Abstract

In this paper a cooperative spectrum sensing system based on IEEE 802.22 standard is proposed and modeled as cooperative game theory scheme. The proposed method considers each secondary user as a single sensing terminal that implies energy detection as spectrum sensing method with different signal to noise ratios (SNR) to estimate the existence of TV stations. The final decision of TV stations existence is made by fusion center after receiving each secondary user decision. The secondary users will form coalitions to make the final decision of the fusion more accurate. The cooperative game theory that proposed in this paper is based on AND, OR and majority rule for coalitions.

References

- Lu Lu, Xiangwei Zhou, Uzoma Onunkwo and Geoffrey Ye Li; "Ten years of research in spectrum sensing and sharing in cognitive radio"; EURASIP Journal on Wireless Communications and Networking 2012.
Utilizing TV Frequency Bands using Coalitional Game Theory according to the Standard of IEEE 802.22


Index Terms

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Keywords
Cognitive radio  spectrum sensing  WRAN  TV band  IEEE 802. 22  game theory