

Design of Wireless Power Transmission for Inductive Resonance Based Battery Charging

Ahmad Fahriannur, S.T., M.T. (Undergraduated Thesis)

Ahmad Roihan

Study Program of Renewable Energy Engineering
Department of Engineering

ABSTRACT

Wireless power transmission can use by electromagnetic wave as the sender. Electromagnetic wave can propage without a mediator with the same frecuency, after that electromagnetic can be a sender also a receiver. This study make a series of transmitter for the series of electromagnetic wave and a series of receiver for the series of recipient electromagnetic wave. When the coil flowed with a electric flow, then a coil will be put out a electromagnetic wave in the form of magnetic lines (magnetic flux). Fluks magnetic will be on a receiver coil. If a coil receive a random magnetic flux, it will be an electric flow that will be flow into the coil. This process is electromagnetic induction. From this study the writer learn how the voltage value and a flow can be a sender and a receiver from the series based on variation of length until a series of *receiver* can not accept the voltage or the flow sent from a series *transmitter*. From the result, give the maximum length can charging a battery of handphone is 4.5 cm. A series receiver of the maximum length can receive a voltage from series *transmitter* is 10cm.

Keywords: electromagnetic wave, electromagnetic induction, transmitter and receiver