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Real-Time based Approach for Intelligent Building Energy Management Using Dynamic Price Policies

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Highlights

- A real time based approach for intelligent building energy management is developed.
- An optimization approach is employed to solve the scheduling of smart appliances.
- Cost savings under real time pricing and high peak demand prevention are provided.
- Experimental results with fifteen smart appliances are investigated.

Abstract

In this paper, an intelligent building is considered with schedulable household appliances. The proposed energy management system is able to reduce the cost of energy payments in the building. An optimization approach is exploited to solve the scheduling of smart appliances. To achieve the minimum cost in household appliance operation time and energy consumption, an integer linear programming that involves the operational constraints for various household appliances. The mathematical model is solved with GAMS

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