

tant inequality for a class of algebroid functions which is more precise than any previously obtained.

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Integral Equations by S. G. Mikhlin, translated by A. H. Armstrong. Pergamon Press, 1957. \$12.50.

The full title of this book is "Integral Equations and their Applications to Certain problems in Mechanics, Mathematical Physics, and Technology" and it describes the book quite well. The contents divide into two parts; these deal with the theory and applications respectively. The theoretical part contains the usual account of the linear theory of Fredholm, Volterra and Hilbert-Schmidt, and in addition, a brief and elegant introduction to singular equations. A proof of the existence of an eigenvalue and eigenfunction (of a completely continuous operator) is given, although the author avoids any terminology of functional analysis and the various properties of operators are, so to say, smuggled in. In the above proof use is made of Ascoli's theorem, without calling it by its name.

Throughout the theoretical part the emphasis is intensely practical and it is a pleasure to see numerical solutions of linear (algebraic) equations rubbing shoulders with the high matters of L^2 convergence, etc. A purist might say that the book cannot make up its mind whether to be practical, heuristic and useful or rigorous, elegant and theoretical in scope. One other minor comment on the first part: the readers on this continent may be somewhat perturbed by the "Bunyakovsky-Schwarz" inequality but this wears off after a few minutes of reading.

It is on the merits of the second, and much longer, part that the book stands, and these are undoubted and extensive. The author states his preferences clearly and the applications are drawn almost exclusively from elasticity and hydrodynamics. In view of numerous other applications (electromagnetic theory, wave-guide and antenna problems, probability, Weyl's theory of singular differential equations, etc.), it is rather a pity but 'De gustibus...'. There are six massive chapters in the second part: Dirichlet (and Neumann) Problems, the Biharmonic Equation (Applications of Green's Function), the Generalized Method of

Schwartz, Certain Applications of Integrals analogous to Potentials, Applications of Symmetric Equations, and Certain Applications of Singular Equations. Under these headings a great variety of problems is treated, ranging from air flow past airplane wings and buckling of plates and rods to the pressure of a rigid stamp on an elastic half-plane and torsional vibrations of square and other rods. In each case the treatment is comprehensive and self-contained and, wherever feasible, the calculations and estimations of errors are carried out.

On the literary side the translation is adequate though occasionally stilted. Mathematically speaking, it is rather poor. One may gloss over 'analytical functions', 'multi-connected regions' and 'curtail' (instead of 'truncate') but it is hard to believe that a mathematician of Mikhlin's stature could speak of 'an infinite region bounded by a closed smooth surface' (p. 169).

There are three pages of references which will be useful only to those with an access to a library containing a lot of Russian books and periodicals - the 'western' references are all antediluvian. In this connection one cannot but wonder about the reference [38], p. 261, because the bibliography stops at number [35].

The typography and external appearance are excellent.

To sum up, a very useful book for applied elasticians and hydrodynamicists who can afford the price.

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A First Course in Statistics by Robert Loveday. Cambridge University Press, 1958 (The Macmillan Company of Canada Limited). xi + 121 pages. \$1.45.

The little book will be welcomed by students of a half year's course on the elements of statistics. It gives an introduction into some basic concepts, augmented by useful exercises. A glossary of terms at the end as well as a small table of logarithms will be appreciated by the reader whose mathematical knowledge is supposed to be extremely restricted. The mathematically minded student might well prefer a more elaborate mathematical approach to the subject.

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