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Nanostructured Magnetic Semiconductors; 6.1 ELECTRON-HOLE JUNCTIONS; 6.2 MOSFET; 6.3 NANOSIZED MOSFETS  
6.4 DILUTE MAGNETIC SEMICONDUCTORS; 6.5 NANOSTRUCTURING IN MAGNETIC SEMICONDUCTORS; 6.6 DMS QUANTUM WELLS; 6.7 DMS QUANTUM DOTS; 6.8 STORAGE DEVICES BASED ON MAGNETIC SEMICONDUCTORS; 6.9 THEORETICAL PREDICTIONS OF NANOSTRUCTURED MAGNETIC SEMICONDUCTORS; EXERCISES; REFERENCES; Chapter 7 Applications of Magnetic Nanostructures; 7.1 FERROFLUIDS; 7.2 MAGNETIC STORAGE (HARD DRIVES); 7.3 ELECTRIC FIELD CONTROL OF MAGNETISM; 7.4 MAGNETIC PHOTONIC CRYSTALS; 7.5 MAGNETIC NANOPARTICLES AS CATALYSTS; 7.6 MAGNETIC NANOPARTICLE LABELING OF HAZARDOUS MATERIALS; EXERCISES; REFERENCES  
Appendix B Definition of a Magnetic Field

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Sommario/riassunto

A comprehensive coverage of the physical properties and real-world applications of magnetic nanostructures. This book discusses how the important properties of materials such as the cohesive energy, and the electronic and vibrational structures are affected when materials have at least one length in the nanometer range. The author uses relatively simple models of the solid state to explain why these changes in the size and dimension in the nanometer regime occur. The text also reviews the physics of magnetism and experimental methods of measuring magnetic properties necessary to understandin

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