Journal of the

STRUCTURAL DIVISION

Proceedings of the American Society of Civil Engineers

STRUCTURAL DIVISION EXECUTIVE COMMITTEE

Henry J. Degenkolb, Chairman; Lynn S. Beedle, Vice-Chairman; Theodore R. Higgins; Bruce G. Johnston; Jack G. Bouwkamp, Secretary; Ralph B. Peck, Board Contact Member

COMMITTEE ON PUBLICATIONS

Gerald F. Borrmann, Chairman; Glen V. Berg; Freeman P. Drew; Herbert M. Glen; John D. Haltiwanger; Francis J. Hanrahan; H. A. Miklofsky; William G. Murphy; Raymond C. Reese; Henry J. Degenkolb, Executive Committee Contact Member

CONTENTS

February, 1964

Papers

	Page
Welded Constructional Alloy Steel Plate Girders by P. B. Cooper, H. S. Lew, and B. T. Yen	1
Regression Analysis of Reinforced Concrete Columns by Haresh C. Shah	37
Energy Absorption of Structures Under Cyclic Loading by Kenneth Medearis and D. H. Young	61
Analysis of Folded Plate Structures by George G. Goble	93
Propagation of Shock Waves in the Ground by Theo Ginsburg	125
(ov er)	

Copyrighted 1964 by the American Society of Civil Engineers.
The three preceding issues of this Journal are dated August 1963, October 1963, and December 1963.

	Page
Collapse of Arches Under Repeated Loading by Vicenzo Franciosi, Giuliano Augusti, and Renato Sparacio	165
Deflection of Circular Curved I-Beams by Ross A. Close	203
DISCUSSION	
Use of Orthotropic Plate Theory in Bridge Design, by Kuang-Han Chu and G. Krishnamoorthy. (June, 1962. Prior discussion: December, 1962, February, June, 1963. Discussion closed.) by Kuang-Han Chu and G. Krishamoorthy (additional errata)	211
Buckling of Shear Buildings, by Pasala Dayaratnam. (December, 1962. Prior discussion: October, 1963. Discussion closed.) by P. Dayaratnam (closure)	213
Metallic Dome-Structure Systems, by Shu-t'ien Li. (December, 1962. Prior discussion: April, October, 1963. Discussion closed.) by Shu-t'ien Li (closure)	217
Buckling of Stepped Columns with Rotated Ends, by Robert E. Sennett, III, and Sidney Shore. (February, 1963. Prior discussion: June, 1963. Discussion closed.)	219
by Robert E. Sennett, III, and Sidney Shore (closure) Stresses in a Pressurized Box, by H. D. Conway. (April, 1963. Prior discussion: October, 1963. Discussion closed.) by H. D. Conway (closure)	221
Structural Synthesis with Buckling Constraints, by Lucien A. Schmit, Jr., and William M. Morrow, II. (April, 1963. Prior discussion: None. Discussion closed.) by Lucien A. Schmit, Jr., and William M. Morrow, II. (closure)	223
Analysis of Rigid Frames by Difference Equations, by Hsien-San Tsang. (April, 1963. Prior discussion: October, 1963. Discussion closed.) by Hsien-San Tsang (closure)	225

	Page
Matrix Solution of Force Relaxation Method, by Chuan C. Feng. (June, 1963. Prior discussion: None. Discussion closed.) by Sidney Shore	229
Behavior of Prestressed Composite Steel Beams, by Peter G. Hoadley. (Prior discussion: December, 1963. Discussion closed.) by J. D. Naillon	231
Stability of Frames Under Primary Bending Moments, by Le-Wu Lu. (June, 1963. Prior discussion: October, December, 1963. Discussion closed.) by S. Z. Al-Sarraf	235
Statical Indeterminacy and Stability of Structures, by Frank L. DiMaggio. (June, 1963. Prior discussion: None. Discussion closed.) by Frank L. DiMaggio (closure)	241
Blane Stress Analysis, by C. W. McCormick. August, 1963. Prior discussion: None. Discussion closed.) by A. Hrennikoff	243
Analysis of Composite Beam Bridges by Orthotropic Plate Theory, by Vilis Vitols, Rodney J. Clifton, and Tung Au. (August, 1963. Prior discussion: None. Discussion closed.) by Kuang-Han Chu and G. Krishnamoorthy	247
Large Capacity Multistory Frame Analysis Programs, by Ray W. Clough, Edward L. Wilson, and Ian P. King. (August, 1963. Prior discussion: None. Discussion closed.) by G. D. Galletly	
Man-Machine Communication in Civil Engineering, by C. L. Miller. (August, 1963. Prior discussion: None. Discussion closed.) by George Bugliarello	251
Dynamic Nonlinear Response of Reinforced Concrete Arches, by Vijay N. Gupchup and John M. Biggs. (August, 1963. Prior discussion: None. Discussion closed.) by Robert Schmidt	253 257
Computer Study of Dynamic Behavior of Piling, by Charles H. Samson, Jr., Teddy J. Hirsch, and Lee L. Lowery, Jr. (August, 1963. Prior discussion: None. Discussion closed.)	231
by Joseph L. Reese and P. W. Forehand	259

	Page
Network-Topological Formulation of Structural Analysis, by S. J. Fenves and F. H. Branin, Jr. (August, 1963. Prior discussion: None. Discussion closed.) by A. S. Hall by W. R. Spillers. by S. O. Asplund by Alf Samuelsson by N. C. Lind	261 265 265 266 268
Zero Sidesway Axis of Rigid Frames, by A. J. Celis and P. Glockner. (October, 1963. Prior discussion: None. Discussion closes March 1, 1964.) by F. P. Wiesinger by German Gurfinkel by Ralph R. Mozingo by Phillip L. Gould	271 272 277 278
Galvanic Corrosion in Concrete Containing Calcium Chloride, by T. E. Wright and I. H. Jenks. (October, 1963. Prior discussion: None. Discussion closes March 1, 1964.) by James M. Abernathey	281
Analysis of Orthotropic Plate Bridges, by Rodney J. Clifton, Jerry C. L. Chang, and Tung Au. (October, 1963. Prior discussion: None. Discussion closes March 1, 1964.) by Robert Schmidt	283

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.