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Transmission line equations. -- 5.2 Finite length transmission line. -- 5.3 Smith chart. -- 5.4 Transients on transmission lines. -- 6. MODIFIED MAXWELL'S EQUATIONS AND POTENTIAL FUNCTIONS. -- 6.1 Magnetic charge and current. -- 6.2 Magnetic vector and electric scalar potentials. -- 6.3 Electric vector and magnetic scalar potentials. -- 6.4 Construction of solution in rectangular coordinates. -- 6.5 Construction of solution in cylindrical coordinates. -- 6.6 Construction of solution in spherical coordinates. -- 7. SOURCE IN INFINITE SPACE. -- 7.1 Fields of an infinitesimal source. -- 7.2 Antenna parameters. -- 7.3 Linear antennas. -- 7.4 Antenna arrays. -- 7.5 Friis transmission formula and the radar range equation. -- 8. ELECTROSTATIC FIELDS. -- 8.1 Laws of electrostatic fields. -- 8.2 Gauss' law. -- 8.3 Poisson's and Laplace's equations. 8.4 Capacitors and energy storage. -- 8.5 Further applications of Poisson's and Laplace's equations. -- 9. MAGNETOSTATIC FIELDS. -- 9.1 Laws of magnetostatic fields. -- 9.2 Inductors and energy storage. -- 9.3 Magnetic materials. -- 9.4 Magnetic Circuits. -- 10. WAVEGUIDES AND CAVITY RESONATORS. -- 10. 1 Metallic rectangular waveguide. -- 10. 2 Metallic circular cylindrical waveguide. -- 10.3 Rectangular cavity resonators. -- 10.4 Circular cylindrical cavity resonators. -- 11. NUMERICAL TECHNIQUES. -- 11.1 Finite difference methods. -- 11.2 The method of moments. -- 11.3 Scattering of plane EM waves from an infinitely long cylinder. -- Appendix A. Mathematical formulas. -- Appendix B. Delta function and evaluation of fields in unbounded media. -- Appendix C. Bessel functions. -- Appendix D. Legendre functions. -- Appendix E. Characteristics of selected materials. -- Appendix F. Physical constants. -- Appendix G. Decibels and Neper. -- Appendix H. Nomenclature and characteristics of standard rectangular waveguides. -- SELECTED REFERENCE BOOKS . -- Index.

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Sommario/riassunto

The fifth edition of Grounding and Shielding has been revised throughout. Material has been added on transmission lines, radiation and printed circuit design, all of which are of great current interest because of the smaller dimensions of electronic devices.

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