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1.

Authors: Prerna Yadav, Shubhra Saxena

Paper Title: Performance Analysis of QOS Issues on AODV & OLSR Routing for MANETs Applications using NS-3 Simulator

Abstract: Routing protocols are interesting research area in Mobile ad-hoc network. The motivation behind research work is to explain performance evaluation of routing protocol in MANETs. It is quite difficult to determine which routing protocol is best. Each routing protocol has its own advantages and disadvantages. MANET has an open medium, changing its topology dynamically due to these characteristics so it can be accessible both legitimate users and malicious attackers. An ad hoc network is a collection of wireless mobile nodes that forms a temporary network without use of a predefined infrastructure or centralized administration. In this environment it may be necessary for each wireless mobile node to convey other nodes in forwarding a packet to its destination node due to the limited transmission, limited bandwidth and limited battery power of wireless network interfaces. Nodes are connected with each other through a wireless link in ad-hoc network. Each mobile node operates not only as a host but also as a router forwarding packets for other mobile nodes in the network. The nodes are free to join and left the network due to infrastructure less wireless network. Whenever a node in the network is down or leaves the network that causes the link between other nodes is broken. The affected nodes in the network simply request for new routes and new links are established. Routing is playing important role in mobile ad-hoc network (MANETs). Routing is providing paths b/w source and destination by using routing algorithms.

Keywords: MANET, AODV, OLSR, ZRP (Zone Routing Protocol), CBRP, Packet Delivery Ratio, End to End Delay, Routing Overhead, Packet Loss/Drop, NS – 3 Simulator, Quality of Services Issues

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2.

Authors: Omer Khalil Ahmed

Paper Title: Assessment of Wind speed for Electricity Generation in Makhool Mountain in Iraq

Abstract: Conventional energy usage has various environments that cause global warming and this effect has forced many countries to use renewable energy resources. Despite the abundance of renewable energy resources in Iraq, the use of solar and wind energy is still in its technological and economic infancy. Makhool mountain is located in north of Iraq. In Iraq, the electric power generated is not enough to meet the power demand of domestic and industrial sectors. The present study deals with the assessment of wind speed for the electricity generation over Makhool mountain (Latitude 35° 7' and Longitude 43°25') in Iraq by analyzing wind speed data during the period (January 2011 –November 2013).Monthly and annual wind speed, power and energy density at 10 m and 50 m above ground level calculated. The annual mean wind speed of Makhool is obtained as 3.87 m/s at 10 m/s and 5.87 m/s at 50 m. It can be seen that the wind is suitable for electricity generation. From the result this site has a great potential for harnessing wind energy. Also, Makhool Mountain is the best site for wind energy in Iraq in comparison with the other sites.

Keywords: Wind speed, Assessment, Electricity generation, Iraq.

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3.

Authors: **Sneha P. Hirkane, N. G. Gore, P. J. Salunke**

Paper Title: **Ground Improvement Techniques**

Abstract: Ground Improvement techniques are often used to improve sub soil properties in terms of their bearing capacity, shear strength, settlement characteristics, drainage, etc. These techniques have a wide range of applicability from coarse grained soils to fine grained soils. Depending upon the loading conditions and nature of soil, a suitable technique which is also economical needs to be adopted. This paper gives the concept and theory of a few ground improvement techniques and describes the practical application of these techniques.

Keywords: Bearing capacity, shear strength, settlement characteristics, drainage, etc.

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Authors: **Vishal U. Misal, N. G. Gore, P. J. Salunke**

Paper Title: **Analysis and Design of Prestressed Concrete Girder**

Abstract: In this present study, cost analysis and design of prestressed concrete girder is presented. The aim and objective can be summarized as to analyze and design the concrete girder under a IRC class 70 R loading. To formulate the entire problem for a couple of span under the loading mentioned above to obtain shear force and bending moment at regular intervals along the beam. To use the software STAAD PRO for the analysis and design of prestressed concrete girders. Before using the software for analysis it will be validated by comparing its results with the corresponding classical theory result. To carry out the parametric analysis for prestressed concrete I girder and box girder. To calculate the quantities of concrete and steel required as per the analysis and design carried out for the girders and to carry out the comparative study for the same.

Keywords: Box girder, Deck slab, I girder, Prestressed concrete.

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5.

Authors: **R. B. Meshram**

Paper Title: **Tracking and Formation of Wheeled Mobile Robot Using Fuzzy Logic**

Abstract: In this paper we propose a formation and motion control strategy for a group of wheeled mobile robot. Construction of perfect mathematical model is extremely complex due to inherent nonlinearities and other difficulties involved in obtaining reliable measurements. The aim of this work is to develop wheeled mobile robots, placed them in a leader follower framework and a motion controller based on Fuzzy Logic. Fuzzy logic gives human being like reasoning behaviour to a machine. It has been proved that fuzzy logic controllers are capable of using information retrieved from experienced human operator more effectively when compared with conventional controllers. The motion controller is designed using Interval type-2 Fuzzy logic. This will provide the robots the possibility to move from the initial to the final position. The simulation has been performed using MATLAB to investigate the performance of the proposed fuzzy controller.

Keywords: Wheeled mobile robot, formation, leader-follower, Interval type 2 fuzzy logic, fuzzy controller.

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