**An IoT-based Sag Monitoring System for Overhead Transmission Lines**

**Alternative title:**

**Transmission line falling detection system with iot**

**Aim:**

Aim of this project is automatic transmission line stand fall detection and power monitoring system in agriculture field.

**Introduction:**

This paper is proposed energy monitoring and transmission line stand fall detecting system. Arduino uno Microcontroller is implemented in this method. MPU6050 sensor is used to detect position of transmission line stand. It is also detect the line connections of the stand. MPU6050 sensor it will detect any stand fall and line fall. GSM modem is send data to Cloud with location and stand number also. GSM SIM800C modem is used to send data from transmission line to cloud and correspondent person

**Existing system:**

In this existing system is used to monitoring transmission line position avoiding short circuit connections. With wind speed, ambient temperature, and line current data, as well as the sunshine information at a span, the line temperature and sag value could be compute. However, it might be difficult to acquire these parameters with high accuracy in real time.

**Proposed system:**

In this proposed system is iot based transmission line stand fall detection and line detection. This method is used MPU6050 sensor for fall detection. MPU-6050 module is no doubt its DMP(Digital Motion Processor) embedded on the same silicon die, since it support 9-axis Motion Fusion algorithms while correcting any alignment problems and errors caused by small components. SIM800 modules are upgraded version of its previous successful GSM/GPRS/GPRS module series SIM900. There are multiple sub versions of, each of which caters to a different set of users and applications.

**Block diagram:**

**Transmission line**

Relay

5v power supply unit

Arduino Uno

Microcontroller

Voltage sensor

Buzzer

Current sensor

IOT MODEM

Accelerometer sensor 1

Accelerometer sensor 2

LCD

Cloud

**Block Diagram Description:**

Above the block diagram is containing Arduino Uno, voltage sensor, current sensor, accelerometer sensor, and GSM modem and power unit. The accelerometer sensor fix to the transmission line stand and transmission line. Accelerometer sensor is nothing but position monitoring of the object. In this project is used this sensor for monitoring position of transmission line and transmission line stand. Accelerometer sensor will get abnormal position of stand and line it will intimate to controller. Controller is send current and voltage value and sends Stand number with location to cloud using GSM SIM800c modem.

**Requirements:**

**Hardware Requirements:**

* IOT Modem
* Relay -1
* Accelerometer-2
* Arduino uno
* Current sensor -1
* Power unit
* Voltage sensor
* LCD

**Software Requirements:**

* Keil software
* Embedded c

**Conclusion:**

In this paper automatic transmission line stand fall detection and power monitoring system in agriculture field using the arduino .Controller is send current and voltage value and sends Stand number with location to cloud using GSM SIM800c modem when the transmission line falls this process are done automatically this paper is more secured.