

Tele Health Monitoring System in Rural Areas Through Primary Health Center Using IOT for Covid-19

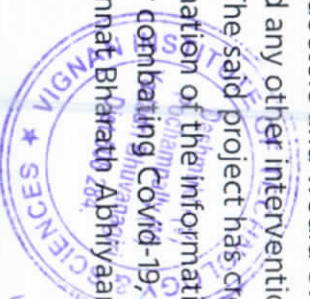
Authors: Vijayalaxmi Biradar, G. Durga Sukumar

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Abstract

Given the limited access to the healthcare services in India and the vulnerabilities therein, the physical well-being of the people in India is a matter of grave concern as is in other developing economies in the world. Though there has been advent of improvements in medical sciences and novel technological innovations therein, yet the reach of the same to the masses is questionable. Statistics indicate that there has been an increase in the people falling at a higher age bracket, all throughout the world. In India, the rural population embracing almost 6,40,000 villages have an unfortunate tale to narrate with more than 11% having no admittance to any sort of healthcare facilities. With the outbreak of Covid-19 and the subsequent need for far reaching screening to contain the same, there are new challenges of outreach constraints in densely populated countries like India. What further poses grave concern is the rural urban divide in the availability of healthcare amenities. All this calls for a progressive transformation and integration of medical sciences with information technology. The divide can be lessened with the aid of telehealth monitoring systems using IOT. In countries like India, where there is little access to doctors and medical infrastructure, such system would be an apt solution for interaction between the patients and the medical practitioners. Most of the villages in India are deprived of even rudimentary Public Health Centers, thus making it difficult for the resident villagers to receive even preliminary treatment. The telehealth monitoring system comes to rescue in such apathetic situations where it facilitates monitoring and measuring the physical vitals like pulse, levels of oxygen in the blood, rate of breath, glucose levels, temperature, lung capacity, ECG, and so on. The information so collected is stored in the cloud database which is then evaluated by the doctors and would eventually lead to generating prescriptions for the same and any other intervention as may be needed including emergency and EMRI services. The said project has created a website www.sfpieee.in which would help in dissemination of the information to be used by the physician. Under the call for proposals for combating Covid-19, with the support received from IEEE SIGHT/HAC and the Unnat Bharath Abhiyaan (UBA), this project has

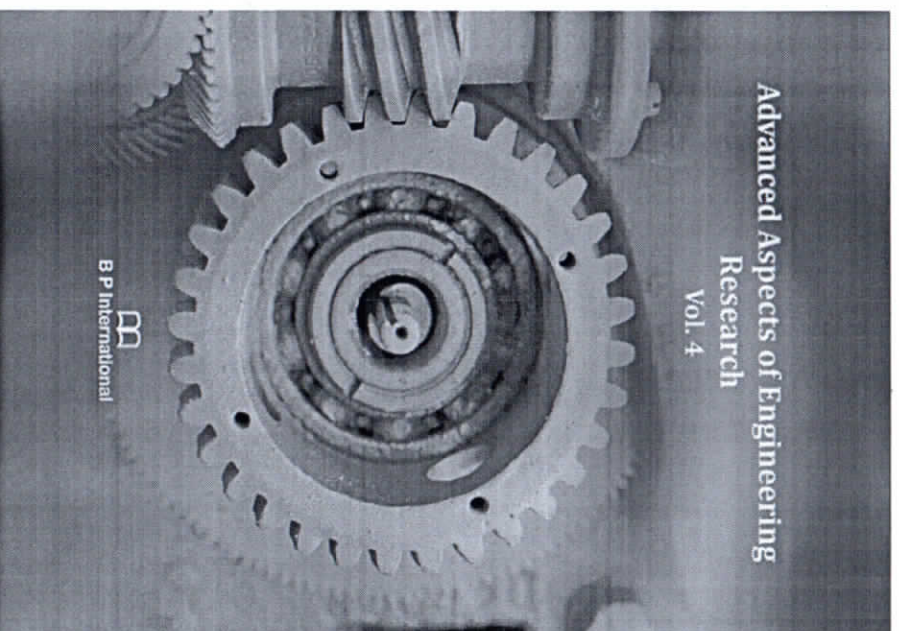


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Frequency Multiplier with Delay Locked Loop -Based Clock Generator for System on Chip Applications

G. Prasanna Kumar ; J. Prabhakar ; Nagulantha Raju


Advanced Aspects of Engineering Research Vol. 4, 9 April 2024, Page 123-134

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Abstract

Any implementation of something like a specific form of the multiplier in automated frequency measurement systems depends primarily on the overall permitted variance of both the output frequency of that same transducer. Therefore, it will be usually best to always use frequency multipliers of that first category in transducers with such a slight variance. The suggested edge incorporates optimal speed and reliable activity that used an organizational structure as well as an unselected overlap. The suggested hybrid digital edge solution provides broadband with low-energy and low-area benefits as well as being a potential candidate for low-energy frequency summaries in deep CMOS sub-micrometer. A charge pump was substituted by a counter to integrate the automated interface. The overall system consists of all the resources for doing the operation of stable clock pulses for system on chip applications as well as the frequency multiplier. The frequency multiplying method is carried out how to use a clock amplification system based on an edge combiner, which is carried out using the C2MOS logic. Eventually, a computational review to verify the output is done. It is evident in contrast with other designs that this system absorbs less power than others do in the same phase.

Keywords: Low power; frequency multiplier; phase detector; clock

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A handwritten signature in blue ink, appearing to read "S. Subramanian".

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Periodic Octagon Split Ring Slot Defected Ground Structure for MIMO Microstrip Antenna

Advances in Communications, Signal Processing, and VLSI pp 379-389 | Cite as

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Conference paper

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Abstract

In this work, a periodic octagon split ring slot defected ground structure for MIMO (Multiple Input Multiple Output) microstrip antenna is proposed. The prototype of MIMO microstrip antenna consists of four similar rectangular microstrip antenna elements with a partition of $\lambda/4$ distance. The antennas are printed on a 1.6mm thick FR-4 substrate with an overall dimension of 62.8 X 60 mm². To improve the antenna parameters, the proposed MIMO microstrip antenna elements are etched with narrow rectangular edge slit and ground plane defected with periodic octagon split ring slot defected ground structure (POSRSDDGS). The proposed MIMO microstrip antenna resonates at dual frequency points, i.e., 4.1GHz, 5.9GHz with a bandwidth of 88MHz and 454MHz along with minimum return loss of -22.7dB and -19.02dB, respectively. The envelope correlation coefficient (ECC) is lower than the acceptable limit across the dual operating bands. Mutual coupling coefficient (MCC) at dual resonating frequency points are -36.21dB and -42.93dB, respectively. The simulated and fabricated results are found in good agreement and ideal for wireless communication applications.

Keywords

Microstrip Antenna MIMO POSRSDDGS Bandwidth MCC ECC
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Design of MIMO Antenna Using Circular Split Ring Slot Defected Ground Structure for ISM Band Applications

Machine Learning, Deep Learning and Computational Intelligence for Wireless Communication pp 227-236 | Cite as

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Abstract

In this work, a systematic approach for design of MIMO antenna using circular split ring slot defected ground structure for Industrial Scientific and Medical (ISM) band applications. The overall MIMO antenna is inserted on flame retardant fiber glass epoxy (FR-4) substrate with the dimensions of $60 \times 62.8 \times 1.6$ mm³. The elements of MIMO antennas are patch antennas defected with circular split ring slot defected ground structures (CSRSDDGS). The CSRSDDGS are used for patch antenna miniaturization to ISM band applications. The dimension of the individual patch antenna element is 11.35×15.25 mm². The proposed MIMO antenna resonates at 5.725 GHz with a bandwidth of 265 MHz and mutual coupling coefficient (MCC) of -22.42 dB which makes it suitable to use for ISM band applications.

Keywords

MIMO antenna CSRSDDGS Bandwidth MCC

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Acknowledgements



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Radiation Power Pattern Distortion Analysis Using MATLAB for MST Radar System

By Nali Dinesh Kumar

Submitted: September 19th 2020 Reviewed: April 8th 2021 Published: May 5th 2021

DOI: 10.5772/intechopen.97637

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Abstract

Most often, in MST radar system, a few number of transmitters are non-operational due to various factors, making the liner sub-arrays corresponding to these transmitters in effective. This results in the thinning of the aperture and deviation of the excitation from the specified Taylor distribution. The array pattern will be distorted due to this deviation, when compared to the reference pattern. This chapter gives a complete analysis to quantify the distortion in the radiation pattern due to Aperture thinning. MATLAB was extensively used to analyze the results. The results of the radiation pattern in both principal planed and for different azimuth angles with and without thinning/tilt are presented. Radiation pattern is viewed in both polar and rectangular (2-D and 3-D) forms. Conclusions on the results obtained are presented.

Keywords

Array Factor Distortion Aperture thinning MATLAB Phased antenna Polar Pattern
Rectangular form Side Lobe Level Taylor distribution

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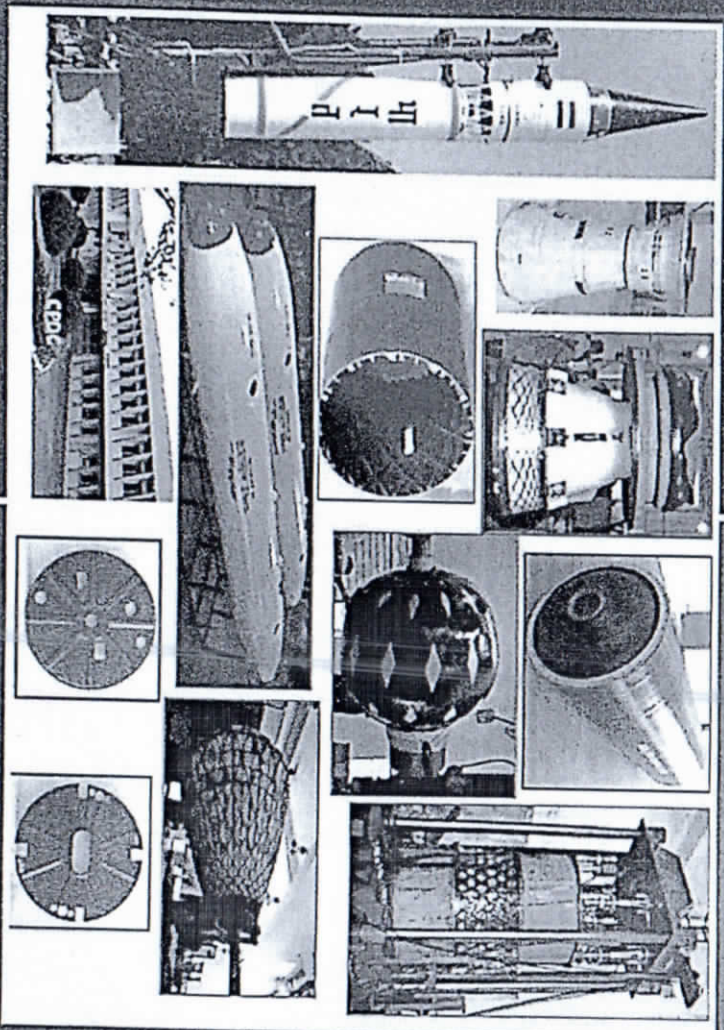


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Advanced Composite Structures

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GV Rao

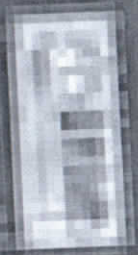
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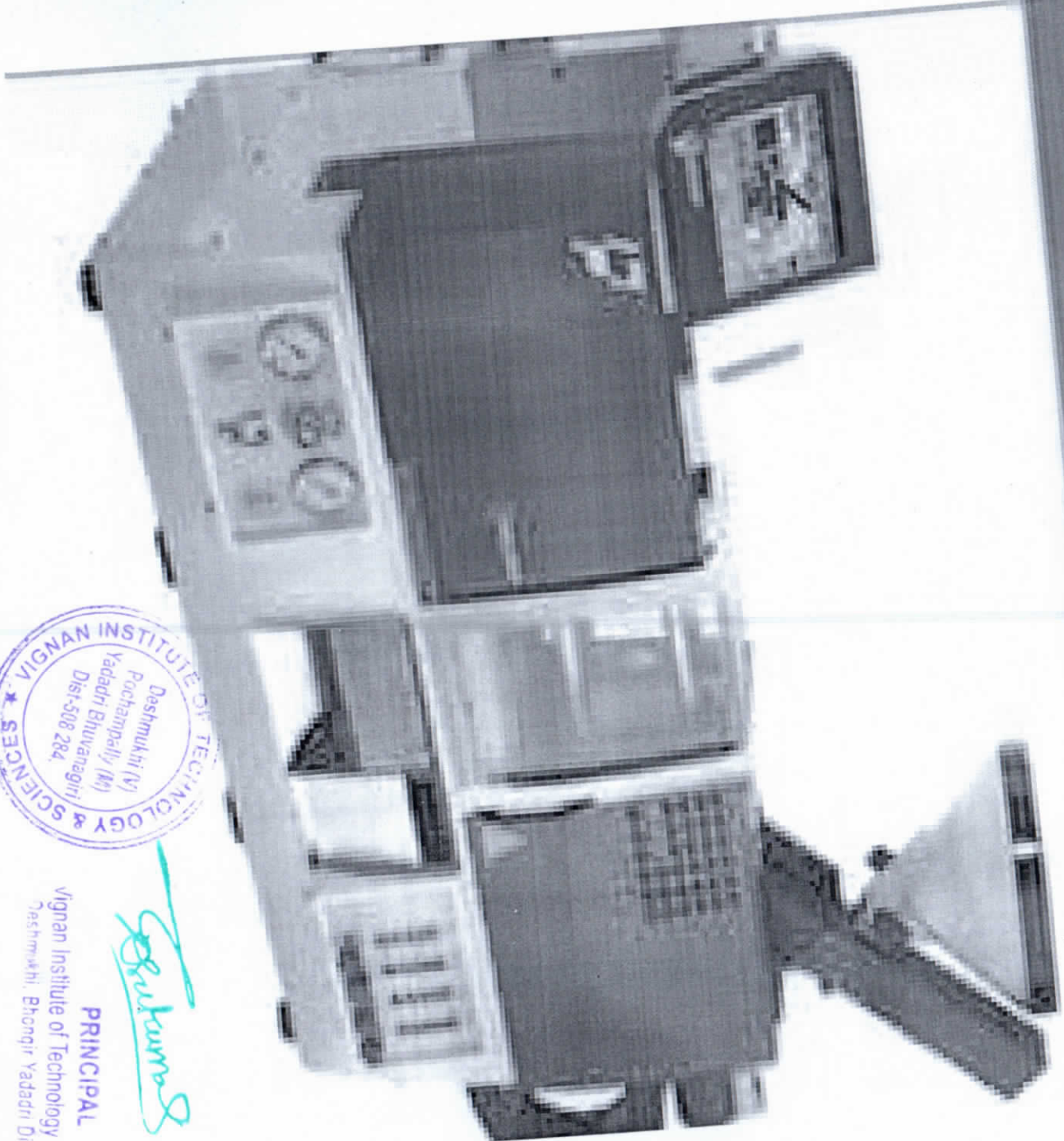
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DESIGN AND ANALYSIS OF
MULTI LAYER INJECTION MOLD

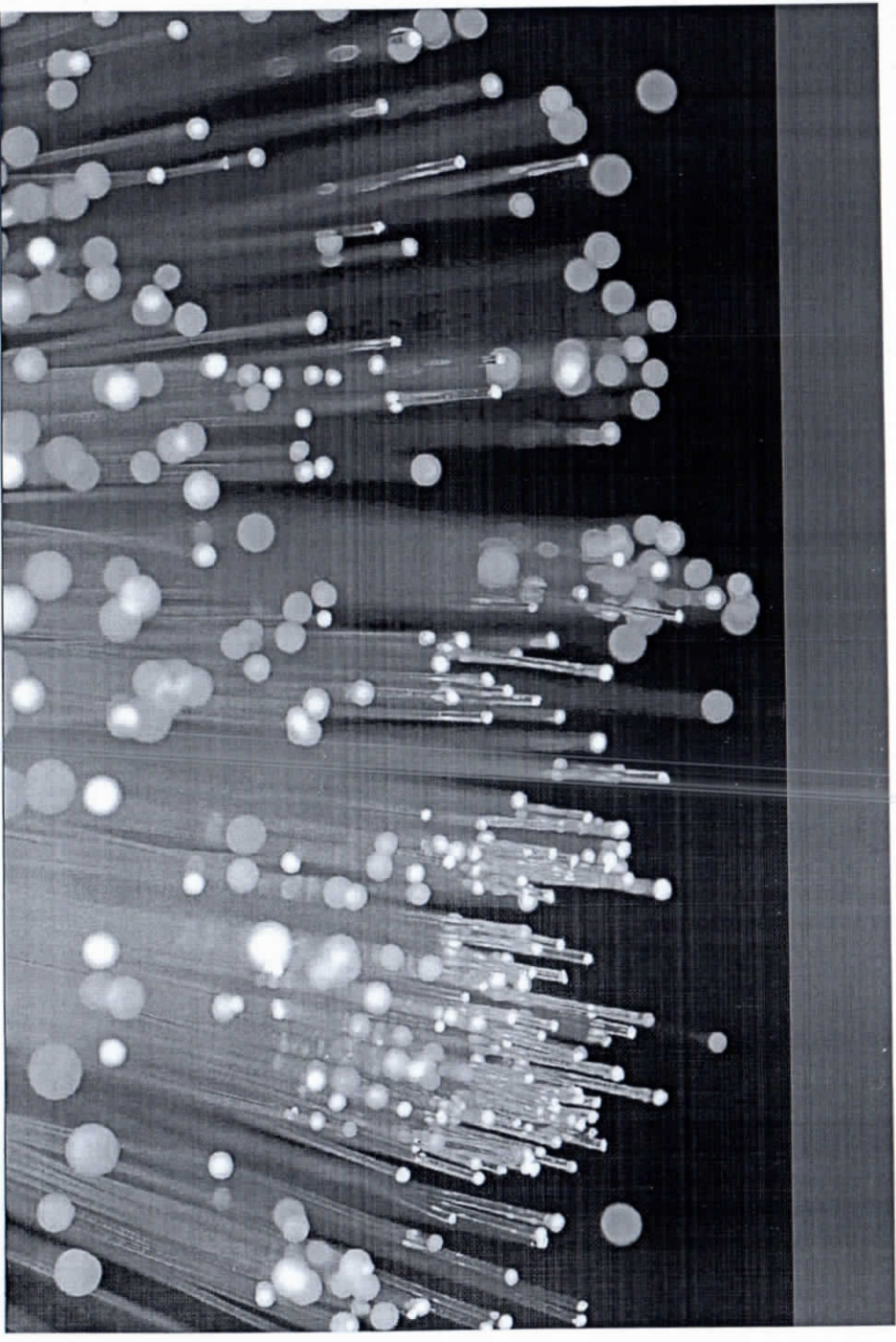
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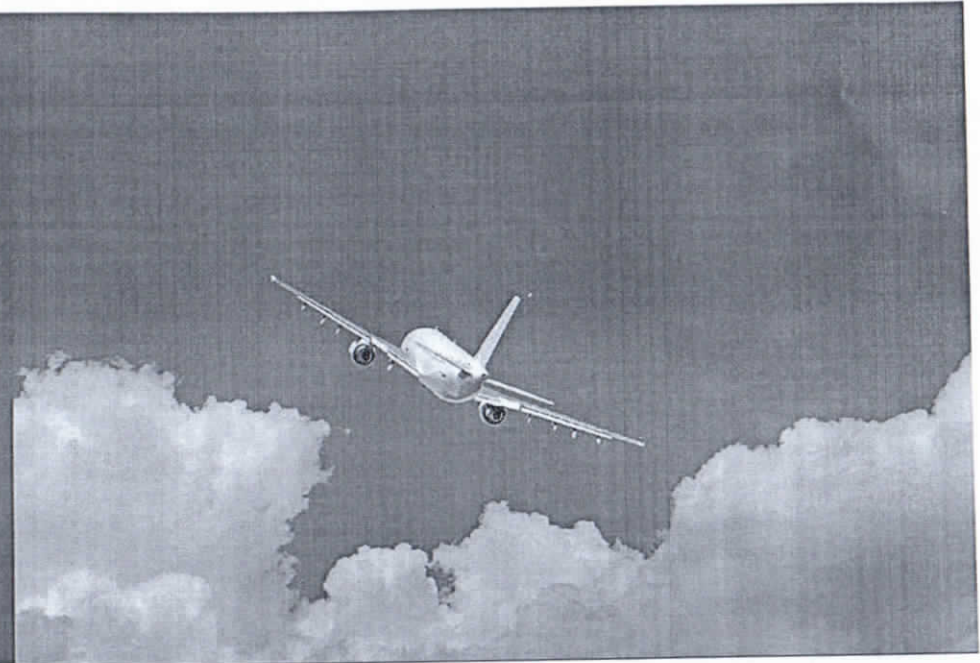


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Hybrid composite materials have extensive engineering applications where strength to weight ratio, low cost and ease of fabrication are required. Hybrid composites provide combination of properties such as tensile modulus, compressive strength and impact strength which cannot be realized in conventional composite materials. In recent times hybrid composites have been established as highly efficient, high performance structural materials and their use is increasing rapidly. The monograph also provides the effect of individual fibers on its mechanical properties and optimum ply orientation for the hybrid composite by using AUTODESK software. Thus, this monograph should be an extremely useful preference document for the mechanical and material science engineers engaged in the hybrid composite synthesis and characterisation.



K. Chandra Shekar
B. Anjaneya Prasad

Dr. K. Chandra Shekar, Professor and Head of Mechanical Engineering, Vignan Institute of Technology and Science, Hyderabad, India has 17 years of outstanding teaching experience. He did his M.Tech from NIT Warangal and PhD from JNTUH, Hyderabad, India. He has published several research papers in the reputed international journals and conferences.

Mechanical Characterisation of Hybrid Composite



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