

Contents

<u>Part I:</u>	<u>Fundamental Problems</u>	1
	On the accuracy and efficiency of numerical algorithms for geometrically nonlinear structural analysis K. Mattiasson, A. Bengtsson, A. Samuelsson - Gothenburg ..	3
	Large rotations in problems of structural mechanics J.F. Besseling - Delft	25
	Kinematic and dynamic analysis of mechanisms a finite element approach based on Euler parameters M. Geradin, G. Robert, P. Buchet - Liège	41
	A discussion of Cauchy stress formulations for large strain analysis J.P. Halleux, J. Donea - Ispra	61
<u>Part II:</u>	<u>Nonlinear Materials</u>	75
	Distributed cracking and nonlocal continuum Z.P. Bazant - Evanston	77
	On the numerical simulation of tensile fracture L. Nilsson, M. Oldenburg - Lulea	103
	Stability and uniqueness of strain-softening computations K.J. Willam, E. Pramono, S. Sture - Boulder	119
	An endochronic approach and other topics in small and finite deformation computational elasto-plasticity S.N. Atluri - Atlanta	143
	Elastoplastic material laws with linear yield conditions E. Anderheggen, H. Elmer - Zürich	163
	On large strain elasto-plastic and creep analysis K.J. Bathe, R. Slavković - Cambridge M. Kojić - Watertown	175
	Dynamic soil-structure interaction with constitutive modelling for soils and interfaces C.S. Desai - Tucson	191
<u>Part III:</u>	<u>Frames, Plates and Shells</u>	209
	Analysis procedure for space frames with material and geometrical nonlinearities H. Nedergaard, P.T. Pedersen - Lyngby	211

Nonlinear finite element analysis of offshore structures A. Arnesen - Høvik, A. Engseth - Trondheim, S.D. Eskesen - Virum	231
Constraints for stresses in hybrid plate and shell elements T. H.H. Pian - Cambridge	249
A family of C^0 shell elements based on generalized Hrennikoff's Method and assumed natural-coordinate strains K.C. Park, G.M. Stanley, H. Cabiness - Palo Alto	265
Elastic-plastic and geometrically nonlinear analysis of plates and shells using a new nine node element H.C. Huang, E. Hinton - Swansea	283
Improved spurious mode control through mixed variational principles T. Belytschko, W.K. Liu - Evanston	299
Nonlinear shell analysis using free formulation finite elements P.G. Bergan - Trondheim, M.K. Nygard - Høvik	317
Ultimate load analysis of thin shells under pressure loads E. Ramm, K. Schweizerhof, H. Stegmüller - Stuttgart	339
Computational procedures for postbuckling of composite shells G.M. Stanley, C.A. Felippa - Palo Alto	359
<u>Part IV: Solution techniques and computer methods</u>	<u>387</u>
Reduction method for the nonlinear analysis of symmetric anisotropic panels A.K. Noor - Hampton	389
Global constraints in nonlinear solution strategies B. Kröplin - Dortmund, D. Dinkler, J. Hillmann - Braunschweig	409
On some efficient solution algorithms for nonlinear finite element analysis R. Kolar, H.A. Kamel - Tucson	425
Nice: a utility architecture for computational mechanics C.A. Felippa, G.M. Stanley - Palo Alto.....	447
Implementation of a modified Hughes-Liu shell into a fully vectorized explicit finite element code J.O. Hallquist, D.J. Benson, G.L. Goudreau - Livermore ..	465

Adaptive substructuring techniques for finite element
analysis with localized nonlinearities

T.Y. Han, J.F. Abel - Ithaca481

Part V: Dynamics495

Improvements in transient dynamic time integration
with application to spent nuclear fuel shipping
cask impact analyses

S.W. Key - Albuquerque497

Nonlinear dynamic analysis of shell structures
using general single step algorithms

G.Q. Liu - Shanghai, Li Xi-Kui - Dalian

D.R.J. Owen - Swansea513

Dynamic quasi-bifurcations in structures
subjected to step loadings

M. Kleiber, W. Kotulla, M. Saran - Warsaw529

Finite strip analysis of blast loaded plates

D.S. Mofflin, M.D. Olson, D.L. Andersen - Vancouver539

Simplified dynamic analysis of civil
engineering structures

P.N. Kasmai, J.H. Prevost, J. Zarka - Palaiseau555

Part VI: Reinforced concrete573

Some aspects of modelling reinforced concrete
structures by finite elements

G. Mehlhorn - Kassel

D. Dinges, M. Keuser, W. Kolmar - Darmstadt575

Development and application of a gradient-dependent
fracture criterion for finite-element analysis of
reinforced-concrete surface structures

H.A. Mang, J. Eberhardsteiner, H. Walter - Vienna603

A finite element technique for analysis of
reinforced and prestressed concrete structures

Damjanić - Split623

Nonlinear analysis of concrete and
masonry structures

M.A. Crisfield, J. Wills - Crowthorne639

Finite element analysis of the nonlinear response
of concrete dams subjected to internal loads

E. Onate, J. Oliver, G. Bugeda - Barcelona653

Part VII: Contact Problems673

- On the influence of contact boundary conditions on
the stability of shell structures under follower loads
F.G. Rammerstorfer - Leoben, W. Auli - Vienna675
- Nonlinear analysis of shells of revolution
including contact conditions
W. Wunderlich, H. Cràmer, W. Redanz - Bochum697
- Finite element postbuckling analysis of shells with
nonlinear contact constraints
E. Stein, W. Wagner, P. Wriggers - Hannover719
- Augmented Lagrangian techniques for solving
frictionless contact problems in finite elasticity
R. Glowinski, M. Vidrascu - Inria
P.L. Tellec - Paris745

Part VIII: Fluids759

- Entropy-stable finite element methods for compressible
fluids: application to high Mach number flows with shocks
T.J.R. Hughes, M. Mallet, L.P. Franca - Stanford761
- Analysis on a Taylor weak-statement algorithm
for CFD applications
A.J. Baker, J.W. Kim - Knoxville775
- An optimal 3D finite element for incompressible media
M. Bercovier - Jerusalem791
- A spectral element method for solution of the two- and
three-dimensional time-dependent incompressible
Navier-Stokes equations
G.E. Karniadakis, E.T. Bullister,
A.T. Patera - Cambridge803