1. Natural ventilation in the high-rise buildings for Taipei

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Natural ventilation in the high-rise buildings for Taipei

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Abstract: Taipei is a hot-humid city and also has a lot of high-rise buildings. The energy expenses for the buildings are very high. For lowering the energy consumption and keeping the occupant comfort, natural ventilation is the simplest strategy for improving comfort and saving energy. Determining the optimum condition for cooling the high-rise occupants in Taipei is the main objective of this thesis. The concept of a wind wing wall is used in the thesis and it is like a pocket which collects the prevailing winds and admits it into the inside of building. The inlet size and prevailing directions are also considered. At the end of wind tunnel tests, 1/4 wind wing wall length and 20% opening of inlet are referred, and the inlet of model was laid toward the summer prevailing winds (157.5°). The study also includes some suggestions and iteration schemes at the end.

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