Abstract

Here performance of different cognitive systems are analyzed in different environments and scenarios. The main scenarios are: one cognitive and one primary user, multiple cognitive users and channels and multiple cognitive and primary users. In all scenarios involving one or more primary users, the performance is evaluated over two phases. In Phase 1 the channel is idle, i.e. the primary users are silent, and in Phase 2 the primary users are active on the channel. One of the questions is how can cognitive users transmit simultaneously with the primary user in Phase 2. Schemes that show that this is possible is presented and evaluated and performance is compared to a standard cognitive system only transmitting when the channel is idle. In scenarios with multiple cognitive users and channels, Dirty paper coding Schemes is reviewed. All implementation and simulations were done in MATLAB.
References


Index Terms

Computer Science
Emerging Trends in Technology

Keywords

Cognitive Radio  Resource Allocation  Dirty Paper Coding  Tomlinson-harashima Precoding