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Analysis of thermal comfort and indoor air quality in public buildings

The dissertation concerns the analysis of thermal comfort and indoor air quality in higher education buildings in Kielce. In the course of the work, surveys of subjective feelings (mainly thermal) were carried out for a large group of people and the factors influencing the respondents' thermal sensations were determined. Microclimate parameters were also measured in each room considered. The analysis concerned in particular the assessment of users' current feelings, acceptability and preferences regarding thermal and humidity conditions, as well as lighting, air quality and productivity. The impact of the BMI index, the number of people per unit of volume, lighting and CO_2 concentration on thermal sensations was analyzed. The effectiveness of the Fanger model for predicting thermal sensations was verified, and due to the observed discrepancies, modified relationships were developed to determine the PMV and PPD indicators, which provided a better representation of the experimental research results than the original (Fanger) model.