

## 基于最小费用最大流的MANET网络路由能量控制模型

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基金项目：国家自然科学基金项目

摘要：

MANET是当前无线网络研究的热点领域，作为网络层核心技术的路由协议显得尤为重要。控制节点能量、提高网络生存时间是实现在MANET中传输高效业务键。本文借鉴网络最小费用最大流思想，建立网络最大剩余能量最短路数学模型，提出了基于能量控制的网络路由优化模型。并且定义了网络生存时间作为评标，进行网络仿真。仿真结果表明，该模型可以有效地延长网络生存时间。

关键词：MANET网络；能量控制；最小费用最大流；路由协议

## Research on Energy-aware Routing Protocol Based on Min Cost Max Flow Algorithm for Mobile Ad Hoc Networks

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**Abstract:**

MANET is currently a hotspot in wireless network researching domain, and the routing protocol, which is as the core technology on network layers, is particularly important. Controlling node energy and increasing network lifetime are two keys to realize the transmission of efficient service for MANET. With the idea of min cost max flow in networks, this paper sets up a max residual energy shortest path model and puts forward a routing optimization model based on energy control. Finally it defines network lifetime as evaluating indicator to do network simulations. Results of simulations show that this model can prolong network lifetime efficiently.

**Keywords:** Ad Hoc networks, Energy-aware, Min cost max flow, routing protocol

投稿时间：2009-11-03