

地盤-構造物系の地震時挙動のシミュレーションにおける地震前の初期応力状態の重要性

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1997 Fiscal Year Final Research Report Summary

Role of initial stress states in the numerical simulation of subsoil-structure interaction during earthquakes

Research Project

Project/Area Number

08455220

Research Category

Grant-in-Aid for Scientific Research (B)

Allocation Type

Single-year Grants

Section

一般

Research Field

Geotechnical engineering

Research Institution

Kanazawa University

Principal Investigator

OHATA Hideki Kanazawa University, Department of Civil Engineering, Professor, 工学部, 教授 (80026187)

Co-Investigator(Kenkyū-buntansha)

MIYAJIMA Masakatsu Kanazawa University, Department of Civil Engineering, Associate Professor, 工学部, 助教授 (70143881)

KITAURA Masaru Kanazawa University, Department of Civil Engineering, Professor, 工学部, 教授 (70026269)

DEMURA Yoshinori Ishikawa National College of Technology, Department of Civil Engineering, Profes, 教授 (90042928)

IIZUKA Atsushi Kobe University, Department of Civil Engineering, Associate Professor, 工学部, 助教授 (40184361)

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1996 – 1997

Keywords

Research Abstract

A series of numerical simulations of the subsoil-structure interaction observed at a few sites during the Kobe earthquake were successfully carried resulting in the initial stress states before the earthquake, behavior during the earthquake and the time dependent behavior after the earthquake of the subsoil-structure system. These results were compared with the data obtained from the in-situ and laboratory tests on the undisturbed samples taken from the sites. The importance of the initial stress states in the ground is emphasized in the numerical analysis designed based on the constitutive model developed by the head investigator. The degree of influence of the initial stress states in the grounds on the numerical results were quantitatively estimated making it possible to systematically combine the static and dynamic analyzes which have been separately developed in the past history of static and dynamic research fields.

Research Products (4 results)

		All	Other
		All	Publications (4 results)
[Publications]	太田秀樹他: "土/水連成要素解析に基づいた限界盛土高さ推定法" 土木学会論文集. No.575III-40. 207-217 (1997)		▼
[Publications]	太田秀樹他: "粘土の等体積-面せん断強さ" 土木学会論文集. No.582III-41. 173-182 (1997)		▼
[Publications]	I.Kobayashi, A.Iizuka, H.Ohta: "Estimate method of ultimate embankment height on soil clayy ground based on soil/water coupled finit element computations" Journal of JSCE,Division of Geotechnical Engineering. No.575/III-40. 207-217 (1997)		▼
[Publications]	Y.Morikawa, Y.Furuta, A.Iizuka, H.Ohta: "Constant volume shaer strength of clayy soils." Journal of JSCE,Division of Geotechnical Engineering. No.582/III-41. 173-182 (1997)		▼

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