

# Accepted Manuscript

Research Paper

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PII: S1359-4311(17)32923-X

DOI: <https://doi.org/10.1016/j.applthermaleng.2017.10.072>

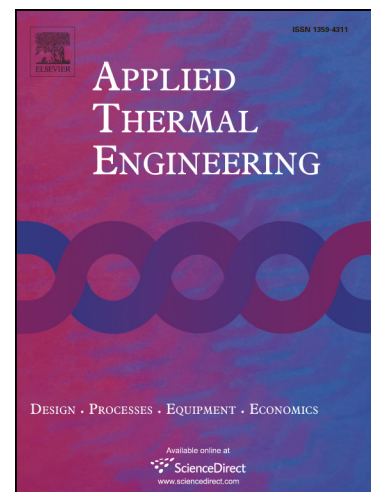
Reference: ATE 11270

To appear in: *Applied Thermal Engineering*

Received Date: 30 April 2017

Revised Date: 23 August 2017

Accepted Date: 10 October 2017



Please cite this article as: B. Li, C. Du, R. Yao, W. Yu, V. Costanzo, Indoor thermal environments in Chinese residential buildings responding to the diversity of climates, *Applied Thermal Engineering* (2017), doi: <https://doi.org/10.1016/j.applthermaleng.2017.10.072>

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# Indoor thermal environments in Chinese residential buildings responding to the diversity of climates

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## Abstract

China has a diversity of climates and a unique historic national heating policy which greatly affects indoor thermal environment and the occupants' thermal response. This paper analyzes quantitatively the data from a large-scale field study across the country conducted from 2008 to 2011 in residential buildings. The study covers nine typical cities located in the five climate zones including Severe Cold (SC), Cold (C), Hot Summer and Cold Winter (HSCW), Hot Summer and Warm Winter (HSWW) and Mild (M) zones. It is revealed that there exists a large regional discrepancy in indoor thermal environment, the worst performing region being the HSCW zone. Different graphic comfort zones with acceptable range of temperature and humidity for the five climate zones are obtained using the adaptive Predictive Mean Vote (aPMV) model. The results show that occupants living in the poorer thermal environments in the HSCW and HSWW zones are more adaptive and tolerant to poor indoor conditions than

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