



Fig.1 Example of transverse & longitudinal response of the leeward cylinder in tandem arrangement (ratio of central distance of cylinders, L , to diameter, D , $L/D=3$, Scruton Number, Sc , is 16.4)



Fig. 2 Experiment of wake excitation behind railing of building roof for possibility of wind-generated electricity

Content:

In multiple objects, components and structures of circular cross-section located on the downstream of the upstream object, by the mutual interference with the downstream circular section body and the downstream flow of the upstream object, the aerodynamic unstable vibrations, also referred to as wake excitation is generated, but the mechanism of the vibration has not been entirely clear.

In this study, it is intended to clarify the mechanism of unstable aerodynamic wake excitation and to be used in wind-generated electricity of this phenomenon of the cylinder. Here, the wind power energy of aerodynamic vibration of downstream cylinder is obtained as follows: the horizontal material or the like of Railing or parapet of the building roof and wheel guard of the bridge is used for the upstream object and a cylinder is set up behind them. It is able to fulfill a significant contribution to reducing CO2 emissions.

Keywords: closed arrangement of cylinders, wind tunnel and field test

E-mail: fumi@ce.tokushima-u.ac.jp

Tel. +81-88-656-9443

Fax: +81-88-656-9443

