CONTENTS

| Constitutive Models for Concrete Structures by Wai-Fah Chen and Edward C. Ting | 1 |
|--|----------|
| Constitutive Relations and Solution Schemes in Plastic Analysis by Subhas C. Anand | 21 |
| Stress Analysis of Bonded Plates and Joints by Umur Yuceoglu and Dean P. Updike | 37 |
| Optimal Control of Civil Engineering Structures by Mohamed Abdel-Rohman, Victor H. Quintana, and Horst H. Leipholz | 57 |
| Seismic Analysis of Some Steel Building Frames by Egor P. Popov and Vitelmo V. Bertero | 75 |
| Spurious Correlation in Dimensional Analysis by Khalid Mahmood and M. M. Siddiqui | 93 |
| Time Variations of Structural Properties During Strong Ground Shakingby Firdaus E. Udwadia and Navin Jerath | 111 |
| The Merging of Fuzzy and Crisp Information by Colin B. Brown | 123 |
| Yield of Circular Weld Joining Elastic Plates by Lawrence E. Goodman and Leon M. Keer | 135 |
| Probabilistic Earthquake Energy Spectra Equations by Polihronis-Thomas Demetriou Spanos | 147 → |

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 to members is \$12.50. Nonmember subscriptions available; prices obtainable on request. Second-class postage paid at New York, N.Y. and at additional mailing offices. EE, EM, TE.

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

Buckling of Antisymmetrically Laminated Cross-Ply and Angle-Ply Rectangular Plates

by Sudhakar Sharma, N. G. R. Iyengar, and P. N. Murthy 161

TECHNICAL NOTES

Proc. Paper 15164

DISCUSSION

Proc. Paper 15159

| Linear and Nonlinear Wave Action Estimates, by Robert T. Hudspeth and Larry S. Slotta (Apr., 1978. Prior Discussion: Apr., 1979). closure | 189 |
|---|-----|
| Creep Strain Accumulation under Random Loading, by Chavali V. | |
| S. Kameswara Rao (Dec., 1978). | |
| errata | 190 |
| Response of MDOF Systems to Nonstationary Random Excitation, by | |
| D. A. Gasparini (Feb., 1979). | |
| errata | 191 |
| First Yield of Edge Beam Stiffened Square Plates, by Geoffrey J. | |
| Turvey (Feb., 1979). | |
| errata | 191 |
| Constitutive Model for Short-Time Loading of Concrete, ^a by Niels Saabye Ottosen (Feb., 1979). | |
| by Jan Wastiels | 102 |
| | |
| by Michael K. Kotsovos | 193 |
| Macaulay's Method: A Generalization, ^a by Stanley G. Hutton and | |
| George Sved (June, 1979). | |
| by Freydoon Arbabi | 197 |

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