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

S. NO.	Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal /Digital Object Identifier (doi) number		
							Link to website of the Journal	Link to article / paper / abstract of the article	Is it listed in UGC Care list
1	Rigid Triaxial Rotor Model Description of γγ-Band in Some Even Nuclei	Moti Singh	ASHU	Physics of Particles and Nuclei Letters, Springer	2021	1547-4771		https://doi.org/10.1134/S154747712202011X	Yes
2	Using Waste Polymer for Soil Stabilization	Taranpreet Kaur	CE	International Journal of Innovative Science and Research Technology	2021				Yes
3	Soil Stabilization Using Plastic Chips, Granules & Sugarcane Bagasse Ash Mixture	Arvind Kumar	CE	International Journal for Research in Applied Science & Engineering Technology (IJRASET)	2021	ISSN: 2321-9653			Yes
4	Comparison of Concrete made through TSMA using Metakaolin and GGBS vs Normal Concrete made through NMA	Anuj Sharma	CE	International Research Journal of Engineering and Technology (IRJET)	2021				Yes
5	Dynamic Analysis of G+15 Multi-storied RCC Commercial Buildings with Different Plan Configuration in Seismic Zone V using ETABS 2018	Anuj Sharma	CE	International Research Journal of Engineering and Technology (IRJET)	2021				Yes
6	Evaluation on Risk Assessment on Indoor Air Pollution: A Case Study of Delhi-NCR Region	Tarun Kumar	CE	Community Based Research and Innovations in Civil Engineering , IOP Conf. Series: Earth and Environmental Science 796 (2021) 012055	2021	IOP Conf. Series: Earth and Environmental Science 796 (2021) 012055		doi:10.1088/1755-1315/796/1/012055	Yes
7	Influence of Incorporating Industrial Byproducts/Wastes on Mechanical Properties and Durability Characteristics of Self-Consolidating Concrete: A Review	Rajesh Kumar Sharma, Saurav Yadav	CE	Recent Trends in Industrial and Production Engineering, Springer	2021	ISBN: 978-981-16-3330-0		https://link.springer.com/chapter/10.1007%2F978-981-16-3330-0_16	Yes
8	Load frequency control of a microgrid employing a 2D Sine Logistic map based chaotic sine cosine algorithm	Bhuvnesh Khokhar	EE	ELSEVIER	2021	1568-4946		https://doi.org/10.1016/j.asoc.2021.107564	Yes
9	An Application of Analytical Hierarchy Process in Selection of Coating Material Composition in Lost Foam Casting Process	Gagan Varshney	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012010	Yes
10	An Application of Analytical Hierarchy Process in Selection of Coating Material Composition in Lost Foam Casting Process	Syed Qaisar Husain	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012010	Yes
11	An Application of Analytical Hierarchy Process in Selection of Coating Material Composition in Lost Foam Casting Process	Avinash Ravi Raja	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012010	Yes
12	An Application of Analytical Hierarchy Process in Selection of Coating Material Composition in Lost Foam Casting Process	Girendra Bhati	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012010	Yes
13	Application of thermal spraying process in advancement of welding Technology	Syed Qaisar Husain	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012021	Yes
14	Application of thermal spraying process in advancement of welding Technology	Gagan Varshney	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012021	Yes
15	Application of thermal spraying process in advancement of welding Technology	Girendra Bhati	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012021	Yes

16	Application of thermal spraying process in advancement of welding Technology	Avinash Ravi Raja	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012021	Yes
17	Estimation of temperature during TIG welding of titanium	Avinash Ravi Raja	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012023	Yes
18	Estimation of temperature during TIG welding of titanium	Anuj Dixit	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012023	Yes
19	Estimation of temperature during TIG welding of titanium	Syed Qaisar Husain	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012023	Yes
20	Estimation of temperature during TIG welding of titanium	Gagan Varshney	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012023	Yes
21	High-efficiency thermodynamic cycles for Kalina power generation systems: A comprehensive review	Alok Manas Dubey	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012030	Yes
22	Optimization of FDM 3D printing process parameters using Taguchi technique	M S Rawat	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012022	Yes
23	Optimization of FDM 3D printing process parameters using Taguchi technique	Kapil Kumar	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012022	Yes
24	Optimization of FDM 3D printing process parameters using Taguchi technique	Kumar Rishi Singh	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012022	Yes
25	Heat Transfer Analysis And Optimisation Of 2-Wheeler Engine Cyclinder Head Fins Using FEA	Avinash Ravi Raja	ME	IOP Conf. Series: Materials Science and Engineering	2021	1757-899X		doi:10.1088/1757-899X/1168/1/012012	Yes
26	Designing E-learning Portal: How Academics come efficiently into Practice	Shipra Srivastava	IT	IJCRT	2021	2320-2882		https://ijcrt.org/viewfull.php?&p_id=IJCRT2106487	Yes
27	Lightweight Cloud Storage Auditing With Deduplication Supporting Strong Privacy Protection	Shipra Srivastava	IT	IJCRT	2021	2320-2882		https://www.ijcrt.org/papers/IJCRT2103474.pdf	Yes
28	Used car price prediction	Ramveer Singh	IT	IJARIIT	2021	2454-132X		https://www.ijariit.com/manuscript/used-car-price-prediction/	Yes
29	Used car price prediction	Shipra Srivastava	IT	IJARIIT	2021	2454-132X		https://www.ijariit.com/manuscript/used-car-price-prediction/	Yes
30	Next Generation AI based Virtual	Shipra Srivastava	IT	IJRASET	2021	23219653		https://www.ijraset.com/fileserve.php?FID=33663	Yes
31	GANAKA: WEB BROWSER	Shipra Srivastava	IT	IRJET	2021	2395-0056		https://www.irjet.net/archives/V8/i7/IRJET-V8I7327.pdf	Yes
32	Security and Automation using Raspberry Pi and Arduino for Home	Shipra Srivastava	IT	IRJET	2021	2395-0056		https://www.irjet.net/archives/V8/i7/IRJET-V8I7232.pdf	Yes
33	A Novel Approach Based on EMD to Improve the Performance of SSVEP Based BCI System	MUKESH kUMAR OJHA	ECE	Wireless Personal Communication	2021	2455–2467		https://doi.org/10.1007/s11277-021-08135-6	Yes
34	An explicit output current-mode quadrature sinusoidal oscillator and a universal filter employing only grounded passive components- A minimal realization	Shiv Narain Gupta	ECE	Advances in Electrical and Electronic Engineering	2021	ISSN 1804-3119 (Online)		10.15598/aeee.v19i3.4121	Yes
35	Big Data Security Problem and Its Solution	Anuranjan Misra	CSE	International Journal of Engineering and Advanced Technology (IJEAT)	2021	2249-8958		https://www.ijeat.org/	Yes
36	Importance of Security in Big Data Log Files on Cloud	Anuranjan Misra	CSE	International Journal of Engineering and Advanced Technology (IJEAT)	2021	2249-8958		https://www.ijeat.org/	Yes
37	Queing Theory: Effective and Efficient Tool to Reduce the Waiting Time in Hospital	Shikha Srivastava	ASH	International Journal of analytical and experimental modal analysis	2021	ISSN NO:0886-9367		DOI:18.0002.IJAEMA.2021.V13I6.200001.015685903002	Yes
38	Queing Theory: Effective and Efficient Tool to Reduce the Waiting Time in Hospital	Renu Kaushik	ASH	International Journal of analytical and experimental modal analysis	2021	ISSN NO:0886-9367		DOI:18.0002.IJAEMA.2021.V13I6.200001.015685903002	Yes
39	IMPACT OF COVID – 19 ON INDIAN EDUCATION SYSTEM: A STUDY WITH SPECIAL REFERENCE TO GREATER NOIDA SCHOOLS AND COLLEGES	Renu Kaushik	ASH	International Journal of analytical and experimental modal analysis	2021	ISSN NO: 0886-9367		DOI:18.0002.IJAEMA.2022.V14I05.200001.015685971377	Yes
40	IMPACT OF COVID – 19 ON INDIAN EDUCATION SYSTEM: A STUDY WITH SPECIAL REFERENCE TO GREATER NOIDA SCHOOLS AND COLLEGES	Shikha Srivastava	ASH	International Journal of analytical and experimental modal analysis	2021	ISSN NO: 0886-9367		DOI:18.0002.IJAEMA.2022.V14I05.200001.015685971377	Yes
41	EFFECT OF QUEUING THEORY APPLICATION: WITH SPECIAL REFERENCE OF BANKING SECTOR	Renu Kaushik	ASH	International Journal of analytical and experimental modal analysis	2021	ISSN NO:0886-9367		DOI:18.0002.IJAEMA.2021.V13I8.200001.01568590499	Yes

42	Study of mechanical properties of pultruded Jute-glass reinforced unsaturated polyester bio- composites with hybrid filler loading	Navin Kumar	ME	World Journal of Engineering	2021	ISSN: 1708-5284		https://www.emerald.com/insight/content/doi/10.1108/WJE-04-2020-0127/full/html	Yes
43	Tribological characterization of pultruded hybrid glass-jute fibre reinforced plastic composites from room tempearture to 75.C	Navin Kumar	ME	World JournalofEngineering	2021	ISSN: 1708-5284		https://www.emerald.com/insight/content/doi/10.1108/WJE-03-2021-0147/full/html?utm_source=rss&utm_medium=feed&utm_campaign=rss_journalLatest	Yes
44	parametric optimization of friction stir processing on micro hardness of Al/B4C composite	Kapil Kumar	ME	International Journal of Materials Research	2021	ISSN: 2195-8556		https://doi.org/10.1515/ijmr-2020-8027	Yes
45	Scheduling in Fog Computing: A Survey	Navin Kumar	ME	Design Engineering	2021	ISSN:0011-9342			Yes
46	Study on Effect of variation of Geographical and Climatic Conditions on Chemical Constituents and Biological Activity of Emblica officinalis	Dipti Bharti	AS	Research Journal of Chemistry and Environment	2021	9720626			Yes
47	PM2.5 AND PM10: EXISTANCE, TREATMENT AND PROBLEMS	Anuj Sharma	CE	Journal of Emerging Technologies and Innovative Research (JETIR)	2021	2349-5162			Yes
48	Semiconductor devices	Dr. Dhiraj Gupta, Nikhil Gupta	EE	Journal of Innovative Science and Research Technology	2021	2456-2165	https://www.ijlsrt.com		Yes
49	Vehicle Accident Spotting and Rescue System using Internet of Things	Nikhil Gupta	EE	International Research Journal of Engineering and Technology (IRJET)	2021	2395-0056	https://www.irjet.net		Yes

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PHYSICS OF ELEMENTARY PARTICLES AND ATOMIC NUCLEI. THEORY

Rigid Triaxial Rotor Model Description of γγ-Band in Some Even Nuclei

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Abstract—The odd-even staggering (OES) in γγ-band in rigid triaxial rotor model (RTRM) is investigated at different asymmetry. It is found that the OES in γ-band and γγ-band obtained from rigid triaxial rotor model (RTRM) are different with some details, essentially, they are similar: both of them are constant for an axial rotor and staggering appears in same phase for a rotor with large triaxial deformation. The onset of zigzag behavior of staggering indices $S(I)$ in γγ-band appears from $S(8)$ at $\gamma = 25°$ however, in γ-band from $S(8)$ at $\gamma = 15°$. Thus, similar OES curve in theory and experiment at specific asymmetry for an individual nucleus in γγ-band may be the criterion to distinguish γ-rigid or γ-soft structure of nucleus, not the alternate positive and negative values of $S(I)$. The experimental OES in γγ-band for some even nuclei is calculated and compared with rigid triaxial rotor model predictions and their structure has been commented.

Keyword: odd even staggering, rigid triaxial rotor model, γ-rigid, γ- and γγ-band

DOI: 10.1134/S154747712202011X

1. INTRODUCTION

In past few decades, extremely rich experimental data have been accumulated in low-lying nuclear spectroscopy. Recently the large and efficient gamma-ray detector arrays are used which make a remarkable progress in the experimental yielding of many high spin states in nuclei including a fresh appearance of γγ-band, besides the usual ground state band and γ-band spectrum [1–12]. The first experimental information about the γγ-band was reported in ^{168}Er using a high resolution γ-ray spectroscopy following the neutron capture reaction [1]. However, Warner et al have given the first theoretical analysis using the interacting boson model with s and d bosons [13], thereafter; various theoretical approaches have been used to analyze the γγ-band that are nicely discussed by Masayuki Matsuzaki [14]. Yang Sun et al have applied the triaxial projected shell model to ^{166}Er and ^{168}Er nuclei to investigate the multi phonon gamma vibrational band commonly known as γγ-band in the literature [15]. In this model, the shell model diagonalization is carried out in a deformed basis with triaxiality and this model gives the states of γγ-band in kinematical manner similar to Davidov–Filippov's model [16]. The inclusion of the fixed triaxiality in the projected shell model (PSM) for triaxial nuclei not only improves the ground state band moments of inertia but also a realistic γ-band appears [17]. With the same fixed triaxial parameter, the single diagonalization of Hamiltonian with deformed basis produces the higher lying γγ-band. These studies indicate the role of static triaxiality in reproducing the ground state and γ-band along with the γγ-band in transitional nuclei. Modified soft rotor formula (MSRF) has been found successful exposing the rotational character of nucleus reproducing the energies of ground state and γ-band along with the γγ-band [18]. Therefore, the rigid triaxial rotor model is used in which all the three bands i.e., ground state, γ and γγ-band appears due to rotation of rigid nucleus in a natural way.

In the present work, we shall investigate whether more than a half century old prediction on the existence of γγ-band has become a reality. We shall evaluate the values of energy levels for the observed spectrum within the framework of rigid triaxial rotor model and compare them with the experiment just to explore whether the γγ-band is an outcome of rotation of rigid nucleus along with the ground state and γ-band in some even-even nuclei under consideration. The energies predicted in RTRM are large as compared to the experiment due to different effects like centrifugal stretching and Coriolis Effect [19]. Earlier, the high-energy values predicted in RTRM for ground state and γ-band in $A \approx 100$ and $A \approx 130$ mass regions

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Using Waste and Polymer for Soil Stabilization

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Abstract:- Soil stabilization is a technique for improving and refining engineering qualities. Expansive clay soils are those whose volume fluctuates as the amount of water in the soil changes. In civil engineering, soil is one of the most regularly encountered materials. When constructions are discovered atop expanding soil, geotechnical engineers all over the world face major challenges. Stabilization of soil is the process of enhancing soil strength by artificial means. They have a tendency to inflate and shrink, posing a major threat to anything placed on top of them. The results of an attempt to fortify and stabilize clay soil with plastic strips are presented in this research. The plastic strips were produced and added in three different aspect ratios and three different mixing ratios (0.4%,0.8%,1.5%) by weight (4mm x 7mm, 8mm x 14mm,12mm x 18.5mm). The experimental findings revealed that shear strength parameters improved significantly. The soil's swelling and desiccation cracking tendencies were also significantly reduced. The optimum moisture content was reduced significantly, but the maximum dry density increased little. Based on the importance of the selection criterion for a specific engineering activity, the ideal plastic size (aspect ratio) and plastic content that produces the best outcomes can be chosen. The difficulties are solved concurrently by stabilizing vast soils using waste plastic bottles. The findings of this study point to the possibility of using this material in expanding soils to increase ground stability in geotechnical engineering.

Keyword:- *Clay Soil, Plastic Strips, Plastic Powder, Soil Stabilization, CBR Test.*

I. INTRODUCTION AND MATERIAL USED

A strategy for improving the qualities of poor soil is soil stabilization. Mechanical strength, permeability, compressibility, durability, and plasticity are only a few of these characteristics. Polymers interact with clayey particles in the soil, increasing soil strength. Many of the polymers currently in use have the ability to improve the soil's water retention and shear strength. Building on expansive soils necessitates stabilization to prevent swelling and increase mechanical capacity. Soil stabilization is the process of enhancing the soil's engineering qualities and making it more stable. It is used to reduce unqualified soil properties such as permeability and consolidation potential while enhancing shear capacity. The approach is most commonly used in highway and airport construction projects. Compaction and pre-consolidation are commonly employed to improve types of soils that are already in good shape. Soil stabilization goes a long way in encouraging the use of weak soil and reducing the cost of weak soil renewal. PET bottles are common plastic bottles. Waste, soft drinks, liquid snacks, and a variety of other beverages are packaged in them. Their disposal is becoming more challenging as their demand grows. In nature, waste PET bottles take a long time to degrade (more than a hundred years). Recycling and using these plastic bottles to stabilize expansive clay soil are positive steps forward, and the construction industry is an ideal choice due to its enormous consumption capacity. This will be a good way to clean up and preserve the environment from discarded plastic bottles. Adding plastic strips to the floor as a stabilizer increased shear strength, tensile strength, and California bearing ratio.

II. MATERIAL AND METHOD

A. Materials

This study used two materials: a representative clay soil rectangular PET bottle strip and a representative virgin soil rectangular PET bottle strip. The strips were made from scrap plastic bottles found in the neighborhood. After collecting, the bottles were cleaned properly and manually sliced into three different sized strips (figure 1), with the strip sizes listed in Table 1.

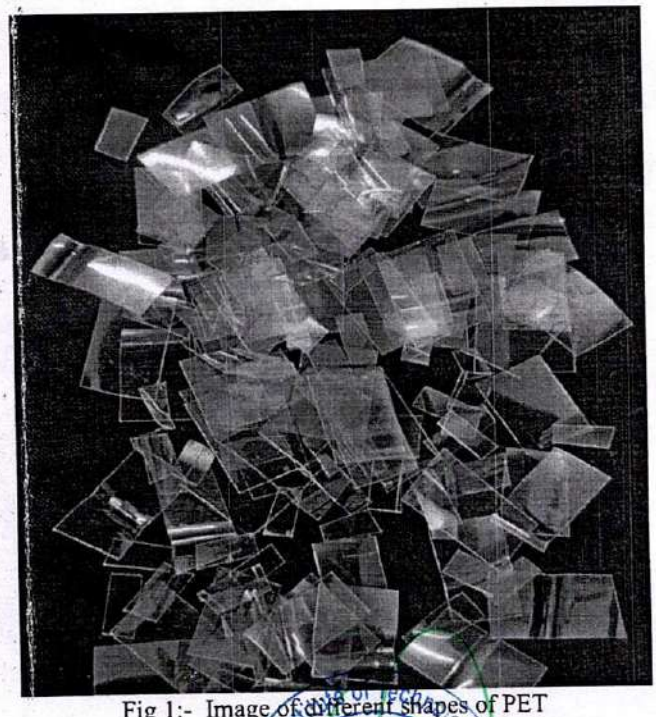

Fig 1:- Image of different shapes of PET

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Soil Stabilization Using Plastic Chips, Granules & Sugarcane Bagasse Ash Mixture

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Abstract: ***Soil is mainly the foundation of structure, that actually supports the structure from its beneath and hold it for a life long time and spread the load uniformly. If the stability of a soil would not be proportionate enough to hold or to support the structure then the chances of the breakdown of the structure might occur in the true form of its settlement and development of cracks. So, the soil stabilization will help in enhancing the shear strength of the soil as well as it enhancing the shrinkage and swelling properties of soil. It will also help in increasing the load bearing capacity of our soil in support of foundations and pavements. Soil stabilization can also be done by using the various admixtures such as lime, fly ash, cment etc. but in present day, these admixtures happen to be more expansive to be use as soil stabilizing mixture. So this problem is demanding an alternative solution in making the soil stabilizing process cheap and economic by using wastes as a stabilizer.This research work present the use of excess waste generated in our present and make it hazardeous. India generates nearly around 2600-2700 tons of plastic wastes everyday which is seriously one of the major problems not too for the India but also for the whole world. The harmful gases being generated by the various plastics such as furnace, dioxin, mercury e.t.c. into the open atmosphere and have a threat to our vegetation, humans life and animals as well. In the past recent years, the researchers from the various fields have attempt their best to solved the ecological problems occurred by plastic. But our major motive of this project is to properly analyse the potential capabilities of using plastic types as a stabilizer as well as sugarcane bagasse and its ashes. Bagasse ash as we all know, spread generally over the farms and dumped in ponds which causes severe environmental problems and also many researchers stated that ashes being dumped in the open workplace exposure can cause chronic lung infections. So there is seriously a major concern to reuse the sugarcane bagasse ash. This new techniques of soil stabilization could be essentially meet the various challenges in terms environmental concern. Plastic wastes being converted into chips will be used as a reinforcement in stabilizing the soil. So recommendation of using plastic waste and bagasse ash as a soil stabilizer will reduce the problem of disposing wastes and also helps to reduce the environmental problems.***

Keywords: ***Soil stabilization, Soil, Plastic waste, Plastic waste granules, Sugarcane bagasse ash, CBR, UCS, DST, Enviromental concern.***

I. INTRODUCTION

In India, during the modern time period of soil stabilization, which has begun in the early 1970s. with an actual deficiency of aggregates and petroleum compounds, It has become requisite for the engineers to overlook the matter to improve the soil other than thinking of substituting the poor quality soils at the construction or building constructing sites. The Soil stabilization used to adopted in early times but due to the shortage of methods and moreover due to the unavailability of proper techniques and accurate methods, soil stabilization has lost its favour. In recent times, with the rapidly increase in the demand for modern infrastructure, fuels and some of the raw materials, the soil stabilization then started coming back into its existence. But, with the presence of betterment of research, varieties of specified materials as well as equipments, these all emerge as the cost effective method for the improvement of weak soils. Here, in this specfied work, the soil stabilization, that has been performed with the help of the randomly accumulated plastic wastes being converted into chips and a granule like shapes by the help of plastic machine cutter and sugarcane bagasse ash to the improvement of the shear strength parameters, compactive effort and to endure the bearing strength of the poor soil.So, soil stabilization can be applicable on the highway embankments, earthen bunds, soil under footing, retaining walls, as well as layers of subgrade soil. Soil stabilization using some fibres was the first explained by the researcher Heni Vedal in 1996, which has include in his study about the introduction of the materials which is tensile in nature to be added into the soil mass to improve the strength behaviour and its properties like stability, bearing capacity and deformation. Technically, we aware that the tensile strength of the soil mass is almost negligible whereas, soil has higher compressive strength comparatively to it, it is limited by the shear resistance of the soil.

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COMPARISION OF CONCRETE MADE THROUGH TSMA USING METAKAOLIN AND GGBS Vs NORMAL CONCRETE MADE THROUGH NMA

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Abstract - *The manufacture and use of sustainable materials, via disposal or reuse/recycling, can be done in a way that preserves the environment, creates no ecological imbalances, has no negative effect on human health, and can be done for a long time without sacrificing productivity. The use of recycled aggregate in concrete may help to preserve the environment. By separating the mixing process into two phases, a novel concrete mixing technique was developed to improve the quality of recycled aggregate concrete.*
This article presents two modified mixing techniques that differ from the two-stage mixing strategy in that they balance cement components with the amount of RA added in the second mix, which is referred as the two-stage mixing approach. Metakaolin and GGBS were also utilized to enhance concrete characteristics such as compressive strength, flexural strength, and permeability in a two-stage mixing process. After that, the results of concrete produced using the Two Stage Mixing Approach and concrete prepared with the Normal Mixing Approach were compared.

Key Words: Recycled Aggregate, Ground Granulated Blast Furnace Slag, Metakaolin, Two Stage Mixing Approach, Normal Mixing Approach

1. INTRODUCTION

Construction is the backbone of infrastructure development. Concrete, which is an essential building element, is the world's second-most-used item after water. Natural resources, such as stone, aggregate, sand, and water, are the basic ingredients of concrete, implying that this sector degrades these environmental assets. Moreover, aggregate quarrying and transportation contribute to environmental imbalance and pollution. Since World War II, recycled aggregates (RAs) from waste (CDW) have been utilized.

High recycling rates have been reached in a number of nations, especially in Europe, including the Netherlands, Denmark, and Germany, among others. This has been aided by those countries' comparatively low natural resource reserves, which have been converted to construction materials, or by the development of strict environmental legislation. These variables have allowed RA to be used in real construction applications, albeit with significant constraints, such as in-road pavement layers, embankments, and earth-filling activities.

Limits on the replacement ratio reflect empirically established impacts of recycled aggregate on concrete in previous research projects. Indeed, the quality of the aggregates determines the primary technical issues that arise when recycled aggregates are used. The compressive strength, flexural strength, and water permeability of concrete prepared with NMA and TSMA are compared in this research. The idea of the use of recycled material in concrete is not new; worldwide research has been carried out on recycled aggregates. However, recycled aggregates in India have failed to acquire momentum in the production of high-strength concrete.

2. LITRATURE REVEIW

2.1

In this paper, Sandeep Uniyal (2014) will describe two criteria that have been used to measure the compressive and flexural strength of concrete prepared using the two-stage mixing approach (TSMA). These parametric parameters are compared to traditional concrete with a percentage of recycled coarse aggregates (RCA) and fly ash variation. The results of this study show that concrete manufactured with 25% and 50% RCA substitution and 10% fly ash addition using TSMA has higher compressive and flexural strength for both 7 and 28 day strength than the comparable nominal concrete specimen made by NMA.

2.2

This experimental work, credited to Santosh Kumar and Sonu Pal (2017), focuses on the pre-soaked slurry two-stage mixing approach (PSTSMA) for getting the greatest mechanical properties. In the M40 concrete grade, recycled aggregate was employed as a 30 percent, 50 percent, and 100 percent replacement for natural aggregate. When compared to the Normal Mixing Approach, the PSTSMA approach improves the strength of recycled aggregate concrete by up to 6.35 percent at 28 days (NMA).

2.3

By a two-stage mixing approach Dr. Vanita Aggarwal (2014) did a modified mixture involving recycled coarse aggregates (RCA) and fly ash to increase the proportioning of the ingredients. Results from the experimental analysis were presented which showed changes in compressive strength. As a result of the porous nature of RA and the premixing process, TSMA has improved the strength of RAC. This can be

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Dynamic Analysis of G+15 Multi-storied RCCCommercial Buildings with Different Plan Configuration in Seismic Zone V using ETABS 2018

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Abstract:

Buildings in present scenario are having asymmetry in both in plan and elevation, which may subject to hazardous seismic ground vibrations causing collapse of building structure. Therefore, it is required to find out the behavior of the structures to survive against seismic forces in order to prevent the loss of life. This paper looks at the study of seismic response of the buildings with six different plan configurations. Response Spectrum Analysis has been carried out for six G+15 multi-storied RCC commercial buildings with different plan configuration (Rectangular, L, I, O, T and U) in seismic zone V using ETABS 2018 software. The analysis is carried out as per the latest Indian seismic code 1893(Part-1):2016"Criteria for Earthquake Resistant Design of Structures". The responses obtained for each structure are compared. It is observed from the results that, all the buildings exceed the permissible limit for drift by about 36% and permissible limit for displacement by about 96%. Furthermore, the irregular shapes buildings (L, I, T and U) shows poor performance than regular buildings (Rectangular and O); U-Shape building is the worst among all.

Keywords— ETABS, Response Spectrum, Storey Displacement, Storey Drift, Storey Shear, CM Displacement, Storey Overturning Moment, CM and CR.

I. INTRODUCTION

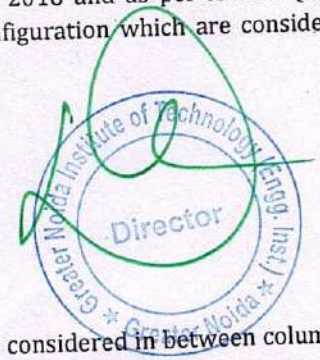
Seismic ground motions are caused by tectonic movements in the Earth's crust. The main reason for earthquake is when tectonic plates collides and rides one over the other, initiating hazardous earthquakes vibrations. The vibrations set up in the earth's crust, causing earthquakes which spread outward in all directions from the source of origin.

One of the latest earthquakes that occurred recently was in Nepal. On 25 April 2015, earthquake of magnitude around 7.8 destroyed housing in the Kathmandu, damaged the Word Heritage sites, and triggered deadly avalanches. Thus it is necessary to analyze and design the structures for hazardous seismic forces in order to prevent the loss of life and capital.

1.1 TYPES OF RCC FRAMES

Here the study is carried out for the behavior of G+15 multistoried RC commercial buildings with different plan configuration in seismic zone V. The modeling and analysis is done in ETABS 2018 and as per IS1893 (Part-1):2016 "Criteria for Earthquake Resistant Design of Structures". Six different plan configuration which are considered for the seismic analysis of the same structure, are mentioned below-

1. L-shape building
2. Rectangular shape building
3. U-shape building
4. O- shape building
5. I- shape building
6. T-shape building



The building is modeled in plan of 24m x 28m.Center to center spacing of 4m is considered in between columns. A height of 3m is assumed in between floor to floor. Plan and 3D view of the buildings for all the proposed cases are shown in the Fig. 1 to Fig. 6.

Following are the material properties consideredfor the analysis of the structures-

1. Steel grade: HYSD500
2. Concrete grade: 30Mpa for columns and 25Mpa for beams

Evaluation on Risk Assessment on Indoor Air Pollution: A Case Study of Delhi-NCR Region

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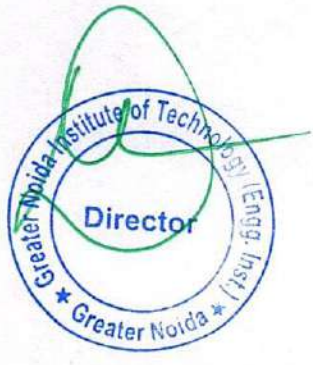

Recent Trends in Industrial and Production Engineering pp 185–196

Influence of Incorporating Industrial Byproducts/Wastes on Mechanical Properties and Durability Characteristics of Self-Consolidating Concrete: A Review

Rajat Saxena, Trilok Gupta, Rajesh Kumar Sharma & Saurav Yadav

Conference paper | First Online: 07 August 2021

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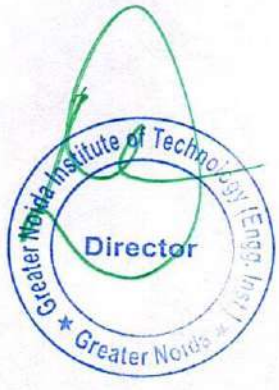
Abstract

Huge quantities of waste materials are generated daily from different industries and manufacturing units. The increasing amount of wastes, and the disposal issues related to wastes, are the major concerns of researchers and environmentalists these days. Factors, like less availability of space for landfilling and huge costs involved in landfilling, are influencing researchers toward waste utilization.



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Load frequency control of a microgrid employing a 2D Sine Logistic map based chaotic sine cosine algorithm

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ABSTRACT

This paper proposes a maiden application of a two dimensional Sine Logistic map based chaotic sine cosine algorithm (2D-SLCSCA) optimized classical PID controller for load frequency control (LFC) of an islanded microgrid (MG). In comparison to random variables and 1D chaotic sequences, the 2D chaotic sequences are more ergodic and possess a wider chaotic range, thereby enhancing the global convergence speed and search capability of an algorithm. Initially, the proposed 2D-SLCSCA is tested on eight classical benchmark test functions and its performance is compared with 1D Logistic map based chaotic SCA (1D-LCSCA), 1D Sine map based chaotic SCA (1D-SCSCA), and the SCA incorporating random variables. Test results reveal that the proposed algorithm exhibits better convergence characteristics, statistics, and execution time. Finally, the proposed 2D-SLCSCA is implemented for the LFC analysis of the islanded MG. To establish the competence of the proposed algorithm in this regard, its performance is compared with 2D Hénon map based chaotic SCA, 2D Lozi map based chaotic SCA, improved salp swarm algorithm (ISSA), SCA, grey wolf optimizer (GWO), and particle swarm optimization (PSO) algorithm considering diverse load disturbance patterns in the MG. Simulation results affirm that the proposed control scheme augments the frequency response of the MG exhibiting a maximum percentage improvement of 78.89%, 78.86%, and 96.51% in peak overshoot (OS_{peak}), peak undershoot (US_{peak}) and objective function (OF_{ITSE}) value, respectively as compared to the other algorithms. Furthermore, sensitivity of the proposed 2D-SLCSCA is validated considering ± 30% variation in the MG parameters.

1. Introduction

Increasing concerns over global warming due to harmful emissions from conventional power plants and gradual depletion of fossil fuel deposits have led the experts worldwide to shift their focus towards utilization of renewable energy sources (RESs) (like wind and solar energies) for power generation. These RESs possess inherent advantage of availability in abundance and are environmental friendly. The RESs when operated at low voltage/medium voltage levels in coordination with other distributed generation (DG) sources (like fuel cell, diesel engine generator, micro turbine, etc.), energy storage systems, control units, and electric loads constitute a small network that is capable enough to satisfy the power demand of its region. This small network is termed as an MG. Improved power quality, increased flexibility, reliable power supply, reduction in feeder capacity, and reduced transmission losses are the principal advantages associated with the MGs [1]. An MG is capable of operating either in grid-connected or islanded mode. In rest of the paper, MG and islanded MG have been used interchangeably. Although the MG expedites an increased penetration of the RESs but at the same time sporadic nature of these RESs and low inertia of the DG sources installed in the MG may cause an imbalance between the power generation and load demand. Consequently, this imbalance may result in intense frequency deviation problems in the MG (especially in the islanded mode). The resulting frequency deviations degrade the power quality, thus, affecting the reliability and stability of the MG. In such a regime LFC plays an indispensable role. LFC aims at restraining the frequency deviations within some pre-specified limits by reducing the disparity between the power generation and load demand, thereby preserving the power quality, reliability, and stability of the MG. To achieve this, proper implementation of an effective LFC strategy is obligatory.

Due to their simple structure, ease of tuning, reliable operation, lower expertise requirements, and a decent harmony

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An Application of Analytical Hierarchy Process in Selection of Coating Material Composition in Lost Foam Casting Process

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Abstract. In modern industrial era, the dimensional accuracy and surface finish are two major criteria in the selection of casting process. To achieve this paradise, lost foam casting is one of the casting processes. In this casting process, the shell is made by removal of expandable polystyrene or foam pattern with the application of heat. During the foam decomposition process, many problems have been generated such as bending, expansion, distending and crack of the shell. These problems may be eliminated by selecting the optimum ratio of coating materials. In this research work, zircon and aluminium silicate refractory coating materials with sodium silicate binder have been used with different composition and prepared the four test samples from them. For selection of best shell material composition, analytical hierarchy process is used.

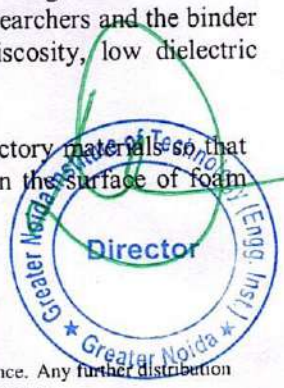
Keyword: *Foam Pattern, Zircon, Alminium Silicate, Sodium silicate, Analytical Hierarchy Process*

1. Introduction:

In automobile sectors, castings made of Aluminium and its alloys are extremely applicable because these are replacing the heavy forged steel and cast. It became very important to produce defect free aluminium castings without using secondary machining. Investment casting is one of the oldest casting processes. It is used for producing better dimensional accuracy of complex shape products. Another important process is Lost Foam Casting (LFC). In this process lost foam pattern is used. It is a cavity less and binder less process. With the help of this process, we can fabricate the automobile and IC engine components such as cylinder head, piston, connecting rod, brake shoes etc. as well as agriculture equipment [1-2].

The lost foam selected for LFC process have 92% C and 8% H. C6H5 benzene ring in lost foam is comparatively stable and –CH= CH2- chain tends to decompose first. The benzene ring remains in liquid phase and reacts with melt causing casting defects. Polymethylmethacrylate (PMMA) decomposed mostly into gas phase, like 80% at 700° C while polystyrene only 40% at 700 °C [3-6]. Coating materials such as siliminite, quartz, aluminum silicate, zircon flour etc have been used by various researchers and the binder for cost effectiveness. Zircon and aluminum silicate have high density and viscosity, low dielectric constant, and pH value nearer to neutral refractory [7-10].

The selection of binding agent depends on the shape and size of particles of refractory materials so that the bonding and adhesive strength of particles and binders has been increased on the surface of foam pattern. Sodium silicate and potassium silicate with



Application of thermal spraying process in advancement of welding Technology

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Abstract: In the contemporary world, with the incubation of advanced technologies and tremendous outbursts of research works, simplification of large cumbersome tasks with assets to saving time and money is perhaps one of the most crucial aspects in the current scenario. This paper focuses primarily on advancing welding technology using thermal spraying as the major tool for improving the cost, labor and time associated with some of the common welding processes. The analysis has been carried out on mild steel plates having the thickness of 3 mm & 4 mm thick. This has indeed provided multi-faceted benefits such as weldability of similar and dissimilar metals keeping in mind the quality of welded joint, cost of operation and minimizing time for achieving optimum results etc. The study has also compared different welding processes to that of thermal spraying for achieving the same results based on well-defined parameters, as discussed in further sections. Ultimately, now with thermal spraying a plethora of processes can be accompanied such as coating, cladding etc, in addition to welding technology as well.

Keywords: Thermal Spraying; Oxy-acetylene Welding; BronzoChrome-10185; SEM; Microstructure

1. Introduction:

The primary factors influencing the credentials of any welding technology depends entirely on cost, time and labor associated with the particular processes. Although in some cases this may seem to be a herculean task to be accomplished, keeping the feasibility of the process in mind. However, with the incorporation of thermal spraying technology, welding of a variable material type has been made easier compared with the past processes such as Gas Metal Arc Welding, Shield Metal Arc Welding etc.[1-3]. Thermal spraying is a group of processes in which finely divided metallic and nonmetallic materials are deposited in a molten or semi molten state on a prepared substrate [4,5]. Among the various types of thermal spraying processes, major emphasis has been laid on the usability of flame spray process in our experimental research and analysis. The temperature of the flame spray varies around till 3200^{0}C with a low particle velocity of around 110 m/s. The coating thickness varies from 5 mm- 10mm, keeping the spraying distance constant in the process.

Estimation of temperature during TIG welding of titanium

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Abstract: In this experimentation work, the welding of titanium (commercially pure of grade 2) has been performed. The technique used to perform the welding is Tungsten Inert Gas Welding. Several experimentations have been performed to get the preferred welding. On which further studies have been done. Temperature has been measured during the welding process to get the estimation.

Keywords: Gas tungsten arc welding; TIG Welding; HAZ; microstructure.

1. Introduction

TIG welding process is an arc welding process which uses a non consumable tungsten electrode to form an electric arc between work piece and the tungsten electrode [1,2]. Tungsten has a high melting temperature of about 3422°C; this extremely high melting point of tungsten helps in the formation of the arc without causing the electrode to melt [3,4]. Usage of TIG welding is mainly observed in aircraft industry [5]. TIG welding especially improved the welding of hard to weld metals like aluminium and magnesium [6-8].

Titanium and its alloys have proven themselves to be very useful and effective in a lot of different applications. They have great mechanical and material properties at elevated temperatures. It can form oxides and cause the weld to be brittle which is not desirable and makes its welding a difficult task. Corrosion resistance of the metal and high strength-to-density ration of titanium can be considered its most useful properties [9]. Because of these properties it is vastly popular in aerospace and marine engineering, military and industrial processes etc [10,11].

Generally, in regards with the alloying elements and microstructure of the titanium alloy, the alloys are classified into four major groups:

1. α Alloys
2. Near α Alloys
3. $\alpha + \beta$ Alloys
4. 4. $Metastable\beta Alloys$

High-efficiency thermodynamic cycles for Kalina power generation systems: A comprehensive review

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Abstract: In this paper, different Kalina power cycles have been identified and presented. The main endeavor of this review paper is to propel a complete understanding of simple and complex Kalina power generation systems. Additionally present status emphasizing some enhanced performance in Kalina power systems has been detailed. A hypothetical study of diverse Kalina power systems, incorporating an ejector, distillation column, sliding condensation, split cycle, double pressure and variable composition has been made. These modifications to the fundamental cycle decrease expansion losses using diverse principles and they require dissimilar mechanical hardware of special intricacies and expenditures. Kalina cycle with an ejector has maximum potential for efficiency improvement followed by the sliding condensation pressure method. Generally, the alternative options present several benefits to Kalina power systems such as decreased losses, improved performance and reduced energy expenditure.

1. Introduction

It is vital to reduce fossil fuel consumption and greenhouse gas emissions for a sustainable future. Organic Rankine and Kalina power systems are two promising options which use low grade energy and have been extensively discussed in the available literature. The striking characteristic of the Kalina cycle is the increase in efficiency due to heat exchange processes occurring at varying temperatures. The increase results due to higher net work output. Efficiency is augmented by means of recuperator exchangers. The increase occurs as a consequence of the distinctive variable boiling and condensing feature of the work medium. The heat addition and rejection to the ammonia– water mixture takes place at varying temperatures. The varying temperature through the heat-exchange processes decreases the thermal unavailability. Moreover thermal pinch in a boiler is also reduced. Scientists and engineers have been investigating for the performance optimization of Kalina cycle. Researchers are making ever increasing efforts to compute thermodynamic properties of ammonia-water mixture precisely and analyze diverse Kalina cycles to improve thermal and exergy efficiencies.

2. Kalina cycle with a distillation column

Performance of the Kalina power cycle can be improved by using a distillation column. The DCSS configuration comprises of a flash separator, a flash preheater, two reheaters, an absorber, a feedwater heater and a condenser. The working fluid exiting from the turbine (15) is refrigerated in the flash preheater (16) and in the reheaters (18). It is mixed with a poor ammonia mixture (6) approaching from the separator so as to obtain a lower concentration of ammonia and hence a higher boiling temperature. This concentration (19) is called the basic composition.

After being condensed in the condenser (20) the mixture is pumped (21) to the second reheater (22) and heated. A portion of the liquid is extracted (23) to weaken the ammonia-rich stream (8) incoming via the separator so as to refurbish the composition of mixture (9). The remaining mixture (24) is exchanges heat in both first reheater (1) and flash preheater (2). The stream is divided into a liquid stream (3) with a low ammonia fraction and a vapor stream (7) with a high ammonia fraction in the flash

Optimization of FDM 3D printing process parameters using Taguchi technique

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Abstract. Fused deposition modelling (FDM) is a fast growing and low-cost 3D printing technology in order to comply most prominent demands of today's industries in terms of capability to fabricate complex parts along with high flexibility in design. The dimensional accuracy, is an urgent need of final parts printed by FDM process, that is primarily influenced by the process parameters. Optimizing the process parameters which significantly influence the dimensional accuracy is the primary goal of this study in order to achieve the ultimate final part quality. This experimental study investigates the effect of different process parameters viz. layer height, raster angle, nozzle temperature and surrounding pressure on thickness of the final part for Poly Lactic Acid (PLA) filament. Experiments, based on Taguchi's L9 orthogonal array, were performed and subsequently experimental data have been analysed by ANOVA. It has been observed that the layer height is the most significant factor in order to achieve the dimensional accuracy.

Key words- FDM, Taguchi Method, ANOVA

1. Introduction

3D (3 Dimensional) printing or Additive manufacturing (AM) has gained great popularity over the past few years due to its ability to produce complex objects with ease, available sizes, flexibility of usable materials, easy handling and wide range of applications such as engineering industry, medical sciences, food industry, construction, aeronautics, textile industry, automotive industry and so on [1]. There are various methods of Additive Manufacturing such as stereolithography, syringe extrusion, selective layer sintering, fused deposition modelling(FDM)/fused filament fabrication(FFF) being used over the field of its applications as per the requirements of industry but Fused Deposition Modelling (FDM) has become the most widely employed rapid prototyping technique among other methods [2]. FDM uses a temperature controlled head to extrude semi liquid thermoplastic through a nozzle of fixed orifice in layer by layer formation, shown in figure 1[3], the movement of printing head is controlled by a computer aided manufacturing (CAM) software[4].

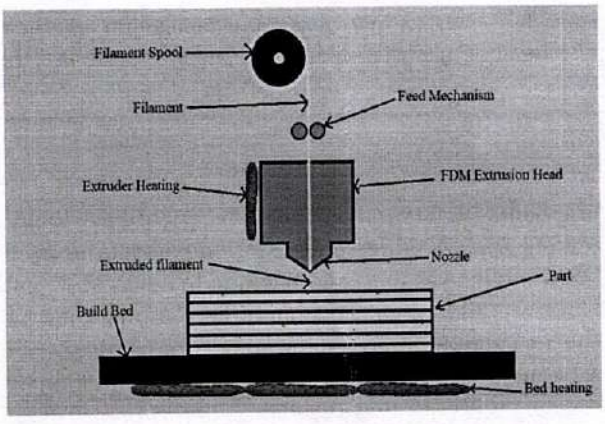

Figure 1 FDM Process Schematic

Researchers are continuously working towards improving different characteristics of FDM produced parts by tweaking with different process parameters and stating a range of optimum settings for a FDM machine and material at which the strength or production time or production cost or any other aspect is

Heat Transfer Analysis And Optimisation Of 2-Wheeler Engine Cyclinder Head Fins Using FEA

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Abstract. This research describes about the thermal analysis of fins by FEA method. Fins are extended surfaces which help to increase the heat transfer rate[1]. In this research we observe that when heat is produced in IC engine when fuel is burned, will have to be at higher level so that thermal efficiency increases, but to fend off from damages like thermal damage, useless or excess heat have to be removed from the engine. In air cooled engine, fins are placed at upper layer or on boundary of engine cylinder to increase heat transfer rate, because of this analysis of fins is very important and help to enhance the performance of engine and also increase the life span of the engine parts. The main aim of this research is to analyse the thermal properties of fins by varying certain conditions i.e. doing some modifications in conventional model, in our research work we have done two modifications in the fins geometry. In modified model-1 we have increased the number of fins, to achieve this we decreased the gap between the fins of conventional model. And in modified model-2 we have done circular perforation of 4mm diameter on the faces of all the fins of the conventional model. The cylinder head with fins are modelled on Soildworks software 2019 version and all model's analysis is performed on Ansys software. We have used Steady State Thermal of Ansys mechanical to perform our analysis.And as per the analysis the results showed that modified model-1 has the maximum heat transfer rate as compared to other models.

KEYWORDS: Thermal analysis, Fins, FEA, cylinder block, steady state thermal analysis

1. Introduction

Fins are extended surfaces which are used to increase the heat transfer from the surface and then cool various surfaces through convection process[4]. In general heat transfer by Fins having limitations because of system's design though this problem is to be rectified by doing some modifications in design framework of fins. In engine, cooling part is very important also cooling mechanism is depend upon fin design of cylinder head. In this paper we tried to increase the heat flow rate by changing the different properties in existing model such as by increasing no of fins by decreasing gaps between the fins and by doing circular holes in fin. Through 3 D modelling software solid works we design a cylinder block by considering the data of existing model and then the thermal analysis is done on ANSYS.

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Designing E-learning Portal: How Academics come efficiently into Practice

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Abstract:

This project consists of the event of a tributary internet application to show and gather info. The goal of this application is to form the inspiration for a web-based abstraction inventory for minimize the Gap between every individual in Department. The inventory is supposed to develop a platform wherever each Student to school will access (WEFSA) simply. This is vital as a result of the push to modernize infrastructure ends up in cut back useful gap and examine the matter. the net application can consist all totally different interface for Actor's happiness to the department together with their practicality and access assigned with them to use remotely.

We introduce a cloud storage and cyber security elementary to form the web site safer and simply accessible. Cloud Computing could be a general term that involves delivering the hosted services over the net. As Cloud Computing has mature in quality, totally different models and preparation methods have united to assist the particular wants of various users. every style of cloud service supplier and preparation of the tactic provides totally different levels of management and management.

Cyber Security plays a crucial role within the field of knowledge technology. Securing the knowledge has become one in all the largest challenges within the gift day. Thus, this paper involves Security management that defines a collection of techniques accustomed shield the integrity of networks, programs and knowledge from attack, harm or unauthorized access. internet primarily based applications are getting a middle of attraction for malicious hackers.

Index Terms **– WEFSA, cyber security, cloud computing, AWS.**

I.INTRODUCTION

The target of our paper is to demonstrate our project named WESFA (Where each Student to school will Access) are addressing the upkeep of lecturers of the scholars over the cloud among the school within the most reliable and economical method. Main objective of our project is to record varied details of activities within the departments of the school just like the notes, assignments, results of the online/offline exams on one place which is able to change every department's work load.

Our main conditions are compiled as below: during this paper, we tend to examine a way to absolutely abide the Cyber security fundamentals to shield the web site from malicious attacks and permit the user to access freely from remote location with the assistance of cloud computing ideas.

II. WEB DEVELOPMENT

IT is the work concerned in developing a Website for the Internet (World Wide Web) or an intranet (a non-public network).[1] Web development will vary from developing an easy single static page of plain text to complex web applications, electronic businesses, and social network services. A lot of comprehensive list of tasks to that internet development unremarkably refers, could include Web engineering, Web design, online page development, shopper liaison, client-side/server-side scripting, internet server and network security configuration, and e-commerce development.

Among internet professionals, "Web development" sometimes refers to the most non-design aspects of building internet sites: writing markup and coding. internet development could use content management systems (CMS) to form content changes easier and out there with basic technical skills.

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INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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Lightweight Cloud Storage Auditing With Deduplication Supporting Strong Privacy Protection

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Abstract - The cloud storage auditing with deduplication is adequate to authenticate the integrity of data gathered in the cloud while the cloud demands to keep only a single copy of replicated file. To the conquer of our ability, all of the actual cloud storage auditing blueprint with deduplication are accessible to brute-force glossary attacks[1], which acquire the exposure of user confidentiality [2]. In this project, we spotlight on a new condition of being contrary to brute-force glossary attacks on cloud storage auditing. We introduce a cloud storage auditing blueprint with deduplication supporting strong privacy protection, in which the confidentiality of user's file would not be acknowledge to the cloud and other user's when this user's file is anticipated or from a limited space. In the scheduled blueprint, we architecture a fiction method to achieve the file index for duplicate analyze, and use a new approach to develop the key for file encryption. In inclusion, the user only needs to achieve lightweight estimation to accomplish data authenticators, verify cloud data principle, and reclaim the file from the cloud. The security confirmation and the achievement assessment determine that the proposed blueprint accomplish enticing security and competence [1].

IndexTerms - Lightweight Cloud, Cryptography, Encryption, Decryption, MD5 algorithm, Brute-force attack, AES algorithm.

I. INTRODUCTION

The objective of our paper is to demonstrate how we can guarantee security by providing two factor authentication using the approach of light weight and using the concept of deduplication to destroy the extra copies of the same data, disappear only one copy to be gathered. With the accelerated development of cloud computing, cloud storage has been extensively accepted by individuals and operation for its advantages of comprehensive access, low costs and on-demand service. Users can expand complicated computations to the cloud to diminish their computational afflict. In addition, users also can deploy their large-scale data to the cloud to clear their local storage afflict. Under such a tendency, it becomes urgent to guarantee the aspect of data storage services for the users and the cloud. On one hand, the deployed data might be perverted or lost due to the inevitable operation failure or software/hardware failures in the cloud. Thus, it is demanding to develop cloud storage auditing, by which users can authenticate the integrity of cloud data without computing the whole data from the cloud [1]. On the other hand, lots of data gathered in the cloud are duplicated. Based on the analysis by EMC, 75% of cloud data are replicated copies. In order to develop the storage competence of the cloud, it is fundamental to perform data deduplication where the cloud conduct only a single copy of the duplicated file and makes a associate to the file for the users.

Our main conditions can be compiled as below: In this paper, we examine how to fully abide the brute force dictionary attacks and comprehend deduplication with strong confidentiality protection in cloud storage auditing, and introduce a concrete scheme satisfying this property. In order to comprehend deduplication with strong privacy protection, we design a different method to generate the file index, and employ a new approach to generate the key for file encryption. In the complicated design, the file index is achieved with the help of an Agency Server (AS) alternately of precisely being composed by the hash value of file. The key for file encryption is achieved with the file and the file designate.

II. AES ENCRYPTION ALGORITHM :

Advanced Encryption Standard(AES) is a symmetric encryption algorithm. AES is the corporation model as of as it grant 128 bit, 192 bit and 256 bit encryption. Symmetric encryption is appropriate quick as related to asymmetric encryption and are recycled in structure as database scheme. It is a blueprint for the encryption of computerized data settled by the U.S National Institute of Standards and Technology(NIST) in 2001. The AES appliance desire a plain-text and a secret key for encryption and same secret key is needed over to decrypt it[3]. The Advanced Encryption Standards is one of the much famous global encryption model, that is why its composition AES conduct expecting up in about every analysis associated to cyber security [2].

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Used car price prediction

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***Abstract:** This research paper is the combination of dataset collected by the cardekho.com and we have used ML to predict the price of a used car by creating a model using python, flask and HTML the algorithm that we have used is Random Forest Regression. The price of the car is determined by the manufacturer and not everyone can afford it so they look for some low cost alternative such as used car and this helps to build a big and evergreen used car market but due to the price irregularities this market is facing lots of problem so we have used machine learning to develop a new model that will predict the price and help consume to buy the used car at a perfect price.*

***Keywords**– Used Car Price, Car Price Prediction, Prediction Model, Machine Learning, Random Forest Regression, Seaborn, Python, Flask, Pandas, Numpy.*

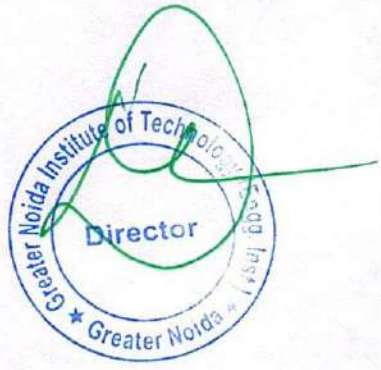
1. INTRODUCTION

In these times as we explore through automobile websites in search of buying or selling a used car, the price that we get is not accurate enough. Sometimes the buying price is high or sometimes the selling price is too low. This puts us in a confusing state whether to buy or sell the car at that price. The used car automobile industry works on the aim of making profits from the buyers and sellers. It includes their commission and extra profits they make from the customers. Deciding whether a used car is worth the posted price when you see listings online can be difficult. Several factors, including KM Driven, Fuel Type, No. of Owner, year, etc. can influence the actual worth of a car. From the perspective of a seller, it is also a dilemma to price a used car appropriately. Based on existing data, the aim is to use machine learning algorithms to develop models for predicting used car prices. The market is flooded with millions of used cars. Using their data on our own platform, we can generate accurate prices of used cars. In this way both buyers and sellers get a satisfactory price. Our research that we did on the Indian Automobile Industry, we got to know that the whole industry comprises of 65% used cars. In 2019, used car market in India was worth 24.24 billion USD. The value is further expected to register a CAGR of 15% of growth.

2. TECHNOLOGY

2.1 Requirements

(a) Python as a programming language.
(b) Jupyter as an IDE.
(c) Flask as a python-based web flamework.
(d) Pandas for Data Manipulation and Analysis.
(e) Numpy for working with arrays.
(f) Seaborn for Data Visualization
(g) Sklearnfor Machine learning.
(h) Matplotlib for plotting graphs and charts.
(i) Random Forest Regressor as an Algorithm.



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Next Generation AI based Virtual Assistant

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[1, 3, 4, 5]*B.Tech Student,* [2]*Assistant Professor, Greater Noida Institute of Technology, Greater Noida, India*

Abstract: ***This report discusses ways within which new technology may be controlled to form AN intelligent Virtual Assistant (VA) with attention to user-based data. It will look at examples of intelligent programs with natural language processing that are currently available, with different categories of support, and examine the potential usefulness of one specific piece of software as a VA. This engages the ability to communicate socially through natural language processing, holding (and analyzing) information within the context of the user. It is suggested that new technologies may soon make the idea of virtual assistants a reality. Experiments conducted on this system, combined with user testing, have provided evidence that a basic program with natural language processing algorithms in the form of a VA, with basic natural language processing and the ability to function without the need for another type of human input (or programming), may already be viable. We tend to check this on two variant speakers(masculine & feminine).***

Index Terms: Artificial Intelligence, Virtual assistant, natural language processing, NLU engine, Speech text recognition.

I. INTRODUCTION

The objective of our paper is to demonstrate how An artificial Conversational entity (ACE) may be a programmed to communicates with you. It's a layer on high of, or an entry to a service. Typically it's supercharged by machine learning (the artificial speech communication entity gets smarter the additional you act with it). Or, additionally usually, it's driven mistreatment intelligent rules (i.e. if the person says this, respond with that). The services a synthetic speech communication entity will deliver square measure numerous, necessary life-saving health messages, to ascertain the prognosis or to get a brand new combination of shoes, and anything in between.

The term artificial speech communication entity is similar to text speech communication however is growing quickly through voice communication… "Alexa, what time is it?" (other voice-artificial speech communication entities square measure available!) the unreal speech communication entity will confer with you thru totally different channels; like a Facebook traveler, Siri, WeChat, Telegram, SMS, Slack, Skype, and plenty of others. Customers pay several time mistreatment electronic communication applications (more than they pay on social media) [1]. Therefore, electronic communication applications square measure presently the foremost widespread manner firms deliver artificial speech communication entity experiences to customers.

An Artificial colloquial Entity may be a quiet chatbot that speaks with you helps you to speak over the net helps you to search out the knowledge you required to mistreatment the net. In this, we tend to use python language & its library operates for making our Artificial colloquial Entity for Windows software. it'll not solely give data from the net however it'll conjointly open the appliance put in in your system.

If you say some word to our ACE it'll search it over Wikipedia further as play the most-watched video over YouTube. mistreatment our ACE, you'll be able to even head to a specific website by gap a browser We named our ACE as JAMWANT as a result of some Hindi author afore mentioned("दुनियाकेआरम्भसेजहादुनियाकाअंतहैंसबदेखचूकायहजामवंतहै।".

In this digital era humans are completely dependent on technology. Now after so many great inventions and creations the industry is heading towards smart-bots enabled smart homes, voice assistants, A.I. and Data Mining enabled systems as well. We felt the requirement of a smart assistant chat-bot which will be economic and easy to access and afford for a common use and will let you up to date with the current weather updates and forecasts.

It will provide any information on demand which the user generally search on google, etc. It will solve your basic mathematical problems as well so that you can get rid of your old and outdated calculators [2]. As per requirements and growing industry our chat-bot will work on voice command and will perform a lot more for its users on demand. And also give you information from Wikipedia about a person if available and most watched video of the person.

GANAKA: WEB BROWSER

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Abstract – A web browser is application software for accessing the World Wide Web. When a user requests a web page from a particular website, the web browser retrieves the necessary content from a web server and then displays the page on the user's device.
here we will use GANAKA as interface which is a web browser and it will help have multiple options like file ,edit , bookmark , history , tools , help which will help the user to make thing convenient and handy with the browser

Key Words: Internet, www, HTTP, URL , FTP , hyperlink , Web browser, ISP(internet service provider) ,

1. INTRODUCTION

A Web browser acts as an interface between the user and Web server Software application that resides on a computer and is used to locate and display Web pages. Web user access information from web servers, through a client program called browser. A web browser is a software application for retrieving, presenting, and traversing information resources on the World Wide Web

2. COMPONENTS OF A WEB BROWSER.

User Interface :
This includes the address bar, back/forward button , bookmarking menu etc

Rendering Engine :
Rendering, that is display of the requested contents on the browser screen.
By default the rendering engine can display HTML and XML documents and images

3. DEFINITION AND TERMS:

First thing first we need to understand the basic terminologies which will help us in the rest of paper cause we will encounter them again and again.

- **Internet** – set of millions of computers worldwide connected into a network with the purpose of exchanging data among users
- **WWW - World Wide Web** – one of the services on the Internet which we use to browse web pages (set of HTML documents connected with hyperlinks)
- **HTTP – Hypertext Transfer Protocol** – protocol (set of rules) that allows transmission of information published on the Web
- **URL – Uniform Resource Locator** - Web address of a particular object (Web pages, images, or Word or PDF document) published on the Internet
- **FTP – File Transfer Protocol** – protocol that allows data transfer between computers over the Internet
- **Hyperlink or link** - part of the text or graphics on a web page; when we activate a hyperlink (click on it), it takes us to: o another part within the same web page o another website
- **Web address elements** –

for example http://www.google.hr

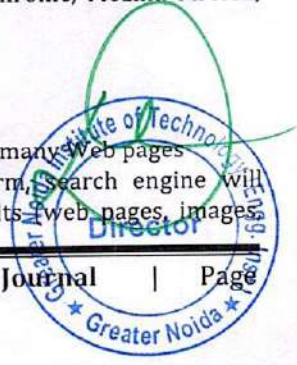
http: - protocol (rules of transmission)
www – a type of service available on the Internet
Google – a domain name (computer)
.hr – top–level domain (ccTLD - Country code top-level domain)
Domain: - electronic identification on the Internet
commercial (.com, .net, .biz)
international (.hr, .si, .it, .de...)
non-commercial (.edu, .mil, .gov)

4. Web browser

Software (program) which allows us to browse web pages o the most widely used: Google Chrome, Mozilla Firefox, Opera, Internet Explorer

Web search engine

Contains content categorization of many Web pages after one enters the desired term, Search engine will search the Web and display results (web pages, images,



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Security and Automation using Raspberry Pi and Arduino for Home

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Abstract - *This project here is an amalgamation of various aspects of IoT, Web design and Networking put together in order to function as an ecosystem. The goal here is to put together a competent and robust system of IoT that includes hardware as well as software running together in unison to provide the user with a seamless home automation environment. Security and Automation using Raspberry Pi and Arduino for Home (SARAH) uses a web base application where the user controls each and every aspect of the proposed system. This project tackles the Everything IoT race by putting the versatility of the development environment that a Raspberry Pi provides along with the connectivity and expansion options that are provided by Arduino.*

We here have created an ecosystem of interconnected devices that functions locally between a Raspberry Pi rather the using a web-based service thus making it extremely secure and redundant to an array of web-based attacks. However, if somebody is to access the system remotely, they can do that via an open-source service known as VNC or Virtual Network Computing. We've used an open-source service known as Real VNC server that uses 256bit AES encryption making it extremely safe for personal use without worrying about any data or privacy breach. This system while running on a web access Wi-Fi router is totally devoid of any internet access as it uses a static IPv5 address.

Cyber Security is one of the most important aspects of the domain called Information technology as there are numerous threats that are just looking out for a device to exploit. Anything that is connected to internet and uses user data is susceptible to at least some kind of a cyberattack. Any compromised device is a threat to the privacy of its' user. Thus, in this paper, we involve an IoT system as well as it's secure deployment so that the system is secure as well as well functioning in every way.

Key Words: SARAH, IoT, Raspberry Pi, Arduino, Cyber Security, VNC

1.INTRODUCTION

This paper Demonstrates our project named SARAH (Security and Automation using Raspberry Pi and Arduino for home) that deals with the ever-expanding leisurely needs of urban citizens as well as catching on with the modern-day trends of IoT. This project also goes a long way in helping the elderly as well as the disabled as it aids them with the possibility of controlling temperature, lights, fans etc. at the comfort of their fingertips. While heavily aiding to the convenience of its' user, it also provides them with the luxury of remotely controlling the appliances that are connected to the system.

Our project is compiled out of several parts listed below.

In this paper, we examine the complete wireframes of the project in detail as well as the possibilities of making it safer with the abidance of some cyber security protocols to make sure that the system is safe and cannot be compromised in any way thus making SARAH immune to malicious attacks.

2. DEVLOPMENT

This part involves the development of a web application with the use of HTML, CSS and JavaScript. This application runs run locally on the Raspberry Pi acting as a host to the entire system and allowing us to control the functions on other computers and smart phones using VNC (Virtual Network Computing) [1]. Along with an html-based web page, there is a hardware construction so that the web app can be hosted in an isolated environment. This system is constructed out of a Raspberry Pi that connects to an array of Arduino based ESP8266 Node MCU boards via Wi-Fi [3].

They send and receive signals via MQTT as it is the most efficient way of transferring data over the air while avoiding any kind of interception. The network however has a crucial dependency on Wi-Fi network for its' operations as that is the only medium the Raspberry Pi communicate with the ESP8266 modules.

3. SCOPE OF SARAH

Current:

- Automation:
  - Residential:
    - Electrical/Electronic Automation
    - Energy Saving
    - Centralized Control & Security
  - Safety & Security:
    - Personal Security:

Published: 22 February 2021

A Novel Approach Based on EMD to improve the Performance of SSVEP Based BCI System

Mukesh Kumar Ojha & Manoj Kumar Mukul

Wireless Personal Communications **118**, 2455–2467 (2021)

Abstract

This paper investigate the effectiveness of the Empirical Mode Decomposition (EMD) based Power Spectrum analysis (PSA) technique to evaluate the Performance of SSVEP based Brain computer inference (BCI) system in terms of SSEP recognition accuracy and Information transmission rate (ITR). Steady State Visual evoked Potential (SSVEP) is a quasi sinusoidal signal contaminated into recorded EEG signal. The presence of artifacts and spontaneous EEG signal deteriorate the SSVEP Performance. EMD is technique that decomposes the recorded EEG Signal into several oscillating components known as intrinsic mode functions (IMF). The selection of IMF components plays a vital role in recognizing SSVEP signal with high accuracy. Power spectrum density (PSD) as a feature is extracted from the SSVEP Prominent

An Explicit Output Current-mode Quadrature Sinusoidal Oscillator and a Universal Filter Employing Only Grounded Passive Components - a Minimal Realisation

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Abstract. *The use of voltage differencing current conveyor as an active device to design a current-mode oscillator along with a universal filter with only grounded passive elements is the main focus of this manuscript. This re-arranging circuit can work as a sinusoidal oscillator as well as a current-mode universal filter, by simple selection of passive switches. Both the circuits employ only two active devices and three grounded passive elements. The designed oscillator provides two distinctive current outputs with a quadrature-phase difference. It also maintains an independent condition of oscillation and frequency of oscillation. Moreover, the basic responses including low pass, high pass, and band pass are easily available from a current-mode universal filter. The low input impedance and high output impedance are amongst the noteworthy features of the current-mode derived filter. Non-ideal, parasitic, and sensitivity analysis of the designed circuits are also incorporated in the manuscript. Cadence PSPICE software simulation results are also included to justify the design idea. Experimental implementation of the described circuit has also been shown by employing special-purpose amplifier integrated circuit, i.e., OPA860.*

Keywords

Active filter, sinusoidal oscillator, Voltage Differencing Current Conveyor.

1. Introduction

The domain of analog signal processing is all about measurement, detection, and manipulation of the analog signals. Analog circuits find their applications in the area of control systems, communication engineering, instrumentation, and measurements [1]. Despite the dominance of digital signal processing, the analog signal processing finds its irreplaceable space in optical drives, analog to digital converters, etc. [2].

The rich culture of analog circuits is filled with multitudinous active devices. Few names in this long list are as follows: Current Conveyor (CC) [3] and [4], Operational Transconductance Amplifier (OTA) [5] and [6], Current Differencing Buffered Amplifier (CDBA) [7], Differential Voltage Current Conveyor (DVCC) [8], Current Differencing Transconductance Amplifier (CDTA) [9], Differential Voltage Current Conveyor Transconductance Amplifier (DVCCTA) [10], Unity Gain Cell (UGC) [11], Differential Difference Current Conveyor (DDCC) [12], Z-Copy Current Feedback Transconductance Amplifier (ZCCFTA) [13], etc. Each of the mentioned devices has its own uniqueness and features.

In [14], the authors proposed future looming devices, including Voltage Differencing Current Conveyor (VDCC). This is an electronic combination of OTA and

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Big Data Security Problem and Its Solutions

Madan Mohan, Aadarsh Malviya, Anuranjan Mishra

Abstract: ***Big Data is the way to go especially for the large companies which keep a lot of information on the systems. This paper delves into the new challenges associated with big data. It points out safety challenges on Big Data as the main issues that organizations seek to address on a day-to-day basis. These challenges include securing the trusted environments, sufficient access management, performing due diligence, combating AVI vulnerabilities, and security automation. They can be solved by maintaining strict access strategies that only allow their esteemed and responsible employees to login and also set the systems in such a way that they can detect abnormalities and allow for investigations while there is still time. The paper has addressed big data challenges as well as their solutions which are always be considered in the case of the organization as they have long-term consequences if not put into consideration.***

Keywords: Big Data, Systems, AVI Vulnerabilities, Security Automation, Solutions, Trusted Environments

I. INTRODUCTION

Big data is a word used to describe large-scale structured and unresolved data very much, it is very difficult to process data using traditional database and software technology. Volume: The quantity of produce and stored data, many factors contribute to an increase in volume, live streaming data and Storing transaction data, live streaming data, and data collections from sensors

Variety: There are data in all types of formats

Variability: Together with speed, the data flow may not be consistent with the periodic top of something height.

Complexity: When data comes from multiple sources, you also need to consider the complexity of the data. Before actual processing, the data must be linked, matched, cleaned and converted to the desired format.

II. NEW CHALLENGES ON BIG DATA SECURITY AND ITS SOLUTIONS

The 21st Century business milieu regards data as its most crucial asset. Earlier on it was only the technological field that believed in the value of data but now all industries ranging from manufacturing, health, education, media and all others are already in the clique.

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Due to this growth, the volumes of data to be handled in organizations has increased and facilitated towards the formation of Big Data for the sake of saving all the information in the most original and quality form. Big Data has however been associated with issues of security and privacy that have been in existence for a long period [1]. Hacking activities motivate people to access information with no authorization and make it available to the wrong parties who might take advantage of the data obtained.

Privacy and security threats have been a challenge when dealing with Big Data for the longest time possible but there are new issues to watch for in 2018. The protecting of trusted environments, sufficient access management, performing due attentiveness, combating API weaknesses and security automation are the most recent challenges in Big Data security which should be solved to ensure for trustworthy operations of the systems [2].

Most organizations consider using the cloud when it comes to big data although it is not restricted. However, cloud computing and Big Data go hand in hand towards ensuring that the information of a company is maintained in the most effective way possible. However, since many hackers have realized that Big Data holds all the valuable details about the running and development of the firm, the system becomes a weakness (Lystra's & Papadopoulos, 2018). The following are the recent problems in Big Data security and how to solve them for a better future in protecting organization's information. The main causes of security issues on big data can be shown through the chart below:

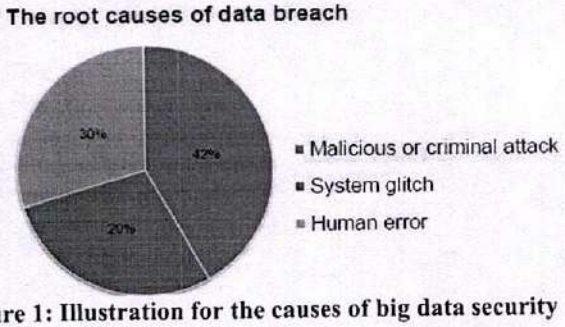
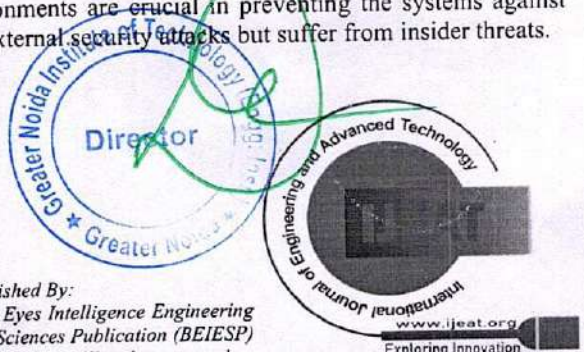


Figure 1: Illustration for the causes of big data security issues

Source: http://www.billchamberlin.com/cost-of-a-security-data-breach-rises-according-to-9th-annual-ponemon-institute-study/

III. SECURING TRUSTED ENVIRONMENT

As mentioned earlier, Big Data does not have to entirely depend on the cloud and many large companies use internal environments to run NoSQL or Hadoop databases. Such environments are crucial in preventing the systems against any external security attacks but suffer from insider threats.



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Importance of Security in Big Data Log Files on Cloud

Madan Mohan, Aadarsh Malviya, Anuranjan Mishra

Abstract: ***Today cloud computing is a very popular technology, and many people use this technology in many ways. it's important to have it safe. This technology was primarily used to keep data safer and safer in the cloud, so in this article we suggest a security framework for large data logs in the cloud. There are many and many risks that threaten the integrity of this information in the great information. Therefore, in line with the development of technology, the level of security has also increased significantly over the years. Various technology techniques access several online activities, such as interaction with different internet sites and services, making the web more accessible to their plug-ins. As a result, these activities have created a global platform for malicious activities to add these devices that expose large data logs harmful attacks. Sky system is an online platform that requires proper security integration. In addition, the current state of online security threatens high data in the cloud, which has affected the performance and service model.***

Keywords: Log File, Security, Big data, Dataset, Data analysis, Malicious, Technology, Security, Big data, Dataset, Cloud.

I. INTRODUCTION

Cloud computing is increasingly gaining momentum in the process and storage of big data. Especially, in a world where security and privacy are magnified by the diversity and scale of data being process and stored. The uses of traditional security mechanism have become obsolete in the modern technological era [1]. As such, new security frameworks are being implemented to ensure the safety to the high-volume data. Therefore, this essay will focus on the security frameworks being implemented to enhance security and privacy of big data log files on the cloud as well as addresses the major challenges associated with these frameworks in cloud computing. Big data is a term used to refer to the study and applications of data sets that are so big and complex that traditional data-processing application software are inadequate to deal with them. Big data challenges include capturing data, data storage, data analysis, sharing, transfer, visualization, querying, updating, information privacy and data source.

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There are a number of concepts associated with big data: originally there were 3 concepts volume, variety, velocity. instrument that provides small scale, static and semi-isolated security. Logfiles are very important data in the cloud so these logfiles should be secure. In securing big data, security frameworks must be put in places such as logging, encryption, and honeypot to provide data protection and privacy.

II. HADOOP

Apache Hadoop is a collection of open-source software utilities that facilitate using a network of many computers to solve problems involving massive amounts of data and computation. It provides a software framework for distributed storage and processing of big data using the MapReduce programming model. It can run on thousands of terabytes of systems involving thousands of nodes. The distributed file system in Hadoop helps to achieve fast data transfer rates, and the system continues to function even in the event of some node failure. This approach reduces the risk of a total system failure, even in the case of a large number of node lack of success. Hadoop Make the calculation resolution can expand, economy, flexible and fault tolerant. In these days so many companies are using Hadoop Framework to support applications that involve big amounts of data. Hadoop has two main subprojects Map Reduce and Hadoop Distributed File System.

III. META CLOUD DATA STORAGE SECURITY FRAMEWORK

This security framework is used to protected big data from any form of intrusion. The Meta Cloud MC security framework provides various scalable algorithms security solutions to any data deployed in the cloud system [1]. The Meta Cloud system works by forwarding data in the cloud to a Grouping and Choosing architecture GC for security enhancement. This security framework organizes stored data sent in cloud n multiple center-based systems. These systems are categorized into three basic level of security that is sensitive, critical and normal. Whereby, each level redirects data log files to the appropriate data center in the cloud for the safety measures. The Meta Cloud security framework provides a unique storage path that is impossible decrypt.

IV. MAPREDUCE SECURITY FRAMEWORK

This form of security encryption of big data log file provides authorization and authentication only to valid account users. It uses the HDFS authorization mechanism to protect and secure data files on the cloud computing systems [4].

QUEUING THEORY: EFFECTIVE AND EFFICIENT TOOL TO REDUCE THE WAITING TIME IN HOSPITAL

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ABSTRACT:

Waiting time is inherent to the hospital sector in India and a serious challenge faced by almost every big hospital is queuing. Long waiting time are often a mirrored image of inefficiency in hospital operations. The Fortis Escorts Hospital in Delhi receive sizable amount of patients every day which results in longer waiting time for patients because of long queues. To deal with this challenge, a SWOT analysis was conducted for the OPD of Fortis Escorts Hospital Jaipur (FEHJ) which resulted into dissecting the queuing problem and initiating with solutions knowing where the hospital operations can excel and where there's a scope of improvement to create the working and processes better. Additionally, after observing the problem technically and applying queuing theory, suggestion was given to enhance the delay points and make the OPD more efficient so as to obtain a high patient satisfaction rating.

Keywords: Queuing Theory, OPD, Waiting time, Hospital operations, SWOT, Patient satisfaction

IMPACT OF COVID – 19 ON INDIAN EDUCATION SYSTEM: A STUDY WITH SPECIAL REFERENCE TO GREATER NOIDA SCHOOLS AND COLLEGES

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ABSTRACT:

As we, all know that in the time of Covid-19, all the sectors are affected in both ways-positive and negative. Education sectors is one of them which was affected consistently and has observed drastic change in the day to day execution of the job. As in the teaching profession, technology played vital role during the pandemic situation and replaced the offline mode with the online mode. Education is foundation for every one and it creates skills, habits, knowledge, talent etc. for the child. It is not possible to discontinue education of students but health is also equal important. Hence, in the tenure of covid 19, it is a big challenges to make the people safeguard along with to continue their education so online mode of education is the best option to continue and keep the children safe and do study at home.

Therefore, online classes were conducted and running out all the activities related to their study with going to school and colleges.

This research was based on primary and secondary source of data. Data was collected by circulating well-structured questionnaire among the respondents and after data collection, interpretation and analysis of data has been taken place by the means of applying statistical techniques Chi square test using software IBM SPSS. In the result, is has been concluded that there is an association between the gender and age and the level of satisfaction in case of taking the online classes.

Keywords: Covid -19, Online Class, Education, Pandemic Situation, Opportunity, Challenges.

1. INTRODUCTION:

When the cases of corona virus increased day by day it was a matter of concern for every one and for government also which in turn, a decision was taken by the government to implement the complete lockdown and close all the institutions, to maintain the social

EFFECT OF QUEUING THEORY APPLICATION: WITH SPECIAL REFERENCE OF BANKING SECTOR

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Abstract-- Lines of waiting customers are continuously terribly long in most of the banks. The impact of queuing in reference to the time spent by customers to access bank services is more and more turning into a significant supply of concern. This can be as a result of keeping customers waiting too long might result to cost to them (waiting cost). Providing an excessive amount of service capability to operate a system involves excessive cost. However not providing enough service capability leads to excessive waiting time and cost. During this paper, the analysis of the queuing system shows that the number of their servers was not adequate for the customer's service. It observed that they need 5 servers instead of the 3 at present. It suggests a need to increase the number of servers in order to serve the customer better.

Keywords-- ***Queuing System, waiting time, Arrival rate, Service rate, Probability, System Utilization, System Capacity, Server***

1. INTRODUCTION

Queue System Overview

A queue will be mentioned as a waiting line and a social phenomenon that's very rampant on our contemporary environmental societies where there are insufficient facilities or unavailability of it to literarily meet the requirements of the top users of a given good and/or service [1, 2]. Customers are referred to as arriving units during a queue, that is, persons who are in demand of a specific service at a service delivery Centre and would need to patiently wait on a queue or during a line if the there's no promptness within the delivery of the services. In service system, queues represent the unmet need(s) of the customers that may also invariably provides a distraction from the values that a corporation provides. A queue is unavoidably found wherever there are pressing demands surely service deliveries and good acquisition [4]. This conspicuously exposes the lack of the service providers to fulfill the requirements of the end users (customers). Queues at a given service delivery Centre increase as a results of variance within the pattern of arrival of consumers, and therefore the times of service alongside unnecessary lines mostly frustrates and discourages the end-users, hence, making them to appear for the desired service from

Study of mechanical properties of pultruded jute-glass reinforced unsaturated polyester bio-composites with hybrid filler loading

Navin Kumar, Ravinderjit Singh Walia, Surjit Angra

World Journal of Engineering
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Abstract

Purpose

The purpose of this study is to develop jute-glass hybrid fibre reinforced polyester-based bio-composites using an indigenously developed pultrusion set-up and to present a detailed discussion on their mechanical characterization.

Design/methodology/approach

The work was carried out to observe the hybridization effect of natural and synthetic fibres in combination with hybrid fillers loading mainly on strength and other properties. The used hybrid fillers were a combination of 9 Wt.% of carbon black%, 6 Wt.% of eggshell ash powder and 6 Wt.% of coconut coir ash powder. A lab-based developed pultrusion set-up was used to develop these hybrid GJFRP composites of 1,500 mm length. The developed composites were tested for tensile strength, compressive strength and impact strength.

Findings

The maximum tensile, compressive and impact strength obtained are 88.37 MPa, 56.13 MPa and 731.91 J/m from 9 Wt.%, 9 Wt.% and 0 Wt.% of hybrid fillers loading, respectively. Breaking energy was found maximum as 7.31 J in hybrid glass-jute hybrid fibre reinforced plastic composites with no filler loading and it was observed that filler loading was decreasing the impact strength of developed hybrid composites. Shrinkage and its variations in the diameter of the finally developed cylindrical shape composites were observed after cooling and solidification. Scanning electron microscopy was used to observe the internal cracks, bonding of fibres and resin, voids, etc.

Tribological characterization of pultruded hybrid glass-jute fibre reinforced plastic composites from room temperature to 75°C

Navin Kumar, R.S. Walia, Surjit Angra

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Abstract

Purpose

The aim of the present study is to find the tribological properties of newly developed polyester-based hybrid glass-jute fibre reinforced plastic composites loaded with different weight per cent of hybrid filler particles were investigated under a dry sliding medium from room temperature to 75°C.

Design/methodology/approach

The study was carried out using a pin-on-disc wear test set-up. The design of experiments was carried out in a controlled way using a central composite design based on response surface methodology to observe the effect of various parameters i.e. sliding velocity, sliding distance, the temperature of counterface and different applied load conditions during dry-sliding.

Findings

The maximum wear resistance was found at 9 Wt% loading of filler, 4 ms^{-1} sliding velocity, 30 N applied load, 54°C temperature of the counterface and 1,100 m sliding distance condition. Optimum values of hybrid filler loading, sliding velocity, applied load, the temperature of the counterface and sliding distance for the minimum coefficient of friction value and minimum friction force are 9 Wt%, 4 ms^{-1}, 30 N, 54° C, 1,100 m and 12 Wt%, 3 ms^{-1}, 20 N, 59°C and 1,100 m, respectively. The worn surface morphology was studied using scanning electron microscope, for wear dominant mechanisms.

Originality/value

The tribological properties of newly developed polyester-based hybrid glass-jute fibre reinforced plastic composites loaded with different weight % of hybrid filler particles, were investigated under dry sliding medium from room temperature to 75°C has not been attempted yet.

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Parametric optimization of friction stir processing on micro-hardness of Al/B_4C composite

Sudhir Kumar, Kapil Kumar, Manish Maurya and Vishal

From the journ
https://doi.org/

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Abstract

Friction stir processing was used to prepare aluminium metal matrix composite reinforced with B_4C particles. The micro-hardness of the composite was improved by selecting the process parameters. Friction stir processing parameters, namely tool rotational speed, tool tilt angle and different pin profiles, were explored by using Taguchi's L9 orthogonal array and analysis of variance. Optical microscopy and scanning electron microscopy were employed for microstructural analysis. X-ray diffraction was used to evaluate the residual stress. Experimental results illustrated that increased rotational speed, reduced tilt angle and square pin profile of the tool gave more uniform dispersal of B_4C content with maximum micro-hardness. Small amounts of compressive residual stress developed at the stirred and thermo-mechanically affected zones confirmed the adequate improvement in micro-hardness. Micro-hardness of fabricated Al 6063/B_4C composite surfaces was enhanced by 30% as compared to Al 6063 alloy.

Keywords: Friction stir processing; Al 6063/B4C composite; Microstructure; Micro-hardness; Fractography

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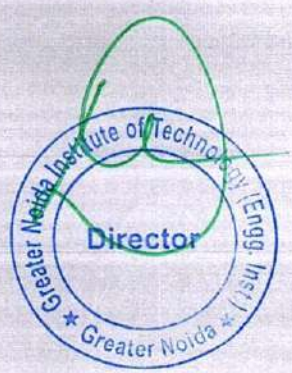
Study on effect of variation of geographical and climatic conditions on chemical constituents and biological activity of Emblica officinalis

Dipti Bharti, R. Singh, C. Arora • Published 25 September 2021 •
Research Journal of Chemistry and Environment

Alkaloid and flavonoid contents of E. officinalis of leaf samples collected from five different geographical and climatic conditions have been compared in the present study. Comparison has also been made in terms of percent yield and number of constituents present in alkaloid and flavonoid samples as well as for antifungal potential against Fusarium oxysporum and Rhizoctonia solani. Alkaloid content is found to be maximum in samples collected from Banasthali, Rajasthan, an extremely hot and dry climatic zone. HPLC profiles indicate presence of maximum number of constituents in alkaloids separated from E. officinalis collected from Banasthali, Rajasthan. Flavonoid content has been found to be highest in samples collected from Palampur, Himachal Pradesh in extremely cold climatic zone followed by that of Banasthali, Rajasthan. Antifungal activity of alkaloids and flavonoids isolated from samples collected from Banasthali and Palampur has been found to be maximum for F. oxysporum and R. solani respectively. These studies reveal that geographical and climatic zones having extreme climatic conditions are more suitable to grow E. officinalis which is to be used as raw material for developing pesticidal formulations to control wilt and scurf diseases of potato. Collapse



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PM2.5 AND PM10: EXISTANCE, TREATMENT AND PROBLEMS

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Abstract : These days, air pollution is becoming the most harmful substance present in the atmosphere that can affect humans, climate, crops, climate and other living beings. Today, we will talk about the Allergic Rhinitis (AR) caused by the air pollution that nearly affects the life quality of millions of people nationwide. Basically, it occurs when a person's immune system reacts to allergens present in the air like dust mites, pollen and moulds producing the lining inside the nose to become inflamed. Undesirable indoor air openness causes around 3 million people to bite the dust every year. In this way, individuals with unfavorably susceptible rhinitis and dirtied air might be connected.This summary summarizes up the International Expert Consensus explanation on the treatment of hypersensitive rhinitis from contaminated air. An epidemiologic proof connections air contamination and environmental change to sensitivity and rhinitis in the upper aviation routes. The connections between air contamination, rest, and AR will be examined by means of the utilization of components. Today, pretty much every issue has an answer. For the treatment of unfavorably susceptible rhinitis, you ought to follow treatment proposals and lower your openness to toxins. Fexofenadine, a non-steadying oral antihistamine, lightens the impacts of air contamination related respiratory issues like irritated, watery eyes, wheezing, and hacking. Regardless of whether this is valid, further research into elective pharmaceutical treatments for AR and air contamination is presently inaccessible.

IndexTerms - **Cadmium; HEPA; Intervention; PM(2.5); RCT; SHS. Oxygen requirement, PM2.5, PM10, NO, SO,CO, O3.**

I. INTRODUCTION

Consistently, 10,000 liters of air go into the lungs, fundamental for human existence and prosperity. The nature of the air we inhale straightforwardly affects our respiratory health just as other indispensable organs. No inquiry concerning it: Great health and wellbeing rely upon clean air. Air pollution, in any case, keeps on addressing a significant risk to the health of the populace all through the country. Starting at 2012, air pollution has been demonstrated to be the world's single most prominent natural health concern, the World Health Organization (WHO) says.

Respiratory health issues because of air pollution are broadly archived. The WHO brief shows that, as well as being connected to strokes just as ischemic heart disease, air pollution additionally assumes a significant part in tumors, like cellular breakdown in the lungs and malignancy of the respiratory framework. An investigation tracked down that in the previous decade, the unfriendly impacts of air pollution on mind capacity, discernment, and conduct had drastically risen.

ESCAPE is one of the largest proceeding with projects in the world devoted to estimating the impact of air pollution on human health, and in just the previous six years, they have delivered important information. The discoveries of the research, which was distributed in various diaries, demonstrate an ascent in the danger of cerebrovascular and coronary occasions, alongside an increment in respiratory diseases, because of air pollution.

Air pollution was evaluated as one of the best 10 danger factors for ailment, as per the latest appraisal of the largest ever populace put together research with respect to the conveyance, hazard factors, and reasons for an expansive variety of diseases all around the globe, the Global Burden of Disease (GBD) study. South Asia's primary danger from pollution was household air pollution (HAP).

The WHO Rules for Indoor Air Quality arrangement with the nature of indoor air inside homes, working environments, schools, medical clinics, and other public and private establishments where individuals invest a great deal of energy. A wide variety of health issues might arise when hazardous synthetics are made as an outcome of development materials, building, inside hardware, or human exercises such the utilization of powers for cooking or warming.

Air Quality implies that the weighted upsides of individual characteristics of air pollution (for instance poison fixations) are changed into a solitary number or number. Explicit focus ranges are grouped into classifications of illustrative air quality under the AQI system. The agricultural country is India. India. Air pollution in India is additionally ascending with urbanization and industry.Numerous hazardous gases are discharged into the environment through cycles of industrialisation. Car emanations, agrarian field fires, building site residue and waste burning are significant supporters of air pollution in India. 22 of the 30 most dirtied urban communities in the world are in India with the convergence of particle matter.

Semiconductor devices

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Abstract:- As We knows today world is approaching towards usage of better reliable compact and portable devices semiconductor device is all about the advancement of old version of devices and the controlling of the operation as per the need of modern world.

I. INTRODUCTION

Semiconductor devices are well-known equipment of power electronics which helps us to rebuild and transform our lives in such a manner so that the operation of a bigger devices is to be reduced and the multi operational function can be possible.

Is semiconductor is a device that lies between the conductivity of then of a conductor and conductivity of insulator a semiconductor material has conductivity between the extreme of the conductor energy gap of a semiconductor is a very is from 0.5 to 1 electron volt that for Silicon that is of 1.21

II. POWER DIODE

In power diode be used in - layer to increase the depletion layer so that it blocks very high negative voltage. Non-Punch through diode have lesser depletion region n-region while in punch through diode depletion region is almost equal to the n- region.

III. CONDUCTIVITY MODULATION

In case of 5 through diode because of conductivity modulation the excess charge present in then and negative lead the overall resistance decreases then power loss decreases. This is only present for the minority carrier charges.

IV. SILICON CONTROL RECTIFIER

Silicon controlled rectifier is also termed as a thyristor it is a semi-controlled switch that only it controlled by the people during on state a person doesn't control the locking or see the ending capacity or when its thyristor has to stop.

V. TRIGGERING METHODS OF THYRISTORS

A. forward voltage triggering triggering.

In this method we used to keep on increasing the voltage at its peak value so that the test thyristor gets on by itself this result use loss of power in the circuit so usually this method will not be preferable for the triggering method.

B. Gate triggering

In this method we create and path for anode current to flow at higher rate is used by providing Anode current path through it get current will keeps on increasing the density of the conduction of current through the circuit and the anode current will flow through it so this method will be helpful for the gate triggering purposes and the thyristor will get on.

C. dv/dt triggering.

this type of the triggering method we used to increase the depletion region of semiconductor so that it behaves like capacitance once it behaves like a capacitor then we can control on its voltage to get control on the current as we have an control on the current so we have to decide now when to home on the SCR.

D. Light triggering

In this method light area was creating more number of charges that helps to move on the flow of electron and the flow of electron will get generate the current.

This is called a light activated silicon-controlled rectifier this method is more important and more useful for this system where we have to get on the Many thyristors simultaneously at a particular time. Light activated silicon-controlled rectifier (LASCR) is more convenient and reliable.

VI. SOME IMPORTANT PARAMETERS

Latching current- when we applied Gate signal when the anode signal reaches to the latching state the regeneration process starts and win until theReaches state there will be no reason reason so I can say that in latching current is the minimum current at which the regeneration will start.

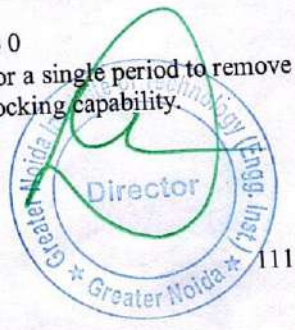
Holding current- holding current is the maximum current at which the the thyristor circuit will turn off for their communication process beyond this limit that is the holding current there will not be no computation circuit process going on.

Q- What Does Means Computation Failure

Ans- commutation feels when the circuit turn off time is less than computation time some exercise charge still presents at the junction even after removing negative voltage because of this exercise charge silicon-controlled rectifier losing its blocking capability that is silicon-controlled rectifier is not able to block the positive voltage and just behave like diode.

VII. COMMUTATION HAS 2 ROLES

- bring down auxiliary current to 0
- apply reverse voltage at least for a single period to remove the Stored voltage to regain blocking capability.



Vehicle Accident Spotting and Rescue System using Internet of Things

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Abstract: *As we know today's world is approaching towards the increasing number of automobile users. This increase in number of users are causing to rapidly increase in number of accidents occurring in this real world. To recover from these accidents we came through this project which mainly consists of GPS, Arduino ,GSM, Accelerometer and ultrasonic Sensor.*

The key point of this project is Sensors and accelerometer will detect the vehicle position and Location coordinates will be spotted by the GPS, further Global sim module will deliver a text to a smart phone

Key Words: *GPS, GSM, Ultrasonic Sensor, Arduino*

Introduction: Few days before I and my friend were reading about some facts regarding India and there we got a point in column having that India has about 1% of the global vehicle population but it has about 6% of the total global accidents and its increasing on day by day at a rapid rate. Though there are many reasons which cause death to these accident's victim but one of the major reason is the time delay between their accident and their Hospital Arrival so, to overcome this harsh problem we come up with an idea through this project by reducing this delay time by sending the accurate location of accident to nearest Police Station or hospitals.

Problem: Though there were few systems before which were getting to know about the occurrence of accidents via GSM but there was not any possibility for knowing the information where this accident had occurred but in present case we can get to know about the exact location via GPS and further the state of vehicle is determined by the other sensors.

Literature Review: In some bad weather condition or in Slummy area as well where it is very hard to know about the exact location if any accident happens. There was no any well and proved method by which that belonging can be rescued at that place where he or she is. But now by with the use of ultrasonic sensor and accelerometer we can find the condition of the vehicle and further the exact location tracked by GPS can be shared by the using GSM in message form to the nearest police station or care taker

Methodology:

Flowchart