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	Nota di contenuto	Intro -- Preface -- Introduction -- Contents -- Symbols and Abbreviations -- 1 Radio Characteristics of Antennas -- 1.1 The Role of Antennas in Radio Systems -- 1.2 The Structure of Electromagnetic Fields Excited by the Antenna -- 1.2.1 Types of Variable Electromagnetic Fields Excited by the Antenna in the Surrounding Space -- 1.2.2 Near-Field and Far-Field Regions of the Antenna -- 1.3 Internal Parameters of Transmitting Antennas -- 1.3.1 The Balance of Active and Reactive Power in the Antenna -- 1.3.2 Input Impedance of the Antenna -- 1.3.3 The Efficiency of the Antenna -- 1.3.4 The Parameters that Characterize the Match of the Antenna Input -- 1.3.5 The Conclusions from Section 1.3 -- 1.4 The External Parameters of Transmitting Antennas -- 1.4.1 The Amplitude and Power Radiation Pattern -- 1.4.2 A Phase Radiation Pattern, the Phase Front and the Phase Center of the Antenna -- 1.4.3 Polarization Characteristic -- 1.4.4 The Directivity and Gain -- 1.5 Radio Characteristics of Receiving Antennas -- 1.5.1 The Identity of Some Radio Characteristics of Antennas in the Transmission and Reception Modes -- 1.5.2 The Directivity, Gain, and the Effective Area of the Receiving Antenna -- 1.5.3 The Noise Temperature of the Antenna -- References -- 2 Methods of Measurement of Radio Characteristics of Antennas (Brief Overview) -- 2.1 Introduction -- 2.2

| Sommario/riassunto | This book is useful both for those who want to get initial information on the measurement of the antenna parameters, and for specialists directly involved in the experimental determination of the antenna parameters from the results of measuring the amplitude-phase distribution in the near zone of the antennas. Currently, the near-field method is the most common one for antenna measurements. In most books, an academic approach is given to the issue under consideration and it is difficult to use them for the direct organization of measurements. In many others, specific narrow issues are considered that are accessible to understanding only by highly qualified engineers/readers. The purpose of this book is to get rid of the above disadvantages by offering the reader a more accessible exposition and formulas by which appropriate computer programs can be written with minimal effort. The contents of this book allow interested specialists to be not only users of the near-field measuring facilities, but also help in understanding the principles of their work. This book is intended for engineers and specialists whose activities are related to experimental testing of radio characteristics of complex antenna systems, especially near-field measurements, and is also useful as a textbook for senior students in the field of "radioelectronics" and "radiophysics." |