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Titolo	Spectrum Sharing in Cognitive Radio Networks : Medium Access Control Protocol Based Approach // by Shweta Pandit, Ghanshyam Singh
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Descrizione fisica	1 online resource (XXIII, 254 p. 81 illus., 58 illus. in color.)
Disciplina	621.3815
Soggetti	Electronic circuits Signal processing Image processing Speech processing systems Energy efficiency Electronics Microelectronics Circuits and Systems Signal, Image and Speech Processing Energy Efficiency Electronics and Microelectronics, Instrumentation
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Cognitive Radio Communication System¾Spectrum Sharing Techniques -- Spectrum Sensing in Cognitive Radio: Potential Techniques and Future Perspective -- Medium Access Control Protocol for Distributed Cognitive Radio Network -- Distributed Cognitive Radio Medium Access Control Protocol in Perfect and Imperfect Channel Sensing Scenarios -- Throughput Enhancement using Bandwidth Wastage in MAC Protocol of the Distributed Cognitive Radio Network -- Power Allocation for Optimum Energy Efficiency in MAC Protocol of Cognitive Radio Communication System -- Frame Structure for Throughput Maximization in Cognitive Radio Communication -- Capacity Limits over Fading Environment with Imperfect Channel State Information for

Cognitive Radio Network -- Channel Capacity of Cognitive Radio in Fading Environment with CSI and Interference Power Constraints -- Framework for Cross-Layer Optimization in Cognitive Radio Network.

Sommario/riassunto

This book discusses the use of the spectrum sharing techniques in cognitive radio technology, in order to address the problem of spectrum scarcity for future wireless communications. The authors describe a cognitive radio medium access control (MAC) protocol, with which throughput maximization has been achieved. The discussion also includes use of this MAC protocol for imperfect sensing scenarios and its effect on the performance of cognitive radio systems. The authors also discuss how energy efficiency has been maximized in this system, by applying a simple algorithm for optimizing the transmit power of the cognitive user. The study about the channel fading in the cognitive user and licensed user and power adaption policy in this scenario under peak transmit power and interference power constraint is also present in this book.
