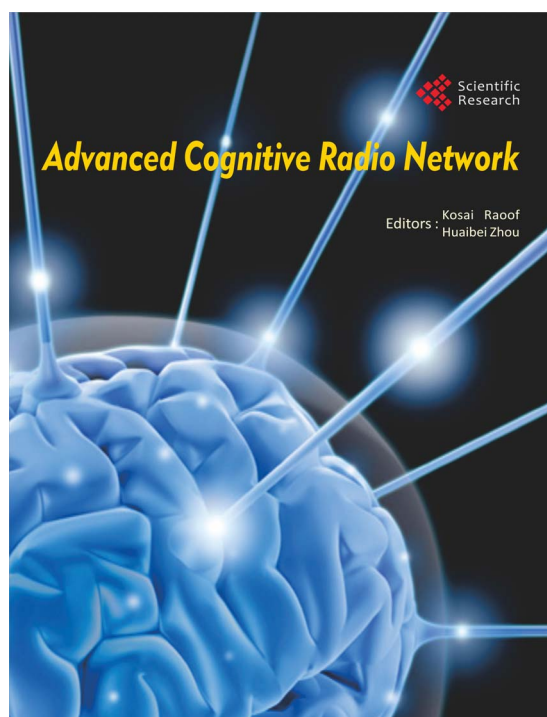


Review of the Book “Advanced Cognitive Radio Network”

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Chapter 1 History and foundation by Alagan Anpalagan. This book chapter deals with history and foundation of cognitive radio. In recent years wireless communications have experienced an unprecedented success for the rapidity of their diffusion and for their impact in the life of human society. The technologies used in wireless communications are far from being mature and many changes induced by their progress are still to come. Cognitive radio is one of these technologies and is regarded as a key technology to increase efficiency in wireless com-

munications. In many circumstances the spectrum assigned to wireless communications is not fully used. The main goal of cognitive radio is to improve the exploitation of the spectrum. The idea is to let the unlicensed users to access the spectrum left unused by the licensed users. In this chapter the main steps of the brief history of cognitive radio are presented including issues related to policy regulations that have influenced the technology and alternative technical solutions as software defined radio. The chapter ends with a brief discussion of future applications in wireless communications and of the challenges that they pose to cognitive radio.

This is a well written and informative chapter that deals with an important technology. I suggest to read it.

Chapter 6 MIMO systems and cooperative networks performances by Kosai Raouf, Maha Ben Zid. This chapter deals with MIMO (Multiple Input Multiple Output) systems.

This is a technology used to in wireless communications to improve transmission robustness and to increase spectral efficiency. The relation between MIMO systems and wireless sensor networks is investigated. Spatially distributed wireless sensor networks are deployed for many different purposes, let us mention, for example, environment monitoring missions or surveillance missions. Cooperative networks with virtual MIMO channels are studied, in particular networks aware of their environment are considered. These are cognitive networks that operate in wireless form. This last feature is the bridge that links them to cognitive radio. In fact the cognitive radio technology is used to allocate spectrum to the users of the cognitive network in an adaptive way.

This book chapter deals with a specific application, however, this is a very important application and this work is written in a way that makes it readable by a wide audience technically oriented readers. I suggest to read it.

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