

## Volume Contents

### NUMBER 1

<b>E. V. Iarve and N. J. Pagano</b>	1	Singular full-field stresses in composite laminates with open holes
<b>A. Cecchi and N. L. Rizzi</b>	29	Heterogeneous elastic solids: a mixed homogenization-rigidification technique
<b>H. Liu, Z. K. Wang and T. J. Wang</b>	37	Effect of initial stress on the propagation behavior of Love waves in a layered piezoelectric structure
<b>H.-C. Tsai and S.-J. Hsueh</b>	53	Mechanical properties of isolation bearings identified by a viscoelastic model
<b>Y.-L. Chung and C.-F. Pon</b>	75	Boundary element analysis of cracked film–substrate media
<b>P. Poonsawat, A. C. Wijeyewickrema and P. Karasudhi</b>	91	Singular stress fields of angle-ply and monoclinic bimaterial wedges
<b>S. Roy and W. Xu</b>	115	Modeling of diffusion in the presence of damage in polymer matrix composites
<b>H. Ismar, F. Schröter and F. Streicher</b>	127	Finite element analysis of damage evolution in Al/SiC composite laminates under cyclic thermomechanical loadings
<b>P. Berbinau and C. Soutis</b>	143	A new approach for solving mixed boundary value problems along holes in orthotropic plates
<b>Y. X. Mukherjee and S. Mukherjee</b>	161	Error analysis and adaptivity in three-dimensional linear elasticity by the usual and hypersingular boundary contour method
	179	Keywords

### NUMBER 2

<b>J. W. Ju and L. Z. Sun</b>	183	Effective elastoplastic behavior of metal matrix composites containing randomly located aligned spheroidal inhomogeneities. Part I: micromechanics-based formulation
<b>L. Z. Sun and J. W. Ju</b>	203	Effective elastoplastic behavior of metal matrix composites containing randomly located aligned spheroidal Inhomogeneities. Part II: applications
<b>S. M. Lin and S. Y. Lee</b>	227	Closed-form solutions for dynamic analysis of extensional circular Timoshenko beams with general elastic boundary conditions

<b>Y. Y. Wang, K. Y. Lam and G. R. Liu</b>	241	A strip element method for the transient analysis of symmetric laminated plates
<b>T. X. Yu, J. L. Yang and S. R. Reid</b>	261	Deformable body impact: dynamic plastic behaviour of a moving free-free beam striking the tip of a cantilever beam
<b>C.-C. Chien and T.-Y. Wu</b>	289	A particular integral BEM/time-discontinuous FEM methodology for solving 2-D elastodynamic problems
<b>L. Bardella and F. Genna</b>	307	Elastic design of syntactic foamed sandwiches obtained by filling of three-dimensional sandwich-fabric panels
<b>K. Tunvisut, N. P. O'Dowd and E. P. Busso</b>	335	Use of scaling functions to determine mechanical properties of thin coatings from microindentation tests
<b>J. P. Bardet and I. Vardoulakis</b>	353	The asymmetry of stress in granular media
<b>R. Lipton</b>	369	Effect of interfacial bonding on fiber reinforced shafts subject to antiplane shear

### NUMBER 3

<b>M. Mukherjee</b>	389	Forced vertical vibrations of an elastic elliptic plate on an elastic half space – a direct approach using orthogonal polynomials
<b>S. S. Lee</b>	401	Boundary element analysis of singular hygrothermal stresses in a bonded viscoelastic thin film
<b>F. Rooney and M. Ferrari</b>	413	Tension, bending, and flexure of functionally graded cylinders
<b>R. I. Más and F. I. Más</b>	423	Biaxial bending-axial force elastic interaction diagrams in hollow steel sections
<b>R. I. Más and F. I. Más</b>	435	Shear-bending-torsion elastic interaction diagrams in circular steel sections
<b>C. G. Koh and H. L. Lim</b>	445	Analytical solution for compression stiffness of bonded rectangular layers
<b>I. Elishakoff</b>	457	Inverse buckling problem for inhomogeneous columns
<b>P. Pedersen</b>	465	On the influence of boundary conditions, Poisson's ratio and material non-linearity on the optimal shape
<b>K. P. Soldatos and S.-L. Liu</b>	479	On "The generalised plane strain deformations of thick anisotropic composite laminated plates"
<b>S. S. Vel and R. C. Batra</b>	483	Closure to "The generalized plane strain deformations of thick anisotropic composite laminated plates"

**NUMBER 4**

- |  |     |   |
|--|-----|---|
| <b>I. Carol, E. Rizzi and K. Willam</b>    | 491 | On the formulation of anisotropic elastic degradation. I. Theory based on a pseudo-logarithmic damage tensor rate |
| <b>I. Carol, E. Rizzi and K. Willam</b>    | 519 | On the formulation of anisotropic elastic degradation. II. Generalized pseudo-Rankine model for tensile damage    |
| <b>A. Corigliano and M. Ricci</b>          | 547 | Rate-dependent interface models: formulation and numerical applications   |
| <b>E. Bellenger and P. Bussy</b>           | 577 | Phenomenological modeling and numerical simulation of different modes of creep damage evolution                   |
| <b>M. Kamlah and U. Böhle</b>              | 605 | Finite element analysis of piezoceramic components taking into account ferroelectric hysteresis behavior          |
| <b>M. Brüning</b>                          | 635 | Numerical analysis and large strain elastic–viscoplastic behavior of hydrostatic stress-sensitive metals          |
| <b>O. T. Bruhns, H. Xiao and A. Meyers</b> | 657 | A self-consistent Eulerian rate type model for finite deformation elastoplasticity with isotropic damage          |
| <b>R. V. Craster and D. P. Williams</b>    | 685 | Pulse scattering by a subsurface semi-infinite crack  |
| <b>A. A. Cannarozzi and F. Ubertini</b>    | 717 | A mixed variational method for linear coupled thermoelastic analysis  |

**NUMBER 5**

- |  |     |  |
|--|-----|--|
| <b>R. Mao and G. Lu</b>  | 741 | Plastic buckling of circular cylindrical shells under combined in-plane loads                        |
| <b>P. Redanz</b>   | 759 | A study of stresses in powder compacted components during and after ejection                         |
| <b>F. Li and Z. Li</b>   | 777 | Continuum damage mechanics based modeling of fiber reinforced concrete in tension                    |
| <b>D. M. Stump, A. R. Champneys and G. H. M. van der Heijden</b> | 795 | The torsional buckling and writhing of a simply supported rod hanging under gravity                  |
| <b>X. D. Wang</b>  | 815 | On the dynamic behaviour of interacting interfacial cracks in piezoelectric media                    |
| <b>J. L. Bassani, A. Needleman and E. Van der Giessen</b>        | 833 | Plastic flow in a composite: a comparison of nonlocal continuum and discrete dislocation predictions |
| <b>X.-L. Gao and S. Mall</b>                                     | 855 | Variational solution for a cracked mosaic model of woven fabric composites                           |
| <b>H. K. Lee and S. Simunovic</b>                                | 875 | A damage constitutive model of progressive debonding in aligned discontinuous fiber composites       |

<b>G. N. Wells and L. J. Sluys</b>	897	Three-dimensional embedded discontinuity model for brittle fracture
<b>D. S. Sophianopoulos</b>	915	Nonlinear stability of simplified structural models simulating elastic shell panels of revolution under step loading
	935	Keywords

## NUMBERS 6–7

### MULTIFIELD THEORIES

<b>G. Capriz and P. M. Mariano</b>	939	Multifield theories: an introduction
<b>M. Šilhavý</b>	943	Rank 1 perturbations of deformation gradients
<b>J. L. Ericksen</b>	967	Twinning analyses in the X-ray theory
<b>R. Segev and G. Rodnay</b>	997	Interactions on manifolds and the construction of material structure
<b>J. Sączuk</b>	1019	Continua with microstructure modelled by the geometry of higher-order contact
<b>H. T. Johnson and L. B. Freund</b>	1045	The influence of strain on confined electronic states in semiconductor quantum structures
<b>J. T. Jenkins and L. La Ragione</b>	1063	Particle spin in anisotropic granular materials
<b>G. P. Parry</b>	1071	The ‘moving frame’, and defects in crystals
<b>M. Brocato and G. Capriz</b>	1089	Gyrocontinua
<b>I. Müller</b>	1105	Thermodynamics of mixtures and phase field theory
<b>E. Kröner</b>	1115	Benefits and shortcomings of the continuous theory of dislocations
<b>G. Del Piero and L. Truskinovsky</b>	1135	Macro- and micro-cracking in one-dimensional elasticity
<b>I. J. Rao and K. R. Rajagopal</b>	1149	A study of strain-induced crystallization of polymers
<b>C. Davini</b>	1169	Some remarks on the continuum theory of defects in solids
<b>B. Svendsen</b>	1183	Formulation of balance relations and configurational fields for continua with microstructure and moving point defects via invariance
<b>A. DiCarlo, P. Podio-Guidugli and W. O. Williams</b>	1201	Shells with thickness distension
<b>L. Sabatini and G. Augusti</b>	1227	Homothermal acceleration waves in nematic liquid crystals

- P. M. Mariano** 1243 Coherent interfaces with junctions in continua with microstructure

### NUMBER 8

- C. Y. Wang, C. Rubio-Gonzalez and J. J. Mason** 1265 The dynamic stress intensity factor for a semi-infinite crack in orthotropic materials with concentrated shear impact loads
- E. D. Reedy Jr. and T. R. Guess** 1281 Rigid square inclusion embedded within an epoxy disk: asymptotic stress analysis
- T. Y. Ng, K. Y. Lam, K. M. Liew and J. N. Reddy** 1295 Dynamic stability analysis of functionally graded cylindrical shells under periodic axial loading
- S.-J. Kim and S. Kim** 1311 On the effects of the heat generated during an electric field-induced ferroelectric domain switching
- Y. Y. Kim and H. C. Lee** 1327 Analytic solutions for fundamental eigenfrequencies of optical actuators in six directions of motion
- L. M. Kagan-Rosenzweig** 1341 Quasi-static approach to non-conservative problems of the elastic stability theory
- L.-J. Young** 1355 Plastic hinges development and crack stability analysis in a circular ring
- Z. M. Xiao, J. Bai and R. Maeda** 1369 Electro-elastic stress analysis on piezoelectric inhomogeneity – crack interaction
- S. S. Vel and R. C. Batra** 1395 Generalized plane strain thermoelastic deformation of laminated anisotropic thick plates
- H. Wee, Y. Y. Kim, H. Jung and G. N. Lee** 1415 Nonlinear rate-dependent stick-slip phenomena: modeling and parameter estimation
- W. Dreyer and W. H. Müller** 1433 Modeling diffusional coarsening in eutectic tin/lead solders: a quantitative approach

I First Announcement and Invitation for Attendance

III Announcement

### NUMBER 9

- K. T. Chau and X. X. Wei** 1459 A new analytic solution for the diametral point load strength test on finite solid circular cylinders
- J. W. Shin, S. M. Kwon and K. Y. Lee** 1483 An eccentric crack in a piezoelectric strip under anti-plane shear impact loading
- M. W. Hilburger, V. O. Britt and M. P. Nemeth** 1495 Buckling behavior of compression-loaded quasi-isotropic curved panels with a circular cutout
- R. Lawther** 1523 Altering structures to clear vibration frequencies from a band

<b>P. Papanastasiou and D. Durban</b>	1539	Singular plastic fields in non-associative pressure sensitive solids
<b>Y. Feng and L. Wu</b>	1551	Analysis of interfacial thermal stresses of chip-substrate structure
<b>A. S. J. Suiker, A. V. Metrikine and R. de Borst</b>	1563	Comparison of wave propagation characteristics of the Cosserat continuum model and corresponding discrete lattice models
<b>D. H. Hodges and D. A. Peters</b>	1585	Lateral-torsional buckling of cantilevered elastically coupled composite strip- and I-beams
<b>R. Al-Khoury, A. Scarpas, C. Kasbergen and J. Blaauwendraad</b>	1605	Spectral element technique for efficient parameter identification of layered media. I. Forward calculation
<b>M. Dragon-Louiset</b>	1625	On a predictive macroscopic contact-sliding wear model based on micromechanical considerations
<b>X. Q. He, T. Y. Ng, S. Sivashanker and K. M. Liew</b>	1641	Active control of FGM plates with integrated piezo-electric sensors and actuators

#### NUMBERS 10–13

### PROCEEDINGS OF THE SIXTH PAN AMERICAN CONGRESS OF APPLIED MECHANICS (PACAM VI)

<b>P. B. Gonçalves, I. Jasiuk and L. Bevilacqua</b>	1657	Pan American Congress of Applied Mechanics (PACAM VI)
<b>Y. A. Antipov, A. B. Movchan and S. T. Kolaczowski</b>	1659	Models of fracture of cellular monolith structures
<b>K. M. Ahmida and J. R. F. Arruda</b>	1669	Spectral element-based prediction of active power flow in Timoshenko beams
<b>F. A. Bandak, R. E. Tannous and T. Toridis</b>	1681	On the development of an osseo-ligamentous finite element model of the human ankle joint
<b>D. Belato, H. I. Weber, J. M. Balthazar and D. T. Mook</b>	1699	Chaotic vibrations of a nonideal electro-mechanical system
<b>L. Borges, N. Zouain, C. Costa and R. Feijóo</b>	1707	An adaptive approach to limit analysis
<b>F. Bouyge, I. Jasiuk and M. Ostoj-Starzewski</b>	1721	A micromechanically based couple-stress model of an elastic two-phase composite
<b>S. Butkewitsch and V. Steffen Jr.</b>	1737	A case study on frequency response optimization
<b>M. O. M. Carvalho and M. Zindeluk</b>	1749	Active control of waves in a Timoshenko beam
<b>C. E. S. Cesnik and S. Shin</b>	1765	On the modeling of integrally actuated helicopter blades

<b>M. Ciavarella and G. Demelio</b>	1791	A review of analytical aspects of fretting fatigue, with extension to damage parameters, and application to dovetail joints
<b>N. A. Dumont and R. de Oliveira</b>	1813	From frequency-dependent mass and stiffness matrices to the dynamic response of elastic systems
<b>Y. A. Dzenis and J. Qian</b>	1831	Analysis of microdamage evolution histories in composites
<b>K. I. I. Ferreira and D. Roehl</b>	1855	Three dimensional elastoplastic contact analysis at large strains with enhanced assumed strain elements
<b>L. Gaul, M. Wagner, W. Wenzel and N. Dumont</b>	1871	Numerical treatment of acoustic problems with the hybrid boundary element method
<b>M. Grotjahn, M. Daemi and B. Heimann</b>	1889	Friction and rigid body identification of robot dynamics
<b>L. Z. Jiang and C. T. Sun</b>	1903	Analysis of indentation cracking in piezoceramics
<b>S. M. Khanna and L. F. Hao</b>	1919	Nonlinear vibrations in the apex of guinea-pig cochlea
<b>M. T. Kokaly, J. Lee and A. S. Kobayashi</b>	1935	Dynamic ductile fracture of 7075-T6 – an experimental analysis
<b>J. Makowski and H. Stumpf</b>	1943	Thermodynamically based concept for the modelling of continua with microstructure and evolving defects
<b>P. M. Mariano and G. Augusti</b>	1963	Basic topics on damage pseudo-potentials
<b>R. Markert and M. Seidler</b>	1975	Analytically based estimation of the maximum amplitude during passage through resonance
<b>C. E. N. Mazzilli, M. E. S. Soares and O. G. P. Baracho Neto</b>	1993	Reduction of finite-element models of planar frames using non-linear normal modes
<b>G. Mimmi and P. Pennacchi</b>	2009	Pre-shaping motion input for a rotating flexible link
<b>P. D. Moncarz, B. M. McDonald and R. D. Caligiuri</b>	2025	Earthquake failures of welded building connections
<b>D. Pamplona, P. Gonçalves, M. Davidovich and H. I. Weber</b>	2033	Finite axisymmetric deformations of an initially stressed fluid-filled cylindrical membrane
<b>G. Rega and R. Alaggio</b>	2049	Spatio-temporal dimensionality in the overall complex dynamics of an experimental cable/mass system
<b>I. F. Santos and R. Nicoletti</b>	2069	Influence of orifice distribution on the thermal and static properties of hybridly lubricated bearings
<b>A. R. D. Silva, R. A. M. Silveira and P. B. Gonçalves</b>	2083	Numerical methods for analysis of plates on tensionless elastic foundations
<b>H. Sosa and N. Khutoryansky</b>	2101	Further analysis of the transient dynamic response of piezoelectric bodies subjected to electric impulses

<b>A. A. Spector</b>	2115	A nonlinear electroelastic model of the auditory outer hair cell
<b>A. Steindl and H. Troger</b>	2131	Methods for dimension reduction and their application in nonlinear dynamics
<b>G. Stépán</b>	2149	Vibrations of machines subjected to digital force control
<b>T. Tarnai</b>	2161	Mechanical model of the pattern formation of lotus receptacles
<b>E. T. Neto and C. Ruggieri</b>	2171	Micromechanics characterization of constraint and ductile tearing effects in small scale yielding fracture
<b>A. Tylikowski</b>	2189	Effects of piezoactuator delamination on the transfer functions of vibration control systems
<b>W. Yang, F. Fang and M. Tao</b>	2203	Critical role of domain switching on the fracture toughness of poled ferroelectrics
<b>H. Y. Yu</b>	2213	A concise treatment of indentation problems in transversely isotropic half-spaces
<b>M. X. Zhao and B. Balachandran</b>	2233	Dynamics and stability of milling process
<b>N. Zouain and J. L. Silveira</b>	2249	Bounds to shakedown loads
	2267	Keywords

#### NUMBER 14

<b>A. N. Shupikov and N. V. Smetankina</b>	2271	Non-stationary vibration of multilayer plates of an uncanonical form. The elastic immersion method
<b>X.-M. Yang and Y.-P. Shen</b>	2291	Dynamic instability of laminated piezoelectric shell
<b>F.-L. Liu</b>	2305	Differential quadrature element method for buckling analysis of rectangular Mindlin plates having discontinuities
<b>R. J. Gu and M. Shillor</b>	2323	Thermal and wear analysis of an elastic beam in sliding contact
<b>S. Ghosh, K. Lee and P. Raghavan</b>	2335	A multi-level computational model for multi-scale damage analysis in composite and porous materials
<b>B. Maurin and R. Motro</b>	2387	Investigation of minimal forms with conjugate gradient method
<b>K.-L. Lee, W.-F. Pan and J.-N. Kuo</b>	2401	The influence of the diameter-to-thickness ratio on the stability of circular tubes under cyclic bending
<b>J. R. Banerjee</b>	2415	Explicit analytical expressions for frequency equation and mode shapes of composite beams



<b>S. Mariani and A. Corigliano</b>	2427	Anisotropic behaviour of porous, ductile media
<b>J. Jäger</b>	2453	Some comments on recent generalizations of Cattaneo–Mindlin
<b>M. Ciavarella</b>	2459	Closure on “Some comments on recent generalizations of Cattaneo–Mindlin” by J. Jäger
	2465	Keywords

### NUMBER 15

<b>A. G. Kolpakov</b>	2469	On the calculation of rigidity characteristics of the stressed constructions
<b>A. Boström, G. Johansson and P. Olsson</b>	2487	On the rational derivation of a hierarchy of dynamic equations for a homogeneous, isotropic, elastic plate
<b>X. Wang and Y.-P. Shen</b>	2503	A solution of the elliptic piezoelectric inclusion problem under uniform heat flux
<b>O. Bougaut and D. Rittel</b>	2517	On crack-tip cooling during dynamic crack initiation
<b>Z. M. Xiao and B. J. Chen</b>	2533	On the interaction between an edge dislocation and a coated inclusion
<b>H. Sato and Y. Shindo</b>	2549	Multiple scattering of plane elastic waves in a fiber-reinforced composite medium with graded interfacial layers
<b>A. A. Cannarozzi and F. Ubertini</b>	2573	Some hybrid variational methods for linear electro-elasticity problems
<b>Z. Zou, S. R. Reid, P. D. Soden and S. Li</b>	2597	Mode separation of energy release rate for delamination in composite laminates using sublaminates
<b>H. Gao and Y. Huang</b>	2615	Taylor-based nonlocal theory of plasticity
<b>T. J. Vogler and S. Kyriakides</b>	2639	On the initiation and growth of kink bands in fiber composites: Part I. experiments
<b>T. J. Vogler, S.-Y. Hsu and S. Kyriakides</b>	2653	On the initiation and growth of kink bands in fiber composites. Part II: analysis

### NUMBER 16

<b>J. Ozbolt, Y. Li and I. Kozar</b>	2683	Microplane model for concrete with relaxed kinematic constraint
<b>X. Hu and T. Tsuiji</b>	2713	Vibration analysis of laminated cylindrical thin panels with twist and curvature
<b>G. A. Altay and M. C. Dökmeci</b>	2737	Coupled thermoelastic shell equations with second sound for high-frequency vibrations of temperature-dependent materials

<b>H. Cho and G. A. Kardomateas</b>	2769	Thermal shock stresses due to heat convection at a bounding surface in a thick orthotropic cylindrical shell
<b>J. Lee, S. Choi and A. Mal</b>	2789	Stress analysis of an unbounded elastic solid with orthotropic inclusions and voids using a new integral equation technique
<b>X. D. Wang and S. A. Meguid</b>	2803	Modelling and analysis of dynamic interaction between piezoelectric actuators
<b>H. Zhong</b>	2821	Triangular differential quadrature and its application to elastostatic analysis of Reissner plates
<b>C. W. Lim, L. H. He and A. K. Soh</b>	2833	Three-dimensional electromechanical responses of a parallel piezoelectric bimorph
<b>X. Zhao</b>	2851	The stress-intensity factor history for a half plane crack in a transversely isotropic solid due to impact point loading on the crack faces
<b>N. Ohno, T. Matsuda and X. Wu</b>	2867	A homogenization theory for elastic–viscoplastic composites with point symmetry of internal distributions
<b>W. H. Warner</b>	2879	Optimal design of elastic rods: extension of a minimum energy solution

#### NUMBER 17

<b>D. Tan</b>	2893	Compensation for thermal deformation of a paraboloid shell using distributed structural actuation
<b>I. Carol, M. Jirásek and Z. Bažant</b>	2921	A thermodynamically consistent approach to microplane theory. Part I. Free energy and consistent microplane stresses
<b>E. Kuhl, P. Steinmann and I. Carol</b>	2933	A thermodynamically consistent approach to microplane theory. Part II. Dissipation and inelastic constitutive modeling
<b>J. Bonet</b>	2953	Large strain viscoelastic constitutive models
<b>C.-S. Liu and H.-K. Hong</b>	2969	Using comparison theorem to compare corotational stress rates in the model of perfect elastoplasticity
<b>Y.-S. Chan, G. H. Paulino and A. C. Fannjiang</b>	2989	The crack problem for nonhomogeneous materials under antiplane shear loading—a displacement based formulation
<b>H. Sun, S. Di, N. Zhang and C. Wu</b>	3007	Micromechanics of composite materials using multi-variable finite element method and homogenization theory
<b>X. Han, G. R. Liu, Z. C. Xi and K. Y. Lam</b>	3021	Transient waves in a functionally graded cylinder

<b>K.-F. Nilsson, L. E. Asp, J. E. Alpman and L. Nystedt</b>	3039	Delamination buckling and growth for delaminations at different depths in a slender composite panel
<b>E. Scarpetta and M. A. Sumbatyan</b>	3073	Wave properties of some periodic structures
<b>T. Chen</b>	3081	Thermal conduction of a circular inclusion with variable interface parameter

### NUMBER 18

<b>S. R. Denton</b>	3099	Compatibility requirements for yield-line mechanisms
<b>N. Hu, X. Wang, H. Fukunaga, Z. H. Yao, H. X. Zhang and Z. S. Wu</b>	3111	Damage assessment of structures using modal test data
<b>J. L. Chaboche, F. Feyel and Y. Monerie</b>	3127	Interface debonding models: a viscous regularization with a limited rate dependency
<b>P. F. Pai and L. G. Young</b>	3161	Damage detection of beams using operational deflection shapes
<b>Y.-H. Chen</b>	3193	$M$ -integral analysis for two-dimensional solids with strongly interacting microcracks. Part I: in an infinite brittle solid
<b>Y.-H. Chen</b>	3213	$M$ -integral analysis for two-dimensional solids with strongly interacting microcracks. Part II: in the brittle phase of an infinite metal/ceramic bimaterial
<b>Y. H. Chen and T. J. Lu</b>	3233	Conservation laws of the $J_k$ -vector for microcrack damage in piezoelectric materials
<b>Q. D. Yang, M. D. Thouless and S. M. Ward</b>	3251	Elastic–plastic mode-II fracture of adhesive joints
<b>J. G. Teng and C. Y. Song</b>	3263	Numerical models for nonlinear analysis of elastic shells with eigenmode-affine imperfections
<b>D. Sun and L. Tong</b>	3281	Modal control of smart shells by optimized discretely distributed piezoelectric transducers
	3301	Keywords

### NUMBER 19

## HONORING THE 70TH BIRTHDAY OF PROF. JACK VINSON AND PROF. CHARLES BERT

<b>A. Noor and V. Birman</b>	3305	Editorial
<b>W. J. Renton</b>	3309	Aerospace and structures: where are we headed?
<b>J. A. Zukas and D. R. Scheffler</b>	3321	Impact effects in multilayered plates

<b>M. Y. Ali, S. Q. Nusier and G. M. Newaz</b>	3329	Mechanics of damage initiation and growth in a TBC/superalloy system
<b>A. W. Leissa</b>	3341	Singularity considerations in membrane, plate and shell behaviors
<b>L. Librescu and R. Schmidt</b>	3355	A general linear theory of laminated composite shells featuring interlaminar bonding imperfections
<b>A. Almajid, M. Taya and S. Hudnut</b>	3377	Analysis of out-of-plane displacement and stress field in a piezocomposite plate with functionally graded microstructure
<b>F. Gordaninejad and W. Wu</b>	3393	A two-dimensional shape memory alloy/elastomer actuator
<b>I. Elishakoff and S. Candan</b>	3411	Apparently first closed-form solution for vibrating inhomogeneous beams
<b>S. Candan and I. Elishakoff</b>	3443	Constructing the axial stiffness of longitudinally vibrating rod from fundamental mode shape

#### NUMBER 20

<b>X. Han, F. Ellyin and Z. Xia</b>	3453	A crack near the interface of bonded elastic-viscoelastic planes
<b>A. A. Caiazzo and F. Costanzo</b>	3469	Modeling the constitutive behavior of layered composites with evolving cracks
<b>P. A. Dashner</b>	3487	Elastic shadow flow and its theoretical implications for inelastic solids
<b>Z. Li and J. Lambros</b>	3549	Strain rate effects on the thermomechanical behavior of polymers
<b>C. W. Shul and K. Y. Lee</b>	3563	Dynamic response of subsurface interface crack in multi-layered orthotropic half-space under anti-plane shear impact loading
<b>K. G. W. Pijenburg and E. Van der Giessen</b>	3575	Macroscopic yield in cavitated polymer blends
<b>H. Murakami</b>	3599	Static and dynamic analysis of tensegrity structures. Part I. Nonlinear equations of motion
<b>H. Murakami</b>	3615	Static and dynamic analyses of tensegrity structures. Part II. Quasi-static analysis
<b>S. Itou</b>	3631	Transient dynamic stress intensity factors around a crack in a nonhomogeneous interfacial layer between two dissimilar elastic half-planes

**NUMBER 21**

- |  |      |  |
|--|------|--|
| <b>R. A. Regueiro and R. I. Borja</b>          | 3647 | Plane strain finite element analysis of pressure sensitive plasticity with strong discontinuity                  |
| <b>K. Rohwer, R. Rolfes and H. Sparr</b>       | 3673 | Higher-order theories for thermal stresses in layered plates   |
| <b>J. Hohe and W. Becker</b>                   | 3689 | A refined analysis of the effective elasticity tensor for general cellular sandwich cores                        |
| <b>H. Huang and G. A. Kardomateas</b>          | 3719 | Mixed-mode stress intensity factors for cracks located at or parallel to the interface in bimaterial half planes |
| <b>H. H. Vaziri, J. S. Jalali and R. Islam</b> | 3735 | An analytical model for stability analysis of rock layers over a circular opening                                |
| <b>I. A. Guz and C. Soutis</b>                 | 3759 | Compressive fracture of non-linear composites undergoing large deformations                                      |
| <b>A. M. Puzrin and G. T. Houlsby</b>          | 3771 | Fundamentals of kinematic hardening hyperplasticity  |
| <b>J. M. Hill and G. M. Cox</b>                | 3795 | Stress profiles for tapered cylindrical cavities in granular media   |
| <b>F. Yang</b>                                 | 3813 | Fracture mechanics for a Mode I crack in piezoelectric materials   |
| <b>M. Kaminski</b>                             | 3831 | Stochastic second-order perturbation approach to the stress-based finite element method                          |
| <b>Y. J. Chao, X. K. Zhu and L. Zhang</b>      | 3853 | Higher-order asymptotic crack-tip fields in a power-law creeping material  |

**NUMBERS 22–23**

- |   |      |  |
|---|------|--|
| <b>S. Drapier, J.-C. Grandidier and M. Potier-Ferry</b> | 3877 | A structural approach of plastic microbuckling in long fibre composites: comparison with theoretical and experimental results                        |
| <b>M. M. Aghdam, M. J. Pavier and D. J. Smith</b>       | 3905 | Micro-mechanics of off-axis loading of metal matrix composites using finite element analysis   |
| <b>B. Yang, S. Mall and K. Ravi-Chandar</b>             | 3927 | A cohesive zone model for fatigue crack growth in quasibrittle materials   |
| <b>A. Capsoni, L. Corradi and P. Vena</b>               | 3945 | Limit analysis of orthotropic structures based on Hill's yield condition   |
| <b>M. Rahman</b>  | 3965 | The normal shift of a rigid elliptical disk in a transversely isotropic solid  |
| <b>K. D. Murphy and D. Ferreira</b>                     | 3979 | Thermal buckling of rectangular plates   |
| <b>Li Hua and K. Y. Lam</b>                             | 3995 | Orthotropic influence on frequency characteristics of a rotating composite laminated conical shell by the generalized differential quadrature method |

<b>O. Rand</b>	4017	A multilevel analysis of solid laminated composite beams
<b>J. W. Ju and X. D. Zhang</b>	4045	Effective elastoplastic behavior of ductile matrix composites containing randomly located aligned circular fibers
<b>C. J. Gantes, A. N. Kounadis, J. Raftoyiannis and V. V. Bolotin</b>	4071	A dynamic buckling geometric approach of 2-DOF autonomous potential lumped-mass systems under impact loading
<b>G. E. Exadaktylos, I. Vardoulakis and S. K. Kourkoulis</b>	4091	Influence of nonlinearity and double elasticity on flexure of rock beams — I. Technical theory
<b>G. E. Exadaktylos, I. Vardoulakis and S. K. Kourkoulis</b>	4119	Influence of nonlinearity and double elasticity on flexure of rock beams — II. Characterization of Dionysos marble
<b>Z.-m. Huang</b>	4147	Micromechanical prediction of ultimate strength of transversely isotropic fibrous composites
	4173	Keywords
<b>NUMBERS 24–25</b>		
<b>S. Marfia and E. Sacco</b>	4177	Modeling of reinforced masonry elements
<b>C. Atkinson and C. Blanco</b>	4199	Indentation at a bimaterial interface: the line force solution
<b>J. P. Billingsley</b>	4221	The possible influence of the de Broglie momentum—wavelength relation on plastic strain “autowave” phenomena in “active materials”
<b>Y. C. Zhou and T. Hashida</b>	4235	Coupled effects of temperature gradient and oxidation on thermal stress in thermal barrier coating system
<b>D. M. Stump and G. H. M. van der Heijden</b>	4265	Birdcaging and the collapse of rods and cables in fixed-grip compression
<b>C. H. Wu and M. L. Wang</b>	4279	Configurational equilibrium of circular-arc cracks with surface stress
<b>J. P. Dron, L. Rasolofondraibe, F. Bolaers and A. Pavan</b>	4293	High-resolution methods in vibratory analysis: application to ball bearing monitoring and production machine
<b>C. C. Wu, K. Y. Sze and Y. Q. Huang</b>	4315	Numerical solutions on fracture of piezoelectric materials by hybrid element
<b>P. C. Hsieh, L. H. Huang and T. W. Wang</b>	4331	Bed forms of soft poroelastic material in an alluvial channel
<b>M. Mitrovic, G. P. Carman and F. K. Straub</b>	4357	Response of piezoelectric stack actuators under combined electro-mechanical loading

<b>I. Mohammed and K. M. Liechti</b>	4375	The effect of corner angles in bimaterial structures
<b>M. B. Rubin</b>	4395	Numerical solution procedures for nonlinear elastic rods using the theory of a Cosserat point
<b>X. Wang and Y.-P. Shen</b>	4439	On double circular inclusion problem in antiplane piezoelectricity
<b>S. Yi, S. Gao and L. Shen</b>	4463	Fracture toughening mechanism of shape memory alloys under mixed-mode loading due to martensite transformation

#### NUMBERS 26–27

<b>H. Zhu</b>	4477	A contact mechanism based theory of Maxwell matrix composites
<b>Z. L. Zhang, J. Ødegård, O. P. Søvik and C. Thaulow</b>	4489	A study on determining true stress–strain curve for anisotropic materials with rectangular tensile bars
<b>M. Ciavarella and P. Decuzzi</b>	4507	The state of stress induced by the plane frictionless cylindrical contact. I. The case of elastic similarity
<b>M. Ciavarella and P. Decuzzi</b>	4525	The state of stress induced by the plane frictionless cylindrical contact. II. The general case (elastic dissimilarity)
<b>G. M. Kulikov</b>	4535	Analysis of initially stressed multilayered shells
<b>F. Du, M. R. Lovell and T. W. Wu</b>	4557	Boundary element method analysis of temperature fields in coated cutting tools
<b>M. Ohsaki</b>	4571	Sensitivity analysis of coincident critical loads with respect to minor imperfection
<b>S. Forest, F. Pradel and K. Sab</b>	4585	Asymptotic analysis of heterogeneous Cosserat media
<b>D. N. dell’Erba and M. H. Aliabadi</b>	4609	BEM analysis of fracture problems in three-dimensional thermoelasticity using $J$ -integral
<b>Y.-S. Wang and D. Gross</b>	4631	Interaction of harmonic waves with a periodic array of interface cracks in a multi-layered medium: anti-plane case
<b>M. Zidi</b>	4657	Effects of a prestress on a reinforced, nonlinearly elastic and compressible tube subjected to combined deformations
<b>A. Danescu</b>	4671	The Asaro–Tiller–Grinfeld instability revisited
<b>C. N. Duong, J. J. Wang and J. Yu</b>	4685	An approximate algorithmic solution for the elastic fields in bonded patched sheets
<b>J. N. Reddy, C. M. Wang, G. T. Lim and K. H. Ng</b>	4701	Bending solutions of Levinson beams and plates in terms of the classical theories

<b>X. D. Wang and G. L. Huang</b>	4721	The electromechanical behavior of a piezoelectric actuator bonded to an anisotropic elastic medium
<b>W. Lestari and S. Hanagud</b>	4741	Nonlinear vibration of buckled beams: some exact solutions
<b>P. A. Martin</b>	4759	The spherical-cap crack revisited

#### NUMBERS 28–29

<b>C. P. Jiang and Y. K. Cheung</b>	4777	An exact solution for the three-phase piezoelectric cylinder model under antiplane shear and its applications to piezoelectric composites
<b>A. Aguiar and R. Fosdick</b>	4797	Self-intersection in elasticity
<b>K. Watanabe and K. Adachi</b>	4825	SH wave in a transition layer of anisotropy
<b>T. Kubiak</b>	4839	Postbuckling behaviour of thin-walled girders with orthotropy varying widthwise
<b>G. Lykotrafitis, H. G. Georgiadis and L. M. Brock</b>	4857	Three-dimensional thermoelastic wave motions in a half-space under the action of a buried source
<b>N. P. Kruyt and L. Rothenburg</b>	4879	Statistics of the elastic behaviour of granular materials
<b>T. M. McCormack, R. Miller, O. Kesler and L. J. Gibson</b>	4901	Failure of sandwich beams with metallic foam cores
<b>W. Q. Chen, H. J. Ding and R. Q. Xu</b>	4921	Three-dimensional static analysis of multi-layered piezoelectric hollow spheres via the state space method
<b>K. M. Liew, T. Y. Ng and S. Kitipornchai</b>	4937	A semi-analytical solution for vibration of rectangular plates with abrupt thickness variation
<b>M. Ohsaki</b>	4955	Sensitivity analysis and optimization corresponding to a degenerate critical point
<b>F. Ashida and T. R. Tauchert</b>	4969	A general plane-stress solution in cylindrical coordinates for a piezothermoelastic plate
<b>K. R. Jayadevan, R. Narasimhan, T. S. Ramamurthy and B. Dattaguru</b>	4987	A numerical study of $T$ -stress in dynamically loaded fracture specimens
<b>Z. M. Xiao and B. J. Chen</b>	5007	Stress analysis for a Zener–Stroh crack interacting with a coated inclusion
<b>Z. Tonković, J. Sorić and W. B. Krätzig</b>	5019	On nonisothermal elastoplastic analysis of shell components employing realistic hardening responses
<b>A. R. Shahani</b>	5041	A note on the paper “Analysis of perfectly bonded wedges and bonded wedges with an interfacial crack under antiplane shear loading”



**NUMBERS 30–31**

<b>P. F. Pai and A. N. Palazotto</b>	5045	A higher-order sandwich plate theory accounting for 3-D stresses
<b>G. P. A. G. van Zijl, R. de Borst and J. G. Rots</b>	5063	The role of crack rate dependence in the long-term behaviour of cementitious materials
<b>A. Zervos, P. Papanastasiou and I. Vardoulakis</b>	5081	Modelling of localisation and scale effect in thick-walled cylinders with gradient elastoplasticity
<b>R. Rikards, A. Chate and G. Gailis</b>	5097	Identification of elastic properties of laminates based on experiment design
<b>D. Bigoni and M. Gei</b>	5117	Bifurcations of a coated, elastic cylinder
<b>G. J. Frank and R. A. Brockman</b>	5149	A viscoelastic–viscoplastic constitutive model for glassy polymers
<b>N. Wicks and J. W. Hutchinson</b>	5165	Optimal truss plates
<b>J. H. Prevost, T. J. Baker, J. Liang and Z. Suo</b>	5185	A finite element method for stress-assisted surface reaction and delayed fracture
<b>Y. M. Tsai</b>	5205	Dynamic growth of an internal circular crack in a transversely isotropic composite
<b>S.-C. Song, Z.-P. Duan and D.-W. Tan</b>	5215	The application of B–P constitutive equations in finite element analysis of high velocity impact
<b>C. Sultan, M. Corless and R. E. Skelton</b>	5223	The prestressability problem of tensegrity structures: some analytical solutions
<b>M. Epstein and M. A. Forcinito</b>	5253	Anisotropic membrane wrinkling: theory and analysis
<b>T. Nishioka, H. Tokudome and M. Kinoshita</b>	5273	Dynamic fracture-path prediction in impact fracture phenomena using moving finite element method based on Delaunay automatic mesh generation
<b>D. K. Shin and J. J. Lee</b>	5303	Fracture parameters of interfacial crack of bimaterial under the impact loading
<b>C.-F. Gao and M.-Z. Wang</b>	5323	Green’s functions of an interfacial crack between two dissimilar piezoelectric media
<b>Y. T. Keum, J. H. Kim and B. Y. Ghoo</b>	5335	Expert drawbead models for finite element analysis of sheet metal forming processes
<b>Q. S. Li, L. F. Yang, X. D. Ou, G. Q. Li and D. K. Liu</b>	5355	The quintic finite element and finite strip with generalized degrees of freedom in structural analysis
<b>V. Y. Perel and A. N. Palazotto</b>	5373	Finite element formulation for cylindrical bending of a transversely compressible sandwich plate, based on assumed transverse strains
<b>V. Boniface and K. R. Y. Simha</b>	5411	Suppression of complex singularity using wedge interphase in interface fracture

<b>B. Nedjar</b>	5421	Elastoplastic-damage modelling including the gradient of damage: formulation and computational aspects
<b>A. P. Rybakov</b>	5453	Experimental study of spall-fracture zone
	5465	Keywords
<b>NUMBERS 32–33</b>		
<b>J. Bonet and J. Mahaney</b>	5469	Form finding of membrane structures by the updated reference method with minimum mesh distortion
<b>P. Vandergheynst, J.-P. Antoine, E. Van Vyve, A. Goldberg and I. Doghri</b>	5481	Modeling and simulation of an impact test using wavelets, analytical solutions and finite elements
<b>P. Steinmann, D. Ackermann and F. J. Barth</b>	5509	Application of material forces to hyperelastostatic fracture mechanics. II. Computational setting
<b>L. M. Brock</b>	5527	Rapid indentation of a pre-stressed hyper-elastic half-space: comparison of axially symmetric and plane strain cases
<b>T. L. Becker Jr., R. M. Cannon and R. O. Ritchie</b>	5545	Finite crack kinking and $T$ -stresses in functionally graded materials
<b>D. Zhou</b>	5565	Vibrations of Mindlin rectangular plates with elastically restrained edges using static Timoshenko beam functions with the Rayleigh–Ritz method
<b>M. Gologanu, J.-B. Leblond, G. Perrin and J. Devaux</b>	5581	Theoretical models for void coalescence in porous ductile solids. I. Coalescence “in layers”
<b>M. Gologanu, J.-B. Leblond and J. Devaux</b>	5595	Theoretical models for void coalescence in porous ductile solids. II. Coalescence “in columns”
<b>A. Dall’Asta</b>	5605	Composite beams with weak shear connection
<b>Y. G. Xu, G. R. Liu, Z. P. Wu and X. M. Huang</b>	5625	Adaptive multilayer perceptron networks for detection of cracks in anisotropic laminated plates
<b>Y. C. Zhou, Z. M. Zhu and Z. P. Duan</b>	5647	Thermal fracture characteristics induced by laser beam
<b>Q. Li, G. P. Steven, O. M. Querin and Y. M. Xie</b>	5661	Stress based optimization of torsional shafts using an evolutionary procedure
<b>U. Lee and J. Kim</b>	5679	Spectral element modeling for the beams treated with active constrained layer damping
<b>L. Mentrasti</b>	5703	Bending of large curvature beams. I. Stress method approach
<b>L. Mentrasti</b>	5727	Bending of large curvature beams. II. Displacement method approach
<b>Moh. I. Azis and D. L. Clements</b>	5747	A boundary element method for anisotropic inhomogeneous elasticity

<b>H. Xie, H. Sun, Y. Ju and Z. Feng</b>	5765	Study on generation of rock fracture surfaces by using fractal interpolation
<b>L. Shen and S. Yi</b>	5789	An effective inclusion model for effective moduli of heterogeneous materials with ellipsoidal inhomogeneities
<b>W. Yao and H. Yang</b>	5807	Hamiltonian system based Saint Venant solutions for multi-layered composite plane anisotropic plates
<b>P. G. Th. van der Varst and G. de With</b>	5819	Interaction energy and energy release rate for mechanically loaded, thermally mismatched and interfacially cracked bimaterial bodies
<b>S. Satapathy</b>	5833	Dynamic spherical cavity expansion in brittle ceramics
<b>K. S. Zhang, J. B. Bai and D. François</b>	5847	Numerical analysis of the influence of the Lode parameter on void growth

*Corrigendum*

<b>Y.-S. Wang, G.-L. Yu and B.-Z. Gai</b>	5857	Corrigenda to “Re-polarization of elastic waves at a frictional contact interface – I. Incidence of an SH wave; II. Incidence of an P or SV wave” [International Journal of Solids and Structures 35 (16) (1998) 2001–2021; 36 (30) (1999) 4563–4586]
	5859	Conference Reports

**NUMBERS 34–35**

<b>A. Brencich and L. Gambarotta</b>	5865	Isotropic damage model with different tensile–compressive response for brittle materials
<b>W. Zhang and G. Subhash</b>	5893	An elastic–plastic–cracking model for finite element analysis of indentation cracking in brittle materials
<b>E. Altus</b>	5915	Statistical modeling of heterogeneous micro-beams
<b>A. K. Roy and S. Sihn</b>	5935	Development of a three-dimensional mixed variational model for woven composites. I. Mathematical formulation
<b>S. Sihn and A. K. Roy</b>	5949	Development of a three-dimensional mixed variational model for woven composites. II. Numerical solution and validation
<b>J. W. Kysar</b>	5963	Path of light in near crack tip region in anisotropic medium and under mixed-mode loading
<b>C.-K. Chao and B. Gao</b>	5975	Mixed boundary-value problems of two-dimensional anisotropic thermoelasticity with elliptic boundaries
<b>M. Ferronato, G. Gambolati and P. Teatini</b>	5995	Ill-conditioning of finite element poroelasticity equations

<b>A. G. Kolpakov</b>	6015	General solution of the problem of design of laminated plates possessing the given stiffnesses
<b>A. L. Kalamkarov and A. G. Kolpakov</b>	6027	A new asymptotic model for a composite piezoelectric plate
<b>Y. Li, K. T. Ramesh and E. S. C. Chin</b>	6045	Dynamic characterization of layered and graded structures under impulsive loading
<b>A. Barut, E. Madenci, J. Heinrich and A. Tessler</b>	6063	Analysis of thick s and wich construction by a {3,2}-order theory
<b>K. Yamada and T. Kobori</b>	6079	Fundamental dynamics and control strategies for aseismic structural control
<b>F. Auricchio and E. Sacco</b>	6123	Thermo-mechanical modelling of a superelastic shape-memory wire under cyclic stretching–bending loadings
<b>Q. S. Li, J. Q. Fang, A. P. Jeary and D. K. Liu</b>	6147	Decoupling control law for structural control implementation
<b>C. H. Huang and S. B. Dong</b>	6163	Analysis of laminated circular cylinders of materials with the most general form of cylindrical anisotropy. I. Axially symmetric deformations
<b>C. H. Huang and S. B. Dong</b>	6183	Analysis of laminated circular cylinders of materials with the most general form of cylindrical anisotropy. II. Flexural deformations
<b>A. Combescure and G. Gusic</b>	6207	Nonlinear buckling of cylinders under external pressure with nonaxisymmetric thickness imperfections using the COMI axisymmetric shell element
<b>Y. C. Gao and L. M. Zhou</b>	6227	Interface crack tip field in a kind of rubber materials
<b>T. Børvik, O. S. Hopperstad, T. Berstad and M. Langseth</b>	6241	Numerical simulation of plugging failure in ballistic penetration
<b>R. Piltner</b>	6265	Comments on “A high precision element with a central circular hole” [Int. J. Solids Struct. 36 (1999) 5485–5497]
<b>A. K. Shoh and Z. F. Long</b>	6267	Reply to comments by R. Piltner on “A high precision element with a central circular hole” [Int. J. Solids Struct. 36 (1999) 5485–5497]
<b>C.-F. Gao</b>	6269	Comments on “General solutions for thermopiezoelectrics with various holes under thermal loading” [Int. J. Solids Struct. 37 (2000) 5561–5578]
<b>Q. H. Qin</b>	6273	Reply to comments by C.-F. Gao on “General solutions for thermopiezoelectrics with various holes under thermal loading” [Int. J. Solids Struct. 37 (2000) 5561–5578]

## NUMBERS 36–37

<b>V. S. Deshpande and N. A. Fleck</b>	6275	Collapse of truss core sandwich beams in 3-point bending
<b>J. W. Ju and H. K. Lee</b>	6307	A micromechanical damage model for effective elastoplastic behavior of partially debonded ductile matrix composites
<b>N. Takano, Y. Ohnishi, M. Zako and K. Nishiyabu</b>	6333	Microstructure-based deep-drawing simulation of knitted fabric reinforced thermoplastics by homogenization theory
<b>H.-S. Shen</b>	6357	The effects of hygrothermal conditions on the post-buckling of shear deformable laminated cylindrical shells
<b>C. Chee, L. Tong and G. P. Steven</b>	6381	Static shape control of composite plates using a curvature–displacement based algorithm
<b>Y. J. Kim, H.-G. Kim and S. Im</b>	6405	Mode decomposition of three-dimensional mixed-mode cracks via two-state integrals
<b>C. Comi and U. Perego</b>	6427	Fracture energy based bi-dissipative damage model for concrete
<b>L. Vu-Quoc, X. Zhang and L. Lesburg</b>	6455	Normal and tangential force–displacement relations for frictional elasto-plastic contact of spheres
<b>V. G. Piskunov, V. K. Prisyazhnyouk, V. E. Verijenko, S. Adali, S. G. Buryhin and P. Y. Tabakov</b>	6491	Rational transverse shear deformation higher-order theory of anisotropic laminated plates and shells
<b>C. M. Wang, Y. Xiang, T. Utsunomiya and E. Watanabe</b>	6525	Evaluation of modal stress resultants in freely vibrating plates
<b>H. J. Choi</b>	6559	The problem for bonded half-planes containing a crack at an arbitrary angle to the graded interfacial zone
<b>A. R. Hadjesfandiari and G. F. Dargush</b>	6589	Boundary eigensolutions in elasticity. I. Theoretical development
<b>C.-J. Cheng and X.-J. Fan</b>	6627	Nonlinear mathematical theory of perforated viscoelastic thin plates with its applications
<b>M. Åberg</b>	6643	Numerical modeling of acoustic emission in laminated tensile test specimens
<b>Y. A. Antipov, O. Avila-Pozos, S. T. Kolaczowski and A. B. Movchan</b>	6665	Mathematical model of delamination cracks on imperfect interfaces
	6699	Keywords

## NUMBERS 38–39

<b>J. R. Banerjee</b>	6703	Free vibration analysis of a twisted beam using the dynamic stiffness method
<b>D. Karagiozova and N. Jones</b>	6723	Influence of stress waves on the dynamic progressive and dynamic plastic buckling of cylindrical shells
<b>A. P. Suvorov and G. J. Dvorak</b>	6751	Optimized fiber prestress for reduction of free edge stresses in composite laminates
<b>S. Sridharan</b>	6787	Displacement-based mode separation of strain energy release rates for interfacial cracks in bi-material media
<b>V. A. Lubarda and D. J. Benson</b>	6805	On the partitioning of the rate of deformation gradient in phenomenological plasticity
<b>A. M. Puzrin</b>	6815	On the superposition of work dissipation in Coulomb's soil
<b>R. Pavlović, P. Kozić and P. Rajković</b>	6829	Influence of transverse shear on stochastic instability of viscoelastic beam
<b>J.-H. Yu, D. A. Dillard and D. R. Lefebvre</b>	6839	Pressure and shear stress distributions of an elastomer constrained by a cylinder of finite length
<b>S. Vigdergauz</b>	6851	Genetic algorithm perspective to identify energy optimizing inclusions in an elastic plate
<b>J. G. Simmonds and F. Y. M. Wan</b>	6869	An asymptotic analysis of the three-dimensional displacements and stresses in a spherical shell under inward radially opposed concentrated surface loads
<b>C.-H. Chue and C.-I. Liu</b>	6889	A general solution on stress singularities in an anisotropic wedge
<b>B. Chen and D. A. Dillard</b>	6907	Numerical analysis of directionally unstable crack propagation in adhesively bonded joints
<b>X. Peng, Y. Yang and S. Huang</b>	6925	A comprehensive description for shape memory alloys with a two-phase constitutive model
<b>R. Q. Ye and L. H. He</b>	6941	Electric field and stresses concentrations at the edge of parallel electrodes in piezoelectric ceramics
<b>Y. J. Xie, X. Zhang and X. H. Wang</b>	6953	An exact method on penny-shaped cracked homogeneous and composite cylinders
<b>N. Liu, B. Hu and Z.-W. Yu</b>	6965	Stochastic finite element method for random temperature in concrete structures
<b>N. T. Nguyen, D. J. Oehlers and M. A. Bradford</b>	6985	An analytical model for reinforced concrete beams with bolted side plates accounting for longitudinal and transverse partial interaction
<b>Q. M. Li</b>	6997	Strain energy density failure criterion

- W. Q. Chen, H. J. Ding and J. Liang** 7015 The exact elasto-electric field of a rotating piezo-ceramic spherical shell with a functionally graded property
- W. D. Armstrong and T. Lorentzen** 7029 The self-thermal-plastic response of NiTi shape memory alloy fiber actuated metal matrix composites

#### NUMBERS 40–41

- Y. Mikata** 7045 Explicit determination of piezoelectric Eshelby tensors for a spheroidal inclusion
- G. Davì and A. Milazzo** 7065 Multidomain boundary integral formulation for piezoelectric materials fracture mechanics
- M. Mainguy, F.-J. Ulm and F. H. Heukamp** 7079 Similarity properties of demineralization and degradation of cracked porous materials
- Y.-H. Zhou** 7101 An analysis of pressure–frequency characteristics of vibrating string-type pressure sensors
- G. Ben-Dor, A. Dubinsky and T. Elperin** 7113 A class of models implying the Lambent–Jonas relation
- J.-Y. Kim** 7121 Attenuation and speed of antiplane shear wave in fiber-reinforced composites with random interfacial cracks
- N. Buannic and P. Cartraud** 7139 Higher-order effective modeling of periodic heterogeneous beams. I. Asymptotic expansion method
- N. Buannic and P. Cartraud** 7163 Higher-order effective modeling of periodic heterogeneous beams. II. Derivation of the proper boundary conditions for the interior asymptotic solution
- J. C. Wallach and L. J. Gibson** 7181 Mechanical behavior of a three-dimensional truss material
- S.-C. Lin** 7197 The probabilistic approach for rotating Timoshenko beams
- K. Oguni and G. Ravichandran** 7215 A Micromechanical failure model for unidirectional fiber reinforced composites
- L. Bardella and F. Genna** 7235 On the elastic behavior of syntactic foams
- Z. Huang and Z.-B. Kuang** 7261 A first order perturbation analysis of a non-ideal crack in a piezoelectric material
- V. V. Loboda and I. Yu. Mityukova** 7283 On the stability loss of a bimaterial finite sized body with a tunnel crack in an interface
- V. V. Bolotin and A. A. Shipkov** 7297 Mechanical aspects of corrosion fatigue and stress corrosion cracking

<b>F. Trentadue</b>	7319	A micromechanical model for a non-linear elastic granular material based on local equilibrium conditions
<b>V. V. Kuznetsov and S. V. Levyakov</b>	7343	Nonlinear pure bending of toroidal shells of arbitrary cross-section
	7355	Keywords
<b>NUMBERS 42–43</b>		
<b>C. Polizzotto</b>	7359	Nonlocal elasticity and related variational principles
<b>M. W. Schraad</b>	7381	On the macroscopic properties of discrete media with nearly periodic microstructures
<b>J. Woo and S. A. Meguid</b>	7409	Nonlinear analysis of functionally graded plates and shallow shells
<b>D. Leguillon, C. Lacroix and E. Martin</b>	7423	Crack deflection by an interface – asymptotics of the residual thermal stresses
<b>Y. Guo, Y. Huang, H. Gao, Z. Zhuang and K. C. Hwang</b>	7447	Taylor-based nonlocal theory of plasticity: numerical studies of the micro-indentation experiments and crack tip fields
<b>L.-J. Young</b>	7461	A further investigation of mixed mode loading center crack problem
<b>C. Li, G. J. Weng and Z. Duan</b>	7473	Dynamic behavior of a cylindrical crack in a functionally graded interlayer under torsional loading
<b>A. N. Kounadis, C. J. Gantes and V. V. Bolotin</b>	7487	An improved energy criterion for dynamic buckling of imperfection sensitive nonconservative systems
<b>L. Gorbatikh, B. Nuller and M. Kachanov</b>	7501	Sliding on cracks with non-uniform frictional characteristics
<b>L. P. Kollár</b>	7525	Flexural–torsional buckling of open section composite columns with shear deformation
<b>L. P. Kollár</b>	7543	Flexural–torsional vibration of open section composite beams with shear deformation
<b>C.-F. Liu, T.-J. Chen and C.-Y. Hwang</b>	7559	Effect of satisfying stress boundary conditions in the axisymmetric vibration analysis of circular and annular plates
<b>H. Li, Q. Lin, Z. Liu and C. Wang</b>	7571	Free vibration of piezoelectric laminated cylindrical shells under hydrostatic pressure
<b>H. Shen, P. Schiavone, C. Q. Ru and A. Mioduchowski</b>	7587	Interfacial thermal stress analysis of an elliptic inclusion with a compliant interphase layer in plane elasticity



<b>Q. Li and F. Ansari</b>	7607	Circumferential strain measurement of high strength concrete in triaxial compression by fiber optic sensor
<b>S. Roy, W. Xu, S. Patel and S. Case</b>	7627	Modeling of moisture diffusion in the presence of bi-axial damage in polymer matrix composite laminates
<b>X.-L. Xu and R. K. N. D. Rajapakse</b>	7643	On a plane crack in piezoelectric solids
<b>M. Stoffel, R. Schmidt and D. Weichert</b>	7659	Shock wave-loaded plates
<b>E. Gaziev</b>	7681	Rupture energy evaluation for brittle materials
<b>G. M. Yang, J. C. Coquille, J. F. Fontaine and M. Lambertin</b>	7691	Influence of roughness on characteristics of tight interference fit of a shaft and a hub

# I Announcement

## NUMBERS 44–45

<b>H.-S. Shen</b>	7703	Postbuckling of shear deformable laminated plates with piezoelectric actuators under complex loading conditions
<b>R. H. J. Peerlings, M. G. D. Geers, R. de Borst and W. A. M. Brekelmans</b>	7723	A critical comparison of nonlocal and gradient-enhanced softening continua
<b>B. Chiaia</b>	7747	Fracture mechanisms induced in a brittle material by a hard cutting indenter
<b>T. Dirgantara and M. H. Aliabadi</b>	7769	Dual boundary element formulation for fracture mechanics analysis of shear deformable shells
<b>V. Kradinov, A. Barut, E. Madenci and D. R. Ambur</b>	7801	Bolted double-lap composite joints under mechanical and thermal loading
<b>C.-E. Rousseau and H. V. Tippur</b>	7839	Influence of elastic gradient profiles on dynamically loaded functionally graded materials: cracks along the gradient
<b>M. T. Valoor, K. Chandrashekhara and S. Agarwal</b>	7857	Self-adaptive vibration control of smart composite beams using recurrent neural architecture
<b>Li Zhongxue and Shen Zuyan</b>	7875	Shaking table tests of two shallow reticulated shells
<b>M. Pietrzakowski</b>	7885	Active damping of beams by piezoelectric system: effects of bonding layer properties
<b>S. J. Subramanian and P. Sofronis</b>	7899	Modeling the interaction between densification mechanisms in powder compaction
<b>W. Chen</b>	7919	Experimental and numerical study on bending collapse of aluminum foam-filled hat profiles
<b>J. C. Nadeau and M. Ferrari</b>	7945	On optimal zeroth-order bounds with application to Hashin–Shtrikman bounds and anisotropy parameters

<b>T. Y. Wu and G. R. Liu</b>	7967	Free vibration analysis of circular plates with variable thickness by the generalized differential quadrature rule
<b>X. Han, F. Ellyin and Z. Xia</b>	7981	Interface crack between two different viscoelastic media
<b>S. Hartmann</b>	7999	Parameter estimation of hyperelasticity relations of generalized polynomial-type with constraint conditions
<b>X.-F. Li and T.-Y. Fan</b>	8019	The asymptotic stress field for a rigid circular inclusion at the interface of two bonded dissimilar elastic half-space materials
<b>O. Shai</b>	8037	Deriving structural theorems and methods using Tellegen's theorem and combinatorial representations
<b>B. Jin and H. Liu</b>	8053	Dynamic response of a poroelastic half space to horizontal buried loading
<b>S. W. Park</b>	8065	Analytical modeling of viscoelastic dampers in structural and vibration control
<b>S. Qin, J. J. Jiao, S. Wang and H. Long</b>	8093	A nonlinear catastrophe model of instability of planar-slip slope and chaotic dynamical mechanisms of its evolutionary process
<b>M. Brocca, Z. P. Bažant and I. M. Daniel</b>	8111	Microplane model for stiff foams and finite element analysis of sandwich failure by core indentation
<b>G. Xiaoming, Zhang Roulei and She Yinghe</b>	8133	On the mathematical modeling for elastoplastic contact problem and its solution by quadratic programming
	8151	Keywords

#### NUMBERS 46–47

<b>M. Ferronato, G. Gambolati, P. Teatini and D. Baù</b>	8155	Land surface uplift above compacting overconsolidated reservoirs
<b>H. Yuan and J. Chen</b>	8171	Identification of the intrinsic material length in gradient plasticity theory from micro-indentation tests
<b>J.-Q. Tarn</b>	8189	Exact solutions for functionally graded anisotropic cylinders subjected to thermal and mechanical loads
<b>Q. Wang</b>	8207	Wave propagation in a piezoelectric coupled cylindrical membrane shell
<b>Z. M. Xiao, B. J. Chen and H. Fan</b>	8219	An edge dislocation interacting with a wedge-shaped bi-material interface

<b>E. Radi and M. C. Porcu</b>	8235	Near-tip fields for quasi-static crack growth along the interface between a porous-ductile material and a rigid substrate
<b>J. Besson, D. Steglich and W. Brocks</b>	8259	Modeling of crack growth in round bars and plane strain specimens
<b>A. D. Drozdov</b>	8285	A model for the viscoelastic and viscoplastic responses of glassy polymers
<b>N. Khalili and B. Loret</b>	8305	An elasto-plastic model for non-isothermal analysis of flow and deformation in unsaturated porous media: formulation
<b>A. K. Soh, D.-N. Fang and K. Lun Lee</b>	8331	Fracture analysis of piezoelectric materials with defects using energy density theory
<b>L.-J. Young</b>	8345	Lifetime evaluation of cracked shaft sleeve of reactor coolant pump under thermal striping
<b>C. Zhang and W. Zhang</b>	8359	Elasticity recovery correspondence principles for physically nonlinear viscoelastic problems for a class of materials
<b>F. I. Niordson</b>	8375	An asymptotic theory for spherical shells
<b>A. Yavari, S. Sarkani and J. N. Reddy</b>	8389	On nonuniform Euler–Bernoulli and Timoshenko beams with jump discontinuities: application of distribution theory
<b>K.-F. Nilsson, L. E. Asp and A. Sjögren</b>	8407	On transition of delamination growth behaviour for compression loaded composite panels
<b>A. Magnusson, M. Ristinmaa and C. Ljung</b>	8441	Behaviour of the extensible elastica solution
<b>Z. Huang and Z.-B. Kuang</b>	8459	Dislocation inside a piezoelectric media with an elliptic inhomogeneity
<b>I. P. Pasqualino and S. F. Estefen</b>	8481	A nonlinear analysis of the buckle propagation problem in deepwater pipelines
<b>R. Chambon, D. Caillerie and T. Matsushima</b>	8503	Plastic continuum with microstructure, local second gradient theories for geomaterials: localization studies
<b>K. L. Verma</b>	8529	Thermoelastic vibrations of a transversely isotropic plate with thermal relaxations
<b>G. Lin, P. H. Geubelle and N. R. Sottos</b>	8547	Simulation of fiber debonding with friction in a model composite pushout test
<b>C.-S. Chen, J.-R. Hwang and J.-L. Doong</b>	8563	Nonlinear vibration of an initially stressed plate based on a modified plate theory
<b>B. A. Bednarczyk</b>	8585	Discussion of “Woven fabric composite material model with material non-linearity for non-linear finite

element simulation” by Tabiei and Jiang [Int. J. Solids Struct. 36 (1999) 2757–2771]

## 8589 Conference Report

### I Announcements

#### NUMBERS 48–49

- |  |      |   |
|--|------|---|
| <b>S. Vigdergauz</b>   | 8593 | The effective properties of a perforated elastic plate<br>Numerical optimization by genetic algorithm                 |
| <b>C. M. Wang, Y. Xiang and<br/>J. Chakrabarty</b>                         | 8617 | Elastic/plastic buckling of thick plates  |
| <b>X.-J. Zheng and X. Wang</b>   | 8641 | Analysis of magnetoelastic interaction of rectangular<br>ferromagnetic plates with nonlinear magnetization            |
| <b>M. A. Qidwai, P. B. Entchev,<br/>D. C. Lagoudas and V. G. DeGiorgi</b>  | 8653 | Modeling of the thermomechanical behavior of<br>porous shape memory alloys  |
| <b>B. Ya. Kantor, N. V. Smetankina and<br/>A. N. Shupikov</b>              | 8673 | Analysis of non-stationary temperature fields in<br>laminated strips and plates                                       |
| <b>Z. M. Wang and M. L. Peterson</b>                                       | 8685 | Variational principles for softening gradient depen-<br>dent plasticity   |
| <b>O. T. Bruhns, H. Xiao and A. Meyers</b>                                 | 8701 | Large simple shear and torsion problems in kinematic<br>hardening elasto-plasticity with logarithmic rate             |
| <b>J. S. Kuang and S. C. Ng</b>  | 8723 | Dynamic coupling of asymmetric shear wall struc-<br>tures: an analytical solution                                     |
| <b>H. Fukunaga, N. Hu and G. X. Ren</b>                                    | 8735 | FEM modeling of adaptive composite structures using<br>a reduced higher-order plate theory via penalty<br>functions   |
| <b>R. Al-Khoury, C. Kasbergen,<br/>A. Scarpas and J. Blaauwendraad</b>     | 8753 | Spectral element technique for efficient parameter<br>identification of layered media<br>Part II: Inverse calculation |
| <b>K. L. Chowdhury</b>   | 8773 | Constitutive equations for transversely isotropic elas-<br>tic dielectrics with Schur’s lemma                         |
| <b>D. Chen, S. T. S. Al-Hassani, Z. Yin<br/>and Y. Yu</b>                  | 8787 | Modeling shock loading behavior of concrete   |
| <b>P. Bisegna and G. Caruso</b>  | 8805 | Evaluation of higher-order theories of piezoelectric<br>plates in bending and in stretching                           |
| <b>R. Barsotti, S. S. Ligarò and<br/>G. F. Royer-Carfagni</b>              | 8831 | The web bridge  |
| <b>A. V. Metrikine, A. V. Vostrukhov<br/>and A. C. W. M. Vrouwenvelder</b> | 8851 | Drag experienced by a high-speed train due to<br>excitation of ground vibrations                                      |

<b>L. Sun</b>	8869	Dynamic displacement response of beam-type structures to moving line loads
<b>S. Cui, H. Hao and H. K. Cheong</b>	8879	Dynamic buckling and post-buckling of imperfect columns under fluid–solid interaction
<b>P. Villaggio</b>	8899	How to design a foundation
<b>W. Wang, H. Ishikawa and H. Yuki</b>	8907	An inverse method for determining material properties of a multi-layer medium by boundary element method
<b>Y. C. Gao and Z. Zhou</b>	8921	Large strain contact of a rubber wedge with a rigid notch
<b>L. Kaishin and L. Bin</b>	8929	A numerical solution of torsional stress wave propagation in layered orthotropic bar of rectangular cross-section
	8941	Keywords

## I Announcement

## NUMBERS 50–51

<b>M. Kuroda and V. Tvergaard</b>	8945	Shear band development predicted by a non-normality theory of plasticity and comparison to crystal plasticity predictions
<b>A. Yu. Evkin and A. L. Kalamkarov</b>	8961	Analysis of large deflection equilibrium states of composite shells of revolution. Part 1. General model and singular perturbation analysis
<b>A. Yu. Evkin and A. L. Kalamkarov</b>	8975	Analysis of large deflection equilibrium states of composite shells of revolution. Part 2. Applications and numerical results
<b>W. W. Chen, QiuPing Wu, J. H. Kang and N. A. Winfree</b>	8989	Compressive superelastic behavior of a NiTi shape memory alloy at strain rates of 0.001–750 s <sup>−1</sup>
<b>P. Tan and L. Tong</b>	8999	Micromechanics models for non-linear behavior of piezo-electric fiber reinforced composite materials
<b>D. Sun, L. Tong and S. N. Atluri</b>	9033	Effects of piezoelectric sensor/actuator debonding on vibration control of smart beams
<b>J.-Q. Tarn and Y.-M. Wang</b>	9053	Laminated composite tubes under extension, torsion, bending, shearing and pressuring: a state space approach
<b>A. Barut, I. Guven and E. Madenci</b>	9077	Analysis of singular stress fields at junctions of multiple dissimilar materials under mechanical and thermal loading
<b>S.-E. Kim and S.-H. Choi</b>	9111	Practical advanced analysis for semi-rigid space frames
<b>K. Iyer</b>	9133	Solutions for contact in pinned connections

<b>D. Bruno and F. Greco</b>	9149	Mixed mode delamination in plates: a refined approach
<b>S. Kapuria</b>	9179	An efficient coupled theory for multilayered beams with embedded piezoelectric sensory and active layers
<b>T.-H. Hao</b>	9201	Multiple collinear cracks in a piezoelectric material
<b>S. C. Baxter, M. I. Hossain and L. L. Graham</b>	9209	Micromechanics based random material property fields for particulate reinforced composites
<b>C. Sansour</b>	9221	On the dual variable of the logarithmic strain tensor, the dual variable of the Cauchy stress tensor, and related issues
<b>K. Y. Sze, H.-T. Wang and H. Fan</b>	9233	A finite element approach for computing edge singularities in piezoelectric materials
<b>M. A. Rahman, J. Qiu and J. Tani</b>	9253	Buckling and postbuckling characteristics of the superelastic SMA columns
<b>Z. H. Tu, V. P. W. Shim and C. T. Lim</b>	9267	Plastic deformation modes in rigid polyurethane foam under static loading
<b>P. Vannucci and G. Verchery</b>	9281	Stiffness design of laminates using the polar method
<b>C.-C. Ma, S.-W. Liu and G.-S. Lee</b>	9295	Dynamic responses of a layered medium subjected to anti-plane loadings
<b>S. Rahman and B. N. Rao</b>	9313	An element-free Galerkin method for probabilistic mechanics and reliability
<b>C.-F. Gao, Y.-T. Zhao and M.-Z. Wang</b>	9331	Moving antiplane crack between two dissimilar piezo-electric media
<b>A. Tylikowski and R. B. Hetnarski</b>	9347	Semiactive control of a shape memory alloy hybrid composite rotating shaft
<b>H. Murakami and Y. Nishimura</b>	9359	Static and dynamic characterization of regular truncated icosahedral and dodecahedral tensegrity modules
<b>M. Lu, Y.-W. Mai and L. Ye</b>	9383	Crack-tip field for fast fracture of an elastic–plastic–viscoplastic material incorporated with quasi-brittle damage. Part 1. Large damage regime
<b>M. Lu, Y.-W. Mai and L. Ye</b>	9403	Crack-tip field for fast fracture of an elastic–plastic–viscoplastic material coupled with quasi-brittle damage. Part 2. Small damage regime

## NUMBER 52

<b>K. Hackl, C. Miehe and C. Celigoj</b>	9421	Editorial
<b>A. Bucher, U.-J. Görke and R. Kreißig</b>	9423	Development of a generalized material interface for the simulation of finite elasto-plastic deformations

<b>T. Böhlke and A. Bertram</b>	9437	The evolution of Hooke's law due to texture development in FCC polycrystals
<b>M. Ekh and K. Runesson</b>	9461	Modeling and numerical issues in hyperelasto-plasticity with anisotropy
<b>H. Irschik, U. Pichler, J. Gerstmayr and H. J. Holl</b>	9479	Maysel's formula of thermoelasticity extended to anisotropic materials at finite strain
<b>D. Lürding, Y. Başar and U. Hanskötter</b>	9493	Application of transversely isotropic materials to multi-layer shell elements undergoing finite rotations and large strains
<b>A. Menzel and P. Steinmann</b>	9505	A theoretical and computational framework for anisotropic continuum damage mechanics at large strains
<b>S. Reese, T. Raible and P. Wriggers</b>	9525	Finite element modelling of orthotropic material behaviour in pneumatic membranes
<b>J. Sączuk, H. Stumpf and C. Vallée</b>	9545	A continuum model accounting for defect and mass densities in solids with inelastic material behaviour
<b>F. Sidoroff and A. Dogui</b>	9569	Some issues about anisotropic elastic-plastic models at finite strain
<b>B. Svendsen</b>	9579	On the modelling of anisotropic elastic and inelastic material behaviour at large deformation