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Effect of turbulent flow on wall pressure coefficients of block arrays within urban boundary layer

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1 Title:

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3 layer

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17 Abstract:

18 Various numerical simulations have been developed to evaluate the mean ventilation rates of a
19 target building; however, the manner in which turbulent flow generated by buildings and
20 surrounding conditions affects the mean and fluctuating ventilation rates is not well
21 understood. Therefore, we have performed large-eddy simulation of flow and pressure fields
22 above two types of block arrays (lattice-type square and staggered pattern) to clarify the
23 turbulent characteristics of estimated ventilation rates based on pressure coefficient
24 distribution on the block faces. The concept of short-term ventilation rates, which are
25 estimated from filtered pressure coefficients, is introduced to investigate the temporal

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