节点负荷超载下 ad-hoc 网络能量均衡算法

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摘　要：为了延长节点负荷超载环境下 ad-hoc 网络的使用寿命，需要对节点负荷超载下的 ad-hoc 网络能量均衡算法进行研究.使用当前算法，在节点负荷超载情况下，无法解决 ad-hoc 网络节点能量消耗不均衡造成网络过早瘫痪的问题.为此，提出一种基于分层结构的节点负荷超载下 ad-hoc 网络能量均衡算法.该算法以分布局部信息的方式衡量 ad-hoc 网络的能量指标，将 ad-hoc 网络能量划分为正常、警告、危险三个等级，根据节点剩余能量处在的不同等级，采用不同的方法进行 ad-hoc 网络节点数据传输，最后采用分层结构的算法均衡 ad-hoc 网络能量.实验仿真证明，所提算法有效延长 ad-hoc 网络的使用寿命.

关键词：节点负荷超载；ad-hoc 网络；能量均衡

Energy Balance Algorithm for Ad-hoc Network With Node Overload

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Abstract：In order to extend the node load the service life of the AD hoc network overload environment, need to overload of AD hoc network node load energy equalization algorithm is studied.Using the current algorithms, existing network node energy consumption imbalance caused the problem of premature network paralysis.For this, put forward a kind of based on hierarchical structure under the node load overload of AD hoc network energy equalization algorithm.The algorithm in the form of distribution of local information to measure the energy of the AD hoc network indicators, the energies of the AD hoc network is divided into three levels to normal, warning, danger and on the basis of the residual energy of nodes in different grades, different methods for AD hoc network nodes data transmission, finally USES the hierarchical algorithm balanced AD-hoc network energy.Simulation experiment proves that the proposed algorithm effectively extend the service life of AD hoc network.

Key words：node overload; ad-hoc networks; energy balance

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