**Note**: The introduction text aims to provide background information on the collected dataset.

**Article**: Thermal alliesthesia under whole-body step-change transients. Proceedings of the IAQVEC 2023: 11th International Conference on Indoor Air Quality, Ventilation & Energy Conservation in Buildings.

**Location**: La Rochelle, France

**Participants**: 16 males and 48 females

**Conditions**: Four different temperature step-change conditions. Each condition lasted 3 h.

**Subjective responses**: The first question was the “Thermal Sensation Vote” on the classical ASHRAE 7-point scale: “Hot” (+3), “Warm” (+2), “Slightly Warm” (+1), “Neutral” (0), “Slightly Cool” (-1), “Cool” (-2), and “Cold” (-3). The second question was the “Thermal Comfort Vote” on a 6-point scale, including “Very Comfortable” (+3), “Comfortable” (+2), “Slightly Comfortable” (+1), “Slightly Uncomfortable” (-1), “Uncomfortable” (-2), and “Very Uncomfortable” (-3). The third question was the “Thermal Preference Vote” on a 7-point scale, including “Much Cooler” (-3), “Cooler” (-2), “Slightly Cooler” (-1), “No Change” (0), “Slightly Warmer” (+1), “Warmer” (+2), and “Much warmer” (+3).

**Environmental measurements**: Air temperature , globe temperature , relative humidity , and air velocity were measured with laboratory-grade equipment according to ISO standard. The characteristics of the equipment used are reported in the table below. The air temperature was recorded at 0.1, 0.6, and 1.1 m height close to the participants (at a distance of a maximum of 1 m). Carbon dioxide and illuminance were also recorded. The mean radiant temperature was computed using the function *psychrometrics.t\_mrt* from the *pythermalcomfort* Python package.

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|  | Model | Range | Accuracy | Resolution |
|  | Thermo-couples  Type T  (TCSA) | -50 to  400°C | ±0.2°C | 0.01°C |
|  | Thermo-couples  Type T  (TCSA) | -50 to  400°C | ±0.2°C | 0.01°C |
|  | HMP155  (Vaisala) | 0 to  100% | ±1% | 0.1% |
|  | 8475  (omnidirectional TSI) | 0 to  2.5 m/s | ± (3% of reading +1%  of range) | 0.07%  of range |
|  | GMP222  (Vaisala) | 0 to  3000 ppm | ± (1.5% of range +2% of reading) | 1 ppm |
|  | HD2021T  (DeltaOHM) | 20 to  2000 lux | ±4% of reading | 0.1 lux |

**Experiment procedure**: The laboratory experiment consisted in exposing the participants to four different sequences of repeated whole-body temperature step-change transients including two warm exposures (“1 Warm” and “2 Warm”) and two cool exposures (“1 Cool” and “2 Cool”). The temperature step-change transients were realised by making the participants move between two identical rooms kept at constant thermal conditions. After each transient, the occupants remained 30 min in the room to reach steady-state thermal conditions. Both environmental and subjective (thermal sensation, thermal preference, and thermal comfort) data were collected during each exposure. The participants filled in a questionnaire describing their whole-body thermal perception at 10 min intervals starting from either 09:30 (morning tests) or 14:30 (afternoon tests). During the step-change transients, the questionnaire was filled in right after changing the room. Only for the cool tests, we collected an additional questionnaire right before changing the room to better detect the thermal overshoot. The study was conducted during one week of July 2021 (for the warm conditions) and one week of October 2021 (for the cool conditions) over the northern hemisphere summer and autumn respectively. The experiments commenced at either 09:30 or 14:30 hours, in the morning and afternoon respectively. The participants were asked to arrive 30 min before the beginning of the experiment (i.e., at either 09:00 or 14:00 hours) and remained standing in a large waiting room before being transferred to the experimental room where they stayed in groups of 2, 3 or 4 at most. They were randomly assigned to different experimental conditions. Each participant took part in only one test in the summer and one test in the autumn.