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## Comparative Study of Induction Motor Starters using MATLAB Simulink

Abhay M Halmare, Ashish Karnase, Swapnil Kourati  
R.T.M.N.U, Nagpur

**Abstract:** This paper presents a comparison between the Direct-On-Line (D.O.L.) and Soft Starter by using MATLAB Simulink. The purpose of this project is to find out the theoretical and actual characteristics of Induction motor. These three basic starting methods which different the irrespective wiring connection are the most applicable and widely-used starting method in the industrial area due to its economic reasons. This project is done by analyzing the characteristics during the motor starting by using the MATLAB Simulation to capture the waveforms of these events. After the Simulation, the three different starting method are being compared to conclude the most suitable and applicable starting method.

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## Power Generation in Future by using Landfill Gases

Sourabh Dhokpande, Ruchira Khadakkar, Bhawana Deshmukh, A. M. Halmare  
K.D.K.C.E, Nagpur

**Abstract:** This paper describes an approach to power generation in future by using landfill gases. The present day methods of power generation are not much efficient & it may not be sufficient or suitable to keep pace with ever increasing demand. The recent severe energy crisis has forced the world to rethink & develop the landfill gas type power generation which remained unthinkable for several years after its discovery. Generation of electricity by using landfill gases is unique and highly efficient with nearly zero pollution. Landfill gas utilization is a process of gathering, processing, and treating the methane gas emitted from decomposing garbage to produce electricity. In advanced countries this technique is already in use but in developing countries it's still under construction. The efficiency is also better than other non-conventional energy sources. These projects are popular because they control energy costs and reduce greenhouse gas emissions. These projects collect the methane gas and treat it, so it can be used for electricity or upgraded to pipeline-grade gas. These projects power homes, buildings, and vehicles.

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## Load Balancing and Providing Security using RSA in Wireless Sensor Networks

Megha I Mathapati, Mr. Shrikant Salotagi  
S.I.E.T, Karnataka

**Abstract:** This paper presents load balancing and provides security using RSA algorithm. This is brief introduction to handle the traffic on node. This represents the converge-casting protocol in wireless sensor networks. The protocol is localized and distributed, and adapts efficiently to very traffic. Graphs are analyzed using NS-2 simulator, here end-to-end packet latency, packet delivery ratio, throughput are analyzed. This is done for 30 nodes in NS-2 simulation.

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## Economic Load Dispatch using Genetic Algorithm

Bhushan Makwane, Prof. S. R. Gawande  
K.D.K.C.E, Nagpur

**Abstract:** This paper present the application of Genetic Algorithm (GA) to Economic Load Dispatch problem of the power system. Economic Load Dispatch is one of the major optimization problems dealing with the modern power systems. ELD determines the electrical power to be generated by the committed generating units in a power system, so that the total generation cost of the system is minimized, while satisfactory the load demand. The objective is to minimize the total generation fuel cost and maintain the power flow within safety limits. The introduced algorithm has been demonstrated for the given test systems considering the transmission line losses.

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## Electrical Energy Generation by using Pendulum Motion

Rajat Wairgade, Sandeep Mude, Sonu Tagwan  
K.D.K.C.E, Nagpur

**Abstract:** There is a lot of availability of mechanical energy in the environment. This mechanical energy can be converted into other form of energy like electrical energy. Here we developed a pendulum motion based power generator that sustains its motion with low maintenance providing voltage output peaks from a reciprocating mechanical structure. The reciprocating effect of our device is enhanced by using gear mechanism that is composed of shaft with a dynamo. We demonstrate lighting up a commercial LED light bulb by harvesting mechanical energy of the pendulum oscillation. This paper is a platform of developing a sustainable, low maintenance system to generate electrical energy.

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## The Analytical Study of Meshing of Double Helical Gear

Nishant Saini, Raminder Singh, Harpreet Singh  
Rayat Bahra University, Mohali

**Abstract:** Gears are the most important components of a Power Transmission System. The recent advancement and trend in technology requires gears operating at high load capacities and speeds with reduced space requirement. A gear normally fails when the tooth stress exceeds the allowable limit. So, it is essential to keep the maximum stress in a gear tooth under a specified limit for a given loading conditions. Analysis of gears is carried out to find out the possible laudation of failure and taking a corrective measure for the same. A gear failure is expensive not in terms of the cost of replacement but due to the downtime and loss of production associated with the failure. Gear design should consider all the possible loads that it can experience during its life. Surface fatigue and fracture is one of the major problems in gear and gearbox design. In order to find out and analyze the exact location of failure and the stress value at which gear fails, stress analysis of the double helical gear has been done in ANSYS. Load conditions to be experience by the gear has been applied along with other constraints.

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