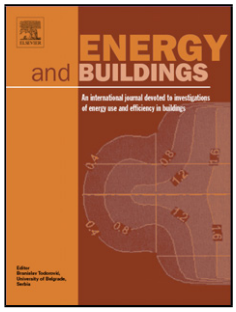

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A review on temperature and humidity control methods focusing on air-conditioning equipment and control algorithms applied in small-to-medium-sized buildings

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Highlights

- A comprehensive review on temperature and humidity control methods applied in small-to-medium-sized buildings was provided
- Control methods were summarized into two kinds, i.e., hardware-based decoupled (HWBD) control and software-based decoupled (SWBD) control
- Principles, merits, and obstacles of these two methods are presented
- Potential benefits of energy saving and better control performance brought by combining the two methods are discussed

Abstract

Humidity is an important factor that influences both thermal comfort and indoor air quality. Air-conditioning (A/C) systems in large-scale buildings can employ different equipment to control temperature and humidity independently. However, A/C systems commonly seen in small- and medium-sized buildings have no specific device to deal with moisture due to space limitations, which may leave humidity in these buildings