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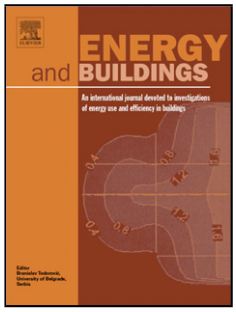

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Using Calibrated Energy Models for Building Commissioning and Load Prediction

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Keywords: monitoring based commissioning; calibration; sensitivity analysis; energy management; performance prediction; dynamic baseline

Highlights

- We created a model of a building located on the University of Colorado's Campus.
- The model was calibrated to utility data using ASHRAE Guideline-14.
- Actual weather data measured nearby was used instead of typical weather data.
- The model was used as a dynamic baseline to track building performance over multiple timescales.
- The model was used to predict future energy performance and space temperatures of the building.

ABSTRACT

This research article presents the development and demonstration of a monitoring based commissioning system for commercial buildings. An energy model of an educational building located on the campus of the University of Colorado Boulder was developed and was calibrated to conform to ASHRAE Guideline 14 using hourly measured data. A Latin Hypercube Monte Carlo

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