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1.

Authors: Adel A. El-Kurdi, Ali Abdel-Hakam, Mohamed M. El-Gohary

Paper Title: Impact of Elevated Temperature on Properties of Limestone Concrete

Abstract: Limestone is normally less expensive than portland cement and can cost effectively replace a part of the powder content in most concretes. For this suppose, the scope of this work is to provide experimental data on the residual mechanical and physical properties of concrete containing limestone powder as a replacement or additive of cement content by mass subjected to heat. For this goal, five mixtures were casted, one as a control mixture and the others were with 10 and 15% limestone fines as a replacement and additive of cement content by mass. Reductions in both compressive and flexural strength results along with the extent of weight loss were examined. The mineralogy in unheated and preheated concrete at 20, 200, 400 and 600ºC was identified by means of thermogravimetry (TGA/DTG). Finally the scanning electron microscope (SEM) was done to study the microstructure of the hardened concrete. According to the results, limestone fines had a considerable effect on the properties of the concrete. The results indicated that, the residual compressive and flexural strength of 10 and15 % limestone fines as additive to cement content by mass are generally higher than those of convention concrete. In other words, elevated fire temperature is more damaging to the traditional concrete compared with additive limestone concrete. It has been established that limestone replacement causes reduce the compressive and flexural strength due to the dilution effect. The presence of limestone fines generally reduces the weight loss of heated concrete. TGA/DTG curves of unheated and preheated specimens can be used to estimate the degree of temperature which may the concrete exposed in accidental building fire as a practical part. Based on SEM images, no obvious cracks in limestone concrete whether as limestone replacement or additive up to 600ºC and the CaCO3 clearly observed without decomposition.

Keywords: fire resistance, limestone fines, (TGA/DTG) and SEM.

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2.

Authors: Mohamad Owais Raja, Tazeem A. Khan, Junaid Geelani

Paper Title: Comparison of Robustness in Watermarking Techniques

Abstract: A methodology for comparing robustness of spatial domain and transform domain watermarking techniques is proposed. The techniques used in the spatial domain are the least significant bit method and the transform domain technique used is the discrete cosine transforms based method. The techniques are compared on the basis of their susceptibilities to various types of noises which a work of digital media undergoes during intentional or unintentional modification in the real world. The recovery of watermarks in such simulated conditions as addition of Gaussian noise , salt & pepper noise, JPEG compression leads us to draw conclusions about how these techniques fare in the actual world. Moreover, the noise levels have been varied so as to elicit the threshold where even an otherwise robust technique fails.

Keywords: Digital watermarking, robustness, perceptual distortion measures, spatial and transform techniques..

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3.

Authors: **Rajesh Hegde, Karunakara K**

Paper Title: **Improved Interaction in Web-Based Cloud IDE**

Abstract: Internet has added more dynamism to this fast changing world. Most of the time, people wish to use internet to solve their problems. As of now, most of the events happen via on-line. When a new program/project is developed, developer may wish to test his program/project to know its performance without actually investing on the compilers and other libraries but to use cost effective solutions before being developed as a separate software package. If such solution is made available on-line at a learner's cost it may be attract entrepreneurs and newbies to develop new ideas and software solutions. For compiling and executing the source program, user needs a compiler package tools. The overhead of installing compiler to each machine can be avoided by using on-line compilers. A web-based environment has been developed for learners/developers to write programs in different languages. The proposed system runs on a Linux environment and provides each user with separate subdirectories that is completely isolated from others. The main aim of designing of this system is to ensure easy way of program development and to use on-line facilities to execute and debug the program. The client machine doesn't need a compiler kit. The proposed system has better interaction with the user by accepting the input at run time, process it and produce the result. This web-based application can be used across any network and platform. It also eliminates the hassle of installing the compiler on to each computer. There by reducing the cost factor during project development.

Keywords: Cloud Computing, Web-Based compilers, Interactive compilers, Cloud IDE.

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4.

Authors: **Ajay Kumar Singh, A. M. Lanjewar, A. Rehman**

Paper Title: **Direct Fuel Injection System in Gasoline Engine - A Review**

Abstract: This paper deals with the development of spark ignition engines that are designed to inject gasoline directly into the cylinder. Conventional spark ignition engine have defects such as high exhaust emission, low break thermal efficiency due to short circuiting losses and incomplete combustion which occur during idling & at part load operations conditions. The introduction of direct injection to the engine allows proper mixing of fuel & air giving complete control on combustion and emissions and thereby increasing power and efficiency. Another significant advantage of using direct fuel injection is that it is economical too as it provides a correct estimation of the quality of fuel required at proper time & provides control over combustion. Gasoline direct injection is becoming an important option to further optimize internal combustion engine.

Keywords: Direct fuel injection, gasoline engine, engine performance parameters, emissions.

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5.	**Authors:**	**Archana Jadhav, M. Omkar Sharma**

	Paper Title:	**Reversible Watermarking Technique using Histogram Shifting Modulations**	
	Abstract: This paper proposes creating new reversible marking technique. This originally based on indentifying parts of the image which are watermarked using two different Histogram Shifting (HS) modulations. One is Pixel Histogram shifting and other is Dynamic Prediction Error Histogram Shifting (DPEHS). This technique offers a very good compromise in terms of capacity and image quality preservation for medical image and natural image. The Prediction Error Histogram Shifting (DPEHS) can be combined with the expansion embedding (EE) modulation as well as pixel prediction. **Keywords:** Dynamic Prediction Error Histogram Shifting (DPEHS), Expansion Embedding (EE), Histogram Shifting (HS), Pixel Histogram Shifting (PHS). **References:** 1. S.W. Weng, Y. Zhao and J.-S. "Pan Reversible watermarking resistant to cropping attack", IET Inf. Secur., 2007. 2. B. Macq , J. F. Delaigle and C. De Vleeschouwer , "Circular interpretation on histogram for reversible watermarking," in IEEE Int. Multimedia Signal Process. Workshop, France, Oct. 2001. 3. Aweke NegashLemma,JavierAprea,WernerOomen,and Leon van de Kerkhof, "A Temporal Domain Audio Watermarking Technique", IEEE transaction,APRIL 2003. 4. W. Su , Z. Ni , J. Zhu, J. Chen, G. Xuan and Y. Q. Shi "Distortionless data hiding based on integer wavelet transform," in Proc. IEEE Int. Workshop Multimedia Signal Process., St. Thomas, U.S. Virgin Islands, Dec. 2002. 5. J. Tian, "Reversible data embedding using a difference expansion," IEEE Trans. Circuits Syst. Video Technol ,Aug. 2003. 6. F. Bao ,R. H. Deng ,B .C .Ooi ,and Y .Yang ," Tail ored reversible watermarking schemes for authentication of electronic clinical atlas," IEEE Trans. Inf. Technol, Dec. 2005. 7. V. Sachnev, H. J. Kim, J. Nam, S. Suresh, and Y.-Q. Shi, "Reversible watermarking algorithm using sorting and prediction," IEEE Trans. Circuit Syst. Video Technol. , Jul. 2009. 8. Z. Ni, Y. Q . Shi , N .Ansari ,and S .Wei ," Reversible data hiding, " IEEE Trans. Circuits Syst. Video Technol., Mar. 2006. 9. Vidya hari1, A.Neela madheswari "Improving Security in Digital images through Watermarking using enhanced Histogram modification " Springer, Advances in Intelligent Systems and Computing 10. Xiangyang Wang, Jun Wu, and Panpan Niu, "A New Digital Image Watermarking Algorithm Resilient to Desynchronization Attacks", IEEE transaction,DEC 2007. 11. G.Coatrieux, W. Pan, N. Cuppens-Boulahia, F. Cuppens, and C. Roux, "Reversible Watermarking Based on Invariant Image Classification and Dynamic Histogram Shifting " IEEE Transactions On Information Forensics And Security, January 2013 12. J. M. Barton, "Method and Apparatus for Embedding Authentication Information Within Digital Data," U.S. Patent 5 646 997, 1997. 13. D.M. Thodi and J. J. Rodriquez, "Expansion embedding techniques for reversible watermarking," IEEE Trans. Image Process, Mar. 2007. 14. J. Tian, "Reversible data embedding using a difference expansion,"IEEE Trans. Circuits Syst. Video Technol ,Aug. 2003.	**29-33**
6.	**Authors:**	**T. Jaswanth Kumar, M. Vijaya Kumar, A. Venugopal, Ch. Jayalakshmi**	
	Paper Title:	**Development of Time Code Generator Translator using Microcontroller Based user Interface**	
	Abstract: the paper deals with development of time code generator and translator using microcontroller based user interface. TCG/T is used in order to provide time stamping and event synchronization in satellite stations. TCG (Time Code Generator) is a precision timing system that generates a GPS (Global positioning system) Synchronized serial time code with DS1307-RTC (Real time Clock) where the process takes place and gives a serial time output using the IRIG-A (Inter Range Instrumentation Group) time code.TCT (Time Code Translator) is capable of accepting the control signals from TCG and translate the serial time to parallel time using a CPLD (Complex Programmable Logic Device). TCG/T can be programmed to even translate and provide parallel time code to front end hardware for time stamping the satellite raw data ingested by real time data acquisition systems up to microsecond level. **Keywords:** Time Code, CPLD, TCG, TCT, Microcontroller, GPS, DS1307-RTC, IRIG-A. **References:** 1. Betz, J. Winter 2001-2002,"Binary Offset Carrier Modulations for Radio navigation," NAVIGATION: Journal of The Institute of Navigation, Vol. 48, No. 4. 2. GPS Manual Pro Gin SR-95 GPS Receiver. Taiwan http://www.progin.com.tw. 3. Simon, M., et al. (1994), Spread Spectrum Communications Handbook, New York: McGraw-Hill. 4. R.A. Clarke, "Information Technology and Dataveillance", Communications of the ACM, 31(5), 1988, pp. 498-512. 5. Xli_time_and_frequency_system , http://www.ampere.com.mx/pdf/Manual_XLi.pdf 6. DS1307_RTC_Datasheet, http://datasheets.maximintegrated.com/en/ds/DS1307.pdf 7. AT89C51_Data_sheet, http://www.keil.com/dd/docs/datashts/atmel/at89c51_ds.pdf 8. Circuit simulation help, http://www.labcenter.com/index.cfm 9. I2Ccommunication, http://www.nxp.com/documents/application_note/AN10216.pdf 10. I2c,reference, http://www.nxp.com/documents/user_manual/UM10204.pdf 11. Proteus user manual, http://www.cybermotionedu.com/proteus.pdf 12. Keil user manual, http://www.keil.com/product/brochures/uv4.pdf 13. J. H. Anderson and S. D. Brown "Technology Mapping for Large Complex PLDs", Design Automation Conference, pp.698 -703 1998 14. http://www.xilinx.com/support/documentation/data_sheets/ds069.pdf	**34-37**
7.	**Authors:**	**Diptoshi Roy, Chandasree Das**	
	Paper Title:	**Grid Power Leveling using Ultra Capacitor, Battery and an Optimal Control Strategy for Reactive Power in DFIG based WECS**	
	Abstract: To harness the wind power efficiently the most reliable system in the Wind Energy Conversion system (WECS) is grid connected doubly fed induction generator (DFIG). Inconstancy in the output power and consequently voltage of the system is the result of random wind speed and turmoil of blade rotational speed. Battery energy storage system (BESS) is one, which helps to reduce the power fluctuations on the grid caused due to the varying and unpredictable nature of wind. This paper presents a comparative study between BESS and ultra- capacitor and the combination of both in a DFIG based WECS to reduce the power fluctuation on the grid. The performance analysis		**38-43**

	of the following cases (a) battery alone in dc-link (b) ultra- capacitor in dc-link (c) battery and ultra-capacitor in dc-link , have shown that the response with ultra-capacitor is best among all these cases. The analysis is done for all three modes of speed i.e. sub synchronous, synchronous and super synchronous and in all three modes, the power fed to the grid is kept constant. As the doubly fed induction generators used in grid interfaced wind energy systems are being called upon increasingly to address voltage regulation and provide adequate reactive power support; a reactive power control strategy is also studied and is included in this paper with grid and rotor side converters for voltage regulation and reactive power support respectively. The validity of this new approach has been tested in 16 bus IEEE power distribution system. The results obtained shows considerable reduction in losses by reactive power compensation. The modeling of battery, ultra-capacitor including model of rotor side converter for reactive power analysis are simulated in MATLAB-SIMULINK which helps to predict the behavior of the system in various aspects. An effort is made in this paper to study few issues like energy storage by ultra-capacitors, long term storage, reactive power control and a case study using 16-bus distribution system for grid connected DFIG based WECS. **Keywords:** DFIG, Ultra capacitor, grid power leveling, 16 bus distribution system.. **References:** 1. X.G.Wu, J. B. Ekanayake, andN. Jenkins, "Comparison of fixed speedand doubly-fed induction wind turbines during power system disturbances,"in Proc. Inst. Elect. Eng., Generation, Transmission and Distribution,May 2003, vol. 150, no. 3, pp. 343–352. 2. Y. Tang and L. Xu, "A flexible active and reactive power control strategy for a variable speed constant frequency generating system,"IEEE Trans. Power Electron., vol. 10, no. 4, pp. 472–478, Jul. 1995. 3. Tapia, G. Tapia, J. X. Ostolaza, and J. R. Saenz, "Modeling and control of a wind turbine driven doubly fed induction generator," IEEETrans. Energy Convers., vol. 18, no. 2, pp. 194–204, Jun. 2003. 4. L. Xu and Y. Wang, "Dynamic modeling and control of DFIG-based wind turbines under unbalanced network conditions," IEEE Trans.Power Syst., vol. 22, no. 1, pp. 314–323, Feb. 2007. 5. Z. M. Salameh, M. A. Casacca, and W. A. Lynch, "A mathematical model for lead-acid batteries," IEEE Trans. Energy Convers., vol. 7,no. 1, pp. 93–98, Mar. 1992. 6. Vijay Chand Ganti,Bhim Singh,Fellow,IEEE,Shiv Kumar Aggarwal,andTara Chandra Kandpal,"DFIG based wind power conversion with grid power leveling for reduced gusts,"IEEE Trans on Sustainable Energy, vol. 3, no. 1,pp.12-20, January 2012. 7. M. Kayikci,J.V. andMilanovic, "Reactive Power Control Strategies forDFIG-Based Plants", IEEE Transaction on Energy Conversion, Volume22, Issue 2, Page(s):389-396, June 2007. 8. Hourly Wind Energy Data [Online] .Available: http://www.imd.gov.in/section/nhac/aws/aws.htm. 9. S. Foster, Lie Xu and B. Fox, "Coordinated control and operation of DFIGand FSIG based Wind Farms", 2007 IEEE Lausanne Power Tech, 1-5.	
8.	**Authors:**	**Bhavya Bansal, Aishvarya Bansal**
	Paper Title:	**Evaluation and Analysis: Latest Internet Tools and Technology**
	Abstract: This paper highlights the analysis of recent methods and payment gateways through internet after evaluation. Ever since digitization has taken place everything has become computerised and online, so is the complexity in getting awareness of and understanding the use of such new internet payment tools, gateways, methods, etc. Thus, there is a growing need to understand these online payment gateways to ensure safety, integrity, confidentiality and optimization of transaction. Not only this, various concerns like cyber crime, hacking and virus make it difficult to securely make online payment. Therefore, this paper is of immense use for today's gen-x and others who are in one way or the other associated with the use of internet. Thus, after reading this paper one can easily choose the best payment mechanism according to the requirement and security constraint. **Keywords:** Electronic Money, E-Payment, Internet, Credit card laundering **References:** 1. Handbook by Sushila Madan, Electronic Commerce 2. Readings on Electronic Commerce by Delhi University 3. Amor, Daniel-Pearson Edude.E Business R (Evolution) 4. Greenstein & Feinman, Electronic Commerce 5. http://en.wikipedia.org/ 6. https://www.google.co.in/	**44-47**
9.	**Authors:**	**Uday Arun Deshpande**
	Paper Title:	**Interconnection of Electrical Power System Grids via Cloud: Vision and Framework**
	Abstract: This paper deals with the interconnection of electrical power system grids using cloud. This cloud includes the type of each user interface and the linkages between them.' A modern power grid needs to become smarter in order to provide an affordable, reliable, and sustainable supply of electricity. For these reasons, considerable activity has been carried out and the majority of these activities emphasized only the distribution grid and demand side leaving the big picture of the transmission grid in the context of smart grids unclear. In this paper I had tried to produce a unique vision for future transmission grids, in this vision, each smart transmission grid is regarded as an integrated system that functionally consists of three interactive, smart components, i.e., smart control centers, smart transmission networks, and smart substations. The features and functions of each of the three functional components, as well as the enabling technologies to achieve these features and functions, are discussed in detail. With the help of this paper propose Greenhead, a holistic resource management framework for embedding VDCs across geographically distributed data centers connected through a backbone network. The goal of Greenhead is to maximize the cloud provider's revenue while ensuring that the infrastructure is as environment-friendly as possible with use of cloud, where Cloud computing promises to provide on-demand computing, storage, and networking resources. However, most cloud providers simply offer virtual machines (VMs) without bandwidth and delay guarantees, without hurting the performance of the deployed services. To evaluate the effectiveness of	**48-51**

proposal, conducted extensive research on various cloud service providers like amazon, windows azure, hp cloud etc.. Results show that with use of cloud improves requests' acceptance ratio of endurance and while ensuring high usage of renewable energy and minimal carbon footprint.

Keywords: power system grid, interconnections of grids, cloud, bilateral network connection of grids.

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10.

Authors:	**T. Gomathi, B. L. Shivakumar**
Paper Title:	**Suspection Less Steganographic Approach using Enigma Intermix Cube Encryption Technique**

Abstract: Steganography is a process of hiding one data behind an image. A text data or an image in one format is being hidden in other image or text data of the same format or of the different format. The data transmitted nowadays are being hacked easily by intruders, such that the purpose of secured transmission fails there. There are several traditional ways of transmitting data such as encryption, scrambling, watermarking, steganography, etc; the process of encryption involves changing data in one format to the other and transmitting. When the decryption method is known to the intruders then the data is easily available for them. Most of the encryption techniques are easy to predict. The process of scrambling involves shuffling the positions of the data in a format, which when applied in the reverse order or applied continuously will result in the original data. Watermarking is a process of embedding an image or text or logo in another image such that it is partially visible on the main data and hence it doesn't so well for secured transmission technique. Similarly the various traditional methods of steganography have some disadvantages. Some among them are listed below.

Keywords: Encryption, HVS (Human Visual System), LSB (Least Significant Bit), PSNR (Peak Signal Noise Ratio), Steganography

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Authors:	**T. Gomathi, B. L. Shivakumar**
Paper Title:	**Geometric Finger Nail Matching using Fuzzy Measures**

Abstract: This paper proposes a novel method, a Fuzzy Feature Match (FFM) based on a triangle feature set to match the fingernail. The fingernail is represented by the fuzzy feature set. The fuzzy features set similarity is used to analyze the similarity among fingerprints. Accordingly, a similarity vector pair is defined to illustrate the similarities between two fingernails. The FFM method shows the similarity vector pair to a normalized value which quantifies the overall image to image similarity. The algorithm has been evaluated with kaniyakumari district people's fingernail database. Experimental results confirm that the proposed FFM based on the triangle feature set is a reliable and effective algorithm for fingernail matching.

Keywords: Extraction, Fingernail recognition, Fuzzy features, Matching, Minutia. Triangularization.

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12.

Authors: **Raghavendra M, S Ramanand, H. Naganagouda**

Paper Title: **New Grid connected PV system Using Reduced Switch Multilevel Inverter and PID controller**

Abstract: This paper presents a single-phase five-level photo-voltaic (PV) inverter topology for grid-connected PV systems with a novel pulse width-modulated (PWM) control scheme. Two reference signals identical to each other with an offset equivalent to the amplitude of the triangular carrier signal were used to generate PWM signals for the switches. A single-phase phase-locked loop (PLL) is introduced for the grid interfacing system, which enables the PV inverter to get, synchronizes with the utility grid. Also a proportional–integral-derivative current controller is proposed to keep the current injected into the grid sinusoidal and to have high dynamic performance with rapidly changing atmospheric conditions.

Keywords: Grid connected PV system, New Multilevel inverter, Solar System, PID controller

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13.

Authors: **G. Karpagam, R. Aasin Rukshna, G. Savithri**

Paper Title: **Comparative of Diverse Methods for a Nonlinear Process**

Abstract: Control of liquid level in a process plays a crucial role in process industries. PID control schemes are most widely used in process control systems represented by chemical processes because of its robustness, simplicity and its excellence in linearity performance criterion. The main objective of model-based controller is to compensate the shift in process and maintain the liquid level on its required target value. Our goal in this paper deals with the study of using a three term control namely the PID controller to find the best tuning method amongst the five tunings methods implemented here such as Ziegler Nicholas (Z-N), modified Z-N, IMC (internal model control, TL (tyreus luyben), CHR (chien hrones reswick) for an single input single output (SISO) liquid level control system. Various time performance criteria's namely IAE, ISE, ITAE has been used for comparison for high stability and reliability. Compared to the conventional PID tuning methods, the emerged results shows that good performance can be achieved with the proposed IMC method based on its high stability, minimum values of rise, settling time criterions.

Keywords: PID controller, Tuning method, imc.tl.

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