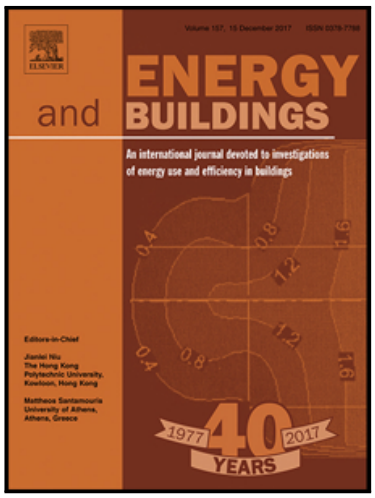

Development, Implementation and Performance of a Model Predictive Controller for Packaged Air Conditioners in Small and Medium-sized Commercial Building ApplicationsDevelopment, implementation and performance of a model predictive controller for packaged air conditioners in small and medium-sized commercial building applications

Donghun Kim, James E. Braun

PII: S0378-7788(18)30880-6
DOI: https://doi.org/10.1016/j.enbuild.2018.08.019
Reference: ENB 8755

To appear in: *Energy & Buildings*

Received date: 18 March 2018
Revised date: 5 July 2018
Accepted date: 12 August 2018

Please cite this article as: Donghun Kim, James E. Braun, Development, Implementation and Performance of a Model Predictive Controller for Packaged Air Conditioners in Small and Medium-sized Commercial Building ApplicationsDevelopment, implementation and performance of a model predictive controller for packaged air conditioners in small and medium-sized commercial building applications, *Energy & Buildings* (2018), doi: https://doi.org/10.1016/j.enbuild.2018.08.019

Highlights

- A complete and low cost MPC solution for small/medium sized commerical buidlings was developed.
- Handling unmeasured building disturbances for modeling and control phases was focused.
- Performance was evaluated using both laboratory and field experiments.
- A long-term performance evaulation of the MPC at a field site was performed.
- Over 10% energy savings and 18