

ABSTRACT

A landslide is generally a displacement of materials such as a lump of soil and rocks moving or falling down. Landslides become a natural event in the category of disasters that have a serious impact on people's lives because they cause harm to the community, the destruction of public facilities and cause public activities are disrupted until Cause casualties. The study designed a system that can detect the occurrence of landslides wirelessly with the nRF24L01 PA + LNA module so that there are two circuits that serve as TX and RX. The TX series uses a heavy sensor, a photo transistor and a mirror to reflect the laser beam as an indicator of a landslide with the Arduino Nano as a microcontroller. In the RX frame using a NODEMCU microcontroller that can turn the buzzer as a sirens and send the hazard warning information of the presence of landslides on the smartphone. The test result of the heavy sensor can accurately detect the weight with the 0% error value, the photo transistor can detect the reflection of the laser beam up to 5 meters and the nRF24L01 PA + L700 NA When the presence of Buzzer landslides can be read in accordance with the expected conditions and transmit hazard warning information on the smartphone but have not been able to provide danger warning before landslides occur. The test result of the data sent from NodeMCU to the smartphone is the same value as the average delay of 2.345 second in good Internet network conditions.

Key Word – Landslides, Wireless, Frequency Radio, nRF24L01, Arduino Nano