

**A
PROJECT REPORT
On
“EFFECT OF DUST ON SOLAR PV PANEL AND OPTIMISING IT’S PERFORMANCE
BY USING SUITABLE CLEANING MECHANISM”**

**Submitted in the partial fulfillment of the
Requirement for the VIII Semester, Project – 10EEP85
For the award of degree of
Bachelor of Engineering
In
Electrical & Electronics Engineering of
Visvesvaraya Technological University, Belagavi**

By

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**MUNIRAJA MJ
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CERTIFICATE

This is to certify that the Project work entitled
"MICRO ENERGY HARVESTING USING PIEZOELECTRIC MATERIAL"
Is a bonafide work carried out by

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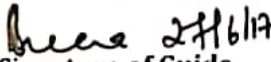
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Micro Energy Harvesting using Piezoelectric Material

published in Irjet Journal Volume 4 Issue 5 May 2017



Editor in Chief

E-mail : editor@irjet.net

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ABSTRACT

The increase in energy consumption of portable electronic devices and the concept of harvesting renewable energy in human surrounding arouses a renewed interest. This project focuses on one such advanced method of energy harvesting using piezoelectric material.

The process of acquiring the energy surrounding a system and converting it into usable electrical energy is termed POWER HARVESTING. Mechanical energy is one of the most ubiquitous energies that can be reused in our surroundings. Mechanical waste energies usually can be harvested by using vibration-to-electricity conversion.

This project describes the use of PIEZOELECTRIC MATERIAL in order to harvest energy from mechanical vibration, mechanical stress and strain energy, human body which can generate Milliwatt or microwatt level power. Piezoelectric material are excellent power generation devices in which, when a piezoelectric is strained it produces an electric field; therefore, piezoelectric material can convert ambient vibration into electrical power. Piezoelectric materials have a vast application in real fields.

A
PROJECT REPORT
On
**“PLC BASED SMART GRID APPLICATION TO CURTAIL AND CONNECT
RENEWABLE ENERGY SOURCES”**

**Submitted in the partial fulfillment of the
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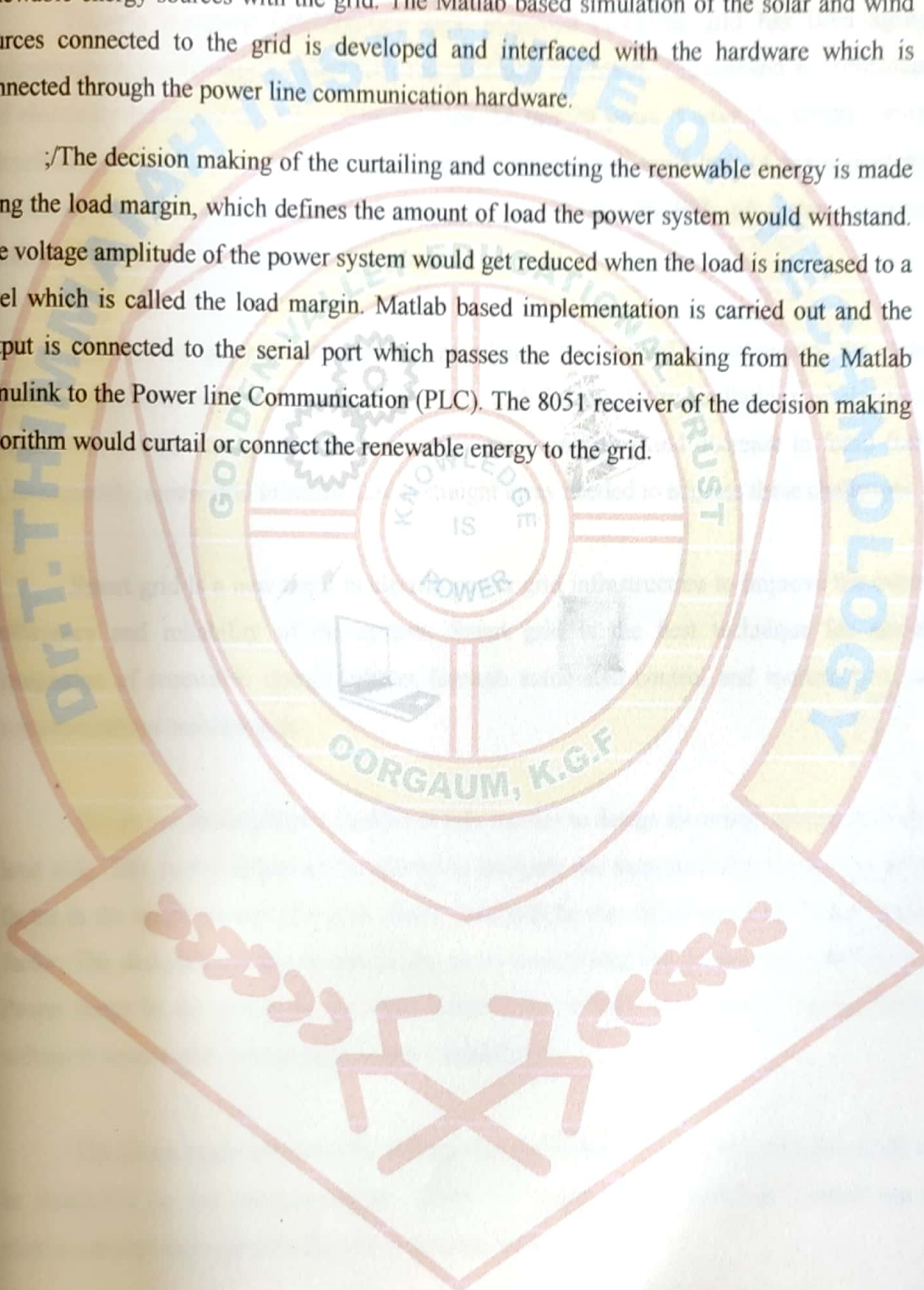
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ABSTRACT

This project is an attempt to develop a smart grid that would curtail and connect the renewable energy sources with the grid. The Matlab based simulation of the solar and wind sources connected to the grid is developed and interfaced with the hardware which is connected through the power line communication hardware.

;The decision making of the curtailing and connecting the renewable energy is made using the load margin, which defines the amount of load the power system would withstand. The voltage amplitude of the power system would get reduced when the load is increased to a level which is called the load margin. Matlab based implementation is carried out and the output is connected to the serial port which passes the decision making from the Matlab Simulink to the Power line Communication (PLC). The 8051 receiver of the decision making algorithm would curtail or connect the renewable energy to the grid.



**A
PROJECT REPORT
On
"WIRELESS POWER TRANSMISSION FROM SOLAR INPUT"**

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ABSTRACT

The transmission of electrical energy from source to load for a distance without any conducting wire or cables is called Wireless Power Transmission. The concept of wireless power transfer was realized by Nikola Tesla. Wireless power transfer can make a remarkable change in the field of the electrical engineering which eliminates the use conventional copper cables and current carrying wires. Wireless power transmission has been achieved previously by using AC supply or through charged batteries. In this project renewable energy has been used as the source for wireless power transmission. As the output from the renewable energy sources is low, we have to use a suitable step-up converter. The DC output voltage from the solar cell is boosted using a high step-up converter and it is converted to oscillating signals. These oscillating signals are amplified by using an amplifier and then fed to transmitter coil. By operating at resonant frequency and by achieving good coupling between the transmitter and receiver coil setup, the electrical energy gets transferred from transmitter coil to the receiver coil due to magnetic resonance between them. The transferred energy is converted back to DC using rectifiers and given to the DC load. The proposed wireless power transmission system is validated and verified using MATLAB program.

**A
PROJECT REPORT
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“GENERATION OF HIGH VOLTAGE DC USING DIODES &
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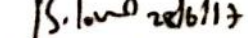
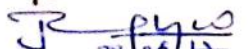
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This is to Certify that Prof./Dr./Ms./Mrs./Mr. LAVANYA C.K.

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Title of the paper... GENERATION OF HIGH VOLTAGE DC USING DIODES & CAPACITORS IN LADDER NETWORK.

Convenor
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General Chair
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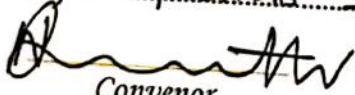
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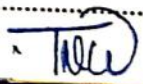
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ABSTRACT

The project is designed & constructed to develop a high voltage DC of around 2KV from a input AC supply source of 250V using the capacitors and diodes that are constructed in the form of ladder network based on voltage multiplier concept. Generally transformers are used for stepping up of voltage in which the output of the secondary of the step up transformer increases the voltage and decreases the current. The other method for stepping up the voltage without the use of transformers is by using voltage multiplier circuit which converts AC to DC. These Voltage multipliers are primarily used to develop high voltages where low current is required. The concept of developing high voltage DC from single Phase AC is described in this project which can be enhanced up to 10KV. For safety purpose this project is restricted with a multiplication factor of 8 so that the output would be within 2KV. This concept of generation of high voltage using multiplier circuit is used in Electronic appliances such as CRT's, oscilloscopes and in industrial applications. The principle of voltage multiplier circuit is that the voltage keeps on doubling at each stage. Thus, the output of an 8 stage voltage multiplier circuit is 2KV DC which cannot be measured by using a standard multimeter. Hence a potential divider of 10:1 is used at the output such that 200V reading means 2KV.

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**Submitted in the partial fulfillment of the
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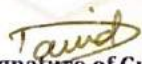
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USING ZigBee
in the National Conference on Recent Trends in Electronics and Communication Engineering
NCRTEC-17 on 29th May 2017.


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Er. V.Krishna Reddy
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Dr. K R Suresh
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**A
PROJECT REPORT
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“SMART MULTI-SOURCE BATTERY CHARGING SYSTEM FOR
HYBRID ELECTRIC VEHICLES”**

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- 2.

ABSTRACT

To keep pace with ever increasing demand of electrical energy in world, coal based Power plants may not be sufficient, also the generation of power by coal based power plants or nuclear plants causes' pollution .The recent severe crisis has forced the world to develop new and alternative methods of power generation by using renewable sources of energy.

Harvesting green source of energy helps to reduce the maintenance cost in the frequent replacement of batteries, reduce pollution, and enable the long term powering of devices in places that are not easily accessible. In recent past, systems have been proposed to use energy harvesting systems to charge energy storage devices (batteries). This proposed project presents a simple but effective solution to combine multiple energy harvesting systems for battery charging.

This ensures the effective use of environmental energy for the powering of systems at all times. The proposed system has a monitoring interface, which monitors the energy harvesting system's outputs, combined with a battery charger controller to charge a Li-ion battery, thereby providing an approach which ensures that the battery can always be charged using green energy.

The advantage of multisource power for charging the battery is that if there is no solar power due to rain or cloudy day then Wind power can be used or if there is no sufficient wind power then Solar power can be used for charging the batteries, in absence of both the battery can be charged through AC mains. 1st preference is provided to Solar then to Wind and lastly to AC power.

Implementation of multi-source battery charging system to hybrid electric vehicles helps in charging the batteries through renewable energy sources, while in the absence of any charging stations.

**A
PROJECT REPORT
On
"STREET LIGHT AUTOMATIC INTENSITY CONTROLLER"**

**Submitted in the partial fulfillment of the
Requirement for the VIII Semester, Project - 10EEP85
For the award of degree of
Bachelor of Engineering**

**In
Electrical & Electronics Engineering of
Visvesvaraya Technological University, Belagavi**

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2016 - 2017

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CERTIFICATE

This is to certify that the Project work entitled
" **STREET LIGHT AUTOMATIC INTENSITY CONTROLLER** "

Is a bonafide work carried out by

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The students of 8th Semester B.E Electrical & Electronics, under our supervision and guidance submitted in partial fulfillment of the requirements for the award of Degree of Bachelor of Engineering in Electrical & Electronics of Visvesvaraya Technological University Belagavi, during the academic year 2016-2017.

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ABSTRACT

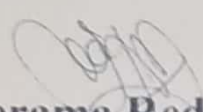
At present days the maintains of street light is one of the major problems for electricity board of India. And also has to save the power in unusual time's i.e. in from night 12PM-04AM morning. To maintain and control the street light is more complex and uneconomical. At present we are having various street light controlling systems. To make the street lighting more advancing i.e. obtaining the complete details of it ,we are using a new mechanism called wireless communication system. And in this paper we propose alone more technique is that LDR to determine the light intensity levels. In this paper I propose a new mechanism to maintain the street light with Automated ON-OFF control by using PIR and Power saving mechanism. And also we are using new open source software called Arduino in which to control the mechanism of the street lighting. Also implementing the wireless communication to facilitate and to receive the acknowledgement when the light is turned ON or OFF and also we check the status of the light (i.e. whether the light is ON or OFF) via sending SMS.


(Approved by AICTE, New Delhi, Recognized by Govt. of Karnataka & Affiliated to VTU, Belagavi)
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CERTIFICATE

This is to certify that Dr./Mr./Mrs./Ms. PRADEEP KUMAR.S. DR.TTIT. K.G.F. has
presented a paper entitled AVTOMATIC INTENSITY CONTROLLER OF STREET LIGHTS
in the National Conference on Recent Trends in Electronics and Communication Engineering
NCRTEC-17 on 29th May 2017.


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