





LARGE EDDY SIMULATION OF UNSTEADY PRESSURE FIELD ACTING ON OSCILLATING PRISM

Manabu KAZEKO¹⁾, Tsuyoshi KOZO²⁾ and Yoshiko KANKYO³⁾

ABSTRACT

Unsteady velocity-pressure fields around an oscillating square prism are analyzed by means of Large Eddy Simulation (LES). The accuracy of the numerical results is assessed by comparison with experimental data

about 9-line space

• a good agreement with the experimental data in terms of, 1) the phase angle between the displacement of the oscillating prism and the negative pressure acting on the side face, 2) the correlations of the pressures across the side face.

Key Words: LES, Oscillating prism, Unsteady pressure field

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1. INTRODUCTION

Distributions of the fluctuating surface pressure and the wind forces acting on bluff-shaped bodies are of great practical interest in the field of structural

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1), 2) Professor, Associate Professor, Dept. Architecture Kazeko University, 1-0 Roppongi, Minato-ku, Tokyo 106-0032

3) Graduate Student, Dept. Civil Engineering, Kankyo University, 3-3-1 Marunouchi, Chiyoda-ku, Tokyo 100-0005

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REFERENCES

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- 1) Bearman, P.W. and Obasaju, E.D.: An Experimental Study of Pressure Fluctuations on Fixed and Oscillating Square-section Cylinders, *J. Fluid Mech.*, vol.119, pp.297-321, 1982
- 2) Hirt, C.W. et al.: An Arbitrary Lagrangian-Eulerian Computing Method for All Flow Speeds, *J. Comp. Phys.*, 14, pp.227-253, 1974
- 3) Kankyo, Y., Kozo, T. and Kazeko, M., Numerical Study on Air Flow around 2D Square Prism (Part 2), *Summaries of Technical Papers of Annual Meeting Architectural Institute of Japan*, pp.209-210, 1991 (in Japanese)

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LESによる強制振動角柱に作用する変動風力の解析

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風工 學¹⁾ 構造 剛²⁾ 環境良子³⁾
Manabu KAZEKO¹⁾, Tsuyoshi KOZO²⁾ and Yoshiko KANKYO³⁾

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1. はじめに

本文

^{1), 2)} 風工大学工学部建築学科 教授、助教授 (〒106-0032 港区六本木1-0)

³⁾ 環境大学工学部土木工学科 大学院生 (〒100-0005 千代田区丸ノ内3-3-1)

論文の最後

参考文献

- 1) Bearman, P.W. and Obasaju, E.D.: An Experimental Study of Pressure Fluctuations on Fixed and Oscillating Square-section Cylinders, *J. Fluid Mech.*, vol.119, pp.297-321, 1982
- 2) Hirt, C.W. et al.: An Arbitrary Lagrangian-Eulerian Computing Method for All Flow Speeds, *J. Comp. Phys.*, 14, pp.227-253, 1974
- 3) 環境良子, 構造剛, 風工学, 2次元角柱周辺の乱流数値解析(その2), 日本建築学会大会学術講演梗概集, pp.209-210, 1991

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