

## **ABSTRACT**

*Earthquakes are vibrations that occur on the surface of the earth due to the movement of the earth's plates and the sudden release of energy that creates seismic waves. The frequency of a region, refers to the type and size of an earthquake experienced during a period of time. Along with the development of early earthquake detection system technology provides a solution to minimize the impact of earthquake events*

*This final project will discuss the design of early warnings to determine the occurrence of earthquakes in the rainy season through geomagnetic signals and time pattern analysis using the differentiation method which will later minimize the loss of life from earthquakes.*

*The implementation of this early warning aims to determine the occurrence of earthquakes in the rainy season from signals and time analysis patterns.*

*Keywords: Earthquake, Low Power Wide Area, Geomagnetik*