Abstract

Spectrum sensing plays a very provocative role in cognitive radio network. In order to utilize spectrum more efficiently and to exploit the primary user, spectrum sensing is accomplished. We proposed a new hybrid algorithm for detection of primary user in cognitive radio network. The theoretical analysis and simulation is also presented in this paper. This research work includes an analogy with Energy Based Detection and Cyclostationary Feature Detection. Our proposed algorithm is a flexible algorithm, the Cyclostationary feature algorithm act as feature extractor when primary user is present and function as detector when primary user is absent. The results show that it is optimum spectrum sensing algorithm under different SNR values. It has removed the shortcomings faced by both sensing algorithms i.e. Energy Based Detection and Cyclostationary Feature Detection.
References

- ET Docket No. 03-222 Notice of proposed rulemaking and order, December 2003.
- Cognitive radio Research and Implementation Challenges A. Menouni Hayar1, R. Knopp1 and R. Pacalet2 1Mobile Communications Laboratory Institute, Eur´ecom, Sophia Antipolis, France 2SOC Laboratory, ENST Sophia Antipolis
- Lars Berlemann, George Dimittrakopoulos, Klaus moessner and Jim Hoffmeyer, &apos;&apos;Cognitive Radio and Management of Spectrum and Radio Resources in Reconfigurable Networks&apos;&apos;.
- A. Sahai, N. Hoven, and R. Tandra, &quot;Some fundamental limits on cognitive
Hybrid Spectrum Sensing Algorithm for Cognitive Radio Network


Index Terms

Computer Science  Wireless Communications

Keywords

Power spectral density  cyclic correlation function  mean square spectrum  hybrid spectrum sensing