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## Criterion 3 – Research, Innovations and Extension

3.4

Research Publications and Awards

*3.4.3 Number of research papers per teacher in the Journals notified on UGC website during the last five years*

**First Page of the Published  
Papers**

3.4.3.1: Number of research papers in the Journals notified on UGC website during the last five years

S.No	Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Is this journal indexed in UGC/SCOPUS/WOS? If yes means mention the name of the indexer.
1	Improved Key Agreement Based Kerberos Protocol for M-Health Security	Thirumorthy, P; Bhuvaneshwari, KS; Kamalanathan, C; Sunita, P; Prabhu, E; Maheswaran, S	CSE	INTELLIGENT AUTOMATION AND SOFT COMPUTING	2021-22	2676192	Scopus, SCI &WOS
2	The deep investigation of structural and opto-electrical properties of Yb2O3 thin films and fabrication of Al/Yb2O3/p-Si (MIS)	Panneerselvam, A., Mohan, K.S., Marnadu, R., Chandrasekaran, J.	PHYSICS	Journal of Sol-Gel Science and Technology	2021-22	09280707	Scopus & SCI
3	Review on role of nanoscale HfO2 switching material in resistive random access memory device	Napolean, A., Sivamangai, N.M., Rajesh, S., NaveenKumar, R., Nithya, N.,		Emergent Materials	2021-22	25225731	Scopus & WOS
4	Intensification of proton conductivity through polymer electrolytic membrane using novel electrode pattern	Praveenkumar, S., Baskar, S., Muthukumar, M.	MECH	Journal of the Indian Chemical Society	2021-22	194522	Scopus, SCI &WOS
5	Effects of Ambient and Annealing Temperature in HfO2Based RRAM Device Modeling and Circuit-Level Implementation	Napolean, A., Sivamangai, N.M., Rajesh, S., Naveenkumar, R., Sharon, N., Nithya,		ECS Journal of Solid State Science and Technology	2021-22	21628769	Scopus, SCI &WOS
6	A Study of Added SiC Powder in Kerosene for the Blind Square Hole Machining of CFRP Using Electrical Discharge	Kumar, P.A., Vivek, J., Senniagiri, N., Nagarajan, S., Chandrasekaran, K.	MECH	Silicon	2021-22	1876990X	Scopus, SCI &WOS
7	Detection and classification of cervical cancer images using CEENET deep learning approach	Subarna, T.G., Sukumar, P.	BME	Journal of Intelligent and Fuzzy Systems	2021-22	10641246	Scopus, SCI &WOS
8	Study on the mechanical properties of a hybrid polymer composite using egg shell powder based bio-filler	Ashok Kumar, B., Saminathan, R., Tharwan, M., Vigneshwaran, M., Sekhar Babu, P.,	MECH	Materials Today: Proceedings	2021-22	22147853	Scopus&WOS
9	Analyzing thermal characteristics of an inorganic phase change material	Thilak, G., Saminathan, R., Srinivasan, S., Manoj Kumar, P., Murthi, M.K., Ram, S.	MECH	Materials Today: Proceedings	2021-22	22147853	Scopus
10	On the solutions of fractional integro-differential equations involving Ulam–Hyers–Rassias stability results via $\psi$ -	Karthikeyan, K., Murugapandian, G.S., Ege, O.	MATHS	Turkish Journal of Mathematics	2021-22	13000098	Scopus, SCI &WOS
11	Design of Smart Energy Meter with IOT using Arduino Mega	Manikanda Prabu, N., Saravanavasan, R., Vignesh, A., Nandhu, S.	ECE	ECS Transactions	2021-22	19386737	Scopus

12	Histogram Based Optimized Reversible Steganographic Scheme	Nallasivam, M., Femi, D., Raja Paulsingh, J.	ECE	ECS Transactions	2021-22	19386737	Scopus
13	Internet of Things- Cloud Security Automation Technology Based on Artificial Intelligence	Hussain, K., Vanathi, D., Jose, B.K., Kavitha, S., Rane, B.Y., Kaur, H., Sandhya, C.	CSE	Proceedings - International Conference on Applied Artificial Intelligence and	2021-22	978-166549710-7	Scopus
14	Detection And Categorization of Transmission Line Faults Using Artificial Neural Network	Gunasekar, T., Kokila, P., Mohanasundaram, T., Livinkumar, D.	ECE	8th International Conference on Advanced Computing and Communication Systems, ICACCS	2021-22	978-166540816-5	Scopus
15	Review on Arbiter Physical Unclonable Function and its Implementation in FPGA for IoT Security Applications	Shariffuddin, S., Sivamangai, N.M., Napoleon, A., Naveenkumar, R., Kamalnath, S.,		ICDCS 2022 - 2022 6th International Conference on Devices, Circuits and Systems	2021-22	978-166548094-9	Scopus
16	An Innovative Model for Secure Environment Using Steganography	Maheswari, K.G., Siva, C., Nalinipriya, G., Hemaroshini, M., Jayathraa, V., Reethika, R.	IT	8th International Conference on Smart Structures and Systems, ICSSS 2022	2021-22	978-166549761-9	Scopus
17	PFC based Three Stage Interleaved Boost Converter for Renewable Energy System	Gomathi, S., Arulanantham, D., Thumma, R., Vimala, S., Jenifer Rayen, S., Subha,	ECE	2022 6th International Conference on Trends in Electronics and Informatics, ICOEI 2022 - Proceedings	2021-22	978-166548328-5	Scopus
18	Channel Estimation for OFDM Systems Using MMSE and LS Algorithms	Srividhya, R., Jayachandran, T., Anto Bennet, M., Rajmohan, V.	ECE	2022 6th International Conference on Trends in Electronics and Informatics, ICOEI 2022 - Proceedings	2021-22	978-166548328-5	Scopus
19	Deep Learning based Telugu Video Text Detection using Video Coding Over Digital Transmission	Anto Bennet, M., Srividhya, R., Jayachandran, T., Rajmohan, V.	ECE	2022 6th International Conference on Trends in Electronics and Informatics, ICOEI 2022 - Proceedings	2021-22	978-166548328-5	Scopus
20	Retraction Note to: Computer aided innovation method for detection and classification of cervical cancer using ANFIS classifier(Journal of Ambient	Ponnusamy, S., Samikannu, R., Venkatachary, S.K., Sukumar, S., Ravi, R.	ECE	Journal of Ambient Intelligence and Humanized Computing	2021-22	18685137	Scopus
21	Power Reduction in 4T DRAM Cell using Low Power Topologies	Saranya, L., Abinaya, I., Nivedita, A., Arulanantham, D.	ECE	ECS Transactions	2021-22	19386737	Scopus
22	Recognizing Handwritten Offline Tamil Character by using cGAN CNN	Sasipriya, N., Natesan, P., Anand, R., Arvindkumar, P., Arwin Prakadis, R.S., Aswin Surya,	IT	International Conference on Sustainable Computing and Data Communication	2021-22	978-166547884-7	Scopus
23	Dynamic Face Mask Detection Using Machine Learning	Nalinipriya, G., Shobana, M., Siva, C., Kanisha, B., Monica, J.K., Siva Vadivu Ragavi, V.	IT	1st IEEE International Conference on Smart Technologies and Systems for Next Generation	2021-22	978-166542111-9	Scopus
24	On mild solutions of fractional impulsive differential systems of Sobolev type with fractional nonlocal conditions	Karthikeyan, K., Murugapandian, G.S., Hammouch, Z.	MATH S	Mathematical Sciences	2021-22	20081359	Scopus

25	QoS Constrained Network Coding Technique to Data Transmission Using IoT	Sathishkumar, A., Rammohan, T., Sathish Kumar, S., Uma, J., Srujan Raju, K., Sangwan,	EEE	Computer Systems Science and Engineering	2021-22	2676192	Scopus, SCI & WOS
26	Detection of Vehicle Speeding Violation using Video Processing Techniques	Krishnakumar, B., Kousalya, K., Mohana, R.S., Vellingiriraj, E.K., Maniprasanth, K.,	MCA	2022 International Conference on Computer Communication and Informatics, ICCCI	2021-22	978-166548035-2	Scopus
27	Biodiesel production from non-edible crops using waste tyre heterogeneous acid catalyst	Arumugamurthi, S.S., Sivanandi, P., Kandasamy, S.		Energy Sources, Part A: Recovery, Utilization and Environmental Effects	2021-22	15567036	Scopus & WOS
28	Morphological, optical and structural properties of pure, zinc and magnesium doped TiO <sub>2</sub> nanoparticles for solar cell devices	Manojkumar, M.S., Venkatesan, S., Pandiarajan, S.	CHEMICAL	Journal of Ovonic Research	2021-22	18422403	Scopus, SCI & WOS
29	Certain studies on influence of nano catalysts Co <sub>3</sub> O <sub>4</sub> , SiO <sub>2</sub> blended with CME-diesel in combustion	Yuvaraj, S., Senthil Kumar, A.P., Muthukumar, M., Sadesh, K., Janaki, S.	MECH	Materials Today: Proceedings	2021-22	22147853	Scopus
30	No Fine Concrete Pavement—A Sustainable Solution for Flood Disaster Mitigation	Jeya Prakash, R., Soundara, B., Johnson, C.	CHEMICAL	Lecture Notes in Civil Engineering	2021-22	23662557	Scopus
31	Influence of nano-silica on mechanical properties of Indian almond fiber reinforced hybrid epoxy composites	Natarajan, S., Pathinettampadian, G., Vadivel, M., Yesudasan, P.S.S., Jesuretnam, B.R.	Mech	Journal of Natural Fibers	2021-22	15440478	Scopus & SCI
32	Characterization of the Aluminium Matrix Composite Reinforced with Silicon Nitride (AA6061/Si <sub>3</sub> N <sub>4</sub> )	Kumar, B.A., Krishnan, M.M., Sahayaraj, A.F., Refaai, M.R.A., Yuvaraj, G.,	Mech	Advances in Materials Science and Engineering	2021-22	16878434	Scopus, SCI & WOS
33	Fuzzy logic controlled 3 port DC to DC Cuk converter with IoT based PV panel monitoring system	Senthilnathan, A., Murugasami, R., Balakrishnan, R., Sundar, R., Palanivel, P.	ECE	International Journal of Systems Assurance Engineering and Management	2021-22	9756809	Scopus
34	Improved Energy Based Multi-Sensor Object Detection in Wireless Sensor Networks	Palanisamy, T., Alghazzawi, D., Bhatia, S., Malibari, A.A., Dadheech, P., Sengan, S.	CSE	Intelligent Automation and Soft Computing	2021-22	10798587	Scopus, SCI & WOS
35	Microstructural, Mechanical and Wear Properties of Friction Stir Welded AA6061/AlNp Composite Joints	Ashok Kumar, B., Dinaharan, I., Murugan, N.	MECH	Journal of Materials Engineering and Performance	2021-22	10599495	Scopus, SCI & WOS
36	Real Time Monitoring Of Energy Harvesting Fields With Battery Management System Through Smart Web	G Ramani P Jamuna K P Suresh A J Ajitha V Sivaprakash	ECE	International Journal of Mechanical Engineering	2020-21	0974-5823	Scopus
37	A reversible data hiding method for image protection	S S Saranya C Santhosh M Santhiya S Jeevana J Dhivya	CSE	AIP Conference Proceedings	2020-21	0094243X	Scopus

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40	An Intelligent Bionic Person for Bomb Detection and Diffusion using Internet of Things (IoT) in Military Application	V Parameshwari P Premkumar M Srinevasan V Logeswari P V Junaid Rahman	ECE	International Journal of Mechanical Engineering	2020-21	0974-5823	Scopus
41	Comparative Experimental Study on Mechanical Properties of Chemically Treated and Untreated Sisal Fiber Reinforced Poly Lactic	N Vijayakumar S Jannathulfirhouse N Saravanan E Manickavalli	CHEMISTRY	Journal of Mechanical	2020-21	9745823	Scopus
42	Mechanical and metallurgical characterization of AA7075 matrix composite reinforced with Zirconium Boride (ZrB2) synthesized by stir	V Vimala R Saravanan	MECH	International Journal of Mechanical Engineering	2020-21	0974-5823	Scopus
43	ANOMALY DETECTION OF IoT USING MACHINE LEARNING	K Shanmugapriya Dr C N Marimuthu N Sridhar S Sameema Begam	CSE	International Journal of Mechanical Engineering	2020-21	0974-5823	Scopus
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45	Surgeon's Database Management System (Regional) and Surgery Allocator	Gughan B & Dr C K Vijayalakshmi	BME	International Journal of Mechanical Engineering	2020-21	0974-5823	Scopus
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47	BIODEGRADABLE PLASTIC FROM MIXED STARCH	Dr N Subramanian B Vinothkumar M Geetha K Gladys Kalpana	CHEMICAL	International Journal of Mechanical Engineering	2020-21	0974-5823	Scopus
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51	SOLAR OPERATED BRUSH CUTTER	R Aswin G Manobala M Dhananivitha E Manickavalli	AGRI	International Journal of Mechanical Engineering	2020-21	0974-5823	Scopus
52	Reconstruction of Multi-channel ECG using Compressive Sensing based Emperor Penguin Colony in WBSN	P Vinoth Kumar C N Marimuthu S Sivaranjani S Punitha	ECE	International Journal of Mechanical Engineering	2020-21	0974-5823	Scopus
53	Traffic controlling and monitoring using IoT	C Vennila K Chandraprabha M Vijayaraj S Kavitha S Vimalnath	ECE	Journal of Physics: Conference Series	2020-21	2027 012017	Scopus
54	Effect of nanoparticles on the droplet combustion of rice bran oil biodiesel	Dr M Muthukumar A P Senthil Kumar C Sasikumar S Yuvaraj Thokchom	MECH	Biomass Conversion and Biorefinery	2020-21	2190-6823	Scopus & WOS
55	IoT Based Moisture Control and Temperature Monitoring in Smart Farming	P R Karthikeyan Gokul Chandrasekaran Neelam Sanjeev Kumar	EEE	Journal of Physics: Conference Series	2020-21	1742-6596	Scopus
56	Trusted cognitive sensor based dual routing network on Internet of things	D Arulanantham C Palanisamy	ECE	International journal of communication systems	2020-21	1099-1131	Scopus & WOS
57	A systematic influence of Cu doping on structural and opto-electrical properties of fabricated Yb <sub>2</sub> O <sub>3</sub> thin films for Al/Cu-Yb <sub>2</sub> O <sub>3</sub> /p-Si	KS Mohan A Panneerselvam R Marnadu J Chandrasekaran Mohd Shkir	PHYSI CS	Inorganic Chemistry Communications	2020-21	ISSN: 1387-7003	Scopus,SCI and UGC
58	Computer aided innovation method for detection and classification of cervical cancer using ANFIS classifier	P Sukumar R S Samikannu S K Venkatachary	ECE	Journal of Ambient Intelligence and Humanized Computing	2020-21	1868-5137	Scopus & WOS

2021-2022

## Improved Key Agreement Based Kerberos Protocol for M-Health Security

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## Abstract

The development of wireless sensor network with Internet of Things (IoT) predicts various applications in the field of healthcare and cloud computing. This promising results on mobile health care (M-health) and Telecare medicine information systems. M-health system on cloud Internet of Things (IoT) through sensor network (WSN) becomes the rising research for the need of modern society. Sensor devices attached to the patients' body which is connect mobile device can ease the medical services. Security is the key connect for optimal performance of the m-health system that share the data of patients in networks in order to maintain the anonymity of the patients. This paper proposed a secure transmission of M-health data in wireless networks using prop agreement based Kerberos protocol. The patients processed data are stored in cloud server and accessed by doctors and caregivers. The data transfer the patients, server and the doctors are accessed with proposed protocol in order to maintain the confidentiality and integrity of authentication. The efficient proposed algorithm is compared with the existing protocols. For computing 100 devices it consumes only 91millisecond for computation.

## Keywords

Health monitoring; authentication; preparation protocol; kerberos; key agreement

## Cite This Article

BibTex EndNote RIS

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## We recommend

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## Service Level Agreement Based Secured Data Analytics Framework for Healthcare Systems

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# Document details - The deep investigation of structural and opto-electrical properties of $\text{Yb}_2\text{O}_3$ thin films and fabrication of Al/ $\text{Yb}_2\text{O}_3$ /p-Si (MIS) Schottky barrier diode

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Journal of Sol-Gel Science and Technology

Volume 102, Issue 3, June 2022, Pages 597-613


## The deep investigation of structural and opto-electrical properties of $\text{Yb}_2\text{O}_3$ thin films and fabrication of Al/ $\text{Yb}_2\text{O}_3$ /p-Si (MIS) Schottky barrier diode(Article)

Panneerselvam, A., Mohan, K.S., Marnadu, R., Chandrasekaran, J. 

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### Abstract

The present research explores the fabrication of a metal insulator semiconductor Schottky barrier diode (SBD) with rare earth metal oxide ( $\text{Yb}_2\text{O}_3$ ) thin films as insulators that are effectively developed on a large scale using the low-cost jet nebulizer spray pyrolysis technique (JNSP). The  $\text{Yb}_2\text{O}_3$  thin films are deposited at various substrate temperatures (350 °C–550 °C) to ascertain its influence on the characteristic properties of the material. The structural, morphological and opto-electrical properties are investigated using various characterization techniques. Here, X-ray diffraction (XRD) analysis revealed the single crystalline cubic crystal structure of  $\text{Yb}_2\text{O}_3$  thin films. Field emission scanning electron microscope (FESEM) images show the presence of uniformly distributed cage and globular like structures spread over the entire surface of the  $\text{Yb}_2\text{O}_3$  films. The elemental composition study demonstrates the presence of Yb and O. The optical direct energy band gap of  $\text{Yb}_2\text{O}_3$  thin films have been analyzed through UV-Visible spectra. Current – voltage measurements were analyzed in dark and light conditions for the Al/ $\text{Yb}_2\text{O}_3$ /p-Si structured Schottky barrier diodes (SBDs) which are fabricated with interfacial layers at different substrate temperatures. Further, the functionality of the SBDs was tested at different temperatures ranging from 30 °C to 150 °C. The experimental results of all SBDs indicate a linear reduction in the ideality factor ( $n$ ) up to 2.537 and 2.059 with a slight increase in the effective barrier height ( $\Phi_B$ ) of 0.789 eV & 0.638 in dark and light conditions, respectively. The SBD fabricated at 550 °C recorded good performance, which will be suitable for thermal dependent electronic device applications. [Figure not available: see fulltext.] © 2021, The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature.

### SciVal Topic Prominence

Topic: Schottky Diodes | Thermionic Emission | Electrical Properties

Prominence percentile: 97.473 

### Author keywords

Global keywords: I-V characteristics Schottky barrier diodes Spray pyrolysis  $\text{Yb}_2\text{O}_3$  thin films

### Indexed keywords

Indexed keywords: Aluminum compounds Crystal structure Energy gap Fabrication  
Metal insulator boundaries Metals Oxide films Rare earths  
Scanning electron microscopy Schottky barrier diodes Semiconductor diodes  
Spray pyrolysis Substrates X ray diffraction analysis Ytterbium compounds

Cited by 1 document

Mısırlıoğlu, B.S., Gülşen, D., Kuruoğlu, F.

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# Document details - Review on role of nanoscale HfO<sub>2</sub> switching material in resistive random access memory device

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Volume 5, Issue 2, April 2022, Pages 489-508

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## Review on role of nanoscale HfO<sub>2</sub> switching material in resistive random access memory device(Review)

 Napoleon, A., Sivamangai, N.M., Rajesh, S., NaveenKumar, R., Nithya, N., Kamalnath, S., Aswathy, N. 
<sup>a</sup>Karunya Institute of Technology and Sciences, Coimbatore, India

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<sup>c</sup>Nandha Engineering College, Erode, India
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### Abstract

Typical semiconductor data storage devices reach a breaking point in terms of their physical dimension and storage capacity. Among various upcoming high-density non-volatile memories, resistive random access memory (RRAM) shows a potential candidate for upcoming ultra-high-density memory applications, due to its speedy, low power consumption and a matured metal-insulator-metal (M-I-M) structure. In this structure, metal oxides serve as the insulator has demonstrated the potential to serve as viable resistive switching memory applications. Across a range of material systems, transition metal oxides (TMO), HfO<sub>2</sub>-based RRAM cell type has demonstrated better complementary metal oxide semiconductor (CMOS) compatibility and outstanding device performances. This article signifies the narration of HfO<sub>2</sub> materials RRAM cell and pointing to upgrade the resistance switching uniformity and device variability performance. The review focuses on various resistive switching principles, geometry, device structuring, materials selection, and forming process which plays the critical characters in determining the device performance have been reviewed. We also provide possible solutions to increase the switching stability, endurance, and retention and reduce the forming voltage through the optimized device modifications. The review ends with summarizing different HfO<sub>2</sub>-based RRAM devices' experimental performance and the future research scope. © 2022, Qatar University and Springer Nature Switzerland AG.

### SciVal Topic Prominence

Topic: Oxygen Vacancy | Random Access Memory | Memristors

Prominence percentile: 99.659 

### Author keywords

 Conducting filament HfO<sub>2</sub>-based RRAM Oxygen vacancy Reliability Switching uniformity

### Indexed keywords

Engineering controlled terms:

 CMOS integrated circuits Hafnium oxides Metal insulator transition MOS devices  
 Oxide semiconductors Oxygen Oxygen vacancies RRAM Transition metal oxides  
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# Document details - Intensification of proton conductivity through polymer electrolytic membrane using novel electrode pattern


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Journal of the Indian Chemical Society  
Volume 99, Issue 3, March 2022, Article number 100383

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## Intensification of proton conductivity through polymer electrolytic membrane using novel electrode pattern(Article)

Praveenkumar, S., Baskar, S., Muthukumar, M.   
Centre for Excellence in Energy and Nanotechnology, Department of Mechanical Engineering, S.A. Engineering College, Tamilnadu, Chennai 77, India  
<sup>b</sup>Fuel Cell Research Lab, Department of Mechanical Engineering, Nandha Engineering College, Tamilnadu, Erode 52, India

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### Abstract

The performance of a polymer electrolyte membrane fuel cell is contingent on the focal property of the protonic conductivity to accelerate the electrochemical reaction based on the membrane activity or on the uniform and even distribution of the reactants. For the even distribution, novel Flow Fields (FF) of the electrode pattern are obligatory to maintain the distribution for a long period for the conversion of protons from the anode reactant. In this study, a novel X Flow Field (XFF) electrode pattern is developed and compared with the conventional serpentine Flow Field (SFF) electrode pattern numerically and experimentally. The performance of the cell through the XFF electrode pattern has shown an improvement of 14.89% numerically and 14.61% experimentally as it distributes the reactants evenly to accelerate the electrochemical reaction, and induce a lower pressure drop and lower water saturation. The effect of pressure and Mass Flow Rate (MFR) of the reactants on the cell performance is discussed and it is found that the increment in Power Density (PD) of the cell is proportional to the increment of the MFR and the pressure because of the even distribution of the reactants, better membrane protonic conductivity, enhancement of the electrode kinetics and improvement in the mass transfer. © 2022 Indian Chemical Society

### Scival Topic Prominence

Topic: Proton Exchange Membrane Fuel Cell (PEMFC) | Diffusion in Gases | Electrode

Prominence percentile: 99.535 

### Author keywords

- Electrode pattern
- Flow field
- Mass flow rate
- Operating pressure
- PEMFC
- Proton conductivity

### Indexed keywords

EMTREE drug terms: 

- polymer
- proton

EMTREE medical terms: 

- Article
- conductance
- controlled study
- electrochemical analysis
- electrolysis
- flow rate
- mathematical model
- pressure
- proton transport

### Chemicals and CAS Registry Numbers:

proton, 12408-02-5, 12688-59-3



  
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# Document details - Effects of Ambient and Annealing Temperature in HfO<sub>2</sub>-Based RRAM Device Modeling and Circuit-Level Implementation

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ECS Journal of Solid State Science and Technology  
Volume 11, Issue 2, February 2022, Article number 023012

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## Effects of Ambient and Annealing Temperature in HfO<sub>2</sub>-Based RRAM Device Modeling and Circuit-Level Implementation(Article)

Napolean, A., Sivamangai, N.M., Rajesh, S., Naveenkumar, R., Sharon, N., Nithya, N., Kamalnath, S.

<sup>a</sup>Karunya Institute of Technology and Sciences, Coimbatore, India

<sup>b</sup>Kumaraguru College of Technology, Coimbatore, India

<sup>c</sup>Nandha Engineering College, Erode, India

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### Abstract

This article focuses on the relevance of the effect of ambient temperature and annealing in the context of compact modeling of metal oxide resistive random access memory (RRAM) devices. The ambient temperature affects the conduction characteristic of resistive switching memories, so it becomes an essential factor to include when adjusting the experimental data. Reported the fabricated results and memory switching parameters with the defined set (Vset) and reset (Vreset) transition voltages for the fabricated annealed HfO<sub>2</sub>-based RRAM. Additionally, to illustrate the importance of this characteristic in the form of the I-V curve, the Stanford model (SFM) for RRAM devices is enhanced by incorporating the annealing temperature as an additional parameter in the script of the Verilog-A model. Stanford and modified Stanford model (MSFM) are analyzed at the device level using cadence circuit simulator and implemented in the nonvolatile memory circuit (3 \* 3 memory arrays). Results confirmed that the experimental switching voltages, Vset, Vreset are 1.7 V, -0.8 V. These values are well suited along the simulated MSFM switching voltages of, Vset, Vreset (1.8 V, -0.7 V). The mean error percentage of the MSF is 18.42%. © 2022 Electrochemical Society Inc.. All rights reserved.

### SciVal Topic Prominence

Topic: Oxygen Vacancy | Random Access Memory | Memristors

Prominence percentile: 99.659

### Indexed keywords

Engineering controlled terms:

- Circuit simulation
- Hafnium oxides
- Metals
- RRAM
- Switching
- Temperature
- Timing circuits

Engineering uncontrolled terms

- Ambients
- Annealing temperatures
- Circuit levels
- Compact model
- Device circuits
- Device modelling
- Random access memory
- Resistive switching memory
- Stanford
- Switching voltages

Engineering main heading:



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# Document details - A Study of Added SiC Powder in Kerosene for the Blind Square Hole Machining of CFRP Using Electrical Discharge Machining



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Silicon

Volume 14, Issue 4, February 2022, Pages 1831-1849

## A Study of Added SiC Powder in Kerosene for the Blind Square Hole Machining of CFRP Using Electrical Discharge Machining(Article)


Kumar, P.A., Vivek, J., Senniangiri, N., Nagarajan, S., Chandrasekaran, K. <sup>a</sup>Department of Mechanical Engineering, Bharath Niketan Engineering College, Tamil Nadu, Aundipatty, 625536, India<sup>b</sup>Department of Mechanical Engineering, Solamalai College of Engineering, Tamil Nadu, Madurai, 625020, India<sup>c</sup>Department of Mechanical Engineering, Nandha Engineering College, Tamil Nadu, Erode, 628052, IndiaView additional affiliations 

### Abstract

Carbon Fiber Reinforced Polymers (CFRPs) have been applied potentially for various application components owing to their lightweight and better mechanical properties. However, the machining of CFRP has been observed to be poor machinability due to the properties of the CFRP composites. Micro-feature fabricating on CFRP macro-component is a challenging task due to the selection of inadequate process parameters and machines. However, micron-level blind square holes are required in CFRPs for proposing the applications of micro-robotics, micro-vibration measurements, and micro-detection of cracking. These square holes produced on CFRP have the difficult task of being machined using the Electrical Discharge Machining (EDM) process. In this research, the effects of concentration of silicon carbide, pulse duration, duty cycle, and current on squareness, hole depth, and surface roughness of CFRPs are analyzed using Electrical Discharge Machining (EDM) with the square copper electrode. The input parameters, the various percentage of concentration of silicon carbide, pulse duration, duty cycle, and current for EDM are selected. The responses, squareness, hole depth, and surface roughness are considered. Also, an electrode wear length and surface defects have been analyzed. The modeling has been performed for selected responses. Additive Ratio Assessment (ARAS) is used for obtaining optimum parameters. The overall analysis found that the silicon carbide concentration and pulse duration are greatly affected all the responses. Also, the square electrodes produced unstable spark phenomena in the EDM process. © 2021, Springer Nature B.V.

### SciVal Topic Prominence

Topic: Electric Discharge Machining | Wire | Tool Wear

Prominence percentile: 99.156 

### Author keywords

CFRP Depth EDM Silicon carbide Squareness

### Indexed keywords

Engineering controlled terms

Carbon fiber reinforced plastics Crack detection Electric discharges Electrodes  
Graphite fibers Microrobots Silicon carbide Surface defects Surface roughness

Cited by 3 documents

Pattanayak, S., Sahoo, A.K., Sahoo, S.K.

CFRP composite drilling through electrical discharge machining using aluminum as fixture plate

(2022) *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*

Hassan, A., He, Y.L., Rehman, M.

Machinability investigation in electric discharge machining of carbon fiber reinforced composites for aerospace applications

(2022) *Polymer Composites*

Raguraman, D., Vinoth, R., Kesavaraj, K.

Optimization and analysis of Machined surface on synthesized cobalt – Chromium composite

(2022) *Materials Today: Proceedings*

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# Document details - Detection and classification of cervical cancer images using CEENET deep learning approach

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Journal of Intelligent and Fuzzy Systems

Volume 43, Issue 3, 2022, Pages 3695-3707

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## Detection and classification of cervical cancer images using CEENET deep learning approach(Article)

Subarna, T.G., Sukumar, P.

Department Of Electronics And Communication Engineering, Nandha Engineering College, Tamilnadu, Erode, India

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### Abstract

Earlier detection of cervical cancer in women can save their lives before a chronic development. The accurate detection in cancer tissues of cervix in the human body is very important. In this article, cervical images were classified into either affected or healthy images using deep learning architecture. The proposed approach was designed with the modules of Edge detector, complex wavelet transform, feature derivation and Convolutional Neural Networks (CNN) architecture with segmentation. The edge pixels in the source cervical image were detected using Kirsch's edge detector, the Complex Wavelet Transform (CWT) was there used to decompose the edge detected cervical images into number of sub bands. Local Derivative Pattern (LDP) and statistical features were computed from the decomposed sub bands and feature map was constructed using the computed features. The featured map along with the source cervical image was fed into the Cervical Ensemble Network (CEENET) model for classifying of cervical images into the classes healthy or cancer (affected). © 2022 - IOS Press. All rights reserved.

### SciVal Topic Prominence

Topic: Papanicolaou Test | Cell Tracking | Cell Biology

Prominence percentile: 94.944

### Author keywords

cancer cervical image Cervix CNN deep learning

### Indexed keywords

Engineering controlled terms: Complex networks Deep learning Diseases Image classification Image compression Network architecture Wavelet transforms

Engineering uncontrolled terms: Cancer Cervical cancers Cervical images Cervix Complex wavelet transforms Convolutional neural network Deep learning Ensemble networks Learning approach Subbands

Engineering main heading: Convolutional neural networks



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# Document details - Study on the mechanical properties of a hybrid polymer composite using egg shell powder based bio-filler

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## Study on the mechanical properties of a hybrid polymer composite using egg shell powder based bio-filler

( Article in press ? )

Shok Kumar, B., Saminathan, R., Tharwan, M., Vigneshwaran, M., Sekhar Babu, P., Ram, S., Manoj Kumar, P.

<sup>a</sup>Department of Mechanical Engineering, Nandha Engineering College, Vaikkal Medu, Tamil Nadu, Erode, 638052, India  
<sup>b</sup>Department of Mechanical Engineering, College of Engineering, Jazan University, Saudi Arabia  
<sup>c</sup>Department of Mechatronics Engineering, Sri Krishna College of Engineering and Technology, Tamil Nadu, Coimbatore, 641008, India

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Abstract

In composite fabrication process, the usage of natural fibers as reinforcing agent has been steadily grown significantly in the past decade. Such polymeric composite material has a broad spectrum of applications in challenging situations, where it would be subjected to threats including higher wear, and large mechanical stresses. Innovating new sustainable and environment friendly fibers enables the production of a viable substitute for several uses, particularly in the areas of composite materials. The current study explores the manufacture of hybridized epoxy-based polymer composites comprised of jute fiber (a plant-based fiber), and a bio-fillers derived from powdered waste egg shells. The ASTM guidelines were strictly followed during the process of manufacturing specimen and mechanical evaluation. The mechanical characteristics of raw jute fiber-based epoxy composites and hybridized epoxy composites incorporating jute fiber (JF) and powdered egg shell (PES) based bio-filler were studied. The ESP was used in different compositions such as, 3%, 6%, 9%, and 12% with the JF reinforced epoxy composite. The findings indicate the viability of hybridizing the epoxy composites with this new composition of materials. The addition of 9% PES bio-filler increased tensile characteristics, flexural strength, and Shore D hardness by 73.83, 50.17, and 21.43 percent, respectively. The inclusion of PES above 9% in JF epoxy composite was not impressive and hence, it is recommended to use 9% ESP in JF/ESP Epoxy hybrid composites. © 2022

SciVal Topic Prominence ⓘ

Topic: Mechanical Properties | Sisal | Coir

Prominence percentile: 99.903 ⓘ

Author keywords

Egg shell powder Epoxy composite Hybrid composite Jute fiber Mechanical properties

Indexed keywords

Engineering controlled terms: Filled polymers Fillers Hybrid composites Jute fibers Manufacture Shells (structures)



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# Document details - Analyzing thermal characteristics of an inorganic phase change material

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Materials Today: Proceedings  
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## Analyzing thermal characteristics of an inorganic phase change material ( Article in press ? )

Related documents

Thilak, G., Saminathan, R., Srinivasan, S., Manoj Kumar, P., Murthi, M.K., Ram, S.   
Department of Mechatronics Engineering, Hindusthan College of Engineering and Technology, Tamil Nadu, Coimbatore, 641032, India  
<sup>b</sup>Department of Mechanical Engineering, College of Engineering, Jazan University, Saudi Arabia  
<sup>c</sup>Department of Aeronautical Engineering, Nehru Institute of Technology, Tamil Nadu, Coimbatore, 641105, India

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Abstract

The use of inorganic phase changing materials (PCMs) in thermal energy stowage systems has become widespread due to the remarkable energy saving capabilities of these substances. In the current investigation, the enhancement in energy stowage capability of the calcium chloride hexahydrate (CaCl<sub>2</sub>·6H<sub>2</sub>O) had been attempted with the assistance of nano-silica addition. Four different proportion of nano-silica (0.3%, 0.6%, 0.9% and 1.2%) had been employed for this purpose. The thermal characteristics namely, latent content, phase transformation temperatures, and thermal conductivity of the CaCl<sub>2</sub>·6H<sub>2</sub>O with the presence of nano-silica had been assessed using DSC and thermal properties analyzer. The results confirmed that the inclusion of nano-silica at 0.6% mass proportion in CaCl<sub>2</sub>·6H<sub>2</sub>O would enhance the thermal stowage characteristics in terms of its thermal conductivity to a grander magnitude, without much losing the latent content of the salt hydrate. Whereas, the maximum drop in latent content of 27.1% and 27.51% during heating and cooling was observed at 1.2% fraction of nano-silica in CaCl<sub>2</sub>·6H<sub>2</sub>O. © 2022

SciVal Topic Prominence

Topic: Phase Change Materials | Latent Heat | Hot Temperature

Prominence percentile: 99.844

Author keywords

CaCl<sub>2</sub>·6H<sub>2</sub>O DSC Nano-silica PCM Thermal characteristics

Indexed keywords

Engineering controlled terms: Calcium chloride Energy conservation Navigation Phase change materials Silica

Engineering uncontrolled terms: current Cacl2·6h2O DSC Energy Energy savings Energy-savings Inorganic phasis Nano Silica Phase changing materials Thermal characteristics

Engineering main heading: Thermal conductivity



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# Document details - On the solutions of fractional integro-differential equations involving Ulam–Hyers–Rassias stability results via $\psi$ -fractional derivative with boundary value conditions

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Turkish Journal of Mathematics  
Volume 46, Issue 6, 2022, Pages 2500-2512

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On the solutions of fractional integro-differential equations involving Ulam–Hyers–Rassias stability results via  $\psi$ -fractional derivative with boundary value conditions(Article)(Open Access)

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Karthikeyan, K., Murugapandian, G.S., Ege, O.

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<sup>a</sup>Department of Mathematics, Centre for Research and Development, KPR Institute of Engineering and Technology, Tamil Nadu, Coimbatore, India  
<sup>b</sup>Department of Mathematics, Nandha Engineering College, Tamil Nadu, Erode, India  
<sup>c</sup>Department of Mathematics, Faculty of Science, Ege University, İzmir, Turkey

Authors > Keywords >

### Abstract

In this paper, we study boundary value problems for the impulsive integro-differential equations via  $\psi$ -fractional derivative. The contraction mapping concept and Schaefer's fixed point theorem are used to produce the main results. The results reported here are more general than those found in the literature, and some special cases are presented. Furthermore, we discuss the Ulam–Hyers–Rassias stability of the solution to the proposed system. © TÜBİTAK

### SciVal Topic Prominence ⓘ

Topic: Common Fixed Point | Fixed Point Theorem | Contractive Mapping

Prominence percentile: 98.043 ⓘ

### Author keywords

Fractional integro-differential equation | Schaefer's fixed point theorem | Ulam hyers rassias stability

### Funding details

Funding text  
The authors express their gratitude to the anonymous referees for their helpful suggestions and corrections.

ISSN: 13000098  
Source Type: Journal  
Original language: English

DOI: 10.55730/1300-0098.3283  
Document Type: Article  
Publisher: TUBITAK

Ege, O.; Department of Mathematics, Faculty of Science, Ege University, İzmir, Turkey;  
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# Document details - Design of Smart Energy Meter with IOT using Arduino Mega

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ECS Transactions  
Volume 107, Issue 1, 2022, Pages 19435-19442

1st International Conference on Technologies for Smart Green Connected Society 2021, ICTSGS 2021; Virtual, Online; United States; 29 November 2021 through 30 November 2021; Code 179026

## Design of Smart Energy Meter with IOT using Arduino Mega (Conference Paper)

Manikanda Prabu, N., Saravanavasan, R., Vignesh, A., Nandhu, S.   
Department of ECE, Nandha Engineering College, Tamil Nadu, Erode, India

### Abstract

Electricity is one of the essential needs of human; it's commonly used for domestic, industrial, and agricultural purposes in day to day's life. Most folks know the role of the energy meter within the electricity grid. It's a fundamental component of the distribution grid. The energy meter helps the utility (Electricity distribution company) to account for the utilization of electricity by the buyer on a KW per hour basis. To know this we want to seek out the drawbacks of the present energy meter and therefore the biggest problem in electricity metering. The most important problem in electricity distribution is collecting meter reading data. Straight away meter reading is collected manually which provides scope for corruption and human error in reading. It is the wastage of manpower and utility of resources. Our existing electricity meter isn't tamper-proof. There is to several temper cases are detected. In the existing meter, there is no under-voltage and Overvoltage Protection as well as there is no overpower use alert system. Because of these problems, the utility is unable to gather a fine for max demand cross. Power theft is that the biggest problem in recent days which causes a lot of loss to electricity boards. To overcome these drawbacks the IoT-based Smart Energy Meter (SEM) is developed. © The Electrochemical Society

### Relevant Topic Prominence ⓘ

Topic: Water Meters | Internet Of Things | Zigbee

Prominence percentile: 81.938 ⓘ

### Author keywords

- Arduino
- Embedded Systems
- IOT
- Over voltage
- Smart Energy Meter

### Indexed keywords

- Engineering controlled terms:
  - Electric measuring instruments
  - Electric utilities
  - Internet of things
  - Surge protection
- Engineering uncontrolled terms:
  - Agricultural purpose
  - Arduino
  - Domestic purpose
  - Electricity grids
  - Embedded-system
  - Energy meters
  - Fundamental component
  - IOT
  - Over-voltages
  - Smart energy meters
- Engineering main heading:
  - Embedded systems

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# Document details - Histogram Based Optimized Reversible Steganographic Scheme

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ECS Transactions

Volume 107, Issue 1, 2022, Pages 19089-19097

1st International Conference on Technologies for Smart Green Connected Society 2021, ICTSGS 2021; Virtual, Online; United States; 29 November 2021 through 30 November 2021; Code 179026

## Histogram Based Optimized Reversible Steganographic Scheme (Conference Paper)

Nallasivam, M., Femi, D., Raja Paulsingh, J.

<sup>a</sup>Department of ECE, Nandha Engineering College, Tamil Nadu, Erode, India<sup>b</sup>Department of ECE, Vel Tech Rangarajan Dr Sagunthala R&D Institute of Science and Technology, Tamil Nadu, India<sup>c</sup>Department of ECE, Sri Nallalaghu Nadar Polytechnic College, Tamil Nadu, India

### Abstract

A novel prediction-based Reversible Steganographic scheme based on image inpainting can be optimized by choosing the reference pixels using optimization technique. Partial differential equations based on image inpainting are introduced to generate a prediction image, from the reference image that has similar structural and geometric information as the cover image. Then the histogram of the prediction error is shifted to embed the secret bits reversibly using two selected sets of peak points and zero points. From the stego image, the cover image can be restored losslessly after extracting the embedded bits correctly since the same reference pixels can be exploited in the extraction procedure, the embedded secret bits can be extracted. Through optimization of reference pixels selection and the inpainting predictor, the prediction accuracy is high, and more embeddable pixels are acquired with greater embedding rate and better visual quality, and reduced time required for the stego00 image generation. © The Electrochemical Society.

### SciVal Topic Prominence ⓘ

Topic: Latches | Shift Registers | Low Power

Prominence percentile: 67.862 ⓘ

### Indexed keywords

Engineering controlled terms:

[Forecasting](#) [Graphic methods](#)

Engineering uncontrolled terms

[Cover-image](#) [Equation based](#) [Geometric information](#) [Image Inpainting](#)  
[Optimization techniques](#) [Prediction-based](#) [Reference image](#) [Reference pixels](#)  
[Steganographic schemes](#) [Structural information](#)

Engineering main heading:

[Pixels](#)

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# Document details - Internet of Things- Cloud Security Automation Technology Based on Artificial Intelligence

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Proceedings - International Conference on Applied Artificial Intelligence and Computing, ICAAIC 2022

2022, Pages 42-47

1st International Conference on Applied Artificial Intelligence and Computing, ICAAIC 2022; Salem; India; 9 May 2022 through 11 May 2022; Category number CFP22BC3-ART; Code 180160


## Internet of Things- Cloud Security Automation Technology Based on Artificial Intelligence(Conference Paper)

Hussain, K., Vanathi, D., Jose, B.K., Kavitha, S., Rane, B.Y., Kaur, H., Sandhya, C. 

<sup>a</sup>Cvr College of Engineering Ibrahimpatnam, Department of Ece, Telangana, India

<sup>b</sup>Nandha Engineering College, Department of Artificial Intelligence and Data Science, Erode, India

<sup>c</sup>S D College Alappuzha (University of Kerala), Department of Mathematics, Kerala, India


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### Abstract

The development of industrial robots, as a carrier of artificial intelligence, has played an important role in promoting the popularisation of artificial intelligence super automation technology. The paper introduces the system structure, hardware structure, and software system of the mobile robot climber based on computer big data technology, based on this research background. At the same time, the paper focuses on the climber robot's mechanism compound method and obstacle avoidance control algorithm. Smart home computing focuses on 'home' and brings together related peripheral industries to promote smart 'home services such as smart appliances, home entertainment, home health care, and security monitoring in order to create a safe, secure, energy-efficient, sustainable, and comfortable residential living environment. It's been twenty years. There is still no clear definition of 'intelligence at home,' according to Philips Inc., a leading consumer electronics manufacturer, which once stated that intelligence should comprise sensing, connectedness, learning, adaption, and ease of interaction. Smart applications and services are still the early stages of development, and not all of them can yet exhibit these five intelligent traits. © 2022 IEEE.

### SciVal Topic Prominence

Topic: Automation | Rubus | Household Equipment

Prominence percentile: 97.807 

### Author keywords

Artificial intelligence Automation Cloud Computing IoT Robots Security

### Indexed keywords

Engineering controlled terms: Computer hardware Domestic appliances Energy efficiency Internet of things

Engineering uncontrolled terms: Automation technology Cloud securities Cloud-computing Hardware structures Hardware/software IoT Security Structure systems Systems Structure Technology-based

Engineering main heading: Industrial robots



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# Document details - Detection And Categorization of Transmission Line Faults Using Artificial Neural Network

1 of 1  
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8th International Conference on Advanced Computing and Communication Systems, ICACCS 2022  
2022, Pages 1967-1972  
8th International Conference on Advanced Computing and Communication Systems, ICACCS 2022; Coimbatore; India; 25 March 2022 through 26 March 2022; Category numberCFP22YAF-ART; Code 179885

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## Detection And Categorization of Transmission Line Faults Using Artificial Neural Network(Conference Paper)

Gunasekar, T., Kokila, P., Mohanasundaram, T., Livinkumar, D.

<sup>a</sup>Kongu Engineering College, Perundurai, Erode, India  
<sup>b</sup>Nandha Engineering College, Perundurai, Erode, India  
<sup>c</sup>Ramaiah Institute of Technology, Bangalore, India

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### Abstract

The proposed work depicts on locating, identifying and placing the faults on electric power transmission lines. Identification of faults, categorization and placement of faults are impressed by using Artificial Neural Networks (ANN). Back propagation algorithm is depicted in feed forward networks under all the vital phases at the time of locating faults. Simulations results indicate that proposed techniques are much more effective in determining the types of faults on transmission lines and have produced the good performance. © 2022 IEEE.

### SciVal Topic Prominence ⓘ

Topic: Power Quality | Grid | Photovoltaic System

Prominence percentile: 89.090 ⓘ

### Author keywords

Artificial Neural Networks Fault category Fault placement Feed forward networks Transmission lines

### Indexed keywords

Engineering controlled terms: Feedforward neural networks

Engineering uncontrolled terms: Back-propagation algorithm Fault category Fault placement Feed-forward network Performance Power transmission lines Transmission line faults Transmission-line

Engineering main heading: Electric lines

ISBN: 978-1667008116  
Source Type: Conference Proceeding  
Original Language: English



DOI: 10.1109/ICACCS54159.2022.9785272  
Document Type: Conference Paper  
Publisher: Institute of Electrical and Electronics Engineers Inc.

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# Document details - Review on Arbiter Physical Unclonable Function and its Implementation in FPGA for IoT Security Applications

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ICDCS 2022 - 2022 6th International Conference on Devices, Circuits and Systems

2022, Pages 369-374

6th International Conference on Devices, Circuits and Systems, ICDCS 2022; Coimbatore; India; 21 April 2022 through 22 April 2022; Category number CFP2203R-ART; Code 179715

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## Review on Arbiter Physical Unclonable Function and its Implementation in FPGA for IoT Security Applications(Conference Paper)

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<sup>a</sup>Karunya Institute of Technology and Sciences, Dept of Electronics and Communication Engineering, Coimbatore, India

Authors > Keywords >

<sup>b</sup>Nandha Engineering College, Dept of Electronics and Communication Engineering, Erode, India

<sup>c</sup>Rajalakshmi Engineering College, Dept of Electronics and Communication Engineering, Chennai, India

### Abstract

Security is one of the most difficult aspects of advancing the Internet of Things (IoT) in our daily lives and future industrial systems. IoT systems have a variety a slew of issues, including a scarcity of resources, reduced power usage, and the necessity to secure devices from cyber-attacks. Unfortunately, the approaches are limited by power consumption and a lack of computer capabilities; also, the typical usage of non-volatile memory to store secret keys is open to several assaults such as reverse engineering and side channeling. PUFs (Physical Unclonable Functions) are a type of method that is used to increase the security of physical devices and solve problems connected with existing cryptographic algorithms. PUFs are one-way lightweight functions that extort a distinct personality for each terminal based on unpredictable and impossible to reproduce physical variables imposed during production. Memory-based PUFs (e.g., SRAM and SR-latch PUFs), delay-based PUFs (e.g., Arbiter PUF (APUF), digital PUFs, operating frequency-based PUFs (ring oscillator PUF (ROPUF)), and other PUFs have been achieved in ASIC and, FPGA in particular. In this article, we examine a wide range of PUFs found in the literature. Many observations are based on the comparison of the surveyed schemes. The review concentrates on different types of arbiter PUF architectures and the quality of the designed arbiter PUFs in terms of three parameters: reliability, uniqueness and uniformity. This study examines the latest Arbiter PUF innovations and the necessary security requirements and promising security solutions for IoT applications. © 2022 IEEE.

### SciVal Topic Prominence ⓘ

Topic: Hardware Security | Internet Of Things | RRAM

Prominence percentile: 97.574 ⓘ

### Author keywords

Arbiter PUF FPGA IoT Reliability Security

### Indexed keywords

Engineering controlled terms: Cryptography Cybersecurity Hardware security Internet of things Network security Static random access storage



*M. Senthil Kumar*  
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# Document details - An Innovative Model for Secure Environment Using Steganography

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## An Innovative Model for Secure Environment Using Steganography(Conference Paper)

Related documents

Maneswari, K.G., Siva, C., Nalinipriya, G., Hemaroshini, M., Jayathraa, V., Reethika, R.  
<sup>a</sup>Government Engineering College, Department of It, Tamil Nadu, Erode, India  
<sup>b</sup>Nandha Engineering College, Department of It, Tamil Nadu, Erode, India  
<sup>c</sup>Saveetha Engineering College, Department of It, Tamil Nadu, Chennai, India

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### Abstract

Steganography is a form of safety approach through obscurity, and it's the art of hiding the message among sender and the intended recipient. it is used to cover secret messages in various varieties like documents and also digital images, video and audio. it works through hidden information in the sort of way that nobody can suspect. this is the far method to shield sensitive or mystery information from spiteful assault. photo Steganography is the method of hiding the secret message which can be textual content, photograph or video inside stegno image in the way that is not visible to the human eyes. In this paper, we are using steganography technique to hide a secure image, we use virtual environment by using PowerShell tool. © 2022 IEEE.

### SciVal Topic Prominence ⓘ

Topic: Data Hiding | Steganography | Reversible

Prominence percentile: 98.509 ⓘ

### Author keywords

- Decryption
- Encryption
- Information hiding
- PowerShell
- Steganography
- Stegno-image

### Indexed keywords

Engineering controlled terms: Steganography Virtual reality

Engineering uncontrolled terms: Decryption Digital audio Digital image Digital videos Hidden information Information hiding Innovative models Powershell Secret messages Stegno-image

Engineering main heading: Cryptography



*M. S. Srinivasan*  
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# Document details - PFC based Three Stage Interleaved Boost Converter for Renewable Energy System

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2022 6th International Conference on Trends in Electronics and Informatics, ICOEI 2022 - Proceedings

2022, Pages 289-295

6th International Conference on Trends in Electronics and Informatics, ICOEI 2022; SCAD College of Engineering and Technology Tirunelveli; India; 28 April 2022 through 30 April 2022; Category number CFP22J32-ART; Code 179497

## PFC based Three Stage Interleaved Boost Converter for Renewable Energy System (Conference Paper)

Gomathi, S., Arulanantham, D., Thumma, R., Vimala, S., Jenifer Rayen, S., Subha, T.D.

<sup>a</sup>St. Joseph's Institute of Technology, India

<sup>b</sup>Nandha Engineering College, India

<sup>c</sup>Anurag University, India

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### Abstract

Recent advances in converter technology have proposed interleaved boost converters with lower output voltage ripple. AC sources are connected to DC loads via PFC-ILBC converters. The open loops of two-stage PFC-ILBC and three-stage PFC-ILBC are compared. A closed loop PFC-ILBC regulates the load voltage. A suitable closed loop controlled ILBC controller is discussed. The PFC-ILBC employs a linked inductor and a switching capacitor to achieve high voltage gain. In terms of  $T_s$  and  $E_{ss}$ , the responses of closed loop control of an ILBC using PI and PID are investigated. According to simulation data, PID controlled PFC-ILBC has a greater time domain response than PI controlled PFC-ILBC. © 2022 IEEE.

### SciVal Topic Prominence [①](#)

Topic: [Inverter](#) | [Space Vector Modulation](#) | [Electric Potential](#)

Prominence percentile: 99.414 [①](#)

### Author keywords

[ILBC](#) [Linked Inductor](#) [PID and PI Controller](#) [Switching capacitor](#) [Three stage](#)

### Indexed keywords

Engineering controlled terms:

[Controllers](#) [DC-DC converters](#) [Renewable energy resources](#)

Engineering uncontrolled terms

[Closed-loop](#) [Converter technology](#) [ILBC](#) [Interleaved boost converters](#) [Linked inductor](#)  
[Low output voltage ripples](#) [PI Controller](#) [PID controllers](#) [Switching capacitors](#)  
[Three stage](#)

Engineering main heading:

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# Document details - Channel Estimation for OFDM Systems Using MMSE and LS Algorithms

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2022, Pages 1-5

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## Channel Estimation for OFDM Systems Using MMSE and LS Algorithms (Conference Paper)

Scividhya, R., Jayachandran, T., Anto Bennet, M., Rajmohan, V.

<sup>a</sup>Vel Tech Rangarajan Dr Sagunthala R&D, Institute of Science and Technology, Department of Electronics and Communication Engineering, Chennai, India

<sup>b</sup>Nandha Engineering College, Department of Electronics and Communication Engineering, Perundurai, India

<sup>c</sup>Saveetha School of Engineering, Department of Electronics and Communication Engineering, Chennai, India

### Abstract

Orthogonal frequency division multiplexing (OFDM) has a large load of thought because of its high information price, excessive reach functionality and power against recurrence specific obscuring channels. This paper has a tendency to channel appraisal problem to time-location channel insights. The quantifiable characteristics of an AWGN channel is assessed using unique strategies like (LS) and (MMSE). The numerical investigation and the reenactment results show that MMSE calculation makes the piece blunder rate (BER) and image blunder rate (SER) execution fundamentally worked on over Least Square (LS). The channel auto relationship shape and uproar difference is gotten by way of using the clatter smothered channel force response. In this paper a useful and further created channel appraisal methodology is introduced the use of the MMSE channel evaluation technique. © 2022 IEEE.

### SciVal Topic Prominence

Topic: Channel Estimation | Orthogonal Frequency Division Multiplexing (OFDM) | Mean Square Error

Prominence percentile: 81.267

### Author keywords

channel estimation mean square error(MSE) minimum mean square error(MMSE) OFDM

### Indexed keywords

Engineering controlled terms: Channel estimation Orthogonal frequency division multiplexing

Engineering uncontrolled terms: AWGN channel Error calculations Force response Least Square LeastSquare algorithm Means square errors Numerical investigations Orthogonal frequency division multiplexing systems Orthogonal frequency-division multiplexing Power

Engineering main heading:



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# Document details - Deep Learning based Telugu Video Text Detection using Video Coding Over Digital Transmission

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2022, Pages 1479-1483

6th International Conference on Trends in Electronics and Informatics, ICOEI 2022; SCAD College of Engineering and Technology Tirunelveli; India; 28 April 2022 through 30 April 2022; Category number CFP22J32-ART; Code 179497

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## Deep Learning based Telugu Video Text Detection using Video Coding Over Digital Transmission (Conference Paper)

Anto Bennet, M., Srividhya, R., Jayachandran, T., Rajmohan, V.

<sup>a</sup>Vel Tech Rangarajan Dr Sagunthala R&D Institute of Science and Technology, Department of Electronics and Communication Engineering, Chennai, India

<sup>b</sup>Nandha Engineering College, Department of Electronics and Communication Engineering, Perundurai, India

<sup>c</sup>Saveetha School of Engineering, Department of Electronics and Communication Engineering, Chennai, India

### Abstract

With the development of smart devices and high-speed internet, demands for the ever-increasing number of videos. Comparing conventional machine learning methods with in-depth Reading methods. The two independent steps used to decipher text is; the discovery of the Candidate text region and the division into categories. Then, the text texts received were. distributed through a few layers of CNN, which first produced a conversion feature map as well as Divide candidate circuits into text or non-text classes. Explored the proposed programs. On the data got from various Telugu videos. The data sets have been collected by collecting. videos from various Telugu channels. Text from the video provides useful information, which can create a default video index and retrieval system and integrated heuristic and in-depth learning-based approach Neural Network (CNN) to automatically output text to video. Two independent steps were used to extract the existing text; the discovery of the Candidate text region and the division into categories. In the first step, the circles are rectangular. It identified textual content using heuristics, which included morphology analysis and geometric issues. Then, the text of the accepted candidate text has transferred to a few layers of CNN, which first produced a convolutional feature map and then split the candidate regions into text or non-text classes. Video collection organized on the website is different. channels Telugu. 70 percent of the data have been used for network training while 30 percent Confirmed. Experiments have shown that our proposed approach has reached modernization functionality in our database. © 2022 IEEE.

### SciVal Topic Prominence

Topic: Character Recognition | Video Indexing | Convolutional Neural Network

Prominence percentile: 98.239

### Author keywords

Convolutional Neural Network (CNN) Graphical User Interface (GUI)

### Indexed keywords

Engineering controlled terms:

Convolutional neural networks Deep learning Graphical user interfaces Image coding Search engines Time domain analysis Video signal processing Videotex



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# Document details - Retraction Note to: Computer aided innovation method for detection and classification of cervical cancer using ANFIS classifier(Journal of Ambient Intelligence and Humanized Computing, (2020), 12, (6231-6240), 10.1007/s12652-020-02191-9)

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
Journal of Ambient Intelligence and Humanized Computing

2022

Retraction Note to: Computer aided innovation method for detection and classification of cervical cancer using ANFIS classifier(Journal of Ambient Intelligence and Humanized Computing, (2020), 12, (6231-6240), 10.1007/s12652-020-02191-9)

( [Article in press](#) ? )

(Open Access)

Ponnusamy, S., Samikannu, R., Venkatachary, S.K., Sukumar, S., Ravi, R. <sup>a</sup>Department of Electronics and Communication Engineering, Nandha Engineering College, Tamil Nadu, Erode, India<sup>b</sup>Faculty of Electrical Computer and Telecommunications Engineering, Botswana International University of Science and Technology, Palapye, Botswana<sup>c</sup>Information Technology, Grant Thornton, Gaborone, Botswana[View additional affiliations](#) v

Abstract

The Editor-in-Chief and the publisher have retracted this article. This article was submitted to be part of a guest-edited issue. An investigation concluded that the editorial process of this guest-edited issue was compromised by a third party and that the peer review process has been manipulated. Based on the investigation's findings the Editor-in-Chief therefore no longer has confidence in the results and conclusions of this article. Sukumar Ponnusamy has stated on behalf of all authors that they disagree with this retraction. © Springer-Verlag GmbH Germany, part of Springer Nature 2022.

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Source Type: Journal

Original language: English

DOI: 10.1007/s12652-022-03933-7

Document Type: Erratum

Publisher: Springer Science and Business Media Deutschland GmbH

 Ponnusamy, S.; Department of Electronics and Communication Engineering, Nandha Engineering College, Tamil Nadu, Erode, India;

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# Document details - Power Reduction in 4T DRAM Cell using Low Power Topologies

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ECS Transactions

Volume 107, Issue 1, 2022, Pages 5569-5575

1st International Conference on Technologies for Smart Green Connected Society 2021, ICTSGS 2021; Virtual, Online; United States; 29 November 2021 through 30 November 2021; Code 179026

## Power Reduction in 4T DRAM Cell using Low Power Topologies (Conference Paper)

Aranya, L., Abinaya, I., Nivedita, A., Arulanantham, D.

<sup>a</sup>Department of ECE, Karpagam College of Engineering, TamilNadu, Coimbatore, India

<sup>b</sup>Department of EEE, Sri Ramakrishna Engineering College, TamilNadu, Coimbatore, India

<sup>c</sup>Department of ECE, Sri Ramakrishna Engineering College, TamilNadu, Coimbatore, India

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### Abstract

Today's world there is a high demand in the development of VLSI circuits and the designers are also very much paying attention to design a good performance with zero hunger circuits in terms of power. At present, in order to design a high speed and a low cost device is becoming a major challenge across the designers. In order to enlarge the demand of VLSI, CMOS technology plays a fundamental role. Dynamic Random Access Memory is the volatile memory, which is used in wide ranges of electronic based gadget applications. In this paper, the low power techniques like sleep transistor logic and Self Voltage Controllable Logic (SCVL) are implemented. A 4T DRAM cell using these low power logics has been designed and implemented and also the power has been analyzed at 90nm technology. The simulation is done using Tanner 13.1.EDA tool. © The Electrochemical Society

### SciVal Topic Prominence ⓘ

Topic: Radiation Hardening | Soft Error | Static Random Access Storage

Prominence percentile: 94.036 ⓘ

### Author keywords

DRAM Low power SCVL Sleep Volatile

### Indexed keywords

Engineering controlled terms: Integrated circuit design VLSI circuits

Engineering uncontrolled terms: DRAM cells High demand High Speed Low Power Performance Power Power reductions SCVL Sleep Volatile

Engineering main heading: Dynamic random access storage

### Funding details



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# Document details - Recognizing Handwritten Offline Tamil Character by using cGAN CNN

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International Conference on Sustainable Computing and Data Communication Systems, ICSCDS 2022 - Proceedings

2022, Pages 509-515

2022 International Conference on Sustainable Computing and Data Communication Systems, ICSCDS 2022; Erode; India; 7 April 2022 through 9 April 2022; Category number CFP22AZ5-ART; Code 179007

## Recognizing Handwritten Offline Tamil Character by using cGAN CNN (Conference Paper)

Sasipriyaa, N., Natesan, P., Anand, R., Arvindkumar, P., Arwin Prakadis, R.S., Aswin Surya, K. 

<sup>a</sup>Kongu Engineering College, Department of Computer Science and Engineering, Tamilnadu, India


<sup>b</sup>Nandha Engineering College, Department of Information Technology, Tamilnadu, India

### Abstract

The handwritten characters were being recognized by various people from different geographical locations for long period. In this, machine transcripts of human writings are important for transferring the statistics like political history, social life, financial life, religion, philosophy, and much more. Though this popularity of handwritten character recognition is achieved for a lot of languages such as English, Chinese, and Arabic, it is not achieved for Indian languages. The demanding situations explored through researchers in spotting a lot of curves, strokes, and holes in characters, massive character set, complicated letter structure, and less dataset. Generative Adversarial Network (GANs) is an interesting innovation in Deep Learning. Due to the least availability of the dataset for handwritten Tamil characters, GAN assists to boost the dataset. The enriched method referred to as GAN, is far feasible to get the specified quantity of dataset. The images can be conditionally generated by using a model generator of Conditional Generative Adversarial Network (cGAN). It is based upon a class label that permits the generation of a specific kind of image. A Convolutional Neural Network (CNN) is a class of artificial neural networks, used to recognize Tamil handwritten characters. The implementation of such methods has an accuracy of over 99 %. The proposed work would improve the accuracy by enhancing the dataset order of the Tamil Handwritten Character Recognition using cGAN and CNN. © 2022 IEEE.

### SciVal Topic Prominence

Topic: Character Recognition | Numerals | Scripts

Prominence percentile: 93.443 

### Author keywords

[cGAN](#) [character recognition](#) [CNN](#) [Deep Learning](#) [Tamil](#)

### Indexed keywords

Engineering controlled terms: [Character recognition](#) [Convolutional neural networks](#) [Deep learning](#)

Engineering uncontrolled terms: [Conditional generative adversarial network](#) [Convolutional neural network](#) [Deep learning](#) [Geographical locations](#) [Hand-written characters](#) [Handwritten character recognition](#) [Offline](#) [Political history](#) [Social life](#) [Tamil](#)

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# Document details - Dynamic Face Mask Detection Using Machine Learning

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1st IEEE International Conference on Smart Technologies and Systems for Next Generation Computing, ICSTSN 2022; Villupuram; India; 25 March 2022 through 26 March 2022; Category number CFP22AP2-ART; Code 179010

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## Dynamic Face Mask Detection Using Machine Learning(Conference Paper)

Nalinipriya, G., Shobana, M., Siva, C., Kanisha, B., Monica, J.K., Siva Vadivu Ragavi, V.

<sup>a</sup>Saveetha Engineering College, Department of It, Tamil Nadu, Chennai, India

<sup>b</sup>Srm Institute of Science and Technology, Department of Networking and Communications, Tamil Nadu, Chennai, India

<sup>c</sup>Nandha Engineering College, Department of It, Tamil Nadu, Erode, India

### Abstract

Omicron has impacted negatively on our everyday lives in a short amount of time. Nowadays wearing a face mask is mandatory to safeguard ourselves. With the use of the Face Mask Detection System, we can aid our society in preventing the spread of omicron. We used machine learning techniques such as TensorFlow, Keras, OpenCV, and Python to realise this concept in this paper. As a Monitor, it can keep track of multiple faces at once during a live stream. On different databases, it has a reliability of up to 90%. We can readily distinguish between persons wearing masks and those who are not, and the key benefit is that many faces may be recognised at the same time. It will be very useful in a crowd, and it can be improved by adding more features. © 2022 IEEE.

### SciVal Topic Prominence ⓘ

Topic: Object Detection | Deep Learning | IOU

Prominence percentile: 99.997 ⓘ

### Author keywords

Face Mask Detection Keras Machine Learning Open CV Surveillance Tensor flow

### Indexed keywords

Engineering controlled terms: Face recognition Machine learning Wear of materials

Engineering uncontrolled terms: Detection system Face mask detection Face masks Keep track of Keras Machine learning techniques Machine-learning Open CV Tensor flow

Engineering main heading: Python



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# Document details - On mild solutions of fractional impulsive differential systems of Sobolev type with fractional nonlocal conditions

1 of 1


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## On mild solutions of fractional impulsive differential systems of Sobolev type with fractional nonlocal conditions

( Article in press ? )

Karthikeyan, K., Murugapandian, G.S., Hammouch, Z. 

<sup>a</sup>Department of Mathematics, KPR Institute of Engineering and Technology, Tamil Nadu, Coimbatore, 641407, India

<sup>b</sup>Department of Mathematics, Nandha Engineering College, Tamil Nadu, Erode, 52, India

<sup>c</sup>Division of Applied Mathematics, Thu Dau Mot University, Binh Duong, Thu Dau Mot, Viet Nam


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### Abstract

This paper concerns the application of the monotone iterative technique in conjunction with the lower and upper solution techniques to investigate the existence of mild solutions and their uniqueness for fractional impulsive differential systems of the Sobolev type with fractional order nonlocal conditions. To obtain the adequate requirements, noncompactness estimates and the generalized Gronwall inequality are utilized. © 2022, The Author(s), under exclusive licence to Islamic Azad University.

### SciVal Topic Prominence

Topic: Fixed Point Theorem | Integral Boundary Conditions | Banach Contraction Principle


Prominence percentile: 99.073 

### Author keywords

- Caputo fractional derivative
- Estimate of noncompactness
- Fractional differential system
- Impulsive and nonlocal conditions
- Monotone iterative technique
- Sobolev-type equations
- Upper and lower solutions

ISSN: 20081359  
Source Type: Journal  
Original language: English

DOI: 10.1007/s40096-022-00469-x  
Document Type: Article  
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 Hammouch, Z.; Division of Applied Mathematics, Thu Dau Mot University, Binh Duong, Thu Dau Mot, Viet Nam;

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# Document details - QoS Constrained Network Coding Technique to Data Transmission Using IoT

1 of 1

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Computer Systems Science and Engineering

Volume 43, Issue 2, 2022, Pages 531-544

## QoS Constrained Network Coding Technique to Data Transmission Using IoT(Article)(Open Access)

Sathishkumar, A., Rammohan, T., Sathish Kumar, S., Uma, J., Srujan Raju, K., Sangwan, A., Sivachitra, M., Raju, M.

<sup>a</sup>Department of ECE, Kavery Engineering College, Tamilnadu, Mecheri, 636453, India

<sup>b</sup>Department of EEE, Karpagam College of Engineering, Coimbatore, 641032, India

<sup>c</sup>Department of EEE, M. Kumarasamy College of Engineering, Karur, 639113, India

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### Abstract

The research work presents, constrained network coding technique to ensure the successful data transmission based composite channel cmos technology using dielectric properties. The charge fragmentation and charge splitting are two components of the filtered switch domino (FSD) technique. Further behavior of selected switching is achieved using generator called conditional pulse generator which is employed in Multi Dynamic Node Domino (MDND) technique. Both FSD and MDND technique need wide area compared to existing single nodekeeper domino technique. The aim of this research is to minimize dissipation of power and to achieve less consumption of power. The proposed research, works by introducing the method namely Interference and throughput aware Optimized Multicast Routing Protocol (IT-OMRP). The main goal of this proposed research method is to introduce the system which can forward the data packets towards the destination securely and successfully. To achieve the bandwidth and throughput in optimized data transmission, proposed multicast tree is selected by Particle Swarm Optimization which will select the most optimal host node as the branches of multi cast tree. Here node selection is done by considering the objectives residual energy, residual bandwidth and throughput. After node selection multi cast routing is done with concern of interference to ensure the reliable and successful data transmission. In case of transmission range size is higher than the coverage sense range, successful routing is ensured by selecting secondary host forwarders as a backup which will act as intermediate relay forwarders. The NS2 simulator is used to evaluate research outcome from which it is proved that the proposed technique tends to have increased packet delivery ratio than the existing work. © 2022 CRL Publishing. All rights reserved.

### SciVal Topic Prominence

Topic: Vertex Of A Graph | Mobile Ad Hoc Networks | End-To-End Delay

Prominence percentile: 66.408



### Author keywords

bandwidth Multicast routing optimal node selection probability of interference residual energy secondary relay nodes throughput

### Indexed keywords

Engineering controlled terms Data transfer Forestry Internet of things Multicasting Network coding Particle swarm optimization (PSO) Trees (mathematics)



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# Document details - Detection of Vehicle Speeding Violation using Video Processing Techniques

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2022 International Conference on Computer Communication and Informatics, ICCCI 2022

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12th International Conference on Computer Communication and Informatics, ICCCI 2022; Coimbatore; India; 25 January 2022 through 27 January 2022; Category numberCFP2208R-ART; Code 178296

## Detection of Vehicle Speeding Violation using Video Processing Techniques(Conference Paper)

Krishnakumar, B., Kousalya, K., Mohana, R.S., Vellingiriraj, E.K., Maniprasanth, K., Krishnakumar, E.

<sup>a</sup>Computer Science of Engineering, Kongu Engineering College, Erode, India


<sup>b</sup>Information Technology, Nandha Engineering College, Erode, India

### Abstract

Due to their excellent development skills and low cost, detection of car speeding violations using video processing techniques is known to be one of the better applications for Traffic Speed Control (TSC). These systems apply video processing techniques to camera outputs to obtain the required information. This work describes a method for measuring speed of the vehicle depending on motion data. This paper offers a new motion detection-based vehicle speed measurement method. Unlike the methods that are based on features which rely on the characteristics of vehicles such as license plates or windshields, the proposed methodology can find a vehicle's speed by evaluating its operating features for a specific areas of interest (ROI) with unique dimensions. This proficiency allows for real-time computation and outperforms feature-related methods. Vehicle identification, tracking, and measuring of speed are the three main modules in this system. The compound-off-Gaussian background subtraction procedure detects every moving object when it enter into its ROI. Then using morphological changes, the unique parts of these materials become integrated filled forms and some limited filtration functions produces the most likely objects to be a vehicle. The identified vehicles are then monitored by using the bulb tracking method and their displacement in successive frames is determined which will be used in the final speed calculation module. A photo of the car, its associated speed, and the detection time are all included in system releases. In comparison to existing speed measurement techniques, experimental findings show that the proposed technique has reasonable precision. © 2022 IEEE.

### SciVal Topic Prominence

Topic: Character Recognition | Tesseract | Number

Prominence percentile: 94.618 

### Author keywords

Gaussian Background Subtraction Speed Measurement Vehicle Detection

### Indexed keywords

Engineering controlled terms:

 License plates (automobile) Object detection Speed control Speed regulators  
 Video signal processing

Engineering uncontrolled terms:

 Background subtraction Gaussian background Gaussian background subtraction Low-costs  
 Motion data Processing technique Speed measurement Traffic speed Vehicles detection  
 Video processing

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# Document details - Biodiesel production from non-edible crops using waste tyre heterogeneous acid catalyst

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Energy Sources, Part A: Recovery, Utilization and Environmental Effects

Volume 44, Issue 2, 2022, Pages 3223-3238

## Biodiesel production from non-edible crops using waste tyre heterogeneous acid catalyst (Article)

Arumugamurthi, S.S., Sivanandi, P., Kandasamy, S.

<sup>a</sup>Department of Chemical Engineering, Nandha Engineering College, Erode, India

<sup>b</sup>Department of Mechanical Engineering, Government College of Technology, Coimbatore, India

<sup>c</sup>Department of Chemical Engineering, Kongu Engineering College, Erode, India

### Abstract

The present study aims at the ways and means of decreasing environmental pollution using spent tyre waste as an acid-based catalyst intended for the synthesis of biodiesel from *Pongamia pinnata*, a year-round crop that costs roughly 1300 \$/tonne, whereas coal costs around 50 \$/tonne. Heterogeneous catalysts were developed as a successful replacement for homogeneous catalysts because they have unique benefits over homogeneous catalysts, especially the ability to separate and reuse the solid catalyst used. The characteristics of the produced waste tyre acid-catalyst were studied using instrumental analysis such as EDX, scanning electron microscope and Fourier-transform infrared spectroscopy. Operating parameters studied for the catalyst were methanol-to-oil molar ratio (12:1 to 24:1), catalyst loading (1–5 weight %), reaction temperature (30–70°C), and reaction duration (1–4 h) were tuned upon the steady stirring rate of 400 rpm. At optimal conditions, the spent tyre waste activated by pyrolysis gives maximum conversion of biodiesel (82.1%). The pseudo-first-order model with a rate constant of 0.0269 min<sup>-1</sup> (at 60°C) and activation energy of 21.53 kJ/mol was found to be the best match for demonstrating the methanolysis kinetics of *Pongamia pinnata* oil. When compared to other solid base catalysts reported in the literature, the catalytic activity of the waste tyre acid-catalyst provided a high yield of biodiesel under relatively mild reaction conditions. © 2022 Taylor & Francis Group,

### SciVal Topic Prominence

Topic: Transesterification | Catalyst | Rubber Seed Oil

Prominence percentile: 99.830

### Author keywords

Biodiesel catalyst pongamia pinnata spent tyre waste transesterification

### Indexed keywords

Engineering controlled terms:

Activation energy Catalyst activity Crops Fourier transform infrared spectroscopy Molar ratio Rate constants Scanning electron microscopy Tires

Engineering uncontrolled terms

Acid catalyst Biodiesel production Heterogeneous acid catalysts Homogeneous catalyst Pongamia pinnata Spent tyre waste Transesterifications Tyre wastes Waste tires catalyst

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# Document details - Morphological, optical and structural properties of pure, zinc and magnesium doped TiO<sub>2</sub> nanoparticles for solar cell devices

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Journal of Ovonic Research

Volume 18, Issue 1, 2022, Pages 29-35

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## Morphological, optical and structural properties of pure, zinc and magnesium doped TiO<sub>2</sub> nanoparticles for solar cell devices(Article)(Open Access)

Manojkumar, M.S., Venkatesan, S., Pandiarajan, S.

<sup>a</sup>Department of Biotechnology, Vivekanandha college of Engineering for Women (Autonomous), Tamil Nadu, Tiruchengode, India

<sup>b</sup>Department of Petro Chemical Engineering, University College of Engineering, BIT campus, Tamil Nadu, Tiruchirappalli, India

<sup>c</sup>Chemical Engineering, Nandha Engineering College, Tamil Nadu, Erode, India

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### Abstract

Zn<sup>2+</sup> and Mg<sup>2+</sup> ions doped Titanium dioxide had been synthesized using a hydrothermal method at 120°C with an annealing temperature at 450°C, including individual Zn<sup>2+</sup> and Mg<sup>2+</sup> ions. In addition, impact of these doping metal ions on the crystallization and phase transition of the Titanium dioxide nanoparticles were discussed by X-Ray Diffraction spectroscopy, Scanning Electron Microscopy, Fourier Transform Infra-Red spectroscopy, UV-Vis spectroscopy and Photo-Luminescence spectroscopy and also by photocatalytic measurements. The presence of anatase type structure in Titanium dioxide nanopowders with high crystallinity and high phase stability in spite of annealing at 450°C significantly specified that the dopants might prevent densification and crystallite growth in Titanium dioxide nanophase by on condition with different boundaries. Furthermore, with a suitable amount of Zn and Mg dopants, anatase grain size of Titanium dioxide powders was reduced. The band gap energy values of Zn<sup>2+</sup> and Mg<sup>2+</sup> ions doped nano-Titanium dioxide were lower than the pure nano-Titanium dioxide and they exhibited a red shift in the visible region. © 2022, S.C. Virtual Company of Physics S.R.L. All rights reserved.

SciVal Topic Prominence ⓘ

Topic: Ferromagnetism | Magnetic Properties | Saturation Magnetization

Prominence percentile: 87.172 ⓘ

Author keywords

Anatase Crystallite Grain-size Stability

ISSN: 18422403

Source Type: Journal

Original language: English

DOI: 10.15251/JOR.2022.181.29

Document Type: Article

Publisher: S.C. Virtual Company of Physics S.R.L

Manojkumar, M.S., Department of Biotechnology, Vivekanandha college of Engineering for Women (Autonomous), Tamil Nadu, Tiruchengode, India



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# Document details - Certain studies on influence of nano catalysts $\text{Co}_3\text{O}_4$ , $\text{SiO}_2$ blended with CME-diesel in combustion

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Materials Today: Proceedings

Volume 51, 2022, Pages 1612-1618

2nd International Conference on Sustainable Energy Solutions for a Better Tomorrow, SESBT 2021; Vellore Institute of Technology (VIT) Chennai; China; 23 July 2021 through 24 July 2021; Code 177457

## Certain studies on influence of nano catalysts $\text{Co}_3\text{O}_4$ , $\text{SiO}_2$ blended with CME-diesel in combustion (Conference Paper)


Yuvaraj, S., Senthil Kumar, A.P., Muthukumar, M., Sadesh, K., Janaki, S. <sup>a</sup>Department of Aeronautical Engineering, Sri Ramakrishna Engineering College, Coimbatore, 641022, India<sup>b</sup>Department of Mechanical Engineering, PSG College of Technology, Coimbatore, 641004, India<sup>c</sup>Department of Mechanical Engineering, Nandha Engineering College, Erode, 638052, IndiaView additional affiliations 

### Abstract

The growing interest for the alternative fuel has replaced the usage of diesel fuel in engines. This paper determines and evaluates the combustion characteristics of the new fuel blend comprising nanoparticles blended with cottonseed oil added diesel. The burning rates, variation of droplet size and temperature at various periods were studied. The fuel mix containing the blends of cottonseed oil in proportions of B20 (20% Cottonseed oil), B40 (40% Cottonseed oil) and B60 (60% Cottonseed oil) with Nano additive combinations of  $\text{SiO}_2$  (Silicon dioxide)  $\text{Co}_3\text{O}_4$  (Cobalt oxide),  $\text{Co}_3\text{O}_4 + \text{SiO}_2$  with proportions of 100 ppm, 50 ppm (parts per million) and 25 ppm blended in diesel fuel by Ultrasonic dispersed techniques. The diameter of the injected fuel, time-taken to complete the combustion process, and the temperature of prepared fuel blends were tested using the self-designed droplet combustion chamber and the results were processed and analyzed. The time taken for the better blend proportions is expected to be 6 s favouring microexplosion by eliminating agglomeration. © 2022 Elsevier Ltd.

### SciVal Topic Prominence

Topic: Fuel Tests | Diesel Engines | Biofuel

Prominence percentile: 99.822 

### Author keywords

Additives Blend Ceramic Combustion Energy

### Funding details

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I thank the Management, Principal, HoD/Aeronautical Engineering Department, and Nano Technology Department of Sri Ramakrishna Engineering College for providing the facilities to conduct this research.

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ISSN: 2214-7855  
Source Title: Journal

DOI: 10.1016/j.matpr.2021.10.469  
Document Type: Conference Paper



  
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# Document details - No Fine Concrete Pavement—A Sustainable Solution for Flood Disaster Mitigation

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Lecture Notes in Civil Engineering

Volume 205, 2022, Pages 259-273

Virtual Conference on Disaster Risk Reduction, VCDRR 2021; Virtual, Online; ; 15 March 2021 through 20 March 2021; Code 268919

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## No Fine Concrete Pavement—A Sustainable Solution for Flood Disaster Mitigation(Conference Paper)

Jeya Prakash, R., Soundara, B., Johnson, C.

<sup>a</sup>Nandha Engineering College, Tamilnadu, Erode, India  
<sup>b</sup>Bannari Amman Institute of Technology, Sathyamangalam, India  
<sup>c</sup>Erode Sengunthar Engineering College, Tamilnadu, Erode, India

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### Abstract

No Fine concrete (NFC) pavement is an ecologically sensible and sustainable substitute for conventional impervious concrete or asphalt pavement structures. Due to the omission of fine aggregates, the concrete can exhibit a porous structure called Pervious or No Fine concrete (NFC). The key design of the NFC system is to introduce acceptable void content so that excess runoff water does freely infiltrate being a self-resilient infrastructure. This can be achieved by controlling or totally removing the proportion of fine aggregates from the mixture design. In this current research, the mechanical properties including compressive strength, split tensile strength, and the hydraulic conductivity (i.e., permeability) of Fibre Reinforced No Fine Concrete (FRNFC) were discussed. Fibres with an effective length of 36 mm, and dosage rates of 0.15, 0.30 and 0.45% are taken for this present investigation. The volume fraction of the water to binder ratio is kept constant at 0.28. The addition of fibre doesn't have substantial effects on strength parameters and diminish the permeability of NFC to an insignificant degree. However, this polypropylene fibre reinforcement is done, to ensure the durability parameters such as abrasion and freeze-thaw resistance which are the perennial concern for implementation. © 2022, The Author(s), under exclusive license to Springer Nature Singapore Pte Ltd.

### SciVal Topic Prominence

Topic: Asphalt | Stormwater | Asphalt Mixtures

Prominence percentile: 98.506

### Author keywords

Fibre reinforcement Flood mitigation No fine concrete Permeability Porosity Sustainable concrete

### Indexed keywords

Engineering controlled terms:

Compressive strength Concrete aggregates Concrete pavements Fibers Floods Polypropylenes Reinforcement Tensile strength

Engineering uncontrolled terms

Disaster mitigation Fiber reinforcement (e) Fine aggregates Flood disaster Flood mitigation No-fines concretes Pavement structures Permeability Sustainable concretes Sustainable solution



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# Document details - Influence of nano-silica on mechanical properties of Indian almond fiber reinforced hybrid epoxy composites

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Journal of Natural Fibers


2022

## Influence of nano-silica on mechanical properties of Indian almond fiber reinforced hybrid epoxy composites

(Article in press ?)


Natarajan, S., Pathinettampadian, G., Vadivel, M., Yesudasan, P.S.S., Jesuretnam, B.R. <sup>a</sup>Department of Mechanical Engineering, Nandha Engineering College, Perundurai, India<sup>b</sup>Department of Mechanical Engineering, Chennai Institute of Technology, Chennai, India<sup>c</sup>Department of Mechanical Engineering, Vels Institute of Science, Technology and Advanced Studies, Chennai, India[View additional affiliations](#) 

### Abstract

Natural fiber reinforced composites are useful in engineering applications as energy saving material due to their light weight. However, the lower mechanical properties limit its service compared to conventional material. Hence, the purpose of this study is to improve the mechanical properties of the natural fiber composites using nano-silica particles. Indian almond fiber-based epoxy composite was manufactured with different quantity of nano-silica. Totally, five materials were fabricated namely E (Epoxy), EI (Epoxy/Indian almond), EIS1 (Epoxy/Indian almond/0.5 wt% silica), EIS2 (Epoxy/Indian almond/1 wt% silica), and EIS3 (Epoxy/Indian almond/2 wt% silica) by conventional hand layup technique. Mechanical properties such as tensile, flexural, impact, and hardness were tested. Further, water absorption behavior of the materials was analyzed to understand the dimensional stability of the material. Results showed that EIS3 composite exhibited the higher tensile strength of 77 MPa, flexural strength of 109 MPa, impact strength of 4.  /m<sup>2</sup>, and hardness of 93 shore D. Mechanical properties of EIS3 composites were improved due to the reinforcing effect of Indian almond fiber (40 wt%) and nano-silica (2 wt%). Water absorption study showed that the EI composite displayed the maximum water absorption of 14.6% at the soaking time of 6 hours due to hydrophilic tendency of fiber. This investigation concludes that EIS3 composite could be applicable in engineering applications for constructional work owing to its improved performance. © 2022 Taylor & Francis.

### SciVal Topic Prominence

Topic: Mechanical Properties | Sisal | Coir

Prominence percentile: 99.903 

### Author keywords

epoxy Indian almond fiber mechanical properties Nano-silica natural fiber

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DOI: 10.1080/15440478.2022.2048942

Document Type: Article

Publisher: Taylor and Francis Ltd.



  
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# Document details - Characterization of the Aluminium Matrix Composite Reinforced with Silicon Nitride (AA6061/Si<sub>3</sub>N<sub>4</sub>) Synthesized by the Stir Casting Route

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Advances in Materials Science and Engineering  
Volume 2022, 2022, Article number 8761865

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## Characterization of the Aluminium Matrix Composite Reinforced with Silicon Nitride (AA6061/Si<sub>3</sub>N<sub>4</sub>) Synthesized by the Stir Casting Route(Article) (Open Access)

Related documents

Kumar, B.A., Krishnan, M.M., Sahayaraj, A.F., Refaai, M.R.A., Yuvaraj, G., Madhesh, D., Allasi, H.L.   
<sup>a</sup>Department of Mechanical Engineering, Nandha Engineering College, Vaikkaal Medu Tamil Nadu, Erode, 638052, India  
<sup>b</sup>Department of Mechanical Engineering, Kalaignar Karunanidhi Institute of Technology, Tamil Nadu, Coimbatore, 641402, India  
<sup>c</sup>Prince Sattam bin Abdulaziz University, College of Engineering, Department of Mechanical Engineering, Alkharj, 16273, Saudi Arabia

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Abstract

The current work is concerned with the synthesis of aluminium (AA6061-T6) matrix composites (AMCs) reinforced with 15 and 20 weight percentages of silicon nitride (Si<sub>3</sub>N<sub>4</sub>) particulates using the indigenously fabricated electric stir casting furnace with bottom discharge arrangement. The major concern in the synthesis of AMCs of ceramic particles with the aluminium matrix is wettability in the casting route, and it was overcome by adding 2% of magnesium in the melt, proper incorporation time, and appropriate stirring speed. The microstructure and mechanical characteristics of the synthesized AMC were analyzed. Si<sub>3</sub>N<sub>4</sub> particles in the matrix are uniformly dispersed in the optical and scanning electron micrographs (SEM). Adding reinforcement particles of Si<sub>3</sub>N<sub>4</sub> to the AA6061 matrix increased microhardness, macrohardness, and ultimate tensile strength significantly. Microhardness and macrohardness of the AA6161/20 wt.% Si<sub>3</sub>N<sub>4</sub> composite were 98 VHN and 91 BHN, respectively, which were 117.8% and 111.63% higher than those of the AA6061 matrix alloy, respectively. Ultimate tensile strength (UTS) of AA6061 was 159.82 MPa which was increased to 249.12 MPa in the AA6061/20 wt.% Si<sub>3</sub>N<sub>4</sub> composite. Percent elongation of the AA6061/Si<sub>3</sub>N<sub>4</sub> composite was reduced with the addition of Si<sub>3</sub>N<sub>4</sub> reinforcement. © 2022 B. Ashok Kumar et al.

SciVal Topic Prominence   
Topic: Metal Matrix Composites | Powder Metallurgy | Aluminum  
Prominence percentile: 99.285   
Indexed keywords

Engineering controlled terms: Magnesium castings, Microhardness, Reinforcement, Scanning electron microscopy, Tensile strength



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# Document details - Fuzzy logic controlled 3 port DC to DC Cuk converter with IoT based PV panel monitoring system

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International Journal of Systems Assurance Engineering and Management  
2022

## Fuzzy logic controlled 3 port DC to DC Cuk converter with IoT based PV panel monitoring system

( Article in press ? )

Senthilnathan, A., Murugasami, R., Balakrishnan, R., Sundar, R., Palanivel, P.

<sup>a</sup>Department of Electrical and Electronics Engineering, Dr.N.G.P. Institute of Technology, Coimbatore, India  
<sup>b</sup>Department of ECE, Nandha Engineering College, Erode, India  
<sup>c</sup>Dr.N.G.P. Institute of Technology, Coimbatore, India

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Abstract

Clean energy is the energy that is created from sustainable sources. Owing to inconstancy of ambient circumstances, the output from PV panels/cells fails to supply maximum power to a load, despite rising demand for solar photovoltaic (PV) energy. As a result, maximum power point tracking (MPPT) is becoming increasingly important for PV systems. A new internet of things (IoT)-enabled MPPT fuzzy controller is developed and implemented in this study suggested circuit system makes use of Internet of Things-based sensors to communicate critical data to cloud for remote monitoring and control. IoT platform enables remote monitoring of system. This research paper portrays a 3 port DC to DC Cuk converter that is intended to associate two sources Solar and Fuel cell voltages to normal burden. The proposed Cuk converter is appropriate for high-voltage applications. The IoT portrayed here can quantify the temperature, current, and voltage of the PV board, just as the force of the daylight, gets. Every one of the information was assembled by a remote handset Node MCU ESP8266 and sent to the web through an Arduino ATmega2560. Thinkspeak is utilized to gather all instrument information and show it graphically with the goal that the client might the information from anyplace there is a web association. All simulation and hardware implementation are performed in MATLAB/SIMULINK platform and laboratory set to evaluate suggested system that would give low ripple, making the suggested system appropriate for EV applications. © 2022, The Author(s) under exclusive licence to The Society for Reliability Engineering, Quality and Operations Management (SREQOM), India and The Division of Operation and Maintenance, Lulea University of Technology, Sweden.

SciVal Topic Prominence

Topic: DC-DC Converter | Microgrid | Acceleration (Physics)

Prominence percentile: 94.646

Author keywords

Cuk converter Fuzzy logic controller Node MCU Thinks peak

Indexed keywords

Engineering controlled terms: Computer circuits Controllers Electric inverters Fuel cells Fuzzy logic HVDC power transmission Internet of things MATLAB Maximum power point trackers Inverter controllers Monitoring Remote control Simulation platform Solar cells Solar power generation

Cited by 1 document

Senthilnathan, A. , Palanivel, P. , Kumar, K.R.

Mathematical Modelling and Torque Ripple Waning in BLDC Motor Using Outgoing-Phase Current Discharge Hysteresis Controlled ANFIS Controller

(2022) *Mathematical Problems in Engineering*

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# Document details - Improved Energy Based Multi-Sensor Object Detection in Wireless Sensor Networks


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Intelligent Automation and Soft Computing

Volume 33, Issue 1, 2022, Pages 227-244

## Improved Energy Based Multi-Sensor Object Detection in Wireless Sensor Networks(Article)(Open Access)

Palanisamy, T., Alghazzawi, D., Bhatia, S., Malibari, A.A., Dadheech, P., Sengan, S. 

<sup>a</sup>Department of Computer Science and Engineering, Nandha Engineering College, Tamil Nadu, Erode, India

<sup>b</sup>Department of Information Systems, Faculty of Computing and Information Technology, King Abdulaziz University, Jeddah, Saudi Arabia

<sup>c</sup>Department of Information Systems, College of Computer Science and Information Technology, King Faisal University, Saudi Arabia


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### Abstract

Wireless Sensor Networks (WSNs) are spatially distributed to independent sensor networks that can sense physical characteristics such as temperature, sound, pressure, energy, and so on. WSNs have secure link to physical environment and robustness. Data Aggregation (DA) plays a key role in WSN, and it helps to minimize the Energy Consumption (EC). In order to have trustworthy DA with a rate of high aggregation for WSNs, the existing research works have focused on Data Routing for In-Network Aggregation (DRINA). Yet, there is no accomplishment of an effective balance between overhead and routing. But EC required during DA remained unsolved. The detection of objects belonging to the same event into specific regions by the Bayes Node is distributed through the Sensor Nodes (SNs). Multi-Sensor Data Synchronization Scheduling (MSDSS) framework is proposed for efficient DA at the sink in a heterogeneous sensor network. Secure and Energy-Efficient based In-Network Aggregation Sensor Data Routing (SEE-INASDR) is developed based on the Dynamic Routing (DR) structure with reliable data transmission in WSNs. Theoretical analysis and experimental results showed that in WSN, the proposed Bayes Node Energy Polynomial Distribution (BNEPD) technique reduced Energy Drain Rate (EDR) by 39% and reduced 33% of Communication Overhead (CO) using poly distribution algorithm. Similarly, the proposed MSDSS framework increased the Network Lifetime (NL) by 15%. This framework also increased 10.5% of Data Aggregation Routing (DAR). Finally, the SEE-INASDR framework significantly reduced EC by 51% using a Secure and Energy-Efficient Routing Protocol (SEERP). © 2022, Tech Science Press. All rights reserved.

### SciVal Topic Prominence

Topic: [Data Aggregation](#) | [Wireless Sensor Networks](#) | [Privacy Preserving](#)

Prominence percentile: 88.852 

### Author keywords

[Data aggregation](#)
[Energy efficiency](#)
[Secure routing protocol](#)
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### Funding details

Funding sponsor

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IFPIP-471-611-1442

### Cited by 4 documents

Shuaib, M. , Hassan, N.H. , Usman, S.

Land Registry Framework Based on Self-Sovereign Identity (SSI) for Environmental Sustainability

(2022) *Sustainability (Switzerland)*

Sharma, B.B. , Gupta, G. , Vaidya, P.

Internet of Things-Based Crop Classification Model Using Deep Learning for Indirect Solar Drying

(2022) *Wireless Communications and Mobile Computing*

Bathla, G. , Bhadane, K. , Singh, R.K.

Autonomous Vehicles and Intelligent Automation: Applications, Challenges, and Opportunities

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# Document details - Microstructural, Mechanical and Wear Properties of Friction Stir Welded AA6061/AlN<sub>p</sub> Composite Joints

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Journal of Materials Engineering and Performance

Volume 31, Issue 1, January 2022, Pages 651-666

## Microstructural, Mechanical and Wear Properties of Friction Stir Welded AA6061/AlN<sub>p</sub> Composite Joints(Article)

Ashok Kumar, B., Dinaharan, I., Murugan, N.

<sup>a</sup>Department of Mechanical Engineering, Nandha Engineering College, Vaikkaal Medu, Tamil Nadu, Erode, 638052, India

<sup>b</sup>IDM-Joint Lab, Department of Mechanical Engineering, Tsinghua University, Beijing, 100084, China

<sup>c</sup>Department of Robotics and Automation Engineering, PSG College of Technology, Tamil Nadu, Coimbatore, 641004, India

### Abstract

Friction stir welding (FSW) process is an appropriate welding process to successfully join the aluminum matrix composites (AMCs) reinforced with ceramic particles. In this study, AA6061 AMCs reinforced with 10 and 20 weight percentages of aluminum nitride particles (AlN<sub>p</sub>) were welded by FSW process. The effect of FSW on microstructure, microhardness and tensile strength of AA6061/AlN<sub>p</sub> composite joints as well as wear behavior of the weld zone (WZ) was analyzed. It was found that reinforcement particles were broken and fragmented in the weld zone of FS-welded composite joints. Microhardness of the weld zone was higher compared to other metallurgical zones. Average microhardness at the WZ of AA6061/20 wt.% AlN<sub>p</sub> composite was 134 HV which is 36% higher than that of its base composite. It was observed that grain size of the AA6061 matrix was refined at the WZ. Average grain size of AA6061 alloy was 138 μm which was reduced to 3.8 μm at the WZ of AA6061/20 wt.% of AlN<sub>p</sub> composite joint. Around 90% of the particles size in the WZ was reduced to less than 5 μm from the relatively large size existed in the base composite. Ultimate tensile strength of FS-welded AA6061 alloy was 151 MPa which increased to 231 MPa in FS-welded AA6061/20 wt.% AlN<sub>p</sub> composite joint. Wear rate of FS-welded composite joints was less than that of its corresponding base composites under the same wear testing conditions. Average coefficient of friction at the WZ of FS-welded AA6061 alloy and AA6061/10 and 20 wt.% AlN<sub>p</sub> was found to be 0.41, 0.33 and 0.22, respectively. Wear mechanism of FS-welded joint was characterized to be abrasive. © 2021, ASM International.

### SciVal Topic Prominence

Topic: Aluminum | Bobbins | Welded Joints

Prominence percentile: 99.543

Author keywords

AlN particle | aluminum matrix composite | friction stir welding | tensile strength

Indexed keywords

Engineering controlled terms:

Aluminum nitride | Binary alloys | Ceramic matrix composites | Friction | Friction stir welding | Grain size and shape | Microhardness | Particle reinforced composites | Tensile strength | Welds | Wear of materials

Cited by 2 documents

Uday, K.N., Rajamurugan, G.  
Influence of process parameters and its effects on friction stir welding of dissimilar aluminium alloy and its composites—a review

(2022) *Journal of Adhesion Science and Technology*

Kumar, B.A., Krishnan, M.M., Sahayaraj, A.F.

Characterization of the Aluminium Matrix Composite Reinforced with Silicon Nitride (AA6061/Si<sub>3</sub>N<sub>4</sub>) Synthesized by the Stir Casting Route

(2022) *Advances in Materials Science and Engineering*

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# Document details - REAL TIME MONITORING OF ENERGY HARVESTING FIELDS WITH BATTERY MANAGEMENT SYSTEM THROUGH SMART WEB


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International Journal of Mechanical Engineering

Volume 6, Issue 3, December 2021, Pages 1263-1267

## REAL TIME MONITORING OF ENERGY HARVESTING FIELDS WITH BATTERY MANAGEMENT SYSTEM THROUGH SMART WEB(Article)


Ramani, G., Jamuna, P., Suresh, K.P., Ajitha, A.J., Sivaprakash, V. <sup>a</sup>Department of EEE, Nandha Engineering College, Tamil Nadu, Erode, 638052, India<sup>b</sup>Department of EEE, Sri Krishna College of Technology, Tamil Nadu, Coimbatore, 641042, India<sup>c</sup>Department of Pharmacology, Nandha College of Pharmacy, Tamil Nadu, Erode, 52, India

### Abstract

The paper described here deals the energy management system for energy harvesting in Internet of Things (IOT). The simulation of energy management circuits such as power converters, storage elements and energy harvesting sources are done and their results are discussed. This paper describes about the boost converter with energy management system structured for low-voltage and low power energy harvesting system. Also, this paper reviews the power management solutions for energy harvesting system used in Internet of Things (IOT). As the paper deals with the IOT based monitoring of EH field where the data can be stored in the cloud storage which can be efficient to viewed at any of the emergency conditions or for any future reference. The power converter analyzed here was step up converter with MPPT algorithm. Here the project simulation done through Proteus Software where a variable generating solar panel was used as source, irradiation technique also used in MPPT, the algorithm was coded in Arduino microcontroller. The process was simulated and arrived results were further analyzed. © 2021, Kalahari Journals. All rights reserved.

### SciVal Topic Prominence

Topic: Working Capital Management | Congressional Reports | Methodology

Prominence percentile: 87.339 

### Author keywords

[Arduino](#) [Boost converter](#) [Harvesting energy](#) [Internet of things \(IOT\)](#) [Power management](#)


ISSN: 09745823

Source Type: Journal

Original language: English

Document Type: Article

Publisher: Kalahari Journals

 Jamuna, P.; Department of EEE, Nandha Engineering College, Tamil Nadu, Erode, India;

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# Document details - A reversible data hiding method for image protection

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AIP Conference Proceedings

Volume 2387, 1 November 2021, Article number 140024

4th National Conference on Current and Emerging Process Technologies, e-CONCEPT 2021; Kongu Engineering College Erode; India; 20 February 2021 through ; Code 173353

## A reversible data hiding method for image protection(Conference Paper)

Saranya, S.S., Santhosh, C., Santhiya, M., Jeevana, S., Dhivya, J., Vanitha, A. <sup>a</sup>Computer Tehnology UG, Kongu Engineering College, Perundurai, Tamil Nadu, 638060, India<sup>b</sup>Department of Computer Science Engineering, Nandha Engineering College, Perundurai, Tamil Nadu, 638052, India

### Abstract

Encryption is the way toward encoding given information that can't be perceived by an unapproved individual. Securing a message or a picture which is partaken in a social stage be the difficult undertaking these days. This paper proposes an account procedure to steganography by means of reversible room before encryption surface mix. Reversible room before encryption surface mix measure explore supplementary unobtrusive side picture that arranges different facet picture with a similar and relative appearance with optional dimensions. This paper networks the Reversible room before encryption surface association cycle with steganography for covering secrete data. Rather than using contemporary cover photo for covering information our figure seal the source surface picture and introduces coded message via pattern of Reversible room before encryption surface association. This licenses us to isolate the secret messages and source surface from a stego designed surface. This philosophy proffers main three focal points. Most importantly, the positioning provide data embedding furthest extended that is contrast to dimensions of surface of the stego picture. Second, a steganalytic compute not apparently to conquer steganography technique. Third, changeable capacity gained from our arrangement gives value, which grants recovery surface of the source. Exploratory results are guaranteed to provide various consignment of introducing curtailment, produce ostensibly viable surface pictures, and also recuperate fount surface. © 2021 American Institute of Physics Inc.. All rights reserved.

### SciVal Topic Prominence

Topic: Image Retrieval | Scene Recognition | Bag

Prominence percentile: 98.178 

### Author keywords

Embedding capacity

Information hiding

Prediction error expansion

Reversible data hiding

Steganography

ISSN: 0094243X

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Source Type: Conference Proceeding

Original language: English

DOI: 10.1063/5.0068683

Document Type: Conference Paper

Volume Editors: Venkatachalam C.D., Sengottian M., Subramaniam S.M., Ravichandran S.R., Joshy A.

Publisher: American Institute of Physics Inc.

 Saranya, S.S.; Computer Tehnology UG, Kongu Engineering College, Perundurai, Tamil Nadu, India;



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# Document details - Incorporation of sesbania grandiflora flower's polyphenol extract in yoghurt and its effect

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AIP Conference Proceedings

Volume 2387, 1 November 2021, Article number 040002

4th National Conference on Current and Emerging Process Technologies, e-CONCEPT 2021; Kongu Engineering College Erode; India; 20 February 2021 through ; Code 173353

## Incorporation of sesbania grandiflora flower's polyphenol extract in yoghurt and its effect (Conference Paper)

Priya, K.K.S.M., Shivaswamy, M.S., Sudhakar, V., Kiruthiga, G. <sup>a</sup>Department of Agricultural Engineering, Nandha Engineering College, Tamil Nadu, Erode, 638060, India  
<sup>b</sup>Department of Food Technology, Kongu Engineering College, Tamil Nadu, Erode, 638060, India

### Abstract

Agathi (*Sesbania grandiflora*) is a flowery vegetable can cure illness and diseases with wide health benefits. Polyphenol content of this flower has antimicrobial activity. Nevertheless, there seems to be less work on the specific stimulatory effect of polyphenols in positive beneficial microbial development. The microwave parameters were thus optimized for the extraction of polyphenols using Response Surface Methodology. The optimized polyphenol extract were incorporated in the yoghurt cultured with *Lactobacillus acidophilus*, *Lactobacillus bulgaricus*, *Streptococcus Thermophilus*. The conditions for the preparation of yoghurt conditions were optimized using RSM to assess the different combination of incubation time and extract concentration on pH, Titratable acidity, Syneresis index and microbial cell count. Incubation period of 5 hours was the optimum condition for the investigated responses with 5.60 percent of extract concentration. The optimal conditions were selected based on the desirability 0.865. The parameter with the highest value was moisture content followed by total carbohydrates and proteins. The optimized polyphenol extract, promoted statistically significant increase in yoghurt antioxidant efficiency and Polyphenolic content of optimized yoghurt. © 2021 American Institute of Physics Inc.. All rights reserved.

### SciVal Topic Prominence

Topic: Rennet | Milk | Caseins

Prominence percentile: 96.991 

### Author keywords

[Extraction](#) [Optimization](#) [Polyphenols](#) [Probiotic drink](#) [Sesbania grandiflora](#)

ISSN: 0094243X

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Publisher: American Institute of Physics Inc.



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 Priya, K.K.S.M.; Department of Agricultural Engineering, Nandha Engineering College, Tamil Nadu, Erode, India;  
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# Document details - Analysis and optimization on the biodegradable plate making process parameters using RSM-based Box–Behnken Design method


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Journal of Material Cycles and Waste Management

Volume 23, Issue 6, November 2021, Pages 2255-2265

## Analysis and optimization on the biodegradable plate making process parameters using RSM-based Box–Behnken Design method(Article)

Maheswari, C., Ramya, A.S., Priya, B.M., Sudhakar, S., Prabhu Raj, B., Lokesh, B., Ramani, G. <sup>a</sup>Department of Mechatronics Engineering, Kongu Engineering College, Perundurai, Erode, Tamil Nadu 638060, India<sup>b</sup>Department of Civil Engineering, Sanskrithi School of Engineering, Puttaparthi, Andhra Pradesh 515134, India<sup>c</sup>Department of EEE, Nandha Engineering College, Perundurai, Erode, Tamil Nadu 638060, India

### Abstract

The present research work focused on fabricating Biodegradable Plate (BD plate) composed of rice husk ash, bagasse and corn starch which is harmless to the environment. Mechanical properties such as compressive strength, moisture absorption, solubility and infiltration time were examined in fabricated BD plate. Box–Behnken Design (BBD) and ANOVA analysis are employed to optimize the operating parameters includes raw material mix ratio, temperature on the die, pressure during the mixing process and time. Input factors such as temperature varies (80–100 °C), pressure (1–3 bar), time (4–6 min) and Mix ratio (M1, M2 and M3) are coded into the BBD design. Lack of fit test, p and F value of the independent variables are calculated to confirm the significance of the regression model. Maximum compressive strength of 31 kgf is obtained at the optimal process parameters like temperature of 90 °C, pressure of 2 bar, holding time of 6 min and Mix ratio of 2. The developed biodegradable plate serves as the alternative solution for plastic plates such that the developed plate withstands for 30 days free from fungus. © 2021, Springer Japan KK, part of Springer Nature.

### SciVal Topic Prominence

Topic: Edible Packaging | Active Food Packaging | Elongation at Break

Prominence percentile: 99.935 

### Author keywords

[Bagasse](#) [BBD design](#) [Biodegradable plate](#) [Compressive strength](#) [Moisture absorption](#)

### Indexed keywords

Engineering controlled terms:

[Biodegradable polymers](#) [Regression analysis](#)

Engineering uncontrolled terms

[Alternative solutions](#) [Independent variables](#) [Infiltration time](#) [Lack-of-fit test](#)[Maximum compressive strengths](#) [Moisture absorption](#) [Operating parameters](#)[Regression model](#)

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# Document details - An Intelligent Bionic Person for Bomb Detection and Diffusion using Internet of Things (IoT) in Military Application

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International Journal of Mechanical Engineering

Volume 6, Issue 3, October-December 2021, Pages 1029-1038

## An Intelligent Bionic Person for Bomb Detection and Diffusion using Internet of Things (IoT) in Military Application(Article)

Parameshwari, V., Premkumar, P., Srinevasan, M., Logeswari, V., Junaid Rahman, P.V.

<sup>a</sup>Department of ECE, Nandha Engineering College, Tamil Nadu, Erode, 638052, India

<sup>b</sup>Nandha College of Pharmacy, Tamil Nadu, Erode, 638052, India

### Abstract

The bomb detection and diffusion system is presented and technology used in this proposed system produces a powerful device for military field and related sectors. The way of analyzing the Robotic technology takes more risk and time to safeguard the expert's life. Accurate and timely discovery of bombs, energetic resources and their associated composites would give precious information to military personnel's in wide range of military operations. This prototype robot can able to move across suspected explosive area and monitored by camera. This unit is used to identify the obstacles, metal and transferring applicable information regarding this to control station. By using GPS tracking system, suspected bomb location was identified and information will be communicated to the control station then immediately the robot tracks the bomb and dispose it on time. Once the input is received from the user, the data is transferred to the receiver via Bluetooth module and all collected data's can be stored in cloud through IoT technology for further future recommendations. © Kalahari Journals.

### SciVal Topic Prominence ⓘ

Topic: Search and Rescue | Teleoperators | Unmanned Aerial Vehicle

Prominence percentile: 93.727 ⓘ

### Author keywords

Arduino Nano board Bomb Buzzers Cloud computing Database ThingSpeak

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Source Type: Journal  
Original language: English

Document Type: Article  
Publisher: Kalahari Journals

Parameshwari, V.; Department of ECE, Nandha Engineering College, Tamil Nadu, Erode, India;  
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# Document details - Comparative Experimental Study on Mechanical Properties of Chemically Treated and Untreated Sisal Fiber Reinforced Poly Lactic Acid (PLA) Matrix Composites


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International Journal of Mechanical Engineering

Volume 6, Issue 3, October-December 2021, Pages 1095-1100

## Comparative Experimental Study on Mechanical Properties of Chemically Treated and Untreated Sisal Fiber Reinforced Poly Lactic Acid (PLA) Matrix Composites(Article)

Vijayakumar, N., Jannathulfirhouse, S., Saravanan, N., Manickavalli, E. <sup>a</sup>Department of Chemistry, Nandha College of Technology, Tamil Nadu, Erode, India<sup>b</sup>Department of Chemistry, Nandha Engineering College (Autonomous), Tamil Nadu, Erode, India<sup>c</sup>Department of Pharmaceutical Chemistry, Nandha College of Pharmacy, Tamil Nadu, Erode, India

### Abstract

A chemically untreated and treated sisal fibre reinforced with Poly Lactic Acid Matrix green composites were tested for mechanical properties in this research. Different volumetric fractions like, 20, 25, 30, and 35% of untreated and treated sisal fiber are chosen to prepare the composite specimens by coalesce with Poly Lactic Acid (PLA). The ASTM standards were followed in the preparation of the composite specimens used in the various mechanical testing. The mechanical characteristics of the composites were determined using standard testing procedures. The PLA matrix with treated sisal fibre reinforced composites had higher ultimate tensile strength, tensile modulus, flexural strength, flexural modulus, and Izod impact strength than the pure PLA and untreated-PLA composites, according to the experimental results. Conversely, tensile elongation exhibited by the treated sisal-PLA and untreated PLA composite was decreased largely when compared to pure PLA composite correspondingly. © Kalahari Journals.

### SciVal Topic Prominence

Topic: Mechanical Properties | Sisal | Coir

Prominence percentile: 99.900 

### Author keywords

Chemical treatment

Comparative experimental study

Mechanical properties

Sisal fiber-PLA composites

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Original language: English

Document Type: Article

Publisher: Kalahari Journals

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# Document details - Mechanical and metallurgical characterization of AA7075 matrix composite reinforced with Zirconium Boride (ZrB<sub>2</sub>) synthesized by stir casting route


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International Journal of Mechanical Engineering

Volume 6, Issue 3, October-December 2021, Pages 1173-1178

## Mechanical and metallurgical characterization of AA7075 matrix composite reinforced with Zirconium Boride (ZrB<sub>2</sub>) synthesized by stir casting route(Article)

Ashok Kumar, B., Viswanathan, N., Vimala, V., Saravanan, R. <sup>a</sup>Department of Mechanical Engineering, Nandha Engineering College, Tamil Nadu, Erode, 52, India<sup>b</sup>Department of Pharmacology, Nandha College of Pharmacy, Tamil Nadu, Erode, 52, India

### Abstract

In this study AA7075 alloy matrix reinforced with Zirconium boride (ZrB<sub>2</sub>) ceramic particle reinforced composite was made by electric stir casting furnace and two different weight percentage (such as 10 and 20) of ZrB<sub>2</sub>. EDAX analysis, optical microstructure and scanning electron microscope image was used to analyse the metallurgical characterization of the produced composites and macrohardness, microhardness and ultimate tensile test (UTS) were carried out for the mechanical characterization of the composites. AA7075 alloy matrix were casted and the results of composites were compared with AA7075 alloy to find out the impact of inclusion of ZrB<sub>2</sub> in AA7075 matrix alloy. Uniform distribution of ZrB<sub>2</sub> particles in the matrix was confirmed by optical and SEM images. Macrohardness and microhardness of the AA7075/20 wt.% ZrB<sub>2</sub> composite were 76% and 85% higher than that of AA7075 matrix alloy. Similarly, UTS of AA7075/20 wt.% ZrB<sub>2</sub> composite was 99% higher than that of AA7075 alloy. But percentage of elongation of the composite was reduced by the addition of ZrB<sub>2</sub> ceramic particles. © Kalahari Journals.

### SciVal Topic Prominence

Topic: Metal Matrix Composites | Powder Metallurgy | Aluminum

Prominence percentile: 99.425 

### Author keywords

Aluminium matrix composite

Electric stir casting furnace

SEM

Ultimate tensile strength

### Funding details

#### Funding text

The authors are grateful to the management of the Coimbatore Institute of Technology in Coimbatore, India, for enabling us to use the stir casting furnace. The authors are grateful to the management of Karunya Institute of Technology and Science in Coimbatore, India, for allowing us to conduct the mechanical tests.

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# Document details - ANOMALY DETECTION OF IoT USING MACHINE LEARNING

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International Journal of Mechanical Engineering


Volume 6, Issue 3, October-December 2021, Pages 1268-1273

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## ANOMALY DETECTION OF IoT USING MACHINE LEARNING(Article)

Shanmugapriya, K., Marimuthu, C.N., Sridhar, N., Sameema Begam, S. <sup>a</sup>Department of Computer Science and Engineering, Nandha Engineering College, Tamil Nadu, Erode, India<sup>b</sup>Department of Electronics and Communication Engineering, Nandha Engineering College, Tamil Nadu, Erode, India<sup>c</sup>Department of Pharmacognosy, Nandha College of Pharmacy, Tamil Nadu, Erode, India

### Abstract

Internet of things (IoT) is a steady exchange of information between devices in an interconnected arrangement (e.g., splendid home sensors, regular sensors, vehicle and road side sensors, clinical devices, present day robots and perception contraptions). In this manner, gigantic complexity will arise to stay aware of things to future IoT establishments, which subsequently prompts troublesome shortcoming to the structure. An anomaly detection, defined as any adjustment of normal conduct, can give early caution of an issue. By using various machine learning algorithm that to identify assaults during runtime and take less handling time contrasted with different procedures. In this work, the proposed anomaly detection framework is intended to screen IoT vulnerabilities and caution the executive or the service administrations in an organization. The proposed system which uses a K-Nearest Neighbor (KNN) unsupervised machine learning algorithm and Random forest (RF) supervised machine learning algorithm for a fine tuned parameters in the distributed network. Therefore, this system maximizing the models performance without over fitting and implements a fit and a metric score using Cross Validation (CV). © Kalahari Journals.

### SciVal Topic Prominence

Topic: Working Capital Management | Congressional Reports | Methodology

Prominence percentile: 87.339 

### Author keywords

[Abnormal patterns](#) [Anomaly detection](#) [Cross validation](#) [Machine learning](#) [Protecting privacy](#)

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ISSN: 09745823

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 Shanmugapriya, K.; Department of Computer Science and Engineering, Nandha Engineering College, Tamil Nadu, Erode, India;

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# Document details - Design and Geometrical Analysis of Various Antennas For RF Application

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International Journal of Mechanical Engineering

Volume 6, Issue 3, October-December 2021, Pages 1117-1122

## Design and Geometrical Analysis of Various Antennas For RF Application(Article)

Logeswari, V., Kokila, P., Dhaarani, T.G., Parameshwari, V., Punitha, S. 👤

<sup>a</sup>Department of Electronics and Communication Engineering, Nandha Engineering College, Tamil Nadu, Erode, India

<sup>b</sup>Department of Pharmaceutics, Nandha Engineering College, Tamil Nadu, Erode, India

### Abstract

In RF applications, the selection of an antenna depends on the geometrical variations in the output like S parameters, directivity, gain, impedance parameter, admittance and etc. This article gives the geometrical comparison of various antennas such as horn, reflector and micro strip antenna and it is designed for same frequency at 6.8GHz. ANSYS HFSS 19.0 version is used for design and analysis. The comparison chart gives the variation in the gain, directivity, VSWR and other parameters for the above three types of an antenna. Based on the parameters variation antenna is decided for RF applications such as medical applications, communication, commercial and broadband applications. © Kalahari Journals.

### SciVal Topic Prominence ⓘ

Topic: Slot Antennas | Antenna | Substrate Integrated Waveguides

Prominence percentile: 87.615 ⓘ

### Author keywords

- Directivity
- Etc
- Gain
- Horn and Parabolic reflector antennas
- Microstrip patch antenna
- Polarization
- S parameters
- Z parameters

ISSN: 09745823

Source Type: Journal

Original language: English

Document Type: Article

Publisher: Kalahari Journals

👤 Logeswari, V.; Department of Electronics and Communication Engineering, Nandha Engineering College, Tamil Nadu, Erode, India;

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# Document details - Surgeon's Database Management System (Regional) and Surgery Allocator

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International Journal of Mechanical Engineering

Volume 6, Issue 3, October-December 2021, Pages 1193-1195

## Surgeon's Database Management System (Regional) and Surgery Allocator(Article)

Gughan, B., Vijayalakshmi, C.K., Junaid Rahman, P.V. <sup>a</sup>Nandha Engineering College, Tamil Nadu, Erode, 52, India<sup>b</sup>Nandha College, of Pharmacy, Tamil Nadu, Erode, 52, India

### Abstract

The covid pandemic rushed medical field to develop software in order to engage with patients and to maintain social distancing, There are 13 types of medical or health care software development was in trend since from the beginning of the pandemic. Due to the pandemic finding a rightful and availability of surgeons for a critical operation has become unpredictable. There are more than a dozen software available to main database of surgeon within their respective hospitals. Our main objective in this project is to develop a tool that could store and maintain database of different surgeons from different hospitals. © Kalahari Journals.

### SciVal Topic Prominence

Topic: Delivery Of Health Care | Build-Operate-Transfer | Teleconsultation

Prominence percentile: 85.428 

### Author keywords

[Database management](#) [Firebase cloud](#) [Healthcare DBMS](#) [Python programming](#) [Tkinter](#)


ISSN: 09745823

Source Type: Journal

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Publisher: Kalahari Journals

 Vijayalakshmi, C.K.; Nandha College, of Pharmacy, Tamil Nadu, Erode, India;

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# Document details - CHARACTERISTICS OF GRAPHENENIO/COCONUT OIL HYBRID NANOFLUID

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International Journal of Mechanical Engineering

Volume 6, Issue 3, October-December 2021, Pages 1204-1207

## CHARACTERISTICS OF GRAPHENENIO/COCONUT OIL HYBRID NANOFLUID(Article)

Senniangiri, N., Magibalan, S., Chandramohan, V., Thangamani, M. <sup>a</sup>Department of Mechanical Engineering, Nandha Engineering College, Tamil Nadu, Erode, 52, India<sup>b</sup>Department of Pharmacognosy, Nandha College of Pharmacy, Tamil Nadu, Erode, 52, India

### Abstract

Different weight fractions of G/NiO/Coconut oil hybrid nanofluid are made using a two-step process. In a 70:30 ratio, G/NiO hybrid nanomaterials are added to Coconut oil and swirled for 3 hours using a magnetic stirrer. The samples are then sonicated for three hours to produce homogenised dispersions, and the sedimentation method is used to test their dispersion stability. The asperity interaction in the hydrodynamic, elasto-hydrodynamic, and boundary lubrication regimes is minimised when lubricants are spread with nanoparticles at varying concentrations. © Kalahari Journals.

### SciVal Topic Prominence

Topic: Heat Transfer | Heat Transfer Enhancement | Automobile Radiators

Prominence percentile: 99.934 

### Author keywords

[Coconut oil](#) [Lubricant](#) [Nanoparticle](#)


ISSN: 09745823

Source type: Journal

Original language: English

Document Type: Article

Publisher: Kalahari Journals

 Senniangiri, N.; Department of Mechanical Engineering, Nandha Engineering College, Tamil Nadu, Erode, India;  
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# Document details - BIODEGRADABLE PLASTIC FROM MIXED STARCH

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International Journal of Mechanical Engineering

Volume 6, Issue 3, October-December 2021, Pages 1009-1019

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## BIODEGRADABLE PLASTIC FROM MIXED STARCH(Article)

Subramanian, N., Vinoth Kumar, B., Geetha, M., Gladys Kalpana, K., et al.

<sup>a</sup>Department of chemical Engineering, Nandha Engineering College, Tamil Nadu, Erode, India<sup>b</sup>Department of Pharmacology, Nandha College of Pharmacy, Tamil Nadu, Erode, India

### Abstract

Every product has a shelf life, but sadly not so with plastics. According to a study by the UN Plastic Collective (UPC), presented by the UN-Environment Program-India, Confederation of Indian Industry (CII) and WWF-India at the CII's Sustainability Summit, worldwide, more than one billion tons of plastic have been produced.-8.3 since then. In 1950 and about 60 percent of that waste ended up in landfills. India, on the other hand, produces 9.46 million tons of plastic waste annually, of which 40% is uncollected. Biological decay of these petrochemical-based substances has been a source of environmental concern and therefore, the ability to drive 'green alternatives' where starch is always at the forefront. The benefits of starch in plastic production include its excellent regeneration of oxygen in an arid environment, abundance, low cost, and environmental decay. Many starchy compounds show bad properties such as strong strength, yield strength, durability, length during breaks, and poor consistency of the mixture. To overcome this, add four vegetable starch like Sago, Maize, Potatoes, and Barley starch to increase strength and use over food, packaging, etc..... © Kalahari Journals.

### SciVal Topic Prominence ⓘ

Topic: Biopolymer | Bioplastics | Biodegradable Plastics

Prominence percentile: 92.655 ⓘ

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Original language: English

Document Type: Article

Publisher: Kalahari Journals

Subramanian, N.; Department of chemical Engineering, Nandha Engineering College, Tamil Nadu, Erode, India;  
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# Document details - RECOVERY AND REUSE OF SPENT CAUSTIC SODA FROM THEMERCERIZING SECTION OF TEXTILE UNIT

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International Journal of Mechanical Engineering

Volume 6, Issue 3, October-December 2021, Pages 1019-1028

## RECOVERY AND REUSE OF SPENT CAUSTIC SODA FROM THEMERCERIZING SECTION OF TEXTILE UNIT(Article)

Subramanian, N., Jawahar, M.C., Geetha, M., Ramamoorthi, M.

<sup>a</sup>Department of Chemical Engineering, Nandha Engineering College, Tamil Nadu, Erode, 638052, India<sup>b</sup>Department of Pharmacology, Nandha College of Pharmacy, Tamil Nadu, Erode, 638052, India

### Abstract

The objective of this research was to see how efficiently caustic soda could be recovered by membrane technology from mercerizing wastewater from a textile manufacturing company. Ultra-Filtration (UF) and Nano-Filtration (NF) procedures were studied for this purpose. In a first step, pretreatment options of occlusion, centrifugation and micro-litigation were evaluated, in an attempt to control for potential membrane contamination. A better option is to use NF for Caustic Recovery. NF has been successfully employed to recover caustics from mercerizing process effluents from both cotton and polyester fabric manufacture in recent research. Despite the high caustic recovery, membrane performance was not assessed in terms of pollutant characteristics like COD or colour removal. Furthermore, in both of these experiments, only one type of NF membrane was tested. Better in high temperature temperatures should also be considered due to the nature of the mercerizing processes. Based on the findings of this research. In general, it can be stated that combining UF and NF treatment to treat caustic processing wastewater results in wastewater that can be recycled in the refining process after evaporation. Pure caustic penetrates through the membrane, but dissolved and suspended compounds are largely intact and concentrated. The caustic is recovered to the rate of 95% or more, while the concentration is constant. © Kalahari Journals.

### SciVal Topic Prominence

Topic: Nanofiltration Membranes | Thin Film Composite Membranes | Membrane

Prominence percentile: 99.818

### Author keywords

Membrane Mercerizing unit Nanofiltration Spent caustic recovery Ultrafiltration

ISSN: 09745823

Source Type: Journal

Original language: English

Document Type: Article

Publisher: Kalahari Journals

Subramanian, N.; Department of Chemical Engineering, Nandha Engineering College, Tamil Nadu, Erode, India;

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# Document details - Security in Mobile Ad hoc Network based on Secure Zone Routing Protocol

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International Journal of Mechanical Engineering

Volume 6, Issue 3, October-December 2021, Pages 968-971

## Security in Mobile Ad hoc Network based on Secure Zone Routing Protocol(Article)

Kannan, K.R., Marimuthu, C.N., Arunkumar, R.K.

<sup>a</sup>Hindusthan Institute of Technology, Tamil Nadu, Malumichampatti, 641028, India

<sup>b</sup>Nandha Engineering College, Tamil Nadu, Erode, 638052, India

### Abstract

A Mobile Ad hoc NETWORK or MANET is a kind of ad hoc network that will be able to change locations and configure itself on the run. MANET does not require any fixed infrastructure or central control system. This means the nodes can interact any time with the network. The processing capacity of all the nodes must be equal. The security aspect in ad hoc network is based on the use of a proper key management system. These networks differ from one another in many aspects. It also needs environment-specific and efficient key management system. Secure routing protocols in ad hoc networks are designed to counteract routing attacks that disrupt route discovery. The prominence of planned key is, Secure Zone Routing Protocol (SZRP) which guarantees safety as wanted by affording a complete construction based on well-organized safe neighbor discovery, protected routing packets, recognition of spiteful nodes and precluding the devices from extinguishing the system. Both effective key management and secure neighbor mechanism are used to achieve the objective. © Kalahari Journals.

### SciVal Topic Prominence ⓘ

Topic: Mobile Ad Hoc Networks | Trust Management | Attack

Prominence percentile: 97.020 ⓘ

ISSN: 09745823

Source Type: Journal

Original language: English

Document Type: Article

Publisher: Kalahari Journals

✎ Kannan, K.R.; Hindusthan Institute of Technology, Tamil Nadu, Malumichampatti, India;

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# Document details - ANALYSING SMART SECURITY AND MONITORING DEVICE USING IOT AND MANUAL METHOD FOR AGRICULTURE


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International Journal of Mechanical Engineering

Volume 6, Issue 3, October-December 2021, Pages 1000-1005

## ANALYSING SMART SECURITY AND MONITORING DEVICE USING IOT AND MANUAL METHOD FOR AGRICULTURE(Article)


Ashokkumar, S., Divyadharshini, R., Jeyaprakash, R., Thirumaran, J. <sup>a</sup>Department of Agriculture Engineering, Nandha Engineering College, Tamil Nadu, India<sup>b</sup>Department of Pharmaceutics, Nandha College of Pharmacy, Tamil Nadu, India

### Abstract

Agriculture is a process of harvesting any raw materials by cultivating plants, livestock farming is an activity associated with growing up domestic animals for human needs. The agriculture sector being the backbone of Indian economy, we have to consider some challenges such as security and maintenance. The need for smart technology now a days in real time problem sensing security system is in its peak demand. Technologies like Internet of Things (IOT) and wireless sensor networks can be integrated with traditional methods of agriculture to invade modernization. This necessity in current situation brings the invention of IOT based machines to sense, analyze and transmit the real time data to its user. It can be installed in agricultural fields, and easily monitored or controlled from any remote locations. This article is oriented to emphasize the methods measure the temperature, water level, moisture such problems. The scripting language used for the functioning of sensors and electronic device is python. The device can be used to deliver the live notification based on the processing and information analysis in the absence of human efforts and also without using manual methods. For example, lifting water by different manual method is physically strenuous. © Kalahari Journals.

### SciVal Topic Prominence

Topic: Irrigation (Agriculture) | Automatic Irrigation Systems | Internet Of Things

Prominence percentile: 96.936 

### Author keywords

Agriculture modernization

IoT

Wifi module

Wireless sensor network

ISSN: 09745823

Source Type: Journal

Original language: English

Document Type: Article

Publisher: Kalahari Journals

 Jeyaprakash, R.; Department of Agriculture Engineering, Nandha Engineering College, Tamil Nadu, India;

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# Document details - SOLAR OPERATED BRUSH CUTTER

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International Journal of Mechanical Engineering

Volume 6, Issue 3, October-December 2021, Pages 1006-1008

## SOLAR OPERATED BRUSH CUTTER(Article)

Aswin, R., Mano Bala, G., Dhananivetha, M., Manickavalli, E. <sup>a</sup>Department of Agriculture Engineering, Nandha Engineering College, Tamil Nadu, Erode, 638 052, India<sup>b</sup>Department of Pharmaceutical Chemistry, Nandha College of Pharmacy, Tamil Nadu, Erode, 638 052, India

### Abstract

Solar brush cutter is a mechanical device for cutting unwanted plants in waste lands, borders of the field, road sides, public places. At present the brush cutter is operated using diesel or electricity which is high cost per unit. To overcome this solar energy can be effectively utilized instead of diesel or electricity. It can also be called as eco-friendly vehicle. The solar energy observed by the panels is converted into electrical energy. The power is then transmitted to the battery and then from battery the power transmitted to a electric motor, on the shaft of the electric motor a nylon wire and aluminium cutter was connected. It is used to cut the grasses or bushes from the use of nylon wire the material was flexible on stones and safe of workers when compared with the blades. The main advantages of solar operated brush cutter is time saving, energy saving at less cost. Use of solar energy was found to be eco-friendly for environment and pollution free machine. This machinery is financially give more benefits for farmers. Use of wheels is the added advantage to the machinery, since mounting it on the labour's body will cause some health effects due to vibration that cause heart related problems and burden to the farmer. © Kalahari Journals.

### SciVal Topic Prominence

Topic: Crops | Agricultural Machinery and Equipment | Tractors

Prominence percentile: 98.254 

ISSN: 09745823

Source Type: Journal

Original language: English

Document Type: Article

Publisher: Kalahari Journals

 Dhananivetha, M.; Department of Agriculture Engineering, Nandha Engineering College, Tamil Nadu, Erode, India;

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# Document details - Reconstruction of Multi-channel ECG using Compressive Sensing based Emperor Penguin Colony in WBSN


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International Journal of Mechanical Engineering

Volume 6, Issue 3, October-December 2021, Pages 958-967

## Reconstruction of Multi-channel ECG using Compressive Sensing based Emperor Penguin Colony in WBSN(Article)

Vinoth Kumar, P., Marimuthu, C.N., Sivaranjani, S., Punitha, S. <sup>a</sup>Nandha College of Technology, Tamilnadu, Erode, 638052, India<sup>b</sup>Nandha Engineering College, Tamilnadu, Erode, 638052, India<sup>c</sup>M.Kumarasamy College of Engineering, Tamilnadu, Karur, 639113, India[View additional affiliations](#)

### Abstract

Nowadays, Wireless body sensor networks (WBSNs) have recently been increasingly used for remote healthcare monitoring, where base station or remote hospitals continuously receives the electrocardiogram (ECG) signals for storage and analysis. In the diagnostic point of view, more information are provided by multichannel ECG (MECG) than single channel ECG. The major challenging task in WBSN is to transmit the signal of MECG without compromising on energy consumption. Therefore, effective compression of data is required, where simultaneous compression and data can be recovered with minimal loss of diagnostic information can be carried out by Compressed Sensing (CS). In addition, CS has emerged as a new signal receiving technology that can increase time for monitoring, reduce costs of equipment and power consumption. This paper proposes a low-ranking CS-based method for efficient data collection and signal reconstruction (SR) in the low-energy WBSN. In addition, we used Kroneker's sparse bases for the usage of spatio-temporal correlations (STC) in MECG signals and its compression. The scarcity limit is represented by the minimization of the  $l_1$  norm, where an efficient optimization algorithm called Emperor Penguin Colony (EPC) is developed to reconstruct MECG signals that more efficiently solve the resulting optimization problem. Simulation experiments confirm that the EPC-based algorithm provides higher recovery accuracy with less required transmissions and less computational complexity, when compared with existing recovery methods. © Kalahari Journals.

### SciVal Topic Prominence

Topic: Electrocardiograph | Compressed Sensing | Compression

Prominence percentile: 88.084 

### Author keywords

Compressed Sensing | Electrocardiogram | Emperor Penguin Colony | Recovery Algorithm | Sparsity Constraint | Wireless Body Sensor Networks

ISSN: 09745823

Source Type: Journal

Original language: English

Document Type: Article

Publisher: Kalahari Journals

  
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# Document details - Traffic controlling and monitoring using IoT

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Journal of Physics: Conference Series

Volume 2027, Issue 1, 27 September 2021, Article number 012017

International Conference on Recent Advancements in Biomedical Engineering 2021, ICRABE 2021; Chennai; India; 17 March 2021 through 19 March 2021; Code 172130

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## Traffic controlling and monitoring using IoT(Conference Paper)(Open Access)

Vennila, C., Chandrababha, K., Vijayaraj, M., Kavitha, S., Vimalnath, S., Kalaichelvi, K.

<sup>a</sup>Department of EEE, Alagappa Chettiar Government College of Engineering and Technology, Tamil Nadu, Karaikudi, India

<sup>b</sup>Department of CSE, Alagappa Chettiar Government College of Engineering and Technology, Tamil Nadu, Karaikudi, India

<sup>c</sup>Department of ECE, Government College of Engineering and Technology, Tamil Nadu, Tirunelveli, India

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### Abstract

The population is increasing the number of vehicles and the number of highways day after day; the time spent travelling, waste fuel, air pollution and related transport problems are also increasing. The greatest challenge for traffic administration authorities is therefore to monitor and monitor traffic. The related work has shown the Internet of Things and the integration of artificial intelligence to facilitate techniques for better urban and decision-making. This document creates a system model for IoT-based traffic information collection, processing and storing in real time. The aim is to ensure smooth mobility by providing roadside communications updates and rare incidents in real time. In particular, pre-alerting messages prevent and delay road congestion and peak hours in emergencies. The system also sends traffic updates from the database of administrative sensors. The system proposed evaluates the feature of the model and shows expected accurate results for vehicle detection and the minimum error in the estimates of occupancy. © Journal of Physics: Conference Series 2021.

### SciVal Topic Prominence ⓘ

Topic: Reinforcement Learning | Connected Vehicles | Traffic Management

Prominence percentile: 98.475 ⓘ

### Author keywords

Internet of things Sensors Traffic controlling Traffic monitoring

### Indexed keywords

Engineering controlled terms: Decision making Solid wastes Traffic congestion

Engineering uncontrolled terms: Decisions makings Fuel air Number of vehicles Real-time Related works Time-spent Traffic controlling Traffic monitoring Transport problems Waste fuels

Engineering main heading: Internet of things

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# Document details - Effect of nanoparticles on the droplet combustion of rice bran oil biodiesel

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Biomass Conversion and Biorefinery

Volume 11, Issue 4, August 2021, Pages 1375-1393

## Effect of nanoparticles on the droplet combustion of rice bran oil biodiesel(Article)

Muthukumar, M., Senthil Kumar, A.P., Sasikumar, C., Yuvaraj, S., Singh, T.S.

<sup>a</sup>Department of Mechanical Engineering, Nandha Engineering College, Erode, 638052, India

<sup>b</sup>Department of Mechanical Engineering, PSG College of Technology, Coimbatore, 641004, India

<sup>c</sup>Department of Mechanical Engineering, Bannari Amman Institute of Technology, Sathyamangalam, 638401, India

View additional affiliations

### Abstract

The present study is dealt with the phenomenon of combustion for rice bran oil (RBO) methyl ester blends with diesel along with nanoparticles of magnesium. Nanoparticles composition of 25 ppm, 50 ppm, and 75 ppm are added to blends of B20, B40, and B60 in the study. A conversion rate of  $89.64 \pm 2.8\%$  is observed during the transesterification reaction performed at 5 wt% of potassium hydroxide (KOH) catalyst, 10:1 alcohol to oil ratio (methanol), 75 °C reaction temperature, and 60 min reaction time. During the combustion study, few samples displayed the puffing characteristics, which are caused by popping of bubbles at lower pressure. The summary of the present study suggested that blend B20 with 25 ppm nanoparticles has the potential to be used as fuel and further proposed that the fuel will be more economical if the injection droplet diameter is 0.77 mm. Other blends like B20 with 75 ppm are also likely to be used as fuel due to its exhibition of lesser threat towards combustion. Bubble formation followed by micro-explosion is observed in B60 with 25 ppm blend. The present study hoped to enrich future researchers working in similar area for signifying the importance of understanding droplet combustion of biofuels. © 2021, The Author(s), under exclusive licence to Springer-Verlag GmbH, DE part of Springer Nature.

### SciVal Topic Prominence

Topic: Fuel Tests | Diesel Engines | Biofuel

Prominence percentile: 99.851



### Author keywords

Biodiesel Droplet combustion Magnesium Nanoparticles Rice bran oil

### Indexed keywords

Engineering controlled terms:

Biodiesel Drops Furfural Nanoparticles Potassium hydroxide

Engineering uncontrolled terms

Conversion rates Droplet combustion Droplet diameters Lower pressures  
Micro explosion Reaction temperature Rice bran oil (RBO) Transesterification reaction

Engineering main heading:

Combustion

### Cited by 4 documents

Anjum, S.S. , Prakash, O. , Ahmad, S.N.

Optimization of biodiesel production from Argemone mexicana oil using Taguchi model

(2022) Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering

Yuvaraj, S. , Thomas Renald, C.J. , Senthil Kumar, A.P.

Certain investigation on RC aircraft engine to identify the suitability of Methanol and Castor oil Alternative fuel

(2021) IOP Conference Series: Earth and Environmental Science

Thomas Renald, C.J. , Somasundaram, P. , Yuvaraj, S.

Computational analysis of mixture(LPG/Air) formation and performance in a dual fuel diesel engine

(2021) IOP Conference Series: Earth and Environmental Science

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# Document details - IoT Based Moisture Control and Temperature Monitoring in Smart Farming

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
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Journal of Physics: Conference Series

Volume 1964, Issue 6, 23 July 2021, Article number 062056

1st International Conference on Advances in Computational Science and Engineering, ICACSE 2020; Coimbatore, Tamilnadu, Virtual; India; 25 December 2020 through 26 December 2020; Code 170687

## IoT Based Moisture Control and Temperature Monitoring in Smart Farming(Conference Paper)(Open Access)

Karthikeyan, P.R., Chandrasekaran, G., Kumar, N.S., Sengottaiyan, E., Mani, P., Kalavathi, D.T., Gowrishankar, V. 

<sup>a</sup>Department of Electronics and Communication Engineering, Saveetha School of Engineering, Tamil Nadu, Chennai, India

<sup>b</sup>Department of Electrical and Electronics Engineering, Velalar College of Engineering and Technology, Tamil Nadu, Erode, India

<sup>c</sup>Department of Electronics and Communication Engineering, Anna University Chennai, TamilNadu, India

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### Abstract

The Internet of Things (IoT) has made a revolution in all the fields of human life by making the work be smart and effective. The IoT devices like sensors, controller, Wi-Fi module and the cloud play a significant part in smart farming which acquires yield in the field of farming and lessens the wastage. The goal of this paper is to propose the IoT based framework for the farmers by analyzing the live information like (moisture, temperature) in the cloud. The agrarian device is equipped with Arduino innovation and can be received through web servers with different sensors and live information transmissions through Thingspeak.com. The smart agriculture stick is proposed through this paper which is integrated with controller, sensor and live data that can be monitored through the cloud. © Published under licence by IOP Publishing Ltd.

### SciVal Topic Prominence ⓘ

Topic: Irrigation (Agriculture) | Automatic Irrigation Systems | Internet Of Things

Prominence percentile: 96.936 ⓘ

### Author keywords

Agriculture IoT Microcontroller Moisture Sensors Temperatur Wi-Fi Module

### Indexed keywords

Engineering controlled terms: Agricultural robots Agriculture Moisture control

Engineering uncontrolled terms: Human lives Information transmission Internet of thing (IOT) Smart agricultures Temperature monitoring Web servers

Engineering main heading: Internet of things

Cited by 1 document

Ambika Bhuvaneswari, C. , Kanmani Ruby, E.D. , Manjunathan, A.

Effects of Novel Material Field Effect Transistor for Heterogeneous Energy and Traffic-Aware Secure Applications

(2021) *Advances in Materials Science and Engineering*

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# Document details - Trusted cognitive sensor based dual routing network on Internet of things

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International Journal of Communication Systems


Volume 34, Issue 10, 10 July 2021, Article number e4836

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## Trusted cognitive sensor based dual routing network on Internet of things(Article)

Arulanantham, D., Palanisamy, C. <sup>a</sup>Department of Electronics and Communication Engineering, Nandha Engineering College, Erode, India<sup>b</sup>Department of Information Technology, Bannari Amman Institute of Technology, Erode, India

### Abstract

To protect wireless sensor based Internet of things (IoT) networks from internal non-cooperative nodes, developing a reliable method between sensors has proven to be an excellent way in the present investigation. Losses and vulnerabilities in the network can be resolved by examining the activities of the network and then selecting the sensor to which the information is sent, rather than just the communication of the sensor. Most of the existing reliable models consider only the contact nature is this when calculating one-hop reliability. However, this is not enough with different types of attacks. So, the proposed design focuses on developing a communication with a reliable model between sources to destination based on the TCSRN—trusted cognitive sensor based dual routing network on the IoT. Based on this the highest packet delivery ratio and minimum delay are achieved at the end of the communication because of the reliable path selection with dual-path selection method according to one-hop report, endorsement report based reliability and global cumulative reliability based on relations between sensors. © 2021 John Wiley & Sons Ltd.

### SciVal Topic Prominence

Topic: Fog Computing | Network Protocol | Internet of Things

Prominence percentile: 99.911 

### Author keywords

[cognitive sensor](#) [delay](#) [IoT network](#) [packet delivery ratio](#) [reliable communication](#)

### Indexed keywords

Engineering controlled terms:

[Network routing](#) [Reliability](#) [Trusted computing](#) [Wireless sensor networks](#)

Engineering uncontrolled terms

[Internet of Things \(IOT\)](#) [Non-cooperative](#) [Packet delivery ratio](#) [Reliability-based](#)  
[Reliable methods](#) [Reliable models](#) [Reliable path selection](#) [Routing networks](#)

Engineering main heading:

[Internet of things](#)

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# Document details - A systematic influence of Cu doping on structural and opto-electrical properties of fabricated $\text{Yb}_2\text{O}_3$ thin films for Al/Cu- $\text{Yb}_2\text{O}_3$ /p-Si Schottky diode applications


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Inorganic Chemistry Communications

Volume 129, July 2021, Article number 108646

## A systematic influence of Cu doping on structural and opto-electrical properties of fabricated $\text{Yb}_2\text{O}_3$ thin films for Al/Cu- $\text{Yb}_2\text{O}_3$ /p-Si Schottky diode applications(Article)

Mohan, K.S., Panneerselvam, A., Marnadu, R., Chandrasekaran, J., Shkir, M., Tataroğlu, A. 

<sup>a</sup>Department of Physics, Nandha Engineering College (Autonomous), Erode 638 052, Tamil Nadu, India

<sup>b</sup>Department of Physics, Vivekanandha College of Engineering for Women (Autonomous), Elayampalayam, Tiruchengode, Namakkal 637 205, Tamil Nadu, India

<sup>c</sup>Department of Physics, Sri Ramakrishna Mission Vidyalaya College of Arts and Science (Autonomous), Coimbatore 641 020, Tamil Nadu, India

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### Abstract

In the present work, transition metal doped rare earth metal oxide ( $\text{Cu-Yb}_2\text{O}_3$ ) thin films have been effectively synthesized on a large scale using low-cost jet nebulizer spray pyrolysis (JNSP) route at different copper (Cu) doping concentrations (0, 1.5, 2.5, 3.5, and 4.5 wt%) with optimized substrate temperature of 550 °C. The structural, morphological and opto-electrical properties were investigated using various characterization techniques. The X-ray diffraction (XRD) profile indicates the polycrystalline nature of all the deposited films with a cubic phase and the size of crystallites is found to increase from 11 to 31 nm. The field emission scanning electron microscope (FESEM) images reveal that the Cu doping has significant impact on the surface morphology of  $\text{Cu-Yb}_2\text{O}_3$  films. The atomic force microscope (AFM) analysis exposed higher roughness value for 4.5 wt% of  $\text{Cu-Yb}_2\text{O}_3$  films. The elemental composition study approves the presence of Yb, Cu and O in the film. The transmittance and indirect optical energy gap of  $\text{Cu-Yb}_2\text{O}_3$  thin films have been analyzed by UV-Visible spectroscopy which established the systematic band gap reduction of  $\text{Yb}_2\text{O}_3$  thin films from 3.68 to 3.14 eV with increasing Cu concentrations. The DC electrical studies showed a maximum conductivity and minimum average activation energy for 4.5 wt% of  $\text{Cu-Yb}_2\text{O}_3$  film. The electrical characteristics of the fabricated Al/Cu- $\text{Yb}_2\text{O}_3$ /p-Si Schottky diode was investigated using current-voltage (I-V) measurements performed under dark and light conditions. The  $\Phi_B$  (0.911 eV in dark & 0.754 eV in illumination) and minimum n values (2.120 in dark and 1.757 in illuminations) were obtained for MIS diode having Cu doping concentration of 4.5 wt% in  $\text{Yb}_2\text{O}_3$ . © 2021 Elsevier B.V.

SciVal Topic Prominence 

Topic: Schottky Diodes | Thermionic Emission | Electrical Properties

Prominence percentile: 96.431 

Author keywords

JNSP method MIS Schottky diode Optical and electrical properties Rare earth metal oxides  $\text{Yb}_2\text{O}_3$

Funding details

Cited by 2 documents

Panneerselvam, A., Mohan, K.S., Marnadu, R.

The deep investigation of structural and opto-electrical properties of  $\text{Yb}_2\text{O}_3$  thin films and fabrication of Al/ $\text{Yb}_2\text{O}_3$ /p-Si (MIS) Schottky barrier diode

(2022) *Journal of Sol-Gel Science and Technology*

Kaya, M.D., Sertel, B.C., Sonmez, N.A.

The current-voltage characteristics of  $\text{V}_2\text{O}_5$ /n-Si Schottky diodes formed with different metals

(2021) *Journal of Materials Science: Materials in Electronics*

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# Document details - Computer aided innovation method for detection and classification of cervical cancer using ANFIS classifier

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Journal of Ambient Intelligence and Humanized Computing

Volume 12, Issue 6, June 2021, Pages 6231-6240

## Computer aided innovation method for detection and classification of cervical cancer using ANFIS classifier(Article)

Ponnusamy, S., Samikannu, R., Venkatachary, S.K., Sukumar, S., Ravi, R.

<sup>a</sup>Department of Electronics and Communication Engineering, Nandha Engineering College, Erode, Tamil Nadu, India<sup>b</sup>Faculty of Electrical Computer and Telecommunications Engineering, Botswana International University of Science and Technology, Palapye, Botswana<sup>c</sup>Information Technology, Grant Thornton, Gaborone, Botswana[View additional affiliations](#)

### Abstract

Early detection of cervical tumour is very important to minimise deaths due to cervical cancer. Further it provides a deep insight into the anatomical information of the normal and abnormal cervix and helps in planning for a good treatment well in advance. Numerous techniques are used to detect malignancy through image segmentation. One such segmentation technique is discussed here. The proposed technique uses Artificial Neural Network Fuzzy Inference system (ANFIS) and watershed segmentation techniques for image classification and processing and compares the results with known techniques. A comprehensive set of fuzzy rules was used in the experiment to classify abnormal images to the corresponding malignancy. The experiment shows that the proposed technique is feasible and provides greater accuracy in detection of tumour types. © 2020, Springer-Verlag GmbH Germany, part of Springer Nature.

### SciVal Topic Prominence

Topic: Coloscopes | Deep Learning | Squamous Intraepithelial Lesions of the Cervix

Prominence percentile: 82.248

### Author keywords

[Cervical cancer](#) [Fuzzy rules](#) [Image classification](#) [Neural network](#) [Tumour](#)

### Indexed keywords

Engineering controlled terms:

[Diseases](#) [Fuzzy neural networks](#) [Image classification](#) [Image segmentation](#) [Tumors](#)

Engineering uncontrolled terms

[Anatomical information](#) [Cervical cancers](#) [Computer aided innovation](#)  
[Fuzzy inference systems](#) [Segmentation techniques](#) [Treatment wells](#)  
[Watershed segmentation technique](#)

Engineering main heading:

[Fuzzy inference](#)

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