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The objective of this paper is to analyze domestic heating applications and identify unfavorable building constructions and control challenges to be addressed by high performance heating control systems. Heating of domestic houses use a large amount of the total energy consumption in Scandinavia. Hence the potential of reducing energy consumption by applying high performance control is vast. Indoor climate issues are becoming more in focus, which also leads to a demand for high performance heating systems. The paper presents an analysis of how the building elements of today's domestic houses with water based floor heating affect the control challenge. The analysis is documented with simulation results.

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