Abstract

Study of Cognitive Radio Networks and an Adaptive Transmission Range Control Scheme (RAC) for Cognitive Radio Networks is presented in this paper. Cognitive radio network has great potential to improve the utilization of the radio spectrum by efficiently reusing and sharing the licensed spectrum bands. RAC considers the QoS (Quality of Service)
requirements of the primary and the secondary users simultaneously. The key feature of this strategy is that, the cognitive user can maximize its achievable throughput without interfering with the primary user by adapting its transmission range dynamically, while maintaining the QoS for itself.

**Reference**

- FCC, ET Docket No 03-222 Notice of proposed rule making and order, December 2003

**Index Terms**

Computer Science  
Information Technology

**Key words**

Cognitive Radio Network  
Adaptive Transmission Range
Quality of Service