

● IF YOU'RE A
RESEARCH MANAGER ...

● IF YOU HAVE A PhD OR
EQUIVALENT ADVANCED DEGREE ...

● IF YOU HAVE SIGNIFICANT
EXPERIENCE IN SEMICONDUCTOR,
SOLID STATE, AND
MATHEMATICAL PHYSICS ...

● IF YOU WANT BOTH TO
INNOVATE AND TO DIRECT ...

● IF YOU WANT A TOP SALARY AND
OPPORTUNITY TO GROW
PROFESSIONALLY ...

● AND IF YOU AND YOUR FAMILY
WANT TO LIVE THE GOOD LIFE
IN MAINE ...

Then we want you to know more about ...

TIBBETTS INDUSTRIES, INC.

*...located in one of the most beautiful
regions of all the Atlantic coast.*

This position of Research Manager is an outstanding opportunity for a qualified man. It requires equally the ability to lead others and to do original, creative work.

Mr. W. Kent Stanley, Assistant to the President is the man to contact.
Write or call him at

Tibbetts Industries, Inc.
Colcord Avenue
Camden, Maine
(207) 236-3366

A limited number of other openings are available in these fields as well as electroacoustics and instrumentation.

stream-function equation are given. A few examples of rotary flows are discussed and the book concludes with an outline of lubrication theory and a selection of problems that arise in this subject.

The reader will probably find the first half of the book more useful than the second. The methods of tensor analysis are explained well, and the derivations of the basic equations are done carefully. The emphasis is mathematical, and more attention is given to rigor of analysis than to the physical phenomena that give rise to the assumed (incompressible-Newtonian-Fourier) fluid properties. For example, incompressibility is introduced as a postulate, rather than as a limiting form of the compressible flow equations for low Mach number and small temperature gradient. As he indicates in his preface, the aim of the author in the second half of the book has been to select for discussion certain "creeping" flows that he feels are not adequately treated in existing texts and treatises. Consequently, though a student of viscous flow may find certain sections helpful, he must perforce look elsewhere for a complete and unified treatment of the subject.

* * *

Professor Talbot, a specialist in fluid dynamics, is a member of the Berkeley faculty.

Four years too late

WEAK INTERACTIONS OF ELEMENTARY PARTICLES. By L. B. Okun'. Transl. from Russian by Z. Lerman. 174 pp. Israel Program for Scientific Translations, Jerusalem, 1965. \$12.75.

by **E. M. Henley**

The English version of this small but expensive book comes about four years too late. It is based on lectures given by Professor Okun' in 1960-61 and is aimed at "experimentalists engaged on elementary particles and high energy physics, and for beginning theoretical physicists who prepare to specialize in this field." Although the book probably served this purpose when it first appeared, the rapid advances in the field now make it out of date.

The author reviews relativistic quantum mechanics, discusses space-time symmetries and then analyzes weak interactions in detail. The presentation includes the decay of leptons and hadrons. There are chapters on the leptonic and nonleptonic decays of the hadrons, both without and with strangeness change. The K_1^0 - K_2^0 problem is analyzed and the need for the intermediate boson is discussed. The book concludes with a list of suggested experiments, many of which have already been carried out.

Because the author attempts to instruct and enlighten his audience in terms of the then current literature, there is emphasis on theoretical treatment that is no longer adequate. For instance, much of the presentation is based on the Sakata model, since unitary symmetry and its consequences had not yet been developed. The book is not too useful for the initiate, nor as a self-learning tool. Thus, the basis for the V-A theory receives little attention, and there appear many factual statements that are not explained adequately.

The translation is good and the index and references are adequate. However, the print is so small as to make long reading periods uncomfortable.

* * *

A particle theoretician, E. M. Henley is a member of the physics faculty at the University of Washington in Seattle.

Linear boundary values

PROBLEMS OF MATHEMATICAL PHYSICS. By N. N. Lebedev, I. P. Skalskaya and Y. S. Uflyand. Transl. from Russian by Richard A. Silverman. 429 pp. Prentice-Hall, Englewood Cliffs, New Jersey, 1965.

by **T. Teichmann**

Linear boundary-value problems constitute a substantial portion of mathematical physics, and have received a corresponding amount of attention in both textbooks and reference works. Because of the power of the methods involved, and the general degree of sophistication which has become current in most modern presentations, there has been a tendency to reduce

the number of problems presented to the most well known; and to leave the others, if at all mentioned, as exercises for the reader. From the conceptual point of view this is completely satisfactory, and avoids too heavy volumes! In many applications, however, it is desirable to have available details of both techniques and problems that are not always easily found in standard works. This volume, by several well known applied mathematicians from the Physico-Technical Institute in Leningrad, helps to cover this area.

It consists essentially of a series of linear-boundary or initial-value problems of classical physics, together with hints for their solutions and specific answers, as well as a section of detailed solutions of those problems which seem to require it. The problems are generally of the kind one might expect to encounter in practical situations, rather than those aimed at the ingenuity of the reader. Worthy of special comment are a number of problems solved by conformal transformation (in particular Schwartz-Cristoffel's) and problems in all fields involving wedges, slots, bosses, etc. There is also a short, but useful supplement (written by E. Reiss) on approximate methods of solution. This book could serve as a useful supplement to a general course emphasizing conceptual problems, but will probably be of greatest value as a reference for the practicing applied mathematician or physicist working with classical problems.

* * *

The reviewer, a theoretician with General Dynamics Corporation, has worked for a number of years on the application of mathematical methods to problems in both classical and radiation physics.

Crystals and quantum mechanics

THEORETISCHE FESTKÖRPERPHYSIK, VOLUME 1. By Albert Haug. 518 pp. Franz Deuticke, Vienna, 1964.

by **Hans J. Hagger**

A large number of books on solid-state physics has been published since the rapid evolution of this field.

selected readings in physics

Edited by **D. ter Haar**, University of British Columbia, Canada. This popular series of paperbacks covers major theoretical developments and current practical applications in the physical sciences.

NUCLEAR FORCES by **D. M. Brink**, Oxford University. Investigates developments since 1932, including original papers on current topics. 1965 244 pp. \$3.50

KINETIC THEORY, Volume 1—The Nature of Gases and of Heat by **S. G. Brush**, Livermore, California. Includes both classical and modern accounts. 1965 192 pp. \$2.95

MEN OF PHYSICS: L. D. LANDAU. Volume 1: Low Temperature and Solid State Physics by **D. ter Haar**. Covers his classic papers and the implications of these discoveries. 1965 206 pp. \$2.95; Volume 2: Irreversible Processes In prep.

THE VELOCITY OF LIGHT by **J. H. Sanders**, Oxford University. Recent developments in the measurement of velocity, plus history and future trends. 1965 154 pp. \$2.95

EARLY ELECTRODYNAMICS. The First Law of Circulation by **R. A. R. Tricker**, England. Traces theory to its origins. Includes translated extracts of classical investigations. 1965 217 pp. \$2.95

problems in undergraduate physics

Translated by **D. E. Brown**. Edited by **D. ter Haar**. A four-book series translated from a Russian collection used by physics students at Moscow State University.

Vol. I—Mechanics \$5.50

Vol. II—Electricity and Magnetism \$5.50

Vol. III—Optics \$5.50

Vol. IV—Molecular Physics, Thermodynamics, Atomic and Nuclear Physics \$5.50



PERGAMON PRESS

44-01 21st Street

Long Island City, New York 11101