

CONTENTS

Tensile Strength of L3 Douglas-Fir Glulam Members <i>by John Peterson</i>	1
Practical Applications of Finite Element Method <i>by Vera Dunder and Stephen Ridlon</i>	9
Frame Design without Using Effective Column Length <i>by Francois Cheong-Siat-Moy</i>	23
Hyperbolic Cooling Tower Dynamic Response to Wind <i>by Ray L. Steinmetz, David P. Billington, and John F. Abel</i>	35
Concrete Filled Structural Plastic Columns <i>by Carl E. Kurt</i>	55
Temperature Distributions in Composite Bridges <i>by Jack H. Emanuel and J. Leroy Hulsey</i>	65
Proof Loading for Target Reliability <i>by Daniele Veneziano, Roberto Meli, and Mario Rodríguez</i>	79
Use of Inelastic Spectra in Aseismic Design <i>by Stavros A. Anagnostopoulos, Richard W. Haviland, and John M. Biggs</i>	95
Strength of Square Steel Panels <i>by John A. Dean</i>	111

→

This Journal is published monthly 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 to members is \$15.00. Nonmember subscriptions available; prices obtainable on request. Second-class postage paid at New York, N.Y. and at additional mailing offices. ST.

The Society is not responsible for any statement made or opinion expressed in its publications.

Projectile Penetration into Buried Structures <i>by Anil K. Kar</i>	125
Design Method for Optimum Unstiffened Girders <i>by Porpan Vachajitpan and K. C. Rockey</i>	141
Nonlinear Model for Reinforced Concrete Slabs <i>by Fuad K. Bashur and David Darwin</i>	157
Composite Bridge Decking by Stage-Deck Jacking <i>by Gilbert H. Béguin</i>	171

TECHNICAL NOTES

Proc. Paper 13454

European Approaches to P-Δ Method of Design <i>by Charles E. Massonnet</i>	193
Heavy Falls of Hail and Rain Leading to Roof Collapse <i>by Stanley A. Changnon, Jr.</i>	198
Multiple Frequencies in Dynamic Systems <i>by Alexander Chajes and Bruce Johnson</i>	200
Curved Isoparametric Interface Surface Element <i>by Dharendra N. Buragohain and Vasant L. Shah</i>	205

DISCUSSION

Proc. Paper 13451

Approximate Analysis and Economics of Structures , by Niels C. Lind (June, 1976. Prior Discussion: Mar., 1977). <i>closure</i>	213
Seismic Design of Liquid-Storage Tanks , by Howard I. Epstein (Sept., 1976. Prior Discussion: June, 1977). <i>closure</i>	214
Shear Analysis of Tapered Beams , by Ken P. Chong, William D. Swanson, and Robert B. Matlock (Sept., 1976. Prior Discussion: Aug., 1977). <i>closure</i>	215

Latticed Structures: State-of-the-Art Report , by the Task Committee on Latticed Structures of the Committee on Special Structures of the Committee on Metals of the Structural Division (Nov., 1976. Prior Discussion: Aug., 1977). <i>closure</i>	215
Shear Strength of Two-Way Bridge Slabs , by Barrington deV. Batchelor and Ian R. Tissington (Dec., 1976). <i>errata</i>	216
Simple Illustration of Frame Instability , ^a by Niels C. Lind (Jan., 1977. Prior Discussions: Aug., Dec., 1977). <i>by Aron Zaslavsky</i> <i>by Tarek S. Aziz</i> <i>by Sture Åkerlund and Lars Östlund</i>	216 216 220 224
Effect of Light-Gage Partitions on Multistory Buildings , by Wagih M. El-Dakhakhni (Jan., 1977. Prior Discussion: Aug., 1977). <i>closure</i>	225
Strength and Stiffness of Corrugated Metal Shear Diaphragms , ^a by John T. Easley (Jan., 1977). <i>by Sithambaram Chockalingam, Kinh H. Ha, and Paul Fazio</i>	226
Erection Strength Adequacy of Long Truss Cantilevers , ^a by Jackson L. Durkee and Spiro S. Thomaidis (Jan., 1977). <i>by John J. Kozak</i> <i>by Richard W. Christie</i>	229 230
Load Deflection Behavior of Restrained R/C Slabs , ^a by Prakash Desayi and A. B. Kulkarni (Feb., 1977. Prior Discussion: Sept., 1977). <i>by Anatole Longinow</i>	231
Tests of Fabricated Tubular Columns , ^a by Wai F. Chen and David A. Ross (Mar., 1977). <i>by Max A. M. Herzog</i>	231
Statistical Combination of Extreme Loads , ^a by Yi-Kwei Wen (May, 1977). <i>by Yozo Fujino and Niels C. Lind</i>	233
Commentary on the Tentative Recommendations for Cable-Stayed Bridge Structures , ^a by the Task Committee on Cable-Suspended Structures of the Committee on Special Structures of the Committee on Metals of the Structural Division (May, 1977). <i>by Larry L. Ichter</i>	234

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

Reliability of RC Beams Subjected to Fire,^a by Bruce Ellingwood and James R. Shaver (May, 1977). <i>by Benjamin Koo</i>	236
Curved I-Girder Bridge Design Recommendations,^a by the Task Committee on Curved Girders of the ASCE-AASHTO Committee on Flexural Members of the Committee on Metals of the Structural Division (May, 1977. Prior Discussion: Nov., 1977). <i>by David B. Beal</i> <i>by Michael A. Higgins</i>	238 239
Motion of Suspension Bridge Subject to Wind Loads,^a by Jean-Guy Beliveau, Rimas Vaicaitis, and Masanobu Shinozuka <i>by Hassan I. A. Hegab</i>	241
Test of Scale Model Post-Tensioned Flat Plate,^a by Ned H. Burns and Roongroj Hemakon (June, 1977). <i>by H. B. Goli and Hans Gesund</i>	242
Statistical Analysis of RC Beam-Column Interaction,^a by Bruce Ellingwood (July, 1977). <i>by Krishnaiyengar Rajagopalan</i>	244
Optimum Reinforced Concrete T-Beam Sections,^a by Takashi Chou (Aug., 1977). <i>errata</i>	246
History and Esthetics in Suspension Bridges,^a by David P. Billington (Aug., 1977). <i>by Herbert Rothman</i>	246

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 × 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.

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