

A Back-Propagation Neural Network Thermal Model for a Five-Storey Commercial Building

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Abstract

Artificial neural networks form part of an emerging field that has had considerable success in tasks involving prediction, recognition and control and this has resulted in their being implemented in energy management algorithms. Historical building data was used to train a back propagation artificial neural network to model the thermal performance of a five (5) storey building. Preliminary results show that the neural network model was able to successfully predict building thermal performance to within a low margin of error.