Wavelet Transform and Neural Network Based Control Strategy for Hybrid Energy System

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***Abstract*—This paper presents a control strategy for a hybrid electric vehicle with two energy sources on board: battery and ultracapacitor. For this configuration it is proposed a new method for prediction of power demand time series using a hybrid algorithm with Wavelet decomposition and Neural Network. The prediction model is necessary for distributing the power demand of the vehicular system between energy storage devices according to their characteristics, in order to improve the vehicle performances. The results are conducted in Matlab software and the performance of this procedure is investigated.**

***Keywords*—hybrid vehicle; power demand; wavelet analysis; neural networks**

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