

# 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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## New issue published

Volume 13 of *Structures* is now available at [www.structuresjournal.org/issue/S2352-0124\(17\)X0004-0](http://www.structuresjournal.org/issue/S2352-0124(17)X0004-0).

## Editor's highlights

Editor-in-Chief, Professor Leroy Gardner, has selected the following highlights:

### Sustainability of Cold-formed Steel Portal Frames in Developing Countries in the Context of Life Cycle Assessment and Life Cycle Costs

*Ross P.D. Johnston, Teresa McGrath, Sree Nanukuttan, James B.P. Lim, Marios Soutsos, Mei Chee Chiang, Rehan Masood and Mohammad Afjalur Rahman*

<https://doi.org/10.1016/j.istruc.2017.11.003>

### Shake Table Testing of Concentrically Braced Steel Structures with Realistic Connection Details Subjected to Earthquakes

*J. Goggins, B.M. Broderick, A.Y. Elghazouli, S. Salawdeh, A. Hunt, P. Mongabure and J. English*

<https://doi.org/10.1016/j.istruc.2017.12.003>

### Out-of-plane Strength of Existing Two-way Spanning Solid and Cavity Unreinforced Masonry Walls

*H. Derakhshan, W. Lucas, P. Visintin and M.C. Griffith*

<https://doi.org/10.1016/j.istruc.2017.11.002>

## Full issue

The full issue also contains the following papers:

### Fiber Reinforced Polymer as External Reinforcement for Single Cast-in Anchors in Plastic Hinge Zones

*Jian Zhao, Derek Petersen, Zhibin Lin and Baolin Wan*

### Optimizing the architectural layouts and technical specifications of curtain walls to minimize use of aluminium

*Adam D. Lee, Paul Shepherd, Mark C. Evernden and David Metcalfe*

### Seismic Behavior of Under Confined Square Reinforced Concrete Columns

*Aditya Singh Rajput and Umesh Kumar Sharma*

### Influence of Grain Inclination Angle on Shear Buckling of Laminated Timber Sheathing Products

*S.R. Atashipour and U.A. Girhammar*

### The energy method in problems of buckling of bars with quantifier elimination

*Nikolaos I. Ioakimidis*

### Seismic Fragility Assessment of Asymmetric Structures Supported on TCFP Bearings Subjected to Near-field Earthquakes

*Hamed Tajammolian, Faramarz Khoshnoudian, Aryan Rezaei Rad and Vahid Loghman*

### Modal Mass of Floors Supported by Beams

*László P. Kollár and Zsuzsa B. Pap*

### Effects of Size and Shape on Elastic Constants of Graphene Sheet

*N. Azimi Resketi, H. Ahmadi Amiri and M. Dehestani*

### Confinement Effect of Geo-grid and Conventional Shear Reinforcement Bars Subjected to Corrosion

*Hakan Yalciner, Atila Kumbasaroglu, Ibrahim Ertuc and Ahmet İhsan Turan*

### Approximations of elastic lateral displacement profiles for walls with openings

*Arturo Tena-Colunga and Germán Rivera-Hernández*

### An Investigation of the Effect of Semi-rigid Connections on Sudden Column Removal in Steel Frames

*Jinfan Zhang, Jianqun Jiang, Shilang Xu and Zhenyu Wang*

### Effects in Conventional Nonlinear Static Analysis: Evaluation of Control Node Position

*Giuseppina Uva, Francesco Porco, Andrea Fiore and Sergio Ruggieri*

### Design and Experimental Validation of a Re-centring Viscous Dissipater

*Farzin G. Golzar, Geoffrey W. Rodgers and J. Geoffrey Chase*

### On the Reliability of Serviceability Calculations for Flexural Cracked Reinforced Concrete Beams

*Tengfei Xu, Arnaud Castel and R. Ian Gilbert*

### Optimum Design of Double-layer Barrel Vaults by Lion Pride Optimization Algorithm and a Comparative Study

*A. Kaveh and S. Mahjoubi*

### Effects of Geo-grid and Conventional Stirrups on Reinforced Concrete Beams With Polypropylene Fibers

*Hakan Yalciner, Atila Kumbasaroglu and Ugurcan Ergun*