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Autore	Srinivasan G (Gopalan)
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7.4 Self-biased magnetolectric energy harvester7.5 Multimode magnetolectric energy harvester; 7.6 Low frequency and wideband magnetolectric energy harvester; Acknowledgments; References; 8 - Magnetolectric current sensor; 8.1 Introduction; 8.2 Development of magnetolectric current sensors; 8.3 Conventional ME composites-based current sensors; 8.4 Self-biased ME composites-based current sensors; 8.5 ME transformer-based current sensors; 8.6 Magnetic noise and elimination; Acknowledgments; References; 9 - Microwave and millimeter-wave multiferroic devices; 9.1 Introduction
9.2 Converse ME effects at ferromagnetic resonance9.3 Hybrid spin-electromagnetic waves in composites; 9.4 Composites for high-frequency devices; 9.5 Multiferroic high-frequency devices; 9.6 Conclusion; References; 10 - Magnetolectric composites for miniature antennas; 10.1 Introduction; 10.2 Effect of high permeability/permittivity ratio on antenna performance; 10.3 High permeability RF/microwave thick film materials; 10.4 Bulk composites; 10.5 Layered thin film systems; 10.6 Antenna design and characteristics; References; 11 - Magnetolectric composites for medical application
11.1 Detailed background on wireless capsule endoscopy

Sommario/riassunto

Composite Magnetolectrics: Materials, Structures, and Applications gives the reader a summary of the theory behind magnetolectric phenomena, later introducing magnetolectric materials and structures and the techniques used to fabricate and characterize them. Part two of the book looks at magnetolectric devices. Applications include magnetic and current sensors, transducers for energy harvesting, microwave and millimeter wave devices, miniature antennas and medical imaging. The final chapter discusses progress towards magnetolectric memory. Summarises clearly the theory behind magnetolectr
