operators arising in mathematical physics. Unfortunately this is a big gap and is perhaps rather too big to be effectively bridged by the one-year course which this book represents. Furthermore, by focussing attention on "well-behaved" examples of the ideas discussed, some of the real problems which may arise in practice are not revealed. The reviewer would prefer to see the more advanced techniques discussed in a course which requires linear algebra as a prerequisite and possibly a course in differential equations also.

In spite of these difficulties inherent in the subject matter, the book was found to be very well written with careful developments of the necessary analysis. Useful and informative examples are liberally supplied. To summarize the contents: Chapter 1 is on vector spaces and linear transformations. Chapter 2 is on matrix operators with special emphasis on symmetric operators and matrices similar to diagonal matrices. Chapter 3 is on limit processes for point sets and functions defined on point sets. Chapter 4 presents the Hilbert-Schmidt theory for Fredholm integral equations with symmetric kernels. Chapter 5 is a useful introduction to approximation theory particularly by means of Legendre polynomials, Hermite polynomials, and trigonometric functions. Chapter 6 is mainly concerned with a self-adjoint differential operator defined on a finite interval of the real line; the Green function is discussed. Chapter 7 gives an introduction to the theory of Fourier transforms.

To sum up: this book can be strongly recommended as a reference and possibly a text for introductory courses on the theory of linear operators.

P. Lancaster, University of Alberta, Calgary

Mathematiques, par A. Hocquenghem et P. Jaffard. Tome II. Masson, 1963.

The first of the four "books" which comprise this volume deals with the linear algebra of vector spaces; many lecturers will be glad to have this treatment conveniently to hand in a calculus text.

The next book, "représentations des fonctions" deals with uniform convergence, series (including Fourier series) and Fourier and Laplace transforms.

Next, "Analyse vectorielle" covers multiple, curvilinear and surface integrals (with a chapter on transformations) including improper integrals; and ends with an extended treatment of vector functions and "Formules Stokiennes".

The last book deals with functional equations (which, as might be expected, all turn out to be differential equations) starting with total differential equations and proceeding to an extended treatment of linear systems, starting with an existence-and-uniqueness theorem which is carefully stated but not proved. The book ends with a short chapter on partial differential equations and a somewhat longer one adequately described by its title "méthodes particulières d' Integration."

Hugh A. Thurston, University of British Columbia

https://doi.org/10.1017/S0008439500024553 Published online by Cambridge University Press