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Proposed sensing -transmission model for uncoordinated cognitive radios

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The radio spectrum available is a limited resource and the number of gadgets with high data rates cannot be accommodated in the present static spectrum. The spectrum sensing is the base line on which the whole process of cognitive radio works. To avoid the interference with the licensed users and determining the accessible spectrum for increasing the spectrum's usage is the pivotal task of cognitive radio. Cognitive radio evolved to be an effective method to overcome this limitation by dynamically accessing the data. In this paper, a technique responsible for sensing the spectrum and then transmitting on that spectrum is proposed. FHSS-ED (frequency hopping spread spectrum- energy detection) is the approach evaluated. It has two stages; firstly sensing is done using energy detection technique and transmission is done by hopping on available channels deduced from sensing stage by using FHSS technique. Comparison of the proposed technique FHSS-ED is made with the existing FHSS-OBRMB technique and simulation results prove that proposed technique has better results than the exiting. Analysis has also been made on the basis of noise uncertainty conditions.

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