

CONTENTS

Papers	Page
MACRO APPROACH TO DISCRETE FIELD ANALYSIS by Donald L. Dean and Hota V. S. GangaRao	377
CONSTITUTIVE RELATIONS FOR INELASTIC GRANULAR MEDIUM by Jay B. Weidler, Jr. and Paul R. Paslay	395
GRAVITY AND SURFACE-LOAD STRESSES IN SPHERES by August J. Durelli, Vincent J. Parks and Luis Ferrer	407
GENERAL SOLUTION OF INELASTIC BEAM-COLUMN PROBLEM by W. F. Chen	421
EARTHQUAKE RESPONSE OF CONCRETE GRAVITY DAMS by Anil K. Chopra	443
DYNAMICS OF CORRELATED RANDOM PULSE TRAINS by Shih-Chi Liu	455
ANALYSIS OF LAMINATED CURVED BEAMS by Antone F. Sayegh and Stanley B. Dong	471
MODEL-FREE DESIGN OF ASEISMIC STRUCTURES by Rudolf F. Drenick	483

(over)

This Journal is published bimonthly by the American Society of Civil Engineers. Publications office is at 2500 South State Street, Ann Arbor, Michigan 48104. 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 Ann Arbor, Michigan. EM, SA, SM.

 DISCUSSION

 Proc. Paper 7438

ON THE ACCURACY OF TIMOSHENKO'S BEAM THEORY, by G. Richard Cowper (Dec., 1968. Prior Discussion: Dec., 1969). closure	497
DYNAMIC RESPONSE OF FRAMES WITH NONRIGID CON- NECTIONS, by Steve R. Lionberger and William Weaver, Jr. (Feb., 1969. Prior Discussion: Dec., 1969). closure	498
SELF-CONTROLLED VIBRATION OF A CYLINDER IN A FLUID STREAM, by Giampaolo Di Silvio (Apr., 1969. Prior Discussion: Dec., 1969). closure	498
ANALYSIS OF TUNNEL LINER-PACKING SYSTEMS, by William P. Dawkins (June, 1969. Prior Discussion: Dec., 1969). closure and errata	499
NUMERICAL FOURIER TRANSFORM IN RANDOM VIBRATION, by Jann-Nan Yang and Masanobu Shinozuka (June, 1969. Prior Discussion: Dec., 1969). closure	500
FINITE ELEMENT PLATE BENDING EQUILIBRIUM ANALYSIS, by Edoardo Anderheggen (Aug., 1969). errata	502
DETERMINATION OF SIGNS IN MOIRE METHOD, ^a by Fu-Pen Chiang (Dec., 1969). Vincent J. Parks	503

 TECHNICAL NOTES

 Proc. Paper 7444

LIMIT ANALYSIS OF PLATES UNDER CONCENTRATED LOAD by Philip V. McLaughlin, Jr. and Steven C. Batterman	509
DISTRIBUTION OF RESPONSE TO SIMULATED EARTHQUAKES by Paul H. Wirsching and James T. P. Yao	515

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

	Page
RECTANGULAR PLATES WITH ELASTIC EDGE SUPPORTS by Suresh T. Gulati and Walter M. Buehl	521
FINITE-ELEMENT ANALOGUE OF NAVIER-STOKES EQUATION by J. Tinsley Oden	529
SINGULAR INTEGRAL EQUATION SOLUTION FOR TORSION by Christopher C. Lo and Francis W. Niedenfuhr	535
RANDOM PROCESSES WITH EVOLUTIONARY POWER by Masanobu Shinozuka	543