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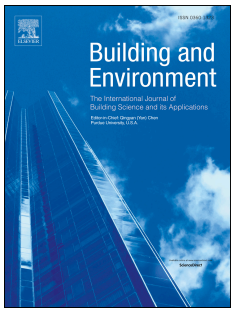

Human responses to the air relative humidity ramps: A chamber study

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Human responses to the air relative humidity ramps: a chamber study

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Abstract

Passengers often experience ramped relative humidity (RH) in an aircraft cabin environment during the stages of climb and descent as the flight altitude changes gradually. This may affect passengers' comfort and their assessment of the environment. In this study, a series of simulated experiments are conducted in a climate chamber to investigate the effect of RH ramps on cabin passenger's comfort from takeoff until landing. Six combinations of three temperatures (20 °C, 25 °C and 28 °C) and two RH ramps conditions (50→20→50% RH and 80→20→80% RH) were set in the experiments. During the experiments, subjective comfort perceptions were tested using questionnaires and the skin temperature was also measured. The micro-climate between the skin surface and the inner clothes was also measured for body heat transfer analysis. The results have demonstrated that the RH ramps have

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