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Study on the adaptive thermal comfort model for sports people in naturally ventilated sports building: A case study in Guangzhou China

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Through the method of field survey and linear regression analysis, many adaptive thermal comfort models have been developed for people in resting or sitting state of different areas and climate conditions. On the basis of above method, this study attempts to establish the adaptive thermal comfort model for sports people of Guangzhou based on the field survey of two naturally ventilated sports buildings in Guangzhou China. Firstly this study respectively obtained outdoor and indoor air temperature of sports buildings through the data collected from weather station and the data collected by instrument. Meanwhile, the thermal sensation votes were obtained through the questionnaire. Moreover, based on the indoor air temperature and the thermal sensation vote, the neutral temperature of sports people was gained. Finally, through analyzing the relationship between outdoor air temperature and the neutral temperature of sports people, an adaptive thermal comfort model was developed by using linear regression.The results of this study show that there is a good linear relationship between the outdoor air temperature of naturally ventilated sports buildings and the neutral temperature of sports people in Guangzhou China. This study provides theoretical basis to establish the thermal comfort standard of naturally ventilated sports buildings for sports people in Guangzhou China, and it also provides theoretical basis for existing sports building reconstruction and renovation

Biography

Jin Li, PhD, is a Doctoral Tutor, Professor of School of Architecture, SCUT (South China University of Technology) and State Key Laboratory of Subtropical Building Science, Reviewer of *Building and Environment* and *Energy and Building*, Visiting Scholar at Delft University of Technology, National 1st class registered Architect, who was in charge of the design of large public buildings and green buildings, such as volleyball arena of the 16th Asian Games in Guangzhou in 2010.

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