Sherif A. Ghamry, Ahmed K. Mahmoud, Roshdy A. Abdelrassoul, Iman G. Morsi</i>	
Towards Content-Based Image Retrieval for Encrypted Images Over Cloud Computing: Review of Recent Trends.....	678
<i>Rowayda A. Elsayd, Metwally Rashad, Noha E. El-Attar, Ahmed Elsayy</i>	
ADAS System Integrated with New Architecture for V2X in Adaptive AUTOSAR.....	686
<i>Mona Helmy, Mohamed Mahmoud, Ismail Amr, Ghada Alaa, Rawan Waleed, Salma Sherif, Sandy Ibrahim, Ahmed Haggag, Mo 'Men Waleed, Ahmed Ehab</i>	
An Effective Strategy Coupled with Perturb and Observe Algorithm to Track the PV Systems' Global Maximum Power Under Partial Shading Conditions.....	692
<i>Ehab Mohamed Ali, Wael. Mohamed Mokhtar, H. M. N. Fiyad</i>	
Cyber Physical Security of Energy Hubs Using Feasibility Area Estimation.....	696
<i>Ahmed Abd Elaziz Elsayed, Hany E. Z. Farag, Amir Asif</i>	
Path Following Controller and Obstacles Avoidance Using Nonlinear Model Predictive Control.....	701
<i>Mohamed Mamdouh, Mohamed Ibrahim, Amr Sarhan, Mahmoud Ashry</i>	
An Enhanced Voltage Profile for Solar PV Following Converters in Microgrid Using Data-Driven FCS-MPC	707
<i>Ahmed S. Omran, Mostafa S. Hamad, M. Abdelgeliel, Ayman S. Abdel-Khalik</i>	
Productivity Improvement Based on Measuring the Overall Equipment Effectiveness in Metal Formation Production Stages	715
<i>Walaa Abd El Latif Tayel, Alaa El Din Zohir Ali, Hany Fathy Abd El Maksoud, Samy H. Darwish, Mohamed E. Morsy</i>	
Cold Standby System Availability.....	719
<i>Ghada Kholief, Ehab Kholief, Mohamed Grida, Abdel Nasser. Zaied</i>	
Comparative Synthesis of Linear and Nonlinear Attitude Controllers for LEO Satellite at Stabilization Mode	725
<i>Khaled Mohsen, Mohamed Ibrahim, Ahmed M. Kamel, Mahmoud Ashry</i>	
FMCW SAR Imaging Based on Software Defined Radio Architecture.....	731
<i>Mohamed Mamdouh Ashry, Ahmed S. Mashaly</i>	
Design and Assessment of Satellite Orbit Simulator and Predictor.....	737
<i>Ahmed A. Ibrahim, Hossam M. Hendy, Amr A. Ali, Ahmed M. Kamel</i>	
Design and Simulation of Fuzzy-Adaptive-PID Controller for Positioning of Stewart Platform Using Electric Linear Actuators.....	742
<i>Mohamed R. Mohamed, Amr A. Roshdy, Amr A. Ali, Mohamed A. Fayed</i>	
A Dynamic Thrust Control for Pursuer Time-To-Go Reduction.....	748
<i>Mohamed Zakaria, Mohamed Nageeb, Saffiy El-Dean Mohamed, Alaa El-Din Sayed Hafez, Ahmed Khairy Mahmoud, Maher Tarek</i>	

Evaluating the Effect of Stage Removal on the Performance of Phase Gradient Autofocus (PGA) Algorithm..... 754
Ahmed Elbohy, Ahmed Azouz, Ahmed S. Mashaly, Ashraf Khaled Helmy

Comparative Analysis of Feature Fusion Techniques for Enhancing RGB-IR Image Matching 761
A. Fouad, H. Hendy, I. Arafa, Y. Elhalwagy

Author Index