

LIST OF CONTENTS

NUMBER 1

- | | | |
|--|----|---|
| Akio Satake and
J. N. Reddy | 1 | A numerical method for elastic-plastic torsion by variational inequality |
| G. K. Haritos and
L. M. Keer | 19 | Stress analysis for an elastic half space containing an embedded rigid block |
| Paul G. Reichel and
Warren S. Edelstein | 41 | On refined creep bounds and brittle damage estimates for pressure vessels |
| R. Jones, J. Mazumdar and
Y. K. Cheung | 61 | Vibration and buckling of plates at elevated temperatures |
| T. Usami and
S. Y. Koh | 71 | Large displacement theory of thin-walled curved members and its application to lateral-torsional buckling analysis of circular arches |

NUMBER 2

- | | | |
|--|-----|--|
| Zdeněk P. Bažant and
Abu Bakr Wahab | 97 | Stability of parallel cracks in solids reinforced by bars |
| Warren S. Edelstein and
Paul G. Reichel | 107 | On bounds and approximate solutions for a class of transient creep problems |
| J. P. Benthem | 119 | The quarter-infinite crack in a half space; alternative and additional solutions |
| P. C. Xirouchakis and
Norman Jones | 131 | Axisymmetric and bifurcation creep buckling of externally pressurised spherical shells |
| M. M. Gorji | 149 | Plastic constitutive relations for unidirectionally reinforced composites: application to large deflection of plates |
| Gerald A. Wempner and
Chao-Meng Hwang | 161 | Elasto-plasticity of the club sandwich |
| A. P. S. Selvadurai | 167 | Elastic contact between a flexible circular plate and a transversely isotropic elastic halfspace |
| D. A. Simons | 177 | Scattering of SH waves by thin, semi-infinite inclusions |
| | 193 | <i>Announcements</i>
15th International Congress of Theoretical and Applied Mechanics, Toronto, Canada, 17-23 August 1980 |
| | 194 | 3rd I.U.T.A.M. Symposium on Creep in Structures. University of Leicester, England, 8-12 September 1980 |

NUMBER 3

J. L. Ericksen	195	On the status of St.-Venant's solutions as minimizers of energy
S. A. Adeleke	199	On material symmetry in mechanics
Karl Makström and Bertil Storåkers	217	Buckling of cracked members under tension
M. Witt and K. Sobczyk	231	Dynamic response of laminated plates to random loading
Isao Mukunoki and T. C. T. Ting	239	Transient wave propagation normal to the layering of a finite layered medium
Castrenze Polizzotto	253	A local bounding principle for dissipation energy in shakedown of elastic-perfectly plastic solids
P. Burgers and L. B. Freund	265	Dynamic growth of an edge crack in a half space
Gareth P. Parry	275	Twinning in nonlinearly elastic monatomic crystals
Maria Comninou and J. Dundurs	283	Interface slip caused by an SH-pulse

NUMBER 4

H. Ishikawa and K. Hata	291	Thermoleastoplastic creep stress analysis for a thick-walled tube
Vikram K. Kinra, Martin S. Petraitis and Subhendu K. Datta	301	Ultrasonic wave propagation in a random particulate composite
B. D. Reddy	313	Buckling of elastic-plastic discretely stiffened cylinders in axial compression
A. K. Naghdi	329	Green's function for a semicircular plate
J. P. Nowacki and P. G. Glockner	337	Some static problems of micro-polar continua
T. Tarnai	347	Simultaneous static and kinematic indeterminacy of space trusses with cyclic symmetry
J. T. Tielking	361	Asymmetric bending of annular plates
A. N. Kounadis and J. T. Katsikadelis	375	On the discontinuity of the flutter load for various types of cantilevers
	385	<i>Announcement</i> 5th Symposium on the Unification of finite Elements, Finite Differences and Calculus of Variation, University of Connecticut, May 1980

NUMBER 5

- | | | |
|---|-----|---|
| M. R. Gecit | 387 | A tensionless contact without friction between an elastic layer and an elastic foundation |
| Slade Gellin | 397 | The plastic buckling of long cylindrical shells under pure bending |
| J. R. Turner | 409 | Contact on a transversely isotropic half-space, or between two transversely isotropic bodies |
| H. Murakami,
G. A. Hegemier and
G. A. Gurtman | 421 | A nonlinear mixture theory for quasi-one-dimensional heat conduction in fiber reinforced composites |
| Yogendra Nath and
R. S. Alwar | 433 | Nonlinear dynamic analysis of orthotropic circular plates |
| R. Frisch-Fay | 445 | Buckling of masonry pier under its own weight |
| G. J. Turvey | 451 | An initial flexural failure analysis of symmetrically laminated cross-ply rectangular plates |
| T. Tran-Cong and
G. P. Steven | 465 | Derivation of a two function expression for displacements in torsion-free axi-symmetric deformations, and its relations with other solutions |
| Michael J. Forrestal,
Mathias J. Sagartz and
William K. Tucker | 473 | Impulse loading with an electrically exploded etched copper mesh |
| Zdeněk P. Bažant and
Luis F. Estenssoro | 479 | Addendum to paper. Surface singularity and crack propagation |
| NUMBER 6 | | |
| S. Nemat-Nasser and
M. Taya | 483 | Numerical studies of void growth in a necked bar |
| S. Nemat-Nasser and
A. Shokooh | 495 | On finite plastic flows of compressible materials with internal friction |
| Han C. Wu and M. C. Yip | 515 | Strain rate and strain rate history effects on the dynamic behavior of metallic materials |
| Y. Shindo | 537 | Singular stresses in a soft ferromagnetic elastic solid with two coplanar Griffith cracks |
| T. Yella Reddy and
S. R. Reid | 545 | Phenomena associated with the crushing of metal tubes between rigid plates |
| S. K. Maiti and
K. S. R. K. Prasad | 563 | A study of the theories of unstable crack extension for the prediction of crack trajectories |
| | 575 | <i>Announcement</i>
International Symposium on the Mechanical Behaviour of Structured Media, Carleton University, Ottawa, Canada, 18–21 May 1981 |

NUMBER 7

- Ranjit S. Dhaliwal,
Brig M. Singh
and J. Vrbik** 577 External crack in torsion in an infinite medium with a cylindrical inclusion
- G. Yagawa and T. Nishioka** 585 Superposition method for semi-circular surface crack
- J. R. Rice and
J. W. Rudnicki** 597 A note on some features of the theory of localization of deformation
- Morton E. Gurtin,
William O. Williams
and Ion Suliciu** 607 On rate-type constitutive equations and the energy of viscoelastic and viscoplastic materials
- R. Frisch-Fay** 619 Stiffening effect of uncracked bricks in the stability of masonry piers
- V. Apirathvorakij
and P. Karasudhi** 625 Quasi-static bending of a cylindrical elastic bar partially embedded in a saturated elastic half-space
- A. J. Gutierrez and
J. P. H. Webber** 645 Flexural wrinkling of honeycomb sandwich beams with laminated faces
- R. Parnes** 653 Progressing torsional loads along a bore in an elastic medium

Announcements

- 671 International Symposium on Defects and Fracture, Poland, October 1980
- 672 An International Symposium on Fundamental Research on Creep and Shrinkage of Concrete, Swiss Federal Institute of Technology, Lausanne, 15–17 September 1980

NUMBER 8

- Y. M. Tsai** 673 Dynamic effects in the propagation of a ductile penny-shaped crack
- James F. Bell and Akhtar S.
Khan** 683 Finite plastic strain in annealed copper during non-proportional loading
- A. Nachman and J. R. Walton** 695 Energy release rate calculations for interface edge cracks based on a conservation integral
- K. K. Lo** 701 Path independent integrals for cylindrical shells and shells of revolution
- J. Lubliner** 709 An axiomatic model of rate-independent plasticity
- E. H. Lee and R. M. McMeeking** 715 Concerning elastic and plastic components of deformation
- E. P. Cernocky and E. Krempl** 723 A theory of thermoviscoplasticity based on infinitesimal total strain

- P. Samuels** 743 Bifurcation and limit point instability of dual eigenvalue third order systems
- F. Monasa** 757 Deflections of postbuckled unloaded elasto-plastic thin vertical columns

NUMBER 9

- E. N. Kuznetsov** 767 Axisymmetric cable-band membranes
- R. P. Shaw and R. K. Kaul** 777 Interfacial elastic parameters in torsional vibrations of a periodic structured cylindrical rod
- R. D. Mindlin** 785 High frequency vibrations of quartz plates by expansion in series of Ekstein functions
- A. R. S. Ponter** 793 Dynamic behavior of structures composed of strain and workhardening visco-plastic materials
- Edward W. Hart** 807 A theory for stable crack extension rates in ductile materials
- F. Ghahremani** 825 Effect of grain boundary sliding on anelasticity of polycrystals
- F. Ghahremani** 847 Effect of grain boundary sliding on steady creep of polycrystals

NUMBER 10

- M. Mayr, W. Drexler and G. Kuhn** 863 A semianalytical boundary integral approach for axisymmetric elastic bodies with arbitrary boundary conditions
- Zdeněk P. Bažant** 873 Work inequalities for plastic fracturing materials
- T. C. T. Ting** 903 The effects of dispersion and dissipation on wave propagation in viscoelastic layered composites
- Chin-Chan Chu** 913 An analysis of localized necking in punch stretching
- Jerzy Białkiewicz** 933 Influence of damage on creep buckling of a strut
- P. H. Melville** 945 Effect of reflected stress waves in finite specimens on the dynamic stress intensity factor of a propagating mode III crack
- Announcements*
- 957 9th International Congress on the Application of Mathematics in Engineering, Weimar, German Democratic Republic, 28 June–5 July 1981
- 957 Structural Mechanics in Reactor Technology, Palais des Congrès, Paris, France, 17–21 August 1981

NUMBER 11

- | | | |
|--|------|---|
| J. S. Solecki and J. L. Swedlow | 959 | Elastic stress analysis of constrained cylinders by a special finite element method |
| Norman Jones and H. L. M. dos Reis | 969 | On the dynamic buckling of a simple elastic-plastic model |
| P. D. Panagiotopoulos and D. Talaslidis | 991 | A linear analysis approach to the solution of certain classes of variational inequality problems in structural analysis |
| Kosuke Nagaya | 1007 | Transverse vibration of a rectangular plate with an eccentric circular inner boundary |
| S. Nemat-Nasser, Y. Sumi and L. M. Keer | 1017 | Unstable growth of tension cracks in brittle solids: stable and unstable bifurcations, snap-through, and imperfection sensitivity |
| Izhak Sheinman | 1037 | Dynamic large-displacement analysis of curved beams involving shear deformation |
| | | <i>Announcement</i> |
| | 1051 | Ninth U.S. National Congress of Applied Mechanics, Cornell University, Ithaca, New York, 21–25 June 1982 |

NUMBER 12

- | | | |
|---|------|--|
| Warren S. Edelstein | 1053 | On transient creep bounds and approximate solutions for the torsion of thin strips |
| Peter J. Chen | 1059 | Three dimensional dynamic electromechanical constitutive relations for ferroelectric materials |
| J. C. Bell | 1069 | Continuous analysis of stresses from arbitrary surface loads on a half space |
| G. C. Sih and E. P. Chen | 1093 | Axisymmetric elastodynamics response from normal and radial impact of layered composites with embedded penny-shaped cracks |
| M. Arcisz | 1109 | Bifurcation conditions for ideal fibre-reinforced materials |
| D. M. Haughton | 1123 | Post-bifurcation of perfect and imperfect spherical elastic membranes |
| Marian Piszczek✱ and Michael P. Wnuk | 1135 | Subcritical and fatigue crack growth in anti-plane strain state |
| S. Itou | 1147 | Diffraction of an antiplane shear wave by two coplanar Griffith cracks in an infinite elastic medium |

- Yalçin Mengi** 1155 A new approach for developing dynamic theories for structural elements. Part 1: Application to thermoelastic plates
- Yalçin Mengi, Gülin Birlık, and H. D. McNiven** 1169 A new approach for developing dynamic theories for structural elements. Part 2: Application to thermoelastic layered composites

AUTHOR INDEX

- Adeleke, S. A., 199
Alwar, R. S., 433
Apirathvorakij, V., 625
Arcisz, M., 1109
- Bažant, Z. P., 97, 479, 873
Bell, J. C., 1069
Bell, J. F., 683
Bentham, J. P., 119
Biażkiewicz, J., 933
Birlik, G., 1171
Burgers, P., 265
- Cernocky, E. P., 723
Chen, E. P., 1093
Chen, P. J., 1059
Cheung, Y. K., 61
Chu, C.-C., 913
Comninou, M., 283
- Datta, S. K., 301
Dhaliwal, R. S., 577
dos Reis, H. L. M., 969
Drexler, W., 863
Dundurs, J., 283
- Edelstein, W. S., 41, 107, 1053
Ericksen, J. L., 195
Estenssoro, L. F., 479
- Forrestal, M. J., 473
Freund, L. B., 265
Frisch-Fay, R., 445, 619
- Gecit, M. R., 387
Gellin, S., 397
Ghahremani, F., 825, 847
Gorji, M. M., 149
Gurtin, M. E., 607
Gurtman, G. A., 421
Gutierrez, A. J., 645
- Haritos, G. K., 19
Hart, E. W., 807
Hata, K., 291
Haughton, D. M., 1123
Hegemier, G. A., 421
Hwang, C.-M., 161
- Ishikawa, H., 291
Itou, S., 1147
- Jones, N., 131, 969
Jones, R., 61
- Karashudi, P., 625
Katsikadelis, J. T., 375
Kaul, R. K., 777
Keer, L. M., 19, 1017
Khan, A. S., 683
Kinra, V. K., 301
Koh, S. Y., 71
Kounadis, A. N., 375
Krempf, E., 723
Kuhn, G., 863
Kuznetsov, E. N., 767
- Leissa, A. W., 1147
Lee, E. H., 715
Lo, K. K., 701
Lubliner, J., 709
- Maiti, S. K., 563
Makström, K., 217
Mayr, M., 863
Mazumdar, J., 61
McMeeking, R. M., 715
McNiven, H. D., 1171
Melville, P. H., 945
Mengi, Y., 1155, 1169
Mindlin, R. D., 785
Monasa, F., 757
Mukunoki, I., 239
Murakami, H., 421
- Nachman, A., 695
Nagaya, K., 1007
Naghdi, A. K., 329
Nath, Y., 433
Nemat-Nasser, S., 483, 495, 1017
Nishioka, T., 585
Nowacki, J. P., 337
- Panagiotopoulos, P. D., 991
Parnes, R., 653
Parry, G. P., 275
Petratis, M. S., 301
Piszczek, M., M., 1135
Polizzotto, C., 253
Ponter, A. R. S., 793
Prasad, K. S. R. K., 563
- Reddy, B. D., 313
Reddy, J. N., 1
- Reddy, T. Y., 545
Reichel, P. G., 41, 107
Reid, S. R., 545
Rice, J. R., 597
Rudnicki, J. W., 597
- Sagartz, M. J., 473
Satake, A., 1
Samuels, P., 743
Selvadurai, A. P. S., 167
Shaw, R. P., 777
Sheinman, I., 1037
Shindo, Y., 537
Shokooh, A., 495
Sih, G. C., 1093
Simons, D. A., 177
Singh, B. M., 577
Sobczyk, K., 231
Solecki, J. S., 959
Storakers, B., 217
Suliciu, I., 607
Sumi, Y., 1017
Swedlow, J. L., 959
- Talasila, D., 991
Tarnai, T., 347
Tielking, J. T., 361
Ting, T. C. T., 239, 903
Tran-Cong, T., 465
Tsai, Y. M., 673
Tucker, W. K., 473
Turner, J. R., 409
Turvey, G. J., 451
- Usami, T., 71
- Vrbik, J., 577
- Wahab, A. B., 97
Walton, J. R., 695
Webber, J. P. H., 645
Wempner, G. A., 161
Williams, W. O., 607
Witt, M., 231
Wnuk, M. P., 1135
Wu, H. C., 515
- Xirouchakis, P. C., 131
- Yagawa, G., 585
Yip, M. C., 515