

论文

协同伙伴选择的公平性研究

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摘要

在协同网络中, 协同伙伴的选择是一个非常关键的问题。以前关于这个问题的解决方案本质上是基于收发机的性能而忽略了协同伙伴选择的公平性。该文提出通过下述机制来获得公平性的一种新策略。(1)通过用户各自的计数器建立“帮助别人就是帮助自己”的机制来抑制利己主义的用户; (2)在接收端设置阈值决定是否需伙伴中继; (3)在最大吞吐量与网络节点寿命方差之间联立以建立动态平衡。仿真结果显示: 这个策略能够在性能和公平性之间达到动态平衡, 从而利于整个网络的公平, 其公平性优于目前所知文献的方法。

关键词 [协同分集](#) [负载均衡](#) [公平性](#) [即时信噪比](#)

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A Study of Fairness of the Selection of the Cooperative Partner

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Abstract

The selection of cooperative partner is a key problem in the cooperative network. All the former solutions to this problem in essence base on the performance of the transceiver while neglecting the fairness among the cooperative partners. In this paper, a new scheme is described as following to achieve the balance between the performance and the fairness among the nodes. Firstly, using the counter of each node in the network to establish the mechanism based on the idea “help others equal to help yourself” to avoid the self-interest users. Secondly, a threshold about instant SNR at the destination receiver is used to decide whether needing relay. Thirdly, the algorithm established keeps a balance between maximizing the throughput and minimizing the variance of the lifetime of all the candidate partners in the network. The simulation results under all kinds of conditions indicate that the scheme can get dynamic balance between performance and fairness and lead to more fairness in the cooperative network, the performance of fairness of the scheme outperforms the other of the references’ the best knowledge .

Key words [Cooperative diversity](#) [Load balance](#) [Fairness](#) [Instant SNR](#)

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