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Sommario/riassunto

Matlab is the accepted standard for scientific computing, used globally in virtually all Neuroscience and Cognitive Psychology laboratories. For instance, SPM, the most used software for the analysis and manipulation of fMRI images in research and clinical practice is fully programmed in matlab, and its use of the possibility to allow for sophisticated software modules to be freely added to the software has established it as the by far dominant software in the field. Many universities now offer, or are beginning to offer matlab introductory courses in their neuroscience and psychology programs

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Broadband planar antennas : design and applications / / Zhi Ning Chen and Michael Y.W. Chia

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Broadband Planar Antennas; Contents; Foreword; Preface; Acknowledgements; 1 Planar Radiators; 1.1 Introduction; 1.2 Bandwidth Definitions; 1.2.1 Impedance Bandwidth; 1.2.2 Pattern Bandwidth; 1.2.3 Polarization or Axial-ratio Bandwidth; 1.2.4 Summary; 1.3 Planar Antennas; 1.3.1 Suspended Plate Antennas; 1.3.2 Bent Plate Antennas; 1.4 Overview of this Book; References; 2 Broadband Microstrip Patch Antennas; 2.1 Introduction; 2.2 Important Features of Microstrip Patch Antennas; 2.2.1 Patch Shapes; 2.2.2 Substrates; 2.2.3 Feeding Structures; 2.2.4 Example: Rectangular Microstrip Patch Antennas; 2.3 Broadband Techniques; 2.3.1 Lowering the Q; 2.3.2 Using an Impedance Matching Network; 2.3.3 Case Study: Microstrip Patch Antenna with Impedance Matching Stub; 2.3.4 Introducing Multiple Resonances; 2.3.5 Case Study: Microstrip Patch Antenna with Stacked Elements; References; 3 Broadband Suspended Plate Antennas; 3.1 Introduction; 3.2 Techniques to Broaden Impedance Bandwidth; 3.2.1 Capacitive Load; 3.2.2 Slotted Plates; 3.2.3 Case Study: SPA with an W-shaped Slot; 3.2.4 Electromagnetic Coupling; 3.2.5 Nonplanar Plates; 3.2.6 Vertical Feed Sheet; 3.3 Techniques to Enhance Radiation Performance; 3.3.1 Radiation Characteristics of SPAs; 3.3.2 SPA with Dual Feed Probes; 3.3.3 Case Study: Center-concaved SPA with Dual Feed Probes; 3.3.4 SPA with Half-wavelength Probe-fed Strip; 3.3.5 SPA with Probe-fed Center Slot; 3.3.6 Case Study: Center-fed SPA with Double L-shaped Probes; 3.3.7 SPA with Slots and Shorting Strips; 3.4 Arrays with Suspended Plate Elements; 3.4.1 Mutual Coupling between Two Suspended Plate Elements; 3.4.2 Reduced-size Array above Double-tiered Ground Plane; References; 4 Planar Inverted-L/F Antennas; 4.1 Introduction; 4.2 The Inverted-L/F Antenna; 4.3 Broadband Planar Inverted-F/L Antenna; 4.3.1 Planar Inverted-F Antenna; 4.3.2 Planar Inverted-L Antenna; 4.4 Case Studies; 4.4.1 Handset Antennas; 4.4.2 Laptop Computer Antennas; References; 5 Planar Monopole Antennas and Ultra-wideband Applications; 5.1 Introduction; 5.2 Planar Monopole Antenna; 5.2.1 Planar Bi-conical Structure; 5.2.2 Planar Monopoles; 5.2.3 Roll Monopoles; 5.2.4 EMC Feeding Methods; 5.3 Planar Antennas for UWB Applications; 5.3.1 Ultra-wideband Technology; 5.3.2 Considerations for UWB Antennas and Source Pulses; 5.3.3 Planar UWB Antenna and Assessment; 5.4 Case Studies; 5.4.1 Planar UWB Antenna Printed on a PCB; 5.4.2 Planar UWB Antenna Embedded into a Laptop Computer; 5.4.3 Planar Directional UWB Antenna; References; Index

Sommario/riassunto

The increasing demand for wireless communications has revolutionised the lifestyle of today's society and one of the key components of wireless technology is antenna design. Broadband planar antennas are the newest generation of antennas boasting the attractive features required, such as broad operating bandwidth, low profile, light weight, low cost and ease of integration into arrays or Radio Frequency (RF) circuits, to make them ideal components of modern communications systems. Research into small and broadband antennas has been spurred by the rapid development of portable wireless communi