PID Control Aided Thermal Comfortable of the User’s Temperature Tracing Movable Electrical Heating Radiator

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Abstract—This study presents a movable electrical heating radiator with the function of user’s temperature tracing and constant temperature control to enhance the thermal comfortable of the users. The system was modified by the previous studies in our laboratory. The control unit engaged Holtek HT66F2390 which is a newly designed microcontroller in China. The thermal sensing camera detected the user’s temperature and transferred the data to microcontroller to move and follow the user up. The results display the reliable performance of system operations. The better distance between user and the traditional heater is 150 to 250 cm. However, the distance might too long in a small space or room. Therefore, we reduce the distance to 50 cm and keep the thermal comfortable by PID control of output heating power of the radiator.

Keyword—heat radiator, user’s temperature PID control, thermal comfortable, Holtek MCU.

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