

INTERNATIONAL JOURNAL OF
SOLIDS and
STRUCTURES

Volume Contents and Author Index
Volume 31, 1994



PERGAMON

INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES

Editor-in-Chief: CHARLES STEELE

Associate Editor: MARIE-LOUISE STEELE
Division of Applied Mechanics
Stanford University, Stanford,
CA 94305, U.S.A.

Consulting Editor and Editor-in-Chief, 1965–1985: GEORGE HERRMANN

Board of Editors

- | | |
|------------------|---|
| J. D. ACHENBACH | <i>Northwestern University</i> |
| L. BEVILACQUA | <i>Cidade Universitaria, Rio de Janeiro</i> |
| V. V. BOLOTIN | <i>Academy of Sciences, Russia</i> |
| H. D. BUI | <i>Ecole Polytechnique</i> |
| D. HILLS | <i>Oxford University</i> |
| J. HUTCHINSON | <i>Harvard University</i> |
| B. L. KARIHALOO | <i>University of Sydney</i> |
| G. MAIER | <i>Politecnico di Milano</i> |
| M. MIKKOLA | <i>Helsinki University</i> |
| F. P. J. RIMROTT | <i>Otto-von-Guericke-Universität Magdeburg, Germany</i> |
| R. RIVLIN | <i>Lehigh University</i> |
| Y. SHINDO | <i>Tohoku University</i> |
| H. ZORSKI | <i>Polish Academy of Sciences</i> |

Editorial Advisory Board

- | | | | |
|---------------|------------------|-------------------|----------------|
| J. H. ARGYRIS | <i>Stuttgart</i> | J. SINGER | <i>Haifa</i> |
| B. A. BOLEY | <i>New York</i> | I. N. SNEDDON | <i>Glasgow</i> |
| H. LIPPMANN | <i>Munich</i> | F. ZIEGLER | <i>Vienna</i> |
| F. NIORDSON | <i>Lynghy</i> | O. C. ZIENKIEWICZ | <i>Swansea</i> |
| E. REISSNER | | <i>San Diego</i> | |

Production Editor: GABRIELE SMITH

E-mail: b.adams@elsevier.co.uk

Publishing, Subscription and Advertising Offices: Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, U.K.; Elsevier Science Inc., 660 White Plains Road, Tarrytown, New York 10591-5153, U.S.A.

Published semi-monthly. Annual Institutional Subscription Rates 1995: North, Central and South America, US\$2273.00, Rest of World £1525.00. Associated Personal Subscription Rates are available on request for those whose institutions are library subscribers. Sterling prices exclude VAT. Non-VAT registered customers in the European Community will be charged the appropriate VAT in addition to the price listed. Prices include postage and insurance and are subject to change without notice. Subscription enquiries from customers in North America should be sent to: Elsevier Science Inc., 660 White Plains Road, Tarrytown, New York 10591-5153, U.S.A., and for the remainder of the world to: Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, U.K.

Back Issues

Back issues of all previously published volumes, in both hard copy and on microform, are available direct from Elsevier Science offices.

Copyright © 1994 Elsevier Science Ltd

Second Class Postage Paid at NEWARK NJ and additional Mailing Offices. Postmaster send address corrections to International Journal of Solids and Structures, c/o Elsevier Science Inc., 660 White Plains Road, Tarrytown, New York 10591-5153, U.S.A.

It is a condition of publication that manuscripts submitted to the journal are original and have not been published or submitted elsewhere. In a covering letter, authors must affirm that the manuscript has not been published nor submitted for publication elsewhere. The authors must agree not to publish elsewhere a paper published by the Journal. By submitting a manuscript, the authors agree that the copyright for their article is transferred to the publisher if and when the article is accepted for publication. However, assignment of copyright is not required from authors who work for organizations which do not permit such assignment. The copyright covers the exclusive rights to reproduce and distribute the article, including reprints, photographic reproductions, microform or any other reproductions of similar nature, and translations. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, electrostatic, magnetic tape, mechanical, photocopying, recording or otherwise, without permission in writing from the copyright holder.

Whilst every effort is made by the publishers and editorial board to see that no inaccurate or misleading data, opinion or statement appears in this journal, they wish to make it clear that the data and opinions appearing in the articles and advertisements herein are the sole responsibility of the contributor or advertiser concerned. Accordingly, the publishers, the editorial board and editors and their respective employees, officers and agents accept no responsibility or liability whatsoever for the consequences of any such inaccurate or misleading data, opinion or statement.

Volume Contents

NUMBER 1

- Jonas Faleskog and Per Nordlund** 1 Near-tip field characterization and J -integral evaluation for nonproportional loads
- E. M. Haseganu and D. J. Steigmann** 27 Theoretical flexural response of a pressurized cylindrical membrane
- J. H. Andreasen and B. L. Karihaloo** 51 Surface cracks in transformation toughening ceramics
- E. N. Kuznetsov and Y. J. Weitsman** 65 Nested reinforcement assemblies for laminated composite shells
- Khaled W. Shahwan and Anthony M. Waas** 75 A mechanical model for the buckling of unilaterally constrained rectangular plates
- E. Reissner** 89 On the equations of an eighth-order theory for non-homogeneous transversely isotropic plates
- Timothy P. Harrigan and James J. Hamilton** 97 Necessary and sufficient conditions for global stability and uniqueness in finite element simulations of adaptive bone remodeling
- S. G. Su and T. N. Farris** 109 Generalized characteristic method of elastodynamics
- A. Roy and M. Chatterjee** 127 Interaction between coplanar elliptic cracks—I. Normal loading

NUMBER 2

- C. Y. Lo, T. Nakamura and A. Kushner** 145 Computational analysis of dynamic crack propagation along a bimaterial interface
- J. Chen** 169 Time domain fundamental solution to Biot's complete equations of dynamic poroelasticity. Part II: Three-dimensional solution
- Zhi-He Jin and Naotake Noda** 203 Transient thermal stress intensity factors for a crack in a semi-infinite plate of a functionally gradient material
- Tetsuro Inoue** 219 Analysis of plastic buckling of rectangular steel plates supported along their four edges
- Jiann-Quo Tarn and Yung-Ming Wang** 231 An asymptotic theory for dynamic response of anisotropic inhomogeneous and laminated plates
- A. Dall'Asta and G. Menditto** 247 A variational formulation of the perturbed motion problem for a viscoelastic body

- A. S. Mohamad** 257 Tables of Green's functions for the theory of beam vibrations with general intermediate appendages
- Susana C. Sterner, Sunil Saigal, Walter Kistler and David E. Dietrich** 269 A unified numerical approach for the analysis of rotating disks including turbine rotors
- Gaofeng Wu and Haitian Yang** 279 The use of cyclic symmetry in two-dimensional elastic stress analysis by BEM

NUMBER 3

- Alberto Carpinteri** 291 Scaling laws and renormalization groups for strength and toughness of disordered materials
- S. A. Meguid and A. L. Kalamkarov** 303 Asymptotic homogenization of elastic composite materials with a regular structure
- C. E. Maneschy** 317 Thermoelastic analysis of a Mooney-Rivlin slab under inhomogeneous shearing
- Jianmin Qu** 329 Interface crack loaded by a time-harmonic plane wave
- Zhou Ding** 347 Eigenfrequencies of line supported rectangular plates
- N. R. Hansen and H. L. Schreyer** 359 A thermodynamically consistent framework for theories of elastoplasticity coupled with damage
- Z. Yong, M. T. Hanson and R. Kovacevic** 391 Topological measure of brittle fragmentation
- J. B. Kosmatka** 417 General behavior and shear center location of prismatic anisotropic beams via power series

Announcement

- 441 ICMS

NUMBER 4

- Liyong Tong** 443 Free vibration of laminated conical shells including transverse shear deformation
- Usik Lee** 457 Equivalent continuum models of large platelike lattice structures
- D. Y. Chiang and J. L. Beck** 469 A new class of distributed-element models for cyclic plasticity—I. Theory and application
- D. Y. Chiang and J. L. Beck** 485 A new class of distributed-element models for cyclic plasticity—II. On important properties of material behavior

- Yung-Ming Wang**
and **Jiann-Quo Tarn** 497 A three-dimensional analysis of anisotropic inhomogeneous and laminated plates
- Jin Min Zhang**
and **Khin Yong Lam** 517 Transformation shear of precipitated ZrO_2 particles in the presence of multi-mode twinning
- Xin Wei, Abhijit Chandra,**
Liang-Jenq Leu
and **Subrata Mukherjee** 533 Shape optimization in elasticity and elasto-viscoplasticity by the boundary element method
- Michael Ryvkin** and
Leslie Banks-Sills 551 Mode III delamination of a viscoelastic strip from a dissimilar viscoelastic half-plane
- M. T. Hanson** 567 The elastic field for an upright or tilted sliding circular flat punch on a transversely isotropic half space

NUMBER 5

- T.-P. Chang** and **H.-C. Chang** 587 Stochastic dynamic finite element analysis of a non-uniform beam
- K. X. Hu, A. Chandra**
and **Y. Huang** 599 On interacting bridged-crack systems
- He Ling-hui** 613 A linear theory of laminated shells accounting for continuity of displacements and transverse shear stresses at layer interfaces
- T. C. Wang** 629 Kinking of an interface crack between two dissimilar anisotropic elastic solids
- L. Badea** and **P. Gilormini** 643 Application of a domain decomposition method to elastoplastic problems
- Gang Wang**
and **Cheng-Tzu Thomas Hsu** 657 Static and dynamic analysis of arbitrary quadrilateral flexural plates by B_3 -spline functions
- T. A. Laursen** 669 The convected description in large deformation frictional contact problems
- M. Arminjon, T. Chambard**
and **S. Turgeman** 683 Variational micro-macro transition, with application to reinforced mortars
- Ajit Kumar Ray, Barun Banerjee**
and **Biswanath Bhattacharjee** 705 Non-linear analysis of heated rhombic plates
- K. H. Hoon** and **J. Rhodes** 711 Intermediately stiffened plates in uniaxial compression
- Thierry Desoyer**
and **Fabrice Cormery** 733 On uniqueness and localization in elastic-damage materials
- Announcements*
- 745 International Conference on Computational Methods in Structural and Geotechnical Engineering

745 PACAM IV

746 19th International Congress of Theoretical and Applied Mechanics

NUMBER 6

- J. R. Banerjee and F. W. Williams** 749 Coupled bending-torsional dynamic stiffness matrix of an axially loaded Timoshenko beam element
- Giulio Romeo and Giacomo Frulla** 763 Nonlinear analysis of anisotropic plates with initial imperfections and various boundary conditions subjected to combined biaxial compression and shear loads
- F. Giambanco and L. Palizzolo** 785 Bounds on plastic deformations of trusses
- W. T. Koiter, I. Elishakoff, Y. W. Li and J. H. Starnes, Jr** 797 Buckling of an axially compressed cylindrical shell of variable thickness
- X. Peng and A. R. S. Ponter** 807 An experimental and theoretical investigation of the response of BS11 steel to cyclic loading
- V. Tvergaard and J. W. Hutchinson** 823 Effect of T -stress on mode I crack growth resistance in a ductile solid
- H. P. Lee and T. Y. Ng** 835 Effects of support configuration on the parametric excitation of a plate
- K. R. Y. Simha, Rajeev Jain and K. Ramachandra** 849 Variable density approach for rotating shallow shell of variable thickness
- L. Gu and T. Belytschko** 865 A numerical study of stress singularities in a two-material wedge
- Tungyang Chen** 891 The translation of a rigid ellipsoidal inclusion embedded in an anisotropic piezoelectric medium

NUMBER 7

- Wang Xi** 903 An elastodynamic solution for an anisotropic hollow sphere
- Pin Lu and O. Mahrenholtz** 913 The fundamental solution for the theory of orthotropic shallow shells involving shear deformation
- T. Y. Kam and T. Y. Lee** 925 Crack size identification using an expanded mode method
- Gerry Flanagan** 941 An efficient stress function approximation for the free-edge stresses in laminates
- Castrenze Polizzotto** 953 Steady states and sensitivity analysis in elastic-plastic structures subjected to cyclic loads

- M. L. Ayari, B. K. Sun and T. R. Hsu** 971 A numerical analysis of cyclic creep fracture
- Wei Yang and C. Fong Shih** 985 Fracture along an interlayer
- Avinoam Libai and Charles W. Bert** 1003 A mixed variational principle and its application to the nonlinear bending problem of orthotropic tubes—I. Development of general theory and reduction to cylindrical shells
- Avinoam Libai and Charles W. Bert** 1019 A mixed variational principle and its application to the nonlinear bending problem of orthotropic tubes—II. Application to nonlinear bending of circular cylindrical tubes
- François Hild, Jean-Marc Domergue, Frederick A. Leckie and Anthony G. Evans** 1035 Tensile and flexural ultimate strength of fiber-reinforced ceramic-matrix composites

NUMBER 8

- Xiaogang Zeng and Fang Zhao** 1047 A coupled FE and boundary integral equation method based on exterior domain decomposition for fluid-structure interface problems
- Paul Steinmann** 1063 A micropolar theory of finite deformation and finite rotation multiplicative elastoplasticity
- S. A. Meguid and X. D. Wang** 1085 The dynamic interaction of a microcrack with a main crack under antiplane loading
- X. Peng and A. R. S. Ponter** 1099 A constitutive law for a class of two-phase materials with experimental verification
- Z. Mróz and S. Stupkiewicz** 1113 An anisotropic friction and wear model
- Z. Cedric Xia and John W. Hutchinson** 1133 Mode II fracture toughness of a brittle adhesive layer
- Yue Qiu, Sangwoo Kim and Thomas J. Pence** 1149 Plane strain buckling and wrinkling of neo-Hookean laminates
- 1179 Corrigendum

NUMBER 9

- Xikui Li, P. G. Duxbury and Paul Lyons** 1181 Coupled creep-elastoplastic-damage analysis for isotropic and anisotropic nonlinear materials
- C. Atkinson and R. V. Craster** 1207 Interfacial fracture of a radially inhomogeneous elastic bimaterial

- Dong Seok Kim and Byung Chai Lee** 1225 Analysis of bonding problems under thermal loading using the combined mixed functional
- Z. Chen and H. L. Schreyer** 1241 On nonlocal damage models for interface problems
- N. N. Huang** 1263 Influence of shear correction factors in the higher order shear deformation laminated shell theory
- A. P. S. Selvadurai** 1279 On the problem of a detached anchor plate embedded in a crack
- László Szabó** 1291 Shear band formulations in finite strain elastoplasticity
- Perngjin F. Pai and Ali H. Nayfeh** 1309 A fully nonlinear theory of curved and twisted composite rotor blades accounting for warpings and three-dimensional stress effects
- 1341 Call for Papers

NUMBER 10

- Wen-Hwa Chen and Chi-Lone Chang** 1343 Heat conduction analysis of a plate with multiple insulated cracks by the finite element alternating method
- Xin-Lin Gao** 1357 Finite deformation elasto-plastic solution for the pure bending problem of a wide plate of elastic linear-hardening material
- B. Wang** 1377 Response of a bent cantilever to an impulsive load applied at its tip normal to its plane
- Jacob Aboudi, Marek-Jerzy Pindera and Steven M. Arnold** 1393 Elastic response of metal matrix composites with tailored microstructures to thermal gradients
- Z.-Z. Du and A. C. F. Cocks** 1429 Sintering of fine-grained materials by interface reaction controlled grain boundary diffusion
- J. Chen** 1447 Time domain fundamental solution to Biot's complete equations of dynamic poroelasticity. Part I: two-dimensional solution
- Announcement*
- 1491 ICSS-95

NUMBER 11

- P. D. Wu and E. van der Giessen** 1493 Analysis of shear band propagation in amorphous glassy polymers
- K. M. Liew and C. W. Lim** 1519 Vibration of perforated doubly-curved shallow shells with rounded corners

L. M. Brock	1537	Coupled thermoelastic effects in rapid steady-state quasi-brittle fracture
Wan-Lee Yin	1549	Interlaminar stress analysis of composite laminates using a sublaminar/layer model
K. H. Muci-Küchler and T. J. Rudolphi	1565	Application of tangent derivative boundary integral equations to the formulation of higher order boundary elements
Ya-Pu Zhao, J. Fang and T. X. Yu	1585	Dynamic plastic shear failure analysis for an infinitely large plate with a centred cylinder under impulsive loading
M. M. Carroll, J. G. Murphy and F. J. Rooney	1597	Plane stress problems for compressible materials
C. S. Huang, O. G. McGee and A. W. Leissa	1609	Exact analytical solutions for free vibrations of thick sectorial plates with simply supported radial edges

NUMBER 12/13

NONLINEAR ANALYSES BY THE BOUNDARY ELEMENT METHOD

iii Contents

P. K. Banerjee and A. Chandra	1633	Preface
M. B. Chopra and G. F. Dargush	1635	Development of BEM for thermoplasticity
A. Chandra and Cho Lik Chan	1657	Thermal aspects of machining: a BEM approach
A. Chandra	1695	Analyses of metal forming problems by the boundary element method
H. Okada and S. N. Atluri	1737	Recent developments in the field-boundary element method for finite/small strain elastoplasticity
A. Foerster and G. Kuhn	1777	A field boundary element formulation for material non-linear problems at finite strains
S. Mukherjee and Q. Zhang	1793	Design sensitivities in problems involving material and geometric nonlinearities
N. Zabaras and S. Mukherjee	1829	Solidification problems by the boundary element method
N. Tosaka and K. Kakuda	1847	Development of BEM for convective viscous flow problems

NUMBER 14

Q. M. Li and N. Jones	1861	Blast loading of fully clamped circular plates with transverse shear effects
------------------------------	------	--

- | | | |
|--|------|---|
| Y.-H. Chen and N. Hasebe | 1877 | Interaction between a main-crack and a parallel micro-crack in an orthotropic plane elastic solid |
| W. J. Bottega | 1891 | On circumferential splitting of a laminated cylindrical shell |
| F. Guarracino | 1911 | On the extension of Crotti's theorem to the theory of finite elastic displacements |
| G. Th. M. Stam, E. van der Giessen and P. Meijers | 1923 | Effect of transformation-induced shear strains on crack growth in zirconia-containing ceramics |
| G. Dhondt | 1949 | Failure analysis of aircraft engine disks II |
| M. Z. Ahmed and D. A. DaDeppo | 1967 | Stress distribution and buckling stress of plates including edge contact–frictional force effects |
| S.-R. Hsieh, S. W. Shaw and C. Pierre | 1981 | Normal modes for large amplitude vibration of a cantilever beam |

NUMBER 15

- | | | |
|--|------|--|
| Y. L. Cui | 2015 | Mechanics of splitting in orthotropic materials |
| E. N. Karapetian and M. T. Hanson | 2035 | Crack opening displacements and stress intensity factors caused by a concentrated load outside a circular crack |
| V. T. Bechel and A. K. Kaw | 2053 | Fracture mechanics of composites with non-homogeneous interphases and nondilute fiber volume fractions |
| Z. Mróz and R. T. Haftka | 2071 | Design sensitivity analysis of non-linear structures in regular and critical states |
| A. N. Kounadis | 2099 | On the failure of static stability analyses of nonconservative systems in regions of divergence instability |
| S. Marzano | 2121 | A one-dimensional model for finite deformations of multilayered rubber bearings |
| Wang Ze-Ping | 2139 | Void growth and compaction relations for ductile porous materials under intense dynamic general loading conditions |
| | | <i>Announcement</i> |
| | 2151 | SPT-5 |

NUMBER 16

- | | | |
|--|------|---|
| E. Reissner and F. Y. M. Wan | 2153 | Further considerations of stress concentration problems for twisted or sheared shallow spherical shells |
| G. Xu, A. F. Bower and M. Ortiz | 2167 | An analysis of non-planar crack growth under mixed mode loading |

- G. A. Kardomateas and C. B. Chung** 2195 Buckling of thick orthotropic cylindrical shells under external pressure based on non-planar equilibrium modes
- P. D. Panagiotopoulos, O. K. Panagouli and E. S. Mistakidis** 2211 Fractal geometry in structures. Numerical methods for convex energy problems
- R. Abeyaratne, Sang-Joo Kim and J. K. Knowles** 2229 A one-dimensional continuum model for shape-memory alloys
- A. V. Cherkaev** 2251 Relaxation of problems of optimal structural design
- S. H. Farghaly** 2281 Frequency and mode shape analysis of restrained beam-type structure with two intermediate cracks/mass for vibration diagnosis

NUMBER 17

- K.-C. Toh and S. Mukherjee** 2299 Hypersingular and finite part integrals in the boundary element method
- O. Sigmund** 2313 Materials with prescribed constitutive parameters: an inverse homogenization problem
- K.-F. Nilsson and J. W. Hutchinson** 2331 Interaction between a major crack and small crack damage in aircraft sheet material
- S. Sridharan, M. Zeggane and J. H. Starnes, Jr** 2347 Mode interaction analysis of stiffened shells using "locally buckled" elements
- D. Touati and G. Cederbaum** 2367 Dynamic stability of nonlinear viscoelastic plates
- Q. Chen and C. Levy** 2377 Vibration analysis of a partially covered double sandwich cantilever beam with concentrated mass at the free end
- T. S. Gao and Y. C. Gao** 2393 A rubber wedge under the compression of a line load
- X. Deng** 2407 An asymptotic analysis of stationary and moving cracks with frictional contact along bimaterial interfaces and in homogeneous solids

Announcements

- 2431 Symposium on Recent Developments in Impact Mechanics
- 2432 ICCM-10

NUMBER 18

- E. Stein and Y. Huang** 2433 An analytical method for shakedown problems with linear kinematic hardening materials

E. E. Urquhart and M.-J. Pindera	2445	Incipient separation between a frictionless flat punch and an anisotropic multilayered half plane
K. M. Liew, C. W. Lim and L. S. Ong	2463	Vibration of pretwisted cantilever shallow conical shells
M. Y. M. Chiang and H. Chai	2477	Plastic deformation analysis of cracked adhesive bonds loaded in shear
Liu Ping, Zhang Yongwei and Zhang Kaida	2491	Bending solution of high-order refined shear deformation theory for rectangular composite plates
H. P. Lee	2509	Dynamic stability of spinning pre-twisted beams
I. Chung and Y. Weitsman	2519	A mechanics model for the compressive response of fiber reinforced composites
M. Y. Tsai and J. Morton	2537	An evaluation of analytical and numerical solutions to the single-lap joint
D. W. Oplinger	2565	Effects of adherend deflections in single lap joints
		<i>Announcement</i>
	2589	CANCAM '95

NUMBER 19

C.-Y. Wang	2591	Two-dimensional elastostatic Green's functions for general anisotropic solids and generalization of Stroh's formalism
H. G. Georgiadis and L. M. Brock	2599	Exact elastodynamic analysis of some fracture specimen models involving strip geometries
M. B. Rubin	2615	Plasticity theory formulated in terms of physically based microstructural variables—Part I. Theory
M. B. Rubin	2635	Plasticity theory formulated in terms of physically based microstructural variables—Part II. Examples
G. S. Jeong, D. H. Allen and D. C. Lagoudas	2653	Residual stress evolution due to cool down in viscoplastic metal matrix composites
A. E. Giannakopoulos, P.-L. Larsson and R. Vestergaard	2679	Analysis of Vickers indentation
K. Ikeda, K. Murota and M. Nakano	2709	Echelon modes in uniform materials
R. J. Zhang	2735	Toroidal shells under nonsymmetric loading
		<i>Announcement</i>
	2751	Eleventh World Conference on Earthquake Engineering

NUMBER 20

- Y. Huang, H. W. Zhang and F. Wu** 2753 Multiple cracking in metal–ceramic laminates
- G. A. Rogerson and N. H. Scott** 2769 Doubly constrained elastic wave propagation
- M. Iura** 2793 Effects of coordinate system on the accuracy of co-rotational formulation for Bernoulli–Euler’s beam
- A. G. Striz, W. Chen and C. W. Bert** 2807 Static analysis of structures by the quadrature element method (QEM)
- A. Pompei and A. Scalia** 2819 On the steady vibrations of the thermoelastic porous materials
- I. Carol, E. Rizzi and K. Willam** 2835 A unified theory of elastic degradation and damage based on a loading surface
- P. Liu, Y. Zhang and X. Zhang** 2867 An improved in-plane thermoelastic theory for laminated composite plates
- 2883 Call for Papers

NUMBER 21

- A. El-Zafrany, M. Debbih and S. Fadhil** 2885 A modified Kirchhoff theory for boundary element bending analysis of thin plates
- S. Fadhil and A. El-Zafrany** 2901 Boundary element analysis of thick Reissner plates on two-parameter foundation
- L. Tong** 2919 Bond shear strength for adhesive bonded double-lap joints
- R. Luciano and E. J. Barbero** 2933 Formulas for the stiffness of composites with periodic microstructure
- W. A. M. Alwis and C. M. Wang** 2945 Should load remain constant when a thin-walled open-profile column buckles?
- V. A. Lubarda** 2951 An analysis of large-strain damage elastoplasticity
- G. R. Liu and K. Y. Lam** 2965 Characterization of a horizontal crack in anisotropic laminated plates
- S. S. Pageau, P. F. Joseph and S. B. Biggers, Jr** 2979 The order of stress singularities for bonded and debonded three-material junctions
- R. Hill, S. S. Hecker and M. G. Stout** 2999 An investigation of plastic flow and differential work hardening in orthotropic brass tubes under fluid pressure and axial load

Announcements

- 3023 **EUROMECH Meetings 1995**
- 3025 Symposium on Recent Developments in Theories of Viscoplasticity
- 3026 VI International Conference—Underground Space and Urban Planning

NUMBER 22

- A. Ibrahimbegović** 3027 Equivalent spatial and material descriptions of finite deformation elastoplasticity in principal axes
- I. D. Moore, A. Haggag and E. T. Selig** 3041 Buckling strength of flexible cylinders with nonuniform elastic support
- G. Jefferson, J. L. Bassani, J. Xu and R. M. McMeeking** 3059 Densification by plastic deformation around spherical inclusions
- S. Liu** 3079 Quasi-impact damage initiation and growth of thick-section and toughened composite materials
- T. Chen** 3099 Micromechanical estimates of the overall thermoelectro-elastic moduli of multiphase fibrous composites
- H. Matsunaga** 3113 Free vibration and stability of thick elastic plates subjected to in-plane forces
- F. Ju, H. P. Lee and K. H. Lee** 3125 On the free vibration of stepped beams
- T.-F. Huang and W.-H. Chen** 3139 On the free-edge stress singularity of general composite laminates under uniform axial strain
- Q.-S. Zheng, K. C. Hwang and J. Betten** 3153 On the mean rotation tensors

NUMBER 23

- A. R. Akisanya and N. A. Fleck** 3175 The edge cracking and decohesion of thin films
- M. F. Beatty and Z. Zhou** 3201 Simple shearing of an incompressible, viscoelastic quadratic material
- J. Park and B. M. Kwak** 3217 Formulation of thermo-mechanical frictional contact based on complementarity relations
- K. M. Liew, K. C. Hung and M. K. Lim** 3233 Three-dimensional vibration of rectangular plates: variance of simple support conditions and influence of in-plane inertia
- Ü. Lepik** 3249 Dynamic response of elastic-plastic pin-ended beams by Galerkin's method

- E. Suhir** 3261 Approximate evaluation of the interfacial shearing stress in cylindrical double lap shear joints with application to dual-coated optical fibers
- H. H. Hilton and S. T. Ariaratnam** 3285 Invariant anisotropic large deformation deterministic and stochastic combined load failure criteria
- A. S. Wineman and H. E. Huntley** 3295 Numerical simulation of the effect of damaged induced softening on the inflation of a circular rubber membrane
- Z.-H. Liu and Y.-Y. Huang** 3315 On the velocity of buckle propagation in a beam on a nonlinear elastic foundation
- 3323 Letter to the Editor
- 3327 Authors' Closure
- Announcements*
- 3331 Plasticity '95
- 3332 International Conference on Computational Methods in Structural and Geotechnical Engineering

NUMBER 24

- X.-Y. Lei** 3333 A new BEM approach for linear elasticity
- V. G. Piskunov, V. E. Verijenko, S. Adali and P. Y. Tabakov** 3345 Transverse shear and normal deformation higher-order theory for the solution of dynamic problems of laminated plates and shells
- F. P. K. Hsu, C. Schwab, D. Rigamonti and J. D. Humphrey** 3375 Identification of response functions from axisymmetric membrane inflation tests: implications for biomechanics
- X. Li** 3387 Mixture modeling of jointed fluid-saturated porous media
- R. Lipton** 3407 Composites with symmetry and their extremal properties
- S. Stupkiewicz and Z. Mróz** 3419 Elastic beam on a rigid frictional foundation under monotonic and cyclic loading
- M. Y. He, A. G. Evans and J. W. Hutchinson** 3443 Crack deflection at an interface between dissimilar elastic materials: role of residual stresses
- E. S. Ardiç, C. Bolcan and A. Kayran** 3457 A method of strain and stress analysis of composites for nonlinear strain distribution case
- Y. Xu and L. M. Keer** 3475 Analysis of crack moving and curving in anisotropic solids

Author Index

- Abeyaratne, R. 2229
Aboudi, J. 1393
Adali, S. 3345
Ahmed, M. Z. 1967
Akisanya, A. R. 3175
Allen, D. H. 2653
Alwis, W. A. M. 2945
Andreasen, J. H. 51
Ardıç, E. S. 3457
Ariaratnam, S. T. 3285
Arminjon, M. 683
Arnold, S. M. 1393
Atkinson, C. 1207
Atluri, S. N. 1737
Ayari, M. L. 971
- Badea, L. 643
Banerjee, B. 705
Banerjee, J. R. 749
Banerjee, P. K. 1633
Banks-Sills, L. 551
Barbero, E. J. 2933
Bassani, J. L. 3059
Beatty, M. F. 3201
Bechel, V. T. 2053
Beck, J. L. 469, 485
Belytschko, T. 865
Bert, C. W. 1003, 1019, 2807
Betten, J. 3153
Bhattacharjee, B. 705
Biggers Jr, S. B. 2979
Bolcan, C. 3457
Bottega, W. J. 1891
Bower, A. F. 2167
Brock, L. M. 1537, 2599
- Carol, I. 2835
Carpinteri, A. 291
Carroll, M. M. 1597
Cederbaum, G. 2367
Chai, H. 2477
Chambard, T. 683
Chan, C. L. 1657
Chandra, A. 533, 599, 1633, 1657, 1695
Chang, C.-L. 1343
Chang, H.-C. 587
Chang, T.-P. 587
Chatterjee, M. 127
Chen, J. 169, 1447
Chen, Q. 2377
Chen, T. 891, 3099
Chen, W. 2807
Chen, W.-H. 1343, 3139
Chen, Y.-H. 1877
Chen, Z. 1241
Cherkaev, A. V. 2251
Chiang, D. Y. 469, 485
Chiang, M. Y. M. 2477
Chopra, M. B. 1635
Chung, C. B. 2195
Chung, I. 2519
Cocks, A. C. F. 1429
Cormery, F. 733
Craster, R. V. 1207
Cui, Y. L. 2015
- DaDeppo, D. A. 1967
Dall'Asta, A. 247
- Dargush, G. F. 1635
Debbih, M. 2885
Deng, X. 2407
Desoyer, Th. 733
Dhondt, G. 1949
Dietrich, D. E. 269
Domergue, J.-M. 1035
Du, Z.-Z. 1429
Duxbury, P. G. 1181
- El-Zafrany, A. 2885, 2901
Elishakoff, I. 797
Evans, A. G. 1035, 3443
- Fadhil, S. 2885, 2901
Faleskog, J. 1
Fang, J. 1585
Farghaly, S. H. 2281
Farris, T. N. 109
Flanagan, G. 941
Fleck, N. A. 3175
Foerster, A. 1777
Frulla, G. 763
- Gao, T. S. 2393
Gao, X.-L. 1357
Gao, Y. C. 2393
Georgiadis, H. G. 2599
Giambanco, F. 785
Giannakopoulos, A. E. 2679
Giessen, E. van der 1493, 1923
Gilormini, P. 643
Gu, L. 865
Guarracino, F. 1911
- Haftka, R. T. 2071
Haggag, A. 3041
Hamilton, J. J. 97
Hansen, N. R. 359
Hanson, M. T. 391, 567, 2035
Harrigan, T. P. 97
Hasebe, N. 1877
Haseganu, E. M. 27
He, L. 613
He, M. Y. 3443
Hecker, S. S. 2999
Hild, F. 1035
Hill, R. 2999
Hilton, H. H. 3285
Hoon, K. H. 711
Hsieh, S.-R. 1981
Hsu, C.-T. T. 657
Hsu, F. P. K. 3375
Hsu, T. R. 971
Hu, K. X. 599
Huang, C. S. 1609
Huang, N. N. 1263
Huang, T.-F. 3139
Huang, Y. 599, 2433, 2753
Huang, Y.-Y. 3315
Humphrey, J. D. 3375
Hung, K. C. 3233
Huntley, H. E. 3295
Hutchinson, J. W. 823, 1133, 2331, 3443
Hwang, K. C. 3153
- Ibrahimbegović, A. 3027
Ikeda, K. 2709
- Inoue, T. 219
Iura, M. 2793
- Jain, R. 849
Jefferson, G. 3059
Jeong, G. S. 2653
Jin, Z.-H. 203
Jones, N. 1861
Joseph, P. F. 2979
Ju, F. 3125
- Kakuda, K. 1847
Kalamkarov, A. L. 303
Kam, T. Y. 925
Karapetian, E. N. 2035
Kardomateas, G. A. 2195
Karihaloo, B. L. 51
Kaw, A. K. 2053
Kayran, A. 3457
Keer, L. M. 3475
Kim, D. S. 1225
Kim, S. 1149
Kim, S.-J. 2229
Kistler, W. 269
Knowles, J. K. 2229
Koiter, W. T. 797
Kosmatka, J. B. 417
Kounadis, A. N. 2099
Kovacevic, R. 391
Kuhn, G. 1777
Kushner, A. 145
Kuznetsov, E. N. 65
Kwak, B. M. 3217
- Lagoudas, D. C. 2653
Lam, K. Y. 517, 2965
Larsson, P.-L. 2679
Laursen, T. A. 669
Leckie, F. A. 1035
Lee, B. C. 1225
Lee, H. P. 835, 2509, 3125
Lee, K. H. 3125
Lee, T. Y. 925
Lee, U. 457
Lei, X.-Y. 3333
Leissa, A. W. 1609
Lepik, Ü. 3249
Leu, L.-J. 533
Levy, C. 2377
Li, Q. M. 1861
Li, X. 1181, 3387
Li, Y. W. 797
Libai, A. 1003, 1019
Liew, K. M. 1519, 2463, 3233
Lim, C. W. 1519, 2463
Lim, M. K. 3233
Lipton, R. 3407
Liu, G. R. 2965
Liu, P. 2491, 2867
Liu, S. 3079
Liu, Z.-H. 3315
Lo, C. Y. 145
Lu, P. 913
Lubarda, V. A. 2951
Luciano, R. 2933
Lyons, P. 1181
- Mahrenholtz, O. 913
Maneschy, C. E. 317

- Marzano, S. 2121
 Matsunaga, H. 3113
 McGee, O. G. 1609
 McMeeking, R. M. 3059
 Meguid, S. A. 303, 1085
 Meijers, P. 1923
 Menditto, G. 247
 Mistakidis, E. S. 2211
 Mohamad, A. S. 257
 Moore, I. D. 3041
 Morton, J. 2537
 Mróz, Z. 1113, 2071, 3419
 Muci-Küchler, K. H. 1565
 Mukherjee, S. 533, 1793, 1829, 2299
 Murota, K. 2709
 Murphy, J. G. 1597
- Nakamura, T. 145
 Nakano, M. 2709
 Nayfeh, A. H. 1309
 Ng, T. Y. 835
 Nilsson, K.-F. 2331
 Noda, N. 203
 Nordlund, P. 1
- Okada, H. 1737
 Ong, L. S. 2463
 Oplinger, D. W. 2565
 Ortiz, M. 2167
- Pageau, S. S. 2979
 Pai, P. F. 1309
 Palizzolo, L. 785
 Panagiotopoulos, P. D. 2211
 Panagoulis, O. K. 2211
 Park, J. 3217
 Pence, T. J. 1149
 Peng, X. 807, 1099
 Pierre, C. 1981
 Pindera, M.-J. 1393, 2445
 Piskunov, V. G. 3345
 Polizzotto, C. 953
 Pompei, A. 2819
 Ponter, A. R. S. 807, 1099
- Qiu, Y. 1149
 Qu, J. 329
- Ramachandra, K. 849
 Ray, A. K. 705
- Reissner, E. 89, 2153
 Rhodes, J. 711
 Rigamonti, D. 3375
 Rizzi, E. 2835
 Rogerson, G. A. 2769
 Romeo, G. 763
 Rooney, F. J. 1597
 Roy, A. 127
 Rubin, M. B. 2615, 2635
 Rudolph, T. J. 1565
 Ryvkin, M. 551
- Saigal, S. 269
 Scalia, A. 2819
 Schreyer, H. L. 359, 1241
 Schwab, C. 3375
 Scott, N. H. 2769
 Selig, E. T. 3041
 Selvadurai, A. P. S. 1279
 Shahwan, K. W. 75
 Shaw, S. W. 1981
 Shih, C. F. 985
 Sigmund, O. 2313
 Simha, K. R. Y. 849
 Sridharan, S. 2347
 Stam, G. Th. M. 1923
 Starnes Jr, J. H. 797, 2347
 Steigmann, D. J. 27
 Stein, E. 2433
 Steinmann, P. 1063
 Sterner, S. C. 269
 Stout, M. G. 2999
 Striz, A. G. 2807
 Stupkiewicz, S. 1113, 3419
 Su, S. G. 109
 Suhir, E. 3261
 Sun, B. K. 971
 Szabó, L. 1291
- Tabakov, P. Y. 3345
 Tarn, J.-Q. 231, 497
 Toh, K.-C. 2299
 Tong, L. 443, 2919
 Tosaka, N. 1847
 Touati, D. 2367
 Tsai, M. Y. 2537
 Turgeman, S. 683
 Tvergaard, V. 823
- Urquhart, E. E. 2445
- Verijenko, V. E. 3345
 Vestergaard, R. 2679
- Waas, A. M. 75
 Wan, F. Y. M. 2153
 Wang, B. 1377
 Wang, C. M. 2945
 Wang, C.-Y. 2591
 Wang, G. 657
 Wang, T. C. 629
 Wang, X. 903
 Wang, X. D. 1085
 Wang, Y.-M. 231, 497
 Wang, Z.-P. 2139
 Wei, X. 533
 Weitsman, Y. 2519
 Weitsman, Y. J. 65
 Willam, K. 2835
 Williams, F. W. 749
 Wineman, A. S. 3295
 Wu, F. 2753
 Wu, G. 279
 Wu, P. D. 1493
- Xia, Z. C. 1133
 Xu, G. 2167
 Xu, J. 3059
 Xu, Y. 3475
- Yang, H. 279
 Yang, W. 985
 Yin, W.-L. 1549
 Yong, Z. 391
 Yu, T. X. 1585
- Zabarás, N. 1829
 Zeggane, M. 2347
 Zeng, X. 1047
 Zhang, H. W. 2753
 Zhang, J. M. 517
 Zhang, K. 2491
 Zhang, Q. 1793
 Zhang, R. J. 2735
 Zhang, X. 2867
 Zhang, Y. 2491, 2867
 Zhao, F. 1047
 Zhao, Y.-P. 1585
 Zheng, Q.-S. 3153
 Zhou, D. 347
 Zhou, Z. 3201