

CONTENTS

Part 1

Multivariate Potential Theory and the Solution of Boundary Value Problems for Regions with Irregular Boundaries

Introduction	3
Chapter 1. Properties of the Class of Sets Being Considered.....	6
§1. Definition and Certain Properties of a Solid Angle.....	6
§2. Properties of Sets Satisfying Condition (A).....	10
§3. Properties of Sets Satisfying Condition (B).....	14
Chapter 2. Potentials and the Solution of Boundary Value Problems....	17
§4. Integral Equations of Boundary Value Problems	17
§5. On the Continuity of the Simple-Layer Potential Generated by the Solution of the Equation $\Phi - \lambda T^* \Phi = 0$	21
§6. Fredholm Radius of Operator T	26
§7. Solvability and Uniqueness.....	28
Appendix. On the Approximation of a Solid Angle	32
Literature Cited.....	39

Part 2

On the Space of Functions Whose Derivatives are Measures

Introduction.....	43
§1. Properties of the Set Perimeter and of Functions from $BV(\Omega)$	43
§2. On the Continuation of Functions from $BV(\Omega)$ onto the Whole Space.....	45
§3. Certain Exact Constants for Convex Regions.....	50
§4. The Rough Trace and Certain Integral Inequalities.....	55
§5. The Trace of Functions from $BV(\Omega)$ on the Boundary	60
Literature Cited.....	68