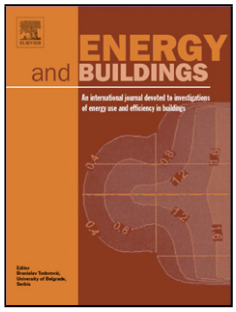

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Ventilative cooling through automated window opening control systems to address thermal discomfort risk during the summer period: Framework, simulation and parametric analysis

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Highlights

- ESP-r and BCVTB tools coupling is possible, with minimum computational time penalty
- Advanced ventilative cooling control algorithms are simulated on coupled BPS tools
- Developed window system control approaches are verified from numerical analysis

Abstract

Automated window opening control systems with integrated ventilative cooling strategies may significantly diminish the thermal discomfort and overheating risk of dwellings during cooling periods in temperate climates. One of the challenges with demonstrating the benefits of the systems is the lack of building performance simulation (BPS) tools which may represent precisely how actual algorithms are applied.