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Wind tunnel experiment on investigating the times of ventilation in case of pollutant dispersion in an urban area[1] KEISUKE NAKAO, Univ. of Tokyo, SHINSUKE KATO, TAKEO TAKAHASHI, IIS, Univ. of Tokyo — The times of ventilation, which is defined as how long pollutants take to arrive at and then vanish away in a distant place from the source point, were investigated in wind tunnel. In this study, rectangular shaped blocks were allocated in equally spaced interval in a wind tunnel. In order to cut off the disturbance of drift effect, which happens in symmetrical block alignment, the blocks array were tipped at 5-25 degrees. We defined semi-opened space between the blocks in the center of the modeled area as "Void." Tracer gas was discharged at the center of the "Void." The times of ventilation were measured in a boundary face of the "Void." In addition, the distributions of velocity and concentration were measured in the 'Void' simultaneously. We considered the results of times measurement based on the distributions of velocity and concentration. Concentration was disproportionately dispersed in the 'Void' by unsymmetrical flow. With increasing angle, two factors of ventilation, horizontal transportation and vertical transportation, varied their features. Influenced by these feature, the times of ventilation shifted their peaks and distributions.

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