Spotlight on Structures

Research Journal of The Institution of Structural Engineers

In this section we shine a spotlight on papers recently published in *Structures* – the Research Journal of The Institution of Structural Engineers.

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Articles in press

The following articles have recently been made available online:

Estimating Shear Strength of Short Rectangular Reinforced Concrete Columns Using Nonlinear Regression and Gene Expression Programming
S.B. Beheshti Aval, H. Ketabdari and S. Asil Gharebaghi, Civil Engineering Faculty, K. N. Toosi University of Technology, Tehran, Islamic Republic of Iran
https://doi.org/10.1016/j.istruc.2017.07.002

A Numerical Analysis of the Stress-strain Behavior of Anchorage Elements and Steel Liner of a Prestressed Concrete Containment Wall
Petr Bílý and Alena Kohoutková, Czech Technical University in Prague, Faculty of Civil Engineering, Department of Concrete and Masonry Structures, Prague, Czech Republic
https://doi.org/10.1016/j.istruc.2017.07.003

Ultra-high Strength Concrete on Eccentrically Loaded Slender Circular Concrete-filled Dual Steel Columns
C. Ibañez[a], Manuel L. Romero[b], A. Espinos[b], J.M. Portolés[a] and V. Albero[b]
[a] Department of Mechanical Engineering and Construction, Universitat Jaume I, Castellón, Spain
[b] Instituto de Ciencia y Tecnología del Hormigón (ICITECH), Universitat Politècnica de València, Valencia, Spain
https://doi.org/10.1016/j.istruc.2017.07.005

Concrete Stiffened Steel Plate Shear Walls With an Unstiffened Opening
Soheil Shafaei[a], Farhang Farahbod[b] and AmirAyazi[c]
[a] Young Researchers and Elite Club, Islamshahr Branch, Islamic Azad University, Islamshahr, Iran
[b] Road, Housing & Urban Development Research Center, Tehran, Iran
[c] Department of Civil Engineering, Islamic Azad University, Shahr-e-Qods Branch, Tehran, Iran
https://doi.org/10.1016/j.istruc.2017.07.004

Shear Transfer Capacity of Composite Sections in Steel Tubed-Reinforced-Concrete Frames
Dan Gan, Zheng Zhou, Feng Yan and Xuhong Zhou, Key Laboratory of New Technology for Construction of Cities in Mountain Area and School of Civil Engineering, Chongqing University, Chongqing, China
https://doi.org/10.1016/j.istruc.2017.08.001

Parametric Evaluation of Racking Performance of Platform Timber Framed Walls
R. Dhonju[a], B. D'Amico[a], A. Kermani[a], J. Porteous[a] and B. Zhang[b]
[a] Centre for Timber Engineering, School of Engineering and the Built Environment, Edinburgh Napier University, Edinburgh, UK
[b] School of Engineering and Built Environment, Glasgow Caledonian University, Glasgow, UK
https://doi.org/10.1016/j.istruc.2017.08.003

The Energy Method in Problems of Buckling of Bars with Quantifier Elimination
Nikolaos I. Ioakimidis, School of Engineering, University of Patras, Patras, Greece
https://doi.org/10.1016/j.istruc.2017.08.002

Hysteretic Behaviour of a Piston Based Self-centering (PBSC) Bracing System Made of Superelastic SMA Bars – A Feasibility Study
A.B.M. Rafiqul Haque and M. Shahria Alam, School of Engineering, The University of British Columbia, Kelowna, BC, Canada
https://doi.org/10.1016/j.istruc.2017.08.004

Behaviour of Composite Beams Made Using High Strength Steel
R. Shamass[a] and K.A. Cashell[b]
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[b] Dept of Civil and Environmental Engineering, Brunel University London, UK
https://doi.org/10.1016/j.istruc.2017.08.005

Nonlinear Static Pushover and Eigenvalue Modal Analyses of Quasi-isolated Highway Bridges With Seat-type Abutments
Jie Luo[a], Larry A. Fahnestock[b], James M. LaFave[b]
[a] Rutherford + Chekene, San Francisco, CA, USA
[b] Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, USA
https://doi.org/10.1016/j.istruc.2017.08.006

CFRP strengthened steel beams: Improvement in failure modes and performance analysis
Sivaganesh Selvaraj and Mahendrakumar Madhavan, Department of Civil Engineering, Indian Institute of Technology Hyderabad, Kandi, Sangareddy, Telangana, India
https://doi.org/10.1016/j.istruc.2017.08.008

Ductility considerations for mechanical reinforcement couplers
D.V. Bompa and A.Y. Elghazouli, Department of Civil and Environmental Engineering, Imperial College London, UK
https://doi.org/10.1016/j.istruc.2017.08.007

Optimal prestressing of triple-bay prestressed stayed columns
Jialiang Yu and M. Ahmer Wadee, Department of Civil and Environmental Engineering, Imperial College London, London, UK
https://doi.org/10.1016/j.istruc.2017.09.001