

**WIRELESS LANDSLIDE PRECURSOR SYSTEM USING
VIBRATION SENSOR**

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ABSTRACT

This paper presents the design and the implementation of wireless landslide precursor system by using vibration sensor. This project is based on wireless technology. RF module is used for mediation of the two mediums. A shock sensor is used to detect the vibration. This project is to develop a source code in MPLAB programming. This wireless landslide precursor system is being control by a microcontroller, which is PIC16F877A type act as the brains for the system. The sensor will be connected to PIC Microcontroller. The controller is programmed to determine which sensor is detecting the vibrations and give signal to RF transmitter module. RF transmitter module then transmits data to RF receiver module. RF receiver module receives a signal.

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CHAPTER 1

INTRODUCTION

Nowadays landslides always occur. A lot of things done and alert system is designed to detect landslides and to ensure such incidents do not recur. Therefore Wireless Landslide Precursor System Using Vibration Sensor is created. This chapter presents to describe some introduction about these alert system implementations.

1.1 BACKGROUND OF STUDY

The alert system of landslide occurrences is an important issue to human and life in the world. A landslide occurrence is difficult to predict in term of exact time, date and place [1]. Among the reasons of landslide occurrence is the weather and natural disasters. A landslide often occur because of vibrations resulted from the earthquake. A wireless landslide detector system is designed to give immediate information about the landslide precursor to avoid this natural disaster. This system is designed to notify the appropriate time of landslide occurrence to the people especially for those who are close to the hills that have high possibility for landslide to occur. Early notification can save money and many lives. A lots of natural disaster especially landslide can change the structure of a country's map [2]. The changes in the structure of a country's map can be avoided if the probability of landslide occurrences can be identifying in advance. In other causes the occurrence of landslide is originated by the loss in equilibrium of the soil mass due to changes in one or more parameters, such as seismic noise, ground displacements,