

## 研究论文

### 一种两跳感知系统中断性能优化方案

唐菁敏<sup>1</sup>;冯思泉<sup>2</sup>;龙华<sup>1</sup>;刘增力<sup>1</sup>

(1. 昆明理工大学 信息工程与自动化学院, 云南 昆明 650500;

2. 重庆电子工程职业学院, 重庆 401331)

摘要:

针对交叉共享方式下的两跳协作感知网络,研究了多个感知用户的协作感测策略,推导了在放大转发传输协议下感知系统的中断概率表达式,并提出了一种联合优化方案.在保证一定频谱感测性能指标的前提下,通过联合优化感测门限、感测时长等参数最小化感知系统的中断概率.理论分析与仿真结果表明,此优化方案能有效改善感知系统的中断性能,提升感知网络传输的可靠性.

关键词: 感知无线电 交叉共享 协作感测 协同传输 中断概率

### Optimization scheme for outage performance in a two-hop cognitive system

TANG Jingmin<sup>1</sup>;FENG Siqun<sup>2</sup>;LONG Hua<sup>1</sup>;LIU Zengli<sup>1</sup>

(1. Faculty of Information Eng. and Automation, Kunming Univ. of Science and Tech., Kunming 650500, China;

2. Chongqing College of Electronic Eng., Chongqing 401331, China)

Abstract:

By investigating the two-hop cooperative cognitive network in an overlay sharing(OS) mode, a cooperative detection strategy for the multiple cognitive user system is considered and outage probability formulation on the Amplify-and-Forward(AF) protocol is deduced. By optimizing the parameters such as sensing time and threshold, an optimization scheme has been proposed, which is proven to minimize the outage probability on the premise of guaranteeing fixed detection performance. Theoretical analysis and simulation result show that the optimal scheme can improve outage performance of the cognitive system and enhance transmission reliability of the cognitive network.

Keywords: cognitive radio overlay sharing cooperative sensing cooperative transmission outage probability

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通讯作者: 唐菁敏

作者简介: 唐菁敏(1979-), 男, 博士, E-mail: tang\_min213 @163.com.

作者Email: tang\_min213@163.com

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