Abstract

In wireless communication, signal in its propagation path always gets affected by noise signal. The radio link between transmitter and receiver varies randomly during signal propagation. This radio link may offer simple line-of-sight or multipath propagation of communication signal depending on channel condition and channel type. Sensing performance of cognitive radio network may also get affected over various channels and requires to be calculated. This paper enlightens the implementation and analysis through simulation of Matched filtering, Energy detection and Cyclostationary feature detection cognitive radio spectrum sensing techniques over AWGN, Rician and Rayleigh fading channels. It also contains combined analysis of the three techniques in terms of the SNR vs decision accuracy plots over AWGN, Rician fading and Rayleigh fading channels.

References

Analysis of Cognitive Radio Spectrum Sensing Techniques

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Index Terms

Computer Science Wireless

Keywords

Cognitive Spectrum sensing Energy detection Matched filtering Cyclostationary detection Cooperative sensing