

Contents

Chapter I. Harmonic Analysis	1
§ 1. Notation and Preliminaries	1
§ 2. Some Basic Results From Harmonic Analysis	8
§ 3. Positive Definite Functions	11
§ 4. Fourier Transformation of Positive Definite Measures	17
§ 5. Positive Definite Functions on \mathbb{R}	26
§ 6. Periodicity	30
Chapter II. Negative Definite Functions and Semigroups	39
§ 7. Negative Definite Functions	39
§ 8. Convolution Semigroups.	48
§ 9. Completely Monotone Functions and Bernstein Functions	61
§ 10. Examples of Negative Definite Functions and Convolution Semigroups	72
§ 11. Contraction Semigroups	76
§ 12. Translation Invariant Contraction Semigroups	85
Chapter III. Potential Theory for Transient Convolution Semigroups	97
§ 13. Transient Convolution Semigroups	97
§ 14. Transient Convolution Semigroups on the Half-Axis and Integrals of Convolution Semigroups.	121
§ 15. Convergence Lemmas and Potential Theoretic Principles.	136
§ 16. Excessive Measures	146
§ 17. Fundamental Families Associated With Potential Kernels	160
§ 18. The Lévy Measure for a Convolution Semigroup	171
Bibliography	191
Symbols	195
General Index	196