

Contents

<u>Introduction</u>	1
<u>Chapter I</u> : Elliptic Equations in Two Independent Variables	
1.1 Analytic Continuation	7
1.2 Integral Operators	14
1.3 Complete Families of Solutions	21
1.4 The Bergman Kernel Function	31
1.5 Inverse Methods in Compressible Fluid Flow	34
<u>Chapter II</u> : Parabolic Equations in One Space Variable	
2.1 Integral Operators	43
2.2 Reflection Principles	63
2.3 Initial-Boundary Value Problems	70
<u>Chapter III</u> : Parabolic Equations in Two Space Variables	
3.1 Integral Operators and the Riemann Function	82
3.2 Complete Families of Solutions	91
3.3 The Inverse Stefan Problem	99
<u>Chapter IV</u> : The Method of Ascent for Elliptic Equations	
4.1 Interior Domains	106
4.2 Exterior Domains	117
4.3 The Inverse Scattering Problem	130
<u>Appendix</u> : A Numerical Example	136
<u>References</u>	144