

CONTENTS

TRANSLATION EDITOR'S PREFACE TO VOLUME I	vii
INTRODUCTION	1
Chapter 1. INTEGRAL INEQUALITIES	5
§1. L_p spaces	5
§2. The basic integral inequalities	17
§3. Boundedness of the convolution in L_p	48
§4. Singular integrals in L_p	67
Chapter 2. INTEGRAL REPRESENTATIONS OF DIFFERENTIABLE FUNCTIONS	89
§5. Averaging of functions	92
§6. Generalized derivatives	96
§7. Integral representations of differentiable functions .	103
§8. The domains of definition of the functions	153

Chapter 3.	ANISOTROPIC SOBOLEV SPACES AND IMBEDDING THEOREMS	101
§9.	Properties of the anisotropic spaces $W_p^l(G)$	165
§10.	The imbedding of $W_p^l(G)$ and $L_q(G)$ in $C(G)$ and in an Orlicz class. Estimates for the trace of a function	180
§11.	Coerciveness in the space $W_p^l(G)$	207
§12.	Imbedding of $W_p^l(G)$ and when l does not corre- spond to the type of the region G	224
§13.	Inequalities between L_p -norms of mixed derivatives .	242
§14.	The behavior of functions in W_p^l at ∞ and the density of C_0^∞ in W_p^l	290
§15.	Multiplicative inequalities for L_p -norms of derivatives	311
BIBLIOGRAPHY	331