

LIST OF CONTENTS

NUMBER 1

- | | | |
|--|-----|---|
| Alicia Golebiewska Herrmann | 1 | On conservation laws of continuum mechanics |
| C. P. Ellinas and J. G. A. Croll | 11 | Post-critical analysis of torsionally buckled stiffener plates |
| L. T. Watson and C. Y. Wang | 29 | A homotopy method applied to elastica problems |
| T. H. Woo and L. A. Schmit | 39 | Decomposition in optimal plastic design of structures |
| J. Ari-Gur and T. Stavsky | 57 | On rotating polar-orthotropic circular disks |
| J. Aboudi and Y. Benveniste | 69 | An average theory for the dynamic behaviour of a laminated elastic-viscoplastic medium under general loading |
| Yoshihiro Narita and Arthur W. Leissa | 83 | Flexural vibrations of free circular plates elastically constrained along parts of the edge |
| T. G. F. Gray | 93 | An upper-bound on J for a cracked infinite plate made of wholly non-linear material |
| K. Hayashi and S. Nemat-Nasser | 107 | Energy release rate and crack kinking |
| Subrata Mukherjee and Mahesh Morjaria | 115 | A boundary element formulation for planar time-dependent inelastic deformation of plates with cutouts |
| Mahesh Morjaria and Subrata Mukherjee | 127 | Numerical analysis of planar, time-dependent inelastic deformation of plates with cracks by the boundary element method |

NUMBER 2

- | | | |
|--|-----|--|
| J. D. Renton | 145 | On the buckling of thick spherical shells under normal pressure |
| H. Murakami, A. Maewal and G. A. Hegemier | 155 | A mixture theory with a director for linear elastodynamics of periodically laminated media |
| Vikram K. Kinra and Charles L. Bowers | 175 | Brittle fracture of plates in tension. Stress field near the crack |
| Jerzy Ploch and Tomasz Wierzbicki | 183 | Bounds for large plastic deformations of dynamically loaded continua and structures |
| K. L. Chowdhury and P. G. Glockner | 197 | Charge distribution on the surface of a spheroidal cavity in a dielectric solid |
| A. Paglietti | 209 | Can the theory of linear viscoelasticity be derived from the current thermodynamic theory of simple materials with fading memory? An objection |
| P. S. Theocaris and J. Milios | 217 | Crack-arrest at a bimaterial interface |

R. S. Rivlin	231	Some comments on the endochronic theory of plasticity
K. C. Valanis	249	On the substance of Rivlin's remarks on the endochronic theory
R. S. Rivlin	267	Comments on "On the substance of Rivlin's remarks on the endochronic theory" by K. C. Valanis
		<i>Announcements</i>
	269	ICP/RILEM/IBK International Symposium on Plastics in Material and Structural Engineering, Prague, Czechoslovakia, 23-25 June 1981
	269	International Conference on Numerical Methods for Coupled Problems, University College, Swansea, Wales, 7-11 September 1981

NUMBER 3

Lawrence H. N. Lee	271	Dynamic buckling of an inelastic column
Tung-Ming Wang and Marc P. Gullbert	281	Effects of rotary inertia and shear on natural frequencies of continuous circular curved beams
Georges A. Bécus and F. A. Cozzarelli	291	A uniqueness theorem in nonlinear viscoelasticity with application to temperature and irradiation induced creep problems
E. L. Axelrad	301	On vector description of arbitrary deformation of shells
Keng-Tung Cheng and Niels Olhoff	305	An investigation concerning optimal design of solids elastic plates
N. G. Stephen	325	Considerations of second order beam theories
Akhilesh Maewal	335	Postbuckling behavior of a periodically laminated medium in compression
S. F. Stone and R. A. Westmann	345	Stress intensity factors for cracked wedges
		<i>Announcements</i>
	359	17th Midwestern Mechanics Conference, University of Michigan, Michigan, U.S.A., 6-8 May 1981
	359	Euromech Colloquium 147, "Damage Mechanics", Cachan, France, 22-25 September 1981

NUMBER 4

Gareth P. Parry	361	On phase transitions involving internal strain
R. K. Kaul, R. P. Shaw and W. Muller	379	Torsional waves in an axially homogeneous bimetallic cylinder

- D. E. Panayotounakos and P. S. Theocaris** 395 Nonlinear and buckling analysis in planar curved bars
- Piero Villaggio** 411 Stress diffusion in non-linear interpenetrating bars
- Jacob Aboudi** 421 Effective stiffness theory for a laminated elastic-viscoplastic work-hardening composite
- P. T. Brown and J. R. Booker** 433 Numerical solution of rafts on visco-elastic media using flexibility expansions
- M. Sathyamoorthy** 443 Large amplitude vibration of circular plates including transverse shear and rotatory inertia

NUMBER 5

- J. W. Hutchinson and V. Tvergaard** 451 Shear band formation in plane strain
- Paul B. Bailey and Peter J. Chen** 471 Transient electromechanical responses of ferroelectric ceramics to impulsive electrical fields
- J. L. Bassani and F. A. McClintock** 479 Creep relaxation of stress around a crack tip
- A. P. S. Selvadurai** 493 Rotary oscillations of a rigid disc inclusion embedded in an isotropic elastic infinite space
- B. Durai Swamy** 499 A theoretical investigation of stresses near the corner of an orthotropic elastic orthogonal wedge
- J. T. Boyle** 515 The finite bending of curved pipes
- R. H. Blanc and E. Giacometti** 531 Infrared stroboscopy—a method for the study of thermomechanical behaviour of materials and structures at high rates of strain
- J. Boersma** 541 Note on Green's function for a semicircular plate

Announcement

- 543 Colloque International du CNRS Plastic Behaviour of Anisotropic Solids, Grenoble, France, 15–19 June 1981

NUMBER 6

- T. H. Lin and Sergio G. Ribeiro** 545 Development of a physical theory of plasticity
- Minoru Taya and Tsu-Wei Chou** 553 On two kinds of ellipsoidal inhomogeneities in an infinite elastic body: an application to a hybrid composite
- I. G. Tadjbakhsh** 565 Stability and optimum design of arch-type structures

D. E. Beskos and B. A. Boley	575	Critical damping in certain linear continuous dynamic systems
K. C. Valanis and C. F. Lee	589	Deformation kinetics of steady-state creep in metals
S. Nair	605	An elasticity solution for transversely inextensible circular cylindrical shells
Ü. Lepik	617	Optimal design of rigid-plastic simply supported beams under impulsive loading
E. Smith	631	Propagation and arrest of an edge crack in a semi-infinite solid

NUMBER 7

Helmut F. Bauer	639	Hydroelastic vibrations in a rectangular container
Jan Břachut and Antoni Gajewski	653	On unimodal and bimodal optimal design of funicular arches
H. Nikooyeh and A. R. Robinson	669	Approximate determination of stresses and displacements near a rounded notch
Emmanuel E. Gdoutos	683	Determination of stress intensity factors during crack arrest in duplex specimens
Philip Underwood and T. L. Geers	687	Doubly asymptotic, boundary-element analysis of dynamic soil-structure interaction
F. Vodák	699	Continuum models of porous media
P. S. Theocaris and N. P. Andrianopoulos	707	Dynamic three-point bending of short beams studied by caustics
A. Kumar and S. K. Shukla	717	Uniqueness and stability of thin-walled cylinders under internal pressure, tension and torque
P. Burgers and L. B. Freund	721	An addendum to the paper: Dynamic growth of an edge crack in a half space

NUMBER 8

Dominic G. B. Edelen	729	Aspects of variational arguments in the theory of elasticity: fact and folklore
Warren S. Edelstein	741	An approximate theory of secondary creep for a class of thin structures
Subrata Mukherjee and Mahesh Morjaria	753	Boundary element analysis of time-dependent inelastic deformation of cracked plates loaded in anti-plane shear
A. C. Chryssakis and P. S. Theocaris	765	A note on finite crack crossing normally an interface with logarithmic singularity at the interface

Aydin Tözeren	769	Motion of rigid spheres through elastic tubes
A. J. Durelli, M. Erickson and K. Rajaiah	787	Optimum shapes of central holes in square plates subjected to uniaxial uniform load
Keng-Tung Cheng	795	On non-smoothness in optimal design of solid, elastic plates
J. N. Reddy and C. L. Huang	811	Nonlinear axisymmetric bending of annular plates with varying thickness
L. R. F. Rose	827	An application of the inclusion analogy for bonded reinforcements
NUMBER 9		
E. Reissner	839	On finite pure bending of curved tubes
G. B. Sinclair and S. B. Hodder	845	Exact solutions for elastic cable systems
J. W. Rudnicki	855	On "Fundamental solutions for a fluid-saturated porous solid" by M. P. Cleary
E. H. Lee	859	Some comments on elastic-plastic analysis
J. Mandel	873	Sur la définition de la vitesse de déformation élastique et sa relation avec la vitesse de contrainte
J. Aboudi and J. D. Achenbach	879	Rapid mode-III crack propagation in a strip of vis- coplastic work-hardening material
R. Parnes	891	Response of an elastically embedded rod subjected to periodically spaced longitudinal forces
R. Parnes and P. Weidlinger	903	Dynamic interaction of an embedded cylindrical rod under axial harmonic forces
M. J. Forrestal, F. R. Norwood and D. B. Longcope	915	Penetration into targets described by locked hydro- stats and shear strength
Guo Zhong-heng	925	A note on the decomposition of elastoplastic finite deformations
	929	Erratum
NUMBER 10		
Niels Olhoff, Konstantin A. Lurie, Andrej V. Cherkaev and Andrej V. Fedorov	931	Sliding regimes and anisotropy in optimal design of vibrating axisymmetric plates
Marion L. Hodgdon	949	Steady state power transmission through a multi- layered ferroelectric device with electromechanical dissipation

Taijiro Nonaka	961	A time-independent analysis for the final state of an elasto-visco-plastic medium with internal cavities
Andrzej Sawicki	969	Yield conditions for layered composites
S. Kyriakides and C. D. Babcock	981	Large deflection collapse analysis of an inelastic in-extensional ring under external pressure
Y. M. Tsai and Y. T. Chen	995	Flexure strength and fracture of polymethyl-methacrylate plates
Jacob Aboudi	1005	Generalized effective stiffness theory for the modeling of fiber-reinforced composites
		<i>Announcement</i>
	1019	The First International Conference on Shot Peening, Paris, 14–17 September 1981
	1020	Erratum
		NUMBER 11
C. T. Chian and F. C. Moon	1021	Magnetically induced cylindrical stress waves in a thermoelastic conductor
R. B. Mohapatra and H. Parhi	1037	Impact response of a penny-shaped crack placed parallel to the boundary of an infinite slab
Kyohei Kondo and Theodore H. H. Pian	1043	Large deformations of rigid-plastic circular plates
T. C. T. Ting and S. C. Chou	1057	Edge singularities in anisotropic composites
Herzl Chai, Charles D. Babcock and Wolfgang G. Knauss	1069	One dimensional modelling of failure in laminated plates by delamination buckling
I. Vardoulakis	1085	Bifurcation analysis of the plane rectilinear deformation on dry sand samples
Y. Shindo	1103	Sudden twisting of a flat annular crack
		NUMBER 12
R. Abeyaratne and N. Triantafyllidis	1113	The emergence of shear bands in plane strain
A. O. Adekola	1135	Effective widths of rectangular slabs stiffened along two opposite edges by prestressed edge beams
J. C. F. Telles and C. A. Brebbia	1149	Boundary element solution for half-plane problems
N. Bugdayci and D. B. Bogy	1159	A two-dimensional theory for piezoelectric layers used in electro-mechanical transducers—I. Derivation
N. Bugdayci and D. B. Bogy	1179	A two-dimensional theory for piezoelectric layers used in electro-mechanical transducers—II. Applications

AUTHOR INDEX

- Abeyaratne, R., 1113
 Aboudi, J., 69, 421, 879, 1005
 Achenbach, J. D., 879
 Adekola, A. O., 1135
 Andrianopoulos, N. P., 707
 Ari-Gur, J., 57
 Axelrad, E. L., 301
- Babcock, C. D., 981, 1069
 Bailey, P. B., 471
 Bayer, H. F., 639
 Bassani, J. L., 479
 Bécus, G. A., 291
 Benveniste, Y., 69
 Beskos, D. E., 575
 Blachut, J., 653
 Blanc, R. H., 531
 Boersma, J., 541
 Bogy, D. B., 1159, 1179
 Booker, J. R., 433
 Bowers, C. L., 175
 Boyle, J. T., 515
 Brebbia, C. A., 1149
 Brown, P. T., 433
 Bugdayci, N., 1159, 1179
 Burgers, P., 721
- Chai, H., 1069
 Chen, Y. T., 995
 Chen, P. G., 471
 Cheng, K-T., 305, 795
 Cherkhev, A. V., 931
 Chian, C. T., 1021
 Chov, S. C., 1057
 Chowdhury, K. L., 197
 Chou, T-S., 553
 Chrysakis, A. C., 765
 Cozzarelli, F. A., 291
 Croll, J. G. A., 11
- Durelli, A. J., 787
- Edelen, D. G. B., 729
 Edelstein, W. S., 741
 Ellinas, C. P., 11
 Erickson, M., 787
- Fedorov, A. V., 931
 Forrestal, M. J., 915
 Freund, L. B., 721
- Gajewski, A., 653
 Gdoutos, E. E., 683
 Geers, T. L., 687
- Giacometti, E., 571
 Gloekner, P. G., 197
 Gray, T. G. F., 93
 Guilbert, M. P., 281
- Hayashi, K., 107
 Hegemier, G. A., 155
 Herrmann, A. G., 1
 Hodder, S. B., 845
 Hodgdon, M. L., 949
 Huang, C. L., 811
 Hutchinson, J. W., 451
- Kaul, R. K., 379
 Kinra, V. K., 175
 Knauss, W. G., 1069
 Kondo, K., 1043
 Kriakides, S., 981
 Kumar, A., 717
- Lee, C. F., 589
 Lee, E. H., 859
 Lee, L. H. N., 271
 Leissa, W., 83
 Lepik, Ü., 617
 Lin, T. H., 545
 Longcope, D. B., 915
 Lurie, K. A., 931
- Maewal, A., 155, 335
 Mandel, J., 873
 McClintock, F. A., 479
 Milios, J., 217
 Mohapatra, R. B., 1037
 Morjaira, M., 115, 127, 753
 Moon, F. L., 1021
 Mukherjee, S., 115, 127, 753
 Muller, W., 379
 Murakami, H., 155
- Nair, S., 605
 Narita, Y., 83
 Nemat-Nasser, S., 107
 Nikooyeh, H., 669
 Nonaka, T., 961
 Norwood, F. R., 915
- Olhoff, N., 305, 931
- Paglietti, A., 209
 Panayotounakos, D. E., 395
 Parhi, H., 1037
 Parnes, R., 891, 903
 Parry, G. P., 361
- Pian, T. H. H., 1043
 Ploch, J., 183
- Rajarah, K., 787
 Reddy, J. N., 811
 Reissner, E., 839
 Renton, J. D., 145
 Ribeiro, S. G., 545
 Rivlin, R. S., 231, 267
 Robinson, A. R., 669
 Rose, L. R. F., 827
 Rudnicki, J. W., 855
- Sathyamoorthy, M., 443
 Sawicki, A., 969
 Schmit, L. A., 39
 Selvadurai, A. P. S., 493
 Shaw, R. P., 379
 Shirdo, Y., 1103
 Shukla, S. K., 717
 Sinclair, G. B., 845
 Smith, E., 631
 Stavsky, T., 57
 Stephen, N. G., 325
 Stone, S. F., 345
 Swamy, P. D., 499
- Tadjbakhsh, I. G., 565
 Taya, M., 553
 Telles, J. C. F., 1149
 Theocaris, P. S., 217, 395, 707, 765
 Ting, T. C. T., 1057
 Tözeren, A., 769
 Triantafyllidis, N., 1113
 Tsai, Y. M., 995
 Tvergaard, V., 451
- Underwood, P., 687
- Valaris, K. C., 249, 589
 Valanis, K. C., 589
 Vardoulakis, I., 1085
 Villaggio, P., 411
 Vodák, F., 699
- Wang, C. Y., 29
 Wang, T.-M., 281
 Watson, L. T., 29
 Weidlinger, P., 903
 Westmann, R. A., 345
 Wierzbicki, T., 183
 Woo, T. H., 39
- Zhong-heng, G., 925