1. Record Nr. UNINA9910484432603321 Autore Kalashnikov Vadim Serafimovich Titolo Near-field antenna measurements: calculations and facility design / / Vadim Serafimovich Kalashnikov [et al.] Pubbl/distr/stampa Singapore:,: Springer,, [2021] ©2021 **ISBN** 981-336-436-X Descrizione fisica 1 online resource (163 pages) Collana Springer Aerospace Technology Disciplina 621.38028 Soggetti Microwave antennas - Testing Antennas (Electronics) - Testing Near-fields - Measurement Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia 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 --

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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."