层次无线传感器网络中骨干层**MAC**协议设计

作 者：马涛,单洪,陈娟

单 位：合肥电子工程学院

基金项目：

摘 要：

针对层次无线传感器网络中骨干层数据量大、高负载的业务特点，从减少冲突碰撞概率、降低重传开销和适时休眠三个方面考虑设计了一种骨干层MAC协议(GBN-MAC)。GBN-MAC根据节点收到的RTS帧和分片数据帧进行休眠，使用临时通信标识符降低了分片传输的额外开销。仿真结果表明在高负载下，GBN-MAC协议能够在基本保持网络时延和吞吐量的情况下明显降低能量消耗，可以较好地满足骨干层设计要求。

关键词：层次无线传感器网络；MAC协议；重传开销；休眠调度；

MAC Protocol Design for Bone Network of Layer WSN

Author's Name:

Institution:

Abstract:

To the characteristics of great data traffic and high load of bone WSN, GBN-MAC is designed from three aspects including less collision, lower retransmission spending and timing dormancy. In this protocol, the radio of nodes is turned off when the node has heard a RTS or fragment data frame. Temporary communication identification is used to reduce overhead made by data fragment. Simulation analysis shows GBN-MAC can keep high throughput under high load with energy saving at the same time.

Keywords: Layer wireless sensor network; MAC protocol; Retransmission spending; Sleep scheduling;

投稿时间：**2012-05-13**

查看pdf文件