首页 | 期刊介绍 | 编 委 会 | 投稿指南 | 期刊订阅 | 联系我们 | 留言板 | **English**

论文

最新目录 | 下期目录 | 过刊浏览 | 高级检索

<< Previous Articles | Next Articles >>

多跳无线网络中无需邻节点信息的空间覆盖广播算法

刘靖永[①]   李乐民[①]   景小荣[②]*

[①](电子科技大学通信与信息工程学院 成都 610054)
[②](重庆邮电大学信号与信息处理重庆市重点实验室 重庆 400065)

Space-covered Broadcast Algorithm without Neighbor Information in Multi-hop Wireless Networks

Liu Jing-yong[①]   Li Le-min[①]   Jing Xiao-rong[②]*

[①](School of Communication and Information Engineering, University of Electronic Science and Technology of China, Chengdu 610054, China)
[②](Chongqing Key Laboratory of Signal and Information Processing, Chongqing University of Posts and Telecommunications, Chongqing 400065, China)

摘要	参考文献	相关文章

Download: PDF (286KB)   HTML 1KB   Export: BibTeX or EndNote (RIS)   Supporting Info

摘要 针对多跳无线网络中广播的转发冗余问题，该文提出了一种无需邻节点信息的空间覆盖广播(Space-Covered Broadcast，SCB)算法。SCB算法通过优化转发节点的空间分布达到利用最少数目的转发节点实现对网络空间的覆盖，从而在保证较高送达率的同时明显降低了广播的转发次数。由于无需邻节点信息和网络拓扑信息，SCB算法降低了带宽和存储计算等开销；并且，转发节点的选择由接收节点通过延时转发机制来完成，因而SCB算法能够自动适应信道状况，避免信道变化造成的传输错误。仿真结果表明：该算法在不同的节点密度和网络负载条件下能够明显提高广播的传输效率。

关键词： 多跳无线网络   广播算法   邻节点信息

Abstract：This paper presents a broadcast algorithm called Space-Covered Broadcast (SCB) that does not need and neighbor information to address broadcast storm problem in multi-hop wireless networks. The SCB algorithm uses the minimum number of forwarding nodes to cover the network by optimizing the spatial distribution of the forwarding nodes, thereby it reduces retransmissions considerably while providing high deliverability. The SCB algorithm reduces the communication and memory overhead for it does not need any neighbor information or network topology awareness, and the algorithm adapts itself to and gets the best out of existing channel conditions for the forwarding nodes are entirely self-selected at each receiving node using a delayed retransmitting mechanism. Simulation results show that SCB can significantly improve broadcast efficiency for different network density and network load.

Keywords： Multi-hop wireless networks   Broadcasting algorithm   Neighbor information

引用本文：

刘靖永, 李乐民, 景小荣.多跳无线网络中无需邻节点信息的空间覆盖广播算法[J] 电子与信息学报, 2010,V32(10): 2434-2439

Liu Jing-Yong, Li Le-Min, Jing Xiao-Rong.Space-covered Broadcast Algorithm without Neighbor Information in Multi-hop Wireless Networks[J] , 2010,V32(10): 2434-2439

链接本文：

http://jeit.ie.ac.cn/CN/10.3724/SP.J.1146.2009.00920   或   http://jeit.ie.ac.cn/CN/Y2010/V32/I10/2434

Service
▶ 把本文推荐给朋友
▶ 加入我的书架
▶ 加入引用管理器
▶ Email Alert
▶ RSS

作者相关文章
▶ 刘靖永
▶ 李乐民
▶ 景小荣