基于次级网络的无线电网络中断概率分析

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摘　要：本文针对由多个次级 TV 带宽 TVBD（TV Band Device）基站-用户对和一个主级数字 TV（DTV）基站-用户对的认知无线电网络，通过建立基于频谱共享的认知无线电网络模型，分析了基于次级网络选择的认知无线电网络的中断概率，并推导了中断概率的闭型表达式.从而提出了单个次级网络的接入方案，即主级数字 TV 用户与次级 TVBD 用户间距离的加大，降低了中断概率，提高了次级网络接入方案的性能.最后，通过仿真验证了理论分析的正确性.

关键词：认知无线电；频谱共享；中断概率

Radio network outage probability based on the secondary network

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Abstract：For cognitive radio (CR) networks that consist of multiple secondary TV band device (TVBD) station－user pairs and one primary digital TV (DTV) station-user pair in this article, establishing a cognitive radio network model based on spectrum sharing, analyzing the outage probability of cognitive radio networks based on secondary network selection, and deduce the closed form expression of the interruption probability. Thus, an access scheme for a single sub network is proposed, that is the increase in the distance between the primary digital TV users and the secondary TVBD users reduces the outage probability ,and improve the performance of the secondary network access scheme. Finally, simulation verified the theory analyses.

Key words：cognitive ratio; spectrum sharing; outage probability

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