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| Nota di contenuto | PREFACE -- PART I. DETERMINISTIC THEORY -- 1. Introduction -- 1.1 Maxwell's Equations -- 1.2 Empty Cavity Modes -- 1.3 Wall Losses -- 1.4 Cavity Excitation -- 1.5 Perturbation Theories -- Problems -- 2. Rectangular Cavity -- 2.1 Resonant Modes -- 2.2 Wall Losses and Cavity Q -- 2.3 Dyadic Green's Functions -- Problems -- 3. Circular Cylindrical Cavity -- 3.1 Resonant Modes -- 3.2 Wall Losses and Cavity Q -- 3.3 Dyadic Green's Functions -- Problems -- 4. Spherical Cavity -- 4.1 Resonant Modes -- 4.2 Wall Losses and Cavity Q -- 4.3 Dyadic Green's Functions -- 4.4 Schumann Resonances in the Earth-Ionosphere Cavity -- Problems -- PART II. STATISTICAL THEORIES FOR ELECTRICALLY LARGE CAVITIES -- 5. Motivation for Statistical Approaches -- 5.1 Lack of Detailed Information -- 5.2 Sensitivity of Fields to Cavity Geometry and Excitation -- 5.3 Interpretation of Results -- Problems -- 6. Probability Fundamentals -- 6.1 Introduction -- 6.2 Probability Density Function -- 6.3 Common Probability Density Functions -- 6.4 Cumulative Distribution Function -- 6.5 Methods for Determining Probability Density Functions -- Problems -- 7. Reverberation Chambers -- 7.1 Plane-Wave Integral Representation of |

Fields -- 7.2 Ideal Statistical Properties of Electric and Magnetic Fields -- 7.3 Probability Density Functions for the Fields -- 7.4 Spatial Correlation Functions of Fields and Energy Density -- 7.5 Antenna or Test-Object Response -- 7.6 Loss Mechanisms and Chamber Q -- 7.7 Reciprocity and Radiated Emissions -- 7.8 Boundary Fields -- 7.9 Enhanced Backscatter at the Transmitting Antenna -- Problems -- 8. Aperture Excitation of Electrically Large, Lossy Cavities -- 8.1 Aperture Excitation -- 8.2 Power Balance -- 8.3 Experimental Results for SE -- Problems -- 9. Extensions to the Uniform-Field Model -- 9.1 Frequency Stirring -- 9.2 Unstirred Energy -- 9.3 Alternative Probability Density Function -- Problems -- 10. Further Applications of Reverberation Chambers -- 10.1 Nested Chambers for Shielding Effectiveness Measurements. 10.2 Evaluation of Shielded Enclosures -- 10.3 Measurement of Antenna Efficiency -- 10.4 Measurement of Absorption Cross Section -- Problems -- 11. Indoor Wireless Propagation -- 11.1 General Considerations -- 11.2 Path Loss Models -- 11.3 Temporal Characteristics -- 11.4 Angle of Arrival -- 11.5 Reverberation Chamber Simulation -- Problems -- APPENDIX A. VECTOR ANALYSIS -- APPENDIX B. ASSOCIATED LEGENDRE FUNCTIONS -- APPENDIX C. SPHERICAL BESSEL FUNCTIONS -- APPENDIX D. THE ROLE OF CHAOS IN CAVITY FIELDS -- APPENDIX E. SHORT ELECTRIC DIPOLE RESPONSE -- APPENDIX F. SMALL LOOP ANTENNA RESPONSE -- APPENDIX G. RAY THEORY FOR CHAMBER ANALYSIS -- APPENDIX H. ABSORPTION BY A HOMOGENEOUS SPHERE -- APPENDIX I. TRANSMISSION CROSS SECTION OF A SMALL CIRCULAR APERTURE -- APPENDIX J. SCALING -- REFERENCES -- INDEX.

Sommario/riassunto

A thorough and rigorous analysis of electromagnetic fields in cavities. This book offers a comprehensive analysis of electromagnetic fields in cavities of general shapes and properties. Part One covers classical deterministic methods to conclude resonant frequencies, modal fields, and cavity losses; quality factor; mode bandwidth; and the excitation of cavity fields from arbitrary current distributions for metal-wall cavities of simple shape. Part Two covers modern statistical methods to analyze electrically large cavities of complex shapes and properties. Electr

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