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Flexural Behavior of Polyvinyl Alcohol Fiber Reinforced Concrete

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Abstract

The usefulness of fiber reinforced concrete (FRC) in various civil engineering applications is indisputable. Fiber reinforced concrete has so far been successfully used in slabs on grade, shotcrete, architectural panels, precast products, offshore structures, structures in seismic regions, thin and thick repairs, crash barriers, footings, hydraulic structures and many other applications. This report presents a brief state-of-the-art report on flexural behavior of polyvinyl alcohol fiber reinforced concrete. Civil infrastructure around the world the problem is at the apparent lack of tensile strength in our concrete. This paper present data to support the argument that polyvinyl alcohol fiber reinforced concrete is an ideal material for achieving these goals. The research also discusses poly vinyl alcohol fiber reinforced concrete materials properties and mix design. The PVA fiber will be added to the conventional concrete 0%, 0.1%, 0.2%, 0.3% and 0.4% by its cement weight. The optimum level of PVA fiber was determined as 0.3 based on the compressive strength, split tensile strength and modulus of rupture. The beam was casted with size of 125X150X1800mm with 0.3% of PVA Fiber. Then the flexural behavior was studied and compared with conventional concrete.

Keywords *– Polyvinyl alcohol fiber, Flexural Behavior*

I. INTRODUCTION

Concrete is a mixture of Cement, Fine aggregate, Coarse aggregate and Water. In plain concrete and similar brittle materials, structural cracks [micro – cracks] developed even before loading, particularly due to drying shrinkage or other causes of volume change. The width of these initial cracks seldom exceeds a few microns, but their other two dimensions may be higher magnitude.

It has been recognized that the addition of small, closely spaced and uniformly dispersed fibers cement, mortar or concrete and discontinuous, discrete, uniformly dispersed fibers".

Continuous meshes, woven fabric and long wires or rods are not considered to be discrete fibers. The following fibers are could be used as in concrete,

- Steel fibers.
- Polypropylene fibers,
- Nylon fibers.
- Asbestos fibers.
- Coir fibers.
- Glass fibers.
- Carbon fibers.

Fiber is a small piece of reinforcing material possessing certain characteristic properties. They can be circular or flat. The fiber is often described by a convenient parameter called "aspect ratio". The aspect ratio of the fiber is the ratio of its length to its diameter. Typical aspect ratio value ranges from 30 to 150.

II. EXPERIMENTAL PROGRAMME

A. Materials

For this research work Ordinary Portland Cement 53 grade was used. Locally available fine and coarse aggregate was used with specific gravity of 2.75 and 2.8. The maximum size of coarse aggregate was 12.5mm. The Poly vinyl Alcohol fiber was obtained from Spinning King (India) Limited, Gujarat, India. With following Properties.

Table I Properties of Poly Vinyl Alcohol Fiber Reinforced Concrete

Test Item	Tested Value
Material	Poly Vinyl Alcohol
Density	1300 kg/m^3

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Flexural Behaviour of Potassium Based Geopolymer Concrete

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Abstract: **The global usage of cement occupies the second position next to water. As the development of country and infrastructure, their materials needed get increased. Meanwhile for the development of the infrastructure concrete plays the major role. In concrete the major material or ingredient is ordinary Portland cement (OPC). OPC creates two major problems at the time of production; the emission of CO2 due to calcination of limestone and the usage of extensive amount of energy. On the other hand, fly ash is the material which is emitted from the power plants at the time of electricity production which has similar and superior properties of cement. If fly ash is mixed with any kind of hydroxide and silicate it forms as the binder, which is termed as geopolymer. In this paper we used the Potassium Hydroxide and Potassium Silicate as the combination of the alkaline solution. The present paper presents the study of potassium based geopolymer concrete with paper sludge ash as partial replacement of fly ash for 0%, 5%, 10%, 15% and 20% in geopolymer concrete under various curing conditions such as Hot air Oven curing, Sun light curing and Ambient curing. The Flexural behavior of geopolymer concrete beams, flexural strength test, Load carrying capacity, ductility factor, crack pattern, beam deflection and moment curvature etc., for the geopolymer concrete produced from the Fly Ash and Paper Sludge Ash with Catalytic liquid system and aggregates under various curing conditions such as Hot air Oven curing, Sun light curing and Ambient curing.**

Keywords: Geopolymer, Potassium Hydroxide, Potassium Silicate, Paper sludge ash.

I. INTRODUCTION

Geopolymer is an inorganic polymer. Geopolymers are material based on pure aluminosilicate source materials such as fly ash, GGBS, calcined clays such as metakaolin activated with an alkali hydroxide and silicate solution [1]. Geopolymerisation is an exothermic process involving dissolution – reorientation - solidificaison reactions. Geopolymers can be produced with various microstructures in relation to Si: Al ratio. A low of Si: Al ratio leads to

structures, railway sleepers, electric power poles, road bases, marine products and other products for infrastructure are possible uses of the geopolymer [2]. Besides these high-tech applications, special geopolymer concrete has been used for repairing runways or motorways because they set and harden quickly and develop the high compressive strength in four hours [3].

Low calcium fly ash based geopolymer concrete resembles in good compressive strength as well as resistance to sulphate attack [4]. Geopolymer concrete does not require any quantity of water for hydration process to held, yet requires only alkaline solution. The solution should reach the maximum of pH value so that the hydration process would be taken in proper way. It was found that geopolymer concrete strength depends upon the factors such as concentration of hydroxide, the silicate to hydroxide ratio, curing time, admixture, handling time and age of concrete.

II. EXPERIMENTAL PROGRAME

A. Materials Used

Fly ash used for geopolymer concrete belongs to Class F (Low calcium based fly ash), which obtained from Mettur Thermal Power station with specific gravity of 1.90. Paper sludge ash was collected from SPB Paper Mill, Pallipalayam with specific gravity of 2.29 Fine aggregates were clean and naturally obtained for the river, with the specific gravity of 2.70. Coarse aggregate were locally obtained with the specific gravity of 2.74

TABLE I CHEMICAL COMPOSITION OF FLY ASH

Component	Fly ash
SiO_2	56.5
Al_2O_3	22.14

3.4.3 Number of research papers per teacher in the Journals notified on UGC website during the last five years (5) 2016-2017

scholar.google.com/citations?view_op=view_citation&hl=en&user=RSMjP0oAAAAJ&citation_for_view=RSMjP0oAAAAJ:ZeXyd9-uunAC

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Magendiran Natarajan

Firefly optimized k means clustering for gene selection

Authors	N. Magendiran
Publication date	2017
Journal	Research Journal of Biotechnology
Issue	Special Issue January (2017)
Pages	80-87
Description	The fundamental purpose of microarray or gene appearance data scrutiny is to identify the coexpressed genes as well as bright patterns. It also plays a vital role in investigating bioinformatics. Microarray technology can concurrently produce large quantity of microarray gene expression data for various samples, which permits effective analysis and diagnosis of breast cancer. It is not essential to have all the genes in the data set for classification as well as for diagnosis. While diagnosing breast cancer only informative genes are retained through gene selection process while redundant, inappropriate as well as noisy genes are discarded. This work proposes the pillar algorithm with K means as well as Weighted K Means (WKM) clustering algorithm and Firefly Algorithm (FA) based K means clustering.

scholar.google.co.in/citations?view_op=view_citation&hl=en&user=sKgOLgUAAAAJ&citation_for_view=sKgOLgUAAAAJ:u-x6o8ySG0sC

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Banumathy Ramesh

Bacterial Foraging Optimized Fuzzy C Means Clustering for efficient disease prediction

Authors	D Banumathy, S Selvarajan
Publication date	2017
Journal	Research Journal of Biotechnology
Issue	Special Issue Jan 2017
Pages	280-288
Publisher	Research Journal of Biotechnology
Description	An early diagnosis of disease is preferred. K-means is a famous hard clustering algorithm that splits data objects into kclusters wherein the quantity of clusters wherein the quantity of clusters, k, is determined previously as per the application purpose. Fuzzy cmeans clustering is an efficient protocol, however, the arbitrary selection in center points makes the repetitive procedure forcing into local optimum solution with ease. Bacterial Foraging Optimization protocol (BFOA) on the basis of the behaviour of biologically inspired E-coli bacteria, used to find optimal solution. E-coli bacteria search for rich nutrients in the search space by using their energy per unit time. The common characteristic bacteria's are grouped together. The bacterium can communicate with each other by sending signals. In this work, Hybrid Bacterial Foraging Optimization protocol-Fuzzy C-Means Clustering (BFO-FCM) method is proposed.

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MULTI VARIANT GENE SELECTION APPROACH BASED HIGH DIMENSIONAL SUB SPACE CLUSTERING OF BREAST CANCER DATA SET FOR EFFICIENT CLASSIFICATION USING FUZZY RULE SETS AND MULTI GENE IMPACT MATRIX

Volume 25, Issue 1, June 2016, Pages 308-319

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Original language: English

ABSTRACT

The breast cancer is the most threatening factor of women's lifestyle and the reason of the disease has many factors, but still the gene factor has more influence in the generation of breast cancer where the early diagnosis and prevention is essential. There are many approaches has been discussed in the literature, but the identification and selection of a set of genes which influence the disease

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Year : 2016, Volume : 6, Issue : cs1
First page : (258) Last page : (266)
Online ISSN : 2249-7315.
Article DOI : 10.5958/2249-7315.2016.00961.8

Substantial Gene Selection in Disease Prediction based on Cluster Centre Initialization Algorithm

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Online published on 15 September, 2016.

Abstract

Microarrays are complete it possible concurrently to monitor the appearance profiles of thousands of genes below various tentative conditions. Identification of co-expressed genes and bright patterns is the principal goal in microarray or gene appearance data scrutiny and is a significant task in Bioinformatics investigation. In this paper, K-Means algorithm hybridized with Cluster Centre Initialization Algorithm (CCIA) is planned Gene Expression Data. The expected algorithm overcomes the problems of requiring the number of collections in the K-Means approaches. The method decides on a set of essential high-class genes from the dataset based on their correspondences which are computed using average association value the clusters which earn the higher average connection value is considered as significantgroups, whose ordering accuracy will be equal or great when associating to the accuracy of the whole dataset. Finally, from the new results, it is long-established that the genes selected by the planned approaches are quite promising in classification and also are purely relevant to cancer.

Asian Journal of Research in Social Sciences and Humanities
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Finding Intensity of Disease by Fuzzy Learning Rules (FLR) based Intelligent Decisive Support System for Efficient Disease Prediction

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Online published on 15 September, 2016.

Abstract

Experimental analysis is frequently done by doctor"s expertise and involvement. But still, cases are testified of incorrect diagnosis and action. Patients are demanded to take some tests for examination. In many belongings, not all the tests contribute towards efficient analysis of a disease. Three classifiers similar Naive Bayes, Ordering by clustering and decision tree are used to calculate the analysis of patients with the same accuracy as acquired before the discount of some attributes. Fuzzy learning rules (FLR) are generally applied for finding the intensity of disease in data sets. Fuzzy learning rules better compared to other three methods. We propose a fuzzy learning algorithm to determine relationships between data resources based on their disease attributes, as well as to characterize knowledge through the connotation of disease covered by those properties. The algorithm addresses the significant problem of important a suitable number of clusters for suitably catching all the diseases of the knowledge domain. Using fuzzy rule-based classification system, the proposed system proves to improve the classification accuracy.

HIGH DIMENSIONAL K^N-FAST CLUSTERING BASED INTELLIGENT DECISIVE SUPPORT SYSTEM FOR EFFICIENT DISEASE PREDICTION USING DATA MINING AND RULE SETS

Volume 25, Issue 1, June 2016, Pages 320-331

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Original language: English

ABSTRACT

The methods of high-dimensional clustering have been applied for variety of problems and in case of decisive support systems, there are few approaches discussed earlier, but suffers with the problem of false indexing ratio with poor clustering accuracy and higher time complexity. To overcome the issue of poor clustering accuracy, a novel K^n Fast Clustering algorithm is discussed in this paper. The

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Intelligent Decisive Support System for Disease Prediction with Multi Attribute Relational Deapthness Clustering of Breast Cancer Data Set Using Data Mining

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Abstract: The problem of high dimensional clustering has been studied in different situations, but the approaches suffer with the problem of false indexing and the implication of clustering can be applied in many problems. We propose a novel approach to support decisive systems and perform disease prediction based on relational depthness measure. The proposed approach uses a multi attribute relational depthness clustering, where the relation between the data points of any cluster is computed based on the relative similarity between various attributes of high dimensional data set. We compute the multi attribute relational depthness measure which represents the relative measure and the bond the data point has with the data points of the cluster. Based on computed multi attribute relational depthness measure used to identify the class of any data point. The proposed method improves the quality of cluster being generated and reduces the false indexing ratio. To perform disease prediction, the same multi attribute depthness similarity is computed and a set of probability values is computed for each of the disease class available. The proposed method improves the performance of decisive support system and reduces the time complexity also.

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Securing Internet Banking with a Two - Shares Visual Cryptography Secret Image

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***Abstract*— Phishing is an illegal attempt to steal the sensitive personal information of any individual or organization without their consent. This information leakage in the internet banking will lead to a huge threat to the enormously increasing online bankers in day-to-day life. A new approach for phishing websites identification and securing Banking customers' personal data from phishing attackers is introduced. 'Original Personal Security Image' CAPTCHA is chosen individually by Client using their self preferred text and then create an image with overlapping Text over a dummy background. Later, splitting it into two shares and store those in separate databases like server and client level database created to serve as intermediary database that asks some questions about the**

At present, many bank customers use online transactions frequently. So, the customer will have a set of username and password to access the bank account. These are very sensitive and a confidential information. When these fall into wrong hands of the phishing attackers, the information can be used by the attacker to access the bank account. This will lead to a huge loss to the customer. Unfortunately many people fall into the scams. This threatens the security system of online banking by spreading the fear among customers.

1.1. OVERVIEW

Now-a-days where online banking has been increasing

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An Efficient Meta Scheduling based Virtual Consolidation for Resource Sharing in Green Cloud

S. Lavanya Prabha and R. Dhivya

Abstract:

In modern researchers, cloud parallel data processing has emerging resource that to be one of the problematic application for Infrastructure-as-a-Service (IaaS) clouds. Major Cloud processing companies include starting incorporate frameworks using VM models for parallel data processing in their resource portfolio creation to easy for a client to access these services and to set out their programs. The growing computing requires from multiple requests on the main server has lead to excessive power utilization. The waiting resource in the long-term sustainability of Cloud like infrastructures in provisions of energy cost but also from cloud environmental perspective. The trouble can be addressed to require with high energy consumption resource sharing infrastructures, but in the process of resources are dynamically switch to new infrastructure. Switching is not enough to cost efficient and also need time sharing green consuming. Cloud being consists of several virtual centers like VMs under the different administrative domain, make a problem more difficult. Thus, for the reduction in energy consumption, this propose address the challenge by effectively distributing compute-

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December 27, 2016

ENERGY EFFICIENT FREQUENCY MULTIPLIER FOR SILICON ON CHIP

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Abstract:

A logic gate-based digital frequency multiplication technique for low-power frequency synthesis is presented. The proposed digital edge combining approach offers broadband operation with low- power and low-area advantages and is a promising candidate for low- power frequency synthesis in deep submicrometer CMOS technologies. Chip prototype of the proposed frequency multiplication-based 2.4-GHz binary frequency-shift-keying (BFSK)/amplitude shift keying (ASK) transmitter (TX) was fabricated in 0.13-μm CMOS technology. The TX achieves maximum data rates for BFSK and ASK modulations, respectively, consuming The corresponding energy efficiencies for BFSK for ASK modulations.

Key words: Binary frequency-shift-keying (BFSK) transmitter (TX), class-D power amplifier (PA), energy efficient, frequency multiplication technique.

1. INTRODUCTION

Low-power and low-area transmitter (TX) architectures are essen- tial for short-range communications such as wireless sensor networks, body area networks, and other battery operated applications. These low-power applications have relaxed requirements on phase noise, spectral purity, and other performance metrics of TX, which can be used as an extra degree of freedom in the TX architecture design. Phase-locked loop (PLL)-based TXs are both power and area efficient compared with the conventional mixer-based direct up-conversion TX architectures.

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SSRG International Journal of Electronics and Communication Engineering (SSRG – IJECE) – Volume 3 Issue 11 – November 2016

Segmentation Based Matrix Code for Communication Channel

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Abstract

The problem of simultaneously broadcasting a common source to multiple receivers over a broadcast channel remains a challenging open problem in network information theory Each receiver is required to partially reconstruct the source sequence by decoding a certain fraction of the source symbols. Our scheme involves splitting the source sequence into multiple segments and applying a systematic erasure code to each such segment. In this project, novel decimal matrix code (DMC) based on divide-symbol is proposed to enhance data reliability with lower delay overhead. The proposed DMC utilizes decimal algorithm to obtain the maximum error detection capability of communication

I. INTRODUCTION

Error detection is the detection of errors caused by noise or other impairments during transmission from the transmitter to the receiver. Summer is another name for error detection Error correction is the detection of errors and reconstruction of the original, error-free data The general idea for achieving error detection and correction is to add some redundancy (i.e., some extra data) to a message, which receivers can use to check consistency of the delivered message, and to recover data determined to be corrupted. Error-detection and correction schemes can be either systematic or non-systematic: In a systematic scheme, the transmitter sends the original

arrangement to separate the bits in the same logical word into different physical words.

3) Built-in current sensors (BICS) are proposed to assist with single-error correction and double-error detection codes to provide protection against MCUs

4) 2-D matrix codes (MCs) are proposed to efficiently correct MCUs per word with a low decoding delay, in which one word is divided into multiple rows and multiple columns in logical. The bits per row are protected by Hamming code, while parity code is added in each column.

Existing Drawbacks:

1) PDS codes require more area, power, and delay overheads since the encoding and decoding circuits are more complex in these complicated codes.

2) Interleaving technique may not be practically used in content-addressable memory (CAM), because of the tight coupling of hardware structures from both cells and comparison circuit structures

3) BICS technique can only correct two errors in a word.

4) 2D MC is capable of correcting only two errors in all cases.

Rateless codes are a popular class of codes that enable efficient communications over multiple unknown erasure channels at the packet level by simultaneously approaching the channel capacity at all erasure rates. Raptor codes, a special class of rateless

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Research Article

An efficient approach for brain image (tissue) compression based on the position of the brain tumor

S. Kumarganesh, M. Suganthi,

First published: 27 December 2016 | https://doi.org/10.1002/ima.22194 | Citations: 5

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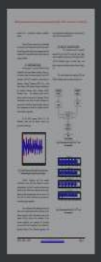

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SSRG International Journal of Electronics and Communication Engineering (SSRG – IJECE) – Volume 3 Issue 11 – November 2016

Fetal ECG Extraction using LMS Filter

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Abstract

In this project, proposed a new method for fetal ECG extraction based on wavelet analysis, the least mean square(LMS) adaptive filtering algorithm, and the spatially selective noise filtration (SSNF) algorithm. First, abdominal signal sand thoracic signals were processed by stationary wavelet transform (SWT),and the wavelet coefficients a teach scale were obtained. For each scale, the detail coefficients were processed by the LMS algorithm. The coefficient of the abdominal signal was taken as the original input of the LMS adaptive filtering system, and the coefficient of the thoracic signal as the reference input. Then, correlations of the processed wavelet coefficients were computed. The threshold was set and noise components were removed with the SSNF algorithm.

I. INTRODUCTION

Electrocardiogram (ECG) signals are widely used in health monitoring as a non-invasive way to establish clinical diagnosis of heart diseases. Conventional ECG monitoring systems are based on long-term recording (e.g., using Holter devices) that generate a vast amount of data requiring huge storage and transmission capacity. These devices record data during one to five days of a patient's normal daily life, and they are restricted by patient's mobility, transmission capacity and physical size Unfortunately, the fetal heartbeat signal yielded by this recording technique is quite weaker than the mother heartbeat signal, also due to the attenuation during the propagation caused by the tissues; moreover, many

The fECG extraction is a typical blind source separation (BSS) problem and the first application of BSS techniques to fECG extraction was done by De Lathauwer etal.

[1], it is well accepted that Independent Component Analysis (ICA) is a suitable tool for separating the fECG "source" from the rest; some different ICA based procedures has been exploited so far: ICA estimated by INFOMAX algorithm [2] (applied to a dataset with eight sensors), ICA by JADE algorithm and a Wavelet-post processing consisting in baseline removal and denoising [3] (applied to five sensors), Singular Value Decomposition (SVD) and ICA by FastICA algorithm [4] (applied to a single channel recording), ICA by MERMAID algorithm [5] (applied to eight channels), a sensor array and electrode selection algorithm for fECG extraction by ICA proposed by F. Vrins et al. [6] (applied to one hundred sensors). we extract fetal ECG from abdominal signal using filtering techniques. Here, we use thoracic signal as reference signal for fetal ECG extraction. Fetal ECG extraction is done based on Stationary Wavelet Transform (SWT), the Least Mean Square (LMS) adaptive filtering algorithm and the Spatially Selective Noise Filtration (SSNF) algorithm related work

Dennis M.Healy, Jian Lu proposed Spatially Selective Noise Filtration technique for noise removal based on the direct spatial correlation of the wavelet transform at several different scales. The direct spatial correlation of wavelet transform contents at several adjacent scales enhanced major edges in the wavelet

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QCA Design of Encoder for Low Power Memory Applications

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Abstract

A decoder is important component of memory, for address decoding and encoding. The size of Complementary Metal Oxide Semiconductor (CMOS) transistor keeps shrinking to increase the density on chip in accordance with Moore's Law. The scaling affects the device performance due to constraints like heat dissipation and power consumption. A Quantum dot Cellular Automata (QCA) is an alternative to CMOS.QCA offers higher speed, lower power consumption and higher density. In non reversible gates some amount of power loss is involved. Interest in reversible logic offers reduced heat dissipation and increases the speed. It is a new transistor-less computation in nanotechnology. In this project propose a reversible gate based decoder architecture. It provides reversibility and area minimization. QCA designer tool has been used to validate the performance of reversible decoders.

I. INTRODUCTION

The increasing demand for low-power very large scale integration (VLSI) can be addressed at different design levels, such as the architectural, circuit, layout, and the process technology level. At the circuit design level, considerable potential for power savings exists by means of proper choice of a logic style for implementing combinational circuits. This is because all the important parameters governing power dissipation—switching capacitance, transition activity, of CMOS technology is not due to inability to reduce its physical size further, but the detrimental effects of quantum mechanical effects on tiny transistors. for e.g., In nanoscale transistors, impermissible amounts of current leaks due to such highly narrow channels and ultra thin insulating layers.

Nanotechnology is one of the possible alternatives to the stated trade off problem. ITRS report summarized several possible solutions. The possible variants are i) Deltt (double-electron-layer tunneling transistor) developed by scholars at SN labs, ii) SET (single electron transistors) iii) rapid single quantum flux logic, iv0 quantum cellular automata. SET's are a promising technology for non volatile memory.

To the best of our knowledge, the concurrent testing of faults in QCA and QCA-based sequential circuits has not been addressed in the literature. In this paper, we propose novel designs for concurrently testable latches for molecular QCA using conservative reversible logic. Reversible computation in a system can be performed only when the system comprises reversible gates. Reversible circuits do not lose information, and can generate unique output vector from each input vector and *vice versa* (i.e., there is a one-to-one mapping between the input and the output vectors). Landauer has shown that for irreversible logic computations, each bit of information lost generates kT ln 2 joules of heat energy, where k is Boltzmann's constant and T the absolute temperature at which the

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Back Pressure Algorithm with CBDS

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Abstract

In mobile ad hoc networks (MANETs), a primary requirement for the establishment of communication among nodes is that nodes should cooperate with each other. In the presence of malevolent nodes, this requirement may lead to serious security concerns; for instance, such nodes may disrupt the routing process. In this algorithm, to protect backpressure algorithm based routing and scheduling protocols against various insider threats. This paper attempts to resolve this issue by designing a dynamic source routing (DSR)-based routing mechanism, which is referred to as the cooperative bait detection scheme (CBDS), that integrates the advantages of both proactive and reactive defense architectures. Our CBDS method implements a reverse tracing technique to help in achieving the stated goal.

Keywords: *Mobile adhoc network, Routing, DSR, CBDS*

I. INTRODUCTION

Mobile means 'moving' and ad-hoc means 'temporary without any infrastructure'[13]. Therefore, a mobile ad-hoc network is made up of group of mobile nodes, which cooperates to communicate with each other without any fixed central base station [7]. A mobile ad hoc network (MANET), sometimes called a mesh mobile network, is a network of mobile devices connected by wireless links. MANET is a kind of point to point transmission type and is a group of mobile nodes communicating with each other by wireless [14]. Due to infrastructure-less nature of the network, routing curity of MANET lesser than a cable network and produce many security issues. Because the communication of MANET uses the open medium, attacker can easily overhear message that are transmitted. The design of previous routing protocol trusts completely that all nodes would transmit route request or data packets correctly, dynamic topology, without any central infrastructure, and lack of certification authorities make MANET vulnerable to diverse types of attacks [11]. One of common attack is Black hole attack that is a malicious node can attract all packets by using forged RREP to falsely claiming a fresh and shortest route to the destination and then discard them without forwarding them to the destination [11]. This is shown in Fig. 1. Black hole attack is a kind of Denial-of-Service attacks and derive Gray hole attack, a variant of black hole that selectively discards and forwards data packets when packets go through it [10]. Cooperative black hole attacks mean several malicious nodes cooperate with each other and work just like a group. This kind of attack results in many detecting methods fail and causes more immense harm to all network [10].

In this paper we propose CBDS which integrates the Proactive and reactive defense architectures, and randomly establishing a cooperation with adjacent node. The address of the adjacent node is used as the bait destination address, baiting malicious nodes to send RREP reply messages and identifies the malicious nodes by using the reverse tracing program [11]. Finally the detected malicious node is listed in the black hole list and notifies the remaining nodes in the network to

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EECRT: Efficient Energy Conservation Routing Technique for WSN with Node Mobility

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Abstract: In recent years, the main research challenge is the issues in wireless sensor networks (WSN). Energy conservation and coverage of the sensor nodes considered as major metrics for the long time survival of sensor networks. In this paper work, proposed an efficient energy conservation routing technique for WSN with node mobility (movable sensor nodes). Furthermore, in this proposed routing technique, two algorithms developed. Namely, Selectively Turning ON/OFF the Sensors (STOS) and Ongoing Routing Table (ORT). Moreover, in STOS, the sensor nodes divided into several sets of scheduling modes (active, standby, hibernate) and let them to perform alternatively, by which conserves extra energy. Consequently, in ORT Ongoing (up to date) data maintained to update and know the detailed information regarding mobile sensor nodes including the factors such as hop count, residual energy (current energy level), threshold energy with the status of the sensor nodes. In connection with ORT, the next sensor node will identified for forwarding the information. Herein concentrated on dynamic network, where all the deployed sensor nodes are in-mobile except base station (BS) or sink node. Nevertheless, the absence or failure of BS, nearest mobile sensor node to the BS will act as BS. Provided, Simulation result shows that the proposed technique will be enough competent for maximizing the energy conservation.

Key words: Wireless · Sensor Networks (WSN) · Ongoing Routing Table (ORT) · Energy Conservation · Coverage · Mobile Sensor Node (MSN)

INTRODUCTION

Advances in wireless sensor networks becomes a major key technology for several applications such as Security surveillance, intelligent home, animal health and

major units. Namely, sensor unit, processor unit, transceiver unit, power supply unit and power generator unit. Herein, will concentrate on first four units in proposed work.

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A Semi-Automatic Segmentation Approach for Kidney Stone Detection in Ultrasound Images

Authors : T. Loganayagi

Abstract: Ultrasound imaging is a non-invasive and inexpensive technique for detection of kidney stones. As the ultrasound images are affected by speckle noise, the segmentation of the images remains a challenging task. The manual detection and measurement of segmented stones become cumbersome and suffers from inter-observer variability. Hence, a computer aided algorithm is required for automatic stone detection and reproducibility with robust despeckling and segmentation techniques. In this study, an algorithm is developed by using Adaptive Bilateral Filter (ABF) for reducing speckle noise and mathematical morphological operations for segmentation of stones in ultrasound kidney images. The speckle reduction performance of ABF is evaluated byPeak Signal to Noise Ratio (PSNR), Structural Similarity Index Metrics (SSIM) and Edge Preservation Index (β).The proposed stone detection algorithm is analyzed through Pratt's Figure of Merit (FOM).

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High Error Tolerant Erasure Channel for Segment Based Communication

R.Mohana and Dr.R.Arangasamy

***Abstract* – The problem of simultaneously broadcasting a common source to multiple receivers over a broadcast channel remains a difficult open drawback in network data theory Each receiver is needed to part reconstruct the supply sequence by decipherment an explicit fraction of the supply symbols. Our theme involves ripping the supply sequence into multiple sections and applying a scientific erasure code to every such segment. During this project, novel decimal matrix code (DMC) supported divide-symbol is projected to boost knowledge responsibleness with lower delay overhead. The projected DMC utilizes decimal formula to get the most error detection capability of communication**

***Index Terms*–DMC, Segment based, Communication, Broadcasting**

I. INTRODUCTION

Error detection is that the detection of errors caused by noise or different impairments throughout transmission from the transmitter to the receiver. Summer is another name

output with the received check bits; if the values don't match, miscalculation has occurred at some purpose throughout the transmission. During a system that uses a non-systematic code, the initial message is reworked into associate degree encoded message that has a minimum of as several bits because the original message

Related works:

1) Punctured distinction set (PDS) codes are accustomed trot out MCUs in reminiscences.

2) Interleaving technique has been accustomed restrain MCUs, which arrange cells within the physical arrangement to separate the bits within the same logical word into totally different physical words.

3) Constitutional current sensors (BICS) ar planned to help with single-error correction and double-error detection codes to produce protection against MCUs

4) 2-D matrix codes (MCs) ar planned to with efficiency

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ENERGY EFFICIENT FREQUENCY MULTIPLIER FOR SILICON ON CHIP

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[2]Professor, Dept of Electronics And Communication Engineering, Paavai Engineering College.

ABSTRACT:

Now a days the digital signal processing and its classification applications on the energy constrained devices should be supported on the basis of efficiency. Because such applications have to perform highly complex computations especially complex multiplication processes while exhibiting tolerance for a large amount of noise and for computational errors too. So, comparing all the arithmetic computations, improving the energy efficiency of multiplication is critical. In this brief, an energy efficient approximate m bit vedic multiplier is proposed which gives a trade off between computational accuracy and energy consumption. The proposed architecture has reduced area compared to other multiplier architectures which process same number of bits. The reduced architecture area reduces the power consumption. Also the vedic technology adopted for the multiplication reduces the delay further. But the approximate architecture output possess a small amount of computational accuracy which is negligible for DSP applications. .

Keywords: digital signal processing; energy efficient; vedic multiplier; approximate multiplier.

1. INTRODUCTION

For today"s embedded system and mobiles energy consumption is a critical design problem. A lot of efforts have already taken at various levels for improving energy efficiency. Among other arithmetic operations, multiplication is the most time and power consuming operation. It becomes more significant for large operands and complex multiplication. Usually in computing devices for executing the DSP applications

An Efficient Brain Tumor Segmentation and Detection of MRI Images using Neural Network and Bi-cubic Interpolation

P.Ammani and S.Kumarganesh

***Abstract*– Computer-aided detection systems will enhance the medicine capabilities of physicians and cut back the time needed for correct identification. The image plays a central role within the identification of brain tumors. Associate in Nursing economical pre-processing formula is projected during this paper for brain tumour detection supported digital image segmentation. Brain tumour could also be thought of among the foremost tough tumor to treat as; it involves the organ that isn't solely on top of things of the body. we have a tendency to projected a bi-cubic interpolation approach for brain tumour pre-processing, that gave the sting pattern of brain tumour itself. The cube-shaped convolution interpolation operate converges uniformly to the operate being interpolated because the sampling increment approaches zero, with the acceptable condition and constraints on the interpolation kernel, it is shown that the order of accuracy of the cube-shaped convolution technique is between linear interpolation and cube-shaped splines MAT research lab simulation has been accustomed validate the performance. To compare the performance of the various formula, a check image was zoomed dead set 1/2 the initial size and so the shriveled image is enlarged to its original size by exploitation totally different formula. MAT research lab result shows Bi-cubic interpolation will increase SNR from nineteen.1 to 23.5 significantly.**

sundry might expertise symptoms otherwise. The symptoms ar headache, drowsiness, depression, reduced internal organ and reduced metastasis perform eventually, coma isn't treated. Detection of tumor needs high-resolution brain tomography. Most Medical Imaging Studies and exposure conducted exploitation tomography, antielectron Emission pictorial representation (PET) and X-raying (CT) Scan. Currently a day's tomography systems ar important in medical image analysis. The tomography image shows the clear distinction between the tissues, bones and fluid, therefore it create simple to tell apart the growth half from the image. so as to search out the growth half expeditiously the tomography image ought to be increased properly.

Image pre-processing is a vital and stimulating consider the computer-aided diagnostic systems. In medical image process and notably in growth segmentation task it's important to pre-process the image so segmentation and have

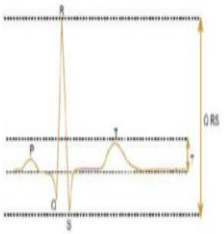
An Efficient LMS and Wavelet Based Fetal ECG Extraction Technique

S.V.Vinoth and S.Kumarganesh

***Abstract* – In this project, projected a new technique for foetal electrocardiogram extraction supported wave analysis, the smallest amount mean square(LMS) adaptational filtering rule, and therefore the spatially selective noise filtration (SSNF) rule. First, abdominal signal sand pectoral signals were processed by stationary wave transform (SWT),and the wave coefficients a teach scale were obtained. For every scale, the detail coefficients were processed by the LMS rule. The constant of the abdominal signal was taken because the original input of the LMS adaptational filtering system, and therefore the constant of the pectoral signal because the reference input. Then, correlations of the processed wave coefficients were computed. the edge was set and noise parts were removed with the SSNF rule.**

I. INTRODUCTION

Electrocardiogram (ECG) signals square measure wide employed in health monitoring as a non-invasive thanks to establish clinical diagnosis of heart diseases. typical EKG observance systems are based on long-run recording (e.g., victimization Holter devices) that generate a huge quantity of dispiritedly contaminated by the artifacts, thus it's quite troublesome to extract its form, it's fascinating to extract it and to trust a R-wave (see the Figure 1) extraction procedure as steady as doable towards the artifacts.



The fECG extraction may be a typical blind supply separation (BSS) downside and therefore the first application of BSS techniques to fECG extraction was done by American state Lathauwer et al.

[1], it's well accepted that freelance element Analysis (ICA) may be a appropriate tool for separating the fECG "source" from the rest; therefore me totally different ICA based mostly procedures has been exploited so far: ICA

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An Efficient Brain Tumour Detection Using Region of Interest

G.Jayasree and S.Kumarganesh

***Abstract*—In the medical field analyzing image is vital for several method. In our body several organs area unit gift however brain is incredibly necessary for all operate. Suppose if it affected by any growth that is gift within the brain. For analyzing tumor compression method is required. Here ROI is employed for compression method. ROI provides smart compression. Compression is nothing however to scale back the information while not loss of data that ought to be bestowed within the digital image. During this paper writing, several parameters were analyzed like MSE, PSNR.**

***Index Terms* – Brain Tumour, ROI, Region of Interest, MSE, PSNR**

I. Introduction

Now a days, human life square measure modified into computerized system. thanks to this info square measure hold on in a very digital kind and it's to be take into account as a sort of information. This method could be a wide field of digital image. It additionally covers the medical pictures. Medical imaging is that the method of making visual representations of the inside human body for clinical analysis and medical intervention. Medical imaging seeks to reveal internal structures hidden by the skin and bones, additionally on diagnose and treat sickness. Medical imaging additionally establishes a information of traditional anatomy and utterly discards the redundancy from the signal or image. It additionally results loss of knowledge by mistreatment division method, that types the information into completely different bins and every bin portrayed by a worth, however provides a lot of higher compression magnitude relation. The target of this paper to scale back the bit size while not degraded the image.

II.LITERATURE SURVEY

Medical imaging is one the outstanding application of digital image process. Numerous medical identification techniques square measure mistreatment digital pictures of build. Imaging helps heap of internal drawback occur in human body in visual manner. It's employed in drugs like imaging, CT and X-rays etc. compression is employed in medical field for analyzing internal components of the body. Several techniques square measure employed in compression method. Here ROI is employed for compression method.

III. PROPOSED TECHNIQUE

The brain image is taken for compression technique. in this brain image neoplasm is conferred, this is often taken for segmenting method. Segmentation is nothing however partitioning digital image into multiple segmentation. The

An Efficient High Power Node Rejection Clustering Algorithm for WSN

S.Sivaranjani and M.Sudha

***Abstract*– Power heterogeneousness is common in mobile unplanned networks (MANETs). With high-octane nodes, MANETs will improve network quantifiability, property, and broadcasting lustiness WSN will improve network quantifiability, property victimization high power nodes however, the output of power heterogeneous WSN is full of these nodes. to beat this downside, a loose-virtual-clustering-based (LVC) routing protocol for power heterogeneous (LRPH) WSNs is planned .The algorithmic rule aim at making Bi directional links by exploiting the benefits of high-octane nodes. so as to decrease the interference raised by high-octane nodes, routing algorithms ar developed to avoid packet forwarding via high-octane nodes. we have a tendency to demonstrate the system implementation and experimental results through simulations.**

***Index Terms*–Mobile ad hoc networks, LVC, LRPH, Routing**

I. INTRODUCTION

Mobile accidental network (MANET) may be a self-configuring, infrastructure less network of mobile devices connected by wireless and may amendment locations as shown in fig one.1. Nodes in painter will communicate with one another and may move anyplace while not restriction. Quality isn't restricted and characteristics of MANETs square measure simply deployable, so that they square measure very talked-about and appropriate for emergencies, natural disaster and military operations. Movable network consists of devices per node or conserving energy-efficient routes for the whole network [3]. But, the massive transmission varies of high power nodes results in large interference that reduces the abstraction utilization of network channel resources. Thanks to completely different transmission power, unidirectional links can occur in MANETs. Thence our aim is to interchange unidirectional links with duplex links. Several routing protocols in power varied MANETs square measure designed solely to seek out the unidirectional links and to avoid the transmissions supported these links while not creating use of the advantages of high-energy nodes. The routing performance of power heterogeneous MANETs ought to be improved by considering the benefits and neglecting the disadvantages of high- power nodes. Hence, during this paper we have a tendency to plan a loose- clustering-based (LVC) routing protocol for power varied MANETs, i.e., LRPH that achieves higher outturn. We have a tendency to build LVC to find unidirectional links by creating use of the advantages of high power nodes. Bunch may be a theme to boost the performance of the network.

So as to attain optimized bunch, a stratified cooperation theme is employed. The amount of stratified stages and also the connected cluster sizes that maximize the overall outturn is chosen. This theme is applied for random

Low Cost Light Weight Sink Relocation Mechanism for WSN

S.Dhanalakshmi and M.Sudha

***Abstract*— Generally in an exceedingly Wireless sensing element Network, sensing element nodes deliver detected information back to the sink via multi-hopping. The sensing element nodes close to the sink can typically consume additional battery power than others; consequently this node can quickly drain out their energy and shorten the network period of the Wireless sensing element Network. Sink relocation is associate degree economical network period extension methodology, that avoids overwhelming an excessive amount of energy for a particular cluster of sensing element nodes. During this paper, we tend to propose moving strategy referred to as Energy aware sink relocation for mobile sinks in Wireless sensing element Networks. The projected mechanism uses the residual energy of sensing element nodes to regulate the transmission vary sensing element and to relocate the sink. Theoretical and numerical analyze ar given to point out that the Energy aware sink relocation methodology will extend the network period of the Wireless sensing element Network considerably. NS2 simulation result shows projected structure improve period with efficiency.**

***Index Terms*-Wireless sensor networks, mobile access coordinator, Network lifetime, Node deployment, cluster head.**

I. Introduction

A Wireless detector network may be a large-scale network that has to be organized in Associate in Nursing applicable manner, especially for knowledge aggregation. the information aggregation method is meant to balance the load and thereby to increase the network life. The node clump

The cluster head node can lose additional drive than a non-cluster head node as a result of it transfers knowledge over longer distances. Hence, to distribute the load uniformly among all the nodes, the network should re-cluster itself sometimes, choosing energy abundant nodes to function CHs. therefore the network can accomplish energy potency, scale back channel rivalry and scale back packet collisions, leading to higher network output underneath high load.

Table 1: Different cluster-head (CH) selection schemes.

CH selection scheme	Characteristics
Stochastic CH election(Heinzelman et al.,2002)	A node is randomly selected without inclusion of the remaining energy level available in each node.
Weighted clustering algorithm(Xuegong et al.,2002)	A node is randomly selected based on its energy level and distance; the number of times the node was selected as the CH is also considered.
Deterministic CH election(handy et al.,2002)	A node is randomly selected with the inclusion of the remaining energy level available in each node.

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A Defence Against Sybil Attack in OLSR Protocol

T. Saranya and A.Kumaravel

Abstract **-- An ad-hoc network is improved methodology of communication that reduces the network overhead. It's a brief infrastructure less network that could be an assortment of mobile nodes within the dynamically kind and freely self-organize into absolute and temporary ad-hoc network topologies counting on their property with one another within the network. Nodes are unceasingly dynamic their locations and conjointly the node functioning depends on the restricted battery capability that's known as energy. This enables peoples and devices to seamlessly inter-network in areas wherever no pre-existing communication infrastructure exists. This network is usually freelance associate degree an isolated network. a collection of mobile nodes which might communicate directly with different nodes inside its transmission array and use multi-hop routing for nodes outside its transmission vary is named Mobile ad-hoc Network (MANETs). All nodes are battery operated, as battery power or battery energy restricted resource so it needs special attention to reduce energy consumption in MANETs. To have a secure communication it's should be a secure network. a very harmful and dangerous attack against mobile ad-hoc network is thought as Sybil attack. It creates a heavy threat to such network. A Sybil assaulter will either produce quite one identity on one physical device so as to launch a synchronic attack on the network or will switch identities so as to weaken the detection method, there by promoting lack of responsibility within the network it's powerfully fascinating to discover Sybil attacks and eliminate them from the network. During this paper, compared the present solutions and mentioned completely different strategies to eliminate the Sybil attack in painter and projected a light-weight theme victimisation the network machine Ns-2 to safeguard the network against Sybil attack while not victimisation centralized sure third party or any extra hardware like aerial or a geographical positioning system. Through the**

increase ton of misjudgments among the nodes of a network or it should use identity of alternative legitimate nodes gift within the network and creates false expression of that node within the network. Like this, it annoys the communication among the nodes of the network. to own secure communication it's necessary to eliminate the Sybil nodes from the network. the subsequent goals should be consummated by security formula wont to sight the attack:

-Authenticity: It means that the exactitude and legality of the node collaborating within the communication.

- Availability: All nodes and their facility should gift all the time.

- Confidentiality: Authorize access should be there for the user.

- Non-repudiation: Sender and Receiver can't deny that they need send the message was 1st introduced by J. R. Douceur. consistent with Douceur, the Sybil attack is associate degree attack within which one entity will management a considerable fraction of the system by presenting multiple identities.

Figure.1 represents a malicious node S beside its four Sybil nodes (S1, S2, S3 and S4). If this malicious node converses with any legitimate node by presenting all its identities, the legitimate node can have delusion that it's communicated with 5 totally different nodes. however in actual, there exists only 1 physical node with multiple totally different IDs.

An Bait Address Based Backpressure Routing for MANET

S.Jotheeshwaran and A.Kumaravel

***Abstract*--In mobile impromptu networks (MANETs), a primary demand for the institution of communication among nodes is that nodes ought to collaborate with every other. Within the presence of malevolent nodes, this demand could cause serious security concerns; for example, such nodes could disrupt the routing method. During this rule, to safeguard backpressure rule based mostly routing and scheduling protocols against varied business executive threats. This paper makes an attempt to resolve this issue by coming up with a dynamic supply routing (DSR)-based routing mechanism, that is said because the cooperative bait detection theme (CBDS), that integrates the benefits of each proactive and reactive defense architectures. Our CBDS methodology implements a reverse tracing technique to assist in achieving the declared goal.**

***Index Terms*--Mobile adhoc network, Routing, DSR, CBDS**

I. INTRODUCTION

Mobile suggests that 'moving' and ad-hoc suggests that 'temporary with none infrastructure'[13]. Therefore, a mobile ad-hoc network is created from cluster of mobile nodes, that cooperate to communicate with one another with none fix-

painter has several defects. These threats build the safety of painter lesser than a cable network and manufacture several security problems. as a result of the communication of painter uses the open medium, offender will simply catch message that area unit transmitted. the planning of previous routing protocol trusts fully that each one nodes would transmit route request or knowledge packets properly, dynamic topology, with none central infrastructure, and lack of certification authorities build painter liable to various varieties of attacks [11]. one amongst common attack is part attack that's a malicious node will attract all packets by victimization solid RREP to incorrectly claiming a recent and shortest route to the destination then discard them while not forwarding them to the destination [11]. this is often shown in Fig. 1. part attack may be a reasonably Denial-of-Service attacks and derive grey hole attack, a variant of part that by selection discards and forwards knowledge packets once packets bear it [10]. Cooperative part attacks mean many malicious nodes join forces with one another and work rather like a gaggle. this type of attack leads to several detection strategies fail and causes additional large hurt to any or all network [10].

during this paper we have a tendency to propose CBDS that integrates the Proactive and reactive defense architectures, and

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Integration of Standalone Solar Power System with Flying Capacitor Multilevel Inverter Contingent on Synchronous Sequential Circuit

Rathinam Angamuthu, Balaji Govindan • Published 2016 • Computer Science •
International Journal of u- and e- Service, Science and Technology

Topics from this paper

- Sequential logic
- Contingency (philosophy)
- Power inverter
- Solar inverter
- Charge pump

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Electric vehicle by using modified topology of multilevel inverter

This paper focused with extends the knowledge in studies and analysis of a new family of diode clamp multilevel inverter for electric vehicle application. The modified new diode clamp multilevel inverter concepts is related to reducing the components utilization, which has (n-1) switching devices, (n-3) clamping diodes, (n-1)/2 DC-link sources for achieving the same voltage level of traditional topologies. The proposed system is enhanced the voltage rating and reduce the total harmonics distortion in inverter output voltage. The switching scheme of Alternatively on Opposition Disposition pulse width modulation strategies is implemented to control multilevel inverter. The proposed system reduces the components utilization which has utilizes 45% of components for achieving the same level of voltage. The modified new diode clamp multilevel inverter is coupled with induction motor and its performance is validated with three phase induction motor for variable frequency drive. The inverter topologies performance has been investigated by prototype model.

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Power Generation from the Dynamic Wind Energy available during Maneuvering of Train

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Online published on 1 June, 2016.

Abstract

A wind power electricity generation system is the most cost competitive of all the environmentally clean and safe renewable energy sources in the world. This paper brings a new possibility for the utilization of the wind generated power, for various electrical components inside a typical railway train through the batteries charged by the wind energy harnessed by a series of wind turbines mounted near the rest room of each coaches of train coaches. This paper deals with the design and development of a wind turbine system with a concept of generation of electricity as an auxiliary source in the train. Aerodynamics is the study of air flow around a moving object where the dynamics of bodies moving relative to gases, especially the interaction of moving objects with the atmosphere. The aerodynamic profile is formed with a rear side, is much more curved than the front side facing the wind. Thus the movement of wind and its velocity can be studied based on this analysis. The simulation results and the theoretical results are verified.

Top

Keywords

Wind Energy, Wind Turbine, Railway Train.

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IJMTES – UPFC BASED DFIG SYSTEM FOR EFFICIENT WIND POWER GENERATION SYSTEM

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Author's Name : K Ramamoorthi | Dr G Balaji

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Abstract – The paper presents rapid growth of wind power systems worldwide will likely see the integration of large wind farms with electrical

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A STATCOM-Control Scheme for Grid Connected Wind Energy System for Power Quality Improvement using PI Controller

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Online published on 1 June, 2016.

Abstract

The grid-connecting wind energy generation system for power quality improvement by using STATCOM-control scheme is simulated with the help of MATLAB When the wind power is connected to an electric grid affects the power quality. The effects of connecting wind turbine into the grid system covers power quality areas are the active power, reactive power, harmonics and variation of voltage, and electrical performance of switching operations. The installation of wind system with the grid creates the power quality problems which can be determined by studying this paper. By using the Static Compensator (STATCOM) with using. battery energy storage system (BESS) at the point of common coupling to improving the power quality of the grid The battery energy storage used to keep real power from varying wind power. At lower power demand hours the generated power can be stowed in the batteries. The combination of battery storage with wind energy generation system will even out the grid system by absorbing or injecting reactive power and enable the real power flow essential to the load. This recreates the main supply source from the reactive power demand of the load and induction generator in this proposed scheme.

Top

Keywords

International electro-technical commission (IEC), power quality, wind generating system (WGS), battery energy storage system, STATCOM.

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Power Generation from the Dynamic Wind Energy available during Maneuvering of Train

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Online published on 1 June, 2016.

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A wind power electricity generation system is the most cost competitive of all the environmentally clean and safe renewable energy sources in the world. This paper brings a new possibility for the utilization of the wind generated power, for various electrical components inside a typical railway train through the batteries charged by the wind energy harnessed by a series of wind turbines mounted near the rest room of each coaches of train coaches. This paper deals with the design and development of a wind turbine system with a concept of generation of electricity as an auxiliary source in the train. Aerodynamics is the study of air flow around a moving object where the dynamics of bodies moving relative to gases, especially the interaction of moving objects with the atmosphere. The aerodynamic profile is formed with a rear side, is much more curved than the front side facing the wind. Thus the movement of wind and its velocity can be studied based on this analysis. The simulation results and the theoretical results are verified.

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High performance humidity sensing properties of indium tin oxide (ITO) thin films by sol–gel spin coating method

B. Murali Babu & S. Vadivel

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Abstract

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3D Numerical Modeling of Quantum Dot Photo Detector using Haar Wavelet Transform

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Online published on 14 October, 2016.

Abstract

The 3D numerical modeling of nano scale InGaAs quantum dot is developed and the characteristics of the device are analyzed using Haar wavelet transform. The exact potential and energy profile of the quantum dot are computed by obtaining the solution of 3D Poisson and Schrodinger equations. The developed model is applied in photo detector application. The dark current, photo current, responsivity, detectivity and efficiency of the model are calculated by considering the structural parameters quantum dot density, applied voltage, length of quantum dot layer, number of quantum dot layer and temperature. The model is validated by comparing the results obtained with the existing models. The developed model is applied in photo detector. The photo current, responsivity, detectivity and efficiency of the model are calculated by considering the structural parameters like quantum dot density, applied voltage, length of quantum dot layer, number of quantum dot layer, light intensity and temperature. The model is validated by comparing the results obtained with the existing models.

Top

Keywords

Quantum Dot, Schrodinger equation, Poisson equation, Dark current, Photo current, responsivity.

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Performance Characterization of Quantum Dot Solar Cell using Homotopy Decomposition Method

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**Department of Electronics and Communication Engineering, Sona College of Technology, Salem, Tamil Nadu, India

Online published on 2 August, 2016.

Abstract

The 3D numerical model of InGaAs quantum dot solar cell is developed and presented in this paper. The device characteristics are examined based on the exact potential and energy profile of the quantum dot obtained from the solution of 3D Poisson and Schrodinger equations using Homotopy decomposition method. The QD current is estimated by considering the QD parameters and the results obtained show that the QD current is strongly influenced by quantum dot density and applied voltage. The characteristics of the quantum dot solar cell such as photocurrent, spectral response, recombination rate for the quantum wavelength and QD layers are obtained for various device parameters. The numerical simulation results exhibit the strength of the proposed model.

Top

Keywords

Quantum Dot, Poisson equation, Schrodinger equation, Homotopy Decomposition Method, QD current, Photocurrent.

Top

Asian Journal of Research in Social Sciences and Humanities
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First page : **(185)** Last page : **(203)**
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Quadrilateral Scaled Threshold Weighted Averaging Filter for MRI Denoising

Daisy V. Royna, Nirmala S.
Centre for Advanced Research, Muthayammal Engineering College, Rasipuram, India

Online published on 2 July, 2016.

Abstract

Image denoising of Magnetic Resonance Imaging (MRI) by manifold approach focuses on the removal of inhomogeneous Gaussian and Rician noise without blurring the fine anatomical structures. Non Local Means (NLM) filter, the popular denoising technique, does not hold well for edge preservation of images with low Signal to Noise Ratio (SNR). Hence, an alternative formulation of NLM filter is required. This paper presents a quadrilateral scaling method based on image gradients for change in the isotropic nature of NLM and provides an estimate for edge orientation. A new definition of NLM weights based on similarity intensity measures that reflect on the noise statistics is introduced. The efficacy and feasibility of the proposed method is demonstrated through simulation. The probable reduction in time consumption is illustrated.

Top

Keywords

Similarity measures, Quadrilateral scaling, Gradients, Threshold, Rician Noise.

Top

View of Energy Management usi | Fabrication and performance esti

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Published: 01 April 2017

Fabrication and performance estimation of dye sensitized solar cell based on CdSe/ZnO nano particles

B. Murali Babu, M. Shyamala, S. Saravanan, K. R. Kavitha & S. Vadivel

Journal of Materials Science: Materials in Electronics **28**, 10472–10480 (2017) | Cite this article

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3D Numerical Modeling of Quantum Dot Photo Detector using Haar Wavelet Transform

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**Department of Electronics and Communication Engineering, Sona College of Technology, Salem, Tamil Nadu, India

Online published on 14 October, 2016.

Abstract

The 3D numerical modeling of nano scale InGaAs quantum dot is developed and the characteristics of the device are analyzed using Haar wavelet transform. The exact potential and energy profile of the quantum dot are computed by obtaining the solution of 3D Poisson and Schrodinger equations. The developed model is applied in photo detector application. The dark current, photo current, responsivity, detectivity and efficiency of the model are calculated by considering the structural parameters quantum dot density, applied voltage, length of quantum dot layer, number of quantum dot layer and temperature. The model is validated by comparing the results obtained with the existing models. The developed model is applied in photo detector. The photo current, responsivity, detectivity and efficiency of the model are calculated by considering the structural parameters like quantum dot density, applied voltage, length of quantum dot layer, number of quantum dot layer, light intensity and temperature. The model is validated by comparing the results obtained with the existing models.

Top

Keywords

Quantum Dot, Schrodinger equation, Poisson equation, Dark current, Photo current, responsivity.

Top

Published: 21 February 2017

Effect of annealing temperature on structural, optical and humidity sensing properties of indium tin oxide (ITO) thin films

M. Premkumar & S. Vadivel

Journal of Materials Science: Materials in Electronics **28**, 8460–8466 (2017) | Cite this article

Abstract

Tin doped indium oxide (ITO) thin films were prepared by sol–gel spin coating method with In $(NO_3)\cdot 3H_2O$ and $SnCl_4\cdot 5H_2O$ as indium and tin sources, respectively. The as deposited samples were annealed at various temperature such as, 300, 400, 500 and 600 °C for 2 h in ambient atmosphere. The grown ITO thin films are polycrystalline in nature with cubic

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THERMAL ANALYSIS OF COPPER AND CHROMIUM ALLOY, COPPER AND ALUMINIUM SOLAR ABSORBER

Premkumar .M; Ramachandran .S.

International Journal on Design and Manufacturing Technologies; Chennai Vol. 5, Iss. 1, (2011): n/a.

International Journal on Design and Manufacturing Technologies, Vol. 5, No.1, January 2011

THERMAL ANALYSIS OF COPPER AND CHROMIUM ALLOY, COPI ALUMINIUM SOLAR ABSORBER

Premkumar M[1], Ramachandran S[2]

[1]Research Scholar, Department of Mechanical Engineering, Sathyabama University,
[2]Department of Mechanical Engineering, Sathyabama University, India

Abstract

In the solar chimney solar collector plates are used for heating up the ambient air. Increase in th of the air inside the chimney increases the efficiency. Thus the solar absorber selected plays an im the efficiency of the solar chimney. In this paper the heat transfer analysis is done for solar aluminium, copper and copper chromium alloy using ANSYS.The fluid dynamics analysis helps us optimum sollr absorber. the analysis of various solar collector plates ,the nodal temperature of the co plate is compared with the copper and aluminium plates. The heat transfer and thermal conductivity chromium plate is compared with copper and aluminium plates

Asian Journal of Research in Social Sciences and Humanities
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Article DOI : 10.5958/2249-7315.2016.00892.3

Performance Assessment of Eco-Friendly Refrigerant Mixtures Alternative to HCFC 22 in a Small Capacity Window Air Conditioner

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**Department of Mechanical Engineering, Government College of Engineering, Salem, Tamilnadu, India

***Corresponding Author Email ID: eluammu@gmail.com

Abstract

This paper deals with the experimental work, which has been carried out in 1 ton of refrigeration window air conditioner working with ternary refrigerant mixture namely R152a/R290/R600 (by weight 80%/10%/10%). The properties of selected refrigerant mixtures were obtained from NIST REFPROP 7.0 for comparative analysis and refrigerant performance of proposed blends and of R22 for the given operating conditions. From the test results observation, The performance coefficient of M3 were found to be higher than that of R22 by 5.25% and the compressor power of M2, M3, M5, M1 were found to be lower by 5.22%, 5.22%, 1.74%, 0.87% respectively. Based on the experimentation and calculation, it is found that this new proposed mixture could be considered as potential replacement candidate for R22 in many applications and has shown better results as far as performance parameters are concerned and in turn theyare benign to the environment

Top

Keywords

R22, Window Air conditioner, Global Warming, Ternary mixture, Environment Zero ODP.

Top

Outline

Figures (2)

ELSEVIER

Renewable and Sustainable Energy Reviews

Volume 60, July 2016, Pages 1678-1685

Tyre pyrolysis oil as an alternative fuel for diesel engines – A review

S.T. Kumaravel [a], A. Murugesan [b], A. Kumaravel [b]

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Embedded c controlled security door with hand-operated password

K.Yuvaraj[1], S.Vickram[1], M.Syed Abuthahir[1], P.Prem kumar[1], M.Maharajan[1], D.R.P.Rajarathinam[2], S.Mohankumar[3], M.Venugopal[3]

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[3]Assistant Professor, Dept. of Mechanical Engineering, Paavai Engineering College, Pachal, Namakkal, Tamil Nadu, India

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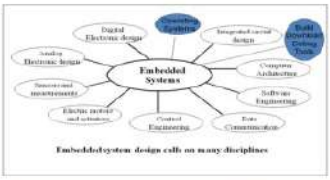
Abstract- *Our project aims at far-flung password based door opener system through an android application. The system tends to make a protected door opening mechanism such that the door only unlocks when a security personnel opens it by entering the right password. The authorized personnel need to be present within Bluetooth range of the door but need not open the door manually. He just needs to introduce the right password through his android application in order to unlock the door. This is a useful concept in places where the surveillance needs to open gates quite usually or need to operate a door from a vehicle without needing to get down.*

***Key Words**: Android application, user friendly GUI, Bluetooth, Microcontroller, Password, etc.*

devices in our everyday life like Washing tool, Microwave Ovens, where they are embedded in.



Embeddedsystem design calls on many disciplines

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Enhancement of Wear Resistance of AISI 1040 Forged Steel Roller Shaft by different Ceramic Oxide Coatings using Plasma Spray Process for Sugarcane Industries

Rajarathnam D. R. P.*, Jayaraman M.**
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**Department of Mechanical Engineering, Velalar College of Engineering and Technology, Erode, India

Online published on 14 October, 2016.

Abstract

In this investigation, ceramic oxide powders alumina, titania, chromia, alumina-titania, alumina-chromia and titania-chromia are coated on AISI 1040 forged steel substrate with a coating thickness of 200 µm by using the plasma spraying technique. Ni-Cr is used as an intermediate bond coat material to improve the coating adhesion for a thickness of 20 µm over the substrate. By using a pin-on-disc machine, dry wear test was carried out as per ASTM-G99 standards for a constant load of 10N, at different sliding distances of 1000m, 2000m, 3000m respectively. The result showed that the wear rate depends on various attributes such as microstructure, thickness of coating, porosity, surface roughness and hardness. Surface roughness measurements were performed on the specimens before and after wear tests by using talysurf instrument and the results showed that the highest value (20.42 µm) was obtained from the coating of alumina-titania. From the above investigation, the results obtained showed that a pure chromia coated specimen is having very good wear resistance property among the tested specimens. Hence it is suggested that pure chromia can be used for surface coating on top mill roll shaft used in sugar industries to enhance wear resistance.

ACADEMIC YEAR 2016-2017

Delay Tolerant Spatial Distribution of Content Replication in Wireless Networks for Efficient Video Streaming

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DOI: 10.5829/idosi.aejsr.2016.11.2.22830

Delay Tolerant Spatial Distribution of Content Replication in Wireless Networks for Efficient Video Streaming

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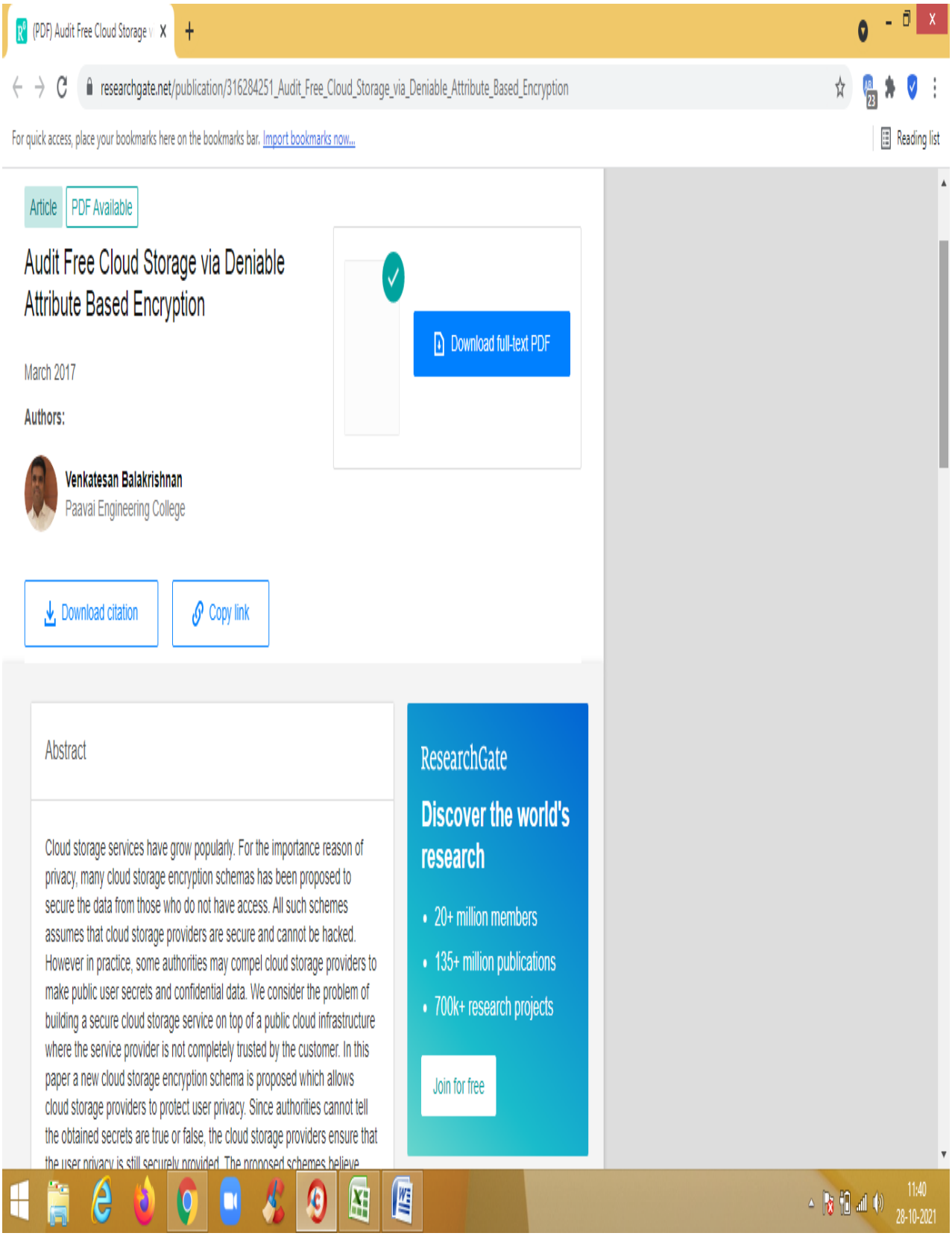
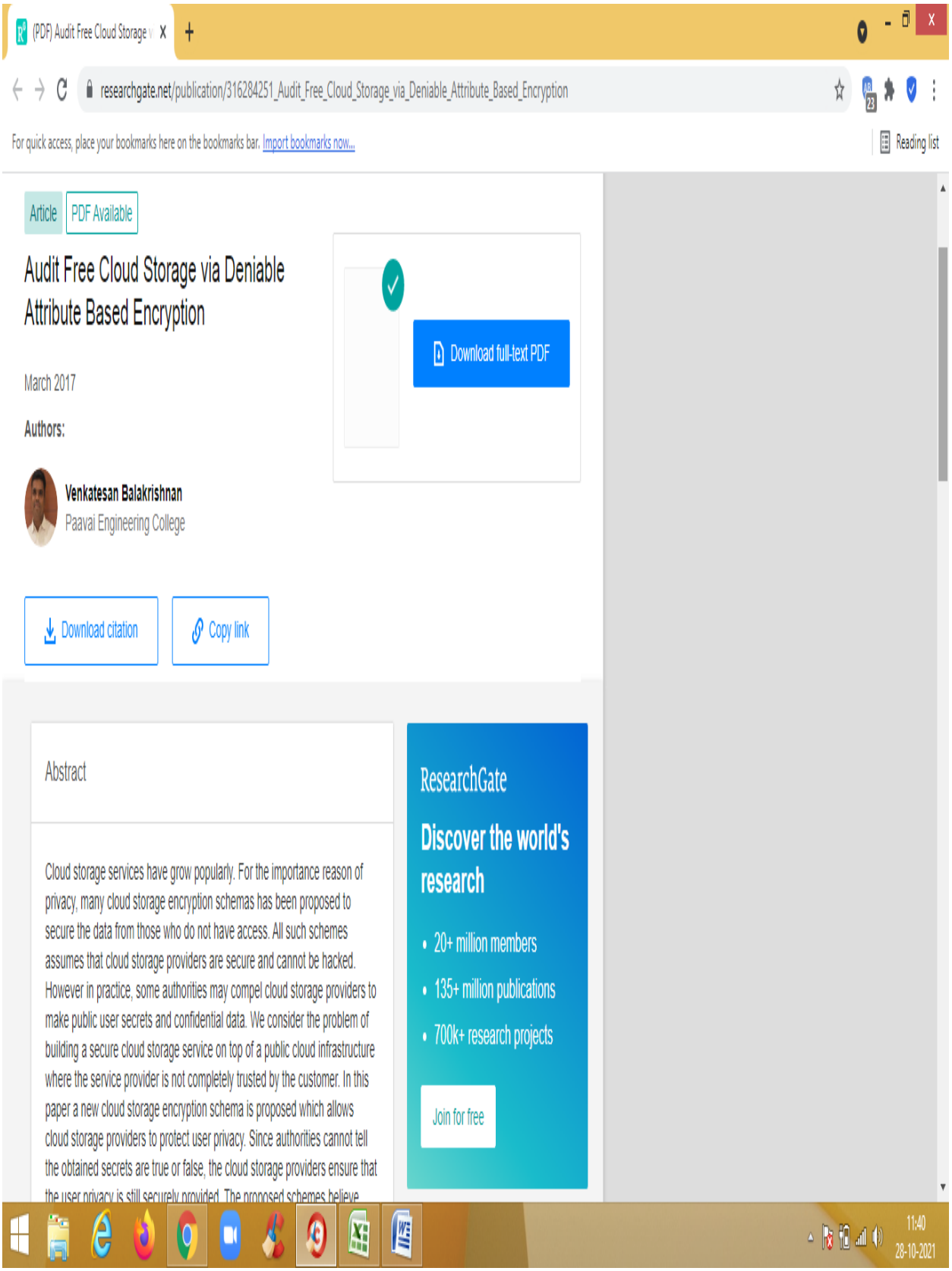
[1]Department of Information Technology,
Paavai Engineering College, Pachal, Namakkal, Tamilnadu, India
[2]Principal, Pavai College of Technology, Pachal, Namakkal, Tamilnadu, India

Abstract: The growth of information technology has introduced various functionalities and services to support video streaming like video streaming and live streaming. There are many approaches has been discussed to support content delivery in wireless networks, but suffers with the problem of latency and quality of streaming which takes more time and the frequency of retransmission is high. To solve these problems, we propose a delay tolerant approach with spatial distribution of video contents to support efficient video streaming. The proposed method maintains numbere of replicas of video content in different locations of wireless networks. The method selects the location of the video content or the node which has the requested data according to the delay present in the network and the user location. Also the number of replicas maintained is performed according to the spatial request factor which represents the number of request being received from different user from a specific spatial region and the delay present in the network towards a video content. The proposed method reduces the overall latency present in the network and increases the efficiency of content delivery which supports multimedia data transfer. Also the proposed method reduces the overall time complexity and reduces the overhead introduced by data transfer.

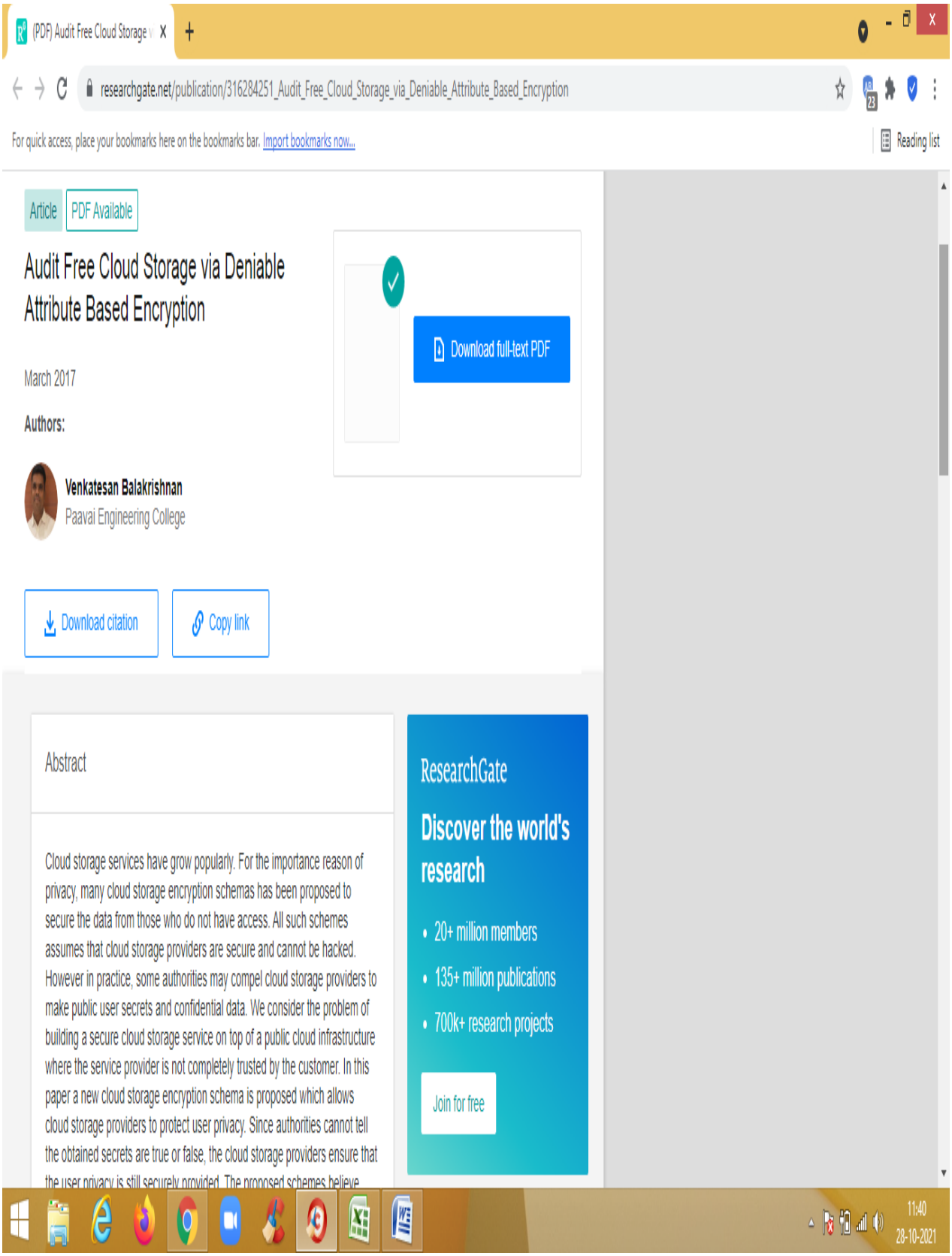
Audit Free Cloud Storage via Deniable Attribute Based Encryption



Audit Free Cloud Storage via Deniable Attribute Based Encryption



Audit Free Cloud Storage via Deniable Attribute Based Encryption



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MICROWAVE DRYING OF ALOE VERA (ALOE BARBADENSIS MILLER): MATHEMATICAL MODELING, KINETICS AND MASS TRANSFER ASPECTS

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ABSTRACT

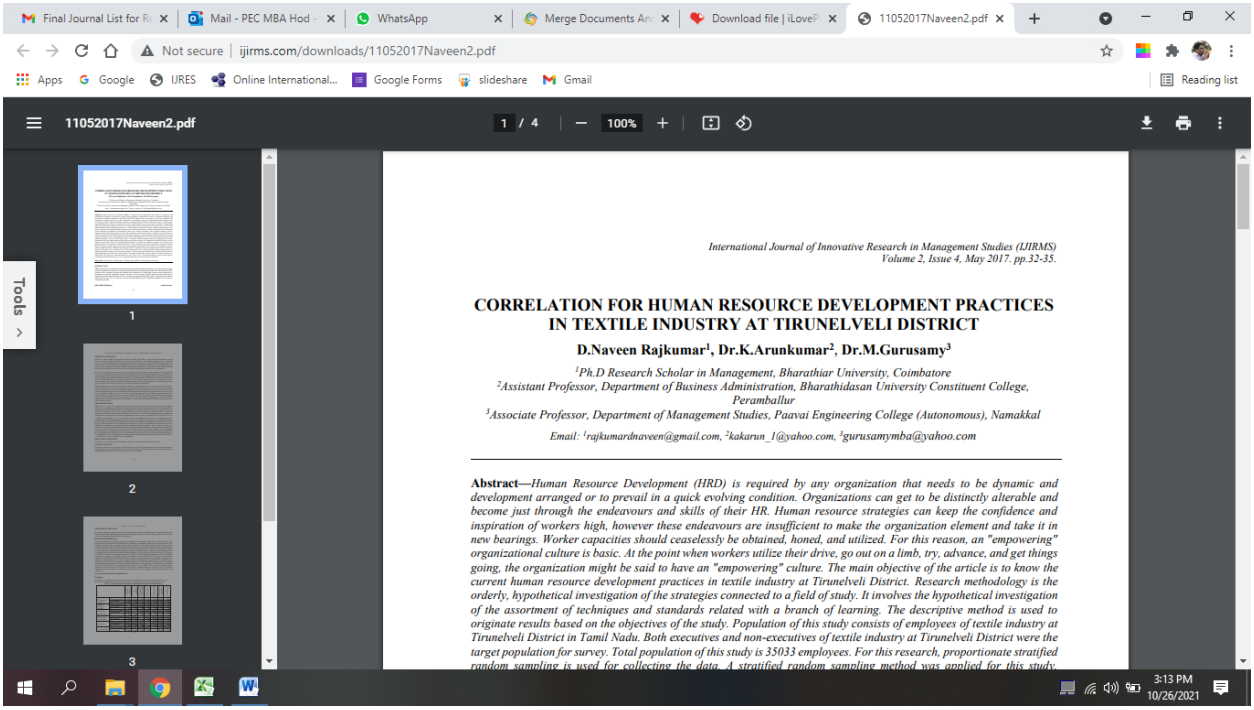
Aloe vera has extensive application in food and pharmaceutical industry in fact contains 97 percent of water. It's perishable in nature and poor shelf life makes it essential to study the drying characteristics of aloe vera. The objective of this present study is to investigate the effect of different microwave (MW) respective power levels (180 , 360 ,540 , 720 and 900 Watts) regarding the moisture ratio (MR), drying rate (DR), effective moisture diffusivity (EMD), specific energy consumption (SEC) and drying efficiency (DE) of aloe vera. The drying process took 70 - 26 .5 minutes for attainment of equilibrium moisture content. A mathematical model done by Midilli et al. is considered to be the best and most suitable for a drying conditions among the various thin layer models. The effective moisture diffusivity value at 180 Watts (W) of MW power was found as 4.5 × 10-8 m2/sec. while it was raised to 9.45 x10-7 m2/sec at 900 W in this study. Lowest energy consumption 1.4 MJ/Kg water and maximum drying efficiency occurred at higher microwave power level 900 Watts due to less drying duration (time).

Keywords: Microwave; Drying, Aloe vera ; Moisture ; energy.

1. INTRODUCTION

Aloe Vera (Aloe barbadensis miller) is a shrubby or arborescent, perennial, xerophyti, pea-green color plant which grows is being cultivated in many parts of the country. An adult aloe vera plant reaches the height of 30 inches within 1-2 years and having up to 19 to 21 leaves. The leaves are thick, fleshy and green to grey-green in color. The fleshy portion of aloe vera leaves contains different phytochemicals, which are used in the production of various commodity products such as shampoo, gel, body wash, body lotion, sun screen, soothing night cream, face cream, shaving creams, face wash, hair cleanser ,soap, juice, tea and powder. Due to its potential health benefits it was reported by many researchers [1-3] ,So large scale agricultural production of aloe vera in large quantity is undertaken in several countries such as Australia, Bangladesh, Cuba, Dominican Republic, China, Mexico, Jamaica, Kenya, Tanzania, South Africa, and United States of America. The shelf life of fleshy portion of aloe vera leaves is very limited because of its higher moisture content, it was too difficult to store for a longer period. Hence, increasing shelf life of aloe vera pulp without affecting both its nutritional and chemical composition has become necessary to meet the global demands.

Drying is one of the preservation method used to increase the shelf-life and maintains the nutritional value of the materials.



International Journal of Innovative Research in Management Studies (IJIRMS)
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CORRELATION FOR HUMAN RESOURCE DEVELOPMENT PRACTICES IN TEXTILE INDUSTRY AT TIRUNELVELI DISTRICT

D.Naveen Rajkumar[1], Dr.K.Arunkumar[2], Dr.M.Gurusamy[3]

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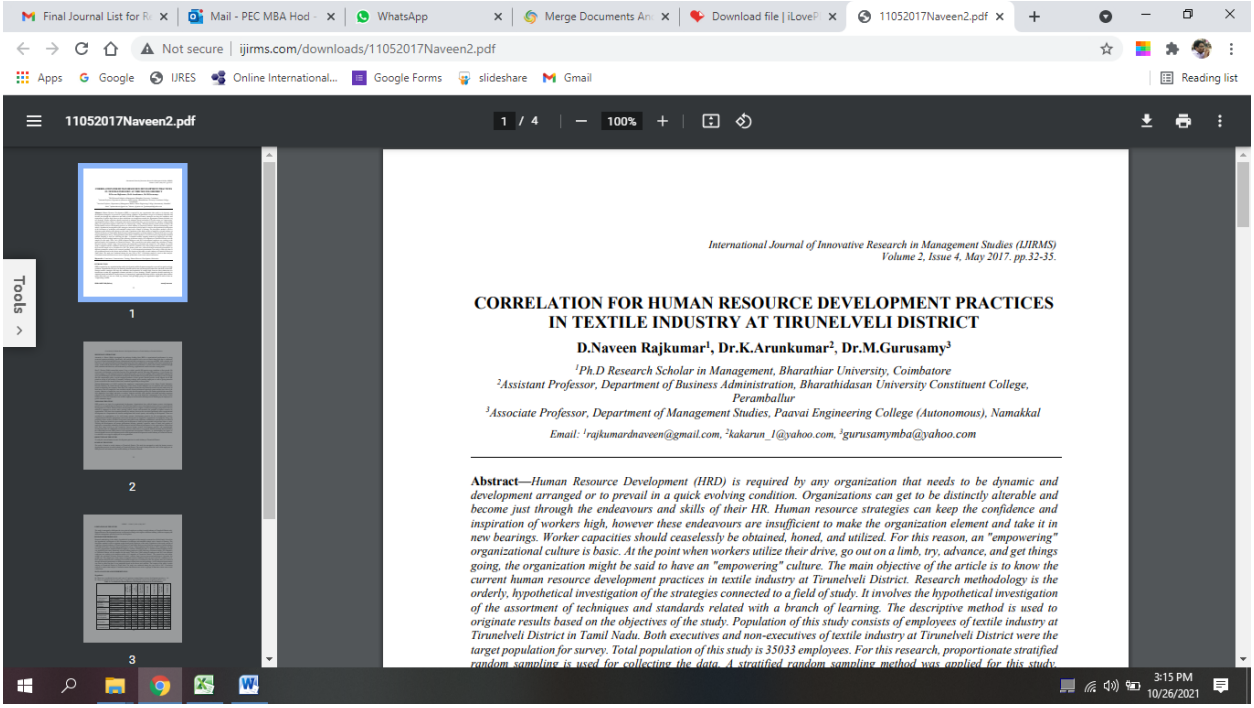
Email: [1]rajkumardnaveen@gmail.com, [2]kakarun_1@yahoo.com, [3]gurusamymba@yahoo.com

Abstract—*Human Resource Development (HRD) is required by any organization that needs to be dynamic and development arranged or to prevail in a quick evolving condition. Organizations can get to be distinctly alterable and become just through the endeavours and skills of their HR. Human resource strategies can keep the confidence and inspiration of workers high, however these endeavours are insufficient to make the organization element and take it in new bearings. Worker capacities should ceaselessly be obtained, honed, and utilized. For this reason, an "empowering" organizational culture is basic. At the point when workers utilize their drive, go out on a limb, try, advance, and get things going, the organization might be said to have an "empowering" culture. The main objective of the article is to know the current human resource development practices in textile industry at Tirunelveli District. Research methodology is the orderly, hypothetical investigation of the strategies connected to a field of study. It involves the hypothetical investigation of the assortment of techniques and standards related with a branch of learning. The descriptive method is used to originate results based on the objectives of the study. Population of this study consists of employees of textile industry at Tirunelveli District in Tamil Nadu. Both executives and non-executives of textile industry at Tirunelveli District were the target population for survey. Total population of this study is 35033 employees. For this research, proportionate stratified random sampling is used for collecting the data. A stratified random sampling method was applied for this study.*

Correlation for Human Resource Development Practices in Textile Industry at Tirunelveli District--Dr.M.Gurusamy



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[2]Assistant Professor, Department of Business Administration, Bharathidasan University Constituent College, Peramballur
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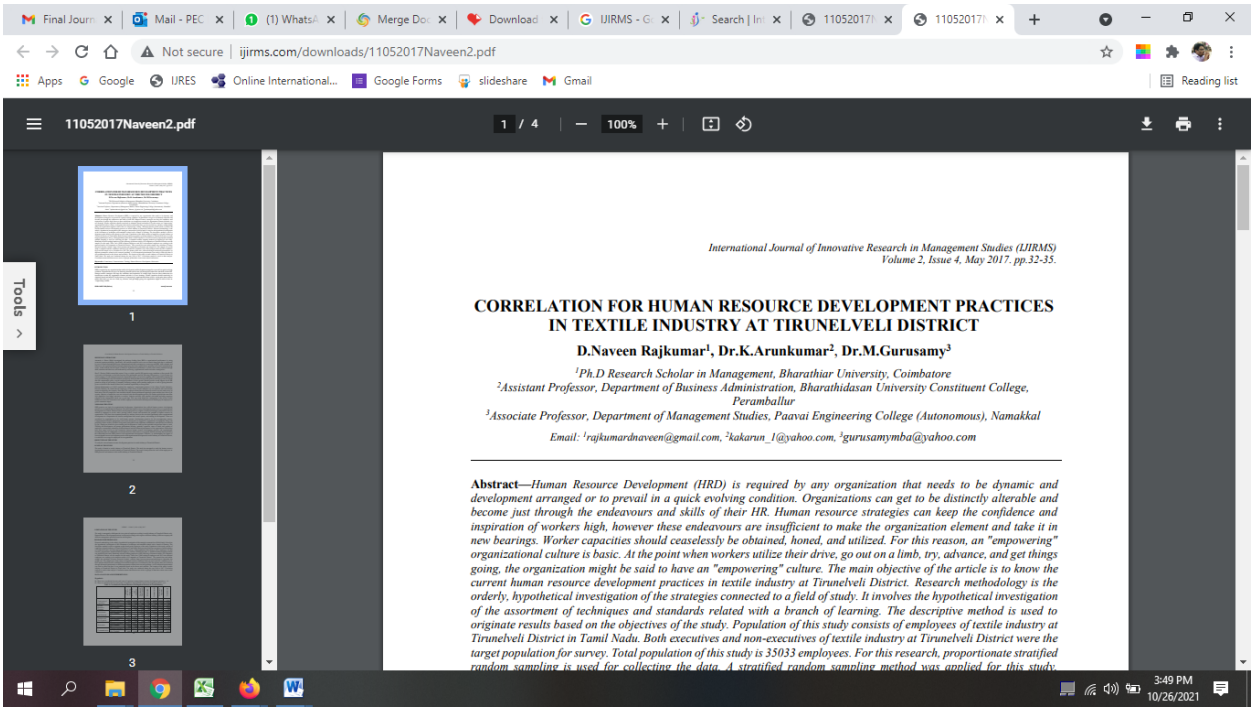
Abstract—*Human Resource Development (HRD) is required by any organization that needs to be dynamic and development arranged or to prevail in a quick evolving condition. Organizations can get to be distinctly alterable and become just through the endeavours and skills of their HR. Human resource strategies can keep the confidence and inspiration of workers high, however these endeavours are insufficient to make the organization element and take it in new bearings. Worker capacities should ceaselessly be obtained, honed, and utilized. For this reason, an "empowering" organizational culture is basic. At the point when workers utilize their drive, go out on a limb, try, advance, and get things going, the organization might be said to have an "empowering" culture. The main objective of the article is to know the current human resource development practices in textile industry at Tirunelveli District. Research methodology is the orderly, hypothetical investigation of the strategies connected to a field of study. It involves the hypothetical investigation of the assortment of techniques and standards related with a branch of learning. The descriptive method is used to originate results based on the objectives of the study. Population of this study consists of employees of textile industry at Tirunelveli District in Tamil Nadu. Both executives and non-executives of textile industry at Tirunelveli District were the target population for survey. Total population of this study is 35033 employees. For this research, proportionate stratified random sampling is used for collecting the data. A stratified random sampling method was applied for this study

Human Resource Development Practices of Textile Industry in Tirunelveli District by Using Factor Analysis----Dr.M.Gurusamy/ASP



International Journal of Innovative Research in Management Studies (IJIRMS)
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CORRELATION FOR HUMAN RESOURCE DEVELOPMENT PRACTICES IN TEXTILE INDUSTRY AT TIRUNELVELI DISTRICT

D.Naveen Rajkumar[1], Dr.K.Arunkumar[2], Dr.M.Gurusamy[3]

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[2]Assistant Professor, Department of Business Administration, Bharathidasan University Constituent College, Peramballur
[3]Associate Professor, Department of Management Studies, Paavai Engineering College (Autonomous), Namakkal

Email: [1]rajkumardnaveen@gmail.com, [2]kakarun_1@yahoo.com, [3]gurusamymba@yahoo.com

Abstract—Human Resource Development (HRD) is required by any organization that needs to be dynamic and development arranged or to prevail in a quick evolving condition. Organizations can get to be distinctly alterable and become just through the endeavours and skills of their HR. Human resource strategies can keep the confidence and inspiration of workers high, however these endeavours are insufficient to make the organization element and take it in new bearings. Worker capacities should ceaselessly be obtained, honed, and utilized. For this reason, an "empowering" organizational culture is basic. At the point when workers utilize their drive, go out on a limb, try, advance, and get things going, the organization might be said to have an "empowering" culture. The main objective of the article is to know the current human resource development practices in textile industry at Tirunelveli District. Research methodology is the orderly, hypothetical investigation of the strategies connected to a field of study. It involves the hypothetical investigation of the assortment of techniques and standards related with a branch of learning. The descriptive method is used to originate results based on the objectives of the study. Population of this study consists of employees of textile industry at Tirunelveli District in Tamil Nadu. Both executives and non-executives of textile industry at Tirunelveli District were the target population for survey. Total population of this study is 35033 employees. For this research, proportionate stratified random sampling is used for collecting the data. A stratified random sampling method was applied for this study

A Study on Financial Performance Analysis of ICICI Bank and HDFC Bank-Dr.M.Gurusamy/ASP

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ISSN 0973-9424, Vol. 10 No. III (December, 2016), pp. 23-37

OSCILLATION THEOREMS FOR FRACTIONAL ORDER NEUTRAL DIFFERENTIAL EQUATIONS

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Arinpar Anna Government Arts College, Namakkal - 637002, Tamilnadu, India.
[2] Department of Mathematics,
Panvai Engineering College, Namakkal - 637018, Tamilnadu, India.

Abstract

The purpose of this paper is to study the oscillation of the fractional order neutral differential equation

$$D_t^\alpha\left[r(t)[D_t^\alpha(x(t)+p(t)x(\tau(t)))]^\gamma\right]+q(t)x^\beta(\sigma(t))=0,$$

where $D_t^\alpha(\cdot)$ is a modified Riemann-Liouville derivative. The obtained results are based on the new comparison theorems, which enable us to reduce the oscillatory problem of 2α-order fractional differential equation to the oscillation of the first order equation. The results are easily verified.

1. Introduction

In this article, we are concerned with the oscillation of solutions to the nonlinear fractional order neutral differential equation with the form

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Key Words : *Oscillation, Comparison theorem, Fractional differential equation, Modified Riemann-Liouville derivative.*

2000 AMS Subject Classification : 34A08, 34C10.

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OSCILLATION OF CERTAIN THIRD ORDER NONLINEAR DIFFERENTIAL EQUATION WITH NEUTRAL TERMS

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**Corresponding author.*

Abstract The main goal of this work is to establish some new comparison theorems for oscillation of solutions to the third order nonlinear differential equations with neutral terms of the form

$$\left[r(t)\left[\left(x(t)+\sum_{i=1}^{n}p_i(t)x(\eta_i(t))\right)''\right]^{\gamma}\right]'+q(t)x^{\gamma}(\sigma(t))=0,$$

are presented. We give several Theorems and related examples to illustrate the main results.

MSC: 34K11, 34C10, 34C15

Keywords: Third-order neutral differential equation, Non-linear, Comparison theorem, Oscillation of solutions.

Submission date: 17 May 2017 / Acceptance date: 16 July 2017 /Available online: 1 August 2017

1. Introduction

This work is concerned with oscillation behavior of a class of third order nonlinear neutral differential equation

$$\left[r(t)\left[\left(x(t)+\sum_{i=1}^{n}p_i(t)x(\eta_i(t))\right)''\right]^{\gamma}\right]'+q(t)x^{\gamma}(\sigma(t))=0, \tag{E}$$

where $n>0$ is an integer, $q(t)$, $\sigma(t)$, $p_i(t)$ and $\eta_i(t)$ are continuous differentiable on $[t_0,+\infty)$. Throughout this paper it always assume the following conditions hold:

(C_1) γ is a quotient of odd positive integers, $r(t),q(t)>0$, $0\le p_i(t)\le a_i<\infty$ for $i=1,2,\ldots,n$;

(C_2) $\eta_i\circ\sigma=\sigma\circ\eta_i$, $\eta_i'(t)\ge\lambda_i>0$ for $i=1,2,\ldots,n$; and $\lim_{t\to+\infty}\sigma(t)=\infty$, $\sigma(t)<t$;

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