CONTENTS

Papers	Page
DYNAMICS OF EARTH DAMS WITH FOUNDATION INTERACTION by Anil K. Chopra and P. R. Perumalswami	181
ASYMPTOTIC STABILITY ANALYSIS OF VISCOELASTIC	
SYSTEMS by Rong-chung Shieh	193
FAILURE OF UNIDIRECTIONAL COMPOSITES IN TENSION by Ori Ishai	205
SEEPAGE UNDER STRUCTURE ON FOUR SOIL STRATA by Charles W. Lenau	223
FREQUENCY ANALYSIS OF THIN-WALLED SHEAR WALLS by Arthur C. Heidebrecht and Ravinora K. Raina	239
FREE VIBRATION OF HYPERBOLIC COOLING TOWERS by Mahmoud G. Hashish and Salman H. Abu-Sitta	253
VARIATIONAL APPROACH TO BEAMS ON ELASTIC	
by N. S. V. Kameswara Rao, Y. C. Das, and M. Anandakrishnan	271
RESPONSE COMPUTATION USING TRUNCATED TAYLOR	
SERIES by Joseph E. Grant	295
BUCKLING AND VIBRATIONS OF POLYGONAL AND RHOMBIC	
by Sanford B. Roberts	305
(over)	

This Journal is published bimonthly by the American Society of Civil Engineers. Publications office is at 345 East 47th Street, New York, N.Y. 10017. Address all ASCE correspondence to the Editorial and General Offices at 345 East 47th Street, New York, N.Y. 10017. Allow six weeks for change of address to become effective. Subscription price is \$10.00 per year with discounts to members and libraries. Second-class postage paid at New York, N.Y. and at additional mailing offices. EM, SA.

	Pag_{θ}
VIBRATION ANALYSIS OF THIN CYLINDRICAL CONTAINERS by Anand S. Arya, Shrshi K. Thakkar, and Atul C. Goyal	317
PRESSURE BUCKLING OF RING ENCASED IN CAVITY by James A. Cheney	221
FINITE DEFLECTIONS OF CURVED BEAMS by John C. McWhorter, Harry R. Wetenkamp, and Omar M. Sidebottom	333 345
VARIATIONAL PRINCIPLES FOR FLUID FLOW IN POROUS MEDIA	0 10
by Shlomo P. Neuman and Paul A. Witherspoon	359 375
FLEXURAL VIBRATIONS OF RECTANGULAR AND OTHER POLYGONAL PLATES by Yau-Kai Cheung and M. S. Cheung	391
DYNAMICS OF IMPULSIVELY LOADED CIRCULAR PLATES by Robert J. Green	413
DYNAMIC RESPONSE OF IMBEDDED CYLINDRICAL SHELL by Raymond Parnes	421
STOCHASTIC SEISMIC RESPONSE OF STRUCTURES by Patricio Ruiz and Joseph Penzien	441
IMPROVING APPROXIMATE EIGENVALUES AND EIGENVECTORS	
by Arthur R. Robinson and John F. Harris BUCKLING OF MULTILAYER PLATES BY FINITE ELEMENTS	457
by Harry R. Lundgren and Ahmed E. Salama	477
by Roy Levy, Frank Kozin, and Robert B. B. Moorman DIRECTIONAL ANALYSIS IN MODEL DESIGN	495
by Fernando Vasco Costa	519
WAVE PROPAGATION IN TRANSVERSELY ISOTROPIC, LAYERED CYLINDERS by Henry E. Keck and Anthony E. Armenakas	541
OPTIMAL MULTIFUNCTIONAL MATERIAL SYSTEMS by Edward M. Krokosky	559

DISCUSSION

Proc. Paper 8011

AXISYMMETRIC FINITE DEFLECTION OF CIRCULAR PLATES, by Gordon B. J. Mah (Oct., 1969. Prior Discussion: June, 1970).	
closure	579
DETERMINATION OF SIGNS IN MOIRÉ METHOD, by Fu-Pen Chiang (Dec., 1969. Prior Discussion: Aug., 1970). closure	579
PROBABILISTIC RESPONSE ANALYSES TO EARTHQUAKES, a by R. Naravana Iyengar and K. T. Sundara Raja Iyengar (June, 1970).	
by Shih-Chi Liu	580
BOUNDS ON LARGE DYNAMIC DEFORMATIONS OF STRUC- TURES, by Tomasz Wierzbicki (June, 1970).	
errata	585
LIFT-OSCILLATOR MODEL OF VORTEX-INDUCED VIBRATION, a by Ronald T. Hartlen and Iain G. Currie (Oct., 1970).	
by Chin-Yih Kuo	585
TECHNICAL NOTES	
Proc. Paper 8017	
ANALYSES OF ACCELEROGRAMS AND STRUCTURAL RESPONSE	
by S. K. Guha, S. P. Agarwal, V. P. Agarwal, P. D. Gosavi, and S. C. Marwadi	589
STEADY SEEPAGE TOWARD CIRCLE OF FINITE RADIUS by Bruce W. Hunt	599
	000

^a Discussion period closed for this paper. Any other discussion received during this discussion period will be published in subsequent Journals.