

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
	269	<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. Guillet	281	Effects of rotary inertia and shear on natural frequencies of continuous circular curved beams
Georges A. Bécaus 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
	359	<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 Błachut and Antoni Gajewski	653	On unimodal and bimodal optimal design of funicular arches
H. Nikoooyeh 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. Chrysakis 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. Rajiah	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 viscoplastic 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 hydrostats 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

- A**bejaratne, 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
Baiver, H. F., 639
Bassani, J. L., 479
Bécus, G. A., 291
Benveniste, Y., 69
Beskos, D. E., 575
Błachut, 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
Cherkaev, 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
Edeelen, 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
Milos, 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
Wierzicki, T., 183
Woo, T. H., 39
Zhong-heng, G., 925