

Table of Contents

Keynote Speech Abstract

Factors influencing the lateral drift capacity of structural walls	1
<i>John W. Wallace</i>	

Session A: Earthquake Engineering and Damping Systems I

Analysis of damage potential of the 912 Gyeongju earthquake	3
<i>Cheol-Ho Lee</i>	
Shaking table tests of rocking base-isolated structures subjected to bi-axial earthquake loads.....	11
<i>Chin-Tung Cheng and Wei-Zhe Kang</i>	
Mechanical behavior of low-yield-point circular hollow section steel damper under bi-directional loading: examination based on experimental results	23
<i>Jinwoo Kim, Susumu Kuwahara, Kazuaki Miyagawa, Mitsutoshi Yoshinaga, Ryota Tobari, and Tomohiro Kinoshita</i>	
A displacement-controlled semi-active friction damper with leverage mechanism.....	33
<i>L.-Y. Lu, S.-Y. Chu, J.-R. Jheng, and K.-A. Hsiao</i>	

Session B: Seismic Performance of RC Structures I

Seismic performance of two-story R/C frames enhanced by rectangular cross-section walls.....	43
<i>Masanori Tani, Yugo Matsuba, Yuki Idosako, Tomohisa Mukai, and Minehiro Nishiyama</i>	
Shear strength evaluation of RC beams.....	53
<i>Jung-Yoon Lee and Jinyoung Kim</i>	
Experimental investigation on the post-earthquake seismic capacity of RC column members.....	63
<i>Chien-Kuo Chiu</i>	
Shear strength of corroded reinforced concrete short columns	73
<i>Hyeon-Jong Hwang, Gao Ma, and Hui Li</i>	

Session C: Seismic Performance of PC and Other Structures

Performance and design models of precast concrete seismic-force-resisting systems..... 81
Thomas Kang, Woo-Young Lim, and Sung-Gul Hong

Performance of unbonded post-tensioning monostrand anchorages under concentric and
eccentric cyclic loads..... 93
Luis A. Bedriñana, Kaiwei Zhang, and Minehiro Nishiyama

In-plane loading tests for confined and in-filled masonry panels in RC frames with
eccentric openings 103
Yi-Hsuan Tu, I-Ting Tung, Ting-Wen Yang, and Tsung-Chih Chiou

The state of the practice of timber structures in Korea..... 113
Kyungtae Kim and Taejin Kim

Session D: Earthquake Engineering and Damping Systems II

Numerical analysis of a fuzzy-controlled stiffness controllable mass damper system ... 121
Shih-Yu Chu, Lyan-Ywan Lu, Shih-Wei Yeh, and Ci-Cheng Chen

Vision sensing-based control force estimation of tuned liquid column dampers under
real-time hybrid simulation 131
Junhee Kim, Yoon-Soo Shin, and Kyung-Won Min

Seismic performance evaluation of building structures using stud-type dampers 139
Po-Chien Hsiao and Wei-Chieh Liao

Development of bi-gradation velocity feedback for isolated structure with controllable
friction damper 151
Zhen-Yu Zhan, Tzu-Kang Lin, and Lyan-Ywan Lu

Session E: Seismic Performance of Composite and Steel Structures

Cyclic behavior of retrofitted L- and T-shaped reinforced concrete columns 157
Yu-Chen Ou and An-Nhien Truong

Numerical study on seismic structural performance of steel encased concrete piles 167
*Shreya Thusoo, Hiromu Tanaka, Taiga Otaki, Susumu Kono, Hidekazu Watanabe, Tetsuo
Hayakawa, Tsutomu Hirade, David Mukai, and Tomohisa Mukai*

Behavior of beam-to-column moment connections using SM570 high-strength steel ... 177
Cheng-Chih Chen, Chung-Yao Hsueh, and Miao Wang

Cyclic lateral loading test for prefabricated composite column with bolt-connected steel
angles 185
Hyeon-Jin Kim, Hyeon-Jong Hwang, and Hong-Gun Park

In-plane cyclic behavior of shear-critical steel-plate composite walls 195
Yin-Nan Huang, Chang-Ching Chang, and Bo-Shaw Lin

Session F: Seismic Performance of RC Structures II

Column-to-beam strength ratio required to reduce likelihood of column yielding in
earthquake-resistant RC moment frames 205
Chang-Soo Kim and Hong-Gun Park

Space and width of cracks on reinforced concrete beams under shear and flexural loads
..... 213
Susumu Takahashi

Seismic interaction between shear and torsion in a 5-story torsionally unbalanced RC
frame structure 219
Kyung Ran Hwang and Han Seon Lee

Evaluation of crack width in non-structural walls: Experimental results and analytical
predictions 231
Zheng Zhang, Rok-Hyun Yoon, and Yasushi Sanada

Evaluation of bond capacity in RC members according to configuration of transverse
reinforcement 243
Min-Jun Kim, Hyeong-Gook Kim, Yong-Jun Lee, Dong-Hwan Kim, and Kil-Hee Kim

Assessment of ultimate drift capacity of RC shear walls by key design parameters 253
*Chanipa Netrattana, Rafik Taleb, Hidekazu Watanabe, Susumu Kono, David Mukai,
Masanori Tani, and Masanobu Sakashita*