

# CONTENTS

Papers	Page
OPTIMUM SIZE SEAPORT by Carl H. Plumlee . . . . .	1
DIFFRACTION OF OCEAN WAVES ABOUT A BREAKWATER by Charles T. Morrow . . . . .	25
MOVABLE BED MODEL FOR RIVER STRUCTURE DESIGN by Howard E. Christian, Warren J. Mellema, and Walter M. Linder . . . . .	45
FLEXIBILITY IN CYLINDER GROUPS OSCILLATED IN WATER by Alan D. K. Laird . . . . .	69

---

## DISCUSSION

Proc. Paper 4872

---

FORESHORE PROTECTION, LOWER MISSISSIPPI RIVER, by Rudolf Hertzberg (May, 1965. Prior Discussion: Feb., 1966). closure . . . . .	89
INFLUENCE OF SOIL TYPES ON STABILIZATION OF THE SAVANNAH RIVER, by William J. Wall (Aug., 1965. Prior Discussion: Feb., 1966). closure . . . . .	89
(over)	

---

This Journal is published quarterly by the American Society of Civil Engineers. Publications office is at 2500 South State Street, Ann Arbor, Michigan, 48104. Editorial and General Offices are at 345 East 47th Street, New York, N. Y. 10017. Subscription price is \$6.00 per year with discounts to members and libraries. Second-class postage paid at Ann Arbor, Michigan. IR, WW.

	Page
A STUDY ON REFRACTION OF WAVES IN PRISMATIC CHANNELS, by Khalil I. Beitinjani and Ernest F. Brater (Aug., 1965. Prior Discussion: Feb., 1966). closure . . . . .	90
WAVE FORCES ON PILING FOR NARROW-BAND SPECTRA, by Leon Emry Borgman (Aug., 1965. Prior Discussion: Feb., 1966). There will be no closure.	
STABILITY OF CHANNELS BY ARMORPLATING, by Dasel E. Hallmark and George L. Smith (Aug., 1965. Prior Discussion: Feb., 1966). closure . . . . .	91
IRREGULAR WAVE FORCES ON A PILE, <sup>a</sup> by Willard James Pierson, Jr., and Patrick Holmes (Nov., 1965. Prior Discussion: May, 1966). by Bruce J. Muga . . . . .	92
CONTROL OF OBNOXIOUS AQUATIC PLANTS IN THE SOUTHEAST, <sup>a</sup> by Otis M. Jernigan, Angelo Tabita, and William E. Wunderlich (Nov., 1965). by Walter C. Carey . . . . .	94
by Milton F. Parkman and Austin B. Smith . . . . .	98
WATER RESOURCES PROBLEMS GENERATED BY OBNOXIOUS PLANTS, <sup>a</sup> by Francis J. Guscio, Thomas R. Bartley, and Arthur N. Beck (Nov., 1965). by Paul C. Wilson, Jr. . . . .	98
SNAKE RIVER BANK STABILIZATION, <sup>a</sup> by Leland B. Jones (Feb., 1966). by Walter C. Carey . . . . .	100
PRACTICAL TONNAGE CAPACITY OF CANALIZED WATERWAYS, <sup>a</sup> by Eric E. Bottoms (Feb., 1966). by William J. Santina and George B. Wesler . . . . .	101
by Charles M. Wellons . . . . .	102
LABORATORY CONTRIBUTIONS TO CHANNEL STABILIZATION, <sup>a</sup> by Margaret S. Petersen (Feb., 1966). by Herbert D. Vogel . . . . .	104
FLOW MEASUREMENT TECHNIQUES FOR HYDRAULIC DREDGING, <sup>a</sup> by Ernest P. Fortino (Feb., 1966). by Rick A. Denning . . . . .	106
by Marquand S. Gorton . . . . .	108

---

<sup>a</sup> Discussion period closed for this paper. Any other discussion received during this period will be published in subsequent Journals.