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A Review on Virtual Testbed Frameworks for Implementation of Various HVAC Control Strategies

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Abstract: *This literature survey provides a review of virtual testbed frameworks for the implementation of various Heating, Ventilation, and Air Conditioning (HVAC) control strategies. With the advancement of technology and the increasing demand for energy-efficient HVAC systems, virtual testbeds have emerged as powerful tools for evaluating and optimizing control strategies. This survey examines the existing literature on virtual testbed frameworks, highlighting their key features, advantages, and limitations and specifically with the frameworks that supports implementation of reinforcement-based control methods and allow implementation of baseline methods for testing various control strategies. It also presents an overview of different HVAC control strategies that have been implemented and evaluated using these frameworks. The survey aims to provide researchers in the field of HVAC control with a valuable resource for understanding the state-of-the-art virtual testbed frameworks and their applications.*

Keywords: Virtual testbed, HVAC optimization, building simulator, RL implementation.

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