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	Autore	Elmasry George F.
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	Nota di contenuto	About the Author -- Preface -- List of Acronyms -- Part 1: DSA Basic Design Concept -- 1 Introduction -- 1.1 Summary of DSA decision making processes -- 1.2 The hierarchy of DSA decision making -- 1.3 The impact of DSA control traffic -- 1.4 The involvement of DSA decision making -- 1.5 The pitfalls of DSA decision making -- 1.6 Concluding remarks -- 1.7 1Exercises -- Bibliography -- 2 Spectrum Sensing Technique -- 2.1 Multidimensional spectrum sensing and sharing -- 2.2 Time, frequency and power spectrum sensing -- 2.3 Energy detection sensing -- 2.3.1 Energy detection sensing of a communications signal (same-channel in-band sensing) -- 2.3.2 Time domain energy detection -- 2.3.3 Frequency domain energy detection -- 2.4 Signal characteristics spectrum sensing -- 2.4.1 Matched filter based spectrum sensing -- 2.4.2 Autocorrelation based spectrum sensing -- 2.4.3 Spreading code spectrum sensing -- 2.4.4 Frequency hopping spectrum sensing -- 2.4.5 Orthogonality based spectrum sensing -- 2.4.6 Waveform based spectrum sensing -- 2.4.7 Cyclostationarity based spectrum sensing -- 2.5 Euclidean space based detection -- 2.5.1 Geographical space detection -- 2.5.2 Angle of RF beam detection -- 2.6 Other sensing techniques -- 2.7 Concluding

Sommario/riassunto

"This book targets the field of dynamic spectrum access (DSA) (also referred to as dynamic spectrum awareness, dynamic spectrum management (DSM) or cooperative spectrum management). Its aim is to help engineers design the most suitable DSA approach for whatever system is being built. DSA is needed for a wide range of civilian and military communications systems and a form of DSA can be used for licensed and unlicensed spectrum bands. DSA is presented in this book with a wider context than cognitive radios. In today's ever-increasing appetite for bandwidth, different types of communications systems are evolving towards DSA but not necessarily in the context of cognitive radios. The book is meant for those with basic knowledge of wireless

communications and wireless networks and has interest in the design and implementation of the physical layer and medium access control (MAC) layer of wireless communication systems to include Cognitive Radios and Cognitive Networks. Understanding the aspects of digital communications is a must for readers of this book"--