A Method of Avoiding Interference with Hidden Terminal in Cognitive Radio Network

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Abstract—In cognitive radio technology, detecting accurately primary users can improve the efficiency of cognitive radio (CR) network and reduce interference with primary users. This paper proposes a communication method of avoiding interference with hidden terminal in CR network. It determines the location and coverage of primary transmitter through the ranging, and then avoids effectively interference with primary hidden terminal and improves spectrum efficiency of CR network. Simulation results show that the proposed method performs excellently in improving spectrum efficient of CR network.

Keywords—cognitive radio; hidden terminal; energy detection; ranging; interference; spectrum efficiency