

Volume 69

SOLID STATE PHYSICS

AM/S
4



CONTENTS

<i>Contributors</i>	<i>vii</i>
<i>Preface</i>	<i>ix</i>
1. Using Ion-Beam-Assisted Deposition and Ion Implantation for the Rational Control of Nanomagnetism in Thin Film and Nanostructured Systems	1
Ko-Wei Lin, Chuenhou (Hao) Ouyang, and Johan van Lierop	
1. Introduction	2
2. Thin Film Fabrication, Implantation, and Characterization Methods	4
3. Characterization Methods	5
4. Model Systems	15
5. Conclusion	41
Acknowledgments	42
References	42
2. Cavity Spintronics: An Early Review of Recent Progress in the Study of Magnon–Photon Level Repulsion	47
Michael Harder and Can-Ming Hu	
1. Introduction	48
2. Theory of Magnon–Photon Level Repulsion	51
3. Experimental Observation of Magnon–Photon Level Repulsion	75
4. Summary	108
Acknowledgments	109
Appendices	109
Appendix A. Simplification of Harmonic Oscillator Dispersion	109
Appendix B. Simplification of Harmonic Oscillator Transmission Spectra	110
Appendix C. Normal Modes of Harmonic Oscillator	111
Appendix D. Details of Input–Output Formalism	111
References	113