

网络、通信与安全

## 一种基于双带外信号节省能耗的Ad-Hoc接入协议

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**摘要** Ad-Hoc在MAC层有两种节约能耗策略。一种是能量节省机制,它允许节点在不活动时候关闭电源进入睡眠状态,从而节省能耗;另一种是功率控制机制,它通过减小发射功率节约能耗。结合这两种策略来实现能耗节省。节点以最大功率发送RTS/CTS报文,与此同时以最大功率周期性发送带外信号,建立通信以后,以满足需求的最小功率发送DATA/ACK报文。邻居节点通过侦听数据信道和带外信号信道来实现睡眠机制,达到节省能耗的目的。

**关键词** [功率控制](#) [能量节省](#) [MAC协议](#)

分类号

## Power-saving MAC protocol based on dual signal for Ad-Hoc networks

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### Abstract

There are two kinds of strategies of saving power for Ad-Hoc media access protocol. One is the power-saving mechanism that allows nodes to turn off their power and sleep when they are inactive; The other is power-control mechanism that controls the power of transmitting to save power. This paper combines the two kinds of strategies. Node transmits signal using maximum transmit power to notify neighbor nodes when it sends RTS/CTS using maximum transmit power. Minimum required transmit power is used for DATA/ACK after communication between nodes is set up. Then nodes decide to turn off power or not through sensing RTS/CTS/DATA/ACK channel and dual signal channels to save power.

**Key words** [power control](#) [power saving](#) [MAC protocol](#)

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