CONTENTS

Pre	ace	V
1.	Magnetic Hamiltonians	1
	1.1. Hydrogen Molecule Hamiltonian	1 5
	1.3. Spin Wave Excitations	12
	1.4. Two-Spin Deviation Excitations	14 19
	1.6. Spin Waves in Classical Mechanics	31
	1.7. Heisenberg Hamiltonian for Actual Compounds	33
2.	Spin Waves in Ferromagnets	38
	2.1. Spin-Boson Transformation	38
	2.2. Bosonic Approach to the Heisenberg Hamiltonian	40
	2.3. Harmonic Approximation	44
	2.4. Low Temperature Thermodynamic Functions2.5. Application to Quasi-2D and Quasi 1D-models	46 51
3.	Interacting Spin Waves in Ferromagnets	55
	3.1. Neutron Scattering Cross-Section	55
	3.2. Boson Green Function	59
	3.3. First-Order Approximation	62
	3.4. Second-Order Approximation	65
	3.5. Dyson's Equation	72 76
4.	Feynman Diagrams Expansion in Ferromagnets	91
	4.1. Temperature Green Function and Perturbation Expansion	91
	4.2. First-Order Perturbation Theory	95
	v	100
	V	105
	4.5. T-matrix Approximation	112