

**Evaluation Method of Passenger Thermal Comfort Considering Effects of Airflow
by Cross-flow Fan in Commuter Vehicles in Summer**

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The purpose of this study is to propose a method for evaluating passenger thermal comfort in non-steady state thermal environments with airflow by cross-flow fans in commuter trains in summer. The proposed method is composed of a human thermoregulation model applicable to non-steady state thermal environments and a statistical model derived from the results of experiments conducted in commuter trains in summer. To evaluate the thermal comfort considering the influence of a cyclic wind by cross-flow fans, the proposed method converts the cyclic wind to a constant wind speed equal to the total amount of heat loss from the whole-body calculated by human thermoregulation model. Applying the proposed method to our previous research, it was confirmed that the observed data and predictions are agree well.