

-Dr.Sivakumar.R

## ONLINE INTERNATIONAL CONFERENCE ON INNOVATION IN ELECTRICAL, ELECTRONICS AND INTELLIGENT COMPUTING

(19-20 JULY 2019)

# ICI2EIC'19 PROCEEDINGS VOLUME-I

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#### PAPER PAGE

## A Hyper Heuristics Technique for data Partitioning and scheduling to heterogeneous systems using genetic algorithm and Improved Particle Swarm Optimization

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#### Abstract

Development of the load partitioning for multiple round load distribution and effective scheduling of partitioned load to heterogeneous processor is primary goal of distributed and parallel system. In this paper, we propose hyper heuristics scheduling algorithm for load partitioning using genetic and improved particle swarm optimization techniques. A communication model is used to predict the optimal activation order, optimal number of processor and optimal number of rounds of the load. Heuristics Based Scheduling Algorithm is proposed using Hyper Heuristic Scheduling which is used to find the candidate solution (low level heuristic) to form Scheduling Solutions (heuristics algorithms) for large scale system with diversity operator as sequence dependent and sequence independent scheduling. For this solution, processing time of the entire processing load will be reduced. Hybrid Real Code genetic algorithm(HRGA) computes optimal activation order with cross over and mutation operator without considering the processor latency and different types of variation in the perturbation parameters. In order to optimize this issue, we utilize Improved Particle swarm optimization (IPSO) determine the load fraction for generating activation order in terms of dynamically predicting fitness value of the processor with certain number. The Simulation analysis demonstrates the proposed model performance in terms of mean, standard deviation, computational complexity and Average Execution Time comparing against hybrid real coded genetic algorithm.

Keywords: Data partitioning, Processor Scheduling, Improved Particle Swarm Optimization, Real Coded Genetic Algorithm, Hyper Heuristic

#### 1. Introduction

Data Partitioning is the mainfeature to obtain effective scheduling on available processor in the parallel and distributed system. To reach the minimum processing time on the load execution byseveral strategies usingdata partitioning. To improve the performance of load balancing on the multiple processors is scheduling [2]. With new developments in soft computing algorithms, many loads scheduling technique has been utilized in the recent years. Divisible load scheduling [3], Bandwidth centric scheduling strategies [4] was discussed as it acts as effective approach. The load balancing techniques and scheduling techniques used inparallel and distributed



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Dr./Mr./Ms. R.SIVAKUMAR

## of AKSHAYA COLLEGE OF ENGINEERING

has presented a paper entitled

A HYPER HEURISTICS TECHNIQUE FOR DATA PARTITIONING AND SCHEDULING TO HETEROGENEOUS SYSTEMS USING GENETIC ALGORITHM AND IMPROVED PARTICLE SWARM OPTIMIZATION

in SEEE Online International Conference on Innovation in

**Electrical, Electronics and Intelligent Computing** 

on 19th and 20th July 2019 Organized by the Society for Engineering

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### GRID PARTITIONING FOR ANOMALY DETECTION (GPAD) IN HIGH DENSITY DISTRIBUTED ENVIRONMENT FOR MINING TECHNIQUES

#### <sup>1</sup>Dr. C. Viji, <sup>2</sup>Dr. N. Rajkumar, <sup>3</sup>Dr.N.Suguna

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**ABSTRACT:** Anomaly detection is the most important task in data mining techniques. This helps to increase the scalability, accuracy and efficiency. During the extraction process, the outsource may damage their original data set and that will be defined as the intrusion. To avoid the intrusion and maintain the anomaly detection in a high densely populated environment is another difficult task. For that purpose, Grid Partitioning for Anomaly Detection (GPAD) has been proposed for high density environment. This technique will detect the outlier using the grid partitioning approach and density based outlier detection scheme. Initially, all the data sets will be split in the grid format. Allocate the equal amount of data points to each grid. Compare the density of each grid to their neighbor grid in a zigzag manner. Based on the response, lesser density grid will be detected as outlier function as well as that grid will be eliminated. This proposed Grid Partitioning for Anomaly Detection (GPAD) has reduced the complexity and increases the accuracy and these will be proven in simulation part.

**KEYWORDS:** Grid partitioning, density based outlier detection, Grid Partitioning for Anomaly Detection (GPAD), low complexity, high density environment

#### 1. INTRODUCTION

Data mining is used to extract the required data from the data sets and that require information will be used for future uses. The data sets are collecting all the data in the database systems. The database system is used to transfer and store the data between the two different users. Databases are split into the different form of sets and then will be formed as data sets. Before the data mining process, it has to apply two different stages such as selection and preprocessing. In the selection stage, the data set will be selected. In the preprocessing stages, noise and unwanted source will be deleted from the dataset. Data mining involves different types of tasks such as:

- Outlier detection
- Clustering method
- Marketing based
- Classification rule
- Regression scheme

Outlier detection is used to detect the unwanted data, data errors and failure rate in the database management system. Clustering method will make the cluster groups and then the task will be done for each clustered group. Marketing based task is based on the dependency modeling scheme. It will do the data mining for repeated datasets. Classification rule will split the data sets into two types one is needed dataset and another as unwanted datasets.

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# ICIZEIC 2019

Dr./ Mr./ Ms. C. VIJI

of AKSHAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, COIMBATORE

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GRID PARTITIONING FOR ANOMALY DETECTION (GPAD) IN HIGH DENSITY DISTRIBUTED ENVIRONMENT FOR MINING TECHNIQUES

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#### To Whom It May Concern

Dear Sir/Madam,

We are pleased to announce the publication of the book entitled "Parabolic Trough Collector and its Performance Factors", authored by Dr. Sendhil Kumar.S. and Mr. Vijayan.S.N. The book was released by Lambert Academic Publishing in May, 2020 and bears ISBN 978-613-9-92186-7.

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Utilization of solar energy depends on the energy conversion system and components involved in it. Parabolic Trough Collector (PTC) systems are mostly used to utilize the maximum availability of solar power. The performance of the PTC depends on the operating parameters such as type of receiver, collector material and medium of heat transfer with the consideration of the climatic conditions. This book discusses the various parameters contributing towards the performance of the parabolic trough collector.



Sendhil Kumar.S Vijayan S.N

Sendhil Kumar.S., Ph.D., Associate Professor in Mechanical Engg., ACET, Coimbatore. He has 22 years of teaching and research experience, published many papers worldwide.

Vijayan.S.N, M.E, M.B.A., AP in Mechanical Engg., KIT, Coimbatore. He worked as Production in-charge for six years at Genuine Shell Carb (P) Ltd.

## **Parabolic Trough Collector** and its Performance Factors

- A Theoretical Perspective





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## EMERGING TRENDS IN MECHANICAL, COMPUTING AND ELECTRICAL SCIENCE



### **Merit Certificate for Publication**

24.11.19

This is to certify that Book chapter entitled "Mechanical Properties and Characterization on AA 2618 Metal Matrix Reinforced With Si<sub>3</sub>N<sub>4</sub>, AIN and ZrB<sub>2</sub> Insitu Composites", submitted by N.Mathan Kumar, N.Mohan Raj, S.Kannan, L.A.Kumaraswamidhas has been published in Emerging Trends in Mechanical, Computing and Electrical Science (ISBN:978-81-941281-8-2) during November 2019.

Signed by:

The Chief Editor, ETMCE, ANVI Books & Publishers, Delhi. 2018-2019 1.Published - Cover Page - Mr Edwin Fernado



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Proceedings of "Paradigm Shift in Civil and Environmental Engineering for Sustainability"

#### 019

## EXPERIMENTAL INVESTIGATION OF CONCRETE BY REPLACING WITH CFL

P.A.EDWIN FERNANDO<sup>1</sup>, P.N.MANONMANI<sup>2</sup>, K. ARUNKUMAR<sup>3</sup>, V. KISHORE<sup>4</sup>, A. INNOCENT PETER DAMINE<sup>5</sup>, C.GOKUL<sup>6</sup>

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#### 1. INTRODUCTION

#### **1.1 GENERAL**

Increasing & the capital cost of the construction of a building to is escalating. The demand for construction material is also increasing, at the same time the cost of the construction material is also increasing. To overcome these type of problems are want to found the new composition with low cost. Our ultimate aim of the projects. A series of 7 concrete mixes were prepared with replacement ratios of 2%, 4%. 6%, 8%, 10%, 12% and 14% by volume of natural aggregate. The results of experiments show the feasibility to use CFL glass in concrete mixes. There is a possibility to produce concrete with reduction in weight reaches to 12% compared to traditional concrete in case of replacing 14% of natural aggregate by CFL glass aggregate. 2. LITERATURE REVIEW

Various journals, articles and conference papers related composite construction, materials used in the construction, etc. have been referred for the purpose of developing ideas for the research work. Data from websites of the kind of informative types, advertisement types, blogs, groups, etc. have been considered and incorporated in the report work as well. Some of the informative data collected from certain journals and conference papers are summarized and given below.

2.1 Chandraul Kirti, Singh Manindra Kumar studied the coconut shell concrete. The concrete mix of 1:1.51:3.06 was used as control, while coconut shells were used to replace crushed granite by volume. 36 cubes were produced and compressive and tensile strengths were evaluated at 7 days, 14 days and 28 days. The density and compressive strength of concrete reduced as the percentage replacement increased. Aggregate replaced by coconut shell with ratios 0%, 20%, 40%, 60%, 80% and 100% with water cement ratio of 0.5. The results of the study showed that concrete produced by replacing 40% of the crushed granite by coconut shells can be used in concrete construction. A potential exists for the use of coconut shells as replacement of conventional aggregate in both conventional reinforced concrete and lightweight reinforced concrete construction .



Fig 1 COIR FIBER

C.G. Konapure, V.S Dasari studied the effect of silica fume in steel fibre reinforced concrete. This experimental study deals with M50 grade of concrete having mix proportion

AN MOTO ANOTH DESIGN AND A PROCEED ON DEALER AS AND ADDRESS AS AN ADDRESS AS

1:1.97:2.75 with w/c ratio 0.41 to study the properties of concrete like compressive strength and flexural strength. The concrete containing steel fiber of 1% volume fraction of hook end with 71 aspect ratio, silica fume used as a replacement of cement of about 5% by weight and also superplastisizer are added as per requirement for achieving desired workability of concrete. A relationship between workability, compressive strength and flexural tensile strength represented mathematically and graphically. In the present investigation, the combined effects of steel fiber and silica fume on concrete properties were experimentally assessed with control specimen

2.2 D.M. Parbhane, S.B. Shinde studied the strength properties of coir fibre reinforced concrete. In this study, M 20 grade of concrete was produced by adding coconut fiber (coir).Forty five cylinders were casted and their split tensilestrength and workability"s were evaluated at 7, 14 and 28 days. The workability and tensile strength of concrete increased to some extent as the coir increased. Concrete produced by 1%, 2%, 3%, 4% &5% addition attained 28 days tensile strength of 2.68, 2.90, 3.11, 3.25, 2.33 respectively. These results showed that Coir Fiber Concrete can be used in reinforced concrete construction.

2.3 Dasari Venkateswara Reddy and Prashant Y.Pawade studied the combine effect of silica fume and steel fiber on mechanical properties on standard grade of concrete.In this paper was carried out investigation on concrete due to the effect of silica fume with and without steel fibers on Portland Pozzolona cement. In this study we used concrete mixes with Silica Fume of 0%, 4%, 8% and 12%, with addition of crimped steel fibers of diameter 0.5 mm Ø with a aspect ratio of 60, at various percentages as 0%, 0.5 %, 1.0 % and 1.5 % by the volume of concrete on M35 grade of concrete. The effect of mineral admixture (silica fume) as cement replacement material with and without steel fibers on mechanical properties were analyzed and compared with normal concrete. In comparison, with normal concrete the replacement of 4%, 8% and12% cement by silica fume showed 6.26%, 15.84% and 11.45% increase in compressive strength at 28 days of curing. The proposed model was found to have good accuracy in estimating relationship at 28 days and 90 days Compressive strength with Flexural Strength of concrete.

#### 3. ADMIXTURE

Conplast SP430 is chloride free, super plasting admixture based on selected sulphonated naphthalene polymer. It is supplied as brown solution which is instantly disappears in water.deformation on the vibration characteristics of the structure. Results showed that there is less deformation in the bridge due to vibration. This paper helped us to understand that there will be less deformation in a structure when it is made of a fiber reinforced polymer material.

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ISBN: 978-81-930936-6-3 Proceedings of "Paradigm Shift in Civil and Environmental Engineering for Sustainability"

## LITERATURE REVIEW ON FIBRE REINFORCED COMPOSITE HELIPAD STRUCTURE

P.A. EDWIN FERNANDO<sup>1</sup>, P.N.MANONMANI<sup>2</sup>, M.SANTHOSH<sup>3</sup> R.KAVIN BALAJI<sup>4</sup> A.SUHANA<sup>3</sup> P.S.KISHORE

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#### 1.INTRODUCTION

#### 1.1. GENERAL

Past three decades, the researchers gave much attention to seismicity and the usage of composite materials as the replacement of constituent materials in concrete. A composite material can be defined as a combination of a matrix and a reinforcement, which when combined gives properties superior to the properties of the individual components. The most Common types of composites are Polymer matrix composites, Metal matrix composites, Ceramic matrix composites.

## 2. LITERATURE REVIEW

Various journals, articles and conference papers related composite construction, materials used in the construction, etc. have been referred for the purpose of developing ideas for the research work. Data from websites of the kind of informative types, advertisement types, blogs, groups, etc. have been considered and incorporated in the report work as well. Some of the informative data collected from certain journals and conference papers are summarized

### 2.1 MANUFACTURING AND CHARACTERIZATION OF POLYURETHANE BASED SANDWICH COMPOSITE STRUCTURES', M.MOHAMED(2015)

In this study, three designs of glass reinforced composite sandwich structures, namely boxes (web-core W1), trapezoid and polyurethane rigid foam, are fabricated using new generation of two-part thermoset polyurethane resin systems



The compressive strength were evaluated. Core shear, flatwise and stiffness. edgewise compression tests were carried out for these three

The mechanical response of three designs of sandwich structures under flexural loading were analysed using commercial finite element method (FEM) software ABAQUS. The simulation results of flexural behaviour were

2.2 A STRENGTH BASED CRITERION FOR THE PREDICTION OF STARLE FIDDLE FOR THE Increasing a/D ratio Mathematic line endwich This paper demonstrates that a fibre will form a stable

budge across a propagating track has been investigated by WERE REPORTED AND A MARKEN PROPERTY OF THE PROPERTY AND A CONSIDER AND A CONSTRUCT OF THE PROPERTY OF THE PROPERTY.

means of experimental measurements and the theoretical consideration of the balance between interfacial strength, fibre strength and the physical properties of the component materials.

A simple strength based criterion has been developed from traditional stress transfer models to predict if a fibre will form a stable bridge across a propagating matrix crack. Raman spectroscopy was used to measure the point to point distribution of fibre strain along Twaron, Zylon, T50u and M5 fibers embedded in an epoxy resin matrix and lying perpendicular to a matrix crack. The result shows that twaron fibres fractured with a small amount of debonding.

### 2.3 INVESTIGATION OF THE CURING BEHAVIOUR OF CARBON FIBRE EPOXY PREPEG BY DYNAMIC MECHANICAL ANALYSIS DMA', W.STARK (2012)

This paper says that Carbon fibre prepregs have found widespread application in lightweight constructions. They are based on a carbon fibre fabric impregnated with reactive epoxy resin. Measurements were carried out using commercially available prepreg material. For Dynamic Mechanical Analysis (DMA), a single cantilever measuring device was applied. The heating rates were 1 and 2 K/min, respectively. A glass transition of the uncured material (Tg0) near J C, and cross linking-induced vitrification and devitrification at the maximal glass transition temperature of the cured material (Tgmax) in the temperature range 220 to

The activation energies for the glass transitions were determined using an Arthenius plot. By detailed consideration of the influence of the frequency on the DMA data, indications for gelation were deduced. So by this work it is found that a carbon fibre epoxy needs a hot curing.

#### 2.4 BEHAVIOUR OF FIBRE COMPOSITE SANDWICH ASYMMETRICAL UNDER A.C.MANALO(2012) SHORTAND BEAM SHEAR TESTS',

The behaviour of structural fibre composite sandwich beams made up of glass fibre composite skins and phenolic core material was investigated under three-point short beam and asymmetrical beam shear tests. The effect of the shear span-to-depth ratio (a/D) on the strength and failure behaviour of the composite sandwich beams was examined.

increasing a/D ratio. Noticeably, the fibre composite sandwich beams tested under asymmetrical beam shear exhibited higher failure load compared to beams tested under short beam shear.

Analysis showed that the shear stress in the core is more dominant than flexural stress when the a/D ratio is 1 for

2018-2019

## AN EXPERIMENTAL STUDY AND BEHAVIOUR OF BANANA FIBER IN CONCRETE

Suresh Kumar S<sup>1</sup> Akash B M<sup>2</sup> Kabilan M<sup>3</sup> Karna H<sup>4</sup> Navaneethan S<sup>5</sup>

<sup>1</sup>Assistant Professor <sup>2,3,4,5</sup>B.E Students

1,2,3,4,5 Department of Civil Engineering

### 1,2,3,4,5 Akshaya College of Engineering and Technology, Coimbatore, India

*Abstract* - The paper presents an experimental investigation conducted to study the effects of chemically treated banana fiber in concrete. Sustainable development of the built environment in developing countries is a major challenge in the 21st century. The use of local materials in construction of buildings is one of the potential ways to support sustainable development in both urban and rural areas. Banana fibers, which will be the focus of this study. Banana fibers are widely available worldwide as agricultural waste from Banana cultivation. Banana fibers are environmentally friendly and present important attributes, such as low density, light weight, low cost, high tensile strength, as well as being water and fire resistant. This kind of waste has a greater chance of being utilized for different application in construction and building materials. This focused on the use of banana fiber and its effect on the compressive and split tensile strength.

#### **1.Introduction**

In the present day scenario the society wants a major point in the environment protection and building safe structure due to this civil engineer today trend to use in various material to construct different types of building in last 15-20 years the various urban agricultural waste material are being used in buildings the usage of various waste material is one of the main application in construction industry as traditional and reciprocal material.

Banana fiber is obtained from the pseudo-stem of banana plant. It is the best fiber with perfect mechanical properties. It has the lower density than glass fiber. It has light weight and biodegradable. It is used for making handmade bags and covers. It is used to make products like filter paper, paper bags, greeting cards, lamp stands, pen stands, decorative papers, rope, mats and composite material etc. Waste of the banana fiber is not utilized properly and all of the banana fiber is at the waste. Germany currency are used in banana fiber and now in India it's also be used. There are many demands in banana fiber. In future, it is cheaper, lighter and environmental compared to other fibers. The products. It is also used for building and construction materials and also in textile materials. Banana fiber is an environmentally friendly like a fiber and is demand in many countries like Japan, Germany, Australia and many. Banana is a fourth most important global food crop.

#### 2. Materials

#### 2.1.Cement

Cement is a binding material which possess very good and cohesive properties which make it possible to bond with other materials to form a compact mass. Ordinary Portland cement is the most commonly used cement for general engineering works. The specific gravity of all grades namely 33, 43 and 53 grades. In this project Ordinary Portland Cement of 53 grades is used for experimental work. Initial and final setting time of the cement was 30 minutes and 600 minutes.

#### 2.2.Fine aggregate

The fine aggregate used was locally available river sand without any organic impurities and conforming to IS: 383 – 1970. The fine aggregate was tested for its physical requirements such as gradation, fineness modulus, specific gravity and bulk density. A



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## EXPERIMENTAL STUDY ON PROPERTIES OF CONCRETE WITHPARTIAL REPLACEMENT OF CEMENT WITH RICE HUSK ASH

Thirunavukkarasu.K<sup>1</sup>,Hari Hara Sudhan <sup>2</sup>,Roshmi Deekshana.R<sup>3</sup>,Udayappan.B<sup>4</sup>

<sup>1</sup>Assistant Professor<sup>2,3,4</sup> B.E.Students <sup>1,2,3,4</sup>Department of Civil Engineering

<sup>1,2,3,4</sup>Akshaya College of Engineering and Technology, Coimbatore, Tamilnadu.

#### Abstract

In India rice milling produces a by product which is known as Husk. This husk is used as fuel in rice mills to produced steam for boiling process .This husk contain near about 75 % organic matter and the remaining 25% of this husk is modified into Ash during the firing process which know n as rice husk ash (RHA). The rice husk ash (RHA) contain near about 85 % to 90 % amorphous silica. By using rice husk ash in concrete , we can improve the properties of concrete . The current study and experimental investigation were taken to study the pro perties of concrete made with Rice husk ash . the replacement is done partially in the proportion of 0% ,20% and its effect on workability of concrete made with rice husk ash were investigated for the 20% rice husk ash replacement ,the hardened properties such as compressive strength observed were good as compare to 0 % RHA . The compressive strength at 20 % RHA replacement as compared to 0% RHA replacement at 14 ,21 and 28 days.

#### **1.0 INTRODUCTION**

The need to reduce the high cost of Ordinary Portland Cement in order to provide accommodation for the populace has intensified research into the use of some locally available materials that could be used as partial replacement for Ordinary Portland Cement (OPC) in Civil Engineering and Building Works. Supplementary cementitous materials have been proven to be effective in meeting most of the requirements of durable concrete and blended cements are now used in many parts of the world (Bakar, Putrajaya, and Abdulaziz, 2010). Various research works have been carried out on the binary blends of Ordinary Portland Cement with difeerent pozzolans in making cement composites (Adewuyi and Ola, 2005; De Sensale, 2006;

mortar and found that pozzolans with finer particles had greater pozzolanic reaction. This research work examined the use of Rice Husk Ash as partial replacement for Ordinary Portland Cement in concrete. It invoved the determination of workability and compressive strength of the concrete at different level of replacement.

#### 2. MATERIALS AND METHODS

#### 2.1 Materials

#### 2.1.1 Cement

Cement is a binding material which possess very good and cohesive properties which make it possible to bond with other materials to form a compact mass. Ordinary Portland cement is the most commonly used cement for general engineering works. The specific gravity of all



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## EXPERIMENTAL STUDY OF PARTIAL REPLACEMENT OF CEMENT AND COARSE AGGREGATE WITH FLY ASH AND COCONUT SHELL

Mukkannan.A<sup>1</sup>SwethaSaseendran.k<sup>2</sup> Vignesh kumar.V<sup>3</sup> ChandraMohan.R<sup>4</sup> <sup>1</sup>Assistant Professor<sup>2,3,4</sup> B.E.Students <sup>1,2,3,4</sup>Department of Civil Engineering <sup>1,2,3,4</sup>Akshaya College of Engineering and Technology, Coimbatore,Tamilnadu.

Abstract - Properties of concrete with partial replacement of coconut shell as coarse aggregate and fly ash as replacement of cement is studied. In this study M25 grade of concrete was made. Concrete mix of 10%, 20%, 30% and 40% replacement of coconut shell as aggregate and constant coarse replacement of 30% of fly ash were made. Water cement ratio of 0.45 was maintained for all the mix proportions. Properties like compressive strength, split tensile strength and flexural strength were studied at 7, 14, 28 days of curing period and results are analyzed and compared with the regular (conventional) mix. Test for grade as per specified procedure of IS codes. The materials are proportioned by their weight. The water cement ratio is obtained by conducting workability tests. The results found were comparable with that of conventional mix. The proportion used in this study is 1:1.49:3.03 and water cement ratio is 0.47.

#### **1. INTRODUCTION**

Today due to the development of the infrastructure the need of concrete has been increased at high rate. Concrete is important construction materials that have been widely used all over the world. The use of concrete has been increasing day by day. Due to this some negative impacts are there in production of concrete such as coarse aggregate extraction from natural resources, scarcity of river sand it leads to depletion of materials and ecological imbalance. Various researches have been found that replacement for coarse aggregate. The use of plastic, paper and pulp industry waste, textile waste, rice ash, recycled rubber tyres, broken bricks are some examples for replacing aggregate in concrete. Coconut shell is an agricultural by product which can be used as coarse aggregate in concrete. According to report made in 2016 India is the third largest coconut producers in world. India produces of about 119 million tonnes of coconut every year. The coconut shells are accumulated in land and get degraded around 100-120years. Due to this, a serious environment problem of disposal of coconut

shells occurs. So to minimize this coconut shell can be used as aggregate in concrete. The main aim of this project is to study the strength of coconut shell concrete with different replacement percent. Also to attempt has been made to study the suitability of fly ash in concrete.

#### **1.1 AIM AND OBJECTIVE**

The aim of study is to evaluate the performance and suitability of coconut shell in concrete with as alternative for coarse aggregate.

To evaluate the compressive strength, split tensile strength, and flexural strength of concrete with replacement

The objectives of experimental study are:

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JCT College of Engineering and Technology, Combatore, Tamilnadu, India.

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Principal Dr G Ramesh

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Paper Title EXPERIMENTAL RESEARCH ON FORM CONCRETE USING FLYASH AND

REPLACEMENT OF SAND BY M-SAND





Principal Dr. G. Ramesh

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## Social Consciousness: Revenge and the Quest for Justice in Thomas Kyd's Play 'The Spanish Tragedy' And the Movie 'MOM'

2016-2017

6. Published Paper Front Page - P.Soundarya P. Soundarya,

AP/English, Akshaya College of Engineering and Technology, TamilNadu, India

*Abstract--* Revenge is as old as history and has been discussed and illustrated throughout literature, film, and conversation. The concept of revenge is an abstract idea to which anyone can relate. Kyd's play "The Spanish Tragedy" and the movie "Mom" is not just a revenge saga. It talks melancholy about parents' undying love. The play and film's pivot is the strained relationship between Hieronimo and Devki with their son and daughter respectively. Both tend on its emotional tug and struggle to contend with the moral quagmire of revenge and opt instead for the escape of pulp. This paper deals with parental love which makes them not only to find the justice for the victimized person of the family but also move towards the extreme end 'revenge' because of Ex post Facto that prevails around us even though it is prohibited.

"Revenge...is, in very large measure, an act of communication."<sup>1</sup>

This paper focuses on a movie and a play that depends on different genres. The work finds out the similarities in a few aspects. It deals about the movie MOM in which the director has portrayed the love and affection of the mother and revenge causing for abusing her step daughter. There is something deeply satisfying and visceral about watching rapists suffer. Throw in a castration as a violent method of retribution and the cheerleader in us is nudged awake. Mom, is about a parent who avenges the brutal gangrape of her teenage daughter in a moving vehicle which is designed to evoke those feelings.

Revenge is a private act carried out by individuals. Similar concept is seen in Thomas Kyd's play The Spanish Tragedy that shows the love and affection of the father and revenge taken for his son's death. It also focuses on the core themes of revenge and the problems of justice. The notion of revenge, as a desire for retribution, versus justice, which brings with it the burden of a legal, moral, or divine authority, is carefully explored within the context of Renaissance thought.

Vengeance movies are uniformly exploitative. They ignite and pander to the base instincts and primal impulses. These two stories show the similar pathways which people can understand by comparing both of them. The similar theme for both plots is revenge. The theme appears in many different aspects of the plot, with varying degrees of moral justification.

The most important character of the play is the avenger. Much attention is taken to create a perfect hero according to the need of the story. Hieronimo is the very first hero of English revenge tragedy. He is an elderly man, father of an eligible son Horatio. He is the Knight Marshal of the Spanish court and a man of high official. He is very well known as a judge. His innocent son is killed and in grief for his son, his wife commits suicide. He is left with nobody in life whom he would wish to live for. He actively avenges his son's murder and at the end commits suicide.

In contrast to Hieronimo, Sridevi in the movie Mom is compelling as Devki, the tormented mother of a rape survivor. Her angstridden step daughter Arya, played by Pakistani actress Sajal Ali, is equally in control of her role. She brings her troubled dynamic with her step mother who is eager to win over her affections, without much drama and fuss. The helplessness of those seeking justice after a crime like rape — often a reality in a country like India — is bitingly captured in the first half of the film. Sridevi attacks her role of a fierce mother who takes law and justice in her own hands with a rabid ferocity. The scene in which she breaks down emotionally on seeing her wounded daughter hooked to machines in a hospital is heart-achingly raw. It is the collective solid performance that makes the revenge drama delicious. In Mom, however, revenge is just the means to a familial end — a hug-kiss and to hear that three-letter word, 'Mom'.

As believed in Vindictamihi; "Vengeance is mine, sayeth the lord; I will repay." (Rom. xii. 19.) Meaning that, it is God's responsibility to take revenge against the wrongdoers, not of men. The research work brings out with a different opinion of the above by comparing the film and the play.

First, revengers in both stories come from within an intimate circle of family and friends; second, the desire for revenge is maintained, and the act of revenge is later justified, through story-telling within the circle. Crimes ostensibly committed against an individual affect those nearest to the injured party, particularly close friends and family. Consequently, the revenger almost always comes from one of these two groups. While the revenger obviously seeks to punish the wrongdoer, he or she cannot stop there, for punishment is not enough; the wrongdoer must understand that he or she is paying the penalty for a previous misdeed. In order to redeem the reputation of a wrong friend or family member and restore the family honor, the revenger must justify his or her actions by telling the victim's story publically. This account distinguishes the principled revenger from the common criminal. The focus of the paper on the act of revenge is carefully balanced with sympathy and the revengers' plight against the destructive nature.

This paper goes hand in hand with the words of Francis Bacon, "A man that studieth revenge, keeps his own wounds green, which otherwise would heal." I believe that exacting revenge is a form of emotional release and that getting retribution will help us feel better. Movies often portray the act of revenge as a way of gaining closure after a wrong. If the opportunity to get justice ever comes up, gladly take it.

## Childlessness: An Endless Stream of Taunts and Insinuations for Women in Comparison with the epic "Mahabharata" and the novel "One Part Woman"

<sup>1</sup>Mrs. S. Sreelatha and <sup>2</sup>Mrs. V. Brinda,

<sup>1,2</sup>Assistant Professor, English Department, Akshaya College of Engineering and Technology, Kinathukadavu, 2016-2017 Coimbatore, Tamil Nadu, India

#### 7. Published Paper Front Page - S.Sreelatha, V.Brindha

*Abstract:* Childlessness plays a significant role in the lives of every human being particularly in women's lives. This paper paves way to undergo how Kunti in the Indian epic "Mahabharata" and Ponna in the novel "One Part Woman" experience the inner dilemma, anxiety, frustration, detachment, self-condemnation, self-approval and restlessness due to their inability to beget children naturally. They both suffer physically, socially and psychologically whether expressed or unexpressed. The paper also deals with their psyche and the unnatural steps they have opted to be blessed with children.

#### Keywords: dilemma, trauma, barrenness & myth.

Literature is taken to the most inclusive of a community's very being. Its hopes, fears, aspirations, nightmares, visions and confusions in a medium capture the very contours of its soul. Indian English Literature is veritably a mirror to the Indian psyche.Indian literature, through its umpteen legends and folklore in prehistoric times, is today unanimously recognized and acknowledged as one of the oldest literatures in the world. Hindu literary traditions dominated a sizeable part of Indian culture. Apart from the Vedas which are considered the cardinal sacred of knowledge, there are other works exist to fulfill the Hindu written and oral custom. Today, Indian literature has reached the apse of creation with the contribution of regional and national writers. Fiction, an expression of the most intimate consciousness of life and society, form an impressive core of literature. It witnesses changes taking place in life and society, and these changes are reflected in the fictional world.

The great Indian epic *Mahabharata* is alive even in the present context because it is spoken widely. Most people in India, even those who cannot read or write would know the epic. During the period of *Mahabharata*, women are responsible for their family. As Achla Sharma describe women in her article *Status of Women: A Socio- Historical analysis in different Ages of Indian Society*, they "are the fate of the household, the lamp of enlightment for all the household". Women are also considered free minded and not worthy of trust. They are seen as an object of lust of men, to serve men and to provide them children.

Kunti is one of the most important characters in the epic. Her birth story goes as a girl is born to a Yadava monarch Raja Shurasena of Mathura. He names her '*Pritha*'. One day Shurasena's cousin Maharaja Kunti-Bhoja of Bhojpur, came to visit. When Kuntibhoja is returning, Shurasena too gets into the chariot and asks Pritha to accompany him to Bhojpur. Little Pritha does what she is told but she does not get a chance to bid adieu to her mother. Several days passes in Bhojpur and Shurasena instructs that the chariot be readied for departure. Before climbing into the chariot, Shurasena summons Pritha, and pointing to Kuntibhoja, he said: "*Prithe, you will stay here from today. He is your father and mother*". A tearful Pritha asked her father if she had made a mistake, to which he replied: "*Twelve years ago, when your uncle and I were returning from hunting, we stood near a river to relax. Kuntibhoja was distressed, and upon asking him the reason, he told me he was childless and there was nobody to take care of his kingdom. I promised him that I will give my first-born to him. I really love you Prithu, but I am a Kshatriya and I have to fulfill my promise.*" Her father leaves without another word and Pritha stands there, befuddled and scared. Kuntibhoja re-names Pritha after his name, and she is now princess Kunti, wife of Maharaja Pandu and Queen mother of the Pandavas. Transformation of Pritha to Kunti itself plays a significant role in emphasizing childlessness and its consequences in ancient India.

Kunti takes charge of the palace and is respected and adored in Bhojpur. One day sage Durvasacomes to perform 'Maha Yajna' in Bhojpur. Durvasa has a mercurial temperament and Kunti is entrusted with the responsibility to look after the eccentric sage, which she dutifully fulfills. Durvasa is pleased and so Kunti is given a 'mantra': "Whichever Shakti you think of while chanting this Mantra, that Shakti will appear before you in human form, fulfill your desire like a slave, and leave after filling your womb with a son as refulgent as himself."

Kunti's *Swayamvar* was held and she chose to marry Maharaja Pandu of Hastinapur. While hunting in the forest of Varanavat, he shoots an arrow at a deer coupling with his mate. When he approaches the animal, he finds that it is actually Rishi Kindama disguised as a deer. Kindama placed a curse on Pandu - that if he clasps his wife in the act of coition, he will die. He has been worrying about the curse. Due to the agony of childlessness, Kunti invokes the mantra given by Durvasa, and bears the children: 'Pandavas'.

The idea of the former is also witnessed in the novel "One Part Woman" originally written as "Madhorubagan" in Tamil by Perumal Murugan. The novel has bagged Sahitya Akademy Award for Translation in English by Aniruddhan Vasudevan. The novel offers an outlet to few peculiar social traditions and religious blindness along with fine nuances of love, marriage and sex. It also puts forth the very significant sociological realities that cannot be denied by venting the anger on its writer.

In One Part Woman, the author turns an intimate, crystalline gaze on a married couple in interior Tamil Nadu belonging to a particular community in which childlessness is brutally stigmatized. Kali and Ponna, land-owning farmers enjoy a completely

An Efficient Design of Low Power Speculative Han-Carlson Adder Using Concurrent 2016-17 8. Paper Publication Front page - Kamatchi

II ME - VLSI Design Akshaya College of Engineering and Technology Coimbatore, India

Abstract—The Binary addition is one of the mainly essential arithmetic function in VLSI systems. Adders are widely used in Integrated circuits. Adders are not only necessary for addition, but it also needs for subtraction. This paper presents a speculative Hon-Carlson adder uses speculation: the exact arithmetic function is substatuted with an astimated one that provides right result most of the time but not forever. The estimated adder is augmented with an error detection network that states an error signal when approximation fails. It is based on parallel- prefix topology and uses subtraction process. The aim of the proposed technique is that to reducing the power. Simulation can be performed using ModelSim SE 6.3f and Xilinx ISE 8.11 Tool.

Keywords-Addition, arithmetic, speculative adder, power.

#### I. INTRODUCTION

Adders are basic efficient units in computer arithmetic. Binary adders are extensively used in microprocessor for addition and subtraction processes as well as for floating point multiplication and division. Therefore adders are fundamental components and improving their performance is one of the main challenges in digital designs.

High speed adders are based on well established parallel-prefix architectures [1], [2], including Brent-Kung [3], Kogge-Stone [4], Sklansky [5], Han-Carlson [6], Ladner-Fischer [7], Knowles [8]. These standard architectures consume more power. Better performance can be achieved by using approximation circuits that have been recently proposed in literature [9]. Proposed adder uses speculation: the exact arithmetic function is substituted with an estimated one that gives the right result most of the time, but not forever. The approximated adder is augmented with an error detection network that states an error signal when approximation fails. In this case (misprediction), another clock cycle is needed to obtain the right result with the help of a correction S.Kamatchi

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stage. The paper is planned as follows. In section II we recall Literature review. In section III we will describe the existing speculative HCA in detail. In section IV we will describe the proposed speculative HCA using concurrent subtraction in detail. Section V shows simulation results. Conclusion is given in section VI. Future work is given in section VII.

#### **II. LITERATURE REVIEW**

#### A. Kogge-Stone Adder

Kogge-Stone Adder (KSA) is a parallel-prefix structure of carry look ahead adder. KSA was introduced by P. M. Kogge and H. S. Stone [4] in 1973. Fig. 1 shows 16-bit KSA is a speedy adder design as it makes carry signal in O(log2 n) time and has the best performance in VLSI implementations. The work is generally focused on design time. It takes more area to implement than Brent-Kung adder but has lesser fan-out and wiring congestion is often a problem.



#### B. Brent-Kung Adder

Brent-Kung Adder (BKA) was introduced by R. P. Brent and H. T. Kung [3] in 1982. BKA has greatest logic depth, minimum area and avoid blast of wires. The work is commonly focused on area

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## 2016-179. Paper Publication Front page - Gladwin Moses

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#### PAPER PAGE

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### DESIGN AND ANALYSIS OF VEDIC MULTIPLIER USING COMPRESSOR, 5-T AND 6-T ADDERS IN 45nm TECHNOLOGY

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Abstract- In recent existence, law power design has become one of the primary focuses for digital VLSI Circuits and Communication Applications. It is known fact that multiplier unit forms an integral part of a processor design. To survive up with the arising need, a nevel low power eight bit Vedic Multiplier design is preposed. This project deals with performing low area and high speed multiplication using Vedic mathematics techniques. A new approach utilizing 4:2 compressor, 5:2 compressor and 7:2 compressor for addition has been incorporated and explored. The compressor based multiplier is faster than the popular methods of multiplication. Combining the Vedic Sutra- Urdhwa Tiryakhhyam and efficient compressors, multiplier architecture has been achieved. Power consumption has emerged as another primary design constraint in the multiplier design. The adder circuits in the compressor module are auxiliary redesigned using transistor logic. A 5-T Half adder using 3-T XOR gate and 2-T AND gate is designed and similarly a 6-T Full adder is designed using 2-T EX-NOR Gate and 2-T AND Gate. The designed full adder and half adder circuit is placed in compressor module and the multiplier architecture with low power, reduced area and also with high speed a designed and projected. The proposed work is simulated in Virtuoso platform of Cadence tool with the supply voltage 1.8V and frequency of 100MHz.

Key words: Urdhwa Tiryakhhyam sutra, 4:2 compressor, 5:2 compressor, 7:2 compressor, 3-T XOR gate, 2-T AND gate, 2-T EX-NOR gate, 5-T half adder, 6-T full adder

#### I. INTRODUCTION

Area optimization, less power consumption and performance of Multiplier is the main domain of concern in the field of VLSI Design. While using computers and smart phones sometimes we face a situation where the device (hangs) stops responding. One of the reasons behind it is processor speed that trotivated us to go for a high speed multiplier design. Multiplier in particular application processors like Digital Signal Processor (DSPs) improves the speed of operation since the entire signal and data processing operations engage multiplication. Multiplication plays a vital role in DSP applications (like DFT, convolution, FFT etc.), Arithmetic and logic unit (ALU), and Multiply and Accumulate (MAC) unit. High Speed Multiplication thus becomes a necessity to increase the performance of processor.

Quite a few multipliers have been designed and proposed over last few decades but for multiplication these designs need several intermediate stages to calculate the final result due to which critical path length increases hence cause more delay. Moreover, the intermediate stages need additional hardware which becomes reason for increased area and power consumption. In a new approach for multiplier design based on Vedic Mathematics is explored to overcome these disadvantages. Vedic Mathematics is an ancient and prominent approach that serves as base to solve many mathematical challenges experienced nowadays. Swami Bharati Krishna Tinhaji Maharaja (1884-1960), a popular mathematician rediscovered and segregated ancient Vedic mathematics into 16 simple sutras (formulae) that are related to Arithmetic, Algebra, Geometry, Trigonometry, Analytical Geometry etc. These sutras are very simple and hence can be applied in various fields of engineering like computing, Signal Processing and VESL

In Vedic mathematics approach the partial products are calculated well in advance, even before the beginning of actual operations of multiplication. Then the final product is obtained by adding these partial products according to Vedic algorithm. This approach in turn provides a very high speed multiplication In this poper, we introduce modified compressor based multiplier architecture. This modified structure use the 4:2 compressor, 5:2 compressor and 7:2 compressor architectures to construct 8-bit multiplier using Vedic Mathematics (Urdhva Tiryngbhyam sutra).Use of compressors instead of half adders and full adders help to improve the speed as well as reduce the area. Compressors, are logic circuits capable of adding more than 3 bits at a time with a lesser gate count and higher speed in contrast with an equivalent fall adder circuit. In order to achieve low power the full adders and half adders in compressor unit is designed using transistors.

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10. Paper Publication Front page - Dr.J.Jaya

3" International Conference on Current Trends in Engineering and Technology 2016

PAPER PAGE Analysis of various PAPR reduction techniques of OFDM system S.Anu

#### ANALYSIS OF VARIOUS PAPR REDUCTION TECHNIQUES OF OFDM SYSTEM

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Abstract. The OFDM technique is an attractive modulation technique for transmitting large amounts of data over radio waves. One major drawback of OFDM is that the time domain OFDM signal which is a sum of several sinusoids leads to high peak to average power ratio (PAPR). In the paper, the combination of Companding transform, Amplitude clipping and filtering, Partial transmit sequence (PTS) technique, Selected Mapping technique (SLM) and Hadamard transform techniques are proposed to reduce peak-toaverage of OFDM signal for 64 subcarriers. Significant PAPR reduction and good performance in the BER is expected from the proposed system when compared to other PAPR reduction techniques. We use MATLAB software to analyze the system. The performance of the system is analyzed from BER vs. SNR graph. PAPR reduction is analyzed using Complementary Cumulative Distribution Function (CCDF) plots.

#### Keywords-PAPR, OFDM, CCDF, SLM, PTS

#### LINTRODUCTION

Orthogonal Division Frequency Multiplexing is a well-known modulation scheme that is used in wireless LAN standards like 802.11a, g, HYPERLAN/2 and in the Digital Video Broadcasting standard (DVBT). It is also used in the ADSL standard, where it is given as Discrete Multitone modulation. OFDM modulation divides a broadband channel into many parallel sub channels. This makes it a very well-organized scheme for transmission in multipath wireless channels. The use of an FFT/IFFT couple for modulation and demodulation make it efficient as well. The transmitted signals appear at the receiver after being distorted from many objects. Sometimes the reflected signals add up in phase and sometimes they add up with phase causing a "fade". This causes the expected signal strength to fluctuate constantly. Also, different sub channels are distorted differently. An OFDM receiver has to identify the channel and correct these distortions on each of the channels before the transmitted data can be obtained. OFDM is effective in correcting such frequency selective distortions. OFDM has many advantages when compared with other transmission techniques. One such advantage is

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high spectral efficiency that is calculated in bits/see/Hz. The "Orthogonal" part of the name is referred to a precise mathematical relationship between the frequencies of the sub channels that provides the OFDM system. Each of the frequencies is an integer multiple of a fundamental frequency. This secures that even though the sub channels overlap they do not interfere with each other.

OFDM is Multicarrier Transmission schemes that partition the available spectrum into many carriers each one being modulated by a low data rate stream. OFDM is same as Frequency Division Multiple Access (FDMA) in which the multiple user access is determined by partitioning the available bandwidth into multiple channels, which are then allocated to users. The bandwidth of each channel is typically 10-30 kHz. The allocated bandwidth is made wider than the minimum amount required to prevent channels from interfacing with one another. This extra bandwidth is to allow for signals of neighboring channels to be processed out and to allow for any drift in the center frequency of the transmitter or receiver. In a standard system up to 50% of the total spectrum is wasted due to the extra spacing between channels. This problem becomes inadequate as the channel bandwidth becomes narrower and the frequency band increases. In order to implement the traditional parallel data transmission by FDM, a guard band must be introduced between the different carriers to eliminate the inter channel interference.

#### ILPAPR REDUCTION FOR A MULTI-CARRIER SIGNAL

One of the major drawbacks of any Multi Carrier Modulation (MCM) system, which is often an obstacle to its use, is the fact that the signal has a varying envelope, i.e. it exhibits peaks whose power strongly exceeds the mean power and the signal is meant to have high PAPR. This prevents use of highefficiency amplification devices (High Power Amplifiers, HPA), which exhibit deep nonlinearities that give rise to intermodulation products; the latter causes band distortion and increases Out-Of-Band

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