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Authors:	**Reza Norouzalizadeh Ghoochani, Mahyar Habibi Rad**	
Paper Title:	**Improving Energy Consumption in Building Products using Life Cycle Assessment and Energy Analysis**	

1. **1-8**

Abstract: Modern building products have the potentials to save energy and improve environmental impacts in comparison to conventional products. However, in order to reduce of the energy and environmental impacts of any building product, its materials and energy consumption must be evaluated over its entire life cycle. This study analyzed the energy consumption associated with the total life cycle of the building products. It reviewed the literatures and information provided in existing life cycle assessment studies and reports to develop a comprehensive analysis of the life cycle energy for the building products. The analysis comprised three main phases: manufacturing, transportation, and operation. The results confirmed that the life cycle energy analysis could assign the useful metrics for equal comparison the products types and reduced uncertainty throughout quantifying the energy consumption and environmental impacts of the entire life cycle of the building products. Moreover, the life cycle energy analysis provided the facility of continuing improvements to efficiency and operating lifetime of the building products.

Keywords: Life cycle energy analysis; building materials and products

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Authors: **Ezer Osei Yeboah-Boateng, Emmanuel Owusu Asamoah, Vera Dzidedi Segbedzi**

Paper Title: **An Automated Attendance System based on NFC & X Bee Technologies with a Remote Database**

Abstract: The main aim of this research was to automate attendance registration, thereby reducing human involvement in the whole process. Typically, the system works by storing vital staff personable information, such as Name, Job specification, etc. into a MySQL database upon engagement. The staff is identified with a unique key associated with an NFC based ID card within the database. So on typical work day, an employee scans his/her ID card on the PN532 reader in close proximity. The exact time and date, together with the unique identifier of the scanned card are stored locally on a storage media, before the data is relayed via the XBee to the remote database. The captured data is then authenticated by comparing with the pre-entered data to give access or authorization to the corporate resources, as well as recorded for attendance purposes. Our experiment shows that the automated attendance system is more effective, efficient and reliable, due to its real time capability, remote monitoring and attendance reports that it provides to the institution.

Keywords: NFC, XBee, RFID, Attendance System, personable information.

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3.

Authors: **P Veera Bhadra Kumari**

Paper Title: **A Survey of Multilevel Inverters**

Abstract: Multilevel inverter technology has become important over the years in the area of high power medium voltage energy control. This paper presents information about several multilevel inverter topologies, such as the Neutral-Point Clamped Inverter and the Cascaded Multicell Inverter. This paper also presents the most relevant control and modulation methods developed for this family of converters: multilevel sinusoidal pulsewidth modulation, multilevel selective harmonic elimination and space vector modulation. Finally, developing areas such

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as electric vehicle propulsion converters and electric power grid system and other opportunities for future developments are addressed.

Keywords: Multilevel inverter, topologies, modulation, comparison.

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4.

Authors:	**M Nalini Devi**
Paper Title:	**Performance Analysis of RLC Series Circuit and DC Machine using Bond Graph Theory**

Abstract: This paper presents the Bond Graph formalism for modeling of electrical systems. Eelectrical models like series RLC circuit and DC machine are modeled by this approach for the analysis of their physical behavior. System equations are generated by using a step-by-step procedure from a bond graph diagram. Theoretical valuation is validated through the numerical simulation studies. MATLAB/SIMULINK software package is employed for simulation and corresponding results have been carried out.

Keywords: Bond graph, effort and flow, MATLAB/SIMULINK

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5.

Authors:	**Rajeev Singh**
Paper Title:	**A Review of Pressure Pulse Measurement Techniques for Space-Charge and Polarization in Dielectrics**

Abstract: This review encompasses a detailed account of pressure pulse methods for measurement of space charge profiles in thickness direction of polymer electrets.

Keywords: Space-Charge, Pressure Pulse, PPS, LIPP, PWP

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6.	**Authors:**	**Akhilesh Kumar Pandey, Girish Chandra, Rajeev Singh**
	Paper Title:	**A Comparative Analysis of Variation Between Feed Patch and Parasitic Patch of a CPW Microstrip Antenna**

Abstract: A CPW fed microstrip antenna with triple band is presented. Two different radiating microstrip line are kept near the fed microstrip line structure. The new radiating antenna obtained has shifted frequencies bands at left side. The analysis of radiating structure by varying the gap fed patch and microstrip line is done. As well as comparisons of four antennas are given along with radiation pattern are presented. The simulation results have been done using software AWR Microwave office.

Keywords: Coplanar wave guide (CPW), Microstrip patch, triple band, dual band.

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Authors: **Bright Kwame Ameme**

Paper Title: **Internet Banking in Ghana: Challenges and Benefits**

Abstract: One of the most important competitive tools and strategic strengths of banks today is information technology. Technological investments in banks enhance customer experience and satisfaction through operational excellence, improved and convenient product and service offerings. This notwithstanding, customers face some challenges with these technological innovations. The ability of banks to compete effectively on these technological innovations depends largely on ensuring that the benefits outweigh the challenges faced by customers. This study used both qualitative and quantitative approach to investigate the benefits and challenges of internet banking in Ghana, with specific emphasis to a commercial bank. The study employed Kendall's Coefficient of Concordance to establish the degree of agreement among the respondents on internet banking challenges. Kruskal-Wallis ranking method was also employed to analyse respondents rating of reduction in banking hall transactions, as a result of using internet banking services. The results of the study revealed frequent breakdown of websites, high service charges, low limit on funds transfer and slowness of transactions as key challenges facing internet banking customers in Ghana. On the other hand, customers will be more satisfied when internet banking platforms are enhanced with other banking services. The study concluded that there was a significant effect of the use of internet banking services on the volume of banking hall transactions. In addition, there was a weak-to-moderate level of evidence of agreement among the respondents on the internet banking challenges. It was therefore recommended for banks in Ghana to invest in alternate banking channels in order to remain competitive, satisfy and retain their customers and reduce the long queues that often characterise the banking halls. Equally, banks need to take steps to mitigate challenges affecting customers in the use of internet banking services.

Keywords: Banking, Innovation, Service, Technology.

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8.

Authors: **Gyanendra Singh, Neha Mishra, Tushar Singh, Vipin Kumar**

Paper Title: **Power System State Estimation and Observability Analysis via Matrix Laboratory**

Abstract: This paper provides a numerical approach to observability analysis. The approach enables observability analysis and restoration (pseudo- measurement selection) in a simple way with iteration, via triangular factorization of the jacobian matrix of the weight least square state estimator. An algorithm for precious measurement of topological observability in large bus – system state estimation has been proposed. The algorithm is based on observation that the search for a spanning tree of full rank. The observability characterization of an electric power system from a topological point of view with respect to a given measurement acquisition system is equivalent to the existence of a certain spanning tree. The notation of observability, is a measure of how well internal states of a system can be reconstructed using a given set of measurements. In this work we derive necessary and sufficient conditions for observability in a power system. It is also show that standard measurement sets of at least one voltage measurement, and paired active and reactive power measurements may lead to unobservability for certain measurements configuration. Using a non linear transformation and properties of graph theory, a set of sufficient conditions are derived for observability. These conditions are shown to be dependent on the topological properties as well as the type of available measurements. The results is validated using an IEEE-3 Bus system. This method can be utilized off- line as a planning tool during the initial stages of measurements system design as well as on-line prior to state estimation. We use observability algorithm and state estimation algorithm, also use the Mat lab to obtain the various graphs of bus systems. In this paper we use Newton Raphson method to measure the matrix of bus-system The main objective of this paper is to measure the Observability analysis of bus system by using Mat lab simulation. In this paper we write the state estiman and observability analysis programming in matrix laboratory.

Keywords: Power system state estimation, Observability analysis, Pseudo-measurement, Mathematical technique, Critical measurement

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