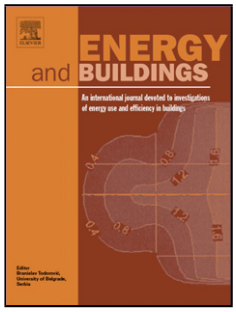

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Sample data selection method for improving the prediction accuracy of the heating energy consumption

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Highlights

1. A new sample data selection method is used to optimize similar days selection.

2. A grey correlation method is proposed to calculate the similarity coefficient.

3. Gaussian distribution function is introduced to generate virtual samples.

4. The new sample set is proved to be applicable for the BPNN model.

ABSTRACT: Back propagation neural network (BPNN) models and multiple linear regression (MLR) models are widely used to predict heating energy consumption. To improve the prediction accuracies for the BPNN and MLR models, we propose a novel sample data selection method (SDSM) combining the similar days selection with the virtual samples generation. First, a grey correlation method integrated with

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