

# Contents

PREFACE . . . . .	vii
<b>I. Introduction . . . . .</b>	<b>1</b>
<b>II. Resume of Classical Magnetism and Bubble Domain Statics</b>	
1. Static Material Parameters . . . . .	7
2. Domain Statics . . . . .	16
3. Landau-Lifshitz Equation and Dynamic Material Parameters . . . . .	30
<b>III. Experimental Techniques</b>	
4. Techniques of Domain-Wall Observation . . . . .	41
5. Dynamical Techniques with a Restoring Force . . . . .	50
6. Gradient Propagation of Bubbles: The Case of Zero Restoring Force . . . . .	61
<b>IV. Domain-Wall Statics</b>	
7. One-Dimensional Model . . . . .	77
8. Bloch-Line Statics . . . . .	83
9. Bloch Points, State Transitions, and Capping Layers . . . . .	104
<b>V. Wall Dynamics in One Dimension</b>	
10. One-Dimensional Theory . . . . .	123
11. Applications of the One-Dimensional Theory and Comparison to Experiment . . . . .	128

<b>VI. Wall Dynamics in Three Dimensions</b>	
12. General Domain Dynamics . . . . .	145
<b>VII. Low-Velocity Dynamics with Vertical Bloch Lines</b>	
13. Hard-Wall Dynamics . . . . .	165
14. Small Numbers of Vertical Bloch Lines . . . . .	177
<b>VIII. Nonlinear Wall Motion in Two Dimensions</b>	
15. Bloch-Line Model . . . . .	189
16. Comparison to Experiment . . . . .	197
17. Advanced Topics in Two Dimensions . . . . .	206
<b>IX. Nonlinear Bubble Translation</b>	
18. Theory of Nonlinear Bubble Translation . . . . .	217
19. Comparison to Experiment . . . . .	235
20. Gradientless Propulsion or Automotion . . . . .	254
21. Device Dynamics . . . . .	262
<b>X. Wall Waves and Microwave Effects</b>	
22. Wall-Wave Spectra . . . . .	270
23. Microwave Effects . . . . .	280
REFERENCES . . . . .	293
LIST OF COMMONLY USED SYMBOLS . . . . .	307
AUTHOR INDEX . . . . .	309
SUBJECT INDEX . . . . .	321