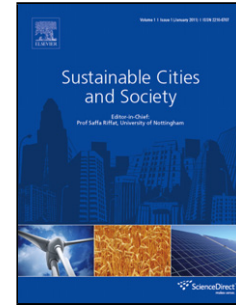


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Simulation Study on Air Leakage of Platform Screen Doors in Subway Stations

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Highlights

- This paper applies Subway Thermal Environment Simulation Software (STESS) to simulate the air leakage volume of PSDs.
- The influencing factors, including tunnel length, train departure density, gap area of PSDs, and arrival time interval between two-way trains, were analyzed to determine their impact.
- Based on the multiple factors analysis, a formula was created to calculate the air leakage volume of PSDs for different tunnel lengths, train departure density, and gap areas of PSDs.

Abstract:

Platform screen doors (PSDs) are widely used in subway stations due to their safety and energy savings. However, there are still small gaps in PSD structural connections, and air penetrates from the tunnel into the platform. The air leakage creates extra cooling load and worsens the air quality of subway stations. This paper applies Subway Thermal Environment Simulation Software (STESS)

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