

Table of contents

Preface

Committees

Keynote lectures

Theme lectures

Academics and practitioners discussion session

2008 Wenchuan 8.0 earthquake of China

Special discussion session—future directions of performance-based design

General papers on CD-ROM only:

Ground motions and site effects

Wall structures and foundations

Embankments and slopes

Dams and underground structures

Soil liquefaction and countermeasures

Field testing

Laboratory testing

Methodology and codes

Big projects

Structural design and analysis

Author Index

help

exit

main menu

search



Keynote lectures

Performance based earthquake design using the CPT

P.K. Robertson

Performance of foundation ground in Kashiwazaki-Kariwa Nuclear Power Station during 2007 Chuetsu-Oki earthquake

T. Kokusho

Seismic performance based-design of large earth and tailing dams

R. Verdugo

Gravel drains for the remediation of liquefiable sites: The Seed & Booker (1977) approach revisited

G.D. Bouckovalas, A.G. Papadimitriou & D. Niarchos

Seismic soil-pile-structure interaction based on large shaking table tests

K. Tokimatsu & H. Suzuki

Theme lectures

Development of performance criteria for foundations and earth structures

S.L. Kramer, P. Arduino & H. Shin

Evaluation of seismic performance of geotechnical structures

M. Cubrinovski & B.A. Bradley

Outline of performance-based design for railway earth structures in Japan

M. Shinoda, K. Watanabe, K. Kojima & M. Tateyama

Seismic performance of geosynthetic-reinforced soil retaining walls and their performance-based design in Japan

J. Koseki, S. Nakajima, M. Tateyama, K. Watanabe & M. Shinoda

Evaluation of spatial variations in soil stiffness using stress wave propagations

D.S. Kim, H.J. Park, J.T. Kim, N.R. Kim & E.S. Bang

Determining the undrained residual strength of soils from field penetration tests with some case history studies

Y. Tsukamoto

The use of controlled blasting for evaluating seismic performance

S.A. Ashford, Y. Kawamata, K.M. Rollins, R.E. Kayen, T.J. Weaver & T. Juimarongrit

Lessons learned from sampling and CPT in silt/sand soils

A.B. Huang

Satisfaction and dissatisfaction of port facilities designer facing to the performance based design methodology

T. Sugano & S. Miyata

Academics and practitioners discussion sessions

Evaluating seismic performance of earth structures and soil-structure systems

R.W. Boulanger

Geotechnical performance-based seismic design for bridge foundations—a Western Canada perspective

E. Naesgaard

Prediction of behavior of underground structure and quay wall during earthquake

N. Yoshida

Evaluation of the seismic performance of embankment dams and levees

R. Pyke

Seismic design of shallow immersed tunnels and underground metro stations

K. Pitilakis

The role of soil properties in performance-based design

M. Maugeri & S. Grasso

Role of soil investigation in performance based design

A.M. Kaynia

Role of soil investigation in performance-based design

S.L. Kramer

Relevant soil investigations and laboratory tests to estimate liquefaction-induced deformation of structures

S. Yasuda

Discussion session on performance criteria for designing geotechnical structures

S. Iai

Risk measures in design of geotechnical structures

G.J. Rix

Determining criteria for seismic performance of earth structures

I. Towhata

Integrated design of structure-foundation systems and performance based design

M.J. Pender

continued on the next page

[help](#)

[exit](#)

[main menu](#)

[search](#)



Academics and practitioners discussion sessions – *continued*

Learning from geotechnical earthquake engineering case histories

J.D. Bray

The role of remote sensing in documenting landslide and ground failure case histories for performance-based seismic design

E.M. Rathje

Landslides induced by Earthquake and their subsequent effects—lessons learned from the Chi-chi earthquake, 1999

M.L. Lin, K.L. Wang & T.C. Kao

2008 Wenchuan 8.0 earthquake of China

Characteristics of disasters induced by the Wenchuan 8.0 earthquake and lessons learnt from it

L.M. Wang, Z.J. Wu & X.M. Zhong

Damage investigation and analysis of buildings in Southern Gansu province during 2008 Wenchuan earthquake

L. Chen, W. Liu, H. Ma & Z. Wu

Earthquake damages of earth-wood buildings during the Wenchuan Ms 8.0 earthquake

R. Qiu, Z. Yuan & Q. Wang

Review on geotechnical hazard caused by Wenchuan 8.0 earthquake

Z.X. Yuan

Application of micro tremor observation on disaster investigation in the quake-hit area of Gansu province by the Wenchuan great earthquake

Z.J. Wu, J.J. Sun, H.Z. Wang, A.L. Che & L.Z. Chen

Application of micro tremor observation on investigation of geological hazard induced by the great Wenchuan earthquake in Sichuan province

A.L. Che, J.H. Qi, X.P. Wu, T. Iwatate, M. Yoshimine, Y. Oda, Q.W. Ma, F. Zhang & Z.J. Wu

[help](#)

[exit](#)

[main menu](#)

[search](#)



Special discussion session—future directions of performance-based design

Perspectives in geotechnics for vastly strong earthquake shaking

K. Ishihara

Seismic behaviour of geotechnical structures—Past, present and future

P.S. Sêco e Pinto

Some emerging issues in performance based design

W.D. Liam Finn

Short comment on site specific earthquake ground motion characteristics for performance based design

A. Ansal & G. Tönük

PBD in earthquake geotechnical engineering and energy-based design

T. Kokusho

help

exit

main menu

search



Ground motions and site effects

Site response study for urban areas of Chennai city, India—a geotechnical approach

G.P. Ganapathy & S. Rajarathnam

A case study on dynamic site characterization of Delhi region

D. Neelima Satyam & K.S. Rao

Site effects evaluation procedures for performance-based design

A. Ferraro, S. Grasso & M. Maugeri

About consequences of Nevelsky earthquakes in Sakhalin Island

A.Zh. Zhusupbekov, V.J. Alperovich, O. Blinova, K.C. Un, I.N. Tikhonov, I.A. Yemelyanov, T.S. Mun & O.N. Cherba

Site response of deep and shallow sediments in Bucharest—from microtremors to strong ground motions

A. Aldea, S. Demetriu, R. Vacareanu, H. Yamanaka & S. Fukumoto

Synthesizing the Mw 6.2 Kojour earthquake of May 28, 2004 using empirical Green's function

A. Nicknam, R. Abbasnia, M. Bozorgnasab & Y. Eslamian

Estimation of the characteristics of surface wave propagation using arrays of seismometers

D.L. Calderon, T. Sekiguchi & S. Nakai

Amplification zoning based on grade-II methods of TC4 for Khuzestan province, SW-Iran

M. Saghafi, M. Ghorashi & H. Jamshidi

Elastic demand spectra based on worldwide strong ground motion records

K. Pitilakis, D. Manou & A. Anastasiadis

A uniform hazard design spectral shape for building codes

R.A. Green, W.I. Cameron, K.A. Gunberg & A. Hadjian

Evaluation of amplification factors of soft soils through seismic response analyses

G. Biondi, P. Cacciola & E. Cascone

Nonlinear earthquake response analysis considering dynamic soil stiffness with both frequency and strain dependencies

N. Nakamura

PML absorbing boundary condition in numerical modeling of Rayleigh surface wave

W.F. Xu, J. Xu, Z.Z. Xie & Z.Q. Xiong

continued on the next page

Ground motions and site effects – *continued*

Influence of water table depth on the ground surface response of soils

S.U. Dikmen & A.M. Turk

A new principle for protection from seismic waves

S.V. Kuznetsov

Nonlinearity in seismic soil-structure interaction

J. Yang & X.R. Yan

Wall structures and foundations

Seismic retrofit of a historic bridge

J.R. Gingery, J.F. Meneses, K.W. Franke & Z. Zafir

Characteristics of liquefaction induced damage to house and quantified degree of damage

A. Onoue

Performance based design of Shahid Rajaei diaphragm wall: Pseudo-static and dynamic perspective

H. Alielahi, H. Nouri & B. Ebrahimian

Long term economic benefits of ground improvement—Ford-Otosan plant case history

C.G. Olgun, J.R. Martin II & C.W. Zobel

Various parallel quay walls with shore, Kish Commercial port case history

M. Jalili, M. Habibi, G.H. Roodi & M. AbadiMarand

Evaluation of seismic earth pressure and wall friction acting on embedded footing based on centrifuge test

S. Tamura, T. Sakamoto, T. Hida & N. Maeda

Performance of model piles in liquefiable soil during shaking tests

T.S. Ueng & C.H. Chen

A study on deformation behavior of the pile foundation reinforced with ground solidification body by full scale field test and numerical analysis

Y. Adachi, K. Urano, M. Mihara & M. Kawamura

Contribution Index—a new methodology in distribution of lateral force in pile groups behind quay walls subjected to liquefaction-induced lateral spreading

R. Motamed & I. Towhata

Pressure dissipater panels for seismic mitigation of caisson quay walls

A.A. Mostafavi Moghadam, A. Ghalandarzadeh, P. Haji Alikhani & I. Towhata

On seismic response of retaining structures

N. Sitar & L. Al Atik

continued on the next page

Wall structures and foundations – *continued*

Instability of sand undergoing earthquakes after groundwater level rise

K. Yasuhara, K. Nishiwaki, H. Komine & S. Murakami

Performance-based pseudo-static analysis of gravity retaining walls

G. Biondi, M. Maugeri & E. Cascone

Experimental modelling of kinematic bending moments of piles in layered soils

L. Dihoru, S. Bhattacharya, C.A. Taylor, D. Muir Wood, F. Moccia, A.L. Simonelli & G. Mylonakis

On design of retaining walls in seismic areas

Y. Wu, S. Prakash & V.K. Puri

Influence of earthquake motion characteristics on settlement behavior of tank foundation due to liquefaction

S. Higuchi, N. Sento, M. Kazama, R. Uzuoka & H. Takahashi

Significance of settlement on seismic stability of footing on slope

M. Okamura & T. Sugata

Simplified modeling of wave absorbing concrete blocks for performance-based design

H. Ishida, K. Ichii & T. Mishima

Large scale 1-g shaking table test of an unanchored earth-retaining RC diaphragm

R.C. Borg, M. Corigliano, C.G. Lai & A. Pavese

Pushover analysis for piles subjected to liquefaction-induced flow pressure and ground displacement

J.H. Hwang, Y.D. Lyu & M.C. Chung

Derivation of cyclic p-y curves from shaking table tests

S.S. Lin, K.J. Chiou, J.C. Liao, C.H. Chen & T.S. Ueng

Nonlinear soil–foundation–structure interaction aiming in performance based design

D. Pitilakis

Experimental and numerical evaluation of the effect of pile cracking to the performance-based design concept

E.M. Comodromos, M.C. Papadopoulou & I.K. Rentzeperis

continued on the next page

Wall structures and foundations – *continued*

Energy oriented approach to take into account the effect of the seismic non-linear SSI on the performance-base design

E. Sáez, F. López-Caballero & A. Modaressi-Farahmand-Razavi

Study of p - y curves for liquefiable soil

S.R. Dash, S. Bhattacharya & A. Blakeborough

Evaluation chart of existing pile foundation against seismic soil displacements

S. Mori, K. Suga & T. Akaishi

Prediction of the natural frequency in a gravity quay wall with saturated backfill during an earthquake

J.-I. Hwang, S.-R. Kim, J.-T. Han & M.-M. Kim

Simulation of vertical cyclic loading tests for a pile in sand by accumulated damage theory

K. Abe, M. Koda, K. Horii & M. Kiguchi

Effective stress based dynamic analysis on the interaction between pile foundation and liquefied ground

H. Yokawa, A. Tanabe, A. Yashima & K. Sawada

Dynamic response of cantilever retaining walls

A. Evangelista, A. Scotto di Santolo & A.L. Simonelli

An approach to the seismic design of embedded retaining walls based on the results of dynamic numerical analysis

F.M. Soccodato & L. Callisto

Earthquake induced permanent displacements of shallow foundations—performance based design

M.J. Pender, J.C.W. Toh, L.M. Wotherspoon, T.B. Algie & M.C.R. Davies

Seismic performance of anchored quay walls and numerical simulation techniques

B. Ebrahimian

Numerical modeling of the seismic behavior of gravity type quay walls

B. Ebrahimian, A.A. Mostafavi Moghadam & A. Ghalandarzadeh

Seismic active earth pressure with varying shear modulus in backfill—pseudo-dynamic approach

S. Kolathayar & P. Ghosh

continued on the next page

Wall structures and foundations – *continued*

Analysis of laterally loaded pile groups in multi-layered grounds by hybrid elastic method

H. Hirai

Dynamic behavior of liquefied sand around pile foundation: Model experiment and numerical simulation

A. Shimizu, Y. Ogata, T. Matsushima & Y. Yamada

Influence of head connection type on seismic behaviour of inclined micropiles

R. Noorzad & G.R. Saghaee

Nonlinear incremental analysis for the prediction of seismic performances of embedded retaining walls

C. Visone & F. Santucci de Magistris

Kinematic pile bending in layered soils: Linear vs. equivalent-linear analysis

S. Sica, A.L. Simonelli & G. Mylonakis

Dynamic response of surface foundation resting on sand by means of physical modeling

F. Jafarzadeh & H. Ghasemzadeh

A dynamic load calculation for multi-anchored flexible walls

A.D. Garini

Some remarks on the kinematic vs. inertial interaction for piled foundations

R. Di Laora & A. Mandolini

Pseudo-static and dynamic analysis for an anchored diaphragm wall according to the performance-based design method

B. Ebrahimian

Embedment effect on seismic performance of soil-structure system

G. Abate, M.R. Massimino & M. Maugeri

Use of a fully coupled analysis for evaluation of performance of footings on liquefiable and densified subsoils

H. Shahir & A. Pak

Kinematic interaction: A parametric study on single piles

F. Moccia, S. Sica & A.L. Simonelli

Embankments and slopes

Peculiarities of formation and activation of landslide processes in Kyrgyzstan and Kazakhstan

K.Ch. Kojogulov, O.V. Nikolskaya, R.B. Baimakhan, G.R. Mirzakulova, A.M. Aliyeva, G.B. Yliasova, A.G. Tanirbergenov, N. Sakpanova & D. Chan

Estimation of earthquake-related embankment crest settlements

R. Singh & D. Roy

Stability of embankment and reclaimed land composed of industrial wastes during earthquake

H. Nagase, A. Hirooka, S. Nakamura & T. Monzen

Importance of groundwater to the earthquake performance design of natural slope

S. Sakajo & N. Sakai

Variations in threshold acceleration for seismic induced deformations of embankments

Y. Hata, K. Ichii, S. Kano & T. Tsuchida

Model test and numerical analysis of slope stability during earthquake

K. Arai, Z.J. Wang & L. Lu

Development of slope displacement evaluation method during earthquakes by energy approach—case study in 2004 Niigata-ken Chuetsu earthquake

T. Ishizawa & T. Kokusho

The effect of vertical accelerations on seismic slope stability

S.K. Sarma & M.R. Scorer

Calculating the factor of safety of the slope stability: A case study

M.X. Hou, C.G. Li, Y.Z. Liu & X.R. Ge

Earthquake-induced shear deformation of slopes for performance-based engineering

M. Taiebat, B. Jeremic, Y.F. Dafalias & A.M. Kaynia

Estimation of sliding of gentle slope on partially saturated fine sand subject to strong ground motion

J. Lee, K. Yoshizako, N. Ohbo & T. Sakanoue

Consideration on fill slope failure in Takamachi developed residential land in 2004 Niigataken Chuetsu earthquake

S. Ohtsuka, K. Isobe & T. Takahara

continued on the next page

Embankments and slopes – *continued*

Two-dimensional seismic response analysis to evaluate permanent slope displacements

S. Rampello, L. Callisto & P. Fagnoli

Performance-based design of potentially liquefiable embankments using a combined effective stress—total stress model

E. Naesgaard, M.H. Beaty & P.M. Byrne

Analytical study for effect of uncertainty in soil parameters on seismic settlement of earth structure

A. Wakai, S. Nishimura & S. Tani

Evaluation of seismic displacements of a natural slope by simplified methods and dynamic analyses

E. Ausilio, A. Costanzo, G. Tropeano & F. Silvestri

Experimental study on seismic reinforcement method at crest of road embankment by geosynthetics

N. Tatta, J. Jang, K. Tokida, K. Oda & A. Nakahira

Dams and underground structures

Strategy of reduction of seismic risk for hydro-technical structures

T.R. Rashidov, V.A. Kondratiev, M.A. Akhmedov & A.I. Tuchin

Longitudinal seismic response of Keddara dam: A comparison of observed records and analyzed results

S. Louadj, R. Bahar, N. Laouami, E. Vincens & B. Cambou

Safety analyses of Srinagarind dam induced by earthquakes using dynamic response analysis method

S. Soralump & K. Tansupo

Experimental assessment of performance-based methods for the seismic design of circular tunnels

G. Lanzano, E. Bilotta, G. Russo, F. Silvestri & S.P.G. Madabhushi

Ultimate performance of GSET earth fill dam by shaking table tests

Y. Mohri, K. Matsushima, T. Tanaka & F. Tatsuoka

Settlement in friction soil due to vibrations from rock tunneling by blast method

M. Bahrekazemi, A. Fredriksson, H. Mattsson & D. Sennerby

Centrifuge modelling of normal fault-pipeline interaction

S. Nagaoka, M.F. Bransby & M.C.R. Davies

Dynamic performance of core in asphaltic concrete core dams by means of 1G shaking table

A. Mirdamadi, A. Ghalandarzadeh & S. Feizi-Khanakandi

1G Shaking table experiments on the effect of shaking and vertical shear displacement on buried instrumented pipes—implications for design

W.W. Sim, I. Towhata & M.A. Sakr

Centrifuge model tests on the uplift behavior of an underground structure during liquefaction and its numerical modeling

H. Uno, F. Oka, S. Tanizaki & A. Tateishi

Comparison of constitutive models through a case study on seismic response of tunnels

S. Kontoe, L. Zdravkovic, D.M. Potts & C.O. Menkiti

Observed and estimated sewer manhole uplifts during earthquakes

T. Tobita, S. Iai, G.C. Kang & Y. Konishi

continued on the next page

Dams and underground structures – *continued*

Numerical analysis of uplift behavior of an underground structure due to liquefaction using an effective stress analysis method

A. Tateishi, F. Oka, Y. Kotani & R. Asai

Ground-motion asynchronism in the seismic response of earth dams

E. Bilotta, L. Pagano & S. Sica

Evaluation of seismic performance of a box culvert buried in saturated sand with centrifuge and its numerical simulation

T. Kawai, A. Asaoka & T. Noda

Seismic safety evaluation of Dapu-Road Tunnel

Z.Y. Chen, Y. Yong & H.T. Yu

Accelerogram construction of strong earthquakes in deep layers of a ground and an estimation of stability of underground constructions

R.B. Baimakhan, A.R. Baimakhan, N.K. Moldakunova, F.K. Yakhiyev, K.A. Kalymova, G.I. Salgarayeva, B.Zh. Zhakashbayev & S.A. Issayev

Research of the seismo-stressed condition of a complex system of the underground construction taking place in the anisotropic ground

R.B. Baimakhan, Sh. Altynbekov, G.P. Rysbayeva, S. Avdarsolkyzy, A.S. Kozhebayeva, A.A. Takishov & K.A. Abdikalikov

Multiple non-circular tunnel linings design under seismic effects of Earthquakes

N.N. Fotieva, N.S. Bulychev & P.V. Deev

The application and research of stress-strain monitor of Central Division Wall in Double-arch Tunnel

F. Zhang, J.-P. Chen, C.-Q. Zuo, C. Zeng & W.-F. Xu

Appropriate countermeasures against liquefaction-induced uplift of existing manholes and pipes

S. Yasuda, S. Mayuzumi & H. Onose

Soil liquefaction and countermeasures

A study on performance based design applied to liquefaction countermeasure

T. Kato, T. Hara, A. Yashima, H. Yokawa, A. Tanabe & Y. Otake

A liquefaction countermeasure grounded on performance based design for Kisogawa-canal

K. Otsushi, H. Tanaka, T. Kato, T. Hara & A. Yashima

The effect of underground columns on the mitigation of the liquefaction in shaking table model experiments

A. Bahmanpour, I. Towhata, M.A. Sakr, M.M.A. Hussein, Y. Yamamoto & S. Yamada

Shaking table test for partially improved ground considering the spatial locality of liquefaction

K. Kasama, K. Zen, G. Chen, M. Kobayashi & K. Hayashi

Performance evaluation of lattice-shaped ground improvement for liquefaction mitigation

T. Namikawa & J. Koseki

A study on prediction accuracy of the dissipation of pore water pressure and the settlement of soil surface for an actual case by the dynamic effective stress analysis program

A. Suzuki, O. Ozutsumi, S. Iai & N. Yokoyama

Evaluation of liquefaction countermeasure effects on the performance of structures

F. López-Caballero, E. Sáez & A. Modaressi-Farahmand-Razavi

Model modification considering steady state for dynamic analysis with effective stress response

N. Fujii, S. Sawada, S. Iai, K. Ichii, N. Yokoyama, O. Ozutsumi, T. Nakahara & K. Mizuno

Coseismic and postseismic behavior of intermediate soil ground improved by sand compaction pile method

H. Takeuchi, T. Noda & A. Asaoka

New Biot's equation for finite element analysis

N. Yoshida, Y. Ohya & T. Sugano

The effect of soil-mix panels on ground motions—a performance based approach

C.G. Olgun & J.R. Martin II

A numerical study on post liquefaction soil behavior by dynamic effective stress analysis

Y. Tamari, O. Ozutsumi, S. Iai & N. Yokoyama

continued on the next page

Soil liquefaction and countermeasures – *continued*

A parametric study on the factors affecting the post-liquefaction flow deformations of ground

R. Alchamaa, M. Yoshimine, R. Karasawa, K. Shiomi & Y. Hosono

Calibration chamber investigation into performance of TGC grouting

A.M. El-Kelesh, K. Tokida, T. Oyama, S. Shimada & T. Sasaki

Effects of spatial variability of cement-treated soil on liquefaction potential

N. Kataoka, K. Zen, G. Chen, K. Kasama & K. Hayashi

An evaluation of liquefaction potential of sands at low confining pressure

M.T. Manzari

Centrifuge modeling for performance evaluation of geotechnical structures improved by earthquake resistant cushion

H. Hazarika, J. Kobayashi, H. Kanno & S.P.G. Madabhushi

Dynamic model tests in centrifuge on lattice-shaped DMM ground improvement for restraining displacement of quay wall

H. Takahashi & K. Hayano

Field testing

Soil liquefaction hazard evaluation for performance-based earthquake engineering

S. Grasso & M. Maugeri

The advancement of the subterranean investigating method for basic assessment of aseismic improvement of a line structure

K. Inoue, H. Nakazato & T. Unno

Geotechnical in situ investigation for seismic design of buildings in Romania

C. Arion, D. Lungu, C. Neagu & E. Calarasu

Spanning static properties of a normally consolidated silt with dynamic stiffness

Y.J. Mok, D.S. Park, J.W. Jung & H.S. Kim

Correlating qc and cyclic liquefaction resistance of sands through calibration chamber tests and simple shear tests

D.D. Porcino & V. Marciànò

Interrelationship between small strain modulus G_0 and operative modulus

P. Monaco, S. Marchetti, G. Totani & D. Marchetti

Estimation of S-wave velocity structure of vertical section orthogonal to the Fukui earthquake fault based on microtremor observation

K. Kojima & T. Noguchi

Characterization of earth-dam soil properties by in situ tests

L. Pagano, C. Mancuso & S. Sica

Seismic performance evaluation of ground improvement with composite effect using surface wave investigation

Y. Sato, K. Maeda, K. Hayashi, Y. Murata & T. Takahara

The role of site uncertainty of soil parameters on performance-based design in geotechnical earthquake engineering

A. Cavallaro, S. Grasso & M. Maugeri

In situ damping ratio profiling of cemented sandy and gravelly soils by surface wave measurements

A. Haddad & S. Ghazvinian

Application of micro tremor observation for ground liquefaction investigation in Tianjin Wangqingtu reservoir area

J.H. Qi, A.L. Che, X.R. Ge, Y.Z. Yang, X.Q. Luo, S.K. Feng & T. Kambara

Application of surface wave survey for ground liquefaction investigation

A.L. Che, X.Q. Luo, J.H. Qi, S.K. Feng & T. Kambara

Laboratory testing

Laboratory research on liquefaction characteristics of a sandy silt substratum in Shanghai

Y. Huang, C. Jin, Z.J. Zhuang, Y.L. Zheng, Z.Y. Chen & W.M. Ye

Characteristics of subsidence of unsaturated ground and subsidence mechanism in the Niigataken Chuetsu-oki Earthquake in 2007

H. Sato, K. Momose, T. Suehiro, T. Tani, M. Sato, K. Ozeki & T. Kitazume

Modeling of strain increase of liquefied soils in cyclic shear loading considering material characteristics

T. Mikami, K. Ichii, S. Iai, O. Ozutsumi, T. Nakahara & N. Yokoyama

Online earthquake response tests for evaluating deformation of river dykes founded on saturated sandy deposits

T. Fujii, M. Hyodo, T. Kaneko & R.P. Orense

Correlation of cyclic triaxial and shear box test results to estimate CSR

Y. Yilmaz & M. Mollamahmutoglu

Experimental study on strength properties of slipping zone soil of the Qianjiangping landslide in the Three Gorges reservoir area under the wet-dry-cycle condition

X.Q. Luo, A.L. Che & L. Cao

Measurement of the small strain stiffness of Auckland natural clay

A. Ibrahim, R.P. Orense, M.J. Pender & N. Kikkawa

Importance of effects of partial saturation on undrained shear strength of soils

T. Kamata, Y. Tsukamoto & K. Ishihara

Comparison of stress and strain approaches for evaluation of liquefaction potential of sands

K. Hazirbaba & M. Omarov

Physical and mechanical properties of soils obtained from slope failure sites during epicentral earthquakes

H. Toyota, S. Takada & K. Nakamura

Anisotropy ratio of marine clays

S.L. Yang, K. Schjetne, T. Lunne & E. Solhjell

Seismic stability and deformation of river dyke founded on sand-clay soils

M. Hyodo, U.G. Kim, T. Kaneko, N. Yoshimoto & R.P. Orense

continued on the next page

Laboratory testing – *continued*

Post earthquake volumetric strain of cohesive soils due to undrained cyclic loadings

M. Hatanaka & S. Yokoji

Measuring excess pore-water pressure of an unsaturated silty soil in cyclic shear test

T. Nishimura

Assessment of liquefaction potential against long duration shaking and its application

K. Uemura, K. Ichii, T. Mikami & O. Ozutsumi

Effect of water content on dynamic properties of sand in cyclic simple shear tests

F. Jafarzadeh & H. Sadeghi

Research on coefficient of brittle stress drop of brittle-plastic rocks after failure

G.C. Shi, X.R. Ge & Y.D. Lu

Deformation behavior modeling in case of cyclic mobility

S. Lenart

Characterization of natural sand under complex dynamic loading

E. Rascol & L. Vulliet

Study on influence factors of silt liquefaction and corresponding prevention measures

D. Wang, X.Q. Luo & A.L. Che

Anisotropic behavior of silty sands by means of undrained monotonic triaxial tests

R. Rafiee Dehkharghani, A. Ghalandarzedehe & M. Moradi

Normalisation of cyclic undrained triaxial and simple shear strength of carbonate sand to monotonic shear strength

D.D. Porcino & A. Saccenti

Methodology and codes

Study on utilizing 'performance-based design' in setting compaction improvement specifications

K. Harada, N. Shinkawa, S. Yasuda & Y. Ariyama

Seismic hazard analysis of Hanahan water treatment plant using geographic information systems (GIS)

K. Ofori-Awuah & J.R. Martin II

Performance-based evaluation of a massive liquefaction-induced lateral spread in a subduction zone

J.F. Meneses, K.W. Franke, B.R. Cox, A. Rodriguez-Marek & J. Wartman

Pile design practice and seismic performance concerns in Taiwan

D.W. Chang, T.Y. Yang, S.H. Cheng, C.T. Chin, T.C. Su & F.K. Huang

Earthquake induced kinematic bending moments on fixed-head piles

L. de Sanctis & R.M.S. Maiorano

An integrated seismic hazard framework for assessing the liquefaction triggering of dam foundation soils

S. Unsal, A. Yunatci & K.O. Cetin

Challenges to the quantitative assessment of liquefaction risks in High-Speed Railways

P.A.L.F. Coelho

Safety of assessment of old fill-dams considering the risk of strong earthquake motion

S. Tani, Y. Seshimo & M. Tsukini

Analysis of earthquake damaged sluice pipe supported by piles based on newly developed performance based design methodology

S. Nakajima, H. Sugita, S. Tanimoto & A. Takahashi

Seismic performance-based design of gravity quay walls. Application to Jeddah port

M. Alsuliman, M. Rouainia & S.M. Wilkinson

Procedures for evaluating pile-supported bridges affected by liquefaction-induced lateral ground displacements

C.A. Ledezma & J.D. Bray

The fragility analysis for pile-supported wharfs using capacity spectrum method

H.H. Yang, J.S. Chiou, C.H. Chen & Y.Y. Ko

continued on the next page

Methodology and codes – *continued*

Macroscopic aseismic assessment method of road embankment

K. Tokida, K. Oda, K. Hayashi & A. Nakahira

Advantage of performance based design for geotechnical structures undergoing seismic loading

I. Towhata, I. Yoshida, Y. Ishihara & S. Suzuki

Effect of uncertainty of seismic action and failure mechanism on the fragility characteristics of embankment

S. Nakamura, S. Sawada & N. Yoshida

Probabilistic evaluation of liquefaction-induced lateral spreading displacement for a site in south of Iran

A. Kavand & S.M. Haeri

Performance-based geotechnical aspects for seismic retrofit of a hospital complex

J.F. Meneses, J.R. Gingery & Z. Zafir

Method for calculating design bearing capacity of piles under various construction methods by statistical analysis of loading test database

H. Nishioka, M. Koda, M. Shinoda & M. Tateyama

Probabilistic pseudo-static analysis of pile foundations in liquefiable soils

B.A. Bradley & M. Cubrinovski

Numerical evaluation on the seismic permanent displacement of highway bridge shallow foundations

M. Shirato, S. Nakatani, T. Kouno & R. Paolucci

Calculation of seismic response of building with simplified estimation of sway and rocking springs and dashpots

M. Iiba, Y. Umemura, O. Kurimoto & T. Akita

The simultaneous failure probability of quay walls at multiple sites

K. Ichii, Y. Yamamoto, Y. Hata & R. Shibasaki

Consideration of loess ground in seismic design code of construction for Lanzhou urban areas

L.M. Wang & Z.X. Yuan

Basic procedures for performance-based design of earth structures considering effects of soil liquefaction

J. Obayashi, Y. Adachi, K. Harada, S. Ito, M. Okamura, W. Takanashi & Y. Tsukamoto

Big projects

Performance-based seismic design of structures connecting reclaimed island and piled-elevated platform in Tokyo International Airport re-expansion project

Y. Sunasaka, Y. Niihara, S. Tashiro, T. Asanuma, M. Miyata & T. Noguchi

Centrifuge modeling of liquefaction sites treated with prefabricated drains

R. Howell, E.M. Rathje, A. Marinucci, R. Kamai, R.W. Boulanger, C. Conlee & S. Kano

Liquefaction-induced lateral spreading behavior of large-size model ground with quay wall and pile-supported structure in the E-Defense shaking table test

K. Tabata & M. Sato

Earthquake response of huge structure for new runway of Tokyo International Airport

K. Tsujioka, M. Yoshida, S. Masuda, T. Murakami & T. Noguchi

Effects of ground displacement on piles with different strength during laterally spreading in centrifuge test

H. Suzuki, K. Tokimatsu & R.W. Boulanger

Centrifuge modeling for liquefaction mitigation using colloidal silica stabilizer

C.T. Conlee, P.M. Gallagher, R.W. Boulanger & R. Kamai

Seismic behavior of the high embankment airport island constructed by non-liquefiable material

K. Inoue, K. Kawamura, Y. Matsumoto, T. Sakaiya & T. Noguchi

Numerical prediction of the seismic behavior of pile foundation adjacent to a quay wall on the E-Defense shaking table

R. Uzuoka, N. Sento, F. Oka, A. Yashima, F. Zhang & K. Tabata

Nonlinear macroelements for performance-based design of pile-supported waterfront structures in liquefiable sites

D. Assimaki & Varun

Fragility and repair models for container wharves

L.M. Ivey, G.J. Rix & S.D. Werner

Structural design and analysis

A study of soil-structure interaction using in-situ tests of school buildings

Y.Y. Ko & S.-Y. Hsu

Structural and geotechnical seismic monitoring of the new Student House in Campobasso, Italy

G. Fabbrocino, C. Laorenza, C. Rainieri, F. Santucci de Magistris & C. Visone

Evaluation of modal pushover analysis procedure using concrete frames

P. Zarfam, M. Mofid & M. Ahmadiam

Behavior factor and non-linear behavior of knee braced steel frames with semi-rigid connections

M. Miri, H. Abbas zadeh & A. Zare

Comparison of retrofitting simple steel frames using steel shear walls and concentric braces by performance levels

M. Miri, H. Hemmati & M. Ghalehnovi

Comparison of seismic performance of the ordinary and chevron knee braced frames

A. Zare, M. Miri & H. Abbas zadeh

Assessment of historic residential buildings using fragility curves

P. Antl, G. Achs & H. Wenzel

Adaptive displacement-spectra-based pushover analysis procedure for estimating seismic performance for bridges

S.F. Qin, J.R. Tao, H.L. Wang, C.G. Liu & G. Lin

Modified DASPA procedure for estimating seismic performance for cable-stayed bridge

C.G. Liu, S.F. Qin, J.R. Tao, H.L. Wang & G. Lin

Survey of special steel moment frames in the way of performance based design by consideration of panel zone

M. Miri, A. Kashiryfar & M. Naghipour

Energy approach in performance-based optimization of steel moment resisting frames

M. Tehranizadeh & A. Moshref