



Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid

Tao Jiang, Zhiqiang Wang, Yang Cao

[Download now](#)

[Click here](#) if your download doesn't start automatically

Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid

Tao Jiang, Zhiqiang Wang, Yang Cao

Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid Tao Jiang, Zhiqiang Wang, Yang Cao

Resource allocation is an important issue in wireless communication networks. In recent decades, cognitive radio-based networks have garnered increased attention and have been well studied to overcome the problem of spectrum scarcity in future wireless communications systems. Many new challenges in resource allocation appear in cognitive radio-based networks. This book focuses on effective resource allocation solutions in several important cognitive radio-based networks, including opportunistic spectrum access networks, cooperative sensing networks, cellular networks, high-speed vehicle networks, and smart grids.

Cognitive radio networks are composed of cognitive, spectrum-agile devices capable of changing their configuration on the fly based on the spectral environment. This capability makes it possible to design flexible and dynamic spectrum access strategies with the purpose of opportunistically reusing portions of the spectrum temporarily vacated by licensed primary users. Different cognitive radio-based networks focus on different network resources, such as transmission slots, sensing nodes, transmission power, white space, and sensing channels.

This book introduces several innovative resource allocation schemes for different cognitive radio-based networks according to their network characteristics:

- **Opportunistic spectrum access networks** – Introduces a probabilistic slot allocation scheme to effectively allocate the transmission slots to secondary users to maximize throughput
- **Cooperative sensing networks** – Introduces a new adaptive collaboration sensing scheme in which the resources of secondary users are effectively utilized to sense the channels for efficient acquisition of spectrum opportunities
- **Cellular networks** – Introduces a framework of cognitive radio-assisted cooperation for downlink transmissions to allocate transmission modes, relay stations, and transmission power/sub-channels to secondary users to maximize throughput
- **High-speed vehicle networks** – Introduces schemes to maximize the utilized TV white space through effective allocation of white space resources to secondary users
- **Smart grids** – Introduces effective sensing channel allocation strategies for acquiring enough available spectrum channels for communications between utility and electricity consumers

 [Download Cognitive Radio Networks: Efficient Resource Alloc ...pdf](#)

 [Read Online Cognitive Radio Networks: Efficient Resource All ...pdf](#)

Download and Read Free Online Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid Tao Jiang, Zhiqiang Wang, Yang Cao

From reader reviews:

Donald Murphy:

What do you in relation to book? It is not important with you? Or just adding material when you want something to explain what you problem? How about your extra time? Or are you busy man or woman? If you don't have spare time to perform others business, it is make you feel bored faster. And you have free time? What did you do? Every person has many questions above. They must answer that question due to the fact just their can do that. It said that about reserve. Book is familiar in each person. Yes, it is proper. Because start from on kindergarten until university need this specific Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid to read.

Anna Raynor:

This Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid book is not ordinary book, you have after that it the world is in your hands. The benefit you will get by reading this book is definitely information inside this reserve incredible fresh, you will get details which is getting deeper a person read a lot of information you will get. That Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid without we know teach the one who looking at it become critical in thinking and analyzing. Don't become worry Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid can bring any time you are and not make your tote space or bookshelves' come to be full because you can have it inside your lovely laptop even phone. This Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid having fine arrangement in word in addition to layout, so you will not really feel uninterested in reading.

Lisa Christopher:

As we know that book is essential thing to add our knowledge for everything. By a publication we can know everything we wish. A book is a group of written, printed, illustrated or even blank sheet. Every year has been exactly added. This book Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid was filled with regards to science. Spend your spare time to add your knowledge about your science competence. Some people has distinct feel when they reading a book. If you know how big benefit of a book, you can sense enjoy to read a publication. In the modern era like today, many ways to get book which you wanted.

Franklin Richter:

Do you like reading a e-book? Confuse to looking for your best book? Or your book has been rare? Why so

many problem for the book? But any people feel that they enjoy to get reading. Some people likes reading through, not only science book but novel and Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid as well as others sources were given information for you. After you know how the fantastic a book, you feel need to read more and more. Science publication was created for teacher or students especially. Those books are helping them to increase their knowledge. In various other case, beside science e-book, any other book likes Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid to make your spare time a lot more colorful. Many types of book like this one.

Download and Read Online Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid Tao Jiang, Zhiqiang Wang, Yang Cao #VIA0C52BHLT

Read Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid by Tao Jiang, Zhiqiang Wang, Yang Cao for online ebook

Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid by Tao Jiang, Zhiqiang Wang, Yang Cao Free PDF download, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid by Tao Jiang, Zhiqiang Wang, Yang Cao books to read online.

Online Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid by Tao Jiang, Zhiqiang Wang, Yang Cao ebook PDF download

Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid by Tao Jiang, Zhiqiang Wang, Yang Cao Doc

Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid by Tao Jiang, Zhiqiang Wang, Yang Cao Mobipocket

Cognitive Radio Networks: Efficient Resource Allocation in Cooperative Sensing, Cellular Communications, High-Speed Vehicles, and Smart Grid by Tao Jiang, Zhiqiang Wang, Yang Cao EPub