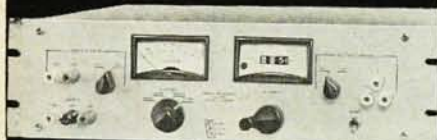


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analysis of the existence and uniqueness theorems about the boundary-value problems for both the linearized and the general nonlinear Navier-Stokes equations. The author claims that "the reader is not required to know more than the elements of classical and functional analysis". However, this reviewer, perhaps because he is more a physicist than a mathematician, feels that a sizable mathematical background is necessary. After an introductory chapter devoted to some points of mathematical technique in Hilbert space and in a generalized space introduced by Sobolev, a very careful and thorough study is made of the boundary value problem in the various possible conditions: linearized or nonlinear, stationary or nonstationary, problems. The attention is directed to source-free media. A number of existence and uniqueness theorems, for various sets of assumptions, is displayed, but, to be sure, the question of the unique solvability, in the large, of the general three-dimensional boundary value problem for the nonstationary Navier-Stokes equations remains open. A chapter is devoted to the theory of hydrodynamical potentials.

The book initially appeared in 1961. This is a revised edition, enlarged with comments on recent contributions to the field. It may thus be considered a really up-to-date monograph.

Photoelasticity. Symp. Proc. (Chicago, Oct. 1961). M. M. Frocht, ed. 294 pp. Pergamon, London, 1963. Distr. in US by Macmillan, New York. \$14.00.

Reviewed by **Walter G. Mayer**, *Michigan State University.*

The 1961 International Symposium on Photoelasticity in Chicago was the first such conference ever held in this country. The papers, before being presented during this meeting, were first reviewed and later edited for publication in this book. Since invitations to this symposium were restricted to "Western" countries, it can only be assumed that the book reflects worldwide research trends in photoelasticity and photoplasticity.

The main concern of the book is the description of industrial applications of new methods, the improve-

ment of known techniques, and, to some extent, an evaluation of some fundamental aspects of photoelasticity. Stress analysis is emphasized very strongly, and various methods are described, which utilize birefringent coatings. Investigations are not confined to two-dimensional stresses, in fact, a major portion of the book deals with three-dimensional photoelasticity. There are some survey articles—but most of the papers are rather specialized and deal with specific applications.

The book seems to be intended mainly for the engineering and industrial market, although occasional excursions into fundamental problems may make parts of it attractive to readers interested in the more general aspects of photoelasticity.

Space Research III. Wolfgang Priester, ed. Symp. Proc. (Washington, D. C., May 1962). 1275 pp. North-Holland, Amsterdam, 1963. Distr. in US by Wiley, New York. \$35.00.

Reviewed by **Herman Yagoda**, *Air Force Cambridge Research Laboratories, Bedford, Massachusetts.*

When confronted with a ponderous volume of 1275 pages containing 118 contributions by some 240 multilingual authors, the critic has indeed reason to be envious of the literati of the Sunday book review sections who can concentrate on the style, depth of thinking, and character portrayals of a contemporary novel dealing with human activities and emotions on our planet Earth. Space Research, Volume III, houses the final proceedings, all corrected, and hopefully augmented by data of improved statistical weight, given by the delegates who gathered in the State Department Auditorium in April 1962 to present and discuss physical observations of our space environment as telemetered by the latest satellites encircling the globe.

It was spring in Washington, the tulips, while no longer in their glory, could still be seen standing in their beds beneath the colorful azalea bushes. The white cherry blossoms were gone, their browning petals underfoot, but Hains Point with its longer-lived pink cherry blossoms was not far away. Under these idyllic conditions, it is conceivable that all delegates were not invariably present to