

Contents

Chapter 1. Averaging operators and the Bochner theorem	1
Chapter 2. The Fourier transform in L^1	9
Chapter 3. The inversion theorem in L^1 . The Poisson integral	16
Chapter 4. Harmonic functions. The Dirichlet problem for a ball and a half-space	24
Chapter 5. The Fourier transform in L^2	33
Chapter 6. Hermite functions	39
Chapter 7. Spherical functions	42
Chapter 8. Positive definite functions	52
Chapter 9. The Hankel transform	59
Chapter 10. Orthogonal polynomials and the moment problem	64
Chapter 11. The class H_2^+ . The Paley-Wiener theorem	72
Chapter 12. Boundary properties of functions analytic in the upper half-plane, and the Hilbert transform	83
Chapter 13. The Poisson summation formula and some of its applications	89
Chapter 14. Applications of the Laplace and Fourier transforms to the solution of boundary value problems in mathematical physics	94
Chapter 15. Fourier transforms of increasing functions. The Wiener-Hopf technique	100