

Editor's Note: Journal of Electrical and Electronic Systems (JEES) (Volume 5, Issue 3)

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Electrical and Electronic systems are groups of electrical components connected to carry out some operation. Often the systems are combined with other systems. They might be subsystems of larger systems and have subsystems of their own. Also, it is the branch of physics, dealing with electrical circuits that involve active electrical components such as vacuum tubes, transistors, diodes and integrated circuits, and associated passive interconnection technologies.

Electrical and Electronic Systems encompasses Wireless communication systems, Non-linear microscopy and ultrafast spectroscopy, Computational electromagnetics, Electrical Machines, etc. The current issue, i.e., Volume 5 Issue 3 published ten research articles, three review article, one opinion article, two editorials, and one commentary articles focusing on topics like Smart electrical Control System based on Microcontroller, Static Synchronous Compensator, Photovoltaic cell Applications, Capacity and Safety Check A Lithium Cobalt oxide Battery, Vedic Algorithm, Straightening Uniformly Folded Image, and Scheming a Dual Axis Solar Tracking System.

In today's fast running world it is essential to control the home appliances from remote locations through some set of instructions inputted into the computer. With the advancement of technology things are becoming simpler and easier for consumers. In this paper Bamisayi et al. [1], presents an automation system that switches on/off electrical appliances at a specified time using computers, which can be placed in any location in the house (room). The on/off system can be programmed in advanced to perform a specific assignment at the required time. This system is to save time and manpower along with maintaining security and convenience. This system is designed to counter appliance attack, provides efficient security management, and resolves vulnerabilities or counter measure. Smart Control System (SCS) is an important control system, for ensuring continuity monitoring and switching of any electrical appliance.

Energy disasters and environmental pollution caused by depletion of conventional energy sources lead scientists to think about renewable energies to satisfy the world needs of electricity. Of various energy types, the solar is expected to cover the maximum need of energy in the future. Therefore, the photovoltaic is one of the proposed solutions. Thus, a lot of research presents various photovoltaic systems structures, which are based on many power processing stages. In this article Abounada et al. [2], focuses on the inverter stage and its command. The structure presented here is very recent and understudied. It allows a conversion in a single stage with AC output voltage higher than the input voltage. It has the boost inverter, the boost inverter is a recent power processing stage that can increase, filter and alternate direct current input voltage. Furthermore, frequency analysis of output voltage signal proves efficient results.

The lithium-ion batteries are a type of rechargeable batteries containing lithium ions which are common in home electronics appliances. Fernandez et al. [3], proposed a novel and equivalent complex circuit model for the lithium-ion batteries. This proposed method check the balance charge and serial-discharge mechanism, aiming to realize the aeronautical battery pack capacity fading and

safety judgment. This technique can effectively solve the aeronautical lithium-ion battery pack capacity security prediction problem, effectively ensuring its cruising ability and security in the aero power supply applications. Further, the effectiveness of this algorithm was verified experimentally through fully and partially battery charge and discharge experiments.

Image processing is an analysis and manipulation of a digitized image in order to improve its quality. Numerous times general public are accustomed to fold the document papers. Then when we need to convert them into electronic form, the problems befall because the folded documents cannot be easily scanned as they have folds and there are huge possibilities of shadows in fold parts which can decrease the quality of the document. In this paper, Patel et al. [4], have proposed an algorithm to straighten such folded document image for getting better quality of the folded image. The proposed method helps to straighten the uniform folds digitally. The proposed algorithm has less complexity and good speed. The algorithm can be optimized so the fold is equalized and fold is not visible in resultant image.

Least mean squares (LMS) algorithms are a group of adaptive filters used to mimic a desired filter. LMS-ALE (adaptive line enhancer) filters removes the sinusoidal noise signals present in the channel by calculating the filter coefficients in every repetition of a process. LMS-ALE filter has large number of multiplier units. Here, Joseph et al. [5], uses Vedic algorithm for multiplier design. Therefore, when compared to traditional multiplier-based LMS-ALE filter units, Vedic multipliers give more performance in areas like resource utilization, power consumption, delay, etc. The article also includes designing Vedic multipliers, complex Vedic multipliers, redesigning using Vedic multipliers, and Vedic LMS blocks.

The three phase Shield Wire Scheme (SWS) is a practical method to supply power to the villages located along the High Voltage (HV) lines, up to 100 km distant from the HV transforming stations. Unbalance and voltage fluctuation are known as a major problem within the 3-phase Shield Wire Schemes networks (SWS). This research paper presents the methods by using the H-bridge cascaded Static Synchronous Compensator (STATCOM) to lessen the unbalance and voltage fluctuation. In unconventional networks without STATCOM, the unbalance factor generally will be more than 27%. In this study,

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Alidou et al. [6], proved that after voltage compensation by the H-bridge cascaded STATCOM, unbalance factor is decreased to 0.15%. Moreover, the voltage fluctuation is reduced. From this study, authors conclude that the use of STATCOM can provide technical means to limit voltage variation in SWS systems to ensure service's quality.

Hypertext Transfer Protocol (HTTP) has been the Internet backbone for a long time even with some known drawback and bottlenecks. In HTTP protocol (version 1.0), the client had to open a new connection on each request, after each response the connection should be closed. Abdullah et al. [7], reviewed and presented a survey paper that focuses on the current status of HTTP protocol from the beginning of HTTP 1.0 to the current status and the suggested solutions that are implemented recently. In this paper, Authors explore the current status of HTTP 1.1, HTTP/2, and HTTP over UDP protocols. Further, it showed that constructing HTTP has few limitations termed as "head of line blocking" in HTTP specification. Since the specification force the web server to deliver the requests in the same order as it arrived. That issue almost solved by introducing HTML multiplexing mechanism.

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