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Artificial Intelligence Techniques - Novel

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Abstract

Analytical models have been developed to diminish test procedures for product realization, but they have only been partially successful in consistently predicting the performance of battery systems. The complex set of interacting physical and chemical processes within battery systems have made the development of analytical models to be a significant challenge. Advanced simulation tools are needed to become more accurately model battery systems which will reduce the time and cost required for product realization. As an alternative approach, we have begun development of cell performance modeling using non-phenomenological models for battery systems based on Neural network which uses Matlab 7.6.0(R2008b). A Neural network based learning system method has been proposed for estimation of residual capacity of lead acid battery. RBF and regression network based technique are used for learning battery performance variation with time, temperature and load.

Thus a precision model of Neural network has been evaluated. The correlation coefficient of this model is worth 0.99977 shows good results for the target and network output.

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