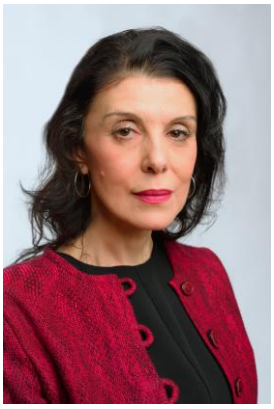

Editor-in-Chief: Scanning the Issue

Dear members and readers,

The Microwave Review journal (Vol. 31, No. 1), the July issue, presents the results of eleven research papers by authors from different Universities and countries.

The first paper authors, Teena Raikwar, Jitendra Ahir, and Sanjeev Kumar Gupta, are affiliated with the Department of Electronics and Communication Engineering at RNTU in Bhopal, India. Their paper is entitled ***Design and Performance Analysis of a Wideband Microstrip Antenna for C. R. Applications***. This paper presents a microstrip antenna design and performance analysis tailored for cognitive radio (CR) applications, operating over a wide frequency range from 4.1 GHz to 8.1 GHz. This antenna is characterized by strong resonance features and efficient signal transmission capabilities.

The second paper title is ***Design and Performance Analysis of a Frequency Reconfigurable Antenna for Wireless Applications*** by authors Prem Nath Suman and Gajendra Kant Mishra, who are from different institutions in India: Department of Electrical and Electronics Engineering at Arka Jain University and the Department of Electronics and Communication Engineering at Birla Institute of Technology. This paper presents a circular ring frequency-reconfigurable antenna that utilizes PIN diodes for dynamic tuning across multiple frequency bands, offering an excellent stopband suitable for adaptive contemporary and future wireless communication systems.

The third paper presents a novel design for a broadband planar patch antenna that incorporates a slotted patch and a defected ground structure, exhibiting a bandwidth of 120 MHz, which aligns with the specific requirements of the Narrowband Internet of Things (NB-IoT) Band B1 at a frequency of 2100 MHz. A microstrip inset feed line with an optimized width is employed to enhance the antenna's bandwidth and impedance-matching capabilities. The paper entitled ***A Symmetric Slotted Microstrip Patch Antenna for NB-IoT Technology*** is written by authors Sneha, Praveen Kumar Malik, and Rashmi Roges, who are with the Department of Electronics and Communication Engineering at Lovely Professional University in Jalandhar, India, and Vijay Nath, who is with the Department of Electronics and Communication Engineering at Birla Institute of Technology in Ranchi, Jharkhand, India.

The fourth paper by Sher Dali Khan, M. Inam Abbasi, I. M. Ibrahim, M. Y. Zeain, with Faculty of Electronics and Computing Technology and Engineering, Technical University Malaysia, and N. H. Sulaiman with the School of Electrical Engineering and Artificial Intelligence, Xiamen University Malaysia, is ***Beam Scanning and Efficiency Requirements of Reflectarray Antennas for Modern Day Applications: A Review***. This paper relates the review of the current state of reflectarray antennas by assessing and categorizing them, based on 5G/6G communication system requirements, according to several factors, such as operating frequency, range of reflection phase, substrate structure and material, size of aperture, aperture efficiency, distance of focal point, performance in cross-polarization, gain, and levels of side lobes.

The authors of the fifth paper entitled ***Metasurface Loaded Two-Port Circularly Polarized Microstrip Array Antenna with High Gain Features for mm-wave 5G Communication System*** are Shashikant Verma, Ankit Pandit, and Sanjeev Kumar Gupta with the Department of Electronics and Communication Engineering, Ravindranath Tagore University, Bhopal, India. This paper includes the design and investigation of two port microstrip array radiator that operates effectively in the frequency range 31.5-33.25 GHz. It is featured by high gain (more than 11.0 dBi) due to combination of array antenna concept and suspension of double negative metasurface. Broadsided far-field pattern and low correlation coefficient confirms its applicability for 5G communication systems in mm-wave regime.

The authors of the sixth paper - ***A Wide Bandwidth Antipodal Vivaldi Antenna Array for 5G mm Wave Applications at 28 GHz*** are Ramyasree Golla and Suman Nelaturi with the Department of Electronics and Communication Engineering, Vignan's Foundation for Science Technology and Research, Vadlamudi, Guntur, Andhra Pradesh, India. This paper analyses the antipodal Vivaldi antenna (AVA) 1x4 array for 5G mm Wave applications fabricated on Rogers Rt/duroid 5880 material with dimensions 55.3x26.6x0.79 mm3. The antenna can be incorporated in a MIMO system to provide high efficiency, wider bandwidth, and better channel capacity. To improve bandwidth, return loss, and gain, techniques as triangular corrugations, rhombus parasitic patches, and air via are applied to the AVA array.

The seventh paper, entitled ***Ultrashort Pulse Decomposition in a Two-Turn Meander Line with Radio Absorbing Material*** presents the research results of Georgiy Y. Kim and Alexander V. Nosov from the laboratories of Fundamental Research in Electromagnetic Compatibility and Safety and The Electromagnetic Compatibility of Radio-Electronic Means in Tomsk, Russia. This paper discusses the practical realization of a two-turn meander microstrip line with a reduced size, achieved for the first time by applying two approaches: utilizing radio absorbing material and additionally folding each meander line turn into non-core turns.

The eighth paper, titled ***Start-Up Condition Analysis and Mode Selection Optimization in Gyrotron Operation*** examines the critical start-up conditions and strategies for managing mode competition in a 140 GHz gyrotron operating in the TE10,4 mode. The authors of this paper, Jitendra Kumar Shukla and Rajiv Kumar Singh, are with the Department of ECE, IET Lucknow, Dr. APJ Abdul Kalam Technical University, Lucknow, India. This analysis demonstrates that careful selection of both the electron beam position and the magnetic flux density is essential for optimizing the start-up conditions and design strategies for gyrotrons operating in high-frequency regimes.

The title of the ninth paper is ***Efficient and Reliable Image Communication over Binary Erasure Channel based on Compressed Sensing***. The authors are Arti Kumari, and Sanjeet Kumar with the Department of Electronics and Communication Engineering, Birla Institute of Technology, Mesra, India. This paper relates to the performance evaluation of compressed sensing for wireless communication over a binary erasure channel (BEC) by a common channel model with random packet losses. It proposes an inherent framework of compressed sensing along with its reconstruction technique to recover original images communicated over a BEC without using any error-correcting codes.

The tenth paper is ***Comparative Analysis of QoS Degradation in IoT Networks Caused by Hybrid Rank Attacks*** by authors Mohamed Achraf Boukhobza, Mehdi Rouissat, Mohammed Belkheir, Allel Mokaddem, with the different institutions from Algeria: LIMA Laboratory and the Institute of Technology at Nour Bachir University Center El-Bayadh, STIC Laboratory, University Aboubekr Belkaid, Tlemcen, whereas the author Pascal Lorenz comes from Haute Alsace University, Mulhouse, France. In this paper, a new variant of Hybrid Rank Attack is presented, based on Decreased Rank Attack and Infinite Rank Attack. The results demonstrate that the proposed attack severely degrades the network Quality of Service, significantly affecting metrics such as overhead, energy consumption, packet delivery ratio, and latency.

The eleventh paper in Microwave Review discusses the design, simulation, fabrication, and testing of a low-loss, compact-size broadband second-order band pass filter for Ku-band and satellite communication applications. It is titled ***Broadband Low Loss Compact Size 2nd-Order Planar Bandpass Filter for Ku-Band Applications.*** The authors, Rashmita Mishra, Ajit Kumar Patro, and Kailash Chandra Rout, are from the Department of Electronic and Communication Engineering at GIET University in Gunupur, Odisha, India. The proposed filter structure utilizes a symmetric T-shaped-feeder-coupled line resonator-based microstrip line. The experiment confirms the simulation results.

I would like to stress the great effort and dedicated time of the Reviewers, which improved the papers' quality and the Microwave review journal.

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