

网络、通信、安全

## LEO卫星网QoS遗传算法路由协议

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收稿日期 2009-8-25 修回日期 2009-10-12 网络版发布日期 2009-12-30 接受日期

**摘要** 为了满足多媒体应用的QoS要求, 卫星路由协议应该更有效地利用网络资源, 提供更好的QoS保障。为此提出了一个基于遗传算法的LEO卫星网络QoS路由协议, 称为遗传卫星路由协议(GSRP)。改进了新的操作函数, 如适应度函数、终止函数, 以及变异率和路由表。仿真结果表明, GSRP能够实现较少CBP和HBP的可靠的点对点时延约束, 以及比传统的算法更有效的负载平衡。

**关键词** [服务质量](#) [路由协议](#) [遗传算法](#) [卫星网络](#)

**分类号** [TP301](#)

## QoS genetic algorithm routing protocol for LEO satellite networks

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### Abstract

To satisfy the QoS requirements of multimedia applications, satellite routing protocols should consider the issue of improving the utilization of network resource and providing better QoS guarantees. This paper proposes a QoS routing protocol for LEO satellite networks using genetic algorithm. This protocol is called as Genetic Satellite Routing Protocol (GSRP). Some key factors including Fitness Function, Termination Function, Mutation probability and Routing Table are improved. Simulation results show that GSRP can achieve guaranteed end-to-end delay bound with less CBP and HBP, and is more effective than traditional algorithms for load balancing.

**Key words** [Quality of Service \(QoS\)](#) [routing protocol](#) [genetic algorithm](#) [satellite networks](#)

DOI: 10.3778/j.issn.1002-8331.2009.36.031

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