

# Wireless Power Transfer System Modelling Based On Neural Network With Adaptive Filtering

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**Abstract-** This paper propose a Simulink model for Wireless Power transfer to emulate the effect of air gap and the distance, misalignment, noise and harmonic. This model is based on practical neural Network weight matrix where it read the value of output voltage from the transmitter coil and then calculates the voltage produced in the received coil with taken in consideration the circuit configuration variable as capacitor, inductor, and number of turns. The frequency in the receiver part is controlled by an adaptive filter where the band width of operating frequency is very large and contains a lot of noise otherwise known it is very important for the accuracy of neural network. The system is tested in simulation and the hardware set up and showed acceptable performance illustrated by presented experiments.

Keywords-Modelling, Adaptive Filter, Neural Network, Wireless Power Transfer,

