Earthquakes and Structures, An International Journal

Volume 9, Number 2 August 2015

CONTENTS

Alessandro Vittorio Bergami and Camillo Nuti (Italy) Experimental tests and global modeling of masonry infilled frames
Rajneesh Kakar (India) SH-wave propagation in a heterogeneous layer over an inhomogeneous isotropic elastic half-space
M. De Stefano, M. Tanganelli and S. Viti (Italy) Seismic performance sensitivity to concrete strength variability: a case-study
Adolfo Preciado (Mexico), Gianni Bartoli (Italy) and Harald Budelmann (Germany) Fundamental aspects on the seismic vulnerability of ancient masonry towers and retrofitting techniques 339
Moosa Ebrahimi Nezhad and Mehdi Poursha (Iran) Seismic evaluation of vertically irregular building frames with stiffness, strength, combined-stiffness-and-strength and mass irregularities
Onkar G. Kumbhar, Ratnesh Kumar and Shrabony Adhikary (India) Effect of staircase on seismic performance of RC frame building
P. Kamatchi, G.V. Ramana, A.K. Nagpal, Nagesh R. Iyer and J.A. Bhat (India) Dynamic to static eccentricity ratio for site-specific earthquakes
Narges Easazadeh Far, Shervin Maleki and Majid Barghian (Iran) Design of integral abutment bridges for combined thermal and seismic loads415
Burak Yön, Erkut Sayın, Yusuf Calayır, Zülfü Çınar Ulucan, Mehmet Karataş, Hümeyra Şahin, Kürşat Esat Alyamaç and Abdullah Tevfik Bildik (Turkey) Lessons learned from recent destructive Van, Turkey earthquakes



Vol. 9, No. 2 (2015)

Techno-Press

Techno-Press

ISSN : 2092-7614(print), ISSN : 2092-7622(online)



An International Journal of Earthquake Engineering & Earthquake Effects on Structures

Editors-in-Chief

S.A. Anagnostopoulos

University of Patras, Greece

Nicos Makris

University of Central Florida, USA

Keh-Chyuan Tsai

Volume 9, Number 2, August 2015

National Taiwan University, Taiwan



Earthquakes and Structures, An International Journal

Honorary Editor-in-Chief

Prof. Shih-Chi Liu

Division of Civil and Mechanical Systems, The National Science Foundation, 4201 Wilson Boulevard, Arlington, VA 22230, USA E-mail: sliu@nsf.gov

Editors-in-Chief

Prof. Stavros A. Anagnostopoulos (European Ed.) Dept. of Civil Engineering University of Patras 265 00 Patras, Greece E-mail: saa@upatras.gr

Prof. Nicos Makris (American Ed.) University of Central Florida, Florida 32816-2450, USA E-mail: Nicos.Makris@ucf.edu Prof. Keh-Chyuan Tsai (Asia-Pacific Ed.) Dept. of Civil Engineering National Taiwan University, Taipei 10617, Taiwan E-mail: kctsai@ntu.edu.tw

Managing Editor

Prof. C. K. Choi, Ph. D. Dept. of Civil & Environmental Engineering Korea Advanced Institute of Science & Technology, Daejeon 305-701, Korea, E-mail: cck@kaist.ac.kr

Editorial Board	(in alphabetical order)		Manuscript Editor Juri Yoo
Prof. A. Benavent-Climent	Prof. R.S. Jangid	Prof. G. Manolis	Dr. Timothy Sullivan
University of Granada	Indian Institute of Technology	Aristotle University	University of Pavia
Granada E-18071, Spain	Mumbai 400076, India	Thessaloniki 54124, Greece	Pavia I-27100, Italy
Prof. Rita Bento	Prof. R. Jankowski	Prof. Jason P. McCormick	Prof. Hideo Takabatake
Instituto Superior Tecnico	Gdansk University of Technology	University of Genoa	Kanazawa Institute of Technology
1049-001 Lisbon, Portugal	80-233 Gdansk, Poland	Genova I-16145, Italy	Ishikawa 924-0838, Japan
Prof. Shuenn-Yih Chang	Prof. H.J. Jung	Prof. Yuji Miyamoto	Prof. Tsuyoshi Takada
National Taipei University of	Korea Adv Inst of Sci & Tech	Osaka University	University of Tokyo
Technology Taipei 106, Taiwan	Daejeon 305-701, Korea	Osaka 565-0871, Japan	Tokyo 113-8656, Japan
Prof. C.C. Chou	Prof. Thomas Kang	Prof. Fabrizio Mollaioli	Prof. Izuru Takewaki
National Taiwan University	Seoul National University,	Sapienza University of Rome	Kyoto University
Taipei 10764, Taiwan	Gwanak-gu, Seoul 151-744, Korea	Rome 00197, Italy	Kyoto 615-8540, Japan
Prof. Nawawi Chouw	Prof. Petros Komodromos	Dr. Naohiro Nakamura	Prof. J.L. Tassoulas
University Auckland	University of Cyprus	Takenaka Corporation	University of Texas at Austin
Auckland 1010, New Zealand	Nicosia 1678, Cyprus	Chiba 270-1395, Japan	Austin, TX 78712-0273, USA
Prof. M.C. Constantinou	Prof. S. Lagomarsino	Prof. Camillo Nuti	Prof. Amador Teran-Gilmore
University at Buffalo	University of Genoa	The University of Rome Three	Universidad Autonoma Metropolitana
Buffalo, NY 14260, USA	Genova I-16145, Italy	Rome 00184, Italy	Mexico City 02200, Mexico
Prof. Rajesh Dhakal	Prof. Nelson Lam	Prof. Jamie Ellen Padgett	Prof. T. Triantafyllou
University of Canterbury	University of Melbourne	Rice University	University of Patras
Private Bag 4800, New Zealand	Victoria 3010, Australia	Houston, TX 77005, USA	Patras 265 00, Greece
Prof. M. Fardis	Prof. H.S. Lee	Prof. S.J. Pantazopoulou	Prof. Tomaso Trombetti
University of Patras	Korea University	University of Cyprus	University of Bologna
GR26504, Patras, Greece	Seoul 136-701, Korea	Nicosia 1678, Cyprus	Bologna 40136, Italy
Prof. Aurelio Ghersi	Prof. Chunxiang Li	Prof. Apostolos Papageorgiou	Prof. Radu Vacareanu
University of Catania	Shanghai Jiao Tong University	University of Patras	Technical U of Civil Engineering
Catania 95100, Italy	Shanghai 200030, Peoples R China	Patras 265 00, Greece	Bucharest RO-020396, Romania
Prof. Russell A. Green	Prof. Dimitrios G. Lignos	Prof. Jorge Ruiz-Garcia	Prof. Aspasia Zerva
Virginia Tech	McGill University	Univ Michoacana de San Nicolas de Hidalgo	Drexel University
Blacksburg, VA 24061, USA	Montreal, Quebec H3A 2K6, Canada	Michoacan, Mexico	Philadelphia, PA 19104, USA
Prof. J.S. Hwang	Prof. Jerome P. Lynch	Prof. Lothar Stempniewski	Prof. Yunfeng Zhang
Nat Taiwan Univ of Sci & Technol	University of Michigan	Karlsruhe Institute of Technology(KIT)	University of Maryland
Taipei 106, Taiwan	Ann Arbor, MI 48109-2125, USA	Karlsruhe 76131, Germany	MD 20742, USA
Prof. Jason Ingham	Prof. C.S. Manohar	Prof. Haluk Sucuoglu	
University of Auckland	Indian Institute of Science	Middle East Technical University	
Auckland 1010, New Zealand	Bangalore 560 012, India	Ankara TR-06531, Turkey	
Subscription info	rmation		

The **Earthquakes and Structures**, *An International Journal* (abbr: Earthq. Struct. *Int. J.*) is published monthly on 25th day of every twelve months (Inagurated 2010). The basic subscription price (print+e) for 2015 including postage by surface mail is US\$456 for institutional subscription and US\$133 for personal sub. For delivery by air mail, add US\$64. Subscription orders and/or enquiries should be sent to Techno-Press, P.O. Box 33, Yuseong, Daejeon 305-600, Korea. Tel: (+82-42) 828-7995, Fax: (+82-42) 828-7997, e-mail: technop8@chol.com

Copyright © 2015 Techno-Press, Ltd.

Aims and Scope

The **Earthquakes and Structures**, An International Journal, focuses on the effects of earthquakes on civil engineering structures. The journal will serve as a powerful repository of technical information and will provide a high-impact publication platform for the global community of researchers in the traditional, as well as emerging, sub-disciplines of the broader earthquake engineering field. Specifically, some of the major topics covered by the Journal include: characterization of strong ground motions, quantification of earthquake demand and structural capacity, design of earthquake resistant structures and foundations, experimental and computational methods, seismic regulations and building codes, seismic hazard assessment, seismic risk mitigation, interaction, assessment, repair and strengthening of existing structures, including historic structures and monuments, and emerging technologies including passive control technologies, structural monitoring systems, and cyberinfrastructure tools for seismic data management, experimental applications, early warning and response

Instructions to Authors

1. Submission of the paper

Authors are asked to submit manuscripts in PDF format electronically through the Techno-Press Manuscript Upload System (TeMUS) (http://www.techno-press.org/papers). Exceptionally, the special issue papers may be directly submitted to the Guest Editor. If you have difficulties in using TeMUS, please contact us at[technop8@chol.com]. On receiving submitted papers, the system will issue the paper ID and Password to the corresponding author which may be conveniently used to check the status of submitted papers.

2. Preparation of the manuscript

General : The manuscripts should be in English and typed with single column and single line spacing on single side of A4 paper. Submitted papers will be published in three categories, i.e., 1) Regular technical paper, 2) Review papers and 3) Discussions. The first page of an article should contain; (1) a title of paper which well reflects the contents of the paper (Arial, 16pt), (2) all the name(s) and affiliations(s) of authors(s) (Arial, 12pt), (3) an abstract of 100~250 words (Times New Roman, 11pt), (4) 5-10 keywords following the abstract, and (5) footnote (personal title and email address of the corresponding author (required) and other authors' (not mandatory)). The paper should be concluded by proper conclusions which reflect the findings in the paper. The normal length of the technical paper should be about 14-20 journal pages.

Please refer to Author's Guide: http://www.techno-press.org/papers/appendix/Appendix_A.pdf, and Template for the format of the first page of the paper: http://www.techno-press.org/papers/appendix/appendix_b.doc

Tables and figures: Tables and figures should be consecutively numbered and have short titles. They should be referred to in the text as following examples (e.g., Fig. 1(a), Figs. 1 and 2, Figs. 1(a)-(d) / Table 1, Tables 1-2), etc. Tables should have borders (1/2pt plane line) with the captions right before the table. Figures should be properly located in the text as an editable image file (.jpg) with captions on the lower cell. All of the original figures are required at the end of the manuscript for reference in editing.

Units and mathematical expressions: It is desirable that units of measurements and abbreviations should follow the System Internationale (SI) except where the other unit system is more suitable. The numbers identifying the displayed mathematical expression should be placed in the parentheses and referred to in the text as following examples (e.g., Eq. (1), Eqs. (1)-(2)). Mathematical expressions must be inserted as an object (set as Microsoft Equations 3.0) for Microsoft Word 2007 and after versions. Image-copied text or equations are not acceptable unless they are editable. The raised and lowered fonts cannot be used for superscription and subscription.

References : A list of references which reflect the current state of technology in the field locates after conclusions of the paper. For details to prepare the list of references and cite them in the text, authors are advised to follow the introduction and the sample list in the Author's Guide of the instruction.

3. Review

All the submitted papers will undergo a peer-review process, and those papers positively recommended by at least two expert reviewers will be finally accepted for publication in the Techno-Press Journals or after any required modifications are made.

4. Proofs

Proofs will be sent to the corresponding author to correct any typesetting errors. Alterations to the original manuscript will not be accepted at this stage. Proofs should be returned within 48 hours of receipt.

5. Copyright

Submission of an article to a Techno-Press Journal implies that it presents the original and unpublished work, and not under consideration for publication elsewhere. On acceptance of the submitted manuscript, it is implied that the copyright thereof is transferred to the Techno-Press. The Transfer of Copyright Agreement may also be submitted.

6. Ethics

For the policies on the research and publication ethics not stated in this instructions, International standards for editors and authors (http://publicationethics.org/international-standards-editors-and-authors) can be applied. Violation of publication ethics will result in the activation of COPE flow chart. (http://home.jeet.or.kr/Flowcharts.pdf)

7. Publication Fee

There will be no page charges and no other fees unless the author wishes arrangements to provide an open access to his article.