Volume Contents

NUMBER 1

Horacio A. Sosa and Y. Eugene Pak	1	Three-dimensional eigenfunction analysis of a crack in a piezoelectric material
Fumio Nishino and Rajesh Duggal	17	Shape optimum design of trusses under multiple loading
P. Hajela and J. Jih	29	Adaptive grid refinement in a BEM-based optimal shape synthesis
R. de Boer and W. Ehlers	43	Uplift, friction and capillarity: three fundamental effects for liquid-saturated porous solids
B. Tabarrok, Yuexi Xiong, D. Steinman and W. L. Cleghorn	59	On buckling of pretwisted columns
P. G. Glockner and W. Szyszkowski	73	An engineering multiaxial constitutive model for non- linear time-dependent materials
Yavuz Başar and Yunhe Ding	83	Finite-rotation elements for the non-linear analysis of thin shell structures
Fei-Yue Wang	99	Monte Carlo analysis of nonlinear vibration of rectangular plates with random geometric imperfections
Seyoung Im	111	Asymptotic stress field around a crack normal to the ply-interface of an anisotropic composite laminate
		NUMBER 2
Gabriel Tokar	129	Generalization of Galin's problem to frictional materials and discontinuous stress fields
Yannis F. Dafalias	149	The plastic spin in viscoplasticity
Fo-van Chang	165	Interlaminar stresses of laminated composite joints with double cover plates
M. Leibowitz and J. M. Lifshitz	175	Experimental verification of modal parameters for 3-layered sandwich beams
Dan Givoli	185	A combined analytic-finite element method for elastic shells
G. F. Dargush and P. K. Banerjee	199	Boundary element methods in three-dimensional thermoelasticity
R. Baker and D. G. Zeitoun	217	Application of Adomian's decomposition procedure to the analysis of a beam on random Winkler support

Norbert Ortner and Peter Wagner	237	The Green's functions of clamped semi-infinite vibrating beams and plates
	251	Addendum
	252	Announcement and Call for Papers Second Annual International Robert J. Melosh Medal Competition
	253	Announcement Preliminary Programme of Courses in 1990 at the International Centre for Mechanical Sciences, Udine, Italy
		NUMBER 3
K. Suzuki and A. W. Leissa	255	Analysis of free vibrations of noncircular thick cylindrical shells having circumferentially varying thickness
Emilio P. Calius and George S. Springer	271	A model of filament-wound thin cylinders
Oren Vilnay and Paul Rogers	299	Statical and dynamical response of cable nets
D. Bruno and A. Grimaldi	313	Delamination failure of layered composite plates loaded in compression
Lin Ye	331	Some characteristics of distributions of free-edge interlaminar stresses in composite laminates
J. Makowski and H. Stumpf	353	Buckling equations for elastic shells with rotational degrees of freedom undergoing finite strain deformation
A. J. Willson and P. J. Myers	369	On the finite elastostatic deformation of thin-walled spheres and cylinders
		NUMBER 4
Yoshiaki Goto, Tomoo Yoshimitsu and Makoto Obata	375	Elliptic integral solutions of plane elastica with axial and shear deformations
Ian D. Moore	391	Three-dimensional response of elastic tubes
Hui-Ching Wang and Prasanta K. Banerjee	401	Axisymmetric transient elastodynamic analysis by boundary element method
J. J. Keremes and G. B. Sinclair	417	A model for the mechanical stresses induced by head-disk contact
Ching S. Chang and Ching L. Liao	437	Constitutive relation for a particulate medium with the

effect of particle rotation

Volume Contents

Fei-Yue Wang	455	Two-dimensional theories deduced from three-dimensional theory for a transversely isotropic body—I. Plate problems
Sunil Saigal, A. Gupta and J. Cheng	471	Stepwise linear regression particular integrals for uncoupled thermoelasticity with boundary elements
David Durban and Michael Kubi	483	Large strain analysis for plastic-orthotropic tubes
	497	Announcement and Call for Papers 18th International Congress of Theoretical and Applied Mechanics, Haifa, Israel, 22-28 August 1992
	N	UMBER 5/6
Reaz A. Chaudhuri	499	On the prediction of interlaminar shear stresses in a thick laminated general shell
Brian D. Harper and Chih-Ping Wu	511	A geometrically nonlinear model for predicting the intrinsic film stress by the bending-plate method
G. A. Kardomateas	527	Thermoelastic stresses in a filament-wound orthotropic composite elliptic cylinder due to a uniform temperature change
I. D. Moore	539	Influence of rib stiffeners on the buckling strength of elastically supported tubes
Paul S. Steif	549	A model for kinking in fiber composites—I. Fiber breakage via micro-buckling
Paul S. Steif	563	A model for kinking in fiber composites—II. Kink band formation
Victor Birman	571	Divergence instability of reinforced composite circular cylindrical shells
E. Suhir and T. M. Sullivan	581	Analysis of interfacial thermal stresses and adhesive strength of bi-annular cylinders
N. K. Gupta and S. K. Sinha	601	Collapse of a laterally compressed square tube resting on a flat base
Kalle Hein and Mati Heinloo	617	The design of nonhomogeneous equi-strength annular discs of variable thickness under internal and external pressures
Gang Bao and Chung-Yuen Hui	631	Effects of interface debonding on the toughness of ductile-particle reinforced ceramics
Emin Selçuk Ardiç, Michael H. Santare	643	A nonclassical model for the stresses in 3-D continuous fiber-reinforced composite materials

and Tsu-Wei Chou

Jiarang Fan and Jianqiao Ye	655	An exact solution for the statics and dynamics of laminated thick plates with orthotropic layers
A. N. Norris	663	The mechanical properties of platelet reinforced composites
Hans Irschik	675	Influence of large amplitudes on free flexural vibrations of polygonal shear-deformable plates—a unifying dimensionless formulation
Yang Gao and Y. K. Cheung	683	On the extremum complementary energy principles for nonlinear elastic shells
		NUMBER 7
Dawn Fisher	695	An analysis of some body forces and surface forces that are together conservative
M. Ortiz and A. E. Giannakopoulos	705	Mixed mode crack-tip fields in monolithic ceramics
Martin P. Bendsøe and Nicolas Triantafyllidis	725	Scale effects in the optimal design of a microstructured medium against buckling
Michel S. Chalhoub and James M. Kelly	743	Effect of bulk compressibility on the stiffness of cylindrical base isolation bearings
J. M. Duva and J. G. Simmonds	761	An accurate elementary static theory of laminated thermoelastic beams
Jiarang Fan and Jianqiao Ye	773	A series solution of the exact equation for thick orthotropic plates
Chong Jin Won	779	Stiffened plates with arbitrarily oblique stiffeners
J. Moorthy, J. N. Reddy and R. H. Plaut	801	Parametric instability of laminated composite plates with transverse shear deformation
I. Lukačević and S. Milanović	813	On the application of bimetric relations in elasticity
		ANIAMBED 0
		NUMBER 8
Victor Z. Gristchak	821	Bifurcations and postbuckling behavior of vibrating of the nonhomogeneous, nonlinear elastic system with multiple independent bifurcation parameters
Y. Wang and R. K. N. D. Rajapakse	833	Asymmetric boundary-value problems for a transversely isotropic elastic medium
A. S. M. Israil and P. K. Banerjee	851	Two-dimensional transient wave-propagation problems by time-domain BEM
Kiyohiro Ikeda and Kazuo Murota	865	Critical initial imperfection of structures

Volume Contents vii

	7	Volume Contents vii
M. Saje	887	A variational principle for finite planar deformation of straight slender elastic beams
Jörg Wauer	901	Modelling and formulation of equations of motion for cracked rotating shafts
Paul S. Steif	915	Interfacial instabilities in an unbonded layered solid
Avinoam Libai	927	The transition zone near wrinkles in pulled spherical membranes
	N	UMBER 9/10
CHARLES DW	/IGHT	BABCOCK JR MEMORIAL ISSUE
		D FAILURE OF STRUCTURES
		gang G. Knauss, Stelios Kyriakides,
		ger and Viggo Tvergaard
Josef Singer and Wolfgang G. Knauss	941	Preface: Collapse and Failure of Structures
J. Arbocz and J. M. A. M. Hol	945	Koiter's stability theory in a computer-aided engineering (CAE) environment
Stelios Kyriakides and Yu-Chung Chang	975	On the inflation of a long elastic tube in the presence of axial load
Kim Ravn-Jensen and Viggo Tvergaard	993	Effect of residual stresses on plastic buckling of cylindrical shell structures
Tatsuzo Koga and Mutsumi Tsushima	1005	Breathing vibrations of a liquid-filled circular cylindrical shell
R. C. Tennyson and K. C. Chan	1017	Buckling of imperfect sandwich cylinders under axial compression
Tanchum Weller and Josef Singer	1037	Durability of stiffened composite panels under repeated buckling
A. M. Waas, C. D. Babcock, Jr and W. G. Knauss	1071	An experimental study of compression failure of fibrous laminated composites in the presence of stress gradients
Henrik M. Jensen, John W. Hutchinson and Kyung-Suk Kim	1099	Decohesion of a cut prestressed film on a substrate
G. A. Hegemier and H. Murakami	1115	On global shear transfer across a crack or joint plane penetrated by continuous fiber reinforcement with appli- cation to reinforced concrete
P. Seide and M. Tehranizadeh	1133	Response of prestressed simply supported rectangular plates to random transverse uniform pressure
Yoon Young Kim and Charles R. Steele	1143	An analytic-asymptotic approach for time-harmonic

Charles R. Steele

nonsymmetric wave propagation in a cylinder

G. J. Simitses and S. E. Mohamed	1159	Instability and collapse of flexibly-connected gabled frames
David Bushnell	1173	GENOPT—a program that writes user-friendly optimization code
	:	NUMBER 11
C. L. Hom and R. M. McMeeking	1211	Numerical results for transformation toughening in ceramics
Q. Zhou, T. X. Yu and Huang Zhuping	1225	The large deflection of a rigid-perfectly plastic portal frame subjected to impulsive loading
M. S. Issa, M. E. Nasr and M. A. Naiem	1243	Free vibrations of curved Timoshenko beams on Pasternak foundations
Dewey H. Hodges	1253	A mixed variational formulation based on exact intrinsic equations for dynamics of moving beams
P. Tuğcu, K. W. Neale and A. E. Lahoud	1275	Inertial effects on necking in tension
F. J. M. Starmans, W. A. M. Brekelmans and J. D. Janssen	1287	A thermodynamic theory for a restricted class of contact behaviour
	1301	Announcement and Call for Papers A.S.C.E. Engineering Mechanics Specialty Conference, Columbus, Ohio, 19-22 May 1991
		NUMBER 12
Charles R. Steele	1303	Obituary: Wilhelm Flügge (1904-1990)
R. Wang	1305	A line-force loading on the surface of a nonlocal elastic half-infinite medium
C. P. Chen and R. S. Lakes	1313	Design of viscoelastic impact absorbers: optimal material properties
S. Pellegrino	1329	Analysis of prestressed mechanisms
Guimin Shi	1351	Flexural vibration and buckling analysis of orthotropic plates by the boundary element method
Kamyar Nikpour	1371	Buckling of cracked composite columns
Chien-Ching Ma and Bao-Luh Hour	1387	Antiplane problems in composite anisotropic materials with an inclined crack terminating at a bimaterial interface

Volume Contents ix

Announcements

- 1401 Conference on Fracture Processes in Brittle Disordered Materials, Oranje Hotel, Noordwijk, The Netherlands, 19-21 June 1991
- 1402 Sixth International Conference in Australia on Finite Element Methods, University of Sydney, Sydney, NSW 2006, Australia, 8-10 July 1991
 - i Volume Contents and Author Index for Volume 26, 1990