

Table of contents

6 Structural systems and elements

Behaviour and analysis of a steel-concrete composite substructure with full and partial shear connection <i>O.S.Bursi & M.Ballerini</i>	625
Dynamic response and maximum deflections of a beam subject to soft impact under various restraints conditions <i>E.Cartapati</i>	633
Harmonic vibrations of multispan beams <i>C.Dyrbye</i>	641
Some aspects of in-plane bending vibration analysis of circular rings and ring segment <i>S.Azimi</i>	649
Dynamic response of conical shear beam with random shear modulus <i>Z.Hryniewicz</i>	657
Comparative study of the modal behaviour of bolted and clamped plates <i>M.Amabili, G.Frosali & R.Pierandrei</i>	663
Nonlinear dynamic buckling of a cylindrical shell panel model <i>A.N.Kounadis & D.S.Sophianopoulos</i>	671
Chaotic behaviour of harmonically excited shallow spherical caps <i>P.B.Gonçalves</i>	681
Nonlinear dynamic response of plates submitted to an explosion – Numerical and experimental study <i>J.Renard & O.Pennetier</i>	689
Absorbing boundaries for the transient analysis of dam-reservoir-foundation systems <i>G.Feltrin & H.Bachmann</i>	695
Dynamic behaviour of an arch dam-foundation-reservoir system: Experimental and numerical study <i>R.C.Câmara & S.B.Oliveira</i>	703
Vibrations of plates with variable thickness: An analog equation solution <i>M.S.Nerantzaki & J.T.Katsikadelis</i>	711

On the dynamic analysis of pipelines on saddle-supports <i>C.C.Baniotopoulos</i>	719
Nonlinear elastodynamics of composite laminates <i>B.Brak, L.Briseghella, N.Tonello & F.B.Damjanić</i>	725
Strategies for the design and the analysis of dynamically excited r/c structures <i>E.Raue, H.Schüler & H.G.Timmler</i>	733
 <i>7 Bridges and large structures</i>	
Fatigue calculation on the roof's sustaining cables of the great stadium in Paris <i>O.Flamand, J.Bietry, C.Barre, E.Germain & P.Bourcier</i>	743
Dynamic behaviour of Palasport Bologna under seismic and wind loading <i>F.Zarri, Lj.Taskov, D.Jurukovski & Z.Rakicevic</i>	747
Dynamics and fatigue of orthotropic decks <i>L.Frýba</i>	753
Mechanical damage of concrete bridge decks due to expansion joint imperfections <i>A.L.Materazzi</i>	759
Modelling of damping and its applications to dynamic bridge-vehicle interaction <i>T.Boudjellal, M.Fafard & A.Gakwaya</i>	767
Span-wise correlation of lift and overturning moment on a motionless bridge box-girder <i>J.Bogunović Jakobsen</i>	775
The rod elements oscillations of the railway truss bridge in the conditions of high-speed motion of the load <i>A.V.Indejkin & I.A.Fedotova</i>	783
Vibration analysis of an elevated railway track <i>W.M.G.Courage, P.C.van Staalduinen & B.de Ruiter</i>	791
Traffic loads on bridges – Dynamic amplification factors on parts of bridges <i>P.H.Waarts & W.M.G.Courage</i>	795
Dynamic testing of the Odiel bridge in Huelva (Spain) to check structural performance <i>J.R.Casas & A.C.Aparicio</i>	801
Full-scale dynamic testing of a repaired cable-stayed bridge <i>C.Gentile & F.Martinez y Cabrera</i>	809
Finite element model optimization of the new Rhine Bridge based on ambient vibration testing <i>Y.Deger, R.Cantieni, C.A.M.de Smet & A.J.Felber</i>	817
 <i>8 Masonry and historical structures</i>	
Vibration test of an old masonry building <i>G.Buffarini, P.Clemente & D.Rinaldis</i>	825

Morphology and equilibrium of Persian domes under static and dynamic loads <i>A.Chassagnoux</i>	833
Study of the dynamic response of models of ancient columns or colonnades subjected to horizontal base motions <i>M.Demosthenous & G.C.Manos</i>	841
Experimental testing of seismic behaviour of the Antonina Column in Rome and the needs for further investigations <i>L.Tashkov, V.Mihailov & L.Krstevska</i>	849
Dynamic identification and environmental loading on a historic cast iron building <i>G.Bartoli, S.Giordano & P.Spinelli</i>	855
 9 Experimental dynamics	
On-line estimation of stiffness matrices during a pseudo-dynamic test <i>A.Rytter, P.Negro & P.H.Kirkegaard</i>	863
Experimental investigations on the dynamical behaviour of metallic anchors <i>J.Eibl & E.Keintzel</i>	871
Prediction of the dynamic characteristics of a 5-story R.C. building at the Volvi EURO-SEISTEST site, utilising low-intensity vibrations <i>G.C.Manos, M.Triamataki, B.Yasin, P.Skalkos, J.Thaumpta & M.Demosthenous</i>	877
Problems associated with modelling of friction forces in seismic protection by friction devices <i>S.Dimova</i>	885
Shaking table testing of a 1:3 scale R/C frame model <i>J.M.Bracci & A.M.Reinhorn</i>	893
Estimation of high strength concrete elasticity constants by modal analysis <i>D.Larsson & C.Claeson</i>	899
Measuring the dynamic response of temporary grandstands <i>J.D.Littler</i>	907
Development of natural frequencies during the erection of the Cardington test building <i>G.P.C.van Oosterhout, B.R.Ellis & P.C.van Staalduinen</i>	915
Experimental determination of Rayleigh wave mode velocities using the method of wave number analysis <i>E.A.Forchap & G.Schmid</i>	923
 10 Structural identification and damage estimation	
Indirect determination of the nonlinear mechanical parameters using an evolutionary modal model <i>B.G.Lamonaca, D.Spina & C.Valente</i>	933
Non-linear dynamic identification: An application to prestressed cable systems <i>G.E.B.Tan & S.Pellegrino</i>	941

Variability of natural frequency and damping ratio of a concrete building – Case study in system identification <i>J.T.Snaebjörnsson, E.Hjorth-Hansen & R.Sigbjörnsson</i>	949
Nonlinear parameter identification of mechanical systems with velocity independent friction <i>X.Zhang</i>	957
A reassessment of ductility and energy-based seismic damage indices for reinforced concrete structures <i>A.J.Kappos & A.Xenos</i>	965
Identification of a maximum softening damage indicator of RC-structures using time-frequency techniques <i>P.H.Kirkegaard, S.R.K.Nielsen, R.C.Micaletti, Jr & A.S.Çakmak</i>	971
Comparative seismic damage estimates of steel frames <i>S.Sorace</i>	981
Model update and damage localization in structural mechanics <i>R.Ghanem & T.Tazoh</i>	989
A contribution to detecting structural damage by dynamic testing <i>W.Meinhold, M.Ebert & C.Bucher</i>	997
Dynamic tests and identification of a reinforced concrete highway bridge <i>V.Gusella & F.Cianetti</i>	1005
 11 Soil dynamics and soil-structure interaction	
Structure on bidimensional Winkler foundation with uncertain characteristics: Comparison with in situ observation <i>F.Toubalem & P.Labbe</i>	1015
Sufficient stability criterion for unbounded soil-structure system <i>A.Paronesso & J.P.Wolf</i>	1021
Ductility demand of simplified pile-soil-jacket system under extreme sea waves and earthquakes <i>M.R.Emami Azadi & T.Moan</i>	1029
Dynamic soil resistance from pile driving analysis <i>A.Benamar</i>	1039
Earthquake response of rigid strip foundations to spatially varying ground motion <i>M.K.Berrah & M.Hadid</i>	1045
Seismic liquefaction of subsoils of buildings <i>Fu-lu Men & Jie Cui</i>	1051
Solution of wave scattering and soil-structure interaction problems by the Complementary-Domain Method <i>T.Szczesiak, B.Weber & H.Bachmann</i>	1059
Evaluation of the initial tangent moduli by seismic box tests <i>J.Benčat & M.Stehliková</i>	1067

Determining the variation of the eigenfrequencies of layered soil with the finite differences method <i>M.Zohar & R.J.Scherer</i>	1075
Dynamic behaviour of railway track on layered media <i>P.Van den Broeck & G.de Roeck</i>	1083
Dynamic soil-structure interaction analysis of containment building including embedment and layering effects <i>J.S.Kim, S.H.Lee & Y.H.Rhim</i>	1091
Physical simulation of the behaviour of piles during and after driving <i>D.Levacher & J.G.Sieffert</i>	1099
A critical appraisal of in situ vibration measurements <i>G.Degrande, P.Van den Broeck & D.Clouteau</i>	1107
 12 <i>Vehicles and machines</i>	
Identification of wave propagation models applied to the dynamic behavior analysis of steam turbines <i>B.Costa & B.Drouin</i>	1117
Flight flutter test data analysis <i>R.Ruotolo, W.Basso & C.Surace</i>	1125
Ship structural response from pulsating gas bubble loads of underwater non-contact explosions <i>R.Damonte, R.Dambra & M.Figari</i>	1133
Non-linear dynamics of a railway bogie <i>U.Galvanetto & L.Briseghella</i>	1141
Coupled bending-bending-torsion vibration analysis of rotating pretwisted blades: An integral formulation and numerical examples <i>G.Surace, V.Anghel & C.Mares</i>	1149
Author index	1155