
Journal of the
ENGINEERING MECHANICS DIVISION
Proceedings of the American Society of Civil Engineers

ENGINEERING MECHANICS DIVISION
EXECUTIVE COMMITTEE

Ray W. Clough, Chairman; Donald Dean, Vice-Chairman;
John E. Goldberg; Robert M. Haythornthwaite; Daniel Frederick,
Secretary; Ralph B. Peck, Board Contact Member

COMMITTEE ON PUBLICATIONS

Daniel Frederick, Chairman; Melvin L. Baron; Jack G. Bouwkamp;
Charles E. Cutts; Anthony M. DiGiola; John E. Goldberg;
Lawrence H. N. Lee; Joseph Penzien; Edward Silberman

CONTENTS

December, 1964

Papers

	Page
Load-Deformation Behavior of Shells of Revolution by Steven S. Batterman	1
Circular Plates Loaded into the Plastic Region by Leslie M. Lackman.	21
Inelastic Buckling Gradient by Bruce G. Johnston	31
Complementary Energy Method for Finite Deformations by Charles Libove	49
Complementary Energy Theorem for Symmetric Shells by Charles Libove	73

Copyright 1964 by the American Society of Civil Engineers.

Note.—Part 2 of this Journal is the 1964-52 Newsletter of the Engineering Mechanics Division.

The three preceding issues of this Journal are dated June, 1964, August, 1964, and October, 1964.

	Page
Pressure Generated by Cavitation in a Pipe by Wen-Hsiung Li and James P. Walsh.	113
Analysis of Spherical Shells with Stress Functions by Ziad M. Elias	135
Large Deflection Analysis of Heated Plates by Marion W. Wilcox and Lewis E. Clemmer.	165
Dynamic Stability of Axially Vibrating Columns by Ivor K. McIvor.	191
Rigidity and Strength of Composite Plates by C. W. Beadle, J. W. Dally, and W. F. Riley.	211

DISCUSSION

Bending and Buckling of Thin-Walled Open-Channel Rings, by James A. Cheney. (October, 1963. Prior discussion: April, June, 1964. Discussion closed.) by James A. Cheney (closure)	245
Finite Beam-Columns on Elastic Foundations, by K. T. Sundara Raja Iyengar and S. Anantharamu. (December, 1963. Prior discussion: April, June, 1964. Discussion closed.) by K. T. Sundara Raja Iyengar and S. Anantharamu (closure)	249
Analytical Methods in Transportation: Mathematical Car-Following Theory of Traffic Flow, by Denos C. Gazis, Robert Herman, and Richard W. Rothery. (December, 1963. Prior discussion: None. Dis- cussion closed.) by Harold Greenberg and Irwin Greenberg*.	253
Elastic Buckling of Rigidly Jointed Braced Frames, by S. J. Britvec and A. H. Chilver. (December, 1963. Prior discussion: April, 1964. Discussion closed.) by S. J. Britvec and A. H. Chilver (closure)	257
Analysis of Laterally Loaded Gridworks, by Thein Wah. (April, 1964. Prior discussion: None. Discussion closed.) by Celina P. Ugarte and Donald L. Dean.	265
Model for Wave Motions in Axi-Symmetric Solids, by Alfredo H. S. Ang and Johann H. Rainer. (April, 1964. Prior discussion: October, 1964. Discussion closed.) by Robert E. Ball.	275

*There will be no closure.

	Page
Resonance Testing of Full-Scale Structures, by D. E. Hudson. (June, 1964. Prior discussion: October, 1964. Discussion closed.) by Paul C. Jennings	277
Bending Analysis for Clamped Rectangular Plates, by Leonard R. Herrmann. (June, 1964. Prior dis- cussion: None. Discussion closed.) by Bennosuke Tanimoto, Seiji Hayakawa, and Noboro Ueda	279
Solution of Buckling Problems by Reduction Method, by P. Shuleshko. (June, 1964. Prior discussion: None. Discussion closed.) by E. Neil W. Lane	285

INFORMATION RETRIEVAL

The key words, abstract, and reference "cards" for each article in this Journal represent part of the ASCE participation in the EJC information retrieval plan. The retrieval data are placed herein so that each can be cut out, placed on a 3 x 5 card and given an accession number for the user's file. The accession number is then entered on key word cards so that the user can subsequently match key words to choose the articles he wishes. Details of this program were given in an August 1962 article in CIVIL ENGINEERING, reprints of which are available on request to ASCE headquarters.