
The first edition of this excellent treatise was reviewed in vol. 43 (1936) p. 15 and vol. 45 (1939) p. 218 of this BULLETIN. The first volume has not been changed much in the revision; a discussion of the theorems of Egoroff-Severini and Lusin in chapter III seems to be the most important addition. On the other hand, the second volume has grown by more than 200 pages. A completely new chapter on approximation and interpolation has been added. About 80 pages are devoted to the theorem of Weierstrass (the Landau-de la Vallée-Poussin approach for the rational case and that of Dunham Jackson for the trigonometric one), best order of approximation, Chebychev polynomials, the interpolation polynomials of Lagrange and Hermite, Bernstein polynomials, and so on.

There are other important additions. Thus in chapter I a discussion of $L_p$ spaces is added. In chapter II the theory of Fourier series has been enlarged somewhat, the main addition being devoted to $(C, \alpha)$ summability. In chapter III the formula of Mehler has been added as well as a discussion of the zeros of Legendre polynomials. The major addition to this chapter, however, is a discussion of the functions on the sphere as well as $(C, \alpha)$ and Poisson summability of the series of Laplace and of Legendre. Chapter IV on Hermite and Laguerre polynomials is practically unchanged. Finally, in the last chapter on Stieltjes integrals the discussion of characteristic functions (=Fourier-Stieltjes transforms of distribution functions) has been completed by the addition of the Bochner-P. Lévy inversion formula and some convergence theorems. The additions have done much to enhance the value of the treatise which has become a convenient and reliable handbook in classical analysis. The book can be strongly recommended. It is to be hoped for that the misspelling of the name of Walsh will be corrected in the third edition.

Einar Hille


The two volumes under review constitute a comprehensive account of the following topics: the differential and integral calculus, the general theory of analytic functions of a complex variable, algebraic functions and Abelian integrals, a brief introduction to analytic functions of several variables, the theory of ordinary differential equations in