• 4 왕 92 the Sa (Ar

Contents

			Page
PREFACE			
ACKNOWLE	DGMENT	S	
INTRODUCTION			1
PART 1.	PHYSICAL THEORY		5
	1. 2. 3. 4. 5. 6. 7. 8.	The Physical Problem The Mathematical Formulation Solution of the Initial-Boundary Value Problem The Reference Problem and Its Eigenfunctions Rayleigh-Bloch Diffracted Plane Waves for Gratings Rayleigh-Bloch Surface Waves for Gratings Rayleigh-Bloch Wave Expansions Wave and Scattering Operators for Gratings Asymptotic Wave Functions for Gratings The Scattering of Signals from Remote Sources	5 8 10 11 12 16 19
PART 2.	MATHE	MATICAL THEORY	21
	2. 3. 4. 5. 6. 7. 8. 9.	Grating Domains and Grating Propagators Rayleigh-Bloch Waves The Reduced Grating Propagator Ap Analytic Continuation of the Resolvent of Ap Proofs of the Results of §4 The Eigenfunction Expansion for Ap Proofs of the Results of §6 The Rayleigh-Bloch Wave Expansions for A Proofs of the Results of §8 The Initial-Boundary Value Problems for the Scattered Fields Construction of the Wave Operators for Ap and Ao, p Construction of the Wave Operators for A and Ao Asymptotic Wave Functions and Energy Distributions Construction and Structure of the S-Matrix The Scattering of Signals by Diffraction Gratings	22 27 33 38 48 83 91 104 110 121 126 131 136 150
REFERENCES			160
INDEX			163