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Occupant behavior and effect of HVAC systems on occupant comfort in two-person offices in a Mediterranean climate in southern France

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Abstract. This study investigated the air-conditioning switching behavior of occupants in two-person offices of a building equipped with an air–water heat pump HVAC system located in Montpellier, southern France. A comparative study was conducted across four offices. This study demonstrated that the behavior of occupants varied among offices, and the statistical analysis indicated that air conditioning is activated when the indoor air temperature is close to or above 26 °C in Offices 3 and 4 and 27 °C in Offices 1 and 2. Temperatures set point were 24 °C in Offices 3 and 4 and 25 °C in Offices 1 and 2. In addition, air-conditioning switch-on models were developed using logistic regression. Further, the results confirmed that the indoor air temperature affects the probability of switching on the air conditioning..

Keywords: Occupant behavior, Mediterranean climate, HVAC system, indoor temperatures, temperature set point, logistic regression.

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