

Table of Contents

About the Special Issue Editors	vii
Preface to "Structural Health Monitoring (SHM) of Civil Structures"	ix
Gangbing Song, Chuji Wang and Bo Wang Structural Health Monitoring (SHM) of Civil Structures doi: 10.3390/app7080789	1
Timo Kumberg, Taimur Aftab and Leonhard Reindl A Wireless Sensor Network Using GNSS Receivers for a Short-Term Assessment of the Modal Properties of the Neckartal Bridge [†] doi: 10.3390/app7060626	4
Hae-Chang Cho, Deuck Hang Lee, Hyunjin Ju, Hyun-Cheol Park, Heung-Youl Kim and Kang Su Kim Fire Damage Assessment of Reinforced Concrete Structures Using Fuzzy Theory doi: 10.3390/app7050518	22
Changhang Xu, Xumei Gong, Wuyang Zhang and Guoming Chen An Investigation on Eddy Current Pulsed Thermography to Detect Surface Cracks on the Tungsten Carbide Matrix of Polycrystalline Diamond Compact Bit doi: 10.3390/app7040429	38
Jinke Li, Kaixing Liao, Xianglong Kong, Shengyuan Li, Xinwang Zhang, Xuefeng Zhao and Changsen Sun Nuclear Power Plant Prestressed Concrete Containment Vessel Structure Monitoring during Integrated Leakage Rate Testing Using Fiber Bragg Grating Sensors doi: 10.3390/app7040419	50
Dan Yang, Cancan Yi, Zengbin Xu, Yi Zhang, Mao Ge and Changming Liu Improved Tensor-Based Singular Spectrum Analysis Based on Single Channel Blind Source Separation Algorithm and Its Application to Fault Diagnosis doi: 10.3390/app7040418	66
Cancan Yi, Yong Lv, Han Xiao, Guanghui You and Zhang Dang Research on the Blind Source Separation Method Based on Regenerated Phase-Shifted Sinusoid-Assisted EMD and Its Application in Diagnosing Rolling-Bearing Faults doi: 10.3390/app7040414	81
Mao-Sen Cao, Yu-Juan Ding, Wei-Xin Ren, Quan Wang, Minvydas Ragulskis and Zhi-Chun Ding Hierarchical Wavelet-Aided Neural Intelligent Identification of Structural Damage in Noisy Conditions doi: 10.3390/app7040391	99
Jing Xu, Jiajia Hao, Hongnan Li, Minzhang Luo, Wen Guo and Weijie Li Experimental Damage Identification of a Model Reticulated Shell doi: 10.3390/app7040362	119

Fuhai Li, Xiaojuan Quan, Yi Jia, Bo Wang, Guibin Zhang and Siyin Chen The Experimental Study of the Temperature Effect on the Interfacial Properties of Fully Grouted Rock Bolt doi: 10.3390/app7040327	131
Lei Zeng, Yunfeng Xiao, Yiguang Chen, Siqian Jin, Wei Xie and Xianjie Li Seismic Damage Evaluation of Concrete-Encased Steel Frame-Reinforced Concrete Core Tube Buildings Based on Dynamic Characteristics doi: 10.3390/app7040314	142
Jie Zheng, Li-guo Dong, Shan-suo Zheng, Lei Zeng, Ze-hui Xiang and Wei He Researching a Fuzzy- and Performance-Based Optimization Method for the Life-Cycle Cost of SRHPC Frame Structures doi: 10.3390/app7030269	160
Wei Lu, Jun Teng, Chao Li and Yan Cui Reconstruction to Sensor Measurements Based on a Correlation Model of Monitoring Data doi: 10.3390/app7030243	179
Jianlin Luo, Chenglin You, Shuai Zhang, Kwok L. Chung, Qiuyi Li, Dongshuai Hou and Chunwei Zhang Numerical Analysis and Optimization on Piezoelectric Properties of 0–3 Type Piezoelectric Cement-Based Materials with Interdigitated Electrodes doi: 10.3390/app7030233	192
Bo Wang, Chencong Mo, Chuan He and Qixiang Yan Fuzzy Synthetic Evaluation of the Long-Term Health of Tunnel Structures doi: 10.3390/app7020203	203
Kwok L. Chung, Lei Yuan, Songtao Ji, Li Sun, Chengping Qu and Chunwei Zhang Dielectric Characterization of Chinese Standard Concrete for Compressive Strength Evaluation doi: 10.3390/app7020177	223
Li Sun, Chuang Li, Jun Li, Chunwei Zhang and Xiaosu Ding Strain Transfer Analysis of a Clamped Fiber Bragg Grating Sensor doi: 10.3390/app7020188	237
Qixiang Yan, Chuan Zhang, Gang Lin and Bo Wang Field Monitoring of Deformations and Internal Forces of Surrounding Rocks and Lining Structures in the Construction of the Gangkou Double-Arched Tunnel—A Case Study doi: 10.3390/app7020169	248
Maria Rashidi, Maryam Ghodrat, Bijan Samali, Brett Kendall and Chunwei Zhang Remedial Modelling of Steel Bridges through Application of Analytical Hierarchy Process (AHP) doi: 10.3390/app7020168	268
Carlos Andres Perez-Ramirez, Arturo Yosimar Jaen-Cuellar, Martin Valtierra-Rodriguez, Aurelio Dominguez-Gonzalez, Roque Alfredo Osornio-Rios, Rene de Jesus Romero-Troncoso and Juan Pablo Amezcua-Sanchez A Two-Step Strategy for System Identification of Civil Structures for Structural Health Monitoring Using Wavelet Transform and Genetic Algorithms doi: 10.3390/app7020111	288

Jianchao Wu, Yongjian Cai, Weijie Li and Qian Feng Strong Aftershock Study Based on Coulomb Stress Triggering—A Case Study on the 2016 Ecuador M_w 7.8 Earthquake doi: 10.3390/app7010088	305
Zhao Fang, Aiqun Li, Wanrun Li and Sheng Shen Wind-Induced Fatigue Analysis of High-Rise Steel Structures Using Equivalent Structural Stress Method doi: 10.3390/app7010071	315
Kwok L. Chung, Jianlin Luo, Lei Yuan, Chunwei Zhang and Chengping Qu Strength Correlation and Prediction of Engineered Cementitious Composites with Microwave Properties doi: 10.3390/app7010035	333
Wongi S Na and Jongdae Baek Impedance-Based Non-Destructive Testing Method Combined with Unmanned Aerial Vehicle for Structural Health Monitoring of Civil Infrastructures doi: 10.3390/app7010015	348
Jing Xie, Changhang Xu, Xumei Gong, Weiping Huang and Guoming Chen Sizing Subsurface Defects in Metallic Plates by Square Pulse Thermography Using an Oriented Gradient Map doi: 10.3390/app6120389	357
Cancan Yi, Yong Lv, Zhang Dang and Han Xiao A Novel Mechanical Fault Diagnosis Scheme Based on the Convex 1-D Second-Order Total Variation Denoising Algorithm doi: 10.3390/app6120403	370
Yifeng Wu, Hao Wang and Aiqun Li Parameter Identification Methods for Hyperelastic and Hyper-Viscoelastic Models doi: 10.3390/app6120386	385
Qingzhao Kong, Rachel Howser Robert, Pedro Silva and Y. L. Mo Cyclic Crack Monitoring of a Reinforced Concrete Column under Simulated Pseudo-Dynamic Loading Using Piezoceramic-Based Smart Aggregates doi: 10.3390/app6110341	398
Heyue Yin, Tao Wang, Dan Yang, Shaopeng Liu, Junhua Shao and Yourong Li A Smart Washer for Bolt Looseness Monitoring Based on Piezoelectric Active Sensing Method doi: 10.3390/app6110320	413
Junhua Shao, Tao Wang, Heyue Yin, Dan Yang and Yourong Li Bolt Looseness Detection Based on Piezoelectric Impedance Frequency Shift doi: 10.3390/app6100298	423
John J. Moughty and Joan R. Casas A State of the Art Review of Modal-Based Damage Detection in Bridges: Development, Challenges, and Solutions doi: 10.3390/app7050510	434

Xuan Kong, Chun-Sheng Cai and Jiexuan Hu

The State-of-the-Art on Framework of Vibration-Based Structural Damage Identification for
Decision Making

doi: 10.3390/app7050497 **458**