

ABSTRACT

The need for electrical energy today is increasing, while the availability of electrical energy is not comparable to the energy public needs. This is what causes the electrical energy crisis has become a threat to society. Basically a lot of people are not aware of the abundance of energy is wasted when performing daily activities that can not be used maximally. Of whom is the kinetic energy in large amounts a pressure force generated by a footrests of activities walking or running in the crosswalk / sidewalk, lecture building / office, and a shopping center / market.

In this final project, the author makes a human footrest to the floor as an alternative energy source that still has not been exploited will be used to generate electrical voltage, through a piezoelectric transducer. Piezoelectric transducers are used in the final project is kind of a PZT (Lead Zirconate Titanate). Energy conversion process, occurring when a human footrest pressing piezoelectric polymer surface and produces no elastic pounding on the surface which will then generate an electric voltage.

From the above system, generated a floor electrical energy producers energy use piezoelektik footing that can produce output AC (Alternative Current). The highest voltage ever achieved is 73.60 V for 20 pieces arranged parallel piezoelectric when walking with the average voltage is 60.09 V and the average power is 0.0604 watt/10 footing.

Keywords: Footing Foot of Human, Flooring, Mechanical Pressure, Piezoelectric, PZT.