Abstract

In this paper we have analyzed and simulated Frequency Division Spectrum Sensing (FDSS) in Cognitive Radio Network (CRN) for Nakagami fading channel. The simulation results show that for different values of Nakagami Parameters (m) the performance of the FDSS is different. As the value of Nakagami parameter (m) increases probability of false alarm decreases, probability of detection increases and secondary user's throughput also increases. The simulation results show that for the optimum spectrum sensing bandwidth (Ws) 0.5 MHz, the false alarm probability decreases by 49.6% and 96.6% for m=2 and m=5 respectively as compare to m=1, the probability of detection increases by 6% and 17.7% for m=2 and m=5 respectively as compare to m=1, the secondary user throughput increases by 14% and 29.1% for m=2 and m=5 respectively as compare to m=1.

References


Index Terms

Computer Science

Communication

Keywords

Cognitive radio  spectrum sensing framework  Nakagami fading channel