

# Contents

## Sessions A, C: Seismic Analysis / Assessment

<b>Sub-structure Pseudo Dynamic Test and Analysis of 6-Story Reinforced Concrete Frame with Soft First Story</b> <i>Hiroshi KURAMOTO</i> .....	3
<b>Analysis of Shear Wall Building Structures with Openings</b> <i>Dong-Guen LEE, Hyun-Su KIM, and Kye-Hong NAMGUNG</i> .....	11
<b>Parallel Sparse Solution for Nonlinear Dynamic Analysis of Large-Scale Building Structures</b> <i>Shang-Hsien HSIEH and Yuan-Sen YANG</i> .....	21
<b>An Evaluation and Response Analysis of a Wall-Frame Structural System with Haunch at the Transfer Floor</b> <i>Heecheul KIM and Sung-Hun JANG</i> .....	31
<b>Seismic Evaluation of Subassemblages Consisting of Exterior Column and Halfspan Beams in Lower Part of RC High-Rise Building</b> <i>Masaru TERAOKA, Yoshikazu KANO, Kazuya HAYASHI, and Naoki TAKAMORI</i> ..	39
<b>Seismic Responses of a High-Rise RC Bearing-wall Structure with Bottom Piloti Frames</b> <i>Han-Seon LEE and Dong-Woo KO</i> .....	49
<b>Seismic Capacity Assessment and Retrofitting of Low-Rise RC Street Building</b> <i>Maw-Shyong SHEU, Pai-Chi LAN, and Sai-Hong TANG</i> .....	59
<b>Seismic Behaviors of Ordinary Moment Resisting Concrete Frames</b> <i>Sang Whan HAN and Li-Hyung LEE</i> .....	69
<b>Tangent Stiffness Matrix for Nonlinear Analysis of Planar Steel Frames Considering the Effects of Spread of Plasticity</b> <i>Liang-Jenq LEU and Min-Hsuan TSAI</i> .....	77
<b>Experimental Implications on Seismic Resistance of Unreinforced Cement Brick Walls</b> <i>Jang-Hoon KIM and Jae-Kwan KIM</i> .....	87

## Session B: Steel Connections / Pile Foundation

<b>Performance of Bolted Friction Joints with High Slip Coefficient and Super High Tension Bolts</b> <i>Ichiro TAKEUCHI, Nobuyoshi UNO, and Kazuo INOUE</i> .....	99
--	----

**Seismic Design of Rib-Reinforced Steel Moment Connections Based on Equivalent Strut Model**

*Cheol-Ho LEE*..... 107

**Mechanical Behavior of Bolted Beam-to-Column Connections with Hysteretic Damper**

*Keiichiro SUITA, Kazuo INOUE, Ichiro TAKEUCHI, and Nobuyoshi UNO* ..... 117

**Modeling Flexible Pile Foundations Using Finite Elements**

*Shen-Haw JU* ..... 127

**Dynamic Tests to Evaluate the Bearing Capacity of Piles**

*Madan Bahadur KARKEE and Takashi Horiguchi* ..... 135

**Session D: RC / Composite Member Behavior**

**The Scale Effects on the Reinforced Concrete Columns with High Axial Load**

*Hitoshi TANAKA, Tsuguo HIKIDA, and Hiroyuki NAKAJI*..... 147

**An Experimental Study for Composite Steel Column Comprising with Partial Concrete Encasement to Improve its Fire Resistance**

*Dae-Kon KIM and Sung-Hoon KIM* ..... 159

**Analytical Models for Predicting Lateral Load Response of RC Squat Walls**

*Shyh-Jiann HWANG, Hsin-Wan YU, and Li-Ping CHEN* ..... 169

**Scale Effect on Flexural Compression Behavior of Reinforced Concrete Columns**

*Minehiro NISHIYAMA and Susumu KONO* ..... 179

**The Influence of Steel Bar Curtailment on Seismic Performance of Building Structures**

*Yung-Chih WANG*..... 189

**Stress-Strain Relation of Confined Concrete under Dynamic Loading**

*Susumu KONO, Fumio WATANABE, and Akihiro KAJITANI*..... 199

**Sessions E, F: Seismic Design**

**Comparison of Strength Capacity for Steel Building Structures between the United States and Japan**

*Motohide TADA, Tomonori FUKUI, Masayoshi NAKASHIMA, and Charles W. OEDER*  
..... 209

**Application of LMI-Based Robust  $H_\infty$  Control to a Full-Scale Building**

*Jong-Cheng WU and Hsin-Hsien CHIH*..... 219

**New Active Control Algorithm Based on Probability Distribution of Structural Energy**

*Kyung-Won MIN, Jae-Seung HWANG, Sang-Hyun LEE, and Jin-Wook JOUNG*..... 229

<b>An Investigation on Inelastic Structural Responses for the 1999 ChiChi Near-Field Ground Motions</b> <i>Ching-Tung HUANG</i> .....	239
<b>Post-Buckling Instability and Bracing Effects of RBS Steel Beams Subjected to Large Earthquake Loading</b> <i>Iori KANAOK, Masayoshi NAKASHIMA, and Liu DAWEI</i> .....	247
<b>Design of Unbond Braces Using Capacity Spectrum Method</b> <i>Jinkoo KIM and Yukyung KIM</i> .....	255
<b>Buckling Strength of Buckling Inhibited Braces</b> <i>Cheng-Cheng CHEN, Chin-Hua Wang, and Tien-Chin Hwang</i> .....	265
<b>Seismic Performance of Free-Edge Wall-Ends with Interlocking Spiral Reinforcement</b> <i>Sung-Gul HONG and Loc-Bae KIM</i> .....	273
<b>Substructure Pseudo Dynamic Testing of Low Yield Strength Steel Shear Panels</b> <i>Keh-Chyuan TSAI, Hong-Yuan WANG, Chih-Hong CHEN, Gee-Yu LIU, and Kung-Juin WANG</i> .....	281