



1 1 48

Upper margin 20 mm

Left margin 15 mm

3 lines

Right margin 15 mm

5

LARGE EDDY SIMULATION OF
UNSTEADY PRESSURE FIELD ACTING ON OSCILLATING PRISM

14 pt

9

9 lines

3 lines

Manabu KAZEKO¹⁾, Tsuyoshi KOZO²⁾ and Yoshiko KANKYO³⁾

10 words × 12 lines abstract

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

Place 3 or 4 key words here

2 lines

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

10.5 pt

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

the last line of the first page

REFERENCES

the last page

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)

Lower margin 20 mm

LESによる強制振動角柱に作用する変動風力の解析

LARGE EDDY SIMULATION OF UNSTEADY PRESSURE FIELD ACTING ON OSCILLATING PRISM

風工 学¹⁾

構造 剛²⁾

環境良子³⁾

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 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

1. はじめに

著者らは既報において2次元角柱周りの流れに対してLESの2次元計算、3次元計算を比較し、3次元LESの結果が静止角柱に作用する

[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

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 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

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

Text

-
- ^{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
-

the last page

REFERENCES

- 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)